FM 7-100.2

Opposing Force Tactics

Final Draft

September 2004

FM 7-100.2

Opposing Force:

Tactics

FM 7-100.2

STATUS OF DRAFT

Note that the current update of FM 7-100.2 (September 04) is a **Final Draft**. It is provided here in for any last comments from the field before we publish it.

Please address any questions or comments to Jon Cleaves at cleavesj@leavenworth.army.mil.

FOREWORD

In today's complicated and uncertain world, it is impossible to predict the exact nature of future conflict that might involve the U.S. Army. So the Army must be ready to meet the challenges of any type of conflict, in all kinds of places, and against all kinds of threats. This is the nature of the contemporary operational environment (COE), and training for such an environment requires a different type of Opposing Force (OPFOR) than that of the past.

The Deputy Chief of Staff for Intelligence (DCSINT) of the U.S. Army Training and Doctrine Command (TRADOC) is the Executive Agent for the development, management, administration, integration, and approval functions of the OPFOR Program across the Army. Thus, the TRADOC DCSINT is responsible for documenting the doctrine, organization, and capabilities of a contemporary OPFOR that is appropriate for training the Army's leaders, soldiers, and units for the COE.

In the FM 7-100 series, the TRADOC Office of the Deputy Chief of Staff for Intelligence (ODCSINT) has created a flexible baseline for an OPFOR that can be adapted to meet a variety of different training requirements in a number of different scenarios that reflect the COE. The OPFOR tactical doctrine outlined in FM 7-100.2 represents a realistic composite of potential adversaries the Army might encounter in the real-world situations of the foreseeable future. However, the world is continually changing, as are the threats and challenges for which the Army must be prepared. The Army must remain flexible, as must the OPFOR designed to serve as a challenging sparring partner in the training environment.

This manual is approved for use in all Army training venues. However, as the contemporary OPFOR and other aspects of the COE are integrated into Army training, the TRADOC ODCSINT and the intelligence community will continue research and analysis of real-world developments and trends. The goal of this continued effort is to keep our OPFOR and our understanding of the COE truly contemporary and relevant as the world around us changes. Thus, this manual is intended to be a living document, and the ODCSINT will modify and change it as often as necessary in order to ensure its continued relevance in light of changes and developments in the COE. In anticipation of such changes, this manual will be published primarily in electronic format with only limited distribution of hard-copy, printed manuals. The electronic version is available on the Army Knowledge Online (AKO) at http://www.us.army.mil and the General Dennis J. Reimer Training and Doctrine Digital Library (ADTDL) at http://www.adtdl.army.mil. Users also need to monitor the TRADOC ADCSINT-Threats Knowledge Center on AKO for information regarding periodic updates.

MAXIE L. MCFARLAND
Deputy Chief of Staff for Intelligence
U.S. Army Training and Doctrine Command

Preface

This manual is one of a series that describes a contemporary Opposing Force (OPFOR) for training U.S. Army commanders, staffs, and units. See the Reference section for a list of the manuals in this series. Together, these manuals outline an OPFOR than can cover the entire spectrum of military capabilities against which the Army must train to ensure success in any future conflict.

Applications for this series of manuals include field training, training simulations, and classroom instruction throughout the Army. All Army training venues should use an OPFOR based on these manuals, except when mission rehearsal or contingency training requires maximum fidelity to a specific country-based threat. Even in the latter case, trainers should use appropriate parts of the OPFOR manuals to fill information gaps in a manner consistent with what they do know about a specific threat.

The proponent for this publication is HQ TRADOC. Send comments and recommendations on DA Form 2028 directly to the OPFOR and Threat Integration Directorate of the TRADOC Office of Deputy Chief of Staff for Intelligence at the following address: Director, OPFOR and Threat Integration Directorate, ATTN: ATIN-T (Bldg 53), 700 Scott Avenue, Fort Leavenworth, KS 66027-1323.

This publication is available at Army Knowledge Online (AKO) at http://www.us.army.mil and on the General Dennis J. Reimer Training and Doctrine Digital Library (ADTDL) at http://www.adtdl.army.mil. Readers should monitor those sites and also the TRADOC ADCSINT-Threats Knowledge Center on AKO for the status of this manual and information regarding updates. Periodic updates, subject to the normal approval process, will occur as a result of the normal production cycle in accordance with TRADOC regulation 25-36, paragraphs 2-17 and 4-7. The date on the cover and title page of the electronic version will reflect the latest update.

Unless this publication states otherwise, masculine nouns or pronouns do not refer exclusively to men.

Introduction

This manual is part of the FM 7-100 series, which describes a **contemporary Opposing Force (OPFOR)** that exists for the purpose of training U.S. forces for potential combat operations. This OPFOR reflects the characteristics of military and paramilitary forces that may be present in the **contemporary operational environment (COE)**. Like those real-world threats, the OPFOR will continue to present new and different challenges for U.S. forces. The COE is **constantly changing**, and it is important for U.S. Army training environments to keep pace with real-world developments.

CONTEMPORARY OPERATIONAL ENVIRONMENT

Contemporary Operational Environment (COE)

The operational environment that exists today and for the clearly foreseeable future.

The DOD officially defines an *operational environment* (OE) as "a composite of the conditions, circumstances, and influences that affect the employment of military forces and bear on the decisions of the unit commander" (JP 1-02). The *contemporary operational environment* (COE) is the operational environment that exists today and for the clearly foreseeable future**.** There are some "constants" or common threads that define the general nature of this COE:

- The United States in not likely to have a peer competitor until 2020 or beyond.
- However, nations will continue to field armed forces and use these forces as a tool to pursue national interests.
- As nations use their armed forces (or other instruments of national power) in pursuit of national interests, their actions may cause U.S. intervention, either unilaterally or as a coalition partner, with or without United Nations mandate.
- Nations that believe the United States may act to counter their national interests will develop diplomatic, informational, economic, and military plans for managing U.S. intervention.
- Nations will continue to modernize their armed forces within the constraints of their economies, but in ways that may negate U.S. overmatch.
- Advanced technology will be available on the world market for a wide variety of nation-state and non-state actors.
- Non-state actors will play an important role in any regional conflict—as combatants or noncombatants.
- All combat operations will be significantly affected by a number of variables in the environment beyond simple military forces.

Thus, one of the constants is that there are variables. Those "variables" in the COE result in a number of different OEs that can occur in specific circumstances or scenarios.

CRITICAL VARIABLES

Any OE, in the real world or in the training environment, can be defined in terms of eleven critical variables. While these variables can be useful in describing the overall (strategic) environment, they are most useful in defining the nature of specific OEs. Each of these "conditions, circumstances, and influences" and their possible combinations will vary according to the specific situation. In this sense, they are "variables." These variables are interrelated and sometimes overlap. Different variables will be more or less important in different situations. Each OE is different, because the content of the variables is different. Only by studying and understanding these variables—and incorporating them into its training—will the U.S. Army be able to keep adversaries from using them against it or to find ways to use them to its own advantage.

Critical Variables of COE

- Nature and Stability of the State.
- Regional and Global Relationships.
- Economics.
- Sociological Demographics.
- Information.
- Physical Environment.
- Technology.
- External Organizations.
- National Will.
- Time.

Nature and Stability of the State

It is important to understand the nature and stability of the state (or states) with which or in which the conflict takes place. Study of this variable measures how strong or weak a country is and determines where the real strength of the state lies; it may be in the political leadership, the military, the police, or some other element of the population. Understanding this variable will allow U.S. forces to better understand the nature of the military campaign and the true aims of an enemy campaign, operation, or action. It also helps determine what kinds of threats may be present in a particular country. The real threat to U.S. forces may come from elements other than the military.

Regional and Global Relationships

Nation-states and/or non-state actors often enter into relationships, which can be regional or global. These partnerships support common objectives, which can be political, economic, military, or cultural. An actor's membership or allegiance to such a relationship can determine its actions of support and motivation. Virtually all conflict will occur with alliances and coalitions, some involving the United States and some involving its adversaries. When actors create regional or global alliances, it can add to their collective capability and broaden the scale of operations and actions.

As the world moves away from the traditional long-term, fixed alliances of the past, regional and global relationships are much more fluid and unpredictable. The choice of a state to be nonaligned does not mean that it will not become involved in a conflict or crisis. It simply means that the state does not make a commitment to another state, alliance, or cause before a situation arises. This lack of precommitment makes it difficult to predict how actors and forces may align when a situation does arise. Alliances can form or change rapidly, even during the course of an operation or campaign.

Economics

The economic variable establishes the boundaries between the "haves" and the "have-nots." This gap of economic differences among nation-states and other actors can cause conflict. Economic superiority, rather than military superiority, may be the key to power or dominance within a region. However, economic position often represents a nation or non-state actor's ability to buy military technology or to conduct prolonged operations.

Economics help define the relationship between a nation or non-state actor and other actors at the regional or global level. These regional or global economic relationships could result in military or political assistance.

Sociological Demographics

The demographics variable includes the cultural, religious, and ethnic makeup of a given region, nation, or non-state actor. Extreme devotion to a particular cause or significant hatred of a particular group may provide an enemy with an unshakable will and a willingness to die for the cause. U.S. forces may also find that large segments of the population around them are sympathetic to the same cause as the enemy force. The needs of the local population can create heavy demands on U.S. military units, particularly their supply and medical systems. Refugees and internally displaced persons may increase the complexity of the environment. The enemy may use civilians as shields or obstacles or as cover for hostile intelligence services.

Information

Media and other information means can make combat operations transparent to the world, visible to all who have access to data. Various actors seek to use perception management to control and manipulate how the public sees things. They will exploit U.S. mistakes and failures and use propaganda to sway the local population to support their cause. Media coverage can impact on U.S. political decision making, international opinion, or the sensitivities of coalition members.

Even without sophisticated sensors and information systems, actors native to the area or region often have greater situational awareness than U.S. forces. Various actors are able to access commercial systems (such as satellite communications and imagery) for the larger picture. For a more detailed view, they can use human networks operating over normal telephone lines or with cellular telephones to maintain situational awareness.

Physical Environment

The main elements in the physical environment are terrain and weather. Potential enemies clearly understand that less complex and open environments favor a U.S. force with its long-range, precision-guided weapons and sophisticated reconnaissance capability. So they will try to avoid the types of operations and environments for which such U.S. forces are optimized. They will try to operate in urban areas and other complex terrain and in weather conditions that may adversely affect U.S. military operations and mitigate technological advantages.

Technology

The technology that nations or non-state actors can bring to the OE includes what they can develop and produce, as well as what they could import. Access to technological advances available on the global market is slowly eating away at the technological advantage the United States has enjoyed in the past.

It is likely that some high-end forces in a particular region of the world could field a few systems that are more advanced than those of the U.S. force deployed there. Easy access to new technology allows potential adversaries to achieve equality or even overmatch U.S. systems in selected niche areas. Many countries are trying to acquire relatively low-cost, high-payoff, new technologies. In addition, upgrades and hybridization allow older systems to compete with more modern capabilities, thus neutralizing the technical advantage of many modern forces. In urban areas or other complex terrain, less advanced systems may still find effective uses. Various actors may find adaptive and innovative ways of using systems for other than their originally intended applications.

External Organizations

When the U.S. Army goes into a failed state or into areas torn by conflict, it is likely to find international humanitarian relief organizations at work there. These external organizations continue to grow in influence and power, as well as in willingness to become involved in crisis situations that were previously purely military operations. These external organizations can have both stated and hidden interests and objectives that can either assist or hinder U.S. mission accomplishment. The presence of transnational corporations operating in a country or region can also place added pressure on U.S. forces to avoid collateral damage to civilian life and property. U.S. forces may have to divert troops and resources from their assigned missions to conduct rescues or provide security for various external organizations.

National Will

The variable of national will reflects how much each country's people and government are behind what the military or paramilitary forces are doing. This can influence the objectives of a conflict, its duration, and the conditions for ending it.

A country will try to attack its opponent's national will and still preserve its own. Clearly, most foreign countries view U.S. national will as a point of vulnerability. Thus, a potential adversary may perceive the collective will of his people as a comparative advantage against the United States.

History has proven that battlefield victory does not always go to the best-trained, best-equipped, and most technologically advanced force. Victory often goes to the side that most wants to win, needs to win, and is willing to sacrifice to do so.

Time

In most cases, potential opponents of the United States view time as being in their advantage. When U.S. forces have to deploy into the area over long time and distance, the opponent can use this time to adjust the nature of the conflict to something for which the U.S. forces are not prepared.

First, the opponent will try to control the entry of U.S. forces into the area. If access control fails, the enemy still has the opportunity to oppose lightly equipped U.S. early-entry units and try to prevent full deployment of the rest of the force. The opponent will try to speed up the tempo, to rapidly defeat its local or regional enemy or to defeat U.S. early-entry forces before the United States can deploy overwhelming military power. If that fails, the opponent will try to prolong the conflict and to outlast the U.S. will to continue.

Military Capabilities

Military capabilities of a nation-state or non-state actor are measured in relative terms, in comparison to the capabilities of other actors against which they might be applied. Most of the military forces in the world continue to operate in conventional ways, which remain sufficient against other local and regional actors.

However, once the United States becomes involved, these same military forces may have to use adaptive or asymmetric approaches. Various nations and other foreign entities around the world study the United States and its military forces. They generally view the United States as a major power—the world's only superpower—with an overall advantage in technology and warfighting capability. Despite these strengths, other actors see some weaknesses that they may be able to exploit. They can use these perceptions as a guide to optimizing the effectiveness of their own forces and to find ways to negate current U.S. advantages.

Military capabilities may be the most critical and the most complex variable that affects military operations. However, the military variable does not exist in isolation from the other variables that help determine the overall OE. It interacts with the other variables, and all the other variables can affect military capabilities. Potential enemies can use any or all of these factors against the Army as it tries to accomplish its missions in various parts of the world or in various training environments.

REAL WORLD

In the real world, the COE is the entire set of conditions, circumstances, and influences that U.S. Armed Forces can expect to face when conducting military operations to further the national interests of the United States, its friends, and allies. The COE is "contemporary" in the sense that it does not represent conditions that existed only in the past or that might exist only in the remote future, but rather those conditions that exist today and in the clearly foreseeable, near future. This COE consists not only of the military and/or paramilitary capabilities of potential real-world adversaries, but also of the manifestations of the ten other variables that help define any OE.

TRAINING

In training environments, the COE is the OE created to approximate the demands of the real-world COE and to set the conditions for desired training outcomes. This involves the appropriate combination of an OPFOR (with military and/or paramilitary capabilities representing a composite of a number of potential adversaries) and other OE variables in a realistic, feasible, and plausible manner.

The purpose of the COE in training simulations is to produce the necessary training outcomes.[1]

Even in the COE for training, it is possible to speak of an overall COE that addresses the qualities of virtually any OE in which the units or individuals being trained might be called upon to operate. In this sense, there are the same "constants" as in the real-world COE.

INTERACTION AND LINKAGE OF VARIABLES

The variables of the COE do not exist in isolation from one another. The linkages of the variables cause the complex and often simultaneous dilemmas that a military force might face. In order to provide realistic training, training scenarios must try to simulate this synergistic effect to the maximum degree that is feasible.

The COE is not just about the OPFOR. The COE variables and their interaction provide the robust environment and context for OPFOR operations. The complexity of the specific OE in training can be adjusted to keep it appropriate for the required training objectives and the training state of various U.S. Army units.

ADAPTIVE AND CHANGING

The nature of the COE is adaptive and constantly changing. As the United States and its military forces interact with the COE in a real-world sense, the OE changes. As the Army applies the lessons learned from training in a COE setting, the OPFOR and potential real-world adversaries will also learn and adapt.

The development of the COE for training started with research to develop an understanding of the real-world COE and trends that affect military operations. Then, taking into consideration the desired training outcomes and leader development goals, the authors of the FM 7-100 series proceeded to document an OPFOR doctrine and structure that reflect the real-world COE, and the Army began integrating this OPFOR and other COE variables into training scenarios. Meanwhile, the authors of the FM 7-100 series are continuing to research the real-world COE and to mature the OPFOR and the COE in training in order to provide a richer, appropriately challenging training environment and keep the OPFOR and the COE truly "contemporary."

ENEMY, THREAT, AND OPFOR

Before going further into the COE, the contemporary OPFOR, and the intended uses of this manual, it may be useful to define some key terms and the distinctions among them. It is important to distinguish among the terms *enemy*, *threat*, and *OPFOR* and to use them correctly.

ENEMY

The U.S. Army defines *enemy* as "the individual, group of individuals (organized or not organized), paramilitary or military force, national entity, or national alliance that is in opposition to the United States, its allies, or multinational partners."

[1] The same type of COE conditions can be created to support some combat development activities that do not require simulation of a specific real-world potential adversary. However, some combat development activities may require portrayal of an OE that extends further into the future than is typical for the COE.

In other words, the *enemy* is whoever is actually opposing the United States in a particular conflict.[2] Thus, this term is synonymous with adversary or opponent.

THREAT

A potential adversary is sometimes designated as a threat. In this sense, the Army defines *threat* as "any specific foreign nation or organization with intentions and military capabilities that suggest it could become an adversary or challenge the national security interests of the United States or its allies." Once hostilities actually begin, the threat becomes the enemy.

OPPOSING FORCE

An *Opposing Force (OPFOR)* is a training tool that should allow the U.S. Army to train against a challenging and plausible sparring partner that represents the wide range of possible opponents the Army could face in actual conflict. It enables training of all arms of the Army and prepares the Army for potential combat operations.[3]

During the road to war leading up to events in a training scenario, the OPFOR may play the role of a "threat" (potential enemy) that is on the verge of becoming an enemy. However, the actual training event usually deals with a state of hostilities. Thus, once hostilities begin in the training event, the OPFOR acts as the "enemy" of the U.S. force in the training environment.[4]

During the Cold War period, the Army employed OPFORs based on specific real-world threats. However, the Army needs a different type of OPFOR to meet its training requirements for the COE.

Cold War OPFOR

When the Army established its OPFOR program in 1976 with Army Regulation 350-2, it could hardly have envisioned today's computerized constructive and virtual simulations, or even the evolving requirements of live simulations. It defined an *OPFOR* simply as "an organized force created by and from U.S. Army units to portray a unit of a potential adversary armed force." Thus, all OPFORs were originally threat-based, in the sense that they replicated the forces, capabilities, and doctrine of a particular country officially recognized as a threat or potential adversary. In the midst of the Cold War, the 1976 regulation identified only one potential adversary against which to train: the Soviet Union; by 1983, a revision of the regulation added North Korea as a second threat for replication by an OPFOR. Over time, the Army developed other OPFORs to replicate other threats emerging in places ranging from Latin America and Southwest Asia.

---

[2] This definition of *enemy* is from the U.S. point of view. After this Introduction, the chapters of this manual address their topics from the OPFOR point of view. So, *friendly* refers to the OPFOR and its allies, and enemy refers to the enemy of the OPFOR, which may be an opponent within its own country or region or an extraregional opponent (normally the United States or a U.S.-led coalition).

[3] Although the OPFOR is primarily a training tool, it may be used for other purposes. For example, some combat development activities that do not require simulation of a specific real-world potential adversary may use an OPFOR to portray the "threat" or "enemy."

[4] From the OPFOR point of view, its leadership plans and develops forces and methods to deal with one or more threats to its own interests, goals, or survival.

In its time, the threat-based OPFOR served the Army very well, particularly for units targeted against specific threats. The benefits of this training were borne out, for example, in Operation Desert Storm. Techniques and doctrine, including deep attack and the intelligence preparation of the battlefield, developed to cope with specific threats and honed against the OPFOR, enabled the Army to achieve decisive results on the battlefield. However, the OE is dynamic, and the pace of that dynamism has increased with the end of the Cold War and the rapid advancement of information technology.

Contemporary OPFOR

Contemporary OPFOR

A plausible, flexible military and/or paramilitary force representing a composite of varying capabilities of actual worldwide forces, used in lieu of a specific threat force, for training and developing U.S. forces.

Training U.S. forces for the COE requires a different kind of OPFOR from that of the past. The contemporary OPFOR must be less predictable and not based on the armed forces of a particular country. In today's world, the U.S. Army must be prepared to go into any OE and perform its full range of missions. It must be ready to do so in the face of a wide variety of possible threats and at the same time be prepared to deal with third-party actors that may have other interests. Not all threats are purely military in nature. Therefore, the U.S. Army now defines an *OPFOR* as "a plausible, flexible military and/or paramilitary force representing a composite of varying capabilities of actual worldwide forces, used in lieu of a specific threat force, for training and developing U.S. forces."

Thus, in some training environments, a military force alone may be the OPFOR. In other cases, military forces may have paramilitary forces acting in loose affiliation with them, or acting separately from them within the same training environment. These relationships depend on the scenario, which is driven by training requirements.

Various agencies and experts have different lists of real-world threats the United States might have to face. If the U.S. Army were to pick any one of these threats as *the* threat against which to train, that threat would almost certainly not be the one it would actually fight. What is needed is a composite that is representative of the full range and variety of possible threats and OEs. It must have a bit of everything—it could be virtually anybody, anywhere. Therefore, this manual defines this representative composite in a way that is flexible enough to fit the most demanding U.S. Army training requirements and provides a framework for training that creates the leaders, soldiers, and unit skills necessary for success on the next battlefield.

CONTEMPORARY THREATS AND OTHER ACTORS

There are many types of actors or participants in today's complex world environment. Some of the actors are countries (also called nation-states) and some are not. Nation-states are still dominant actors. However, some power is shifting to nontraditional actors and transnational concerns. There are many potential challenges to traditional concepts like balance of power, sovereignty, national interest, and roles of nation-state and non-state actors.

Of course, not all actors are threats. To be a threat, a nation or organization must have both the capabilities and the *intention* to challenge the United States. The capabilities in question are not necessarily purely military, but encompass all the elements of power available to the nation or organization.

NATION-STATE ACTORS

Nation-states fall into four basic categories according to their roles in the international community. The categories are core states, transition states, rogue states, and failed or failing states.

The category of *core states* includes more than half of the nearly 200 countries in the world today. These are basically democratic (although to varying degrees) and share common values and interests. Within this larger group, there is an "inner core" of major powers. These are the advanced countries, including the United States, that generally dominate world politics. Most conflict with global consequences will involve the core states in some fashion or another.

Transition states are other larger, industrial-based countries—mostly emerging regional powers—that are striving to become major powers. High-end transition states are moving from an industrial-based society to an information-based society. Low-end transition states are seeking to move from an agricultural-based society to an industrial base. As states try to make this transition, there are cycles of political stability and instability, and the outcome of the transition is uncertain. Some transition states may successfully join the ranks of core states and even become major powers within that context; others may become competitors.

Rogue states are those that are hostile to their neighbors or to core states' interests. These countries can sponsor international terrorism or even confront U.S. military forces operating in the region. *Failed or failing states* are fragmented in such a way that a rule of law is absent; their instability is a threat to their neighbors and the core states.

Countries can move from one category to another, as conditions change. Sometimes countries join together in multinational alliances and coalitions. Together, they have more strength and can become a power to be reckoned with.

NON-STATE ACTORS

Non-state actors are those that do not represent the forces of a particular nation-state. Such non-state elements include rogue actors as well as third-party actors.

Like rogue states, *rogue actors* are hostile to other actors; however, they may be present in one country or extend across several countries. Examples include insurgents, guerrillas, mercenaries, and transnational or subnational political movements. Particular sources of danger are terrorists and drug-trafficking or criminal organizations, since they may have the best technology, equipment, and weapons available, simply because they have the money to buy them. These non-state rogue actors may use terror tactics and militarily unconventional methods to achieve their goals.

Third-party actors may not be hostile to other actors. However, their presence, activities, and interests can affect the ability of military forces to accomplish their mission when operating in a foreign country. These third-party actors can be refugees, internally displaced persons, and other civilians on the battlefield,

including international humanitarian relief agencies, transnational corporations, and the news media. These individuals and groups bring multiple sources of motivation, ideology, interests, beliefs, or political affiliations into consideration. They may be sources of civil unrest. Their presence may require military forces to consider the potential impacts of traffic congestion, demonstrations, sabotage, and information manipulation.

REAL-WORLD AND TRAINING CONSIDERATIONS

When U.S. forces become involved in a particular country or region, they must take into account the presence and influence of these various types of threats and other actors. In a training environment, an OPFOR can represent a composite of those nation-state or non-state actors that constitute military and/or paramilitary forces that could present a threat to the United States, its friends, or its allies. Other, non-state actors that fall in the category of nonmilitary forces or elements are not part of the OPFOR, but could be part of the COE used in the training environment.

CONTEMPORARY OPFOR

This manual introduces the baseline tactical doctrine of a flexible, thinking, adaptive, contemporary OPFOR that applies its doctrine with considerable initiative. (See the definition of *contemporary OPFOR* above.) It is applicable to the entire training community, including the OPFORs at all of the combat training centers (CTCs), the TRADOC schools, and units in the field. It provides an OPFOR that believes that, through adaptive use of all available forces and capabilities, it can create opportunities that, properly leveraged, can allow it to fight and win, even against a technologically superior opponent such as the United States.

BASELINE

As a baseline for developing specific OPFORs for specific training environments, this manual describes an OPFOR that is representative of the forces of contemporary nation-states. This composite of the characteristics of real-world military and paramilitary forces provides a framework for the realistic and relevant portrayal of capabilities and actions that U.S. armed forces might face in the COE.

For this composite of real-world threats, the manual refers to the country in question as "**the State**."[5] As the baseline for the contemporary OPFOR that is representative of real-world forces, the State is not a peer competitor of the United States. However, it is a dominant power in its region of the world and is capable of challenging U.S. interests there. The general characteristics of the State could fit a number of different types of potential adversaries in a number of different scenarios.

Like most countries in the world, the State does not design its forces just to fight the United States. It designs them principally to deal with regional threats and to take advantage of regional opportunities. Therefore, the State's national security strategy (including its doctrine, force design, and investment strategy) fo-

[5] In specific U.S. Army training environments, the generic name of the State may give way to other (fictitious) country names such as Atlantis, Upper Flambokia, or Westland.

cuses primarily on maintaining and expanding its position as a regional power. It develops its military forces in a way that ensures conventional power superiority over any of its regional neighbors. These forces, together with the State's other instruments of power, make it a dominant force in its region.

At the same time, the State is aware that aggressive pursuit of its regional goals might lead to intervention by a major power, such as the United States, from outside the region. To the extent possible, therefore, it invests in technologies and capabilities that have utility against both regional and extraregional opponents. The basic force structure of the OPFOR is the same for either type of threat. The State must go to war—or continue the war after extraregional intervention—with whatever it had going into the war.

When an extraregional power intervenes with sufficient force to overmatch the State's, the State has to adapt its patterns of operation. It realizes that the forces and technology that allow it to dominate its neighbors may not be a match for the modern, high-technology forces of a wealthy extraregional power like the United States—at least not in a head-to-head conventional confrontation. However, it can use those means in creative and adaptive ways. To the maximum extent possible, the State plans and trains for adaptive operations and how it will make the transition to them. It is the combination of the State's capabilities and its adaptive strategy, operations, and tactics that make it believe it can take on such an extraregional force and win.

At the strategic level, the State's ability to challenge U.S. interests includes not only the military and paramilitary forces of the State, but also the State's diplomatic-political, informational, and economic instruments of power. Rarely would any country engage the United States or a U.S.-led coalition with purely military means. It is also possible that the State could be part of an alliance or coalition, in which case the OPFOR could include allied forces. These nation-state forces may also operate in conjunction with non-state actors such as insurgents, terrorists, and drug or criminal organizations.

The FM 7-100 series, as a whole, covers not only the military and paramilitary forces of the State, but also other, non-state paramilitary and nonmilitary organizations present in the State's region of the world. An extraregional power becoming involved in that region may have to deal with any or all of these types of military, paramilitary, and nonmilitary elements. It might encounter these elements individually or, more likely, in combination with other such elements. Whether these elements operate in concert or independently, they are an important part of the COE.

Trainers need to consider the total OE and all instruments of power at the disposal of the State and the OPFOR—not just the military element, but also diplomatic-political, informational, and economic means. For a nation-state, these are instruments of national power. For non-state actors whose forces are paramilitary in nature, the other three instruments of power are generally present to one degree or another. Together, these instruments represent the power that actors can bring to bear against the United States.

FLEXIBILITY

As a training tool, the OPFOR must be a challenging, uncooperative sparring partner, capable of stressing any or all battlefield operating systems of the U.S. force. However, it also must be tailored to meet training requirements.

In the OPFOR baseline presented in this manual, the FM authors often say that the State or the OPFOR "may" be able to do something or "might" or "could" do something. They often use the progressive forms of verbs to say that the State has a "growing" economy or "is developing" a capability or "is continually modernizing." The State participates in the global market, which can allow it to acquire things it cannot produce domestically. Such descriptions give scenario writers considerable flexibility in determining what the State or the OPFOR actually has at a given point in time or a given place on the battlefield—in a particular scenario.

The composite example of this baseline may meet the OPFOR requirements for many U.S. Army training environments. For cases that require an OPFOR based on a type of nation-state with characteristics different from those of the State described in this manual, this baseline provides a framework from which trainers can develop an OPFOR appropriate for their particular training requirements.

The OPFOR must be flexible enough to fit various training requirements. It must be scalable and tunable. Depending on the training requirement, the OPFOR may be a large, medium, or small force. Its technology may be state-of-the-art, relatively modern, obsolescent, obsolete, or an uneven combination of those categories. Its ability to sustain operations may be limited or robust.

THINKING

This manual describes how the OPFOR thinks, especially how it thinks about fighting its regional neighbors and/or the United States. This thinking determines basic OPFOR tactics—as well as strategy and operations, which are the subjects of other manuals in this series. It drives OPFOR organizational structures and equipment acquisition or adaptation. It also determines how the nation-state OPFOR that represents the armed forces of the State would interact with other, non-state actors that may be present in the COE.

Just because the U.S. force knows something about how the OPFOR has fought in the past does not mean that the OPFOR will always continue to fight that way. A thinking OPFOR will learn from its own successes and failures, as well as those of its potential enemies. It will adapt its thinking, its makeup, and its way of fighting to accommodate these lessons learned. It will continuously look for innovative ways to deal with the United States and its armed forces.

ADAPTABILITY

Like all military forces, the OPFOR has a basic, conventional design for dealing with forces with capabilities equal to or inferior to its own. Prior to a U.S. force becoming involved, therefore, the OPFOR can use the application or threat of application of that conventional design to dominate or influence its regional neighbors. The OPFOR plans these operations well in advance and tries to execute them as rapidly as possible, in order to preclude regional alliances or outside intervention.

The OPFOR has developed its doctrine, force structure, and capabilities with an eye toward employing them against both regional and extraregional opponents, if necessary. It has thought about and trained for how to adapt once an extraregional force becomes engaged. It has included this adaptability in its doctrine in the form of general principles, based on its perceptions of the United States and other threats to its goals and aspirations. It will seek to avoid types of operations and environments for which U.S. forces are optimized. During the course of conflict, it will make further adaptations, based on experience and opportunity.

When a U.S. force or a U.S.-led coalition first begins to deploy into theater, the OPFOR will seek to disrupt the deployment and thus create opportunity. In such cases, the conventional design the OPFOR used in regionally-focused operations may still provide the framework for military operations against an advanced extraregional force. The OPFOR will not shy away from the use of military means against such an opponent, so long as the risk is commensurate with potential gains. As a U.S. or coalition force builds up power in the region, the OPFOR must rely on adaptive applications of its basic design in order to mitigate its disadvantages and exploit its advantages compared to this new opponent.

In general, the contemporary OPFOR will be less predictable than OPFORs in the past. It will be difficult to template as it adapts and attempts to create opportunity. Its patterns of operation will change as it achieves success or experiences failure. OPFOR doctrine might not change, but its way of operating will.

INITIATIVE

Like U.S. Army doctrine, OPFOR doctrine must allow sufficient freedom for bold, creative initiative in any situation. OPFOR doctrine is descriptive, but not prescriptive; authoritative, but not authoritarian; definitive, but not dogmatic. The OPFOR that U.S. units encounter in various training venues will not apply this doctrine blindly or unthinkingly, but will use its experience and assessments to interpolate from this baseline in light of specific situations. Thus, U.S. units can no longer say that the OPFOR has to do certain things and cannot do anything that is not expressly prescribed in established OPFOR doctrine. Doctrine guides OPFOR actions in support of the State's objectives; OPFOR leaders apply it with judgment and initiative.

KEEPING THE COE AND THE OPFOR CONTEMPORARY

The COE is extremely fluid, with rapidly changing regional and global relationships. New actors—both nations and non-state actors—are constantly appearing and disappearing from the scene. The OPFOR tactical doctrine provided in this manual should meet most of the U.S. Army's training needs for the foreseeable future. During the period covered by the COE, almost anyone who fights the United States would probably have to use the same kinds of adaptive action as outlined in this doctrine. As the geopolitical situation, forces, or capabilities change over time, OPFOR doctrine and its applications will evolve along with them, to continue to provide the Army a "contemporary" OPFOR. Thus, the OPFOR will remain capable of presenting a challenge that is appropriate to meet evolving training requirements at any given point in time.

Chapter 1

Strategic and Operational Framework

This chapter describes the State's national security strategy and how the State designs campaigns and operations to achieve strategic goals outlined in that strategy. This provides the general framework within which the OPFOR plans and executes military actions at the tactical level, which are the focus of the remainder of this manual. The nature of the State and its national security strategy are explained in greater detail in FM 7-100. See FM 7-100.1 for more detail on OPFOR operations.

NATIONAL-LEVEL ORGANIZATION

1-1. The State intends to achieve its strategic goals and objectives through the integrated use of four instruments of national power, which are interrelated and complementary:

- Diplomatic-political.
- Informational.
- Economic.
- Military.

A clear-cut line of demarcation between military, economic, and political matters does not exist. The informational element cuts across the other three. Thus, the State believes that its national security strategy must include all the instruments of national power, not just the military. Power is a combination of many elements, and the State can use them in varying combinations as components of its overall national security strategy. See FM 7-100 for more detail on these instruments of power and the State ministries associated with each.

NATIONAL COMMAND AUTHORITY

1-2. The National Command Authority (NCA) exercises overall control of the application of all instruments of national power in planning and carrying out the national security strategy. Thus, the NCA includes the cabinet ministers responsible for those instruments of power: the Minister of Foreign Affairs, Minister of Public Information, Minister of Finance and Economic Affairs, Minister of the Interior, and Minister of Defense, along with other members selected by the State's President, who chairs the NCA. (See Figure 1-1.)

1-3. The President also appoints a Minister of National Security, who heads the Strategic Integration Department (SID) within the NCA. The SID is the overarching agency responsible for integrating all the instruments of national power under one cohesive national security strategy. The SID coordinates the plans and actions of all State ministries, but particularly those associated with the instruments of power.

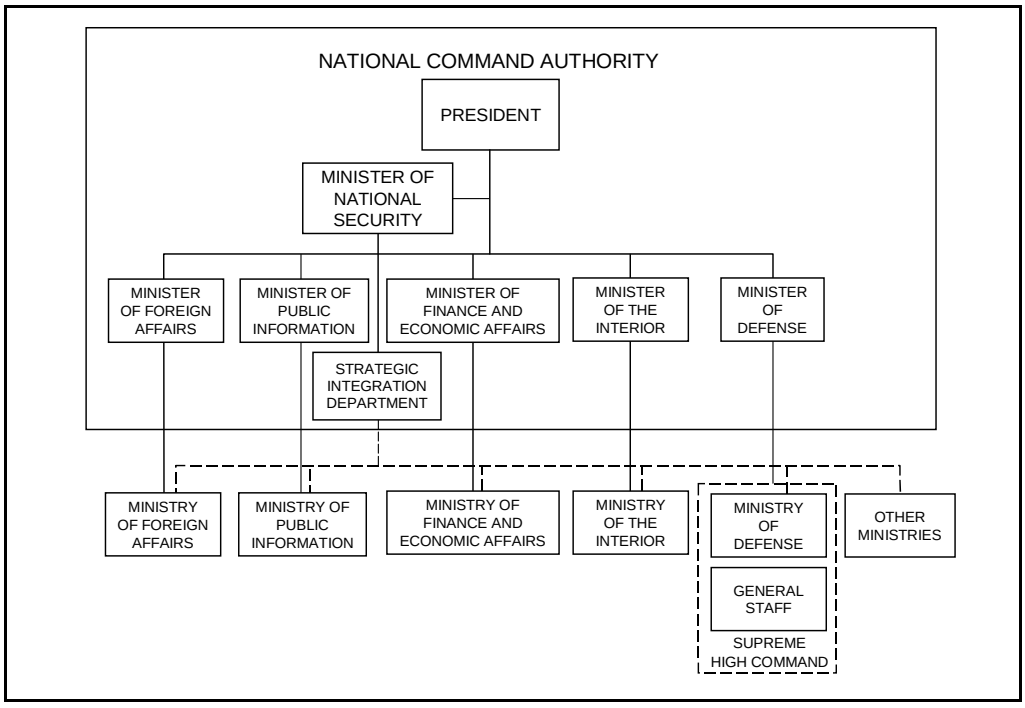


Figure 1-1. National Command Authority

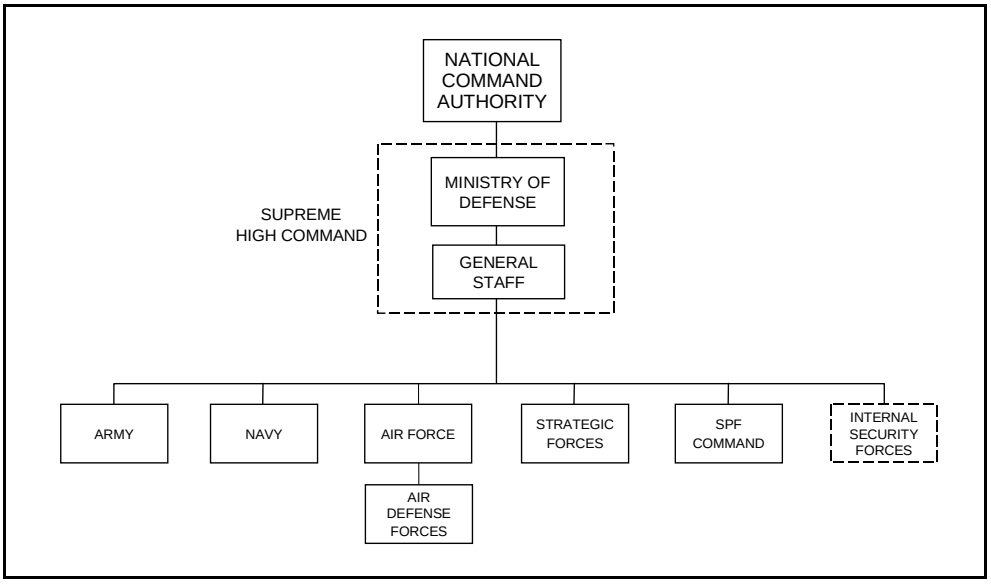


Figure 1-2. The State's Armed Forces

ARMED FORCES

1-4. The NCA exercises command and control of the State's Armed Forces via the Supreme High Command (SHC), which includes the Ministry of Defense (MOD) and a General Staff drawn from all the service components. (See Figure 1-2.) In peacetime, the MOD and General Staff operate closely but

separately. The MOD is responsible for policy, acquisitions, and financing the Armed Forces. The General Staff promulgates policy and supervises the service components; its functional directorates are responsible for key aspects of defense planning. During wartime, the MOD and General Staff merge to form the SHC, which functions as a unified headquarters.

1-5. The State organizes its Armed Forces into six service components. The Army is the largest of the six services, although it relies on mobilization of reserve and militia forces to conduct sustained operations. These ground forces, along with a relatively large Navy and Air Force, are sufficient to dominate the State's regional neighbors militarily. The Internal Security Forces are subordinate to the Ministry of the Interior in peacetime, but are resubordinated to the SHC as a sixth service in time of war.

ADMINISTRATIVE FORCE STRUCTURE

1-6. The OPFOR has an *administrative force structure* that manages its military forces in peacetime. This administrative force structure is the aggregate of various military headquarters, facilities, and installations designed to man, train, and equip the forces. In peacetime, forces are commonly grouped into corps, armies, or army groups for administrative purposes. An army group can consist of several armies, corps, or separate divisions and brigades. In some cases, forces may be grouped administratively under geographical commands designated as military regions or military districts. If the SHC elects to create more than one theater headquarters, it may allocate parts of the administrative force structure to each of the theaters, normally along geographic lines. Normally, these administrative groupings differ from the OPFOR's go-to-war (fighting) force structure. Other parts of the administrative force structure consist of assets centrally controlled at the national level.

1-7. In wartime, the normal role of administrative commands is to serve as force providers during the creation of operational- and tactical-level fighting commands. After transferring control of its major fighting forces to one or more task-organized fighting commands, an administrative headquarters, facility, or installation continues to provide depot- and area support-level administrative, supply, and maintenance functions. A geographically-based administrative command also provides a framework for the continuing mobilization of reserves to complement or supplement regular forces. In rare cases, an administrative command could function as a fighting command.

NATIONAL SECURITY STRATEGY

1-8. The *national security strategy* is the State's vision for itself as a nation and the underlying rationale for building and employing its instruments of national power. It outlines how the State plans to use its diplomatic-political, informational, economic, and military instruments of power to achieve its strategic goals. Despite the term *security*, this strategy defines not just what the State wants to protect or defend, but what it wants to achieve.

NATIONAL STRATEGIC GOALS

1-9. The NCA determines the State's strategic goals. The State's overall goals are to continually expand its influence within its region and eventually

change its position within the global community. These are the long-term aims of the State. Supporting the overall, long-term, strategic goals, there may be one or more specific goals, each based on a particular threat or opportunity.

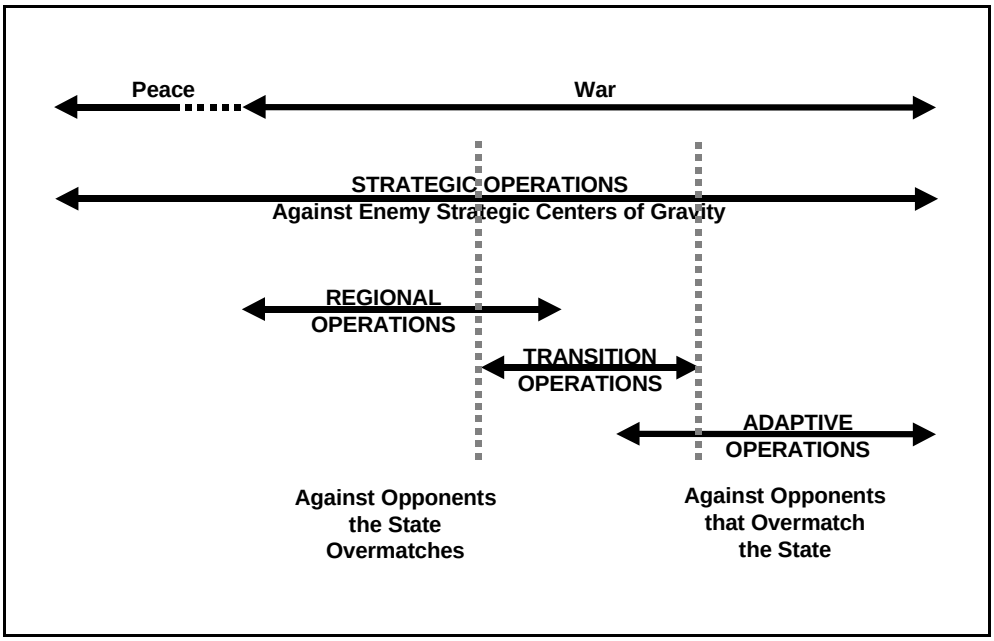


Figure 1-3. Conceptual Framework for Implementing the State's National Security Strategy

FRAMEWORK FOR IMPLEMENTING NATIONAL SECURITY STRATEGY

1-10. In pursuit of its national security strategy, the State is prepared to conduct four basic types of strategic-level courses of action. (See Figure 1-3.) Each course of action involves the use of all four instruments of national power, but to different degrees and in different ways. The State gives the four types the following names:

- **Strategic operations**—strategic-level course of action that uses all instruments of power in peace and war to achieve the goals of the State's national security strategy by attacking the enemy's strategic centers of gravity.
- **Regional operations**—strategic-level course of action (including conventional, force-on-force military operations) against opponents the State overmatches, including regional adversaries and internal threats.
- **Transition operations**—strategic-level course of action that bridges the gap between regional and adaptive operations and contains some elements of both, continuing to pursue the State's regional goals while dealing with the development of outside intervention with the potential for overmatching the State.
- **Adaptive operations**—strategic-level course of action to preserve the State's power and apply it in adaptive ways against opponents that overmatch the State.

Although the State refers to them as "operations," each of these courses of action is actually a subcategory of strategy. Each of these types of "operations" is actually the aggregation of the effects of tactical, operational, and strategic actions, in conjunction with the other three instruments of national power, that contribute to the accomplishment of strategic goals. The type(s) of operations the State employs at a given time will depend on the types of threats and opportunities present and other conditions in the operational environment.

1-11. Strategic operations are a continuous process not limited to wartime or preparation for war. Once war begins, they continue during regional, transition, and adaptive operations and complement those operations. Each of the latter three types of operations occurs only during war and only under certain conditions. Transition operations can overlap regional and adaptive operations.

Strategic Operations

1-12. What the State calls "strategic operations" is actually a universal strategic course of action the State would use to deal with all situations—in peacetime and war, against all kinds of opponents, potential opponents, or neutral parties. The nature of strategic operations at any particular time corresponds to the conditions perceived by the NCA. Depending on the situation, the State may first try to achieve its ends through strategic operations alone, without having to resort to armed conflict. It may be able to achieve the desired goal through pressure applied by other-than-military instruments of power, perhaps with the mere threat of using its superior military power against a regional opponent. These actions would fall under the general framework of "strategic operations."

1-13. Once war begins, the State will employ all means available against the enemy's strategic centers of gravity: diplomatic initiatives, information warfare (IW), economic pressure, terrorist attacks, State-sponsored insurgency, direct action by SPF, long-range precision fires, and even weapons of mass destruction (WMD) against selected targets. These efforts allow the enemy no sanctuary and often place noncombatants at risk.

Regional Operations

1-14. When nonmilitary means are not sufficient or expedient, the State may resort to armed conflict as a means of creating conditions that lead to the desired end state. However, strategic operations continue even if a particular regional threat or opportunity causes the State to undertake "regional operations" that include military means.

1-15. Prior to initiating armed conflict and throughout the course of armed conflict with its regional opponent, the State would continue to use strategic operations to preclude intervention by outside players—by other regional neighbors or by an extraregional power that could overmatch the State's forces. However, the overall strategy always includes branches and sequels for dealing with the possibility of intervention by an extraregional power.

1-16. At the military level, regional operations are combined arms, joint, interagency, and/or multinational operations. They are conducted in the State's

region and, at least at the outset, against a weaker regional opponent. The State's doctrine, organization, capabilities, and national security strategy allow the OPFOR to deal with regional threats and opportunities primarily through offensive action.

1-17. Regionally-focused operations typically involve "conventional" patterns of operation. However, the term *conventional* does not mean that the OPFOR will use only conventional forces and conventional weapons in such a conflict, nor does it mean that the OPFOR will not use some adaptive approaches.

Transition Operations

1-18. When unable to limit the conflict to regional operations, the State is prepared to engage extraregional forces through a series of "transition and adaptive operations." Usually, the State does not shift directly from regional to adaptive operations. Thus, a period of transition operations overlaps both regional and adaptive operations. The transition can begin concurrently with regional operations. Transition operations allow the State to shift gradually to adaptive operations or back to regional operations. At some point, the State either seizes an opportunity to return to regional operations, or it reaches a point where it must complete the shift to adaptive operations. Even after shifting to adaptive operations, the State tries to set conditions for transitioning back to regional operations.

1-19. When an extraregional force starts to deploy into the region, the balance of power begins to shift away from the State. Although the State may not yet be overmatched, it faces a developing threat it will not be able to handle with normal, "conventional" patterns of operation designed for regional conflict. Therefore, the State must begin to adapt its operations to the changing threat.

1-20. While the State and the OPFOR as a whole are in the condition of transition operations, an operational- or tactical-level commander will still receive a mission statement in plans and orders from higher headquarters stating the purpose of his actions. To accomplish that purpose and mission, he will use as much as he can of the conventional patterns of operation that were available to him during regional operations and as much as he has to of the more adaptive-type approaches dictated by the presence of an extraregional force. Transition operations serve as a means for the State to retain the initiative and still pursue its overall strategic goal of regional expansion despite its diminishing advantage in the balance of power.

1-21. There are two possible outcomes to transition operations. If the extraregional force suffers sufficient losses or for other reasons must withdraw from the region, the OPFOR's operations may begin to transition back to regional operations, again becoming primarily offensive. If the extraregional force is not compelled to withdraw and continues to build up power in the region, the OPFOR's transition operations may begin to gravitate in the other direction, toward adaptive operations.

Adaptive Operations

1-22. Once an extraregional force intervenes with sufficient power to overmatch the State, the full conventional design used in regionally-focused op-

erations is no longer sufficient to deal with this threat. The State has developed its doctrine, organization, capabilities, and strategy with an eye toward dealing with both regional and extraregional opponents. It has already planned how it will adapt to this new and changing threat and has included this adaptability in its doctrine.

1-23. The OPFOR still has the same forces and technology that were available to it for regional operations, but must use them in creative and adaptive ways. It has already thought through how it will adapt to this new or changing threat in general terms. (See Principles of Operation versus an Extraregional Power below.) It has already developed appropriate branches and sequels to its basic SCP and does not have to rely on improvisation. During the course of combat, it will make further adaptations, based on experience and opportunity.

1-24. Even with the intervention of an advanced extraregional power, the State will not cede the initiative. It will employ military means so long as this does not either place the regime at risk or risk depriving it of sufficient force to remain a regional power after the extraregional intervention is over. The primary objectives are to preserve combat power, to degrade the enemy's will and capability to fight, and to gain time for aggressive strategic operations to succeed.

1-25. The types of adaptive actions that characterize "adaptive operations" at the strategic level can also serve the OPFOR well in regional or transition operations—at least at the tactical and operational levels. However, once an extraregional force becomes fully involved in the conflict, the OPFOR will conduct adaptive actions more frequently and on a larger scale.

1-26. The State believes that adaptive operations can lead to several possible outcomes. If the results do not completely resolve the conflict in the State's favor, they may at least allow the State to return to regional operations. Even a stalemate may be a victory for the State, as long as it preserves enough of its instruments of power to preserve the regime and lives to fight another day.

STRATEGIC CAMPAIGN

1-27. To achieve one or more specific strategic goals, the NCA would develop and implement a specific national strategic campaign. Such a campaign is the aggregate of actions of all the State's instruments of power to achieve a specific set of the State's strategic goals against internal, regional, and/or extraregional opponents. There would normally be a diplomatic-political campaign, an information campaign, and an economic campaign, as well as a military campaign. All of these must fit into a single, integrated national strategic campaign.

1-28. The campaign could include more than one specific strategic goal. For instance, any strategic campaign designed to deal with an insurgency would include contingencies for dealing with reactions from regional neighbors or an extraregional power that could adversely affect the State and its ability to achieve the selected goal. Likewise, any strategic campaign focused on a goal that involves the State's invasion of a regional neighbor would have to take into consideration possible adverse actions by other regional neighbors, the

possibility that insurgents might use this opportunity to take action against the State, and the distinct possibility that the original or expanded regional conflict might lead to extraregional intervention. Figure 1-4 shows an example of a single strategic campaign that includes three strategic goals. (The map in this diagram is for illustrative purposes only and does not necessarily reflect the actual size, shape, or physical environment of the State or its neighbors.)

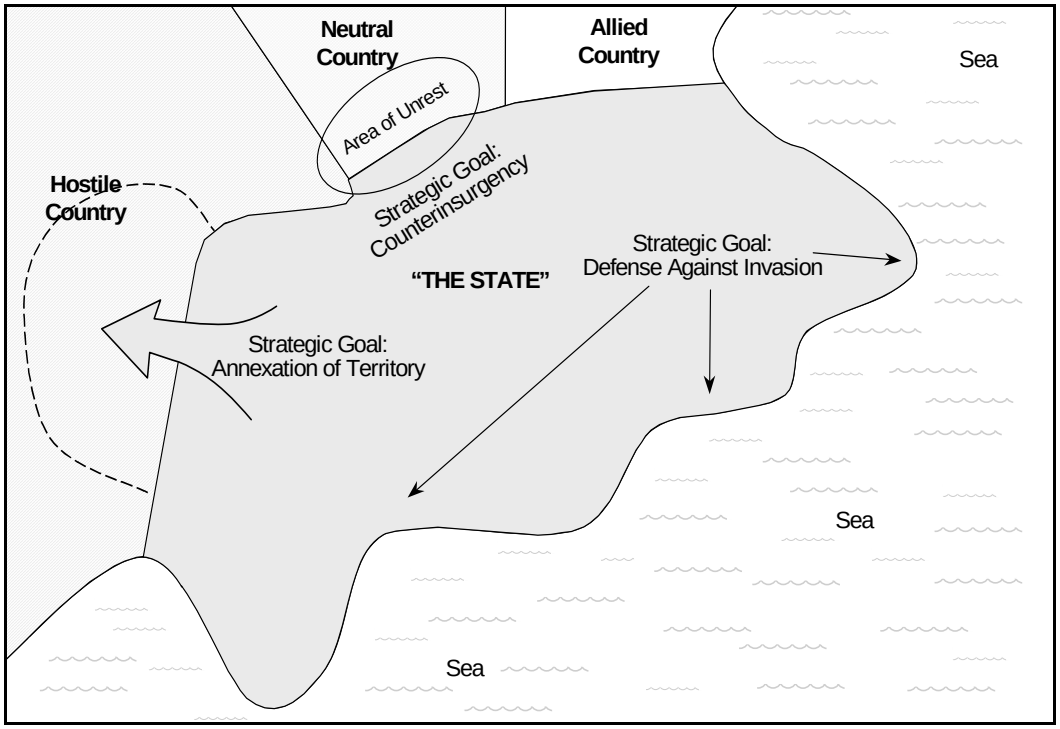


Figure 1-4. Example of a Strategic Campaign

NATIONAL STRATEGIC CAMPAIGN PLAN

1-29. The State would need a specific *national strategic campaign plan* (national SCP) to integrate all the instruments of national power under a single plan. The national SCP is the end result of the SID's planning effort. Based on input from all State ministries, this is the plan for integrating the actions of all instruments of power to set conditions favorable for achieving the central goal identified in the national security strategy. The MOD is only one of several ministries that provide input and are then responsible for carrying out their respective parts of the consolidated national plan. State ministries responsible for each of the four instruments of power will develop their own campaign plans as part of the unified national SCP.

1-30. A national SCP defines the relationships among all State organizations, military and nonmilitary, for the purposes of executing that SCP. The SCP describes the intended integration, if any, of multinational forces in those instances where the State is acting as part of a coalition.

MILITARY STRATEGIC CAMPAIGN PLAN

1-31. Within the context of the national strategic campaign, the MOD and General Staff develop and implement a *military strategic campaign*. During peacetime, the Operations Directorate of the General Staff is responsible for developing, staffing, promulgation, and continuing review of the *military strategic campaign plan*. It must ensure that the military plan would end in achieving military conditions that would fit with the conditions created by the diplomatic-political, informational, and economic portions of the national plan that are prepared by other State ministries. Therefore, the Operations Directorate assigns liaison officers to other important government ministries.

1-32. Although the State's Armed Forces (the OPFOR) may play a role in strategic operations, the focus of their planning and effort is on the military aspects of regional, transition, and adaptive operations. A military strategic campaign may include several combined arms, joint, and/or interagency operations. If the State succeeds in forming a regional alliance or coalition, these operations may also be multinational.

1-33. The General Staff acts as the executive agency for the NCA, and all military forces report through it to the NCA. The Chief of the General Staff (CGS), with NCA approval, defines the theater in which the Armed Forces will conduct the military campaign and its subordinate operations. He determines the task organization of forces to accomplish the operational-level missions that support the overall campaign plan. He also determines whether it will be necessary to form more than one theater headquarters. For most campaigns, there will be only one theater, and the CGS will serve as theater commander, thus eliminating one echelon of command at the strategic level.

1-34. In wartime, the MOD and the General Staff combine to form the SHC. The Operations Directorate continues to review the military SCP and modify it or develop new plans based on guidance from the CGS, who commands the SHC. It generates options and contingency plans for various situations that may arise. Once the CGS approves a particular plan for a particular strategic goal, he issues it to the appropriate operational-level commanders.

1-35. The military SCP directs operational-level military forces, and each command identified in the SCP prepares an operation plan that supports the execution of its role in that SCP. The SCP assigns forces to operational-level commands and designates areas of responsibility (AORs) for those commands.

1-36. From the General Staff down through the operational and tactical levels, the staff of each military headquarters has an operations directorate or section that is responsible for planning. The plan at each level specifies the AOR and task organization of forces allocated to that level of command, in order to best accomplish the mission assigned by a higher headquarters. Once the commander at a particular level approves the plan, he issues it to the subordinate commanders who will execute it. Figure 1-5 illustrates the framework for planning from the national level down through military channels to the operational and tactical levels. (See Chapter 2 for more detail on the tactical-level planning process.)

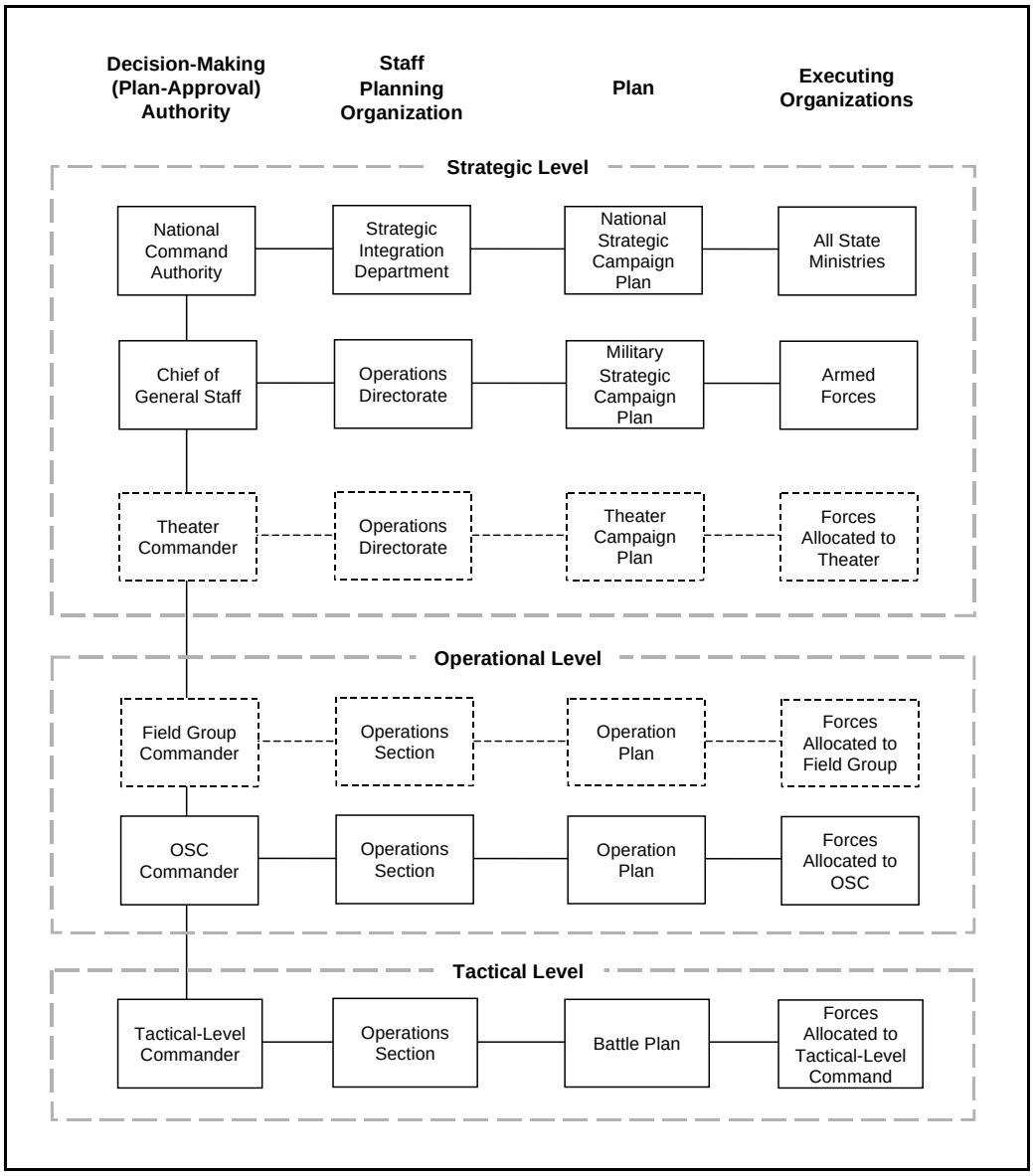


Figure 1-5. State and OPFOR Planning Framework

PRINCIPLES OF OPERATION VERSUS AN EXTRAREGIONAL POWER

1-37. The State assumes the distinct possibility of intervention by a major extraregional power in any regional conflict. Consequently, it has devised the following principles for applying its various instruments of diplomatic-political, informational, economic, and military power against this type of threat.

CONTROL ACCESS INTO REGION

1-38. Extraregional enemies capable of achieving overmatch against the State must first enter the region using power-projection capabilities. Therefore, the State's force design and investment strategy is focused on access control—to selectively deny, delay, and disrupt entry of extraregional forces into the region and to force them to keep their operating bases beyond continuous operational reach. This is the easiest manner of preventing the accumulation of enemy combat power in the region and thus defeating a technologically superior enemy.

1-39. Access-control operations are continuous throughout a strategic campaign and can reach beyond the theater as defined by the State's NCA. They begin even before the extraregional power declares its intent to come into the region, and continue regardless of whether the State is conducting regional, transition, or adaptive operations. Access-control operations come in three basic forms: strategic preclusion, operational exclusion, and access limitation.

Strategic Preclusion

1-40. *Strategic preclusion* seeks to completely deter extraregional involvement or severely limit its scope and intensity. The State would attempt to achieve strategic preclusion in order to reduce the influence of the extraregional power or to improve its own regional or international standing. It would employ all its instruments of power to preclude direct involvement by the extraregional power. Actions can take many forms and often contain several lines of operation working simultaneously.

1-41. The primary target of strategic preclusion is the extraregional power's national will. First, the State would conduct diplomatic and perception management activities aimed at influencing regional, transnational, and world opinion. This could either break apart ad hoc coalitions or allow the State to establish a coalition of its own or at least gain sympathy. For example, the State might use a disinformation campaign to discredit the legitimacy of diplomatic and economic sanctions imposed upon it. The extraregional power's economy and military would be secondary targets, with both practical and symbolic goals. This might include using global markets and international financial systems to disrupt the economy of the extraregional power, or conducting physical and information attacks against critical economic centers. Similarly, the military could be attacked indirectly by disrupting its power projection, mobilization, and training capacity. Preclusive actions are likely to increase in intensity and scope as the extraregional power moves closer to military action. If strategic preclusion fails, the State will turn to operational methods that attempt to limit the scope of extraregional involvement or cause it to terminate quickly.

Operational Exclusion

1-42. *Operational exclusion* seeks to selectively deny an extraregional force the use of or access to forward bases of operation within the region or even outside the theater defined by the NCA. For example, through diplomacy, economic or political connections, information campaigns, and/or hostile actions, the State might seek to deny the enemy the use of bases in other foreign nations. It might also attack population and economic centers for the intimidation effect, using long-range surface-to-surface missiles (SSMs), WMD, or SPF.

1-43. Forces originating in the enemy's homeland must negotiate long and difficult air and surface lines of communication (LOCs) merely to reach the region. Therefore, the State will use any means at its disposal to also strike the enemy forces along routes to the region, at transfer points en route, at aerial and sea ports of embarkation (APOEs and SPOEs), and even at their home stations. These are fragile and convenient targets in support of transition and adaptive operations.

Access Limitation

1-44. *Access limitation* seeks to affect an extraregional enemy's ability to introduce forces into the theater. Access-control operations do not necessarily have to deny the enemy access entirely. A more realistic goal is to limit or interrupt access into the theater in such a way that the State's forces are capable of dealing with them. By controlling the amount of force or limiting the options for force introduction, the State can create conditions that place its conventional capabilities on a par with those of an extraregional force. Capability is measured in terms of what the enemy can bring to bear in the theater, rather than what the enemy possesses.

1-45. The State's goal is to limit the enemy' accumulation of applicable combat power to a level and to locations that do not threaten the accomplishment of a strategic campaign. This may occur through many methods. For example, the State may be able to limit or interrupt the enemy's deployment through actions against his aerial and sea ports of debarkation (APODs and SPODs) in the region. Hitting such targets also has political and psychological value. The State will try to disrupt and isolate enemy forces that are in the region or coming into it, so that it can destroy them piecemeal. It might exploit and manipulate international media to paint foreign intervention in a poor light, decrease international resolve, and affect the force mix and rules of engagement (ROE) of the deploying extraregional forces.

EMPLOY OPERATIONAL SHIELDING

1-46. The State will use any means necessary to protect key elements of its combat power from destruction by an extraregional force—particularly by air and missile forces. This protection may come from use of any or all of the following:

- Complex terrain.
- Noncombatants.
- Risk of unacceptable collateral damage.
- Countermeasure systems.

- Dispersion.
- Fortifications.
- IW.

1-47. Operational shielding generally cannot protect the entire force for an extended time period. Rather, the State will seek to protect selected elements of its forces for enough time to gain the freedom of action necessary to prosecute important elements of a strategic campaign.

CONTROL TEMPO

1-48. The OPFOR initially employs rapid tempo to conclude regional operations before an extraregional force can be introduced. It will also use rapid tempo to set conditions for access-control operations before the extraregional force can establish a foothold in the region. Once it has done that, it needs to be able to control the tempo—to ratchet it up or down, as is advantageous to its own operational or tactical plans.

1-49. During the initial phases of an extraregional enemy's entry into the region, the OPFOR may employ a high operational tempo. Taking advantage of the weaknesses inherent in enemy power projection, it seeks to terminate the conflict quickly before main enemy forces can be brought to bear. If the OPFOR cannot end the conflict quickly, it may take steps to slow the tempo and prolong the conflict, taking advantage of enemy lack of commitment over time.

CAUSE POLITICALLY UNACCEPTABLE CASUALTIES

1-50. The OPFOR will try to inflict highly visible and embarrassing losses on enemy forces to weaken the enemy's domestic resolve and national will to sustain the deployment or conflict. Modern wealthy nations have shown an apparent lack of commitment over time, and sensitivity to domestic and world opinion in relation to conflict and seemingly needless casualties.

1-51. The OPFOR also has the advantage of disproportionate interests: the extraregional power may have limited objectives and only casual interest in the conflict, while the State approaches it from the perspective of total war and a threat to its aspirations or even to its national survival. The State is willing to commit all means necessary, for as long as necessary, to achieve its strategic goals. Compared to the extraregional enemy, the State stands more willing to absorb higher military and civilian casualties in order to achieve victory. It will try to influence public opinion in the enemy's homeland to the effect that the goal of intervention is not worth the cost.

NEUTRALIZE TECHNOLOGICAL OVERMATCH

1-52. Against an extraregional force, the OPFOR will forego massed formations, patterned echelonment, and linear operations that would present easy targets for such an enemy. It will hide and disperse its forces in areas where complex terrain limits the enemy's ability to apply his full range of technological capabilities. However, the OPFOR can rapidly mass forces and fires from these dispersed locations for decisive combat at the time and place of its own choosing.

1-53. Another way to operate on the margins of enemy technology is to maneuver during periods of reduced exposure. The OPFOR trains its forces to operate in adverse weather, limited visibility, rugged terrain, and urban environments that shield them from the effects of the enemy's high-technology weapons and deny the enemy the full benefits of his advanced reconnaissance, intelligence, surveillance, and target acquisition (RISTA) systems.

1-54. Modern militaries rely upon information and information systems to plan and conduct operations. For this reason, the OPFOR will conduct extensive information attacks and other offensive IW actions. It can also use the enemy's robust array of RISTA systems against him. A sophisticated enemy's large numbers of sensors can overwhelm subordinate units' ability to receive, process, and analyze raw intelligence data and to provide timely and accurate intelligence analysis. The OPFOR can add to this saturation problem by using deception to flood enemy sensors with masses of conflicting information. Conflicting data from different sensors at different levels (such as satellite imagery conflicting with data from unmanned aerial vehicles) can confuse the enemy and degrade his situational awareness.

1-55. The OPFOR will concentrate its own RISTA, maneuver, and fire support means on the destruction of high-visibility (flagship) enemy systems. This offers exponential value in terms of increasing the relative combat power of the OPFOR and also maximizes effects in the information and psychological arenas. Losses among these premier systems may not only degrade operational capability, but also undermine enemy morale. Thus, attacks against such targets are not always linked to military objectives.

CHANGE THE NATURE OF CONFLICT

1-56. The OPFOR will try to change the nature of conflict to exploit the differences between friendly and enemy capabilities. Following an initial period of regionally-focused conventional operations and utilizing the opportunity afforded by phased enemy deployment, the OPFOR will change its operations to focus on preserving combat power and exploiting enemy ROE. This shift in the focus of operations will present the fewest targets possible to the rapidly growing combat power of the enemy. Also, the OPFOR or affiliated forces can use terror tactics against enemy civilians or soldiers not directly connected to the intervention as a device to change the fundamental nature of the conflict.

1-57. Against early-entry forces, the OPFOR may still be able to use the design it employed in previous operations against regional opponents, particularly if access-control operations have been successful. However, as the extraregional force builds up to the point where it threatens to overmatch the OPFOR, the OPFOR is prepared to disperse its forces and employ them in patternless operations that present a battlefield that is difficult for the enemy to analyze and predict.

1-58. The OPFOR may hide and disperse its forces in areas of sanctuary. The sanctuary may be physical, often located in urban areas or other complex terrain that limits or degrades the capabilities of enemy systems. However, the OPFOR may also use moral sanctuary by placing its forces in areas shielded by civilians or close to sites that are culturally, politically, economically, or ecologically sensitive. It will defend in sanctuaries when necessary. However,

elements of the OPFOR will move out of sanctuaries and attack when they can create a window of opportunity or when opportunity is presented by physical or natural conditions that limit or degrade the enemy's systems.

1-59. The OPFOR elements do not avoid contact; rather, they often seek contact, but on their own terms. Their preferred tactics under these conditions would be the ambush and raid as a means of avoiding decisive combat with superior forces. They will also try to mass fires from dispersed locations to destroy key enemy systems or formations. However, when an opportunity presents itself, the OPFOR can rapidly mass forces and execute decisive combat at the time and place of its choosing.

ALLOW NO SANCTUARY

1-60. Along with dispersion, decoys, and deception, the OPFOR uses urban areas and other complex terrain as sanctuary from the effects of enemy forces. Meanwhile, its intent is to deny enemy forces the use of such terrain. This forces the enemy to operate in areas where the OPFOR's long-range fires and strikes can be more effective.

1-61. The OPFOR seeks to deny enemy forces safe haven during every phase of a deployment and as long as they are in the region. It is prepared to attack enemy forces anywhere on the battlefield, as well as to his strategic depth. The resultant drain on manpower and resources to provide adequate force-protection measures can reduce the enemy's strategic, operational, and tactical means to conduct war and erode his national will to sustain conflict. The goal is to present the enemy with a nonlinear, simultaneous battlefield. Such actions will not only deny the enemy sanctuary, but also weaken his national will, particularly if the OPFOR or affiliated forces can strike targets in the enemy's homeland.

OPERATIONAL-LEVEL ORGANIZATION

1-62. In peacetime, tactical-level commands belong to parent organizations in the administrative force structure. In wartime, they typically serve as part of a field group (FG) or an OSC. In rare cases, they might also fight as part of their original parent units from the administrative force structure.

FIELD GROUP

1-63. A *field group* is the largest operational-level organization, since it has one or more smaller operational-level commands subordinate to it. An FG is a grouping of subordinate organizations with a common headquarters, a common AOR, and a common operation plan. FGs are always joint and interagency organizations and are often multinational. However, this level of command may or may not be necessary in a particular SCP. An FG may be organized when the span of control at theater level exceeds four or five subordinate commands. This can facilitate the theater commander's remaining focused on the theater-strategic level of war and enable him to coordinate effectively the joint forces allocated for his use.

1-64. The General Staff does not normally form standing FG headquarters, but may organize one or more during full mobilization, if necessary An FG can be assigned responsibilities in controlling forces in the field during adap-

tive operations in the homeland, or forward-focused functionally (an FG may be assigned an access-control mission). However, FGs may exist merely to accommodate the number of forces in the theater.

1-65. FGs are typically formed for one or more of the following reasons:

- An SCP may require a large number of OSCs and/or operational-level commands from the administrative force structure. When the number of major military efforts in a theater exceeds the theater commander's desired or achievable span of control, he may form one or more FGs.
- In the rare cases when multiple operational-level commands from the administrative force structure become fighting commands, they could come under the command of an FG headquarters.
- Due to modifications to the SCP, a standing operational-level headquarters that was originally designated as an OSC headquarters may receive one or more additional major operational-level commands from the administrative force structure as fighting commands. Then the OSC headquarters would evolve into an FG headquarters.

In the first two cases, a standing FG staff would be formed and identified as having control over two or more OSCs (or operational-level headquarters from the administrative force structure) as part of the same SCP. In the third case, the original OSC headquarters would be redesignated as an FG headquarters. In any case, the FG command group and staff would be structured in the same manner as those of an OSC.

OPERATIONAL-STRATEGIC COMMAND

1-66. The OPFOR's primary operational organization is the OSC, which is described in detail in FM 7-100.1. Once the General Staff writes a particular SCP, it forms one or more standing OSC headquarters. Each OSC headquarters is capable of controlling whatever combined arms, joint, interagency, or multinational operations are necessary to execute that OSC's part of the SCP. However, the OSC headquarters does not have forces permanently assigned to it.

1-67. When the NCA decides to execute a particular SCP, each OSC participating in that plan receives appropriate units from the OPFOR's administrative force structure, as well as interagency and/or multinational forces. The allocation of organizations to an OSC depends on what is available in the State's administrative force structure and the requirements of other OSCs. Forces subordinated to an OSC may continue to depend on the administrative force structure for support.

1-68. If a particular OSC has contingency plans for participating in more than one SCP, it could receive a different set of forces under each plan. In each case, the forces would be task organized according to its mission requirements in the given plan. Thus, each OSC consists of those division-, brigade-, and battalion-size organizations allocated to it by the SCP currently in effect. These forces also may be allocated to the OSC for the purpose of training for a particular SCP. When an OSC is neither executing tasks as part of an SCP nor conducting exercises with its identified subordinate forces, it exists as a planning headquarters.

OPERATION PLAN

1-69. Operational-level commands prepare operation plans to control execution of their portion of an SCP. The operation plan must—

- Optimally allocate forces and resources to each mission.
- Provide concrete methods to coordinate the actions of maneuver, fire support, and logistics support.
- Provide for a specific sequence and methods for conducting each subtask required to assure mission success.

From the completed operation plan, the operational-level staff creates operational directives or combat orders to inform subordinates of their missions, roles, and time requirements for executing the plan. Tactical-level subordinates create their own battle plans and combat orders for their missions within the operation plan.

1-70. The operation plan details the commander's thinking and reflects the input of various subordinates and staff elements according to their functional responsibilities. It normally includes the following specific areas:

- Assessment of the enemy situation and probable intentions.
- Scope, aim, and concept of operations.
- Organization of forces.
- Organization of the battlefield.
- Results of force analysis.
- Plan for commitment of reserves.
- Missions of subordinate units.
- Missions of supporting and adjacent units.
- Plan for logistics support.
- Locations of command posts.

TYPES OF OFFENSIVE AND DEFENSIVE ACTION

1-71. The types of offensive action in OPFOR doctrine are both tactical methods and guides to the design of operational courses of action. An OSC offensive operation plan may include subordinate units that are executing different offensive and defensive courses of action within the overall offensive mission framework. The OPFOR recognizes three basic types of offensive action: *attack*, *limited-objective attack*, and *strike*. (See Chapter 3 for discussion of the same types of action at the tactical level.)

Types of Offensive Action

- Attack:
  - Integrated Attack.
  - Dispersed Attack.
- Limited-Objective Attack:
  - Sophisticated Ambush.
  - Raid.
  - Spoiling Attack.
  - Counterattack.
- Strike.

Types of Defensive Action

- Maneuver Defense.
- Area Defense.

1-72. The types of defensive action in OPFOR doctrine are both tactical methods and guides to the design of operational courses of action. The two basic types are *maneuver defense* and *area defense*. As with offensive operations, the defense can also be characterized as integrated or decentralized. An OSC defensive operation plan may include subordinate units that are executing various combinations of maneuver and area defenses, along with some offensive courses of action, within the overall defensive mission framework. (See Chapter 4 for discussion of the same types of action at the tactical level.)

BATTLEFIELD GEOMETRY

1-73. The OPFOR organizes the battlefield in such a way that it can rapidly transition between offensive and defensive operations and between linear and nonlinear operations. This flexibility can help the OPFOR adapt and change the nature of the conflict to something for which the enemy is not prepared.

1-74. The OPFOR recognizes the complexity of the modern battlefield. This will often lead to situations where part of the OPFOR may be able to effectively operate in a linear fashion, while other parts may be able to (or need to) conduct nonlinear operations. The OPFOR's understanding of what makes a battlefield linear or nonlinear is based on general military theory accepted by the armed forces of many countries. Battlefield geometry can be described in two dimensions: the relationship of units to each other, the enemy, and their support base; and the expected effects of that relationship.

LINEAR OPERATIONS

1-75. Some military operations that develop along a secure line from a base toward a geographically-based objective. These *linear* operations are characterized by an easily definable front and rear across the entire force. Orientation of the bulk of the force is in one general direction, defined as the front, normally facing the enemy and/or the objective. (See Figure 1-6.) During linear operations, the flanks of units are normally protected by other units, natural terrain features, or manmade obstacles.

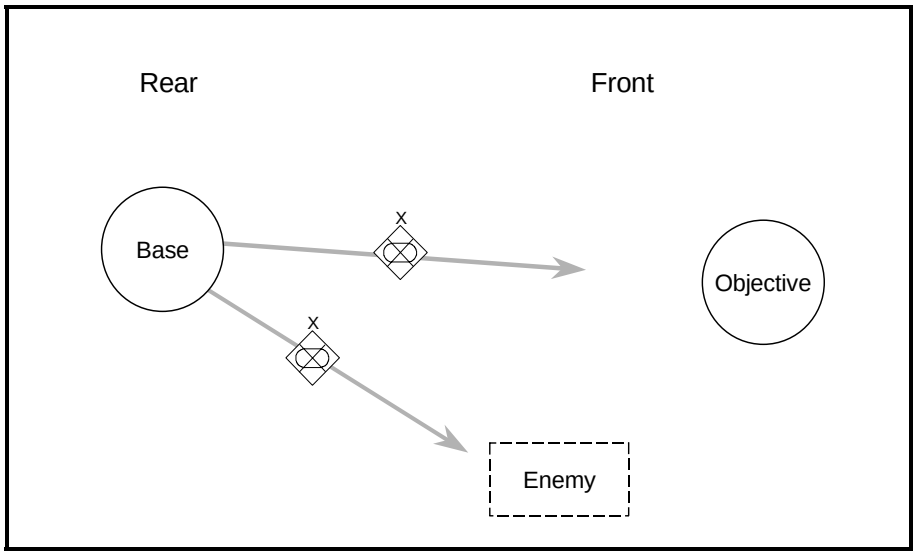


Figure 1-6. Linear Operations

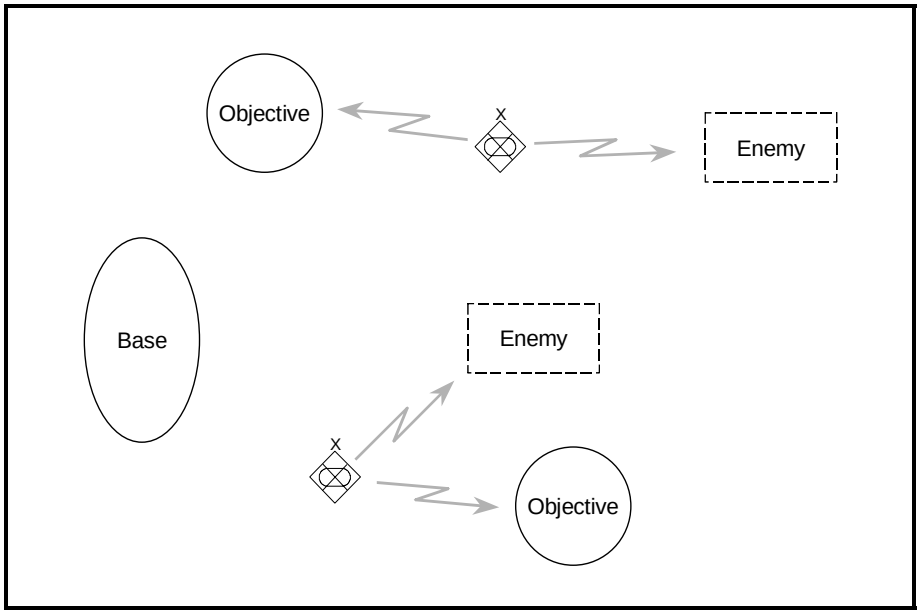


Figure 1-7. Nonlinear Operations

NONLINEAR OPERATIONS

1-76. Military operations that seek to complete a force- or systems-based mission, with no secure connection to a base and no easily defined front and rear across the force, are *nonlinear*. Orientation of the force is determined by the location of the immediate threat or the objective. (See Figure 1-7.) In most cases, units in a nonlinear environment rely on movement, deception, cover, and concealment to provide protection for potentially exposed elements.

EXPECTED EFFECTS

1-77. The OPFOR considers the difference between linear and nonlinear operations less in terms of geography and more in terms of effects desired. Linear operations normally produce small effects from small actions and large effects from large actions (or perhaps large effects from an aggregation of small actions)—a linear relationship. Linear operations are proportional and additive, and produce and typically produce a predictable, measurable effect. In contrast, this relationship may not always be present in nonlinear operations, which can produce large effects from small actions. In some cases, small actions produce small effects or no effects at all. Thus, nonlinear operations produce disproportionate, often unpredicted effects.

SYSTEMS WARFARE

1-78. The OPFOR defines a *system* as a set of different elements so connected or related as to perform a unique function not performable by the elements or components alone. The essential ingredients of a system include the components, the synergy among components and other systems, and some type of functional boundary separating it from other systems. Therefore, a "system of systems" is a set of different systems so connected or related as to produce results unachievable by the individual systems alone. The OPFOR views the operational environment, the battlefield, the State's own instruments of power, and an opponent's instruments of power as a collection of complex, dynamic, and integrated systems composed of subsystems and components.

1-79. Systems warfare serves as a conceptual and analytical tool to assist in the planning, preparation, and execution of warfare. With the systems approach, the intent is to identify critical system components and attack them in a way that will degrade or destroy the use or importance of the overall system.

PRINCIPLE

1-80. The primary principle of systems warfare is the identification and isolation of the critical subsystems or components that give the opponent the capability and cohesion to achieve his aims. The focus is on the disaggregation of the system by rendering its subsystems and components ineffective. While the aggregation of these subsystems or components is what makes the overall system work, the interdependence of these subsystems is also a potential vulnerability. Systems warfare has applicability or impact at all three levels of warfare.

APPLICATION AT THE STRATEGIC LEVEL

1-81. At the strategic level, the instruments of power and their application are the focus of analysis. National power is a system of systems in which the instruments of national power work together to create a synergistic effect. Each instrument of power (diplomatic-political, informational, economic, and military) is also a collection of complex and interrelated systems.

1-82. The State clearly understands how to analyze and locate the critical components of its own instruments of power and will aggressively aim to protect its own systems from attack or vulnerabilities. It also understands that

an adversary's instruments of power are similar to the State's. Thus, at the strategic level, the State can use the OPFOR and its other instruments of power to counter or target the systems and subsystems that make up an opponent's instruments of power. The primary purpose is to subdue, control, or change the opponent's behavior.

1-83. If an opponent's strength lies in his military power, the State and the OPFOR can attack the other instruments of power as a means of disaggregating or disrupting the enemy's system of national power. Thus, it is possible to render the overall system ineffective without necessarily having to defeat the opponent militarily.

APPLICATION AT THE OPERATIONAL LEVEL

1-84. At the operational level, the application of systems warfare pertains only to the use of armed forces to achieve a result. Therefore, the "system of systems" in question at this level is the combat system of the OPFOR and/or the enemy.

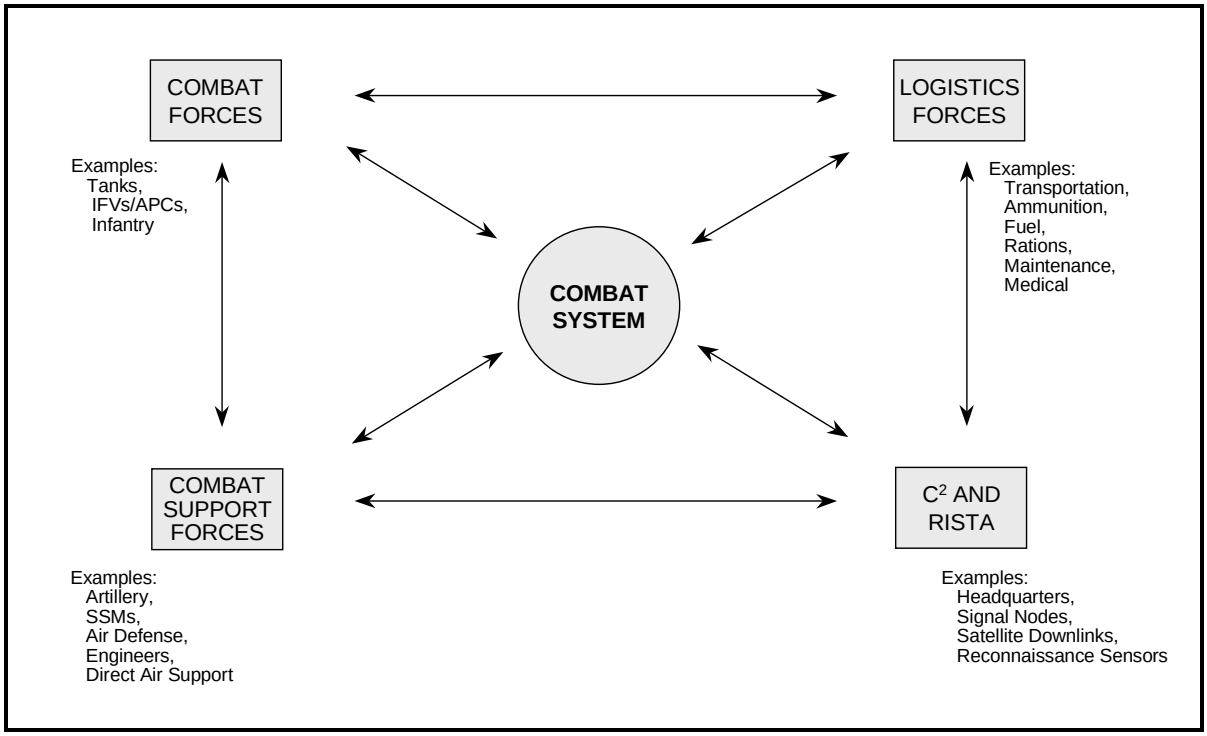


Figure 1-8. Combat System

Combat System

1-85. A *combat system* (see Figure 1-8) is the "system of systems" that results from the synergistic combination of four basic subsystems that are integrated to achieve a military function. The subsystems are as follows:

- Combat forces (such as main battle tanks, IFVs and/or APCs, or infantry).

- Combat support forces (such as artillery, surface-to-surface missiles (SSMs), air defense, engineers, and direct air support).
- Logistics forces (such as transportation, ammunition, fuel, rations, maintenance, and medical).
- C^2 and RISTA (such as headquarters, signal nodes, satellite downlink sites, and reconnaissance sensors).

1-86. The combat system is characterized by interaction and interdependence among its subsystems. Therefore, the OPFOR will seek to identify key subsystems of an enemy combat system and target them and destroy them individually. Against a technologically superior extraregional force, the OPFOR will often use any or all subcomponents of its own combat system to attack the most vulnerable parts of the enemy's combat system rather than the enemy's strengths. For example, attacking the enemy's logistics, C^2, and RISTA can undermine the overall effectiveness of the enemy's combat system without having to directly engage his superior combat and combat support forces. Aside from the physical effect, the removal of one or more key subsystems can have a devastating psychological effect, particularly if it occurs in a short span of time.

Planning and Execution

1-87. The systems warfare approach to combat is a means to assist the commander in the decision-making process and the planning and execution of his mission. The OPFOR believes that a qualitatively and/or quantitatively weaker force can defeat a superior foe, if the lesser force can dictate the terms of combat. It believes that the systems warfare approach allows it to move away from the traditional attrition-based approach to combat. It is no longer necessary to match an opponent system-for-system or capability-for-capability. Commanders and staffs will locate the critical component(s) of the enemy combat system, patterns of interaction, and opportunities to exploit this connectivity. Systems warfare has applications in both offensive and defensive contexts.

1-88. The essential step after the identification of the critical subsystems and components of a combat system is the destruction or degradation of the synergy of the system. This may take the form of total destruction of a subsystem or component, degradation of the synergy of components, or the simple denial of access to critical links between systems or components. The destruction of a critical component or link can create windows of opportunity that can be exploited, set the conditions for offensive action, or support a concept of operation that calls for exhausting the enemy on the battlefield. Once the OPFOR has identified and isolated a critical element of the enemy combat system that is vulnerable to attack, it will select the appropriate method of attack.

1-89. Today's state-of-the-art combat and combat support systems are impressive in their ability to deliver precise attacks at long standoff distances. However, the growing reliance of some extraregional forces on these systems offers opportunity. For example, attacking critical ground-based C^2 and RISTA nodes or logistics systems and LOCs may have a very large payoff for relatively low investment and low risk. Modern logistics systems assume secure LOCs and voice or digital communications. These characteristics make such systems vul-

nerable. Therefore, the OPFOR can greatly reduce a military force's combat power by attacking a logistics system that depends on "just-in-time delivery."

1-90. For the operational commander, the systems warfare approach to combat is not an end in itself. It is a key component in his planning and sequencing of tactical battles and engagements aimed toward achieving assigned strategic goals. Systems warfare supports his concept; it is not the concept. The ultimate aim is to destroy the enemy's will and ability to fight.

APPLICATION AT THE TACTICAL LEVEL

1-91. It is at the tactical level that systems warfare is executed in attacking the enemy's combat system. While the tactical commander may use systems warfare in the smaller sense to accomplish assigned missions, his attack on systems will be in response to missions assigned him by the operational commander.

APPLICATION ACROSS ALL TYPES OF STRATEGIC-LEVEL ACTIONS

1-92. Systems warfare is applicable against all types of opponents in all strategic-level courses of action. In regional operations, the OPFOR will seek to render a regional opponent's systems ineffective to support his overall concept of operation. However, this approach is especially conducive to the conduct of transition and adaptive operations. The very nature of this approach lends itself to adaptive and creative options against an adversary's technological overmatch.

RELATIONSHIP TO THE C^2 PROCESS

1-93. The systems warfare approach to combat is an important part of OPFOR planning. It serves as a means to analyze the OPFOR's own combat system and how it can use the combined effects of this system to degrade the enemy's combat system. The OPFOR believes that the approach allows its decision makers to be anticipatory rather than reactive.

THE ROLE OF PARAMILITARY FORCES IN OPERATIONS

1-94. Paramilitary forces are those organizations that are distinct from the regular armed forces but resemble them in organization, equipment, training, or purpose. Basically, any organization that accomplishes its purpose, even partially, through the force of arms is considered a paramilitary organization. These organizations can be part of the government infrastructure or operate outside of the government or any institutionalized controlling authority.

1-95. In consonance with the concept of "all means necessary," the OPFOR views these organizations as assets that can be used to its advantage in time of war. Within its own structure, the OPFOR has formally established this concept by assigning the Internal Security Forces, part of the Ministry of the Interior in peacetime, to the SHC during wartime. Additionally, the OPFOR cultivates relationships with and covertly supports nongovernment paramilitary organizations to achieve common goals while at peace and to have a high degree of influence on them when at war.

1-96. The primary paramilitary organizations are the Internal Security Forces, insurgents, terrorists, and drug and criminal organizations. The de-

gree of control the OPFOR has over these organizations varies from absolute, in the case of the Internal Security Forces, to tenuous when dealing with terrorist and drug and criminal organizations. In the case of those organizations not formally tied to the OPFOR structure, control can be enhanced through the exploitation of common interests and ensuring that these organizations see personal gain in supporting OPFOR goals.

1-97. The OPFOR views the creative use of these organizations as a means of providing depth and continuity to its operations. A single attack by a terrorist group will not in itself win the war. However, the use of paramilitary organizations to carry out a large number of planned actions, in support of strategy and operations, can play an important part in assisting the OPFOR in achieving its goals. These actions, taken in conjunction with other adaptive actions, can also supplement a capability degraded due to enemy superiority.

Chapter 2

Tactical Command and Control

This chapter examines the OPFOR system and process of command and control (C^2). It explains how the OPFOR expects to direct the forces and actions described in other chapters of this manual. It provides insights into the OPFOR theory and practice of controlling combined arms, interagency, and multinational forces in war. Most important, it shows how OPFOR commanders and staffs think and work.

In modern war, victory is likely to go to the side that acts most quickly. The overriding need for speedy decisions to seize fleeting opportunities drastically reduces the time available for decision making and for issuing and implementing orders. The need to seize opportunities on the battlefield, coupled with dispersion to avoid the threat of precision weapons, dictates the replacement of concentration in terms of space by concentration in terms of time and effects. Moreover, the tactical situation is subject to sudden and radical changes, and the results of combat are more likely to be decisive than in the past. OPFOR C^2 participants, processes, and systems are designed to operate effectively and efficiently in this new environment. The successful execution of an information warfare (IW) plan is critical to victory.

This chapter focuses on tactical command and control. All OPFOR levels of command share a common decision-making and planning process. They also share a parallel staff organization and command post (CP) structure, tailored to match the differences in scope and span of control.

CONCEPT

2-1. The OPFOR's Tactical C^2 concept is based on the following key principles.

2-2. **Mission tactics.** OPFOR tactical units focus on the purpose of their tactical missions and continue to act on that purpose even when the details of an original plan have become irrelevant through enemy action or unforeseen events.

2-3. **Flexibility through battle drill.** The OPFOR does not see battle drill as a restrictive methodology. Rather, it believes that true flexibility comes from soldiers in tactical units understanding basic battlefield functions to such a degree that they are second nature. Only when common battlefield functions can be performed rapidly without further guidance or orders do tactical commanders achieve the flexibility to modify the plan on the move.

Formatted: Bullets and Numbering

2-4. **Accounting for mission dynamics.** The OPFOR recognizes that enemy action and battlefield conditions may make the originally selected mission irrelevant and require an entirely new mission be acted upon without an intermediate planning session. An example would be an OPFOR fixing force that finds itself the target of an enemy fixing action. To continue solely as a fixing force would actually assist the enemy in achieving its mission. In this case, the OPFOR unit might choose to re-task organize on the move and allocate a part of the fixing force to the exploitation force and use a smaller amount of combat power to keep the enemy fixing force from being able to influence the fight. OPFOR tactical headquarters constantly evaluate the situation to determine if the mission being executed is still relevant, and if not, to advise the commander on how best to shift to a relevant course of action. It requires the commander at each level of command to act flexibly, exercising his judgment as to what best meets and sustains the aim of his superior.

COMMAND AND CONTROL STRUCTURES

2-5. C^2 at the tactical level of command is designed with emphasis on survivability through mobility, redundancy, and security. CPs and procedures are streamlined compared to such at the operational level and great reliance is placed on use of common procedures for important recurring tactical tasks.

Formatted: Bullets and Numbering

2-6. OPFOR Brigade and Brigade Tactical Group headquarters and CPs are similar to those found in Divisions and DTGs in most respects, but lack an IFC and IFCCP. BTGs have a Fire Support Coordination Center in their operations section, but are not expected to integrate fires from all systems and services without augmentation.

2-7. OPFOR battalions are characterized by headquarters composed of a command section including the commander and deputy commander and a small staff element and a staff section including the chief of staff and the remainder of the battalion staff. The commander and deputy commander will each have their own command vehicles in mounted units. The battalion staff consists of the operations officer (who also serves as the deputy COS), the assistant operations officer, the intelligence officer, and the resources officer. The signal platoon leader also serves as the battalion communications officer, the reconnaissance platoon leader acts as the chief of reconnaissance while the materiel support platoon leader serves as the battalion resources officer.

2-8. OPFOR companies are characterized by headquarters composed of a command team consisting of the commander and a small staff element and a support team consisting of the deputy commander and the rest of the company staff.

COMMAND AND SUPPORT RELATIONSHIPS

2-9. OPFOR units are organized using four command and support relationships, summarized in Figure 2-1 and described in the following paragraphs. These relationships may shift during the course of an operation in order to best align the force with the tasks required. The general category of *subordinate* units includes both constituent and dedicated relationships; it can also include interagency and multinational (allied) subordinates.

Relationship	Commanded by	Logistics from	Positioned by	Priorities from
Constituent	Gaining	Gaining	Gaining	Gaining
Dedicated	Gaining	Parent	Gaining	Gaining
Supporting	Parent	Parent	Supported	Supported
Affiliated	Self	Self or "Parent"	Self	Mutual Agreement

Figure 2-1. Command and Support Relationships

Constituent

2-10. *Constituent* units are those forces assigned directly to a unit and forming an integral part of it. They may be organic to the table of organization and equipment of the administrative structure forming the basis of a given unit, assigned at the time the unit was created, or attached to it after its formation.

Dedicated

2-11. *Dedicated* is a command relationship identical to constituent with the exception that a dedicated unit still receives logistics support from a parent headquarters of similar type. An example of a dedicated unit would be the case where a specialized unit, such as an attack helicopter company, is allocated to a BTG. The base brigade does not otherwise possess the technical experts or repair facilities for the aviation unit's equipment, the dedicated relationship permits the company to execute missions exclusively for the BTG while still receiving its logistics support from its parent organization. In OPFOR plans and orders, the dedicated command and support relationship is indicated by (DED) next to a unit title or symbol.

Supporting

2-12. *Supporting* units retain a command and logistics relationship with their parent headquarters, but are positioned and given mission priorities by their supported headquarters. This relationship permits supported units the freedom to establish priorities and position supporting units while allowing higher headquarters to rapidly shift support in dynamic situations. An example of a supporting unit would be an MRL battalion supporting a BTG for a particular phase of an operation but ready to rapidly transition to a different support relationship when the BTG becomes the DTG reserve in a later phase. In OPFOR plans and orders, the supporting command and support relationship is indicated by (SPT) next to a unit title or symbol.

Affiliated

2-13. *Affiliated* organizations are those operating in a unit's AOR that the unit may be able to sufficiently influence to act in concert with it for a limited time. No "command relationship" exists between an affiliated organization and the unit in whose AOR it operates. Affiliated organizations are typically nonmilitary or paramilitary groups such as criminal cartels, insurgencies,

terrorist cells, or mercenaries. In some cases, affiliated forces may receive support from the DTG or BTG as part of the agreement under which they cooperate. Although there will typically be no formal indication of this relationship in OPFOR plans and orders, in rare cases (AFL) is used next to unit titles or symbols.

TACTICAL-LEVEL ORGANIZATIONS

2-14. OPFOR tactical organizations fight battles and engagements. They execute the combat actions described in the remainder of this manual.

Divisions

2-15. In the OPFOR's administrative force structure, the largest tactical formation is the division. Divisions are designed to be able to—

- Sustain independent combat operations over a period of several days.
- Exert control over an important geographic area or medium-size urban area (population 20,000 to 100,000).
- Integrate interagency forces up to brigade or group size.
- Accept constituent flame weapons, artillery (cannon and rocket), engineer, air defense, chemical defense, antitank, medical, logistics, signal, and electronic warfare (EW) units.
- Accept dedicated and supporting surface-to-surface missile (SSM), Special-Purpose Forces (SPF), aviation (combat helicopter, transport helicopter) and unmanned aerial vehicle (UAV) units. A division may accept these type units as constituent if it is also allocated their essential logistics support.
- Execute all of the actions discussed in this manual.
- Serve as the basis for forming a division tactical group (DTG), if necessary. (See discussion of Tactical Groups below.)
- Fight as part of an OSC or an organization in the administrative force structure (such as army or military region) or as a separate unit in an FG.

Maneuver Brigades

2-16. The OPFOR's basic combined arms unit is the maneuver brigade. In the administrative force structure, maneuver brigades are typically constituent to divisions, but some are organized as separate brigades with a greater ability to accomplish independent missions without further allocation of forces. Maneuver brigades are designed to be able to—

- Sustain independent combat operations over a period of 1 to 3 days.
- Exert control over a small geographic area or small urban area (population 1,000 to 20,000).
- Integrate interagency forces up to battalion size.
- Accept constituent flame weapons, artillery (cannon and rocket), engineer, air defense, antitank, logistics, and signal units.

- Accept dedicated and supporting chemical defense, medical, EW, SSM, SPF, aviation (combat helicopter, transport helicopter) and UAV units. A brigade may accept these type units as constituent if it is also allocated their essential logistics support.
- Execute all of the actions discussed in this manual (except strikes).
- Serve as the basis for forming a brigade tactical group (BTG), if necessary.
- Fight as part of a division or DTG.
- Fight as a separate unit in an OSC, an organization of the administrative force structure (such as army, corps, or military district), or an FG.

Tactical Groups

2-17. A *tactical group* is a task-organized division or brigade that has received an allocation of additional land forces in order to accomplish its mission. These forces may come from within the Ministry of Defense, from the Ministry of the Interior, or from affiliated forces. Typically, these assets are initially allocated to an OSC or FG, which further allocates them to its tactical subordinates. The purpose of a tactical group is to ensure unity of command for all land forces in a given AOR. Tactical groups formed from divisions are *division tactical groups* (DTGs) and those from brigades are *brigade tactical groups* (BTGs).[1] A DTG may fight as part of an OSC or as a separate unit in an FG. A BTG may fight as part of a division or DTG or as a separate unit in an OSC or FG. Figures 2-2 through 2-3 give examples of possible DTG and BTG organizations.

2-18. In addition to augmentation received from a higher command, a DTG or BTG normally retains the assets that were originally subordinate to the division or brigade that served as the basis for the tactical group. However, it is also possible that the higher command could use units from one division or brigade as part of a tactical group that is based on another division or brigade.

[1] Any division or brigade receiving additional assets from a higher command becomes a DTG or BTG. Therefore, references to C^2 of a DTG or BTG throughout the remainder of this chapter may also apply to division or brigade, respectively, unless specifically stated otherwise.

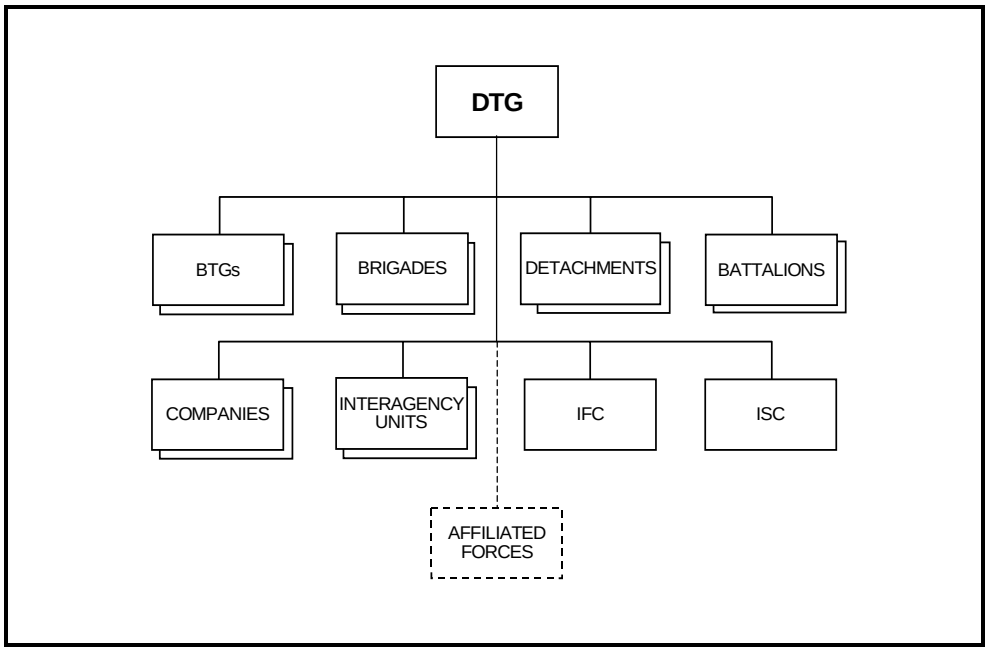


Figure 2-2. Possible DTG Organization (Example)

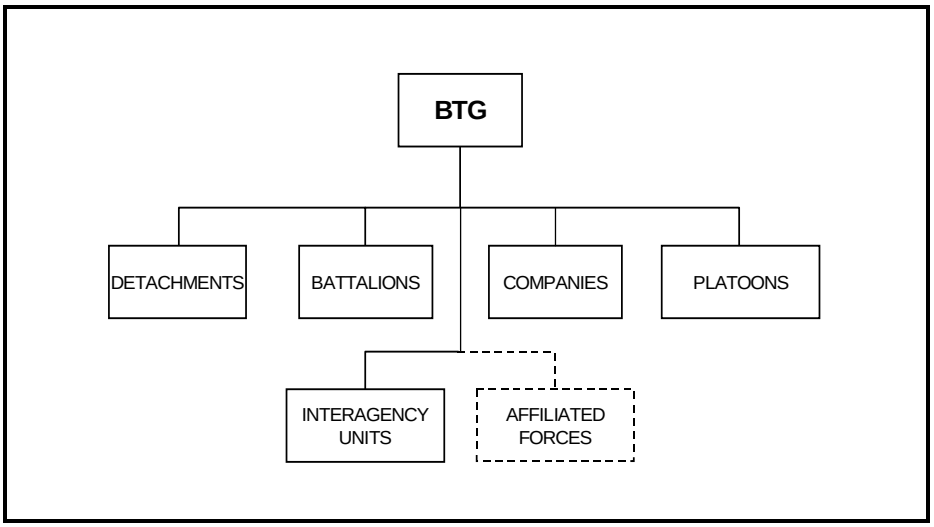


Figure 2-3. Possible BTG Organization (Example)

2-19. The division that serves as the basis for a DTG may have some of its brigades task organized as BTGs. However, just the fact that a division becomes a DTG does not necessarily mean that it forms BTGs. A DTG could augment all of its brigades, or one or two brigades, or none of them as BTGs. A division could augment one or more brigades into BTGs, using the division's own constituent assets, without becoming a DTG. If a division receives additional assets and uses them all to create one or more BTGs, it is still designated as a DTG.

Battalions

2-20. In the OPFOR's force structure, the basic unit of action is the battalion. Battalions are designed to be able to—

- Execute basic combat missions as part of a larger tactical force.
- Exert control over a small geographic area or village-sized urban area (population 100 to 1000).
- Execute all of the tactical actions discussed in this manual.
- Plan for operations expected to occur 6-24 hours in the future.
- Serve as the basis for forming a detachment (DET), if necessary. (See discussion of detachments below.)
- Fight as part of an BTG or DTG.

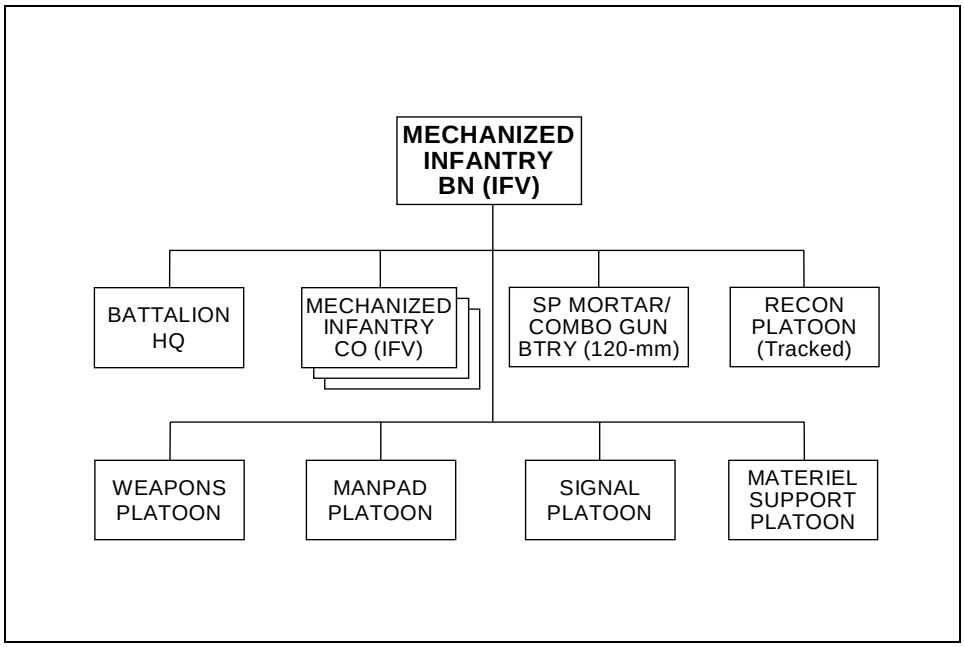


Fig 2-4 Battalion Example

-

Companies

2-21. In the OPFOR's force structure, the largest unit without a staff is the company. Companies are designed to be able to—

- Execute tactical tasks. A company will not normally be asked to perform two or more tactical tasks simultaneously. OPFOR tactical tasks are listed in Appendix A.
- Exert control over a very small geographic area or small village-sized urban area (population 1-300).
- Serve as the basis for forming a detachment (DET), if necessary. (See discussion of detachments below.)
- Fight as part of a battalion, or BTG.

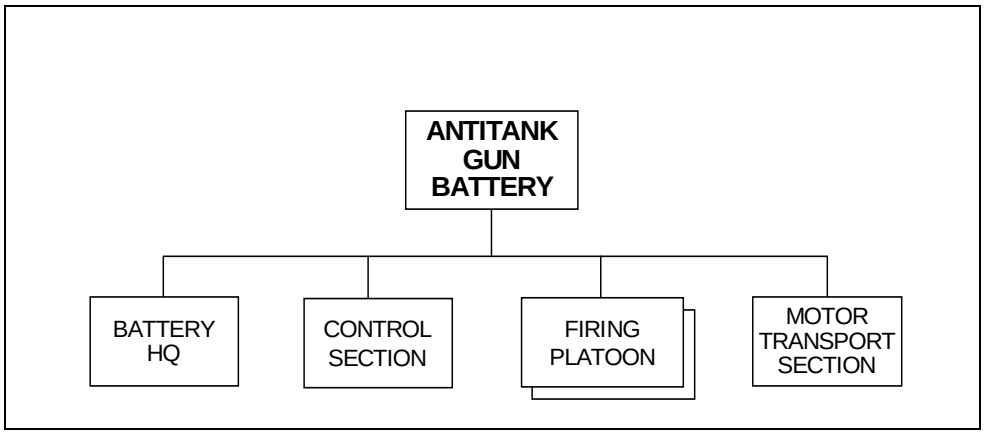


Fig 2-5 Company Example

Platoons

2-22. In the OPFOR's force structure, the smallest unit typically expected to conduct independent fire and maneuver is the platoon. Platoons are designed to be able to—

- Execute tactical tasks. A platoon will not be asked to perform two or more tactical tasks simultaneously. OPFOR tactical tasks are listed in Appendix A.
- Exert control over a small riot/crowd/demonstration.
- Serve as the basis for forming a reconnaissance or fighting patrol.
- Fight as part of a company, battalion, or detachment.
-

Historical Designations

2-23. The terms *regiment*, *squadron*, *troop*, and *battery* are historical designations without any further implied meaning. In this manual, the use of the common term for a unit type will include any historical designations for a unit of the same size. (See Figure 2-4.)

Historical Designation	Common Term
Regiment	Brigade
Squadron	Battalion
Troop, Battery	Company

Figure 2-6. Historical Designations and Common Terms

Single-Arms Brigades and Regiments

2-24. The OPFOR force structure contains brigade-size units of single arms such as surface-to-air missile (SAM), artillery, SSM, antitank, combat helicopter, signal, and EW. These units almost always operate in support of a larger formation and only rarely as tactical groups or detachments, or on independent missions.

Detachment

2-25. A *detachment* is a battalion or company designated to perform a specific mission and allocated the forces necessary to do so. Detachments are the smallest combined arms formations and are, by definition, task organized. To further differentiate, detachments built from battalions can be termed BDETs and those from companies CDETs. The forces allocated to a detachment suit the mission expected of it. They may include—

- Artillery or mortar units.
- Air defense units.
- Engineer units (with obstacle, survivability, or mobility assets).
- Heavy weapons units (including heavy machineguns, automatic grenade launchers, and antitank guided missiles),
- Units with specialty equipment such as flame weapons, specialized reconnaissance assets, or helicopters.
- Interagency forces up to company. (Platoon for CDETs)
- Chemical defense, antitank, medical, logistics, signal, and electronic warfare (EW) units.
- BDETs can accept dedicated and supporting Special-Purpose Forces (SPF), aviation (combat helicopter, transport helicopter) and unmanned aerial vehicle (UAV) units.

2-26. The basic type of OPFOR detachment is the independent mission detachment (IMD). IMDs are formed to execute missions that are separated in space and/or time from those being conducted by the remainder of the forming unit. IMDs can be used for a variety of missions, some of which are listed here as examples:

- Seizing key terrain.
- Linking up with airborne or heliborne forces.
- Conducting tactical movement on secondary axes.
- Pursuing or enveloping an enemy force.
- Conducting a raid or ambush.

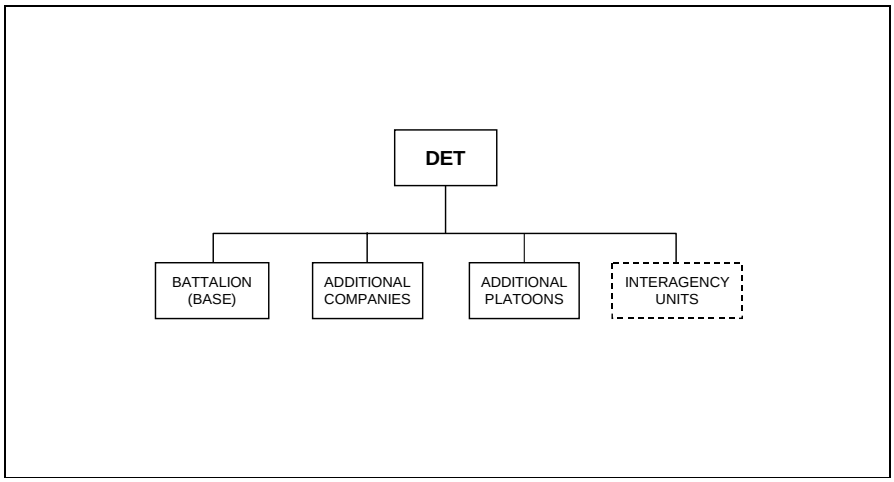


Fig 2-7 Battalion-sized Detachment (BDET) Example

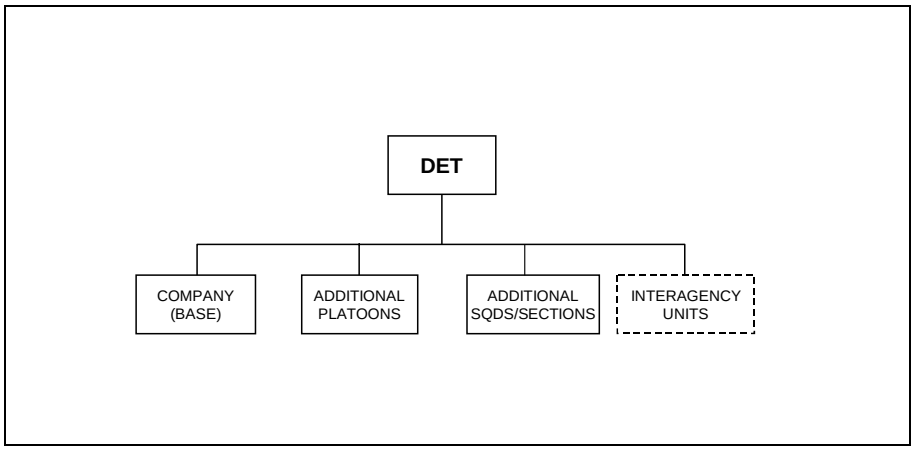


Fig 2-8 Company-sized Detachment (CDET) Example

Element

2-27. An element is a company or platoon sized component of a detachment given a specific tactical task in support of the detachment's mission.

Patrol

2-28. A patrol is a platoon- or squad-sized force task organized to accomplish a specific reconnaissance and/or security mission. There are two basic types of patrol, fighting patrol and reconnaissance patrol. Both are described in chapter 8.

INTEGRATED FIRES COMMAND

2-29. The *integrated fires command* (IFC) is a combination of a standing C^2 structure and task organization of constituent and dedicated fire support units. All division-level and above OPFOR organizations possess an IFC C^2 structure—staff, CP, communications and intelligence architecture, and automated fire control system (AFCS). The IFC exercises command of all constituent and dedicated fire support assets retained by its level of command. This includes army aviation, artillery, and missile units. It also exercises command over all reconnaissance, intelligence, surveillance, and target acquisition (RISTA) assets allocated to it.[2]

2-30. As the balance of units discussed in the manual do not possess an IFC, the full discussion of its structure and capabilities is left to FM 7-100.1

INTEGRATED SUPPORT COMMAND

2-31. The integrated support command (ISC) is the aggregate of combat service support units (and perhaps some combat support units) organic to a division and additional assets allocated from the administrative force structure to a DTG. It contains such units that the division or DTG does not suballocate to lower levels of command in a constituent or dedicated relationship. The DTG further allocates part of its ISC units as an integrated support group (ISG) to support its IFC, and the remainder supports the rest of the DTG, as a second ISG. For organizational efficiency, other combat service support units may be grouped in this ISC and its ISGs, although they may support only one of the major units of the DTG or IFC. Sometimes, an ISC or ISG might also include units performing combat support tasks (such as chemical warfare, IW, or law enforcement) that support the DTG and its IFC. (See Chapter 14 for more detail on the ISC and ISG.)

ORGANIZING THE TACTICAL BATTLEFIELD

2-32. The OPFOR organizes the battlefield in such a way that it can rapidly transition between offensive and defensive actions and between linear and nonlinear dispositions. This flexibility can help the OPFOR adapt and change the nature of conflict to something for which the enemy is not prepared.

2-33. In his combat order, the commander specifies the organization of the battlefield from the perspective of his level of command. Within his unit's area of responsibility (AOR), as defined by the next-higher commander, he designates AORs for his subordinates, along with zones, objectives, and axes related to his own overall mission.

[2] Based on mission requirements, the commander may also allocate maneuver forces to the IFC. This is most often done when he chooses to use the IFC CP to provide C^2 for a strike, but can also be done for the execution of other missions.

2-34. A combat order normally defines AORs and zones by specifying boundary lines in terms of distinct local terrain features through which a line passes, specifying whether each terrain feature is included or excluded from the unit's AOR or zones within it. Normally, a specified terrain feature is included unless the order identifies it as "excluded." For example, the left boundary of a unit's AOR could run from hill 108, to hill 250 (excluded), to junction of roads 52 and 98.

Areas of Responsibility

2-35. OPFOR organizations are given a specific *area of responsibility*. An OPFOR AOR is the geographical area and associated airspace within which a commander has the authority to plan and conduct combat operations.

2-36. An AOR is bounded by a *limit of responsibility* (LOR) beyond which the organization may not operate or fire without coordination through the next-higher headquarters. AORs may be linear or nonlinear in nature. Linear AORs may contain subordinate nonlinear AORs and vice versa.

2-37. A higher commander may retain control of airspace over a lower commander's AOR. This is done through the use of standard airspace control measures.

Zones

2-38. AORs typically consist of three basic *zones*: *battle*, *disruption*, and *support*. An AOR may also contain one or more *attack* and/or *kill* zones. The various zones in an AOR have the same basic purposes within each type of offensive and defensive action (see Chapters 3 and 4). Zones may be linear or nonlinear in nature. The size of these zones depends on the size of the OPFOR elements involved, engagement ranges of weapon systems, the terrain, and the nature of the enemy's operation. Within the LOR, the OPFOR normally refers to two types of control lines. The *support line* separates the support zone from the battle zone. The *battle line* separates the battle zone from the disruption zone.

2-39. An AOR is not required to have any or all of these zones in any particular situation. A command might have a battle zone and no disruption zone. It might not have a battle zone, if it is the disruption force of a higher command. If it is able to forage, it might not have a support zone. The intent of this method of organizing the battlefield is to preserve as much flexibility as possible for subordinate units within the parameters that define the aim of the senior commander. An important feature of the basic zones in an AOR is the variations in actions that can occur within them in the course of a specific battle.

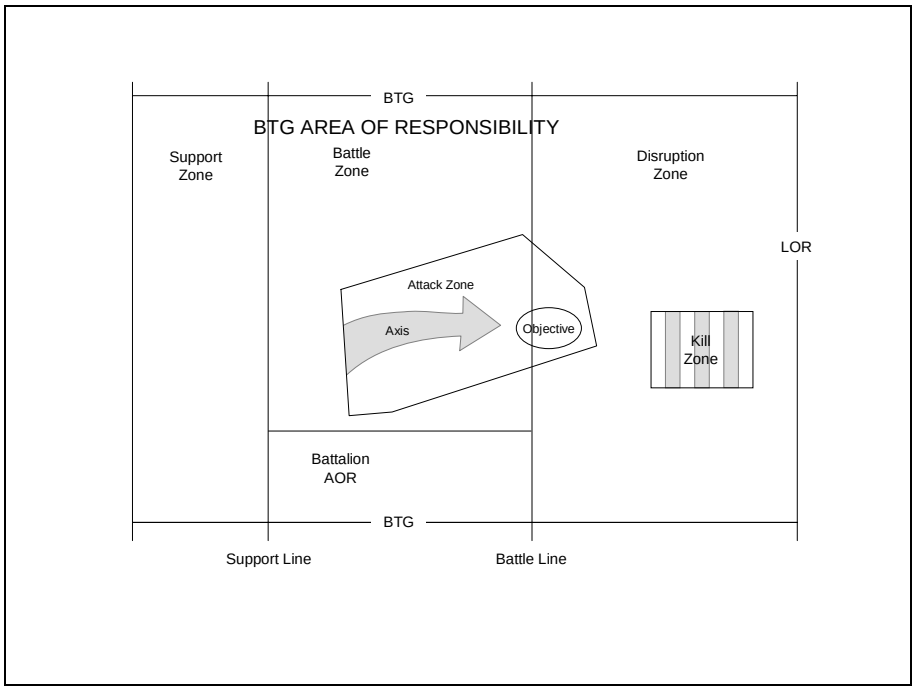


Figure 2-9. Linear AOR Example

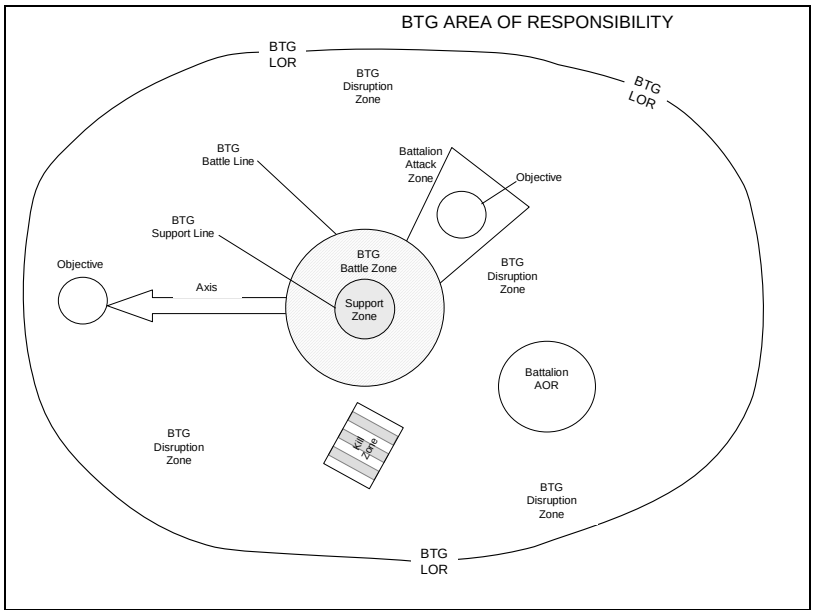


Figure 2-10. Nonlinear AOR Example

2-40. **Disruption Zone.** The *disruption zone* is the AOR of the disruption force. The disruption zone is that geographical area and airspace in which the unit's disruption force will conduct disruption operations. It is where the OPFOR will set the conditions for successful combat actions by fixing enemy forces and placing long-range fires on them. Units in this zone begin the attack on specific components of the enemy combat system, to begin the disaggregation of that system. Successful actions in the disruption zone will create a window of opportunity that is exploitable in the battle zone. For example, attacking enemy engineer elements can leave his maneuver force unable to continue effective operations in complex terrain—exposing them to destruction by forces in the battle zone. The disruption force also strips away the enemy's reconnaissance assets while denying him the ability to acquire and engage OPFOR targets with deep fires. This includes an air defense effort to deny aerial attack and reconnaissance platforms from targeting OPFOR forces. Disruption zones may be contiguous, noncontiguous, or "layered."

2-41. Battalions and below do not typically have their own disruption zones, but may be conducting operations within the disruption zone of a higher command.

2-42. Disruption operations are the deliberate conduct of missions in support of the overall tactical task: disrupt. Disruption operations are comprised of five key actions:

- Initiating systems attack
- Destroying enemy reconnaissance.

- Forcing the enemy to deploy early or disrupting his offensive preparations.
- Gaining and maintaining reconnaissance contact with key enemy elements.
- Deceiving the enemy as to the disposition of OPFOR units.

2-43. The disruption zone is bounded by the battle line and the LOR of the overall AOR. In linear offensive combat, the higher headquarters may move this LOR forward as the force continues successful offensive actions. Thus, the boundaries of the disruption zone will also move forward during the course of a battle. The higher commander can push the disruption zone forward or outward as forces adopt a defensive posture while consolidating gains at the end of a successful offensive battle and/or prepare for a subsequent offensive battle.

2-44. **Battle Zone.** The *battle zone* is the portion of the AOR where the OPFOR expects to conduct decisive operations. Using all elements of combat power, the OPFOR will engage the enemy and defeat him in this zone. The battle zone is where the OPFOR will engage the enemy in close combat to achieve tactical decision. Forces in the battle zone will exploit opportunities created by actions in the disruption zone. The linkage of these tactical successes to the operation plan allows the accomplishment of operational and/or strategic objectives.

2-45. In the battle zone, the OPFOR is typically trying to accomplish one or more of the following:

- Create a penetration in the enemy defense through which exploitation forces can pass.
- Draw enemy attention and resources to the action.
- Seize terrain.
- Inflict casualties on a vulnerable enemy unit.
- Prevent the enemy from moving a part of his force to impact OPFOR actions elsewhere on the battlefield.

2-46. A DTG does not always form a DTG-level battle zone per se—that zone may be the aggregate of the battle zones of its subordinate units. In nonlinear situations, there may be multiple, noncontiguous brigade or BTG battle zones, and within each the DTG would assign a certain task to the unit charged to operate in that space. The brigade or BTG battle zone provides each of those subordinate unit commanders the battlespace in which to frame his actions.

2-47. The battle zone is separated from the disruption zone by the battle line and from the support zone by the support line. The commander may adjust the location of these lines in order to accommodate successful offensive action. In a linear situation, those lines can shift forward during the course of a successful attack. Thus, the battle zone would also shift forward.

2-48. Battalion and below units often have AORs that are almost entirely battle zones with a small support zone contained within.

2-49. **Support Zone.** The support zone is that area of the battlespace designed to be free of significant enemy action and to permit the effective logistics and administrative support of forces. Security forces will operate in the support zone in a combat role to defeat enemy special operations forces. Camouflage, concealment, cover, and deception (C^3D) measures will occur throughout the support zone to protect the force from standoff RISTA and precision attack. A DTG support zone may be dispersed within the support zones of subordinate brigades or BTGs, or the DTG may have its own support zone that is separate from subordinate AORs. If the battle zone moves during the course of a battle, the support zone would move accordingly. The support zone may be in a sanctuary that is noncontiguous with other zones of the AOR.

2-50. **Attack Zone.** An attack zone is given to a subordinate unit with an offensive mission, to delineate clearly where forces will be conducting offensive maneuver. Attack zones are often used to control offensive action by a subordinate unit inside a larger defensive battle or operation.

2-51. **Kill Zone.** A kill zone is a designated area on the battlefield where the OPFOR plans to destroy a key enemy target. A kill zone may be within the disruption zone or the battle zone. In the defense, it could also be in the support zone.

DTG OR DIVISION COMMAND GROUP AND STAFF

2-52. A DTG or division headquarters includes the command group and the staff. (See Figure 2-12.) These elements perform the functions required to control the activities of forces preparing for and conducting combat.

2-53. The primary functions of headquarters are to—

- Make decisions.
- Plan combat actions that accomplish those decisions.
- Acquire and process the information needed to make and execute effective decisions.
- Support the missions of subordinates.

The commander exercises C^2 functions through his command group, staff, and subordinate commanders.

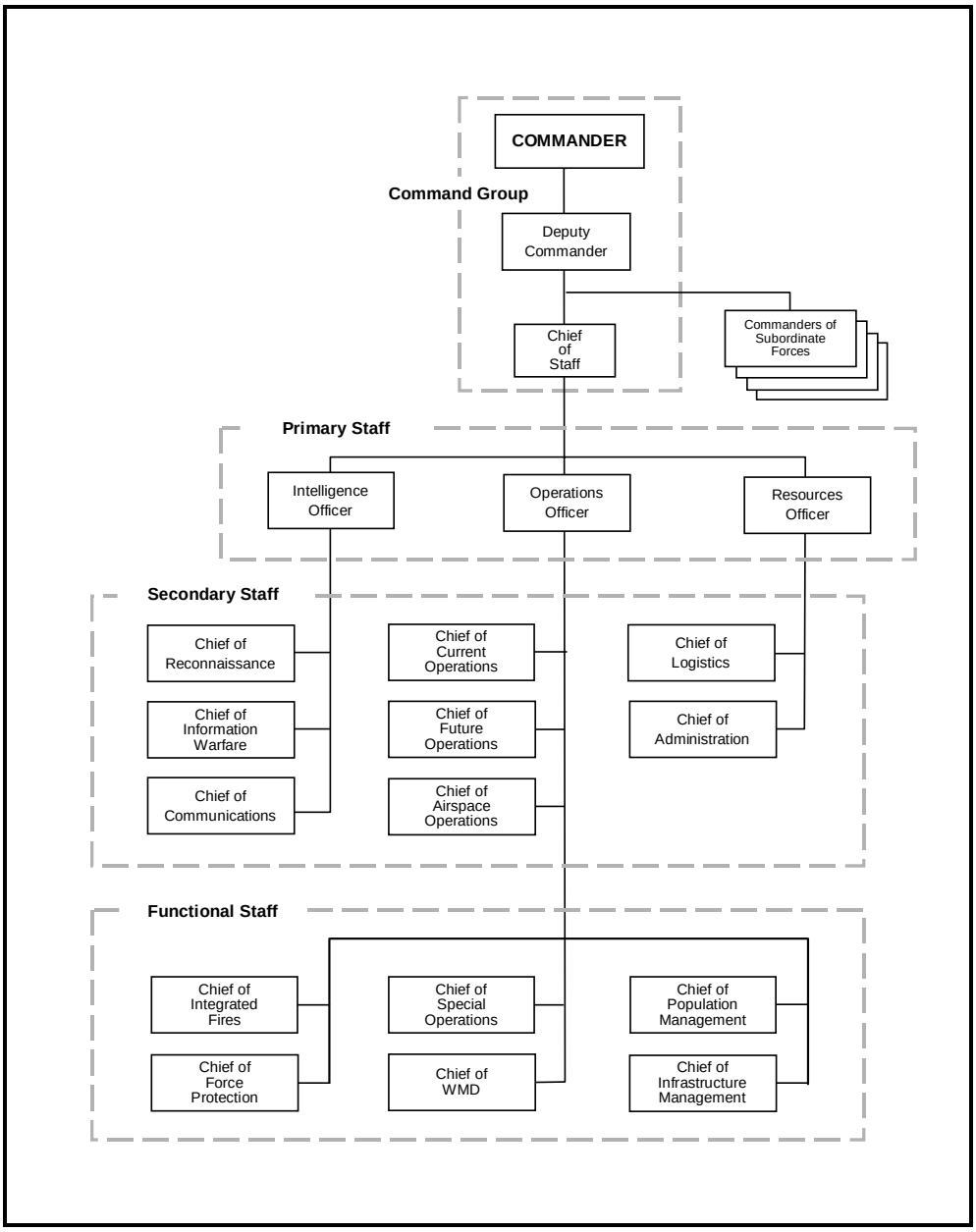


Figure 2-11. DTG or Division Command Group and Staff

Command Group

2-54. The command group consists of the commander, deputy commander (DC), and chief of staff. Together, they direct and coordinate the activities of the staff and of subordinate forces.

2-55. **Commander.** The commander directs subordinate commanders and, through his staff and liaison officers, controls any supporting elements. OPFOR commanders have complete authority over their subordinates and overall responsibility for those subordinates' actions. This centralized authority enables the commander to maintain troop discipline and unity and to act decisively. Under the fluid conditions of modern warfare, even in the course of carefully planned actions, the commander must accomplish assigned missions on his own initiative without constant guidance from above.

2-56. The commander is responsible for the combat capability of subordinate units, the organization of combat actions, the maintenance of uninterrupted C^2, and the successful conduct of combat missions. He examines and analyzes the mission he receives (that is, he determines his forces' place in the senior commander's concept of the battle or operation). He may do this alone or jointly with the chief of staff. He then gives instructions to the chief of staff on preparing his forces and staff for combat. He also provides instructions about the timing of preparations. The commander makes his own assessment of intelligence data supplied by the chief of reconnaissance. Then, with advice from the primary staff officers, he makes an assessment of his own forces. After discussing his deductions and proposals with the operations officer and his staff, the commander reaches a decision, issues combat missions to subordinates, and gives instructions about planning the battle. He then directs coordination within his organization and with adjacent forces and other elements operating in his AOR.

2-57. During the course of combat, the commander must constantly evaluate the changing situation, predict likely developments, and issue new combat missions in accordance with his vision of the battlefield. He also keeps his superiors informed as to the situation and character of friendly and enemy actions and his current decisions.

2-58. **Deputy Commander.** In the event the commander is killed or incapacitated, the DC would assume command. Barring that eventuality, the primary responsibility of the DC of a DTG or division is to command the IFC. As IFC commander, he is responsible for executing tactical-level fire support in a manner consistent with the commander's intent.

2-59. **Chief of Staff.** Preeminent among OPFOR staff officers is the chief of staff position (found at every level from the General Staff down to battalion). He exercises direct control over the primary staff. During combat, he is in charge of the main CP when the commander moves to the forward CP. He has the power to speak in the name of the commander and DC, and he normally countersigns all written orders and combat documents originating from the commander's authority. He alone has the authority to sign orders for the commander or DC and to issue instructions in the commander's name to subordinate units. In emergency situations, he can make changes in the tasks given to subordinate commanders. Thus, it is vital that he understands not merely the commander's specific instructions but also his general concept

and train of thought. He controls the battle during the commander's absences.

2-60. The chief of staff is a vital figure in the C^2 structure. His role is to serve as the director of staff planning and as coordinator of all staff inputs that assist the commander's decision making. He is the commander's and DC's focal point for knowledge about the friendly and enemy situation. He has overall responsibility for providing the necessary information for the commander to make decisions. Thus, he plays a key role in structuring the overall reconnaissance effort, which is a combined arms task, to meet the commander's information requirements.

Staff

2-61. A staff provides rapid, responsive planning for combat activity, and then coordinates and monitors the execution of the resulting plans on behalf of the commander. Proper use of this staff allows the commander to focus on the most critical issues in a timely manner and to preserve his energies.

2-62. The staff releases the commander from having to solve administrative and technical problems, thereby allowing him to concentrate on the battle. The primary function of the staff is to plan and prepare for combat. Evaluation and knowledge of the situational elements of combat is fundamental to the decision-making process and the direction of troops. After the commander makes the decision, the staff must organize, coordinate, disseminate, and support the missions of subordinates. Additionally, it is their responsibility to train and prepare troops for combat, and to monitor the pre-combat and combat situations.

2-63. In the decision-making and planning process, the staff—

- Prepares the data and estimates the commander uses to make a decision.
- Plans and implements the basic measures for comprehensive support of a combat action.
- Organizes communications with subordinate and adjacent headquarters and the next-higher staff.
- Monitors the activities of subordinate staffs.
- Coordinates ongoing activity with higher-level and adjacent staffs during a battle or operation.

2-64. The staff consists of three elements: the primary staff, the secondary staff, and the functional staff. Figure 2-12 depicts the primary, secondary, and functional staff officers of a DTG or division headquarters; it does not show the liaison teams, which support the primary, secondary, and functional staff.

Primary and Secondary Staff

2-65. Each member of the primary staff heads a staff section. Within each section are two or three secondary staff officers heading subsections subordinate to that primary staff officer.

2-66. **Operations Officer.** The operations officer heads the operations section, and conducts planning and prepares plans and orders. Thus, the operations section is the principal staff section. It includes current operations, future operations, and aerospace operations subsections, as well as the functional staff.

2-67. The operations officer also serves as deputy chief of staff. He is responsible for training and the formulating of plans and orders. He monitors the work of all other staff sections, remains knowledgeable of the current situation, and is ready to present information and recommendations concerning the situation. He writes combat orders and important combat reports. In coordination with the information section, the operations officer keeps the commander informed on the progress of the battle and the overall operation. Specific duties of the operations section include—

- Assisting the commander in the making and execution of combat decisions.
- Collecting information concerning the situation of friendly forces.
- Preparing and disseminating orders, plans and reports, summaries, and situation overlays.
- Providing liaison for the exchange of information within the headquarters and with higher, subordinate, and adjacent units.
- Organizing the main CP.
- Organizing troop movement and traffic control.
- Coordinating the organization of reconnaissance with the information section.

2-68. The *chief of current operations* is a secondary staff officer who proactively monitors the course of current operations and coordinates the actions of forces to ensure execution of the commander's intent. He serves as the representative of the commander, chief of staff, and operations officer in their absence and has the authority to control forces in accordance with the battle plan.

2-69. The *chief of future operations* is a secondary staff officer who heads the planning staff and ensures continuous development of future plans and possible branches, sequels, and contingencies. While the commander and the chief of current operations focus on the current battle, the chief of future operations and his subsection monitor the friendly and enemy situations and their implications for future battles. They try to identify any developing situations that require command decisions and/or adaptive measures. They advise the commander on how and when to make adjustments to the battle plan during the fight. Planning for various contingencies and anticipated opportunities can facilitate immediate and flexible response to changes in the situation.

2-70. The *chief of airspace operations* (CAO) is a secondary staff officer who is responsible for the control of the DTG's airspace. See Chapters 9 and 10 for further information on his duties.

2-71. **Intelligence Officer.** The intelligence officer heads the intelligence and information section, which consists of the reconnaissance subsection, the IW subsection, and the communications subsection. The intelligence officer is

responsible for the acquisition, synthesis, analysis, dissemination, and protection of all information and intelligence related to and required by the DTG's combat actions. He ensures the commander's intelligence requirements are met. He provides not only intelligence on the current and future operational environment, but insight on opportunities for adaptive and creative responses to ongoing operations. The intelligence officer works in close coordination with the chief of future operations to establish feedback and input for future operations and the identification of possible windows of opportunity.

2-72. The intelligence officer also formulates the DTG's IW plan and must effectively task organize his staff resources to conduct and execute IW in a manner that supports the strategic IW plan. He is responsible for the coordination of all necessary national or theater-level assets in support of the IW plan and executes staff supervision over the IW and communications plans. He is supported by three secondary staff officers: the chief of reconnaissance, the chief of IW, and the chief of communications.

2-73. The *chief of reconnaissance* develops reconnaissance plans, gathers information, and evaluates data on the battlefield situation. During combat, he supervises the efforts of subordinate reconnaissance units and reconnaissance staff subsections of subordinate units. Specific responsibilities of the reconnaissance subsection include—

- Collecting, analyzing and disseminating information on the enemy, terrain, and weather to the commander and subordinate, higher, and adjacent units.
- Organizing reconnaissance missions, including requests for aerial reconnaissance, in coordination with the operations section and in support of the IW plan.
- Preparing the reconnaissance plan, in coordination with the operations section.
- Preparing the reconnaissance portion of battle plans and combat orders.
- Preparing intelligence reports.
- Supervising the exploitation of captured enemy documents and materiel.
- Supervising interrogation and debriefing activities throughout the command.
- Providing targeting data for long-range fires.

2-74. The *chief of information warfare* is responsible supervising the execution of the DTG's IW plan. (Chapter 6 details the components of the IW plan.) These responsibilities include—

- Coordinating the employment of IW assets, both those constituent to the DTG and those available at higher levels.
- Planning for and supervising all information protection and security measures.
- Supervising the implementation of the deception and perception management plans.

- Working with the operations staff to ensure that targets scheduled for destruction support the IW plan, and if not, resolving conflicts between IW needs and operational needs.
- Recommending to the intelligence officer any necessary actions required to implement the IW plan.

2-75. The *chief of communications* develops a communications plan for the command that is approved by the intelligence officer and chief of staff. He organizes communications with subordinate, adjacent, and higher headquarters. The communications subsection plans the use of all forms of communications, to include satellite communications (SATCOM), wire, radio, digital, cellular, and couriers, to ensure that the commander has continuous and uninterrupted control. Specific responsibilities of the communications subsection include—

- Establishing SATCOM and radio nets.
- Establishing call signs and radio procedures.
- Organizing courier and mail service.
- Operating the command's message center.
- Supervising the supply, issue, and maintenance of signal equipment.

2-76. An additional and extremely important role of the communications officer is to ensure the thorough integration of interagency and allied forces into the DTG's C^2 structure. The DTG headquarters is permanently equipped with a full range of C^2 systems compatible with each of the services of the State's Armed Forces as well as with other government agencies commonly operating as part of DTGs. Other government agencies and allied partners are also the responsibility of the communications officer, and he plans and provides for their C^2 integration.

2-77. **Resources Officer.** The resources officer is responsible for the requisition, acquisition, distribution, and care of all of the DTG's resources, both human and materiel. He ensures the commander's logistics and administrative requirements are met and executes staff supervision over the command's logistics and administrative procedures. (Logistics procedures are detailed in Chapter 13.) He is supported by two secondary staff officers: the chief of logistics and the chief of administration. One additional major task of the resources officer is to free the commander from the need to bring his influence to bear on priority logistics and administrative functions. He is also the officer in charge of the sustainment CP.

2-78. The *chief of logistics* heads the logistics system. He is responsible for managing the order, receipt, and distribution of supplies to sustain the command. He is responsible for the condition and combat readiness of armaments and related combat equipment and instruments. He is also responsible for their supply, proper utilization, repair, and evacuation. He oversees the supply and maintenance of the DTG's combat and technical equipment. These responsibilities encompass the essential wartime tasks of organizing and controlling the DTG's recovery, repair, and replacement system. During combat, he keeps the commander informed on the status of the DTG's equipment.

2-79. The *chief of administration* supervises all personnel actions and transactions in the DTG. His subsection maintains daily strength reports; records changes in table of organization and equipment of units in the administrative force structure; assigns personnel; requests replacements; records losses; administers awards and decorations; and collects, records, and disposes of war booty.

Functional Staff

2-80. The *functional staff* consists of experts in a particular type of military operation or function. (See Figure 2-13.) These experts advise the command group and the primary and secondary staff on issues pertaining to their individual areas of expertise. The functional staff consists of the following elements:

- Integrated fires.
- Force protection.
- Special operations.
- Weapons of mass destruction (WMD).
- Population management.
- Infrastructure management.

2-81. In peacetime, the functional staff is a cadre with personnel assigned from appropriate branches. It has enough personnel to allow continuous 24-hour capability and the communications and information management tools to allow them to support the commander's decision-making process and exercise staff supervision over their functional areas throughout the AOR. In wartime, the functional staff receives liaison teams from subordinate, supporting, allied, and affiliated units that perform tasks in support of those functional areas.

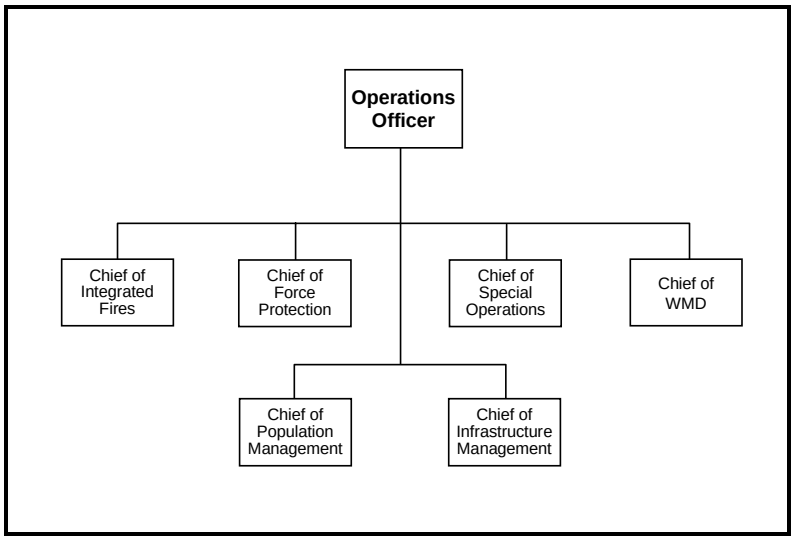


Figure 2-12. DTG or Division Functional Staff

2-82. **Chief of Integrated Fires.** The chief of integrated fires is responsible for integrating C^2 and RISTA means with fires and maneuver. He works closely with the DTG chief of reconnaissance and the IFC staff. He also coordinates with the chief of IW to ensure that deception and protection and security measures contribute to the success of fire support of offensive and defensive actions.

2-83. **Chief of Force Protection.** The chief of force protection is responsible for coordinating activities to prevent or mitigate the effects of hostile actions against OPFOR personnel, resources, facilities, and critical information. This protection includes air, space, and missile defense; NBC defense; defensive IW; anti-terrorism measures; counterreconnaissance; and engineer survivability measures. This subsection works closely with those of the chief of WMD and the chief of IW. Liaison teams from internal security, air defense, chemical defense, and engineer forces provide advice within their respective areas of protection.

2-84. **Chief of Special-Purpose Operations.** The chief of special-purpose operations is responsible for planning and coordinating the actions of SPF units allocated to a DTG or supporting it from OSC level. When possible, this subsection receives liaison teams from any affiliated forces that act in concert with the SPF.

2-85. **Chief of Weapons of Mass Destruction.** The chief of WMD is responsible for planning the offensive use of WMD. This functional staff element receives liaison teams from any subordinate or supporting units that contain WMD delivery means.

2-86. **Chief of Population Management.** The chief of population management is responsible for coordinating the actions of Internal Security Forces,

as well as psychological warfare, perception management, civil affairs, and counterintelligence activities. There is always a representative of the Ministry of the Interior, and frequently one from the Ministry of Public Information. This subsection works closely with the chief of IW and receives liaison teams from psychological warfare, civil affairs, counterintelligence, and Internal Security Forces units allocated to the DTG or operating within the DTG's AOR.

2-87. **Chief of Infrastructure Management.** The chief of infrastructure management is responsible for establishing and maintaining roads, airfields, railroads, hardened structures (warehouses and storage facilities), inland waterways, ports, and pipelines. He coordinates with the DTG resources officer regarding improvement and maintenance of supply and evacuation routes. He exercises staff supervision or cognizance over the route construction and maintenance functions of both civil and combat engineers operating in the DTG's AOR. He coordinates with civilian agencies and the DTG chief of communications to ensure adequate telecommunications support.

Liaison Teams

2-88. *Liaison teams* support brigade and division staffs (as well as those of tactical groups and detachments) with detailed expertise in the mission areas of their particular branch or service and provide direct communications to subordinate and supporting units executing missions in those areas. Liaison team leaders speak for the commanders of their respective units. Liaison teams to DTGs and divisions are organized with a liaison team leader, two current operations officers or senior NCOs, and two plans officers or senior NCOs. This gives liaison teams the ability to conduct continuous operations and simultaneously execute current plans and develop future plans. The staff will also receive liaison teams from multinational and interagency subordinates and from affiliated forces.

BTG AND BRIGADE COMMAND GROUP AND STAFF

2-89. Generally speaking, the command group and staff of a BTG or brigade are smaller versions of those previously described for DTG or division level. The following paragraphs highlight the differences other than size.

Command Group

2-90. The BTG or brigade command group consists of the commander, DC, and chief of staff. The primary difference is that the DC does not serve as IFC commander, since there is no IFC at this level of command.

2-91. **Commander.** Brigade commanders typically spend more of the fighting at the forward CP or with subordinate units than division commanders. Much more of the brigade commander's fight is the direct fire battle.

2-92. **Deputy Commander.** At the brigade (and below) the DC is not also the commander of the IFC, as IFC's do not exist at those levels.

2-93. **Chief of Staff.** At brigade level, the chief of staff position retains all the characteristics of the division CofS position.

Staff

2-94. BTG and brigade staffs are naturally smaller and less capable than DTG and division staffs. In particular, the sections responsible for planning are much reduced, providing the BTG or brigade with the ability to plan combat actions only 24 to 48 hours into the future.

2-95. Another key difference from the DTG or division staff is that the functional staff is organized differently. A BTG or brigade functional staff consists of the following elements:

- Fire support.
- Force protection.
- WMD.
- Population management.
- Infrastructure management.

There is no chief of integrated fires or functional staff element for integrated fires at the BTG or brigade level, since this level of command has no IFC. However, the staff at brigade level does include a *chief of fire support*. Fire support is controlled by the FSCC.

2-96. Brigades do not prepare IW plans of their own, per se. The brigade performs limited deception tasks of its own but primarily it executes its portion of an overall IW plan prepared by its parent division or OSC. The intelligence officer, through his IW chief, must effectively task organize his staff resources to conduct and execute IW in a manner that supports the overall IW plan. He is responsible for the coordination of all necessary national or theater-level assets in support of the IW plan that are under the control of his brigade.

BATTALION COMMAND GROUP AND STAFF

2-97. Battalion staffs are highly streamlined and do not contain the robust planning and control capabilities of higher staffs.

Command Group

2-98. The battalion command group consists of the commander, the deputy commander, their vehicle drivers and RTOs. In maneuver units where the battalion command group employ combat vehicles, the command group may include vehicle gunners as well. Often a staff officer or NCO from the operations and/or intelligence section accompanies the battalion command group on the battlefield.

2-99. The battalion commander positions himself where he can best influence the critical action on the battlefield. The deputy commander is typically supervising the execution of the battalion's second most critical operation and separate from the BC so that both are not killed by the same engagement.

Staff

2-100. At battalion level, the staff consists of two elements: the primary staff and the secondary staff. There is no functional staff below BTG level. Figure 2-13 depicts the staff of a combat battalion headquarters and the liaison teams which support it.

2-101. At battalion, typically each member of the primary staff heads a small staff section consisting of themselves and two other soldiers of the correct specialty. Two staff NCOs serve as day and night shift leaders in the main command post. The leaders of the battalion's specialty platoons serve in a staff command role to coordinate key battlefield functions. Liaison teams from other units are attached to the operation section.

The battalion staff has the mission to coordinate battlefield functions and to anticipate the battalion's needs 6-12 hours into the future. It supports the commander in the completion of combat orders and ensures his intent is being executed. It is not capable of executing long-range planning or supporting complex, joint or interagency operations without augmentation.

Staff Command

2-102. At brigade level and above, the OPFOR does not use the concept of commanders of combat support units acting as senior staff officers. But at battalion, in order to streamline staff functions, the OPFOR relies on commanders of supporting arms units to exercise staff supervision over their areas.

2-103. At battalion level, the reconnaissance platoon leader serves as the *chief of reconnaissance*, the signal platoon leader serves as the *chief of communications* and the material support platoon leader as the *chief of logistics*. The chiefs of reconnaissance and communications coordinate with the main and forward command posts and the chief of logistics operates the battalion trains.

2-104. The OPFOR will only employ staff command functions :

- In secondary staff areas (admin, logistics, recon, communications, aerospace ops)
- With commanders who have sufficient control over the area that the additional staff supervision functions are not a serious burden to their command responsibilities

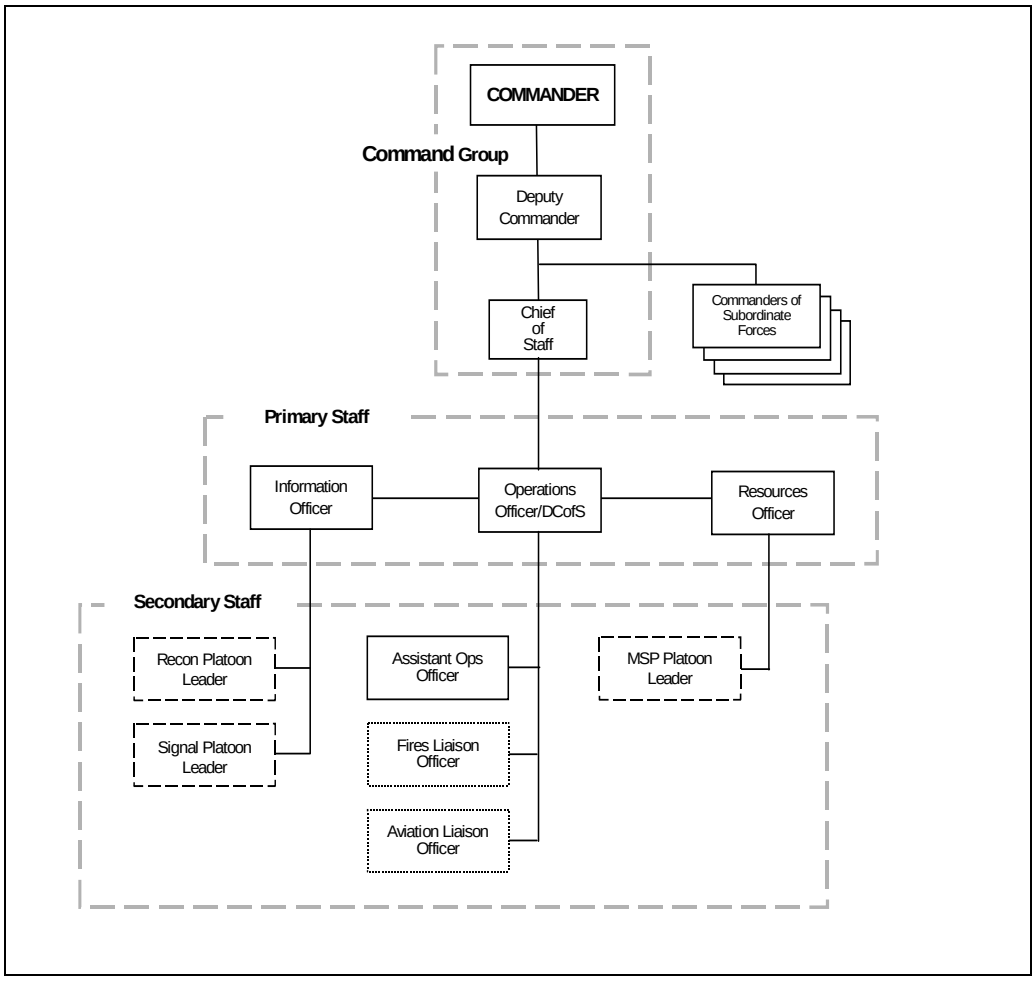


Figure 2-13 Battalion Command Group and Staff

COMMAND POSTS

2-105. The OPFOR plans to exercise tactical control over its wartime forces from an integrated system of CPs. It has designed this system to ensure uninterrupted control of forces.

2-106. CPs are typically formed in three parts: a control group, a support group, and a communications group. The control group includes members of the command group and staff. The support group consists of the transport and logistics elements. Whenever possible, the communications group is remoted from the control and support groups, because of its large number of

signal vans, generators, and other special vehicles that would provide a unique signature.

2-107. Because the OPFOR expects its C^2 to come under heavy attack in wartime, its military planners have created a CP structure that emphasizes survivability through dispersal, stringent security measures, redundancy, and mobility. They have constructed a CP system that can sustain damage with minimum disruption to the actual C^2 process. In the event of disruption, they can quickly reestablish control. This extensive system of CPs extends from the hardened command facilities of the National Command Authority to the specially designed command vehicles from which OPFOR tactical commanders control their units. Tactical CPs and most operational-level CPs have been designed to be very mobile and smaller than comparable enemy CPs. The number, size, and types of CPs depend on the level of command.

COMMAND POST TYPES

2-108. OPFOR ground forces use five basic and three special types of CPs. Not all levels of command use all types at all times. (See Figure 2-14, where parentheses indicate that a type of CP may or may not be employed at a certain level.) The redundancy provided by multiple CPs helps to ensure that the C^2 process remains survivable.

Level of Command	Basic						Special		
	Main CP	IFC CP	Forward CP	Sustainment CP	Trains	Airborne CP	Alternate CP	Auxiliary CP	Deception CP
DTG/Division	X	X	X	X	-	(X)	(X)	(X)	(X)
BTG/Brigade	X	-	X	X	-	(X)	(X)	(X)	(X)
BDET/Battalion	X	-	X	X	X	-	(X)	-	(X)
CDET/ Company	-	-	X	X	(X)	-	-	-	(X)

Figure 2-14. Command Post System

2-109. For brevity, OPFOR plans and orders may use acronyms for the various types of CP. Thus, main CP may appear as MCP, integrated fires command CP as IFC CP, forward CP as FCP, sustainment CP as SUSCP, trains as TR, airborne CP as AIRCP, alternate CP as ALTCP, auxiliary CP as AUXCP, and deception CP as DCP.

Main Command Post

2-110. The main CP generally is located in a battle zone or in a key sanctuary area or fortified position. It contains the bulk of the staff. The chief of staff directs its operation. Its primary purpose is to simultaneously coordinate the activities of subordinate units not yet engaged in combat and plan for subsequent missions. The particular emphasis on planning in the main CP is on the details of transitioning between current and future operations. The main CP is the focus of *control*. It is less mobile and much larger than the forward CP. It makes use of hardened sites when possible.

2-111. The chief of staff directs the staff in translating the commander's decisions into plans and orders. He also coordinates the movement and deployment of all subordinate units not yet in combat and monitors their progress and combat readiness. In addition to the chief of staff, personnel present at the main CP include the liaison teams from subordinate, supporting, allied, and affiliated units, unless their presence is required in another CP.

IFC Command Post

2-112. The DC of a DTG or division directs the IFC from the IFC CP. The IFC CP possesses the communications, airspace control, and automated fire

control systems required to integrate RISTA means and execute long-range fires. Each secondary staff subsection and some functional staff subsections have an element dedicated to the IFC CP. The IFC CP includes liaison teams from fire support, army aviation, and long-range reconnaissance elements. The IFC CP is typically separated from the main CP. Also for survivability, the various sections of the IFC headquarters that make up the IFC CP do not necessarily have to be located in one place.

Forward Command Post

2-113. A commander often establishes a forward CP with a small group of selected staff members. Its purpose is to provide the commander with information and communications that facilitate his decisions. The forward CP is deployed at a point from which he can more effectively and personally observe and influence the battle.

2-114. The personnel at the forward CP are not permanent. The assignment of officers to accompany the commander is dependent on the mission, situation, availability of officers, communications, and transport means. Officers who may accompany the commander include the operations officer and the chief of reconnaissance. Other primary and or secondary staff officers may also deploy with the forward CP, depending on the needs of the situation. The secondary staff contains enough personnel to man the forward CP without degrading its ability to man the main or IFC CPs.

2-115. When formed, and when the commander is present, the forward CP is the main focus of *command*, though the chief of staff (remaining in the main CP) has the authority to issue directives in the commander's absence.

Sustainment Command Post

2-116. The resources officer establishes and controls the sustainment CP. This CP is deployed in a position to permit the supervision of execution of sustainment procedures and the movement of support troops, typically in the support zone. It contains staff officers for fuel supply, medical support, combat equipment repair, ammunition supply, clothing supply, food supply, prisoner-of-war, and other services. It interacts closely with the subordinate units to ensure sustained combat capabilities. In nonlinear situations, multiple sustainment CPs may be formed.

Trains

2-117. The battalion's material support platoon leader creates the battalion trains from his platoon HQ and other assets constituent to his unit. The trains is the focal point of the battalion's logistic effort. Companies that are executing logistic operations away from the battalion may also form trains for a limited time from their own logistics assets.

Airborne Command Post

2-118. To maintain control in very fluid situations, when subordinates are spread over a wide area, or when the other CPs are moving, a commander may use an airborne CP. This is very common in division-level commands, typically aboard helicopters.

Alternate Command Post

2-119. The alternate CP provides for the assumption of command should the CP containing the commander be incapacitated. The alternate CP is a designation given to an existing CP and is not a separately established element. The commander will establish which CP will act as an alternate CP to take command if the main (or forward) CP is destroyed or disabled. For example, the commander might designate the IFC CP as the alternate CP during a battle where long-range fires are critical to mission success. For situations that require reconstituting, he might designate the sustainment CP instead. Alternate CPs are also formed when fighting in complex terrain, or if the organization is dispersed over a wider area than usual and lateral communication is difficult.

Auxiliary Command Post

2-120.The commander may create an auxiliary CP to provide C^2 over subordinate units fighting on isolated or remote axes. He may also use it in the event of disrupted control or when he cannot adequately maintain control from the main CP. An officer appointed at the discretion of the commander mans it.

Deception Command Post

2-121. As part of the overall IW plan, the OPFOR very often employs deception CPs. These are complex, multi-sensor-affecting sites integrated into the overall deception plan to assist in achieving battlefield opportunity by forcing the enemy to expend command and control warfare (C^2W) effort against meaningless positions.

COMMAND POST MOVEMENT

2-122. Plans for relocating the CPs are prepared by the operations section. The CPs are deployed and prepared in order to ensure that they are reliably covered from enemy ground and aerial reconnaissance, or from attack by enemy raiding forces.

2-123. Commanders deploy CPs in depth to facilitate control of their AORs. During lengthy moves, CPs may bound forward along parallel routes, preceded by reconnaissance parties that select the new locations. Normally, the main and forward CPs do not move at the same time, with one moving while the other is set up and controlling the battle. During an administrative movement, when there is little or no likelihood of contact with the enemy, a CP may move into a site previously occupied by another CP. However, during a tactical movement (see Chapter 5) or when contact is likely, the OPFOR will not occupy a site twice, because to do so would increase the chances of an enemy locating a CP. While on the move, CPs maintain continuous contact with subordinates, higher headquarters, and flanking organizations. During movement halts, the practice is to disperse the post in a concealed area, camouflaging it if necessary and locating radio stations and special vehicles some

distance from the control and support groups. Because of dispersion in a mobile environment, CPs are often responsible for their own local ground defenses.

2-124. During the movement of a main CP, the OPFOR maintains continuity of control by handing over control to either the forward or airborne CP or, more rarely, to the alternate CP. Key staff members often move to the new location by helicopter to reduce the time spent away from their posts. Before any move, headquarters' troops carefully reconnoiter and mark the new location. Engineer preparation provides protection and concealment.

COMMAND POST LOCATION

2-125. The OPFOR locates CPs in areas affording good concealment, with good road net access being a secondary consideration. It situates CPs so that no single weapon can eliminate more than one. Remoting communications facilities lessens the chance of the enemy's locating the actual command element by radio direction finding.

2-126. During some particularly difficult phases of a battle, where close cooperation between units is essential, the forward CP of one element may be collocated with the forward or main CP of another. Examples are the commitment of an exploitation force, the execution of a strike, or the passing of one organization through another.

COMMAND POST SECURITY

2-127. Security of CPs is important, and the OPFOR takes a number of measures to ensure it. CPs are a high priority for air defense protection. Ideally, main CPs also locate near reserve elements to gain protection from ground attack. Nevertheless, circumstances often dictate that they provide for their own local defense. Engineers normally dig in and camouflage key elements.

2-128. Good camouflage, the remoting of communications facilities, and the deployment of alternate CPs make most of the C^2 structure fairly survivable. Nevertheless, one of the most important elements, the forward CP, often remains vulnerable. It forms a distinctive, if small, grouping, well within enemy artillery range. The OPFOR will therefore typically provide key CPs with sufficient engineer and combat arms support to protect them from enemy artillery or special operations raids.

COMMAND AND CONTROL SYSTEMS

2-129. The OPFOR commander's C^2 requirements are dictated generally by the doctrine, tactics, procedures, and operational responsibilities applicable to commanders at higher echelons. Battlefield dispersion, mobility, and increasing firepower under conventional or WMD conditions require reliable, flexible, and secure command and control.

2-130. Expanding C^2 requirements include the need for—

- High mobility of combat headquarters and subordinate elements.
- Rapid collection, analysis, and dissemination of information as the basis for planning and decision making.

- Maintaining effective control of forces operating in a hostile IW environment.

Supporting communications systems, which are the principal means of C^2, must have a degree of mobility, reliability, flexibility, security, and survivability comparable to the C^2 elements being supported.

2-131. Modern warfare has resulted in a shift away from large formations arrayed against one another in a linear fashion, to maneuver warfare conducted across large areas with more lethal, yet smaller, combat forces. C^2 must provide the reliable, long-range communications links necessary to control forces deployed over greater distances. In order to move with the maneuver forces, the communications systems must be highly mobile.

COMMUNICATIONS

2-132. The chief characteristics of communications supporting the C^2 structure are security, survivability, and flexibility. In the OPFOR view, centralization of operational planning is a prerequisite to achieving the flexibility required to ensure timely concentration of forces and fires. Redundancy in equipment, as well as communications links and CPs, is the primary means of ensuring the control structure's security and survivability.

2-133. The organization of communications to meet operational and tactical requirements is the responsibility of the commander at each level. Prior to combat, the chief of communications, under the personal direction of the intelligence officer, prepares the communications plan. After approval by the chief of staff, it becomes an annex to the combat order for implementation by subordinate signal units. OPFOR communications reflect the concern of commanders to maintain uninterrupted C^2, flexibility, and security.

Signal Assets

2-134. Communication systems employed include—

- Manportable high-frequency (HF) and very-high-frequency (VHF) radios.
- HF radio stations.
- VHF and ultra-high-frequency (UHF) multichannel radio relay.
- Super-high-frequency (SHF) troposcatter systems.
- Satellite communications (SATCOM).
- Wire and cable (landline as far forward as possible).
- Commercial communications networks (including cellular, microwave, radio, wire, digital, and satellite)
- Local area networks (LANs) and wide area networks (WANs).
- Internet and Intranet.

Encrypted communications are common from brigade upward, but may extend to the lowest levels in modernized OPFOR units.

2-135. Headquarters normally task organize their signal assets to support the formation of forward, main, IFC, and sustainment CPs. The numbers and types of signal units can vary greatly depending on the size and makeup of the force grouping under a particular headquarters.

2-136. It is possible to extend mobile communications through the integration of wire and wireless systems and by connecting with fixed military and civil communications facilities.

2-137. Signal communications are organized through the signal centers that are established to provide communications for the CPs. All available communications methods are used to integrate the control and support groups of the CPs with the communications centers.

2-138. The OPFOR also stresses the use of *non-electronic* means of communications. While radio must be the principal means of communication in a fluid, mobile battle, the OPFOR is aware of the threat from enemy signals intelli-

gence, direction finding, and communications jamming. Also, wire and cable are often not practical in fast-moving situations.

2-139. During periods of radio silence or disruption of radio communications, the OPFOR employs messengers, liaison officers, and visual and sound signals. Messengers are the preferred method for delivering combat orders at any time. Representatives from the staff may observe and supervise the execution of orders. Whenever possible, the OPFOR prefers personal contact between commanders (or their representatives) and subordinates.

Communications Nets

2-140. C^2 of OPFOR organizations relies on extensive and redundant communications. The OPFOR primarily uses UHF/SHF SATCOM, radio relay multichannel, HF radio stations, HF and VHF single-channel radios, and wire or cable.

2-141. Tactical commands operate two *command nets*. The commander normally controls the *primary command net* from the forward CP, while the chief of staff maintains control of the *alternate net* from the main CP. Depending on the distances involved, the primary net may be either HF or VHF. All of the command's constituent and dedicated units monitor the command nets. The DTG or division IFC CP also monitors the command nets.

2-142. The operations officer maintains an *operations net* monitored by the commander, subordinate and supporting units, and any alternate or auxiliary CP created. The resources officer also monitors this net from the sustainment CP.

2-143. The DTG or division DC, as IFC commander, maintains the *integrated fires net*. This net is monitored by the elements of the IFC.

2-144. The resources officer maintains the *support net*. Materiel support, maintenance, and medical units monitor this net. Subordinate combat arms units may also use this net when requiring additional, immediate assistance that constituent support assets are unable to provide.

2-145. The chief of reconnaissance maintains an *intelligence net*, monitored by reconnaissance units, maneuver units, the commander, DC, chief of staff, and resources officer.

2-146. The CAO maintains the *airspace control net* for the purpose of controlling the command's airspace. Elements on this net include aviation units, air defense assets, and army aviation liaison teams.

2-147. When required, the commander will create a *special mission net*, monitored by the chief of staff, that is employed to control the activities of units conducting a special mission, such as a reconnaissance detachment or an airborne or heliborne landing force deployed behind enemy lines. Specific communications systems employed are dependent on the depth and type of mission.

2-148. The command maintains an *air defense and NBC warning communications net*, monitored by all constituent, dedicated, and supporting units. This net is used for passing tactical alerts, NBC, and air warning notices.

The chief of staff maintains a watch on the division-level warning nets at the main CP; he then disseminates warning where appropriate.

2-149. The command establishes multichannel links between the main and sustainment CPs and the CPs of subordinate units. These links are used for high-capacity voice and data transmissions. The DTG also establishes multichannel links between the main and sustainment CPs.

2-150. The primary responsibility for maintaining communications of a tactical command with its parent headquarters rests with the main CP. With the larger staffs and greater communications capabilities of the main CP, the commander is allowed to focus more on the actual conduct of the battle from the forward CP. Obviously, when staff members, such as the CAO or chief of reconnaissance, accompany the commander, they will establish control over their respective nets as required.

2-151. The chief of IW may also control one or more deception nets designed to mislead enemy signals intelligence analysis. Integrated into the IW plan are a description of these nets and procedures for their use.

Procedures

2-152. Before making contact with the enemy, most radio and radio-relay systems maintain a listening watch with transmission forbidden or strictly controlled. OPFOR units usually observe radio silence when defending or departing assembly areas. During radio silence, wire and courier are the primary communications means. While moving toward the enemy, units normally limit radio transmissions to various code words informing commanders they have accomplished assigned tasks or have encountered unexpected difficulties. The OPFOR also uses visual signals, such as flags and flares, to a great extent during movement. Usually only the commander and reconnaissance elements have permission to transmit.

2-153. In the offense, OPFOR units maintain radio silence until the outbreak of battle, when those authorized to transmit may do so without restriction. When contact with the enemy occurs, units initiate normal radio procedures. Subordinate commanders inform the commander—usually by code word—when they reach objectives, encounter NBC contamination, make contact with the enemy, or have important information to report.

COMMAND AND CONTROL SYSTEMS SURVIVABILITY

2-154. Survivability of C^2 systems is of great concern, since the C^2 elements are typically located within range of enemy standoff systems, with increased potential for disruption or destruction. The OPFOR stresses the need to maintain continuous, reliable control of its forces and has undertaken a number of measures to prevent disruption and enhance survivability, while remaining flexible enough to retain control of units in combat. These include—

- High mobility of C^2 systems and facilities.
- Redundancy of the C^2 elements and networks.
- Adherence to operations- and information-security measures.
- Deception.

2-155. IW activities contribute to C^2 survivability. So does the principle of centralized control and decentralized execution. The survivability of the headquarters' command group is facilitated by the fact that the commander, DC, and chief of staff can be in separate CPs (forward, IFC, and main CPs, respectively).

Mobility

2-156. C^2 elements must be highly mobile, due to the emphasis on maintaining combat at a rapid tempo. Because of their proximity to the enemy, CPs and supporting communications must frequently relocate to avoid detection and subsequent destruction.

2-157. CPs are usually mobile (that is, in vehicles) but may also be fixed. By emphasizing the use of multiple, mobile CPs, planners minimize the disruption of C^2 that would occur with the enemy's destruction of this element of the C^2 structure. Highly mobile signal units employing transportable communications equipment support mobile CPs. This gives OPFOR commanders great flexibility in organizing and deploying their C^2 elements. Thus, they are able to provide effective control in varied situations.

Redundancy

2-158. The OPFOR has built extensive redundancy into the C^2 structure. Multiple CPs are fielded as low as possible. For communications between levels of command, multiple communications types are employed. Providing a variety of single- and multichannel links, these systems operate over a wide frequency spectrum.

Operations and Information Security

2-159. The consistent adherence to operations- and information-security measures is especially critical, given the increased capabilities of enemy reconnaissance, the increased role of surprise, and the proliferation of precision weapons. Given the high priority the enemy places on C^2 elements as targets, maintaining operations security is an important requirement for C^2 nodes. This is achieved by the stringent adherence to information-security procedures and extensive use of C^3D.

Chapter 3

Offense

The offense carries the fight to the enemy. The OPFOR sees this as the decisive form of combat and the ultimate means of imposing its will on the enemy. While conditions at a particular time or place may require the OPFOR to defend, defeating an enemy force ultimately requires shifting to the offense. Even within the context of defense, victory normally requires some sort of offensive action. Therefore, OPFOR commanders at all levels seek to create and exploit opportunities to take offensive action, whenever possible.

The aim of offense at the tactical level is to achieve tactical missions in support of an operational plan. A tactical command ensures that its subordinate commands thoroughly understand both the overall goals of the operation plan and the specific purpose of a particular mission they are about to execute. In this way, subordinate commands may continue to execute the mission without direct control by a higher headquarters, if necessary.

PURPOSE OF THE OFFENSE

3-1. All tactical offensive actions are designed to achieve the goals of an operational plan through active measures. However, the purpose of any given offensive mission varies with the situation, as determined through the decision-making process. The primary distinction among types of offensive missions is their purpose. Thus, the OPFOR recognizes five general types of tactical offensive missions according to their purpose: gain freedom of movement, restrict freedom of movement, gain control of key terrain/personnel/equipment, gain information and dislocate. These general purposes serve as a guide to understanding the design of an offensive mission and not as a limit placed on a commander as to how he makes his intent and aim clear.

ATTACK TO GAIN FREEDOM OF MOVEMENT

3-2. An *attack to gain freedom of movement* creates a situation in an important part of the battlespace where other friendly forces can maneuver in a method of their own choosing with little or no opposition. Such an attack can take many forms – here are some examples:

- seizing an important mobility corridor to prevent a counterattack into the flank of another moving force
- destroying an air defense unit so that a combat helicopter may use an air avenue of approach at lower risk
- breaching a complex obstacle to pass through a follow-on force.

Security operations such as screen, guard and cover may have one or more attacks to gain freedom of movement as a component of their scheme of maneuver.

ATTACK TO RESTRICT FREEDOM OF MOVEMENT

3-3. An *attack to restrict freedom of movement* prevents the enemy from maneuvering as he chooses. Restricting attacks can deny key terrain, ambush moving forces, dominate airspace or fix an enemy formation. Tactical tasks often associated with restricting attacks are ambush, block, canalize, contain, fix, interdict, and isolate.

ATTACK TO GAIN CONTROL OF KEY TERRAIN/PERSONNEL/EQUIPMENT

An *attack to gain control of key terrain/personnel/equipment* is not necessarily terrain focused – a raid with the objective of taking prisoners is an attack to gain control. Besides the classic seizure of key terrain that dominates a battlefield, an attack to control may also target facilities such as economic targets, ports or airfields. Tactical tasks associated with an attack to control are raid, clear, occupy, retain, secure and seize.

ATTACK TO GAIN INFORMATION

3-4. An *attack to gain information*, commonly known as a *reconnaissance attack*, is used to answer important questions about the enemy's dispositions and capabilities. The OPFOR recognizes that an enemy will take significant measures to prevent the OPFOR from gaining critical intelligence. This means that quite often the OPFOR will have to fight for information, using an offensive operation to penetrate or circumvent the enemy's security forces.

ATTACK TO DISLOCATE

An *attack to dislocate* is used to prevent the enemy from being able to execute an optimal course of action. Attacks to dislocate often have a strong information warfare (IW) component. Dislocation attacks typically focus on a key enemy capability or vulnerability. Tactical tasks associated with dislocation are ambush, disrupt, interdict and neutralize.

PLANNING THE OFFENSE

3-5. For the OPFOR, the key elements of planning offensive missions are—

- Determining the level of planning possible (planned versus situational offense).
- Organizing the battlefield.
- Organizing forces.
- Organizing IW activities in support of the offense (see Chapter 6).
- Determining the objective of the offensive action.

3-6. Offensive actions during transition and adaptive operations will not be able to rely simply on massing combat power at a decisive point. Such actions will typically include—

- Increased use of infiltration.

- Increased role of perception management (see Chapter 6) in support of the offense.
- Increased use of affiliated forces in support of offensive action.

PLANNED OFFENSE

3-7. A *planned* offense is an offensive mission or action undertaken when there is sufficient time and knowledge of the situation to prepare and rehearse forces for specific tasks. Typically, the enemy is in a defensive position and in a known location. The OPFOR plans an offense using the method described in Chapter 2. Key considerations in offensive planning are—

- Selecting a clear and appropriate objective.
- Determining which enemy forces (security, reaction, or reserve) must be fixed.
- Developing a reconnaissance plan that locates and tracks all key enemy targets and elements.
- Creating or taking advantage of a window of opportunity to free friendly forces from any enemy advantages in precision standoff and situational awareness.
- Determine which component or components of an enemy's combat system to attack.

SITUATIONAL OFFENSE

3-8. The OPFOR may also conduct a *situational* (hasty) offense. It recognizes that the modern battlefield is chaotic. Fleeting opportunities to strike at an enemy weakness will continually present themselves and just as quickly disappear. Although detailed planning and preparation greatly mitigate risk, they are often not achievable if a window of opportunity is to be exploited.

3-9. The following are examples of conditions that might lead to a situational offense:

- A key enemy unit, system, or capability is exposed.
- The OPFOR has an opportunity to conduct a spoiling attack to disrupt enemy defensive preparations.
- An OPFOR unit makes contact on favorable terms for subsequent offensive action.

3-10. In a situational offense, the commander develops his assessment of the conditions rapidly and without a great deal of staff involvement. He provides a basic course of action to the staff who then quickly turn that course of action into an executable combat order. Even more than other types of OPFOR offensive action, the situational offense relies on implementation of battle drills by subordinate tactical units (see Chapter 5).

3-11. Organization of the battlefield in a situational offense will normally be limited to minor changes to existing control measures. Organization of forces in a situational offense will typically require the use of detachments of various types. The nature of situational offense is such that it often involves smaller, independent forces accomplishing discrete missions.

ORGANIZING FORCES FOR THE OFFENSE

3-12. In planning and executing offensive actions, the OPFOR organizes and designates various forces according to their *function*. This provides a common language for how the OPFOR fights functionally, rather than geometrically. The functions do not change, regardless of where the force might happen to be located on the battlefield. Thus, *functional forces* that perform the common operational and tactical tasks of disrupting, fixing, assaulting, exploiting, providing security, and deceiving are logically designated as disruption, fixing, assault, exploitation, security, and deception forces, respectively. A force held in reserve is designated as a reserve, until it receives a mission to perform a specific function.

3-13. In his combat order, the tactical commander also specifies the organization of the forces within his level of command. Thus, subordinate forces understand their roles within the overall operation or battle. However, the organization of forces can shift dramatically during the course of a battle or operation, if part of the plan does not work or works better than anticipated. For example, a unit that started out being part of a fixing force might split off and become an exploitation force, if the opportunity presents itself. Assault forces may not even make contact with the enemy, but instead conduct a demonstration. Fixing forces could consist entirely of irregular forces, while exploitation forces could engage the ultimate objective with fires only.

3-14. Each of the separate functional forces has an identified commander. This is often the senior commander of the largest subordinate unit assigned to that force. For example, if two BTGs are acting as the DTG's fixing force, the senior of the two BTG commanders is the fixing force commander. Since, in this option, each force commander is also a subordinate unit commander, he controls the force from his unit's command post (CP). Another option is to have one of the DTG's CPs be in charge of a functional force. For example, the forward CP could control a disruption force or a fixing force. Another possibility would be for the IFC CP to command the disruption force or the exploitation force or any other force whose actions must be closely coordinated with fires delivered by the IFC.

3-15. In any case, the force commander is responsible to the tactical group commander to ensure that combat preparations are made properly and to take charge of the force during the battle. This frees the tactical group commander from decisions specific to the force's mission. Even when tactical group subordinates have responsibility for parts of the disruption zone, there is still an overall tactical group disruption force commander.

3-16. A battalion or below organization will only ever be a part (or all) of a single higher command's functional force (assault, exploitation, fixing, reserve, etc.) at any given time. If, for example, a BTG needed one part of one of its battalions to serve as the assault force, but needed another part to join the exploitation force, one of the two battalion subunits would be re-task organized.

Disruption Force

3-17. In the offense, the disruption force would typically include the disruption force that already existed in a preceding defensive situation (see Chapter

4). It is possible that forces assigned for actions in the disruption zone in the defense might not have sufficient mobility to do the same in the offense or that targets may change and require different or additional assets. Thus, the disruption force might require augmentation. A DTG disruption force is typically a BTG, while a BTG disruption force is typically an independent mission detachment (IMD).

3-18. Battalions and below often serve as disruption forces for BTGs. Typically, this mission is complex enough for them to be task organized as detachments.

Fixing Force

3-19. OPFOR offensive operations are founded on the concept of fixing enemy forces so that they are not free to maneuver. The OPFOR recognizes that units and soldiers can be fixed in a variety of ways. For example—

- They find themselves without effective communication with higher command.
- Their picture of the battlefield is unclear.
- They are (or believe they are) decisively engaged in combat.
- They have lost mobility to complex terrain, obstacles, or weapons of mass destruction (WMD).

3-20. In the offense, planners will identify which enemy forces need to be fixed and the method by which they will be fixed. They will then assign this responsibility to a force that has the capability to fix the required enemy forces with the correct method. The fixing force may consist of a number of units separated from each other in time and space, particularly if the enemy forces required to be fixed are likewise separated. A fixing force could consist entirely of affiliated irregular forces. It is possible that a discrete attack on logistics or C^2 (or other systems) could fix an enemy without resorting to deploying large fixing forces.

3-21. Battalions and below often serve as fixing forces for BTGs and are also often capable of performing this mission without significant task organization. This is particularly true in those cases where simple suppressive fires are sufficient to fix enemy forces.

Assault Force

3-22. The assault force is charged with creating the conditions that allow the exploitation force the freedom to operate. In order to create a window of opportunity for the exploitation force to succeed, the assault force may be required to operate at a high degree of risk and may sustain substantial casualties. However, an assault force may not even make contact with the enemy, but instead conduct a demonstration.

3-23. Battalions and below serving as an assault force are often required to breaching or obstacle clearing operations, but it is important to remember that the requirements laid on the assault force are tied directly to the type and mission of the exploitation force.

3-24. Within a detachment, the force that seizes an enemy position is often termed an 'assault element'. This is not precisely the same as the concept behind 'assault force'. An assault element has the mission of seizing an enemy held position.

Exploitation Force

3-25. The exploitation force is assigned the task of achieving the objective of the mission. It typically exploits a window of opportunity created by the assault force. However, effective IW, a mismatch in system capabilities, or even the enemy's own dispositions may create a situation in which the exploitation force is able to achieve the objective without a formal assault force.

Security Force

3-26. The *security force* conducts activities to prevent or mitigate the effects of hostile actions against the overall tactical-level command and/or its key components. If the commander chooses, he may charge this security force with providing force protection for the entire AOR, including the rest of the functional forces; logistics and administrative elements in the support zone; and other key installations, facilities, and resources. The security force may include various types of units—such as infantry, SPF, counter-reconnaissance, and signals reconnaissance assets—to focus on enemy special operations and long-range reconnaissance forces operating throughout the AOR. It can also include internal security forces units allocated to the tactical-level command, with the mission of protecting the overall command from attack by hostile insurgents, terrorists, and special operations forces. The security force may also be charged with mitigating the effects of WMD.

Deception Force

3-27. When the IW plan requires combat forces to take some action (such as a demonstration or feint), these forces will be designated as deception forces in close-hold executive summaries of the plan. Wide-distribution copies of the plan will refer to these forces according to the designation given them in the deception story.

Reserves

3-28. At the commander's discretion, forces may be held out of initial action so that he may influence unforeseen events or take advantage of developing opportunities. OPFOR offensive reserve formations will be given priorities in terms of whether the staff thinks it most likely that they will act as a fixing, assault, or exploitation force. The size and composition of an offensive reserve is entirely situation-dependent.

ORGANIZING BATTALIONS AND DETACHMENTS FOR THE OFFENSE

3-29. Battalions and detachments employ a different scheme for organizing forces than the fixing-assault-exploitation force methodology used by brigades and above. This is because the OPFOR tends to use detachments to accomplish a single tactical task rather than a multi-task mission.

3-30. The standard battlefield organization of a detachment is into three parts: the *security element*, the *support element* and the *action element* (also known in specific situations as the firing or assault element).

3-31. The *security element* of a detachment provides local tactical security for the detachment and prevents the enemy from influencing mission accomplishment. The *action element* accomplishes the detachment's tactical task. The *support element* provides combat and combat service support and C^2 for the detachment. Due to such considerations as multiple avenues of approach, a detachment may organize one or more of each of these elements in specific cases.

3-32. In certain situations, a detachment may organize one or more *specialist elements*. Specialist elements are typically formed around a unit with a specific capability such as an obstacle clearing element, reconnaissance element or deception element.

PREPARING FOR THE OFFENSE

3-33. In the preparation phase, the OPFOR focuses on ways of applying all available resources and the full range of actions to place the enemy in the weakest condition and position possible. Commanders prepare their forces for all subsequent phases of the offense. They organize their forces and the battlefield with an eye toward capitalizing on conditions created by successful attacks.

ESTABLISH CONTACT

3-34. The number one priority for all offensive actions is to gain and maintain contact with key enemy forces. As part of the decision-making process, the commander and staff identify which forces must be kept under watch at all times. The OPFOR will employ whatever technical sensors it has at its disposal to locate and track enemy forces, but the method of choice is ground reconnaissance. It may also receive information on the enemy from the civilian populace, local police, or affiliated irregular forces.

MAKE THOROUGH LOGISTICS ARRANGEMENTS

3-35. The OPFOR understands that there is as much chance of an offense being brought to culmination by a lack of sufficient logistics support as by enemy action. Careful consideration will be given to carried days of supply and advanced caches to obviate the need for easily disrupted LOCs.

MODIFY THE PLAN WHEN NECESSARY

3-36. The OPFOR takes into account that, while it might consider itself to be in the preparation phase for one battle, it is continuously in the execution phase. Plans are never considered final. Plans are checked throughout the course of their development to ensure they are still valid in light of battlefield events.

REHEARSE CRITICAL ACTIONS IN PRIORITY

3-37. The commander establishes the priority for the critical actions expected to take place during the battle. The force rehearses those actions in as realistic a manner as possible for the remainder of the preparation time.

EXECUTING THE OFFENSE

3-38. The degree of preparation often determines the nature of the attack in the execution phase. Successful execution depends on forces that understand their roles in the operation or battle and can swiftly follow preparatory actions with the maximum possible shock and violence and deny the enemy any opportunity to recover. A successful execution phase often ends with transition to the defense in order to consolidate gains, defeat enemy counterattacks, or avoid culmination. In some cases, the execution phase is followed by continued offensive action to exploit opportunities created by the battle just completed.

MAINTAIN CONTACT

3-39. The OPFOR will go to great lengths to ensure that its forces maintain contact with key elements of the enemy force throughout the battle. This includes rapid reconstitution of reconnaissance assets and units and the use of whatever combat power is necessary to ensure success.

IMPLEMENT BATTLE DRILLS

3-40. The OPFOR derives great flexibility from battle drill. (See Chapter 5 for more detail.) Contrary to the U.S. view that battle drill, especially at higher levels, reduces flexibility, the OPFOR uses minor, simple, and clear modifications to thoroughly understood and practiced battle drill to adapt to ever-shifting conditions. It does not write standard procedures into its combat orders and does not write new orders when a simple shift from current formations and organization will do.

3-41. OPFOR offensive battle drills will include, but not be limited to the following:

- React to all seven forms of contact—direct fire; indirect fire; visual; obstacle; nuclear, biological, and chemical (NBC); electronic warfare (EW); and air attack.
- Fire and Maneuver.
- Fixing enemy forces.
- Situational Breaching.

MODIFY THE PLAN WHEN NECESSARY

3-42. The OPFOR is sensitive to the effects of mission dynamics and realizes that the enemy's actions may well make an OPFOR unit's original mission achievable, but completely irrelevant. As an example, a unit of the fixing force in an attack may be keeping its portion of the enemy force tied down while another portion of the enemy force is maneuvering nearby to stop the exploitation force. In this case, the OPFOR unit in question must be ready to transition to a new mission quickly and break contact to fix the maneuvering enemy force.

SEIZE OPPORTUNITIES

3-43. The OPFOR places maximum emphasis on decentralized execution, initiative, and adaptation. Subordinate units are expected to take advantage of fleeting opportunities so long as their actions are in concert with the purpose of the combat order or operational directive.

DOMINATE THE TEMPO OF COMBAT

3-44. Through all actions possible, the OPFOR plans to control the tempo of combat. It will use continuous attack, IW, and shifting targets, objectives, and axes to ensure that tactical events are taking place at the pace it desires.

TYPES OF OFFENSIVE ACTION – TACTICAL GROUPS

3-45. The types of offensive action in OPFOR doctrine are both tactical methods and guides to the design of operational courses of action. An offensive mission may include subordinate units that are executing different offensive and defensive courses of action within the overall offensive mission framework.

ATTACK

3-46. An *attack* seeks to achieve tactical decision through primarily military means by defeating the enemy's military power. This defeat does not come through the destruction of armored weapons systems but through the disruption, dislocation, and subsequent paralyzation that occurs when combat forces are rendered irrelevant by the loss of the capability or will to continue the fight. Attack is the method of choice for OPFOR offensive action. There are two types of attack: *integrated attack* and *dispersed attack*.

3-47. The OPFOR does not have a separate design for "exploitation" as a distinct offensive course of action. Exploitation is considered a central part of all integrated and dispersed attacks.

3-48. The OPFOR does not have a separate design for "pursuit" as a distinct offensive course of action. A pursuit is conducted using the same basic course-of-action framework as any other integrated or dispersed attack. The fixing force gains contact with the fleeing enemy force and slows it or forces it to stop while the assault and exploitation forces create the conditions for and complete the destruction of the enemy's C^2 and logistics structure or other systems.

3-49. The OPFOR recognizes that moving forces that make contact must rapidly choose and implement an offensive or defensive course of action. The OPFOR methodology for accomplishing this is discussed in Chapter 5.

Integrated Attack

3-50. *Integrated attack* is an offensive action where the OPFOR seeks military decision by destroying the enemy's will and/or ability to continue fighting through the application of combined arms effects. Integrated attack is often employed when the OPFOR enjoys overmatch with respect to its opponent and is able to bring all elements of offensive combat power to bear. It may also be employed against a more sophisticated and capable opponent, if

the appropriate window of opportunity is created or available. See Figures 3-3 through 3-5 for examples of integrated attacks.

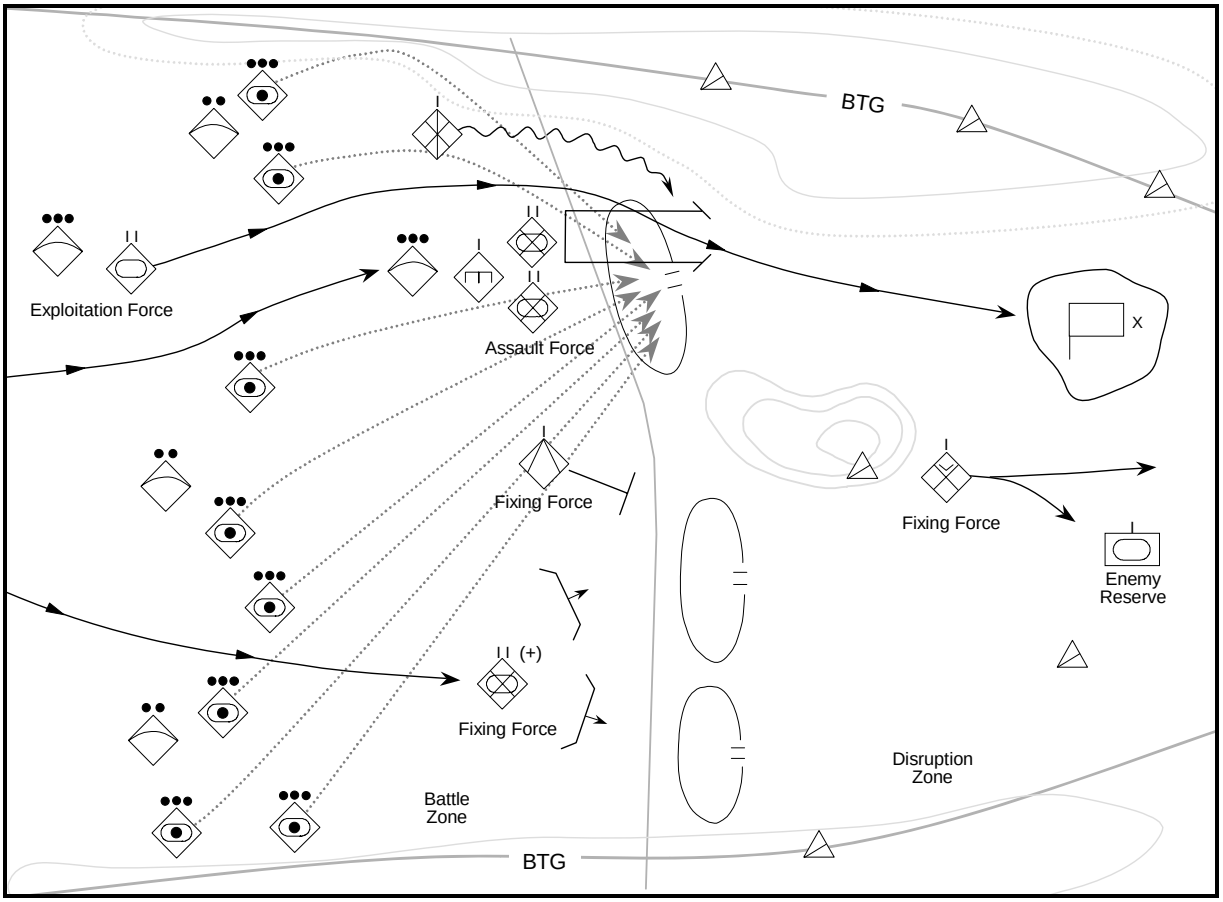


Figure 3-1. Example of an Integrated Attack #1

3-51. The primary objective of an integrated attack is destroying the enemy's will and ability to fight. The OPFOR recognizes that modern militaries cannot continue without adequate logistics support and no military, modern or otherwise, can function without effective command and control.

3-52. Integrated attacks are characterized by—

- Not being focused solely on destruction of ground combat power but often on C^2 and logistics.
- Fixing the majority of the enemy's force in place with the minimum force necessary.
- Isolating the targeted subcomponent(s) of the enemy's combat system from his main combat power.
- Using complex terrain to force the enemy to fight at a disadvantage.
- Using deception and other components of IW to degrade the enemy's situational understanding and ability to target OPFOR formations.

- Using flank attack and envelopment, particularly of enemy forces that have been fixed.

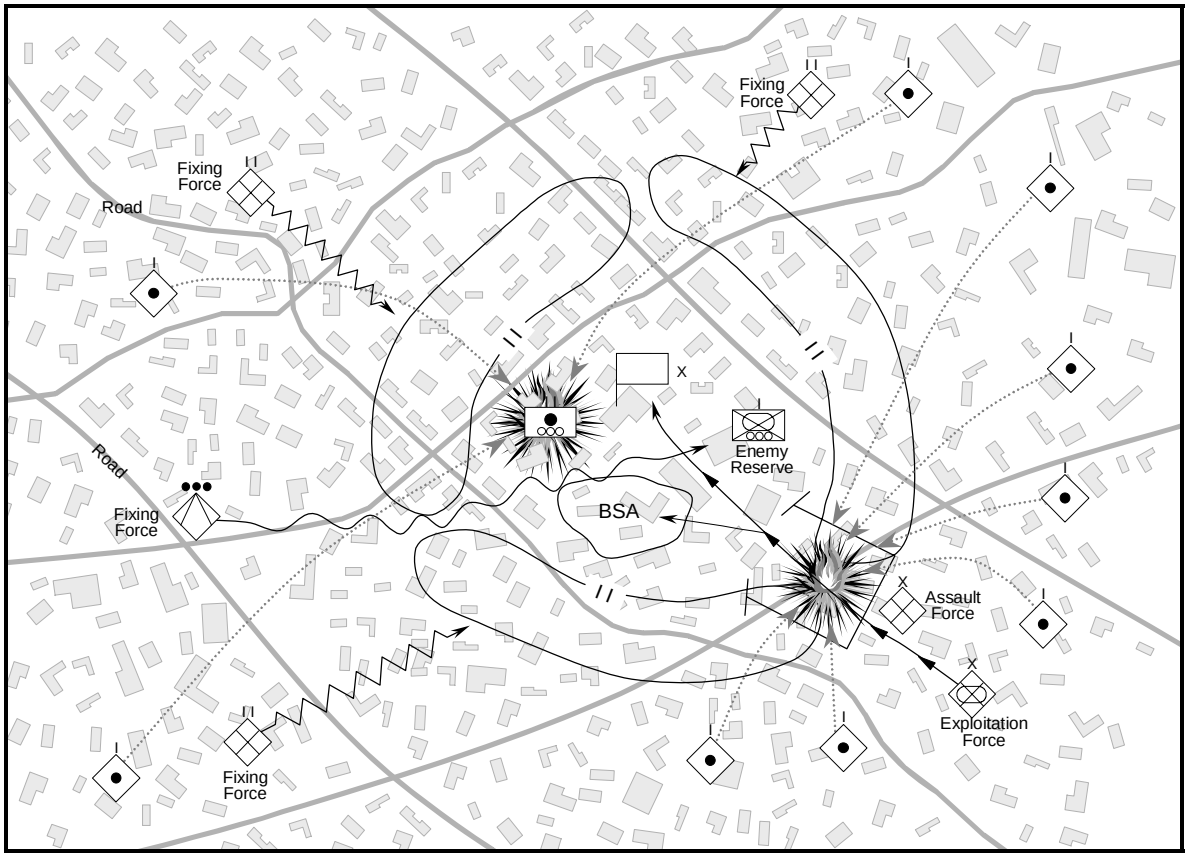


Figure 3-2. Example of an Integrated Attack #2

3-53. The OPFOR prefers to conduct integrated attacks when most or all of the following conditions exist:

- The OPFOR possesses significant overmatch in combat power over enemy forces.
- It possesses at least air parity over the critical portions of the battlefield.
- It is sufficiently free of enemy standoff reconnaissance and attack systems to be able to operate without accepting high levels of risk.

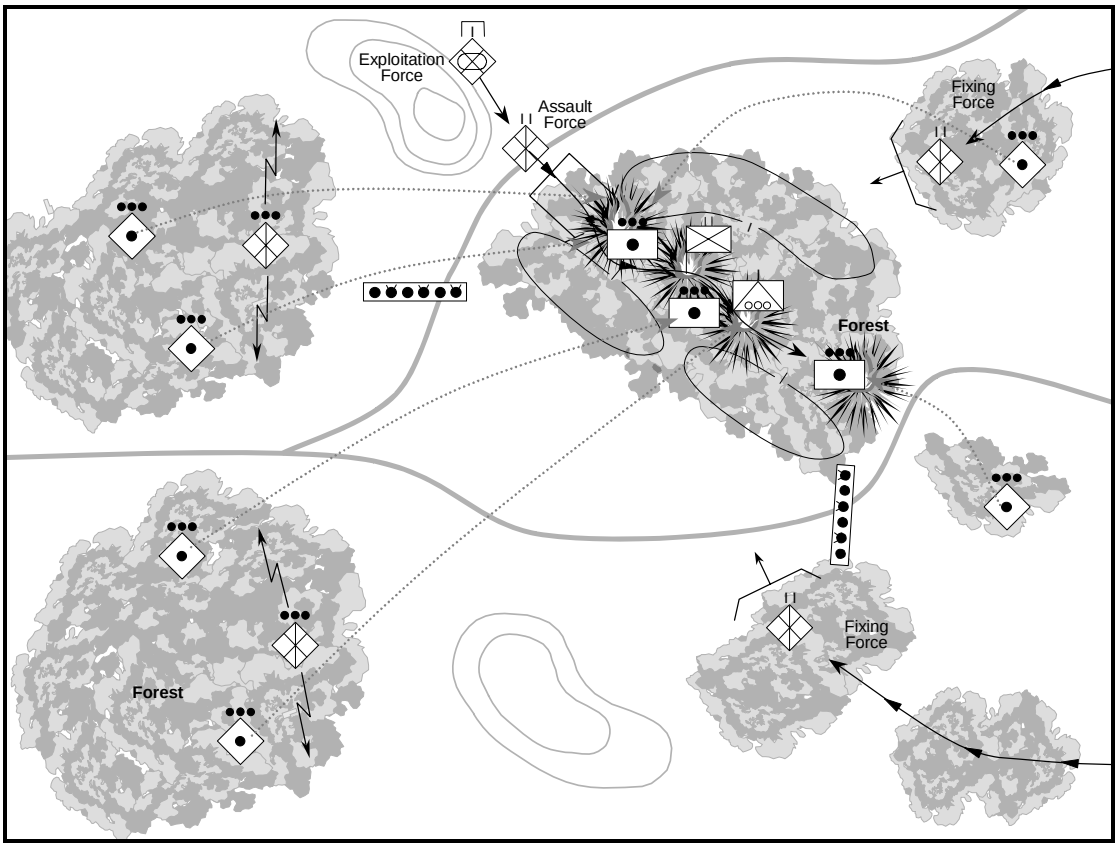


Figure 3-3. Example of an Integrated Attack #3

Organizing Forces for an Integrated Attack

3-54. An integrated attack employs fixing, assault, and exploitation forces. A disruption force exists, but is not created specifically for this type of offensive action.

3-55. **Fixing Force.** The fixing force in an integrated attack is required to prevent enemy defending forces, reserves, and quick-response forces (QRF) from interfering with the actions of the assault and exploitation forces. The battle will develop rapidly and enemy forces not in the attack zone cannot be allowed to reposition to influence the assault and exploitation forces. Maneuver forces, precision fires, air defense units, long-range antiarmor systems, situational obstacles, chemical weapons, and electronic warfare (EW) are well suited to fix defending forces.

3-56. **Assault Force.** The assault force in an integrated attack is charged with creating conditions that allow the exploitation force to rapidly penetrate enemy defenses. Since the exploitation force is principally required to act within the window of opportunity, the assault force may successfully employ infiltration of infantry to carefully pre-selected points to assist the exploitation force in its penetration. Smoke and suppressive artillery and rocket fires, combat engineer units, and air-delivered weapons are also suited to this mission.

3-57. **Exploitation Force.** The exploitation force in an integrated attack must be capable of penetrating or avoiding enemy defensive forces and attacking and destroying the enemy's support infrastructure before he has time to react. An armored or attack helicopter unit is often best suited to be the core of an exploitation force in an integrated attack due to the combination of mobility, protection and killing power possessed by such forces.

Dispersed Attack

3-58. *Dispersed attack* (also known as *decentralized attack*) is the primary manner in which the OPFOR conducts offensive action when threatened by a superior enemy and/or when unable to mass or provide integrated C^2 to an attack. This is not to say that the dispersed attack cannot or should not be used against peer forces, but as a rule integrated attack will more completely attain objectives in such situations. Dispersed attack relies on IW and dispersion of forces to permit the OPFOR to conduct tactical offensive actions while overmatched by precision standoff weapons and imagery and signals sensors. The dispersed attack is continuous and comes from multiple directions. It employs multiple means working together in a very interdependent way. The attack can be dispersed in time as well as space. See Figures 3-6 through 3-8 for examples of dispersed attacks.

3-59. The primary objective of dispersed attack is to take advantage of a window of opportunity to bring enough combined arms force to bear to destroy the enemy's will and/or capability to continue fighting. To achieve this, the OPFOR does not necessary have to destroy the entire enemy force, but often just a key portion of that force.

3-60. Selecting the appropriate portion of the enemy to destroy is the first step in planning the dispersed attack. This element is chosen because of its importance to the enemy and varies depending on the force involved and the current military situation. For example, an enemy force dependent on one geographical point for all of his logistics support and reinforcement would be most vulnerable at that point. Disrupting this activity at the right time and to the right extent may bring about tactical or operational decision on the current battlefield or it may open further windows of opportunity to attack the enemy's weakened forces at little cost to the OPFOR. In another example, an enemy force preparing to attack may be disrupted by an OPFOR attack whose purpose is to destroy long-range missile artillery, creating the opportunity for the OPFOR to achieve standoff with its own missile systems. In a final example, the key system chosen may be the personnel of the enemy force. Attacking and causing mass casualties among infantrymen may delay an enemy offensive in complex terrain while also being politically unacceptable for the enemy command structure.

3-61. Dispersed attacks are characterized by—

- Not being focused on complete destruction of ground combat power but rather on destroying a key portion of the enemy force (often targeting enemy C^2 and logistics).
- Fixing and isolating enemy combat power.
- Using smaller, independent subordinate elements.
- Conducting rapid moves from dispersed locations.

- Massing at the last possible moment.
- Conducting simultaneous attack at multiple, dispersed locations.
- Using deception and other components of IW to degrade the enemy's situational understanding and ability to target OPFOR formations.

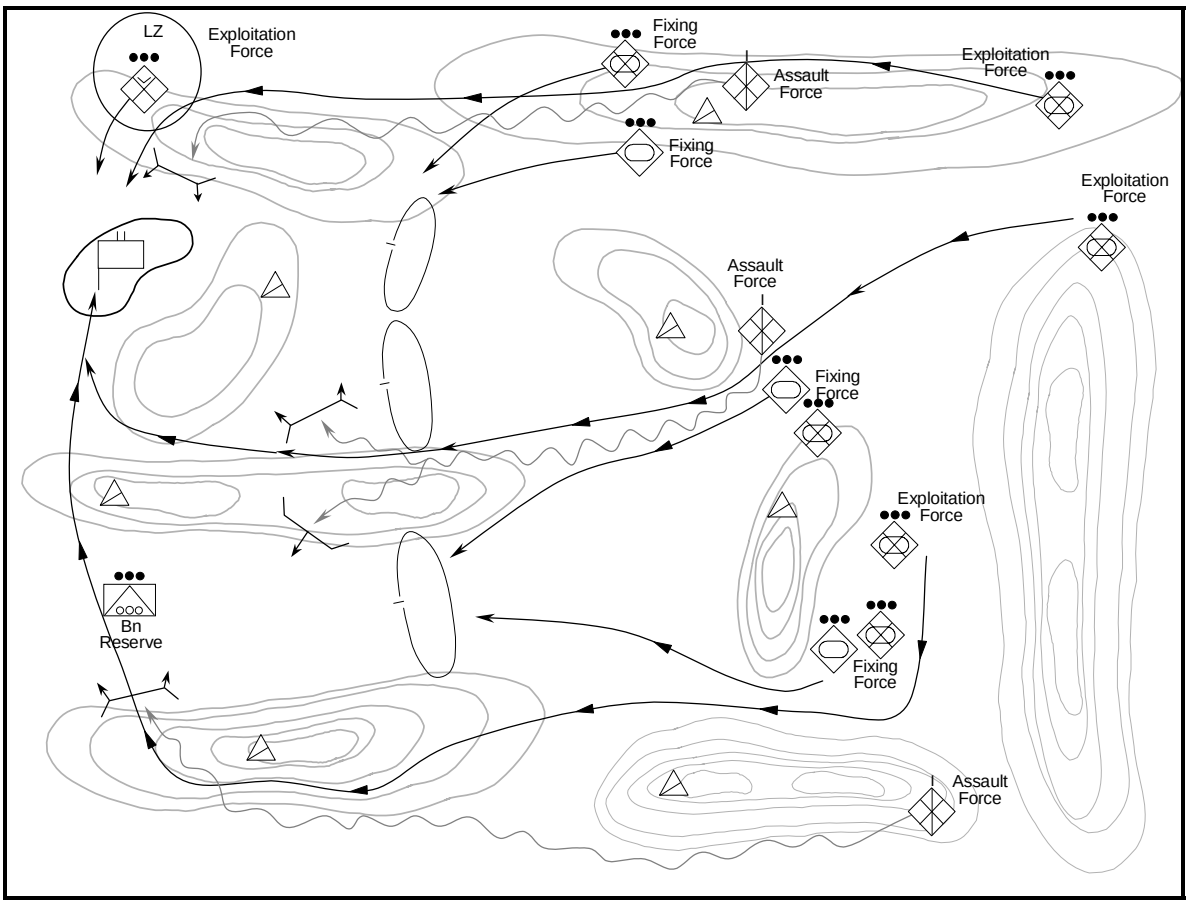


Figure 3-4. Dispersed Attack Example #1

3-62. The window of opportunity needed to establish conditions favorable to the execution of a dispersed attack may be one created by the OPFOR or one that develops due to external factors in the operational environment. When this window must be created, the OPFOR keys on several tasks that must be accomplished:

- Destroy enemy ground reconnaissance.
- Deceive enemy imagery and signals sensors.
- Create an uncertain air defense environment.
- Selectively deny situational awareness.
- Maximize use of complex terrain.

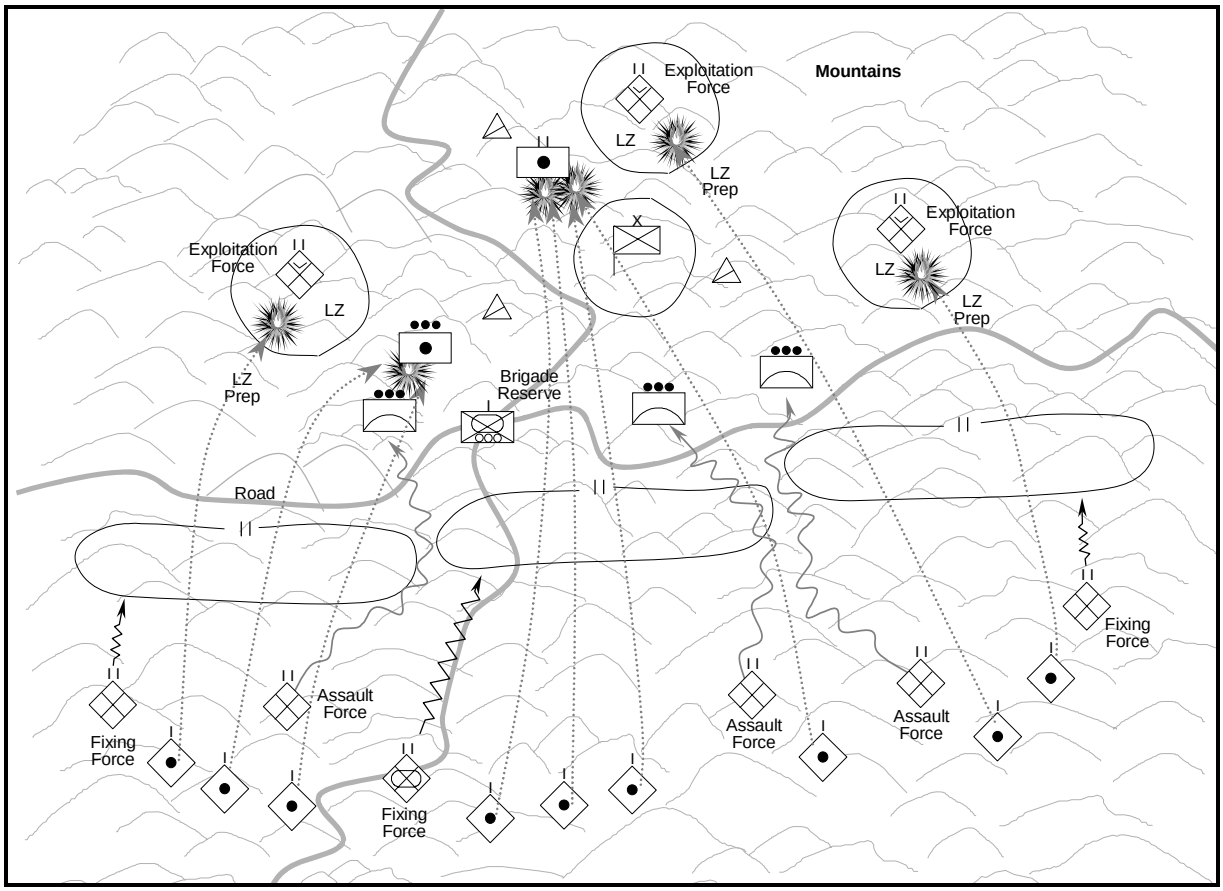


Figure 3-5. Dispersed Attack Example #2

Organizing Forces for a Dispersed Attack

3-63. A dispersed attack employs fixing, assault, and exploitation forces. A disruption force exists, but is not created specifically for this type of offensive action. Deception forces can also play an important role in a dispersed attack.

3-64. **Fixing Force.** The fixing force in a dispersed attack is primarily focused on fixing enemy response forces. Enemy reserves, quick response forces, and precision fire systems that can reorient rapidly will be those elements most capable of disrupting a dispersed attack. Maneuver forces, precision fires, air defense and antiarmor ambushes, situational obstacles, chemical weapons, and EW are well suited to fix these kinds of units and systems.

3-65. **Assault Force.** The assault force in a dispersed attack is charged with creating favorable conditions for the exploitation force to rapidly move from dispersed locations and penetrate or infiltrate enemy defenses. Since it is the exploitation force that is principally required to act within the window of opportunity, the assault force may successfully employ infiltration of infantry to carefully pre-selected points to assist the exploitation force in its penetration. Smoke and suppressive artillery and rocket fires, combat engineer units

and air-delivered weapons are also suited to this mission. Dispersed attacks often make use of multiple assault forces separated in time and/or space.

3-66. **Exploitation Force.** The exploitation force in a dispersed attack must be capable, through inherent capabilities or positioning relative to the enemy, of destroying the target of the attack. A tank brigade may be the weapon of choice to maneuver throughout the battlefield as single platoons in order to have one company reach a vulnerable troop concentration or soft C^2 node. Alternatively, the exploitation force may be a widely dispersed group of SPF teams set to strike simultaneously at exposed logistics targets. Dispersed attacks often make use of multiple exploitation forces separated in time and/or space, but often oriented on the same objective or objectives.

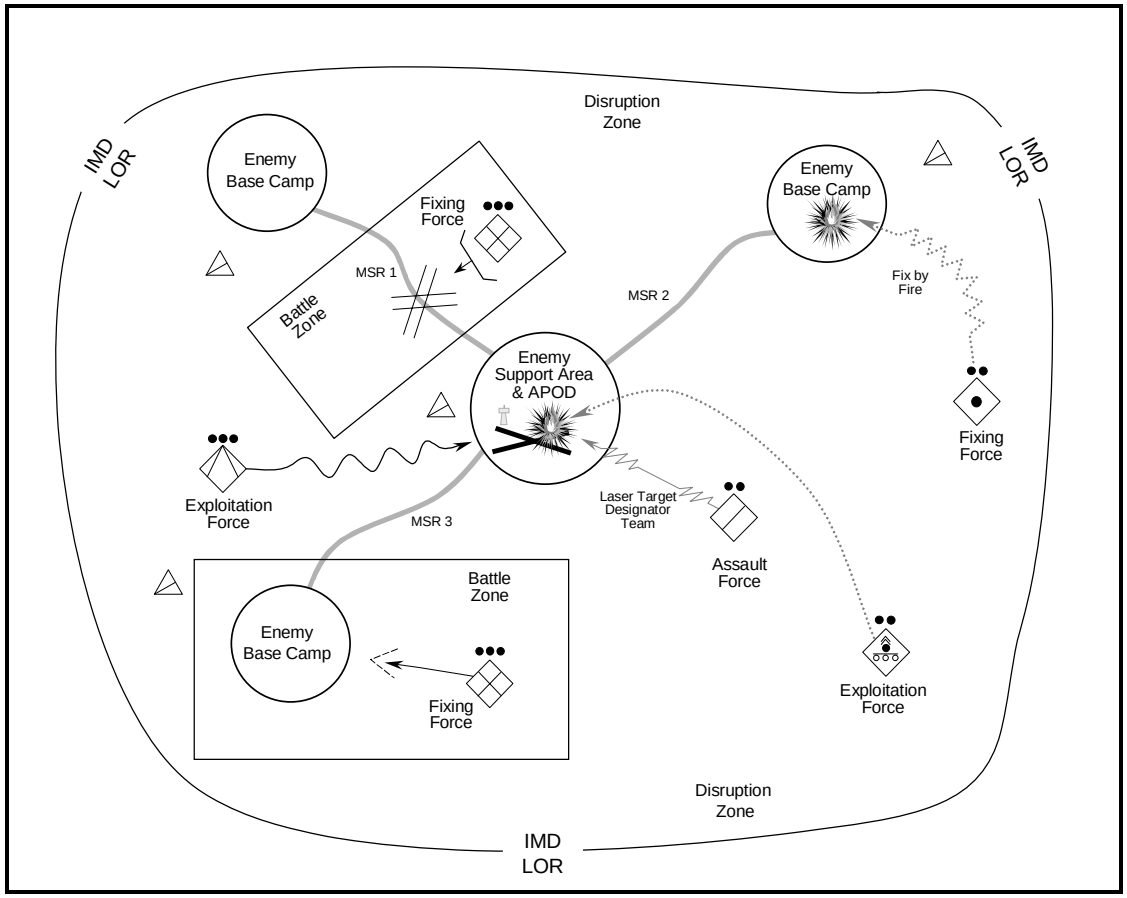


Figure 3-6. Dispersed Attack Example #3

LIMITED-OBJECTIVE ATTACK

3-67. A *limited-objective attack* seeks to achieve results critical to the operation plan or even the strategic campaign plan (SCP) by destroying or denying the enemy key capabilities through primarily military means. The results of a limited-objective attack typically fall short of tactical or operational decision on the day of battle, but may be vital to the overall success of the operation or campaign. Limited-objective attacks are common during adaptive operations in which the objective is to preserve forces and wear down the enemy, rather than achieving decision.

3-68. The primary objective of a limited-objective attack is a particular enemy capability. This may or may not be a particular man-made system or group of systems, but may also be the capability to take action at the enemy's chosen tempo.

3-69. Limited-objective attacks are characterized by—

- Not being focused solely on destruction of ground combat power but often on C^2 and logistics.
- Denying the enemy the capability he most needs to execute his plans.
- Maximal use of the systems warfare approach to combat (see Chapter 1).
- Significant reliance on a planned or seized window of opportunity.

3-70. There are two types of tactical limited-objective attack: spoiling attack, and counterattack.

Spoiling Attack

3-71. A *spoiling attack* is designed to control the tempo of combat by disrupting the timing of enemy operations. This is accomplished by attacking during the planning and preparation for the enemy's own offensive operations. Spoiling attacks do not have to accomplish a great deal to be successful. Conversely, planners must focus carefully on what effect the attack is trying to achieve and how the attack will achieve that effect. In some cases, the purpose of the attack will be to remove a key component of the enemy's force array or combat system so it is unavailable for the planned attack and therefore reduces his overall chances of success. More typically, the attack is designed to slow the development of conditions favorable to the enemy's planned attack. See Figure 3-7 for an example of a spoiling attack.

3-72. Quite often, the spoiling attack develops as a situational attack (see above). This occurs when an unclear picture of enemy dispositions suddenly clarifies to some extent and the commander wishes to take advantage of the knowledge he has gained to disrupt enemy timing. This means that spoiling attacks are often conducted by reserve or response forces that can rapidly shift from their current posture to strike at the enemy.

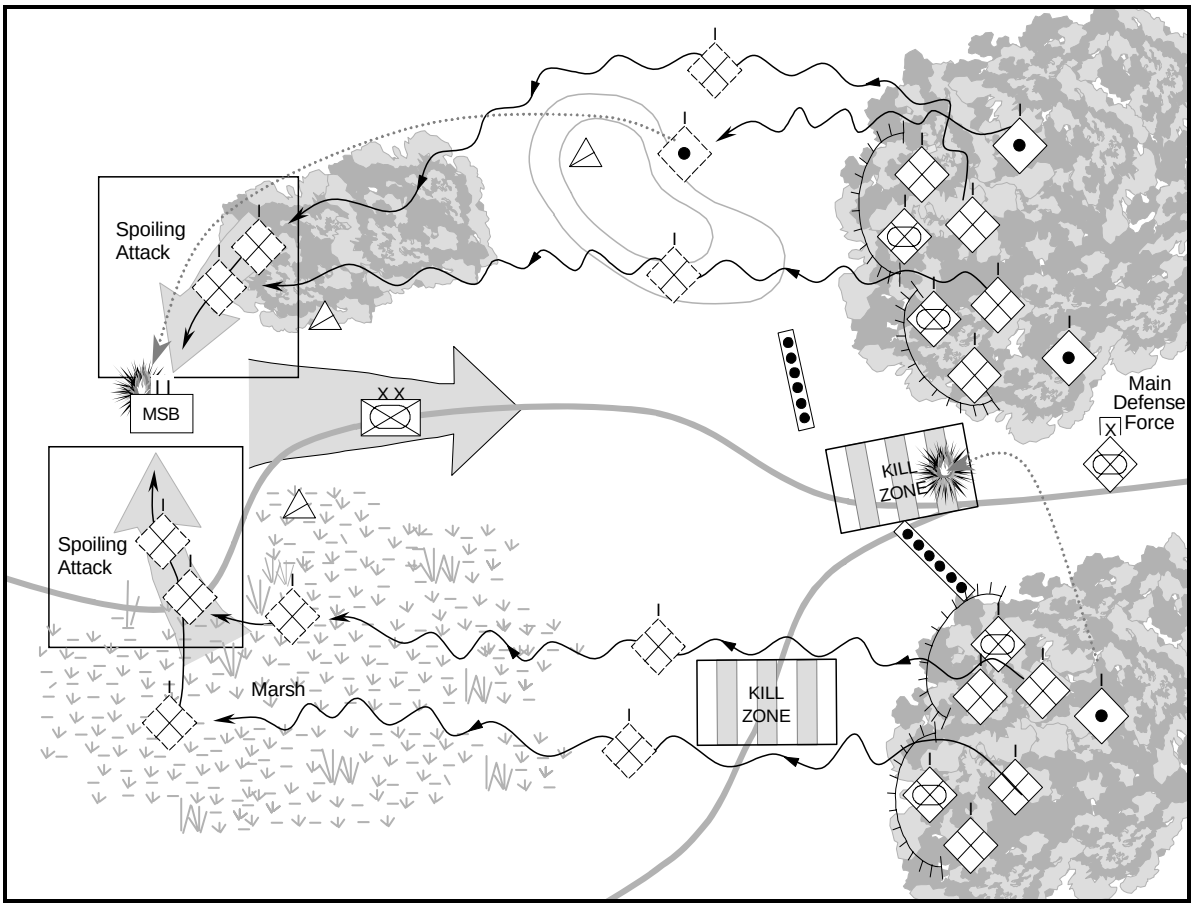


Figure 3-7. Spoiling Attack Example

3-73. Spoiling attacks are characterized by—

- A requirement to have a clear picture of enemy preparations and dispositions.
- Independent, small unit action.
- Highly focused objectives.
- The possibility that a spoiling attack may open a window of opportunity for other combat actions.

3-74. The OPFOR seeks to have the following conditions met in order to conduct a spoiling attack:

- RISTA establishes a picture of enemy attack preparations.
- Enemy security, reserve, and response forces are located and tracked.
- Enemy ground reconnaissance in the attack zone is destroyed or rendered ineffective.

3-75. Spoiling attacks are actually executed using one of the other types of offensive action as the base method: integrated attack, dispersed attack, sophisticated ambush, or raid. Thus, the forces engaged in a spoiling attack

would be organized accordingly. The primary difference between a spoiling attack and the other types of limited-objective attack is the purpose of the attack.

Counterattack

3-76. A *counterattack* is designed to cause an enemy offensive operation to culminate and allow the OPFOR to return to the offense. A counterattack is designed to control the tempo of combat by returning the initiative to the OPFOR. See Figure 3-8 for an example of a counterattack.

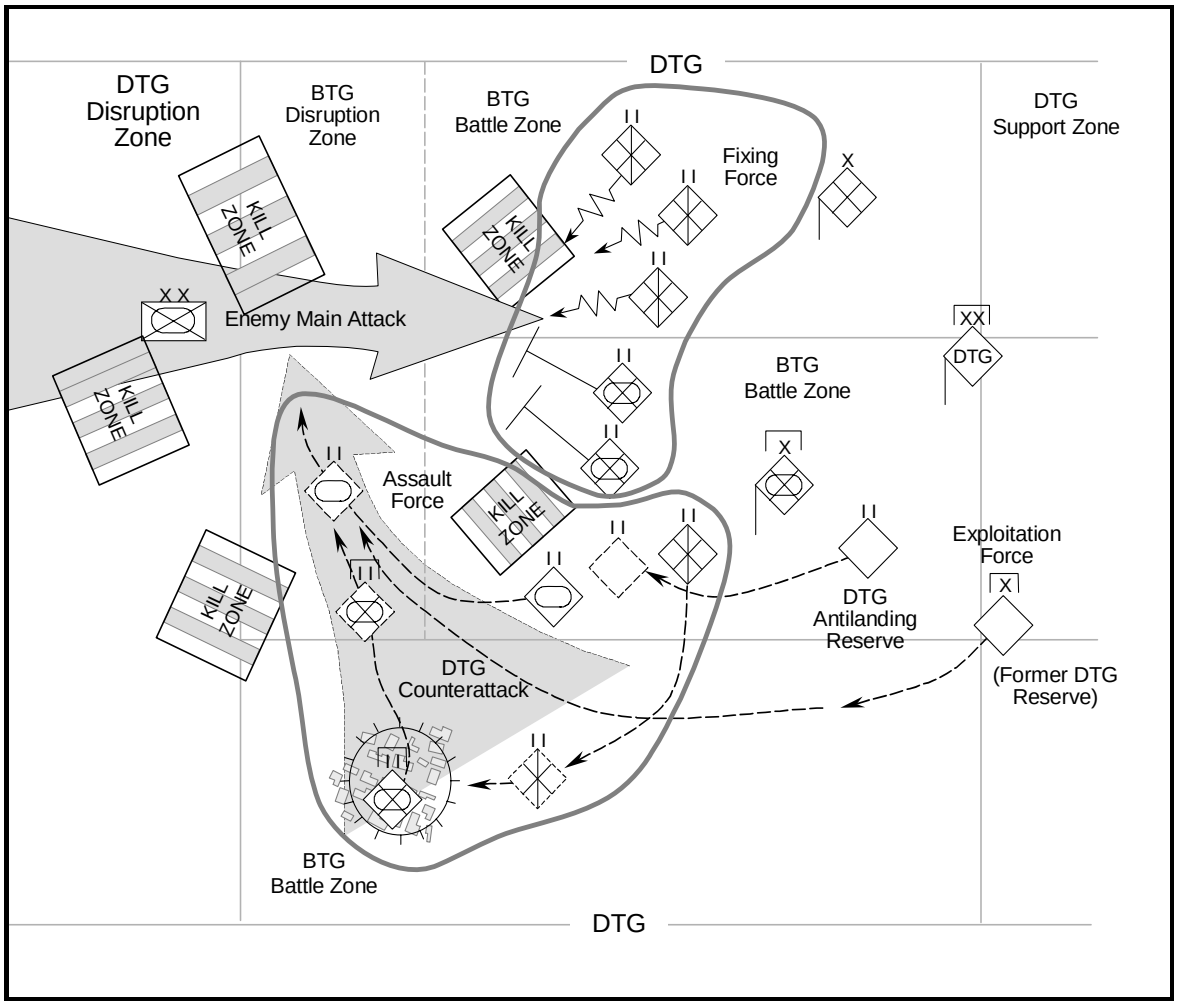


Figure 3-8. Counterattack Example

3-77. Quite often, the counterattack develops as a situational attack (see above). This occurs when an unclear picture of enemy dispositions suddenly clarifies to some extent and the commander wishes to take advantage of the knowledge he has gained to disrupt enemy timing. This means that counterattacks are often conducted by reserve or response forces that can rapidly shift from their current posture to strike at the enemy.

3-78. Counterattacks are characterized by—

- A shifting in command and support relationships to assume an offensive posture for the counterattacking force.
- A proper identification that the enemy is at or near culmination.
- The planned rapid transition of the remainder of the force to the offense.
- The possibility that a counterattack may open a window of opportunity for other combat actions.

3-79. The OPFOR seeks to set the following conditions for a counterattack:

- Locate and track enemy reserve forces and cause them to be committed.
- Destroy enemy reconnaissance forces that could observe counterattack preparations.

Organizing Forces for a Counterattack

3-80. A counterattack employs fixing, assault, and exploitation forces. The disruption force was generally part of a previous OPFOR defensive posture.

3-81. **Fixing Force.** The fixing force in a counterattack is that part of the force engaged in defensive action with the enemy. These forces continue to fight from their current positions and seek to account for the key parts of the enemy array and sure they are not able to break contact and reposition. Additionally, the fixing force has the mission of making contact with and destroying enemy reconnaissance forces and any combat forces that may have penetrated the OPFOR defense.

3-82. **Assault Force.** In a counterattack, the assault force (if one is used) is assigned the mission of forcing the enemy to commit his reserve so that the enemy commander has no further mobile forces with which to react. If the fixing force has already forced this commitment, the counterattack design may forego the creation of an assault force.

3-83. **Exploitation Force.** The exploitation force in a counterattack maneuvers through or bypasses engaged enemy forces to attack and destroy the enemy's support infrastructure before he has time or freedom to react. An armored or attack helicopter unit is often best suited to be the core of an exploitation force in a counterattack due to the combination of mobility, protection, and firepower possessed by such forces.

TACTICAL OFFENSIVE ACTIONS - DETACHMENTS

3-84. OPFOR commanders select the offensive action they deem, with the assistance of their staffs, to be best suited to accomplishing their mission. OPFOR battalions and below are typically called upon to execute one combat mission at a time, so it will be rare that such a unit will be employing more than one of these methods simultaneously.

ASSAULT

3-85. An *assault* is the basic form of OPFOR tactical offensive combat. An assault is an attack that destroys an enemy force through firepower and the physical occupation and/or destruction of his position.

3-86. Assaults at any level of command and with any type forces have the same basic characteristics:

- Suppression of the enemy force to permit the action element to move against the enemy position without receiving destructive fire.
- Use of surprise, limited visibility, complex terrain and C3D by the assault element to attain the enemy position while remaining combat effective.
- Isolation of the enemy position so that it cannot be reinforced during the battle.

3-87. The OPFOR does not have a separate design for "mounted" and "dismounted" assaults as the same basic principles apply to any assault action. A situational assault may have to make use of whatever forces can take advantage of a window of opportunity, but the OPFOR views all assaults as combined arms actions.

Organizing Forces for an Assault

3-88. *Security Element.* The security element provides early warning of approaching enemy forces and prevents them from reinforcing the assaulted unit. Security elements often make use of terrain chokepoints, obstacles, ambushes and other techniques to resist larger forces for the duration of the assault. The commander may (or may be forced to) accept risk and employ a security element that can only provide early warning but is not strong enough to halt or repel enemy reinforcements. This decision is based on METT-T.

3-89. *Action Element.* The action element of an assault (also called the assault element) maneuvers to and seizes the enemy position, destroying any forces there.

3-90. *Support Element.* The support element provides the assaulting detachment with one or more of the following:

- CSS
- C2
- Supporting direct fire (HMG, ATGM, recoilless rifle, AGL, etc.)
- Supporting indirect fire (mortar, artillery, etc.)
- Mobility Support

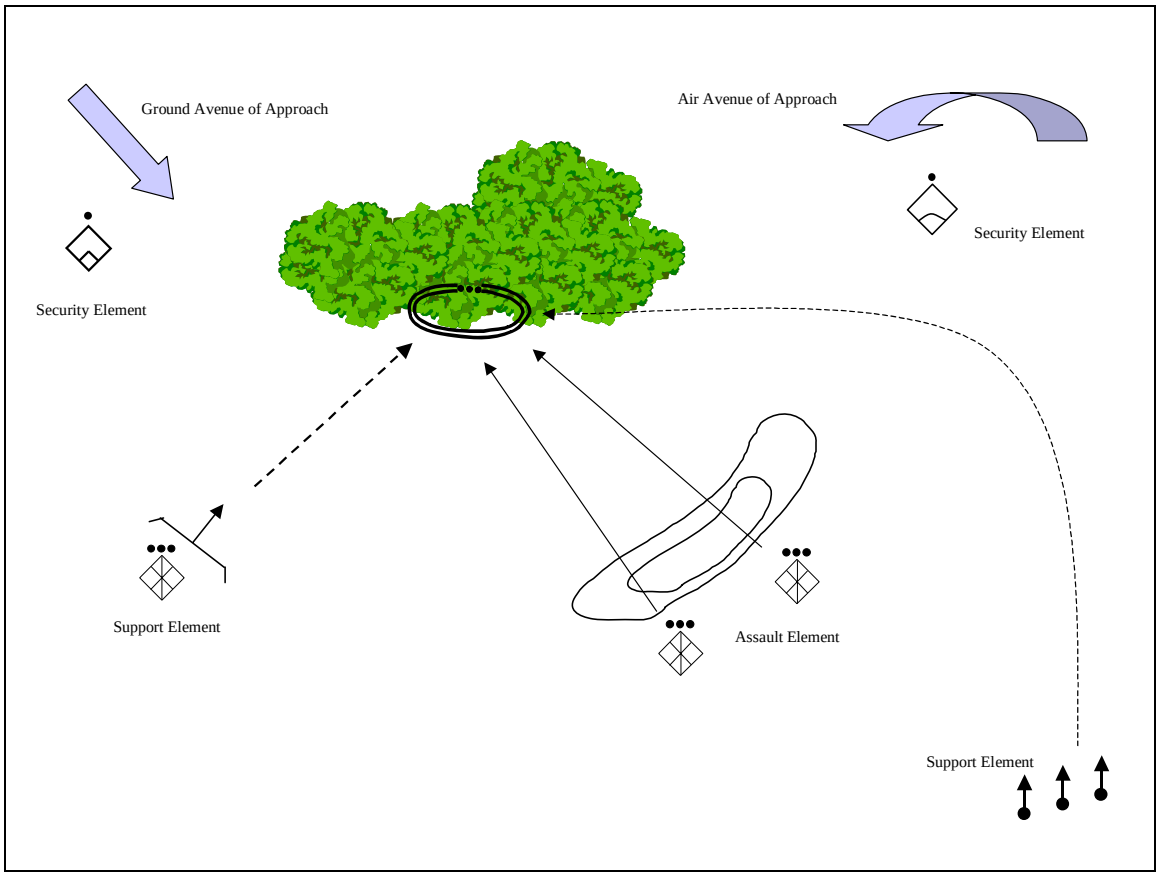


Figure 3-9. Example of an Assault #1

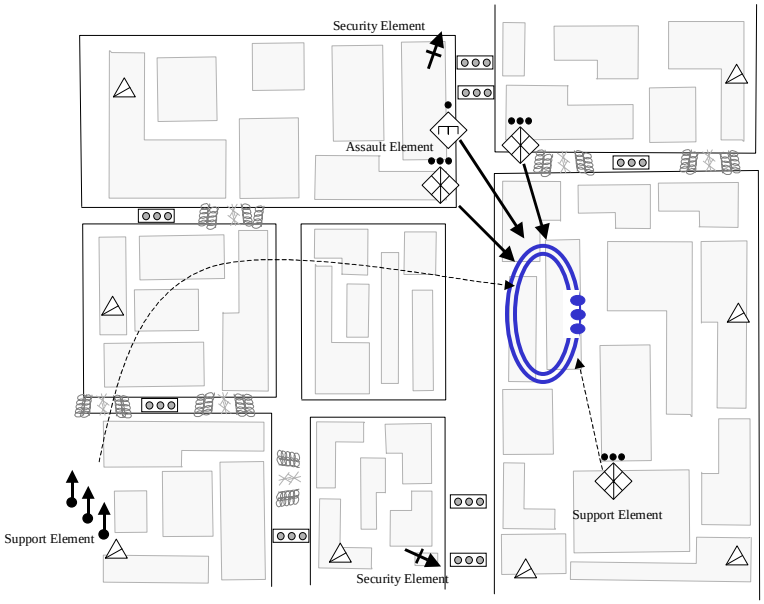


Figure 3-10. Example of an Assault #2

Organizing The Battlefield For An Assault

3-91. The detachment conducting an assault is given an AOR which to operate. The deciding factor will be whether or not a higher HQ is controlling the airspace associated with the operation.

3-92. The AOR will often identify the enemy position being assaulted as the primary objective, with associated attack routes and/or axes. Support by fire positions will typically be assigned for use by the support element. The security element will have battle positions that over watch key enemy air and ground avenues of approach with covered and concealed routes to and from those positions.

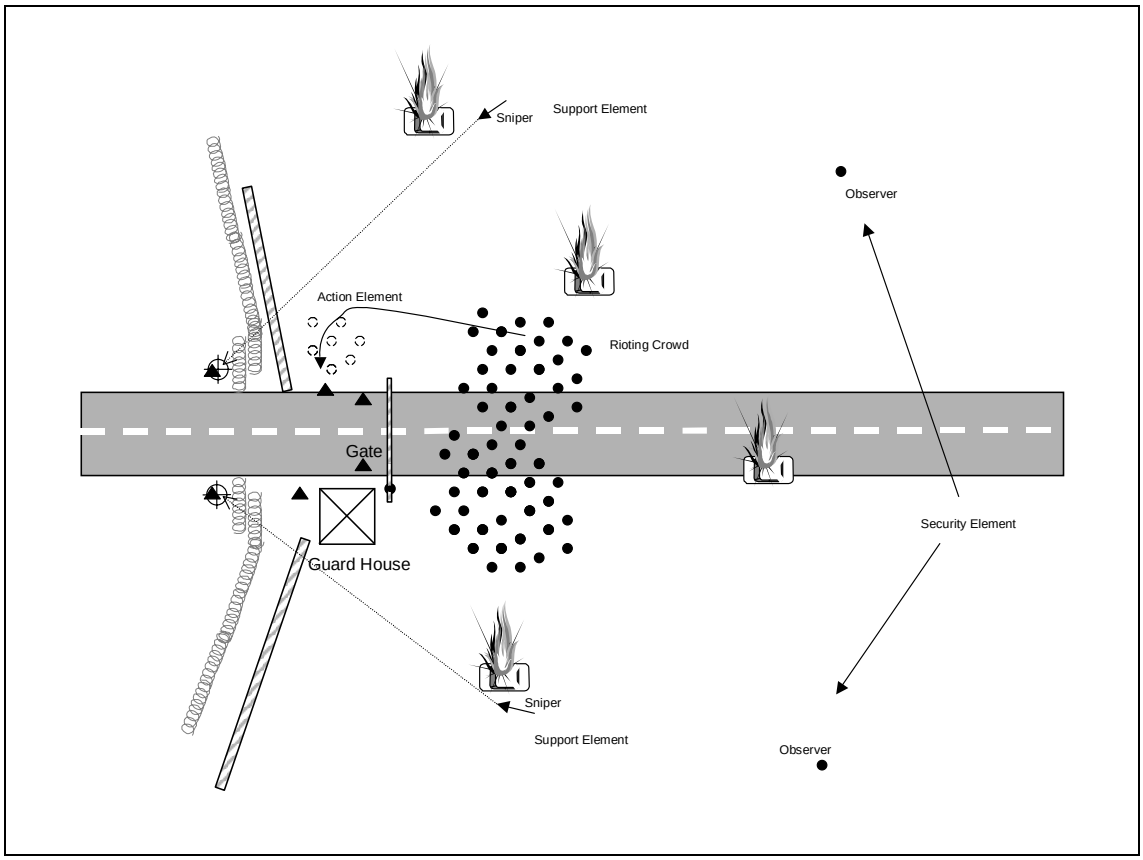


Figure 3-11. Example of an Assault #3

Executing the Assault

3-93. An assault is the most violent course of action a military force can undertake. The nature of an assault demands an integrated combined-arms approach. Indeed, a simple direct assault has a very low success chance without some significant mitigating factors. Decisive OPFOR assaults are characterized by:

- Isolation of the objective
- Effective tactical security
- Effective suppression
- Violent fire and maneuver against the enemy
-

3-94. **Tasks of the Security Element.** The security element is typically the first element to act in an assault. The security element moves to a position (or positions) where it can deny the enemy freedom of movement along any ground or air avenues of approach that can reinforce the objective or interfere with the mission of the assault element. The security element is equipped and organized such that it can detect enemy forces and prevent them from contacting the rest of the detachment. The security element nor-

mally gets a screen, guard or cover overall mission, but may also be called upon to perform other tactical tasks in support of its purpose:

- Ambush
- Block
- Canalize
- Contain
- Delay
- Disrupt
- Fix
- Interdict
- Isolate

3-95. **Tasks of the Support Element.** The support element can have a wide range of functions in an assault. Typically the detachment commander exercises C2 from within a part of the support element, unless his analysis deems success requires he leads the assault element personally. The support element controls all combat support and CSS functions as well as any supporting fires. The support element typically does not become decisively engaged but parts of it may employ direct suppressive fires. Tasks typically expected of support elements in the assault are:

- Attack by Fire
- Disrupt
- Fix
- Neutralize
- Support by Fire

3-96. **Tasks of the Assault Element.** The assault element must be able to maneuver from its assault position to the objective and destroy the enemy located there. It can conduct attack by fire, but this is not an optimal methodology and should only be used when necessary. Tactical tasks expected of the assault element are:

- Clear
- Occupy
- Secure
- Seize

3-97. Speed of execution is critical to an assault. At a minimum, the assault element must move with all practical speed once it has left its attack position. However, the OPFOR goal in an assault is for all the elements to execute their tasks with as much speed as can be achieved. For example, the longer the security element takes to move to its positions and isolate the objective, the more time the enemy has to react even before the assault element

has begun maneuvering. Therefore, the OPFOR prefers as much of the action of the three elements of an assault to be simultaneous as possible. OPFOR small units practice the assault continually and have clear battle drills for all of the key tasks required in an assault.

Command and Control of an Assault

3-98. Typically, the commander positions himself with the support element and the deputy moves with the assault element, although this may be reversed. The primary function of control of the assault is to arrange units and tasks in time and space so that the assault element begins movement with all elements of the support element brought to bear, the security element providing the detachment's freedom to operate and the objective isolated.

Reconnaissance in the Assault

3-99. Reconnaissance units in support of an assault are typically given the following missions:

- Determine and observe enemy reinforcement and counterattack routes
- Determine composition and disposition of the forces on the objective
- Locate and mark enemy counter mobility and survivability effort
- Locate and track enemy response forces
- Defeat enemy C3D effort

3-100. Reconnaissance effort is support of an assault can begin long before the assault is executed. A level of command above the detachment typically controls this effort. Situational assaults may be executed with relatively little known about the enemy but where a window of opportunity exists that will close if not taken advantage of in the near term.

3-101. Detachments relying on their own reconnaissance effort to a large degree and/or taking advantage of a window of opportunity to execute an assault often form reconnaissance elements to support the assault.

Armor Support to an Assault

3-102. IFV's typically operate in the support element, providing direct suppressive fires. The use of IFV's in the assault element is possible, but the risk must be weighed against the number and type of AT weapon systems on or covering the objective and the need for the infantry in the assault element to move at IFV speed during its approach. The weapons, light armor and imaging systems of IFVs can be useful in the security element, but must be balance against any stealth requirements of the security element's scehme of maneuver.

3-103. AFV's support an assault in the same manner as IFVs. They are more likely to be useful in the assault element if the enemy does not have significant AT killing power available on the objective. AFV's can be used as the primary element of the assault element on open ground, but to do so where any stay behind or infiltrating force can employ effective AT fires carries great risk. Most likely, AFV's will be used in the assault element when it has

to cross some distance at speed over open ground and AT systems along the attack axis have been destroyed or suppressed.

Fire Support to an Assault

3-104. The primary mission of fire support in an assault is to suppress the objective and protect the advance of the assault element. Precision munitions may be used to destroy key systems that threaten the assault force. Obscurants may be used to reduce the effectiveness of enemy weapons and RISTA. Special munitions may be used to prevent effective reinforcement of the objective.

3-105. Fire support assets committed to the assault are typically part of the support element.

Air Defense Support of an Assault

3-106. The typical purpose of air defense support to an assault is to prevent enemy air power from influencing the action of the assault element. This can be accomplished in numerous ways and is tied to METT-T. It is possible to find air defense systems and measures in all three elements of an assault.

3-107. Air defense systems in the security element provide early warning and defeat enemy aerial response to the assault. Such systems also target enemy aerial reconnaissance such as UAVs to prevent the enemy from having a clear picture of the assault action.

3-108. Air defense systems in the support element provide overwatch of the assault element and the objective.

3-109. Air defense systems are least likely to be found in the action element of an assault. However, such situations as long attack axes, which require the assault force to operate out of the range of systems in the support element for any length of time, may dictate this disposition of air defense systems.

Engineer Support to an Assault

3-110. Engineer units and missions primarily support the assault by ensuring the assault element gets to the objective in an expeditious manner. Engineer units and systems may be part of the assault element or may be organized as a separate specialist element.

3-111. Engineers assigned to a security element may conduct countermobilty tasks along expected enemy reinforcement routes. They also support the security element by ensuring it retains freedom to maneuver while executing its tasks.

Logistics Support to an Assault

3-112. Logistics support units, when present, are almost always in the support element. The OPFOR prefers that assaults are of short enough duration

that significant resupply does not have to occur within the detachment prior to the completion of the mission.

Information Warfare Support to an Assault

3-113. Information Warfare supports the assault primarily by helping isolate the objective. This is often done by:

- deceiving forces at the objective as to the timing of the assault
- conducting deception operations to fix response forces
- isolating the objective with electronic warfare

Assaults in Close Terrain

3-114. Close terrain has both advantages and disadvantages for assaulting troops. It reduces engagement ranges, thereby easing the task of keeping the assault element protected during its approach to the objective. However, it also provides the enemy cover and concealment on the objective as well as natural obstacles to movement and good ambush positions along that same approach.

Assaults in Urban Terrain

3-115. Assaults in urban terrain face all the challenges of those in close terrain and many more.

3-116. Assaults in close, mixed or open terrain always face the possibility of obstacles restricting movement to the objective. It urban terrain obstacles – man-made or not – are virtually a certainty. Typically then, assaulting detachments include a specialist element made up of sappers and other supporting arms, known as a clearing element, designed to execute mobility tasks in support of the assault element.

AMBUSH

3-117. An ambush is a surprise attack from concealed positions on a moving or temporarily halted enemy.

Organizing Forces for an Ambush

3-118. Similar to an assault, a detachment conducting an ambush is organized into three elements: the assault element, the support element, and the security element.

3-119. The action element (firing element, assault element) of an ambush has the mission of attacking and destroying enemy elements in the kill zone(s).

3-120. The security element of an ambush has the mission to prevent enemy elements from responding to the ambush before the main action is concluded. Failing that, it prevents the assault element from becoming decisively engaged. This is often accomplished simply by providing early warning.

3-121. The support element of an ambush has the same basic functions as that of an assault. It is quite often involved in supporting the assault element with direct fire as well as indirect.

Organizing the Battlefield for an Ambush

3-122. A detachment is typically given a combat zone in which to execute an ambush as such attacks typically do not require control of airspace at the detachment level.

3-123. The area where the enemy force is to be destroyed is delineated by one or more kill zones.

Executing an Ambush

3-124. There are three types of OPFOR ambush—annihilation, harassment, or containment—based on the desired effects and the resources available. Ambushes are frequently employed because they have a great chance of success and provide force protection. The OPFOR conducts ambushes to kill or capture personnel, destroy or capture equipment, restrict enemy freedom of movement, and collect information and supplies.

3-125. **Annihilation Ambush.** The purpose of an annihilation ambush is to destroy the enemy force. Generally, this type of ambush employs mines and other obstacles to halt the enemy in the kill zone. The goal of the obstacles is to keep the enemy in the kill zone throughout the action. Through direct fire systems, the support element destroys or suppresses all enemy forces in the kill zone. It remains in a concealed location and may have special weapons, such as antitank weapons. The support and assault elements kill enemy personnel and destroy equipment within the kill zone by concentrated fires. The assault element remains in covered and concealed positions until enemy activity ceases within the kill zone. Once the enemy ceases his activity, the assault element secures the kill zone and eliminates any remaining enemy personnel that pose a threat. The assault element remains in the kill zone to thoroughly search for any usable information and equipment, which it takes or destroys. The security element positions itself to ensure early warning and to prevent the enemy from escaping the kill zone. Following the initiation of the ambush, the security element seals the kill zone and does not allow any enemy forces in or out. The ambush force withdraws in sequence; the assault element withdraws first, then the support element, and lastly the security element. The entire ambush force reassembles at a predetermined location and time.

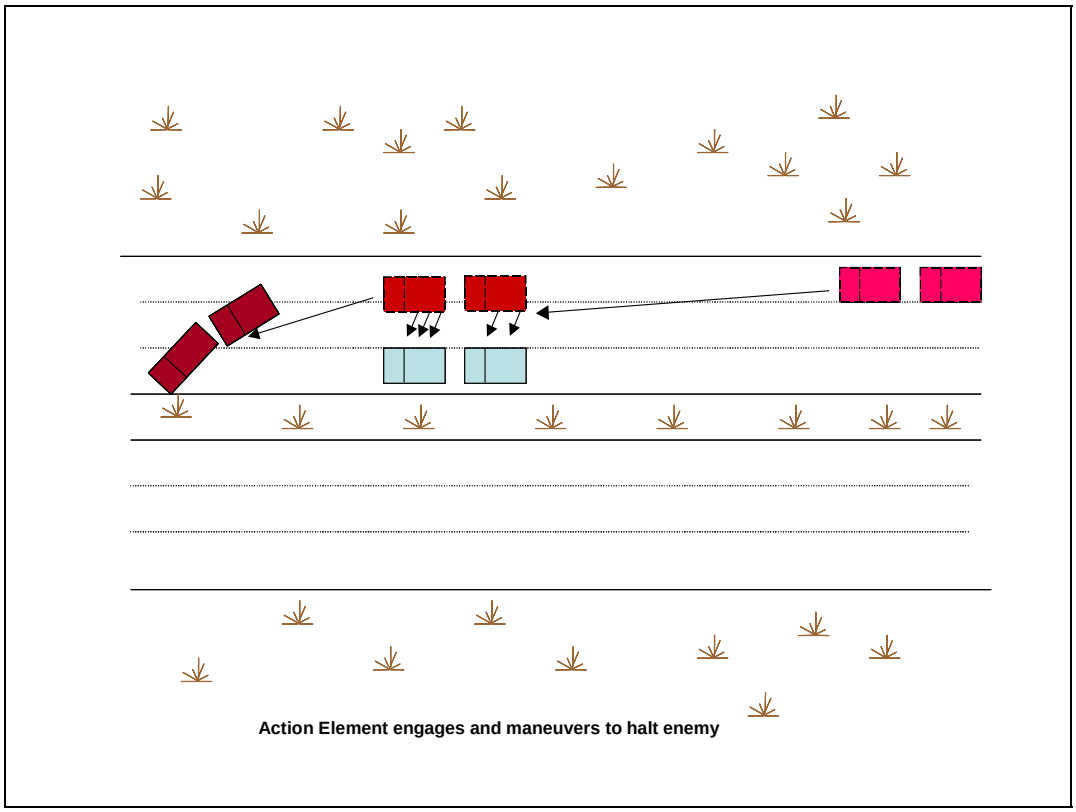


Figure 3-12a. Annihilation Ambush (Example)

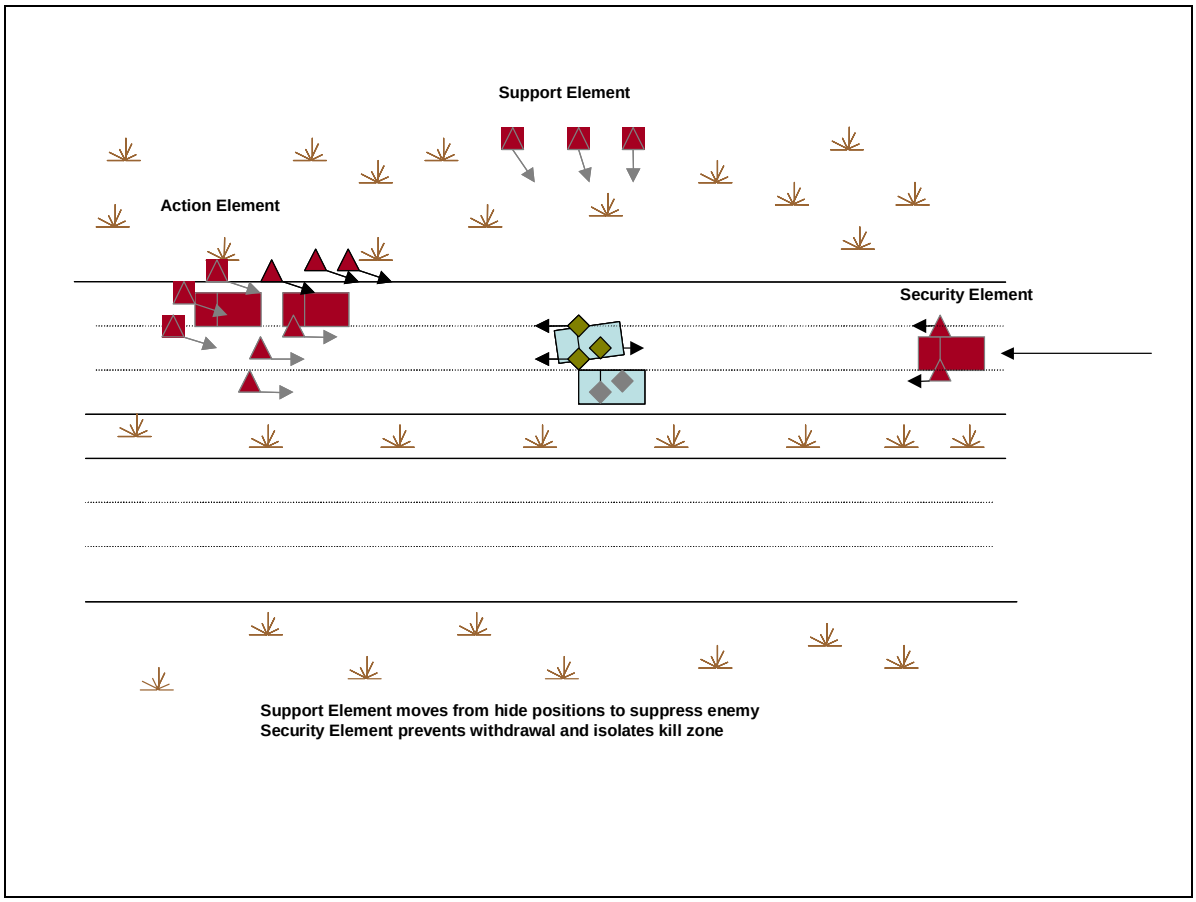


Figure 3-12b. Annihilation Ambush (Example)

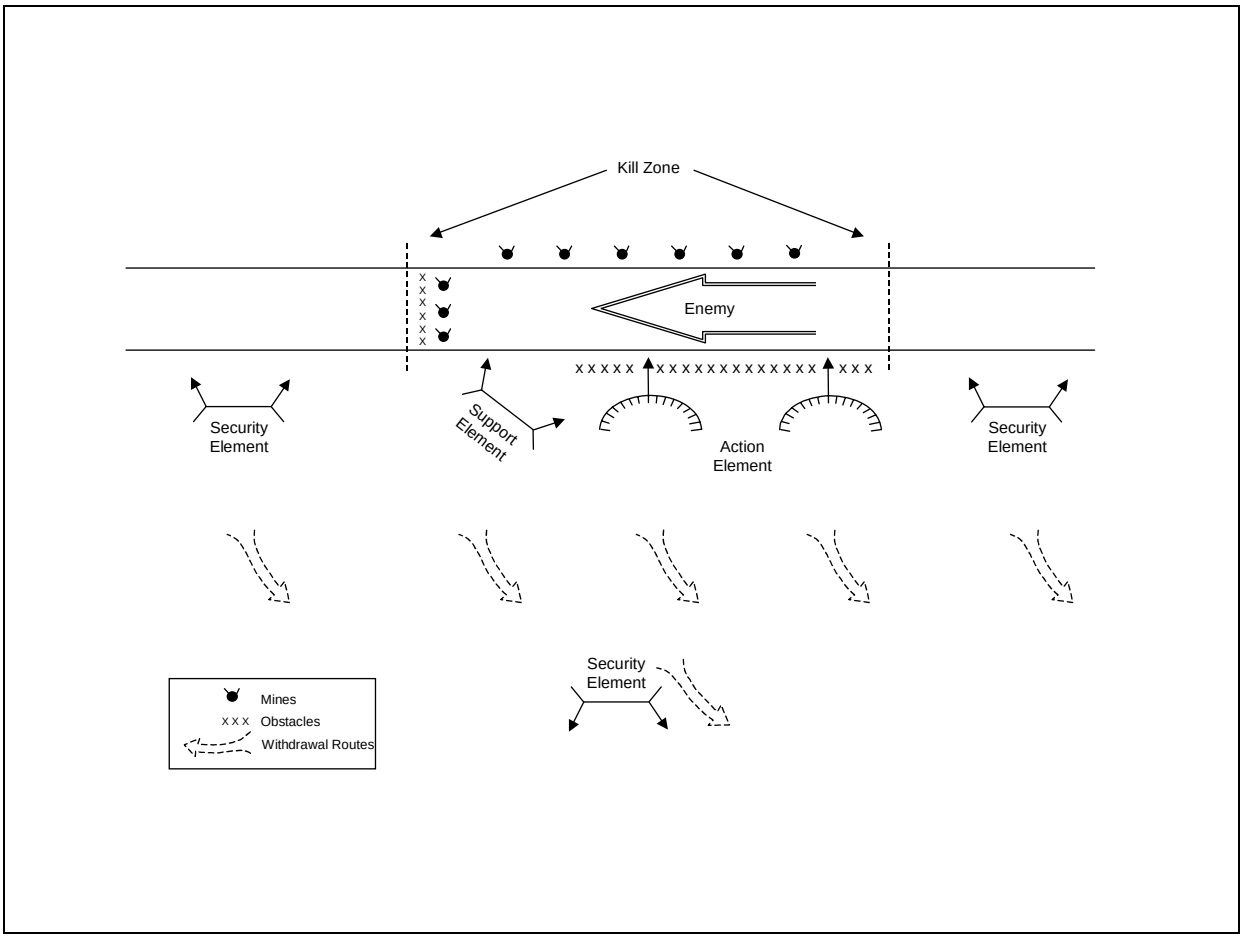


Figure 3-13. Annihilation Ambush (Example)

3-126. **Harassment Ambush.** A harassment ambush interferes with routine enemy activities, impedes the enemy's freedom of movement, and has a psychological impact on enemy personnel. The OPFOR may choose to conduct a harassment ambush if the enemy has superior combat power. This type of ambush does not require the use of obstacles to keep the enemy in the kill zone. A detachment conducts the harassment ambush at a greater distance from the enemy, up to the maximum effective range of its weapons.

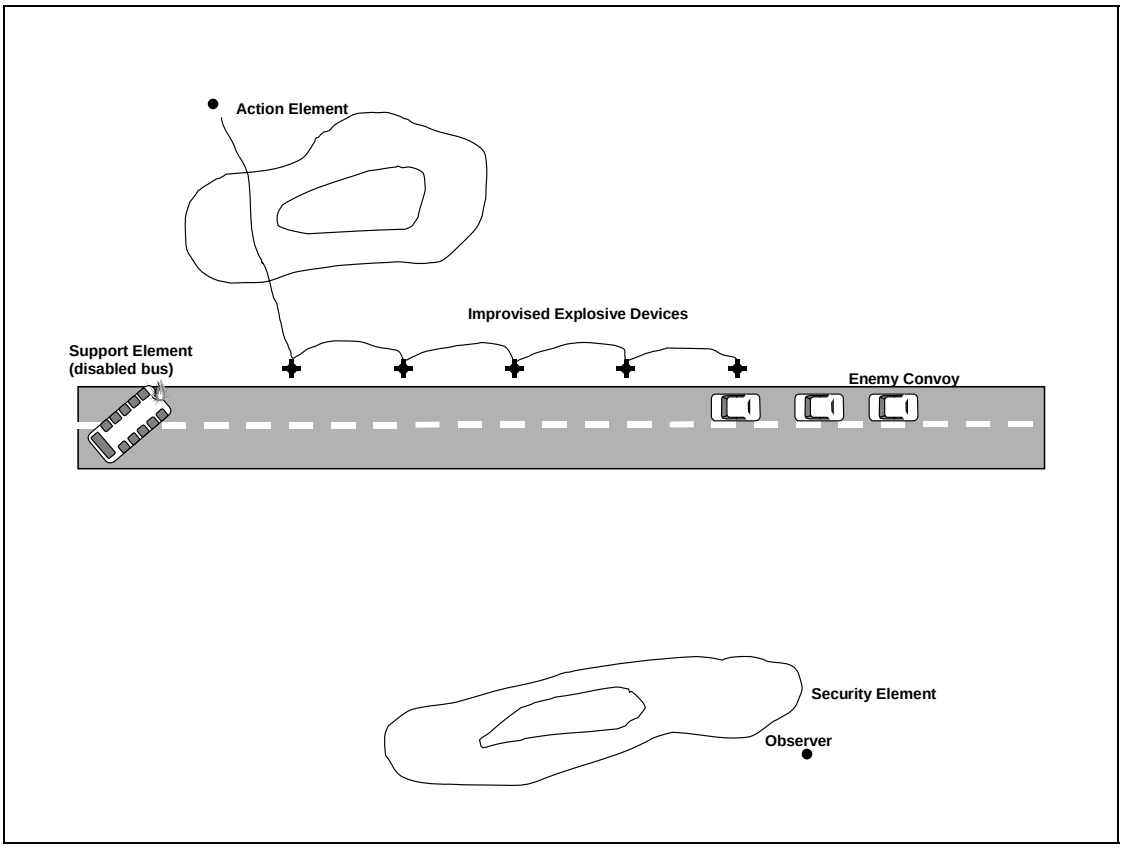


Figure 3-14. Harassment Ambush (Example)

3-127. Many times, the assault and support elements are combined to provide better control of fires throughout the kill zone, which may be quite wide. The assault element does not normally perform the role of assaulting the kill zone, but may if conditions permit. The assault and support elements concentrate massive direct and indirect fires in the kill zone. The security element provides early warning.

3-128. Harassment ambushes may be accomplished with very little in the way of resources. The action and security elements may be as little as two-four personnel combined. In cases where the primary weapon system is one or more explosive devices, the ambush may be conducted by one-two personnel or even by a time delayed fusing system.

3-129. While the assault and support elements withdraw, the security element may remain to provide warning and to delay enemy forces if necessary. As in all ambushes, the detachment may emplace mines and plan for indirect fires to cover withdrawal routes.

3-130. **Containment Ambush.** A containment ambush is a security measure that is usually part of a larger action. It is used to prevent the enemy from using an avenue of approach or interdicting another action, such as a raid. The assault element may assault to secure the kill zone, as described in

the annihilation ambush, although this is not required for success. The support and security elements perform the same functions as those described in the annihilation ambush.

3-131. Obstacles are an integral part of a successful containment ambush. They serve two functions: to prevent the enemy from using the avenue of approach and to hold the enemy in the kill zone. Within time constraints, the ambushing force may erect multiple, mutually supporting obstacles covered by direct and indirect fires.

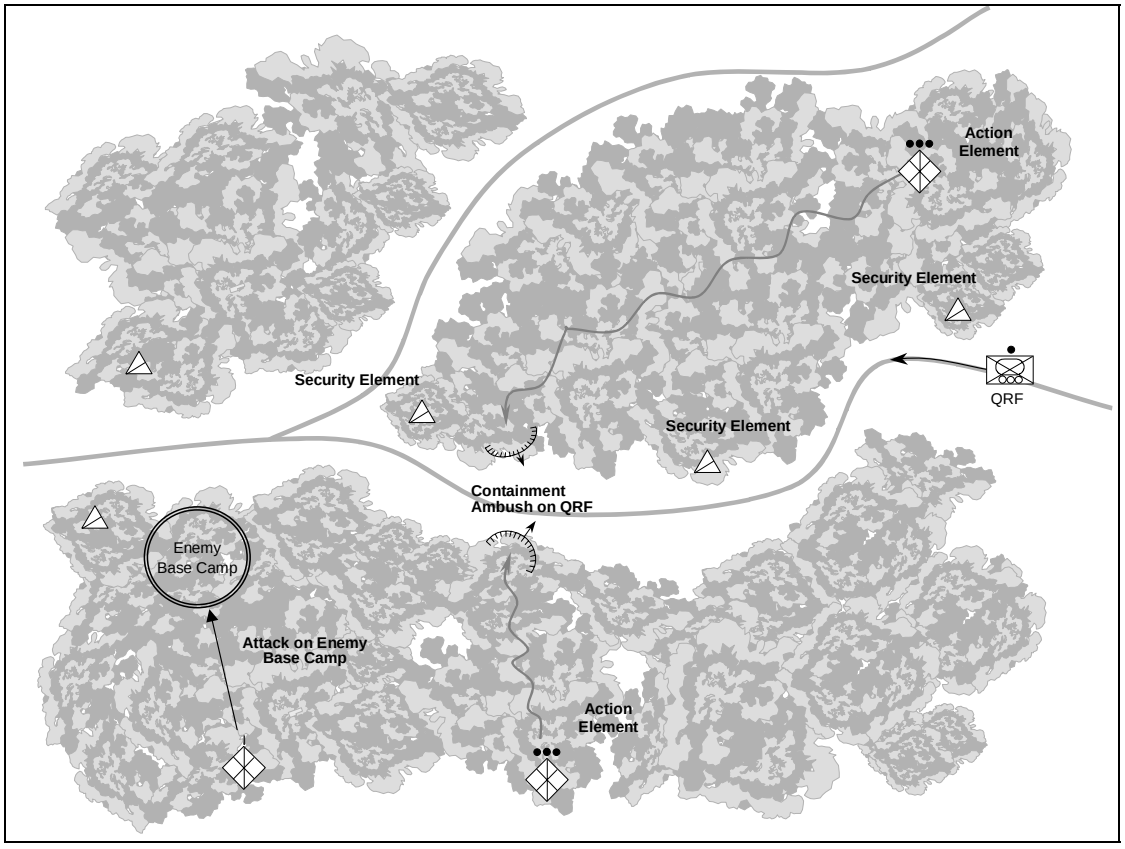


Figure 3-15. Containment Ambush (Example)

Command and Control of an Ambush

3-132. Typically, the commander positions himself with the support element and the deputy moves with the action element, although this may be reversed. The primary function of control of the ambush is to arrange units and tasks in time and space so that the action element initiates the ambush when the target is most vulnerable while ensuring the detachment is able to break contact when the action is complete.

Reconnaissance Support to an Ambush

3-133. Reconnaissance is critical to a successful ambush. Reconnaissance establishes the time the enemy unit will be in the kill zone, determines the best terrain on which to attack and locates response forces and provides early warning.

Armor Support to an Ambush

3-134. Armor units are typically in the support element, directing fire into the kill zone. They also have the speed to withdraw rapidly at the conclusion of the ambush or reposition to block response forces.

Fire Support to an Ambush

3-135. Fire support units are almost always in the support element, providing fires into the kill zone, illumination over it or smoke to permit withdrawal.

Air Defense Support to an Ambush

3-136. In the event of an aerial ambush target, air defense units may make up the balance of the action element.

3-137. When the ambush target is a ground unit, air defense is most likely found in the security element(s) where it can provide early warning and fires against aerial response forces.

Engineer Support to an Ambush

3-138. The primary task of engineers in an ambush is countermobility – both in support of the security element's mission of isolating the ambush area and to hinder enemy exiting the kill zone.

Logistics Support to an Ambush

3-139. Ambushes are typically not multi-day battles. The detachment will move from a secured location with everything it needs to complete the mission. In those rare instances where the situation supports a multi-day hide prior to executing the ambush, the detachment will be required to move with its own extra life support. Resupply of an ambushing detachment would significantly increase the chances of its detection and defeat its purpose.

IW Support to an Ambush

3-140. IW primarily supports ambushes by concealing the action through deception and information protection. Successful ambushes may be used by an IW campaign as tools to show the failure of enemy force protection efforts.

Ambushes in Close Terrain

3-141. Ambushes require that the action element remain concealed until the initiation of the attack. Close terrain is highly favorable for ambushes due to the cover and concealment it provides.

Ambushes in Urban Terrain

3-142. Urban terrain is ideal for ambushes. It provides cover and concealment to the ambushing detachment, canalizes enemy forces into the kill zone(s) and permits easy withdrawal.

RAID

3-143. A *raid* is an attack against a stationary target for the purposes of its capture or destruction that culminates in the withdrawal of the raiding detachment to friendly territory.

3-144. Raids are characterized by—

- Destroying key systems or facilities, providing or denying critical information, or securing hostages or prisoners.
- OPFOR sensor(s) with capability and mission to find and track the target. Sensors are often ground reconnaissance, but may include UAVs or satellites.
- A C^2 method to link raiding detachment and sensors.
- Supporting operation(s)—usually primarily IW—to create window of opportunity for raiding force to operate.

Organizing Forces for a Raid

3-145. Detachments assigned a raid mission are organized into an action (or raiding) element, a support element, and one or more security elements.

3-146. **Action Element.** The action element in a raid is charged with the actual destruction or seizure of the target. This element must be capable, through inherent capabilities or positioning relative to the enemy, of destroying or seizing the target of the raid. SPF, airmobile light artillery, and infantry trained in night infiltration techniques are all examples of potential components of the action element for a raid. The action element in a raid may also be required to expose the target to attack, if necessary. It may be, however, that effective IW, a mismatch in system capabilities, or even the enemy's own dispositions create a situation wherein the target is already sufficiently exposed.

3-147. **Support Element.** The support element provides fire support, combat support, and combat service support to the assault and security elements. The IMD commander normally controls the raid from within the support element.

3-148. **Security Element(s).** The primary threat to raiding elements is being discovered and defeated by security forces prior to execution of the raid. The security element in a raid is primarily focused on fixing enemy security and response forces. The security element is equipped and organized such that it can detect enemy forces and prevent them from contacting the rest of the detachment.

Organizing the Battlefield for a Raid

3-149. The target of a raid is normally indicated by an objective.

Executing a Raid

3-150. The task of a security element in a raid is to occupy enemy security and response forces and force the enemy to focus on parts of the battlefield away from the raid. Security elements deploy to locations where they can deny the enemy freedom of movement along any ground or air avenues of approach that can reinforce the objective or interfere with the mission of the action element. The security element normally gets a screen, guard or cover overall mission, but may also be called upon to perform other tactical tasks in support of its purpose:

- Ambush
- Block
- Canalize
- Contain
- Delay
- Disrupt
- Fix
- Interdict
- Isolate

Command and Control of a Raid

3-151. A raid is conducted by forces autonomous on the battlefield, but linked by C^2 and purpose. Although supported with operational assets, raids are primarily conducted by tactical-level forces. They can often involve affiliated forces, particularly when conducted as part of adaptive operations. A raid is not necessarily tied to scheme of maneuver, in that the larger part of the force may be involved in an operation not directly related to the raid.

Reconnaissance Support to a Raid

3-152. The primary task of reconnaissance in a raid is to locate the target of the raid and track it accurately until the action element is in contact.

Armor Support to a Raid

3-153. Armored forces, with their advantages of speed and firepower, can be used quite effectively in raids. The challenge in their use is concealing both their movement to the attack and their withdrawal upon completion of the raid.

Fire Support to a Raid

3-154. Fire support units support raids in a number of ways:

- SEAD to support raiding aviation elements

- Suppression of response forces
- Smoke to permit withdrawal.

3-155. Fire support units (and combat helicopters acting in this role) may be the action element of a raid with or without additional ground forces.

Air Defense Support to a Raid

3-156. In a raid, air defense is most likely found in the security element(s) where it can provide early warning and fires against aerial response forces.

Engineer Support to a Raid

3-157. Raiding elements are supported primarily by engineers executing mobility tasks to permit access to the objective and to facilitate withdrawal of the raiding detachment.

Logistics Support to a Raid

3-158. Raids are typically not multi-day battles. The detachment will move from a secured location with everything it needs to complete the mission.

IW Support to a Raid

3-159. IW primarily supports raids by concealing the action through deception and information protection. Successful raids may be used by an IW campaign as tools to show the failure of enemy force protection efforts.

Raids in Close Terrain

3-160. Raiding detachments made up of aviation or aviation-borne forces or of highly mobile ground elements may not require close terrain to execute their mission. Speed of the attack, probably along with low visibility conditions, may permit a raiding detachment to be successful against an objective in mixed or open terrain.

Raids in Urban Terrain

3-161. Raids in urban terrain often have the objective of seizing one or more enemy personnel. As these are extremely mobile targets and easy to conceal, effective intelligence on the target is an absolute prerequisite for such a mission.

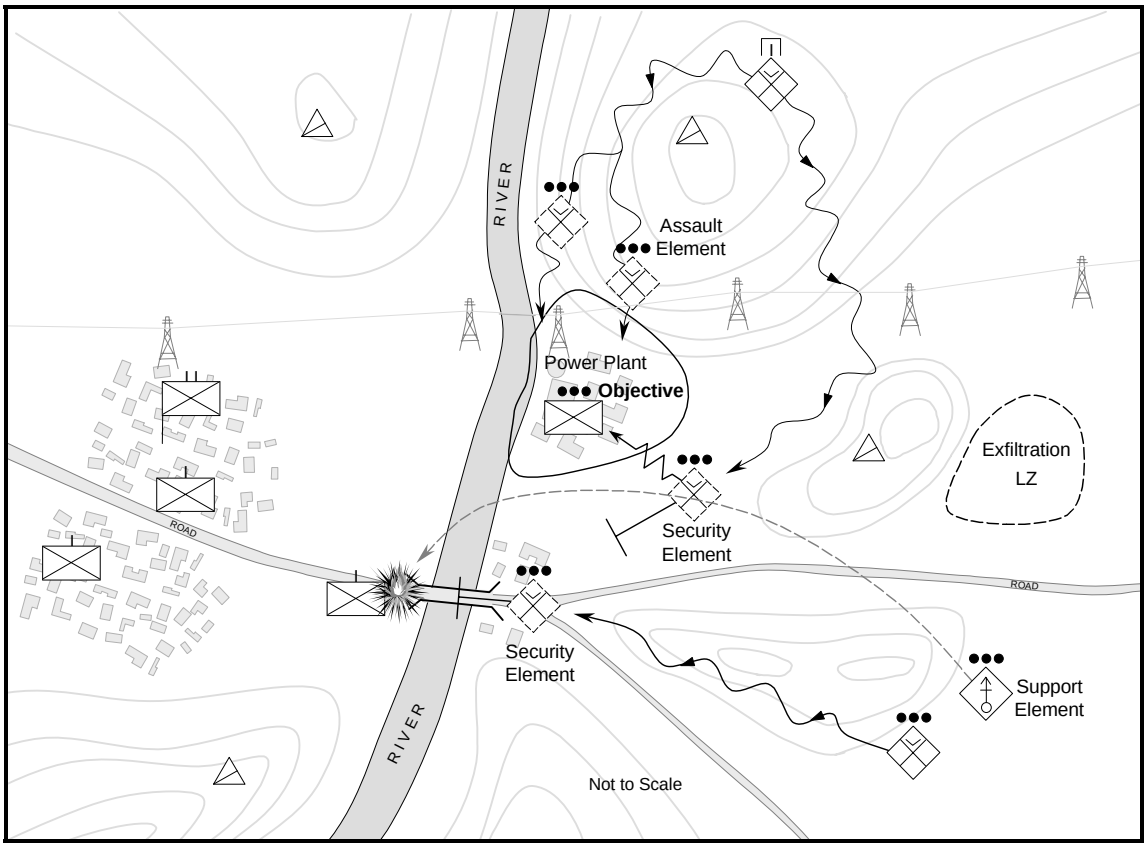


Figure 3-16. Raid (Example)

SEARCH AND ATTACK

3-162. A search and attack is a tactical offensive action that locates and either fixes or destroys dispersed enemy elements.

Organizing Forces for a Search and Attack

3-163. Search and Attacks are typically characterized by a large number of security elements and possibly more than one action element. Reconnaissance elements are the most likely specialist element to be required.

3-164. There may or may not be one action element for each security element.

Organizing the Battlefield for a Search and Attack

3-165. Multiple attack routes, objective rally points and orientation objectives often characterize search and attacks.

Executing a Search and Attack

3-166. A Search and Attack is initiated by multiple security elements moving through and to likely points of contact with enemy forces that need to be destroyed or fixed.

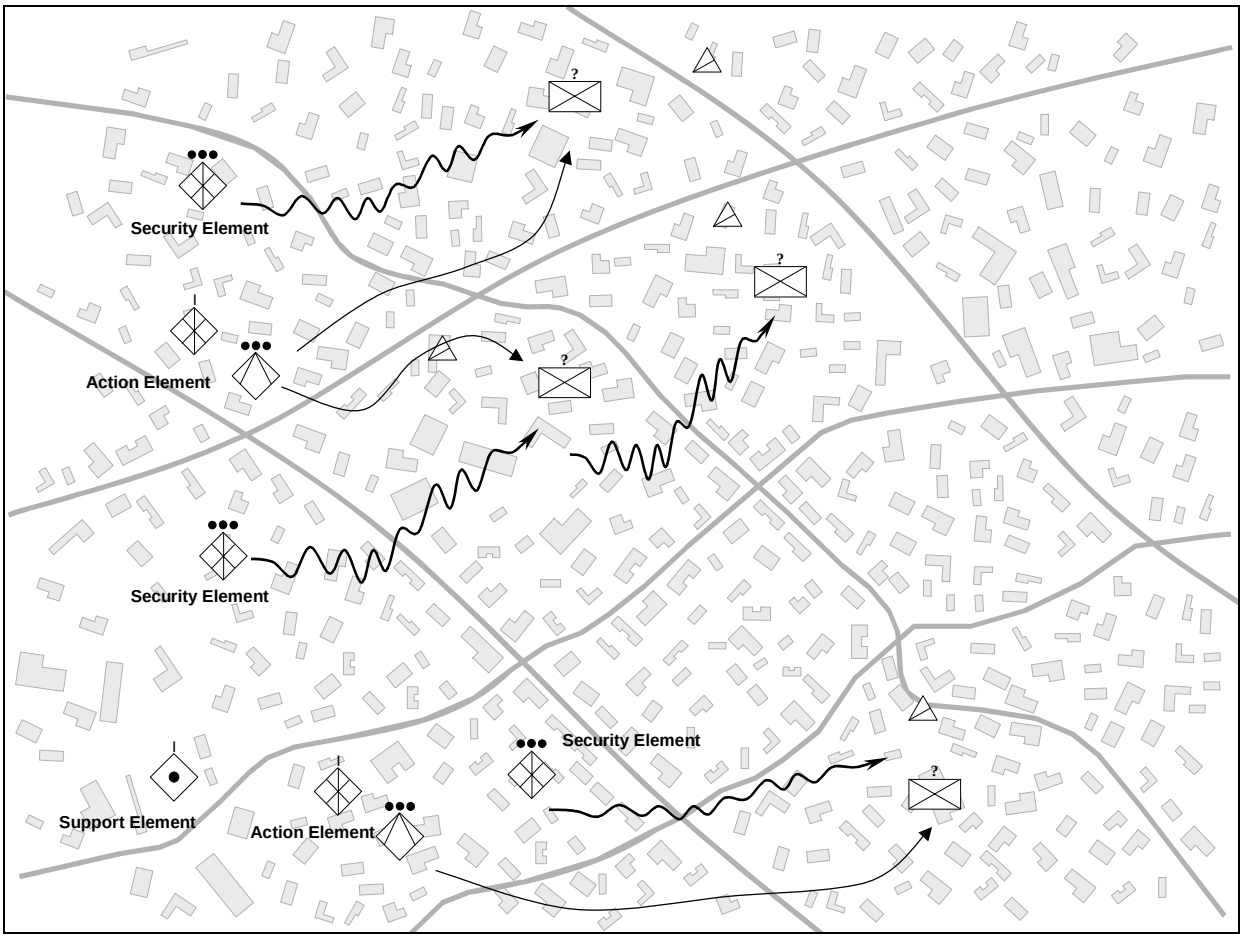


Figure 3-16 Search and Attack (Example)

Command and Control of an Search and Attack

3-167. Conducting a search and attack requires a great deal of reliance on the ability of the security (and reconnaissance, if separate) elements to operate independently.

Reconnaissance Support to an Search and Attack

3-168. There are two basic methods for conducting reconnaissance in a search and attack. The first is for each security element to act as its own reconnaissance element, therefore being responsible for both finding an enemy force and fixing it.

3-169. The second method is for the detachment to organize reconnaissance elements that have the mission to find the enemy forces in the detachment AOR or combat zone and use security elements solely for the task of fixing them.

Armor Support to an Search and Attack

3-170. Depending on the situation, armor may be used in any of the elements of a search and attack. In the reconnaissance element, armor system thermal imagers and other EO aids assist in the detection and identification of enemy forces.

3-171. Armor forces could provide the security element in a search and attack with a combination of firepower and protection that significantly enhances the mission of fixing the enemy.

3-172. Armor forces mobility and speed permit them to serve in the action element of a search and attack, rapidly orienting on fixed enemy forces and moving to a position of advantage to destroy them.

Fire Support to an Search and Attack

3-173. Fire support in a search and attack focuses on:

- Responsive fires in support of security elements in contact
- Support of the maneuver of the action element(s)
- Destruction of fixed enemy using precision munitions

3-174. Attack aviation may be allocated to reconnaissance and/or security elements, using armed reconnaissance techniques. It may also be a component (or the entirely of) a highly mobile action element.

3-175. Assault aviation is used to transport infantry and commandos to LZs where they can attack forces fixed by the security element(s).

Air Defense Support to a Search and Attack

3-176. Air defense in a search and attack prevent response forces and reinforcements from influencing the location, fixing and destruction of enemy forces in the AOR or zone.

Engineer Support to a Search and Attack

3-177. Engineer support to a search and attack focuses on mobility, permitting security and action elements freedom of maneuver.

3-178. Engineer elements also conduct counter-mobility tasks to fix located enemy forces.

Logistics Support to a Search and Attack

3-179. A Search and Attack can be marked by widely dispersed elements operating over extended time periods and distances. Elements will attempt to carry sufficient resupply with them. The OPFOR will also make use of caches, resupply on the move, dedicated logistics elements and other techniques to sustain the battle without a drop in tempo or loss of contact.

IW Support to a Search and Attack

3-180. IW activities in a search and attack are primarily executed to:

- protect elements of the detachment from being detected

- encourage enemy elements to reveal themselves or even surrender
- fix enemy forces

Search and Attack in Close Terrain

3-181. A search and attack will often be executed on close terrain as enemy forces will not typically require location on open terrain. Reconnaissance and security elements will require equipment and sensors that permit them to operate in this terrain and detect and track enemy forces operating in a close terrain environment. Action elements will require sufficient mobility to rapidly gain contact with and destroy fixed enemy forces.

Search and Attack in Urban Terrain

3-182. A search and attack on urban terrain makes extensive use of IW. Population management and affiliated forces to locate and track enemy elements. Paramilitary forces may also act as security elements for a search and attack.

Chapter 4

Tactical Defense

While the OPFOR sees the offense as the decisive form of military action, it recognizes defense as the stronger form of military action, particularly when faced with a superior, extraregional foe. Defensive operations can lead to strategic victory if the extraregional enemy abandons his mission. It may be sufficient for the OPFOR simply not to lose. Even when an operational-level command—such as a field group (FG) or operational-strategic command (OSC)—as a whole is conducting an offensive operation, it is likely that one or more subordinate units may be executing defensive missions to preserve offensive combat power in other areas, to protect an important formation or resource, or to deny access to key facilities or geographic areas. The same is true of subordinate units within a tactical group.

A tactical command ensures that its subordinate commands thoroughly understand both the overall goals of the operation plan and the specific purpose of a particular battle they are about to fight. In this way, subordinate commands can continue to fight the battle without direct control by a higher headquarters.

OPFOR defenses can be characterized as a "shield of blows." Each force and zone of the defense plays an important role in the attack of the enemy's combat system. A tactical-level defense is structured around the concept that disaggregating and destroying the synergy of the enemy's combat system will make enemy forces vulnerable to attack and destruction.

Commanders and staffs do not approach the defense with preconceived templates. The tactical situation may cause the commander to vary his defensive methods and techniques. Nevertheless, there are basic characteristics of defensive battles (purposes and types of action) that have applications in all situations.

PURPOSE OF THE DEFENSE

4-1. Defensive battles are designed to achieve the goals of the battle or operation plan through active measures while preserving combat power. However, the purpose of any given defensive battle depends on the situation, as determined through the decision-making process.

DEFENSE TO PROTECT PERSONNEL/EQUIPMENT

4-2. A *defense to protect key personnel/equipment* creates one or more locations in the battlespace where forces critical to the OPFOR effort are pro-

tected from enemy reconnaissance acquisition and destructive action. This can be because these elements are important to the OPFOR effort at an operational or even strategic scale or because the OPFOR needs time to reconstitute these elements for future offensive operations.

4-3. Such a defense typically, but not always relies heavily on C3D and IW measures. However, enemy ROE, limited access areas such as non-belligerent countries, adverse weather conditions and other such factors may be may be employed to provide protection to OPFOR forces.

DEFENSE TO RESTRICT FREEDOM OF MOVEMENT

4-4. A *defense to restrict freedom of movement* prevents the enemy from maneuvering as he chooses. Restricting defenses can deny key terrain, ambush moving forces, dominate airspace or fix an enemy formation. Tactical tasks often associated with restricting attacks are ambush, block, canalize, contain, fix, interdict, and isolate.

DEFENSE TO CONTROL KEY TERRAIN

4-5. A *defense to control* prevents enemy seizure of geographic features or facilities. Besides the classic seizure of key terrain that dominates a battlefield, an attack to control may also target facilities such as economic targets, ports or airfields.

DEFENSE TO GAIN TIME

4-6. *A defense to gain time* prevents the enemy from successfully concluding his scheme of maneuver before a certain point in time or prior to a given event taking place. A defense to gain time is not oriented on either a protected force or a geographic location – it is oriented on the enemy's perceived scheme of maneuver. Security operations, delays, ambushes and spoiling attacks are often all parts of a defense to gain time.

PLANNING THE DEFENSE

4-7. For the OPFOR, the key elements of planning defensive missions are—

- Determining the objective of the defensive action
- Determining the level of planning possible (planned versus situational defense).
- Organizing the battlefield.
- Organizing forces.
- Organizing IW activities in support of the defense (see Chapter 7).

4-8. Defensive actions during transition and adaptive operations will not be able to rely simply on attrition-based tactics in layered engagement areas. Such actions will typically include increased use of—

- Infiltration to conduct spoiling attacks and ambushes.
- Perception management (see Chapter 7) in support of defensive operations.

- Affiliated forces for reconnaissance, counter-reconnaissance, security, and attacks against key enemy systems.

PLANNED DEFENSE

4-9. A *planned* (deliberate) defense is a defensive mission or action undertaken when there is sufficient time and knowledge of the situation to prepare and rehearse forces for specific tasks. Typically, the enemy is in a staging or assembly area and in a known location and status. Key considerations in defensive planning are—

- Selecting a clear and appropriate objective.
- Determining which enemy forces must be defeated.
- Determine which component or components of an enemy's combat system to attack.
- Selecting key positions in complex terrain from which to dominate surrounding avenues of approach.
- Determining the method that will deny the enemy his tactical objectives.
- Developing a plan for reconnaissance, intelligence, surveillance, and target acquisition (RISTA) that locates and tracks major enemy formations, and determines enemy patterns of operations and probable objectives.
- Creating or taking advantage of a window of opportunity that frees friendly forces from any enemy advantages in precision standoff and situational awareness.

SITUATIONAL DEFENSE

4-10. The OPFOR may also conduct a *situational* (hasty) defense. It recognizes that the modern battlefield is chaotic. Circumstances will often change so that the OPFOR is not afforded the opportunity to conduct offensive action, thus forcing the OPFOR over to a defensive posture. If the OPFOR determines that a situational window of opportunity is closing, it may assume a *situational* (or *hasty*) defense. Although detailed planning and preparation greatly mitigate risk, they are often not achievable if enemy action has taken away the initiative.

4-11. The following are examples of conditions that might lead to a situational defense:

- The enemy is unexpectedly striking an exposed key OPFOR unit, system, or capability.
- The enemy is conducting a spoiling attack to disrupt OPFOR offensive preparations.
- An OPFOR unit makes contact on unfavorable terms for subsequent offensive action.
- The enemy gains or regains air superiority sooner than anticipated.
- An enemy counterattack was not effectively fixed

4-12. In a situational defense, the commander develops his assessment of the conditions rapidly and without a great deal of staff involvement. He provides

a basic course of action to the staff, which then quickly turns that course of action into an executable combat order. Even more than other types of OPFOR defensive action, the situational defense relies on implementation of battle drills by subordinate tactical units

4-13. Organization of the battlefield in a situational defense will normally be limited to minor changes to existing control measures. Organizing forces in a situational defense will typically rely on minor modifications to existing structure.

ORGANIZING FORCES FOR THE DEFENSE

4-14. In his battle plan, the tactical-level commander also specifies the organization of the forces within his level of command. However, the organization of forces can shift dramatically during the course of a battle or operation. For example, a unit that initially was part of a disruption force may eventually occupy a battle position within the battle zone and become part of the main defense force or act as a reserve.

4-15. Each of the separate functional forces has an identified commander. This is often the senior commander of the largest subordinate unit assigned to that force. For example, if two BTGs and an independent mission detachment (IMD) are acting as the DTG's main defense force, the senior of the two BTG commanders is the main defense force commander. During dispersed and decentralized operations, even when the force consists of like units of the same command level, control can be delegated to the senior commander of that force's like units. Since, in this option, each force commander is also a subordinate unit commander, he controls the force from his unit's command post (CP).

4-16. Another option is to have one of the higher unit's CPs command and control a functional force. Particularly during dispersed defensive operations, functional forces that contain units of the same command level might be controlled from the forward, auxiliary, or airborne CP of the tactical group. For example, the forward CP could control a disruption force. Another possibility would be for the IFC CP to command the disruption force or any other force whose actions must be closely coordinated with fires delivered by the IFC.

4-17. The force commander is responsible to the tactical group commander to ensure that combat preparations are made properly and to take charge of the force during the operation. This frees the higher-level commander from decisions specific to the force's mission. Even when subordinates of a tactical group have responsibility for parts of the tactical group disruption zone, there is still an overall tactical group disruption force commander.

Disruption Force

4-18. The size and composition of forces in the disruption zone depends on the level of command involved, the commander's concept of the battle, and the circumstances in which the unit adopts the defense. A tactical commander will always make maximum use of stay-behind forces and affiliated

forces existing within his AOR. Subordinate commanders can employ forces in the higher disruption zone with tactical group approval.

4-19. A DTG disruption force is typically a BTG, while a BTG disruption force is typically an IMD. However, a disruption force has no set order of battle. It may contain—

- Ambush teams (ground and air defense).
- Long-range reconnaissance patrols and/or SPF teams.
- RISTA assets and forces.
- Counterreconnaissance detachments.
- Artillery systems.
- Target designation teams.
- Elements of affiliated forces (such as terrorists, insurgents, or criminals).
- Anti-landing reserves.

4-20. The purpose of the disruption force is to prevent the enemy from conducting an effective attack. The disruption force does this by initiating the attack on components of the enemy's combat system. Successful attack of designated components or subsystems begins the disaggregation of the enemy's combat system and creates vulnerabilities for exploitation in the battle zone. Skillfully conducted disruption operations will effectively deny the enemy the synergy of effects of his combat system.

4-21. For example, the tactical group commander may determine that destruction of the enemy's mobility assets will create an opportunity to destroy maneuver units in the battle zone. The disruption force would be given the mission of seeking out and destroying enemy mobility assets while avoiding engagement with maneuver forces.

4-22. The disruption force may also have a counter-reconnaissance mission (see Chapter 6). It may selectively destroy or render irrelevant the enemy's RISTA forces and deny him the ability to acquire and engage OPFOR targets with deep fires. It employs RISTA assets to locate and track enemy RISTA forces and then directs killing systems to destroy them. For this purpose, the disruption force may include OSC-level RISTA assets, SPF, and helicopters. There will be times, however, when the OPFOR wants enemy reconnaissance to detect something that is part of the deception plan. In those cases, the disruption force will not seek to destroy all of the enemy's RISTA assets.

4-23. The disruption force may deceive the enemy as to the location and configuration of the main defense in the battle zone, while forcing him to show his intent and deploy early. Some other results of actions in the disruption zone can include delaying the enemy to allow time for preparation of the defense or a counterattack, canalizing the enemy onto unfavorable axes, or ambushing key systems and vulnerable troop concentrations.

Main Defense Force

4-24. The *main defense force* is the functional force charged with execution of the defensive mission. It operates in the battle zone to accomplish the purpose of the defense.

Protected Force

4-25. The *protected force* is the force being kept from harm by covering or delaying forces. It may be in the battle zone or the support zone.

Security Force

4-26. The *security force* conducts activities to prevent or mitigate the effects of hostile actions against the overall command and/or its key components. If the commander chooses, he may charge this security force with providing force protection for the entire AOR, including the rest of the functional forces; logistics and administrative elements in the support zone; and other key installations, facilities, and resources. The security force may include various types of units—such as infantry, SPF, counter-reconnaissance, and signals reconnaissance assets—to focus on enemy special operations and long-range reconnaissance forces operating throughout the AOR. It can also include internal security forces with the mission of protecting the overall command from attack by hostile insurgents, terrorists, and special operations forces. The security force may also be charged with mitigating the effects of weapons of mass destruction (WMD). The security force commander can be given control over one or more reserve formations, such as the anti-landing reserve. (See also Tactical Security in Chapter 6.)

Counterattack Forces

4-27. A defensive battle may include a planned counterattack scheme. This is typical of a maneuver defense, but could also take place within an area defense. In these cases, the tactical commander will designate one or more *counterattack forces*. He will also shift his task organization to create a counterattack force when a window of opportunity opens that leaves the enemy vulnerable to such an action. The counterattack force can have within it fixing, assault, and exploitation forces (as outlined in Chapter 3). It will have the mission of causing the enemy's offensive operation to culminate. The tactical group commander uses counterattack forces to complete the defensive mission and regain the initiative for the offense.

Types of Reserves

4-28. At the commander's discretion, forces may be held out of initial action so that he may influence unforeseen events or take advantage of developing opportunities. He may employ a number of different types of reserve forces of varying strengths, depending on the situation.

4-29. **Maneuver Reserve.** The size and composition of a reserve force is entirely situation-dependent. However, the reserve is normally a force strong enough to respond to unforeseen opportunities and contingencies at the tactical level. A reserve may assume the role of counterattack force to deliver the

final blow that ensures the enemy can no longer conduct his preferred course of action. Reserves are almost always combined arms forces.

4-30. A reserve force will be given a list of possible missions for rehearsal and planning purposes. The staff assigns to each of these missions a priority, based on likelihood that the reserve will be called upon to execute that mission. Some missions given to the reserve may include—

- Conducting a counterattack. (The counterattack goal is not limited to destroying enemy forces, but may also include recovering lost positions or capturing positions advantageous for subsequent combat actions.)
- Conducting counterpenetration (blocking or destroying enemy penetrations).
- Conducting antilanding missions (eliminating vertical envelopments).
- Assisting forces heavily engaged on a defended line to break contact and withdraw.
- Act as a deception force.

4-31. **Antitank Reserve.** OPFOR commanders faced with significant armored threats may keep an antitank reserve (ATR). It is generally an antitank unit and often operates in conjunction with an obstacle detachment (OD). Based on the availability of antitank and engineer assets, a division- or brigade-size unit may form more than one ATR.

4-32. **Anti-landing Reserve.** Because of the potential threat from enemy airborne or heliborne troops, a unit may designate an antilanding reserve (ALR). ALRs will be resourced for rapid movement to potential drop zones (DZs) and landing zones (LZs). The ALR commander will have immediate access to the operational and tactical intelligence system for early warning of potential enemy landing operations. ALRs typically include maneuver, air defense, and engineer units, but may be allocated any unit capable of disrupting or defeating an airborne or heliborne landing, such as smoke or electronic warfare (EW). While other reserves can perform this mission, the commander may create a dedicated ALR to prevent destabilization of the defense by vertical envelopment of OPFOR units or seizure of key terrain. ALRs assume positions prepared to engage the enemy primary DZ or LZ as a kill zone. They rehearse and plan for rapid redeployment to other suspected DZs or LZs.

4-33. **Special Reserves.** In addition to their ODs, units may form an *engineer reserve* of earthmoving and obstacle-creating equipment. A commander can deploy this reserve to strengthen defenses on a particularly threatened axis during the course of the battle. A unit threatened by enemy use of WMD may also form a *chemical defense reserve.*

Deception Force

4-34. When the IW plan requires the creation of nonexistent or partially existing formations, these forces will be designated *deception forces* in close-hold executive summaries of the battle plan. Wide-distribution copies of the plan will make reference to these forces according to the designation given them in the deception story. The deception force in the defense is typically given its own command structure both to replicate the organization(s) neces-

sary to the deception story and to execute the multidiscipline deception required to replicate an actual military organization. Tactical group commanders can use deception subordinate tactical group and detachment command structures to deny enemy forces information on operation plans for the defense.

Organizing Detachments for the Defense

4-35. Detachments employ a different scheme for organizing forces than the force methodology used by tactical groups. This is because the OPFOR tends to use detachments to accomplish a single tactical task rather than a multitask mission.

4-36. The standard battlefield organization of a detachment is into four parts: the *disruption element*, the *main defense element*, the *reserve element,* and the *support element.*

4-37. The *disruption element* of a detachment provides local tactical security for the detachment, prevents the enemy from influencing mission accomplishment, and prevents the enemy from conducting an effective attack by targeting key systems and sub-components of systems in the disruption zone. The *main defense element* accomplishes the detachment's tactical task. The *reserve element* provides the defender with the tactical flexibility to influence unforeseen events or to take advantage of developing opportunities. The *support element* provides combat and combat service support and C^2 for the detachment. Due to such considerations as multiple avenues of approach, a detachment may organize one or more of each of these elements in specific cases.

4-38. In certain situations, a detachment may organize one or more *specialist elements*. Specialist elements are typically formed around a unit with a specific capability such as an obstacle clearing element, reconnaissance element or deception element.

4-39. At any given time, a detachment will only be associated with a single higher command's functional force (disruption, main defense, security, counterattack, reserve, etc.). If a higher command needs to divide a detachment to accomplish other tasks, it will be re-task organized. For example, if a BTG needed one part of one of its battalions to serve as the main defense force, but needed another part to join the reserve, one of the two battalion subunits would be re-task organized.

4-40. Detachments may be assigned one of several tasks while conducting a defense:

- Defend a Simple Battle Position
- Defend a Complex Battle Position
- Act as Counterattack force
- Act as Reserve
- Act as Deception Force
- Act as Security Force
- Act as Counter-reconnaissance Detachment

PREPARING FOR THE DEFENSE

4-41. In the preparation phase, the OPFOR focuses on ways of applying all available resources and the full range of actions to conduct the defense in the strongest condition and strongest positions possible. Commanders organize their forces and the battlefield with an eye toward capitalizing on conditions created by successful defensive actions, and seizing opportunities for offensive actions wherever possible.

4-42. The defensive dispositions are based on the application of the systems warfare approach to combat, as described in Chapter 1. OPFOR defensive actions focus on attacking components or subsystems to of the enemy's combat system to disaggregate the "system of systems." By denying the enemy the synergy created by an integrated, aggregated system, vulnerabilities are created that defensive forces can exploit.

DENY ENEMY INFORMATION

4-43. Tactical commanders realize that enemy operations hinge on an appreciation of the situation. Defensive preparations will focus on destruction and deception of enemy sensors in order limit the ability of enemy forces to understand the OPFOR defensive plan. A high priority for all defensive preparations is to deny the enemy the ability to maintain reconnaissance contact on the ground. The OPFOR recognizes that, when conducting operations against an extraregional power, it will often be impossible to destroy the ability of the enemy's standoff RISTA means to observe its defensive preparations. However, the OPFOR also recognizes the reluctance of enemy military commanders to operate without human confirmation of intelligence, as well as the relative ease with which imagery and signals sensors may be deceived. OPFOR tactical commanders consider ground reconnaissance by enemy Special Operations Forces as a significant threat in the enemy RISTA suite and will focus significant effort to ensure its removal. While the OPFOR will execute missions to destroy standoff RISTA means, C^3D will be the method of choice for degrading the capability of such systems.

MAKE THOROUGH COUNTERMOBILITY AND SURVIVABILITY PREPARATIONS

4-44. The more time available, the greater the preparation of a position, zone, or AOR. This is a reflection of engineer effort and time to devote to that effort. The OPFOR employs every method to maximize the time available to prepare for the defense. This includes preparation of the State during peacetime and highly detailed plans for transition from regional to adaptive operations to take full advantage of any operational lull as the enemy builds combat power. This might involve an offense with limited objectives that transitions to the defense by design.

4-45. Tactical commanders realize that engineer works are vital to the stability of the defense. They will use engineer assets to improve the advantages of complex terrain in protecting friendly forces and exposing enemy forces to engagement. Engineer efforts can contribute to creating windows of opportunity by degrading the ability of the enemy's combat system to integrate the

effects of its subsystems. Of course, such work is not just an engineer responsibility; it is a combined arms task.

4-46. Engineer units specializing in rapid obstacle construction and minelaying form mission-specific units known as ODs. These ODs normally deploy in conjunction with reserves to block enemy penetrations or to protect the flanks of counterattack forces. In the initial stages of the defense, engineer assets concentrate on creating obstacles in the disruption zone, in gaps in the combat formation, and to the flanks, and preparing lines for counterpenetration and counterattack and routes to such lines. The obstacle plan ensures that the effort is coordinated with fires and maneuver to produce the desired effects. In conjunction with other tasks, engineers support the IW plan through activities such as constructing false defensive positions and preparing false routes. See Chapter 12 for more information on countermobility and survivability planning.

MAKE USE OF COMPLEX TERRAIN

4-47. The OPFOR will make maximum use of complex terrain in all defensive actions. Complex terrain provides cover from fires, concealment from standoff RISTA assets, and intelligence and logistics support from the population of urban areas. It plays into the strength of OPFOR resolve to win through any means and through protracted conflict if necessary.

MAKE THOROUGH LOGISTICS ARRANGEMENTS

4-48. The overwhelming ability of extraregional forces to strike exposed logistics elements makes it difficult to resupply forces. The OPFOR understands that there is as much chance of a defensive action being brought to culmination by a lack of sufficient logistics support as there is by enemy action. Careful consideration will be given to carried days of supply and advanced caches to obviate the need for easily disrupted lines of communication (LOCs).

MODIFY THE PLAN WHEN NECESSARY

4-49. The OPFOR takes into account that, while it might consider itself to be in the preparation phase for one battle, it is continuously in the execution phase. Plans are never considered final. Plans are checked throughout the course of their development to ensure they are still valid in light of battlefield events.

REHEARSE EVERYTHING POSSIBLE, IN PRIORITY

4-50. The commander establishes the priority for critical parts of the battle, and rehearses those actions with his subordinates in as realistic a manner as possible for the remainder of the preparation time. Typical actions to be rehearsed in preparation for a defense include—

- Commitment of reserve.
- Initiation of a counterattack.
- Execution of the fire support plan.

EXECUTING THE DEFENSE

4-51. Successful execution depends on forces that understand their roles in the operation or battle and can swiftly follow preparatory actions with implementation of the battle plan or rapid modifications to the plan, as the situation requires. A successful execution phase results in the culmination of the enemy's offensive action. It ideally ends with transition to the offense in order to keep the enemy under pressure and destroy him completely. During adaptive operations against superior enemy force, however, a successful defense may end in a stalemate.

4-52. A successful defense sets the military conditions for a return to the offense or a favorable political resolution of the conflict. The OPFOR may have to surrender territory to preserve forces. Territory can always be recaptured, but the destruction of OPFOR major combat formations threatens the survival of the State. Destruction of the protected force is unacceptable.

4-53. Success criteria for a tactical commander conducting an area or maneuver defense may include—

- Major combat formations remain intact.
- The enemy is forced to withdraw or, at a minimum, forego offensive operations due to losses.
- A stalemate allows operational-, theater-, and national-level assets time to conduct attacks against enemy strategic centers of gravity.

MAINTAIN CONTACT

4-54. OPFOR commanders will go to great lengths to maintain contact with key elements of the enemy force throughout the battle. This includes rapid reconstitution of reconnaissance assets and units and the use of whatever combat power is necessary to ensure success.

IMPLEMENT BATTLE DRILLS

4-55. The OPFOR derives great flexibility from battle drill. Contrary to the U.S. view that battle drill, especially at higher levels, reduces flexibility, the OPFOR uses minor, simple, and clear modifications to thoroughly understood and practiced battle drills to adapt to ever-shifting conditions. It does not write standard procedures into its combat orders and does not write new orders when a simple shift from current formations and organization will do.

4-56. Battle drills are slightly less important in defensive situations, but the standardized battle drills for reacting to all seven forms of contact (direct fire, indirect fire, visual, obstacle, NBC, EW, and air attack) will have defensive counterparts.

MODIFY THE PLAN WHEN NECESSARY

4-57. The OPFOR is sensitive to the effects of mission dynamics and realizes that the enemy's actions may well make the original mission of an OPFOR unit achievable, but completely irrelevant. As an example, a delaying force may be capable of fixing a key element of the enemy's attack because the enemy is using a small force to fix the OPFOR in one area while attacking strongly in another. In this case, the OPFOR unit in question must be ready

to transition to a new mission quickly and break contact with sufficient combat power to fix the maneuvering enemy force.

SEIZE OPPORTUNITIES

4-58. The OPFOR places maximum emphasis on decentralized execution, initiative, and adaptation. Subordinate units are expected to take advantage of fleeting opportunities so long as their actions are in concert with the purpose of the combat order or operational directive.

INTEGRATED AND DECENTRALIZED DEFENSES

4-59. The OPFOR recognizes two general forms of defense: integrated and decentralized. The distinction between the two rests on the ability of the OPFOR to operate freely in the battlespace with full combined arms synchronization and adequate C^2 and logistics support.

INTEGRATED DEFENSE

4-60. A tactical defensive action is *integrated* if the OPFOR has the ability to achieve full combined arms synchronization through all levels of command and throughout the battlespace. This requires a modernized C^2 system, a robust logistics capability, and the ability to operate relatively free of enemy influence in the support zone and battle zones prior to the commencement of full-fledged enemy offensive action. The OPFOR force structure possesses the first two of these characteristics, at least in relation to regional opponents. Thus, during regional operations and perhaps transition operations, it would often be operating in an integrated fashion unless the enemy is able to achieve a sufficient level of overmatch in RISTA and standoff attack capability to deny the OPFOR freedom of action.

4-61. Integrated defenses are able to—

- Act, at least partially, without the requirement for windows of opportunity.
- Maximize the effects of destructive fire and maneuver.
- Achieve tactical decision through primarily military means.

DECENTRALIZED DEFENSE

4-62. A defensive action is *decentralized* if the OPFOR's C^2 and/or logistics capability has been significantly degraded or it does not have the ability to operate freely in the battlespace. This typically occurs when the enemy enjoys significant technological overmatch, particularly in technical RISTA means and standoff precision attack. Decentralized defenses do not achieve decision in and of themselves. Rather, they focus on preserving combat power while buying time for the execution of strategic operations (see Chapter 1).

4-63. In some cases, a tactical commander may chose to adopt a decentralized defense to preserve his C^2 and logistics, understanding that his ability to synchronize operations will be degraded. Tactical commanders are constantly estimating the situation to determine risk versus reward for active measures. A decentralized defense relies on initiative of subordinate commanders and the

discrete targeting of elements of the enemy's combat system to reduce combat capability and expose enemy forces to destruction.

4-64. To be successful, decentralized defenses must—

- Operate primarily in complex terrain.
- Maximize the effects of countermobility and survivability measures.
- Rely heavily on IW.
- Make the best possible use of reconnaissance fires (see Chapter 8).

TYPES OF DEFENSIVE ACTION

4-65. The types of defensive action in OPFOR doctrine are both tactical methods and guides to the design of operational courses of action. The two basic types are maneuver and area defense. A tactical commander may use both forms of defense simultaneously across his AOR. A defensive battle plan may include subordinate units that are executing various combinations of maneuver and area defenses, along with some offensive courses of action, within the overall defensive mission framework.

MANEUVER DEFENSE

4-66. In situations where the OPFOR is not completely overmatched, it may conduct a tactical *maneuver defense*. This type of defense is designed to achieve tactical decision by skillfully using fires and maneuver to destroy key elements of the enemy's combat system and deny enemy forces their objective, while preserving the friendly force. Maneuver defenses cause the enemy to continually lose effectiveness until he can no longer achieve his objectives. They can also economize force in less important areas while the OPFOR moves additional forces onto the most threatened axes.

4-67. Maneuver defenses are almost always integrated defenses. Decentralized maneuver defenses typically occur as part of transition operations. As an extraregional enemy builds combat power to overmatch levels, but before the OPFOR is completely overmatched, maneuver defense can buy time for other forces to move into sanctuary areas and prepare for adaptive operations.

4-68. Even within a maneuver defense, the tactical group commander may use area defense on some enemy attack axes, especially on those where he can least afford to lose ground. Conversely, he may employ maneuver defense techniques to conduct actions in the disruption zone if it enhances the attack on the enemy's combat system and an area defense in the battle zone.

Method

4-69. Maneuver defense inflicts losses on the enemy, gains time, and protects friendly forces. It allows the defender to choose the place and time for engagements. Each portion of a maneuver defense allows a continuing attack on the enemy's combat system. As the system begins to disaggregate, more elements are vulnerable to destruction. The maneuver defense accomplishes this through a succession of defensive battles in conjunction with short, violent counterattacks and fires. It allows abandoning some areas of terrain when responding to an unexpected enemy attack or when conducting the battle in the disruption zone. In the course of a maneuver defense, the tactical com-

mander tries to force the enemy into a situation that exposes enemy formations to destruction. See Figures 4-4 and 4-5 for examples of maneuver defense.

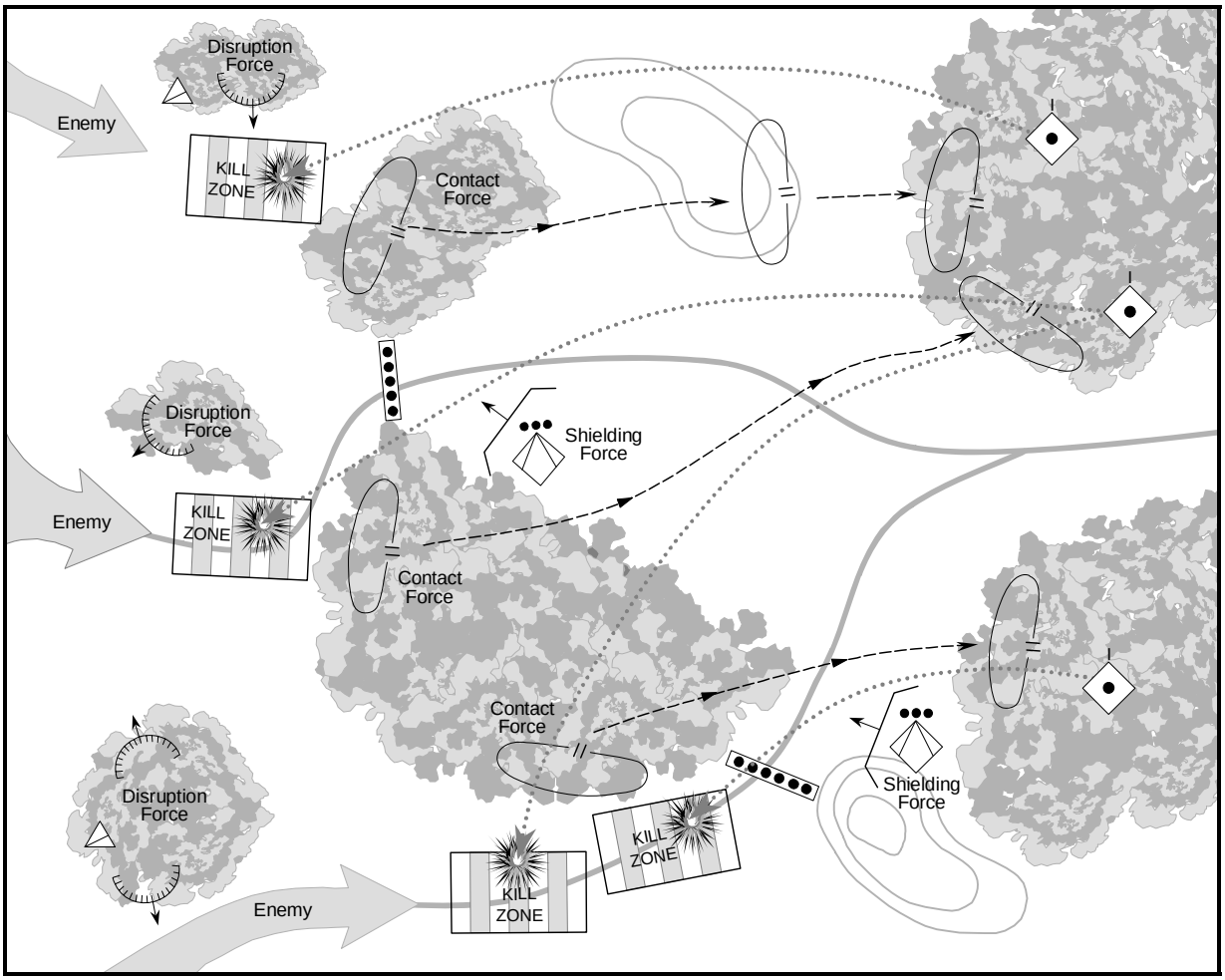


Figure 4-1. Maneuver Defense Example 1

4-70. A maneuver defense trades terrain for the opportunity to destroy portions of the enemy formation and render the enemy's combat system ineffective. The OPFOR might use a maneuver defense when—

- It can afford to surrender territory.
- It possesses a mobility advantage over enemy forces.
- Conditions are suitable for canalizing the enemy into areas where the OPFOR can destroy him by fire or deliver decisive counterattacks.

4-71. Compared to area defense, the maneuver defense involves a higher degree of risk for the OPFOR, because it does not rely heavily on the inherent advantages of complex battle positions. Units conducting a maneuver defense typically place smaller elements forward in defensive positions and retain much larger reserves than in an area defense.

Defensive Lines

4-72. The basis of maneuver defense is for units to conduct maneuver from position to position on a succession of *defensive lines*. In this case, the "line" defended on is not a continuous line of defenses, but rather a notional line on which one or more units have orders to defend for a certain time at a certain depth within a unit's AOR. The OPFOR can accept large intervals between defensive positions on such a line. Part of the line may consist of natural or manmade obstacles or of deception defensive positions.

4-73. These "lines" are not necessarily linear, in the sense of forming a straight line. Nor are they necessarily at regular intervals from one another. A particular unit's position on a subsequent line may not be directly behind its previous position. In the spaces between the lines, the defenders can organize reconnaissance fire, raids, and counterattacks. Thus, it is difficult for the enemy to predict where he will encounter resistance.

4-74. The number of lines and duration of defense on each line depend on the nature of the enemy's actions, the terrain, and the condition of the defending units. Lines are selected based on the availability of natural obstacles and shielding terrain, with consideration of being able to leave the lines without being observed.

Defensive Maneuver

4-75. *Defensive maneuver* consists of movement by bounds and the maintenance of continuous fires on enemy forces. A disruption force and/or a main defense force (or part of it) can perform defensive maneuver. In either case, the force must divide its combat power into two smaller elements: a contact force and a shielding force. The *contact force* is the element occupying the forward-most defensive line at any point in time. The *shielding force* is the element occupying the next line immediately to the rear.

4-76. At each line, the contact force ideally forces the enemy to deploy his maneuver units and perhaps begin his artillery preparation for the attack. Then, before the contact force becomes decisively engaged, it maneuvers to its next preplanned line, behind the line occupied by the shielding force. While the original contact force is moving, the shielding force is able to keep the enemy under continuous attack. When the original contact force passes to the rear of the original shielding force, the latter force becomes the new contact force. When the original contact force occupies its next line, it becomes the shielding force for the new contact force. In this manner, units continue to move by bounds to successive lines, preserving their own forces while delaying and destroying the enemy.

4-77. Subsequent lines are far enough apart to permit defensive maneuver by friendly units. The distance should also preclude the enemy from engaging one line and then the other without displacing his indirect fire weapons. This means that the enemy, having seized one line, must change the majority of his firing positions and organize his attack all over again in order to get to the next line. However, the lines are close enough to allow the defending units to maintain coordinated, continuous attack on the enemy while moving from one to the other.

4-78. OPFOR commanders may require a unit holding a line to continue defending, even if this means the unit becomes decisively engaged or enveloped. This may be necessary in order to allow time for the construction of defenses to the rear of the line this unit is defending. This may be the case when a unit is conducting maneuver defense in the disruption zone while the main defense force is preparing for an area defense in the battle zone. At some point, a unit conducting maneuver defense as part of the main defense force may be ordered to continue to defend on a line, if conditions are favorable for defeating the enemy or repelling the attack at that line.

4-79. The example in Figure 4-2 shows that the shielding force does not necessarily have to remain in place to do its job. It can go out to meet the enemy (perhaps in an ambush) and then fall back into another battle position. This type of maneuver can force the enemy into a nonlinear fight.

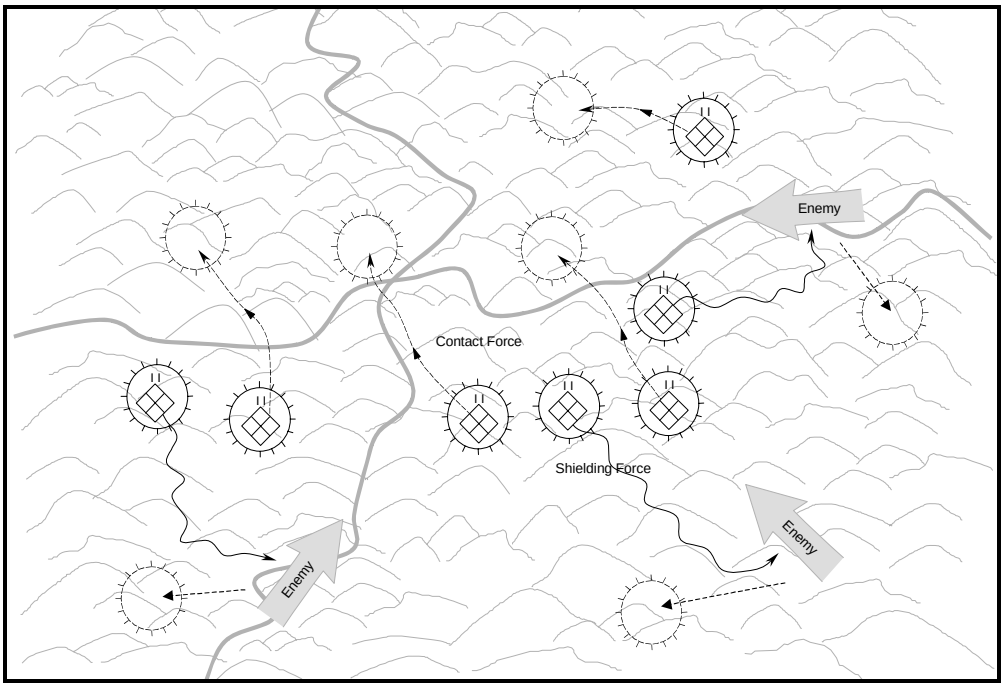


Figure 4-2. Maneuver Defense Example 2

Disruption Force

4-80. The disruption force initiates the attack on the enemy's combat system by targeting and destroying subsystems that are critical to the enemy. If successful, the disruption force can cause culmination of the enemy attack before the enemy enters the battle zone. In the worst case, the enemy would enter the battle zone unable to benefit from an integrated combat system and vulnerable to defeat by the main defense force.

4-81. In a maneuver defense, the disruption force often occupies battle positions in the disruption zone and seeks to force the enemy to fight on disadvantageous ground and at a tempo of the OPFOR's choosing. A maneuver defense disruption force also can set the conditions for a strike (see Chapter 3).

The disruption force mission includes disaggregating the enemy attack and, if possible, destroying the enemy force.

4-82. Maneuver units conduct the defense from successive battle positions. Intervals between these positions provide space for deployment of mobile attack forces, precision fire systems, and reserves.

4-83. The distance between successive positions in the disruption zone is such that the enemy is forced to displace the majority of his supporting weapons to continue the attack on the subsequent positions. This aids the force in breaking contact and permits time to occupy subsequent positions. Long-range fires, ODs, and ambushes to delay pursuing enemy units can assist units in breaking contact and withdrawing.

4-84. If the disruption force has not succeeded in destroying or halting the attacking enemy, but is not under too great a pressure from a pursuing enemy, it may occupy prepared battle positions in the battle zone and assist in the remainder of the defensive mission as part of the main defense force. A disruption force may have taken losses and might not be at full capability; a heavily damaged disruption force may pass into hide positions. In that case, main defense or reserve forces occupy positions to cover the disruption force's disengagement.

Main Defense Force

4-85. The mission of the main defense force is complete the defeat of the enemy by attack of those portions of the force exposed by actions of the disruption force and by enemy reactions to contact. This may involve resubordination of units and in some cases attacks by fire or maneuver forces across unit limits of responsibility.

4-86. The main defense force in a maneuver defense divides its combat power into contact and shielding forces. These forces move in bounds to successive defensive lines. If maneuver defense in the disruption zone has provided sufficient time, the defensive positions on these lines may take on more of the characteristics of prepared battle positions.

4-87. The basic elements of the battle zone are battle positions, firing lines, and repositioning routes. Battle positions use the terrain to protect forces while providing advantage in engagements.

4-88. The commander may order a particular unit to stand and fight on a line long enough to repel an attack. He may order this if circumstances are favorable for defeating the enemy at that line. The unit also might have to remain on that line because the next line is still being prepared or a vertical envelopment threatens the next line or the route to it.

Reserves

4-89. A unit in the maneuver defense can employ a number of reserve forces of varying strengths. The maneuver reserve is a force strong enough to defeat the enemy's exploiting force. The commander positions this reserve in an assembly area using C^3D to protect it from observation and attack. From this position, it can transition to a situational defense or conduct a counterattack. The reserve must have sufficient air defense coverage and mobility assets to allow maneuver. If the commander does not commit the reserve from its

original assembly area, it maneuvers to another assembly area, possibly on a different axis, where it prepares for other contingencies. (See the Reserves section above for discussion of other types of reserves.)

AREA DEFENSE

4-90. In situations where the OPFOR must deny key areas (or the access to them) or where it is overmatched, it may conduct a tactical *area defense*. Area defense is designed to achieve a decision in one of two ways:

- By forcing the enemy's offensive operations to culminate before he can achieve his objectives.
- By denying the enemy his objectives while preserving combat power until decision can be achieved through strategic operations or operational mission accomplishment.

4-91. The area defense does not surrender the initiative to the attacking forces, but takes action to create windows of opportunity that permit forces to attack key components of the enemy system and cause unacceptable casualties. Area defense can set the conditions for destroying a key enemy force in a strike. Extended windows of opportunity permit the action of maneuver forces to prevent destruction of key positions and facilitate transition to a larger offensive action. IW is particularly important to the execution of the area defense in adaptive and transition operations. Deception is critical to the creation of complex battle positions, and effective perception management is vital to the creation of the windows of opportunity needed to execute maneuver and fires.

Method

4-92. Area defense inflicts losses on the enemy, retains ground, and protects friendly forces. It does so by occupying complex battle positions and dominating the surrounding battlespace with reconnaissance fire (see Chapter 9). These fires attack designated elements of the enemy's combat system to destroy components and subsystems that create an advantage for the enemy. The intent is to begin disaggregating the enemy combat system in the disruption zone. When enemy forces enter the battle zone, they should be incapable of synchronizing combat operations. See Figures 4-6 through 4-8 for examples of area defense.

4-93. Area defense creates windows of opportunity in which to conduct spoiling attacks or counterattacks and destroy key enemy systems. In the course of an area defense, the tactical commander uses terrain that exposes the enemy to continuing attack.

4-94. An area defense trades time for the opportunity to attack enemy forces when and where they are vulnerable. The OPFOR might use an area defense when—

- It is conducting access-control operations.
- Enemy forces enjoy a significant RISTA and precision standoff advantage.
- Conditions are suitable for canalizing the enemy into areas where the OPFOR can destroy him by fire and/or maneuver.

4-95. A skillfully conducted area defense can allow a significantly weaker force to defeat a stronger enemy force. However, the area defense relies to a significant degree on the availability of complex terrain and decentralized logistics. Units conducting an area defense typically place small ambush and raiding forces in complex terrain throughout the AOR to force the enemy into continuous operations and steadily drain his combat power and resolve.

4-96. Within an overall area defense, the OPFOR might use maneuver defense on some portions of the AOR, especially on those where it can afford to lose ground. This occurs most often during transition operations as forces initially occupy the complex terrain positions necessary for the execution of the area defense.

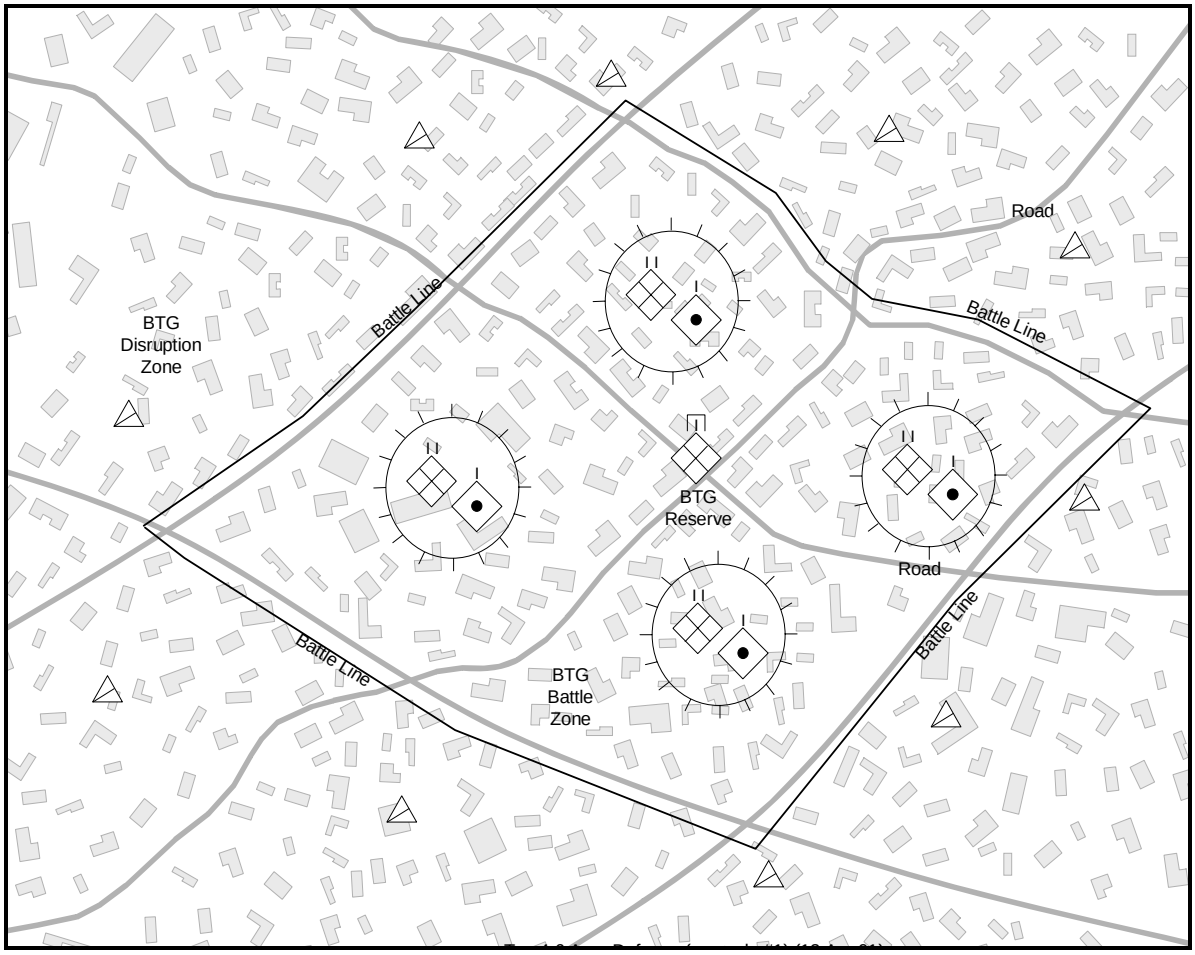


Figure 4-3. Area Defense Example 1

Disruption Force

4-97. In an area defense, the disruption zone is that battlespace surrounding its battle zone(s) where the OPFOR may cause continuing harm to the enemy without significantly exposing itself. For example, counterreconnaissance activity may draw the attention of enemy forces and cause them to enter the

kill zone of a sophisticated ambush using long-range precision fires. RISTA assets and counterreconnaissance forces occupy the disruption zone, along with affiliated forces. Paramilitary forces may assist other disruption force elements by providing force protection, controlling the civilian population, and executing deception operations as directed.

4-98. The disruption zone of an area defense is designed to be an area of uninterrupted battle. OPFOR RISTA elements contact with enemy forces, and other parts of the disruption force attack them incessantly with ambush and precision fires.

4-99. The disruption force has many missions. The most important mission at the tactical level is destruction of appropriate elements of the enemy's combat system, to begin its disaggregation. The following list provides examples of other tasks that the disruption force may perform:

- Detect the enemy's main groupings.
- Force the enemy to reveal his intentions.
- Deceive the enemy as to the location and configuration of battle positions.
- Delay the enemy, allowing time for preparation of defenses and counterattacks.
- Force the enemy into premature deployment.
- Attack lucrative targets (key systems, vulnerable troops).
- Canalize the enemy into situations unfavorable to him.

The disruption force mission also includes maintaining contact with the enemy and setting the conditions for successful reconnaissance fire and strikes.

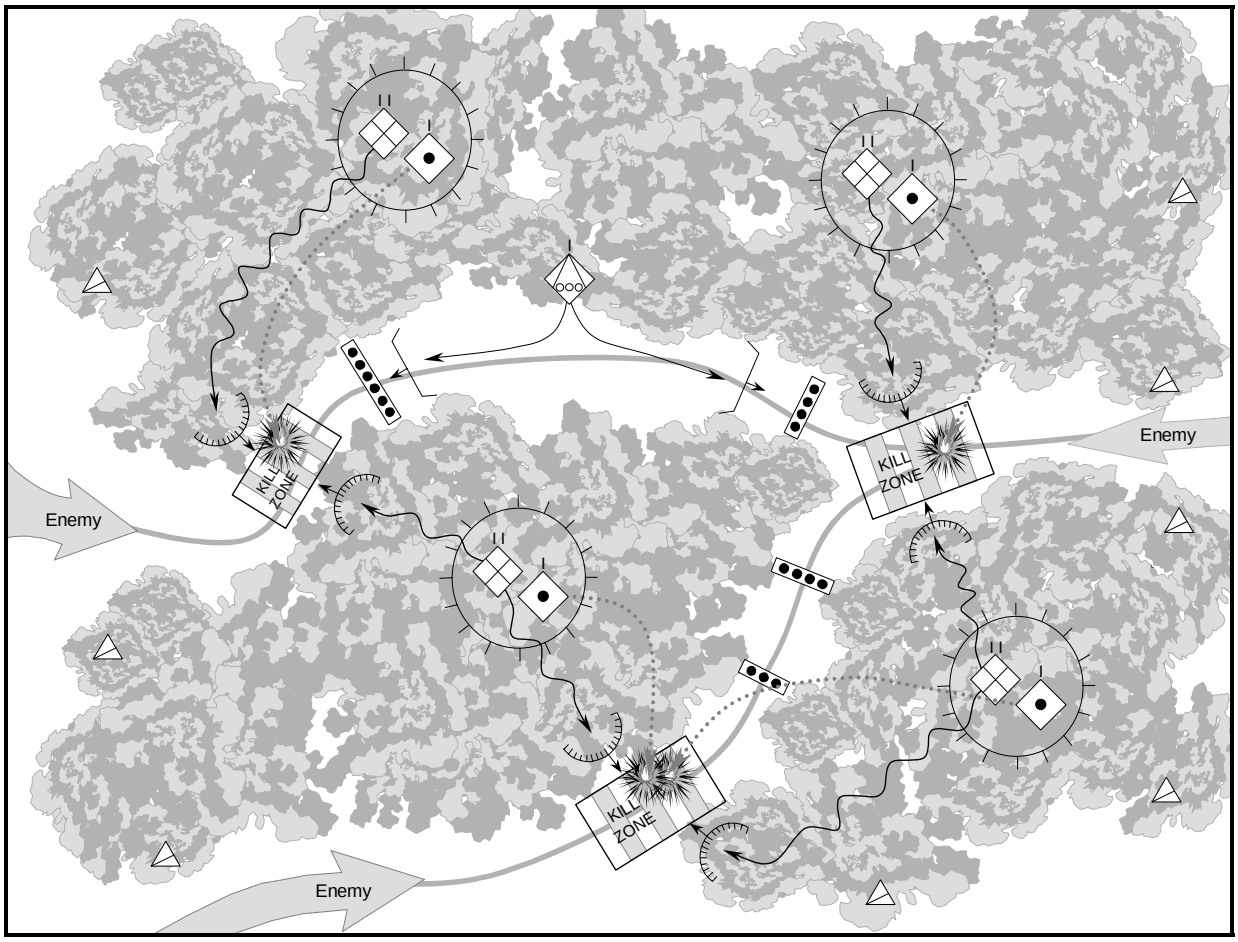


Figure 4-4. Area Defense Example 2

4-100. In an area defense, the disruption force often occupies and operates out of battle positions in the disruption zone and seeks to inflict maximum harm on selected enemy units and destroy key enemy systems operating throughout the AOR. An area defense disruption force permits the enemy no safe haven and continues to inflict damage at all hours and in all weather conditions.

4-101. Disruption force units break contact after conducting ambushes and return to battle positions for refit and resupply. Long-range fires, ODs, and ambushes to delay pursuing enemy units can assist units in breaking contact and withdrawing.

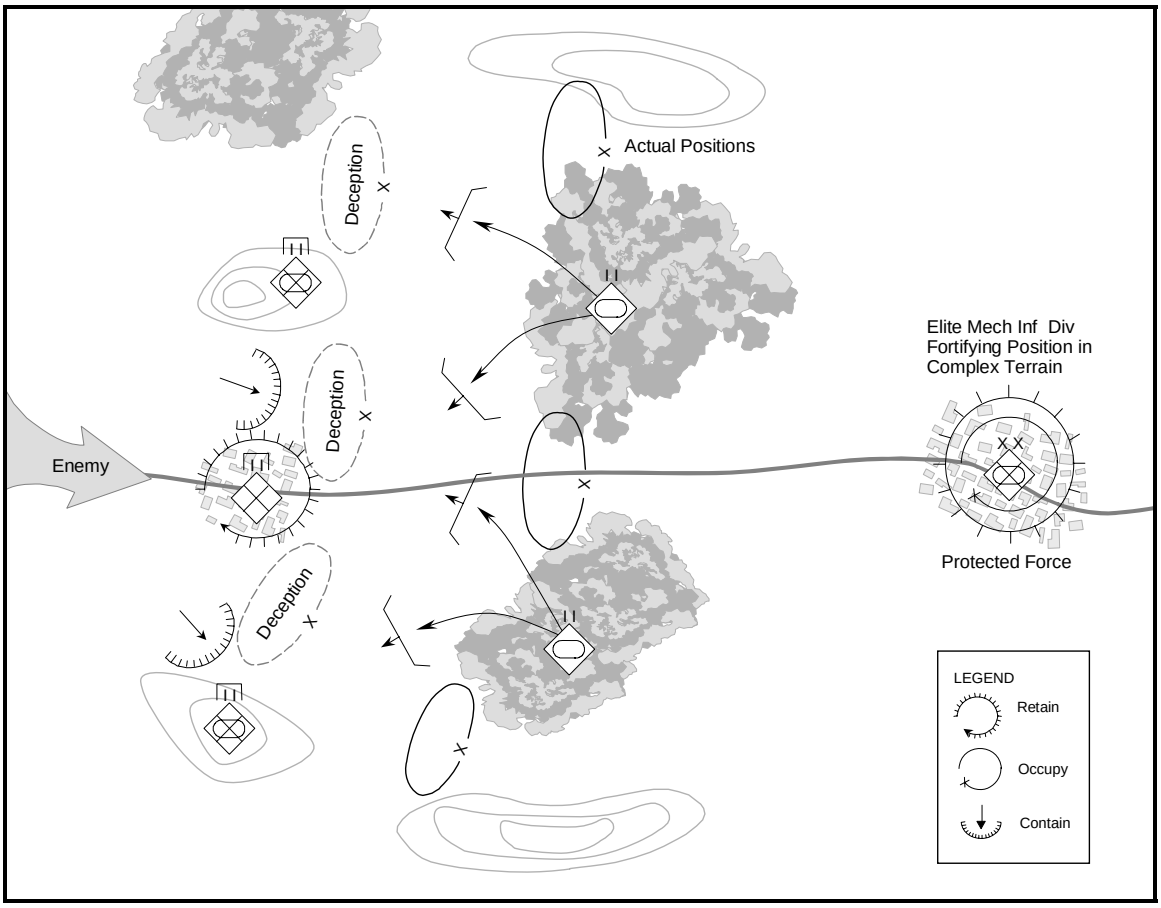


Figure 4-5. Area Defense Example 3

4-102. Even within the overall context of an operational area defense, the disruption force might employ a maneuver defense. In this case, the distance between positions in the disruption zone is such that the enemy will be forced to displace the majority of his supporting weapons to continue the attack on the subsequent positions. This aids the force in breaking contact and permits time to occupy subsequent positions.

4-103. The disruption zone will often include a significant obstacle effort. Engineer effort in the disruption zone also provides mobility support to disruption force elements requiring maneuver to conduct attacks or ambushes. Nontraditional obstacles such as booby traps and IEDs take on greater importance in an area defense during adaptive or transition operations.

4-104. Within the overall structure of the area defense, disruption force elements seek to conduct highly damaging local attacks. Units selected for missions in the disruption zone deploy on likely enemy avenues of approach. They choose the best terrain to inflict maximum damage on the attacking enemy and use obstacles and barriers extensively. They defend aggressively by fire and maneuver. When enemy pressure grows too strong, these forces can conduct a maneuver defense, withdrawing from one position to another in order to avoid envelopment or decisive engagement.

4-105. Since a part of the disruption force mission to attack the enemy's combat system, typical targets for attack by forces in the disruption zone are—

- C^2 systems.
- RISTA assets.
- Precision fire systems.
- Aviation assets in the air and on the ground—at attack helicopter forward arming and refueling points (FARPs) and airfields..
- Logistics support areas.
- LOCs.
- Mobility and countermobility assets.
- Casualty evacuation routes and means.

4-106. In some cases, the disruption force can have a single mission of detecting and destroying a particular set of enemy capabilities. This does not mean that no other targets will be engaged; it means that, given a choice between targets, the disruption force will engage the targets that are the most damaging to the enemy combat system.

Main Defense Force

4-107. The units of the main defense force conducting an area defense occupy complex battle positions within the battle zone. The complex terrain is reinforced by engineer effort and C^3D measures. These complex battle positions are designed to prevent enemy forces from being able to employ precision standoff attack means and force the enemy to choose costly methods in order to affect forces in those positions. They are also arranged in such a manner as to deny the enemy the ability to operate in covered and concealed areas himself.

4-108. The main defense force in an area defense conducts attacks and employs reconnaissance fire against enemy forces in the disruption zone. Disruption zone forces may also use the complex battle positions occupied by the main defense force as refit and rearm points.

Reserves

4-109. A unit in the area defense can employ a number of reserve forces of varying strengths. In addition to its other functions, the maneuver reserve in an area defense may have the mission of winning time for the preparation of positions. This reserve is a unit strong enough to defeat the enemy's exploitation force in a maneuver battle during a strike. The unit positions its reserve in an assembly area within one or more of the battle positions, based on the commander's concept for the battle. (See the Reserves section above for discussion of other types of reserves.)

TACTICAL DEFENSIVE ACTIONS

4-110. OPFOR commanders select the defensive action they deem, with the assistance of their staffs, to be best suited to accomplishing their mission. OPFOR battalions and below are typically called upon to execute one combat

mission at a time, so it will be rare that such a unit will be employing more than one of these methods simultaneously.

4-111. The types of defensive action in OPFOR doctrine are both tactical methods and guides to the design of operational courses of action. The two basic types are maneuver and area defense. A tactical commander may use both forms of defense simultaneously across his AOR, however OPFOR units at the battalion level and below generally participate as a part of a maneuver defense as opposed to conducting one independently. A defensive battle plan may include subordinate units that are executing various combinations of maneuver and area defenses, along with some offensive courses of action, within the overall defensive mission framework.

4-112. OPFOR battalions and their subordinate units normally fight both area and maneuver defense actions employing simple battle positions. Alternatively, an area defense may employ complex battle positions.

DEFENSE OF A SIMPLE BATTLE POSITION (SBP)

4-113. A simple battle position is a defensive location oriented on the most likely enemy avenue of approach or objective area. Simple battle positions are not necessarily tied to restrictive terrain but will employ as much engineer effort as possible to restrict enemy maneuver. Defenders of simple battle positions will take all actions necessary to prevent enemy penetration of their position, or defeat a penetration once it has occurred. Unlike a complex battle position, which is typically independent, a SBP may form a larger integrated defense with other SBPs.

ORGANIZING FORCES TO DEFEND A SIMPLE BATTLE POSITION

4-114. **Disruption element** – SBP forces assigned to the disruption element have the mission of defeating enemy reconnaissance efforts, determining the location, disposition, and composition of attacking forces, and in some cases they will also target designated subsystems of the attacking enemy's combat system. To accomplish these tasks, the disruption element may form Combat Security Outposts (CSOPs) and ambush teams.

4-115. CSOPs prevent enemy reconnaissance or small groups from penetrating friendly positions and force the enemy to prematurely deploy and lose his momentum in the attack. CSOPs are generally composed of task-organized platoon or squad-size forces. The platoon or squad(s) forming the CSOP is generally drawn from the battalion reserve or second echelon, although companies may also form their own CSOPs. CSOPs are positioned forward of the battle zone on key terrain or along key avenues of approach. They typically will not be positioned directly astride avenues of approach into kill zones, but may cover them with fire. If decisively overmatched by enemy combat power, CSOPs may withdraw to the battle zone. An OPFOR battalion may employ more than one CSOP. During the counter-reconnaissance battle, other forces may augment CSOPs, covering those avenues of approach that the CSOPs do not cover. CSOPs are typically assigned one or more of the following tactical tasks:

- Ambush
- Attack by Fire

- Delay
- Disrupt
- Fix

4-116. Ambush – A CSOP with this task generally will avoid contact with superior enemy forces and only engage key enemy targets. When assigning this task, the OPFOR commander must also describe desired effects on the enemy (destroy, fix, suppress, etc.)

4-117. Attack by fire – A CSOP with this task is normally attempting to shape the battlefield in some fashion, either by turning an attacking enemy force into a kill zone or by denying the enemy a key piece of terrain. A CSOP with this task may also be required to target a key element of the enemy force.

4-118. Delay – A CSOP with this task will attempt to buy time for the OPFOR to accomplish some other task such as defensive preparations, launch a counter-attack, complete a withdrawal, etc. Normally the CSOP will withdraw (remaining in the disruption zone, or moving to the battle or support zones) after engaging for a set amount of time.

4-119. Disrupt – A CSOP with this task will attempt to weaken an enemy attack by using fires to cause premature commitment of the enemy, break apart his formation, and desynchronize his plan.

4-120. Fix – A CSOP with this task will use fires to prevent a key element of the enemy force from moving from a specific place or halt them for a specific amount of time.

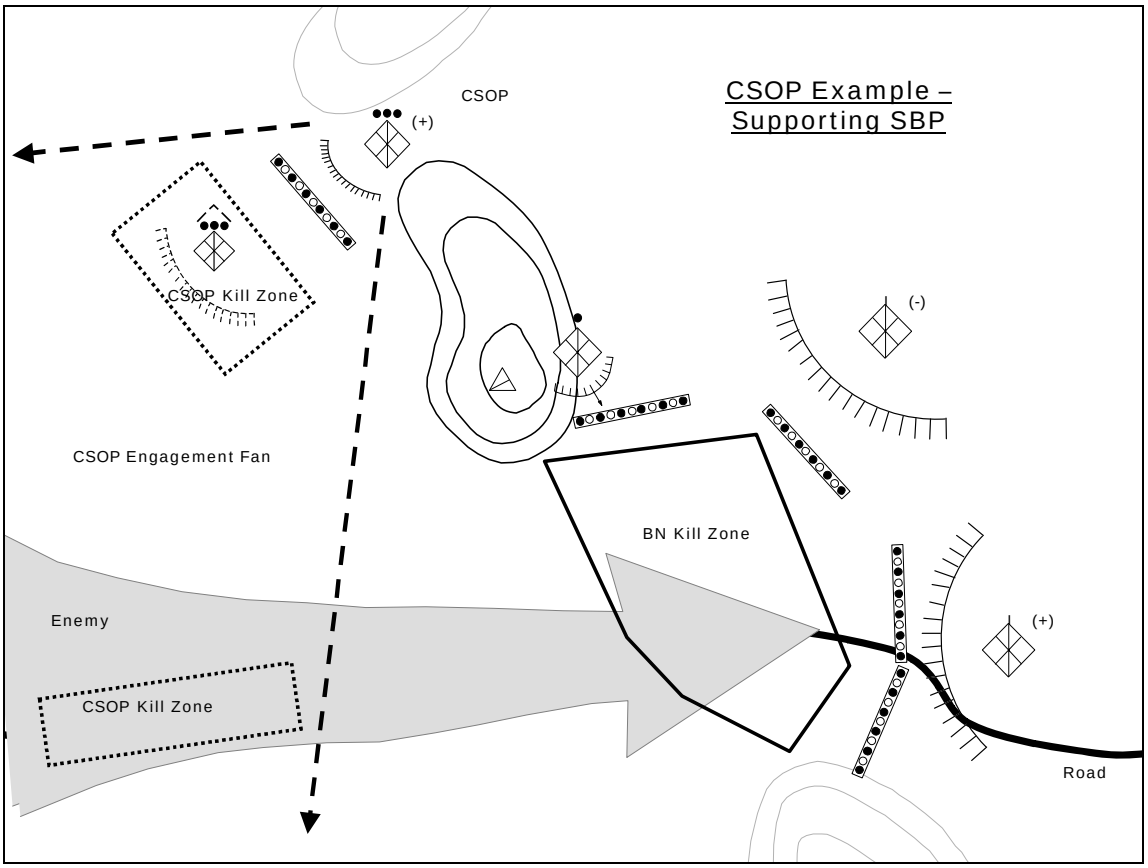


Fig. 4-6 Combat Security Outpost Example

4-121. Ambush teams (independent from CSOPs) remain concealed forward of the battle zone, and may allow some enemy forces to bypass their position. Once they identify key enemy targets, they will engage them by employing flanking or surprise close range fire.

4-122. **Main Defense Element -** The main defense element of a SBP is responsible for defeating an attacking force, and for maneuvering to defeat the penetration or seizure of other SBPs.

4-123. **Reserve Element** – The reserve element of a SBP exists to provide the OPFOR commander with tactical flexibility. During the counter-reconnaissance battle the reserve may augment forces in the disruption zone, in order to provide additional security to the main defense element. During this time, the reserve element will also rehearse potential counter-attack routes, although to avoid detection it will rarely do so en masse. Once a significant attacking force is detected, the reserve element will withdraw to a covered and concealed position, conduct resupply, and prepare for additional tasks. Some typical additional tasks given to the reserve may include-

- Conducting a counter-attack.
- Conducting counter-penetration (blocking or destroying enemy

penetration of the SBP).

- Conducting anti-landing operations.
- Assisting engaged forces in breaking contact.
- Acting as a deception element.

4-124. **Support Elements -** The support element of a SBP has the mission of providing one or more of the following to the defending force:

- CSS
- C2
- Supporting direct fire (HMG, ATGM, recoilless rifle, AGL, etc.)
- Supporting indirect fire (mortar, artillery, etc.)
- Supporting non-lethal fires (Jamming, PSYOPS broadcasts, etc.)
- Engineer Support

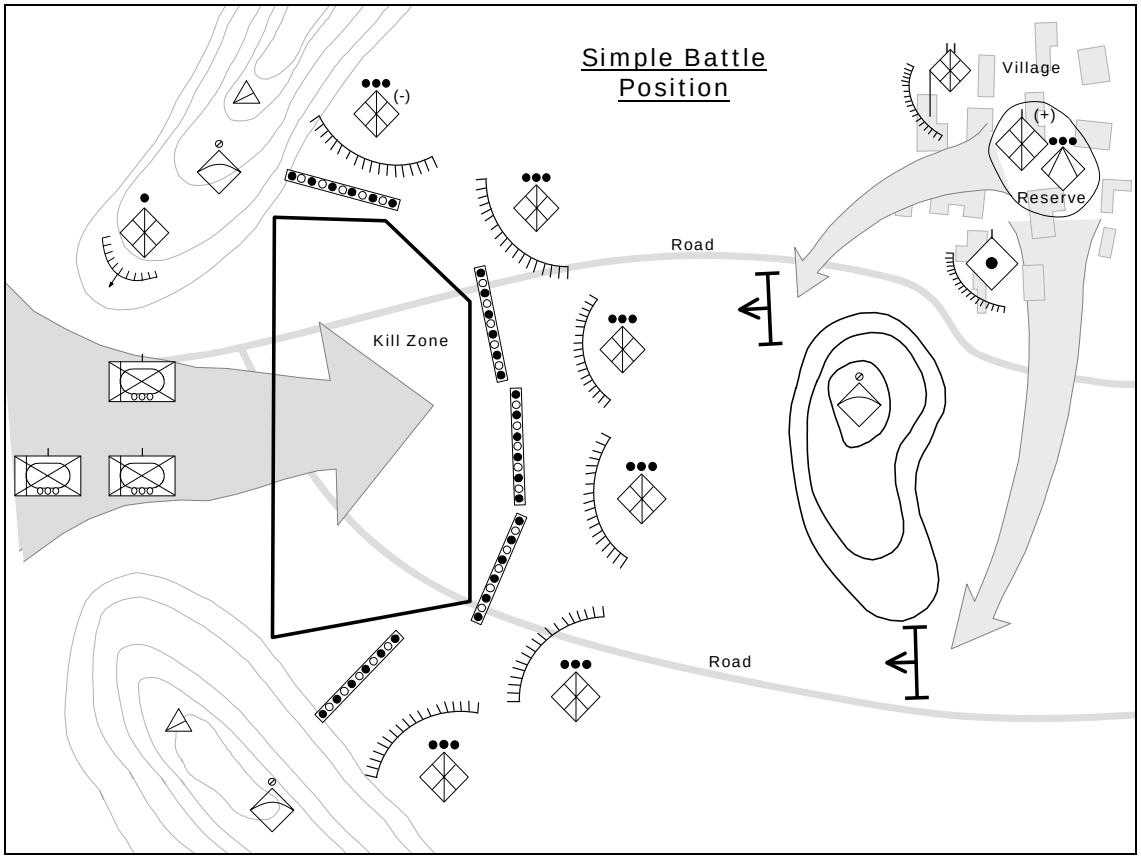


Figure 4-7 CDET in Simple Battle Position Example 1

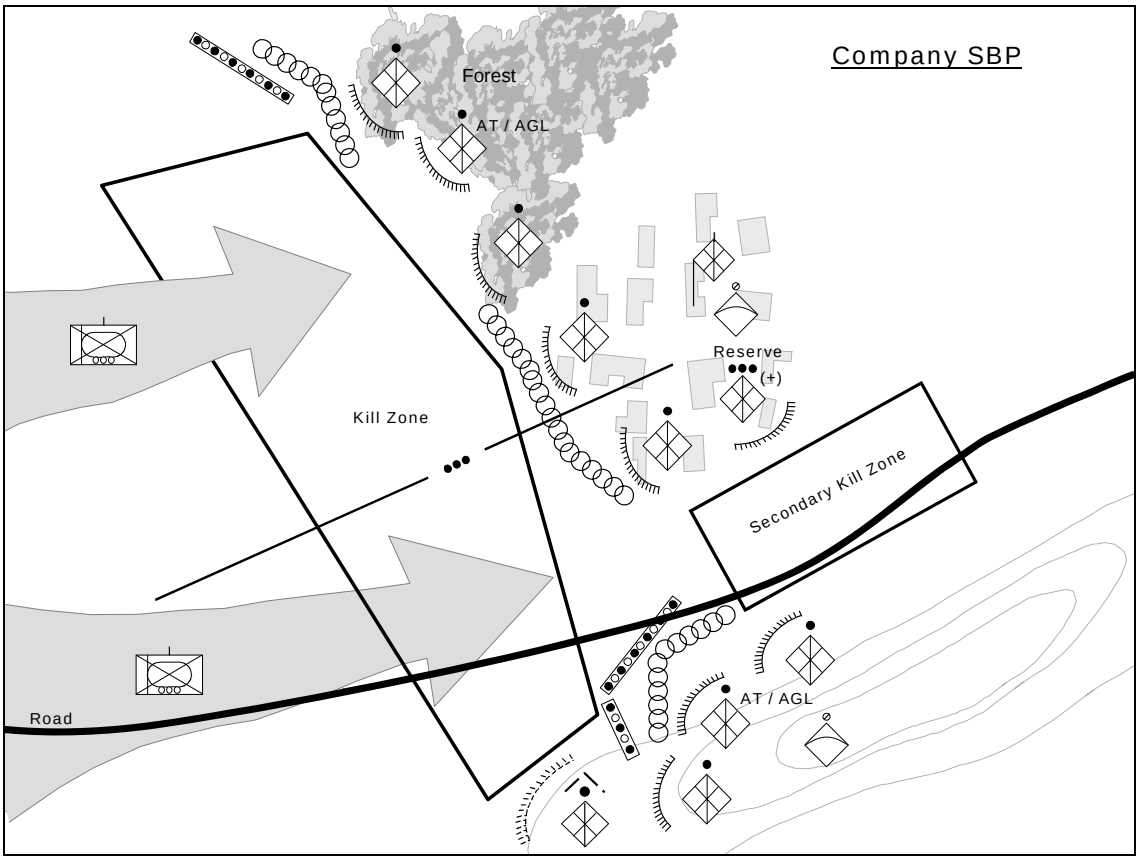


Figure 4-8 CDET in Simple Battle Position Example 2

ORGANIZING THE BATTLEFIELD FOR A SBP

4-125. **Disruption Zone**– This is the area forward of the battle zone where the defenders will seek to defeat enemy reconnaissance efforts, detect attacking forces, disrupt and delay an attackers approach, and destroy key attacking elements prior to engagement in the battle zone.

4-126. **Battle Zone** – This is the area where the defending commander commits the preponderance of his force to the task of defeating attacking enemy forces. Generally, a SBP will have its battle zone fires integrated with any adjacent SBPs. Fires will orient to form kill zones where the OPFOR plans to destroy key enemy targets. When possible, kill zones will be placed on the reverse slope of intervisibility lines within the battle zone.

4-127. Reverse Slope Defense – A reverse slope defense is positioned behind an intervisibility line so that is masked from enemy observation and direct fire. The defense is based upon employing the intervisibility line to protect friendly forces and isolate portions of the attacking force as they cross the crest. Although the OPFOR may not occupy the crest in strength, it will control it by fire. OPFOR commanders prefer a reverse slope defensive position because it confers the following advantages:

- It hinders or prevents enemy observation of the defensive position.
- Attacking forces are not able to receive direct fire support from follow-on forces.
- It can negate an enemy stand-off fire advantage
- Attacking enemy forces are silhouetted while crossing the crest of the intervisibility line.
- Engineers can conduct their work out of direct fire and observation from the enemy.

4-128. In some cases, the adoption of a reverse slope defense can prevent the defender's weapon systems from exploiting their maximum range. However, skilful OPFOR commanders will select defensive terrain that allows them to maximize their weapons stand-off range. They do so by emplacing their systems at their maximum effective range behind the crest of the intervisibility line that supports their kill zone - this may mean placing a weapon system on the counterslope behind the terrain forming the intervisibility line.

4-129. Maintaining observation of the enemy while on the forward slope of an intervisibility line can be difficult. To alleviate this disadvantage, OPFOR commanders will employ reconnaissance assets to observe forward of the reverse slope defensive position.

4-130. The OPFOR commander will seek a defensive position behind a terrain feature(s) that in addition to providing an intervisibility line, canalizes attackers into narrow attack frontages which lead into the kill zone.

4-131. Fire Planning – Fire is the basic means of destroying the enemy in the defense. To perform this task, the OPFOR will employ lethal and non-lethal weaponry in a unified manner, often directed into a kill zone. The normal basis of a battalion's system of fire is the AT fire of its companies and attachments, and supporting artillery. In areas that are not accessible to vehicles, the basis of fire will primarily be machinegun, grenade launcher, mortar and artillery fires. In this case, where possible AT systems will be employed in an anti-personnel role.

4-132. During the OPFOR fire planning process the commander and staff delineate key enemy targets. The planners then appoint reconnaissance elements to identify targets and weapons systems to engage them. The OPFOR battalion's fire planning includes sectors of concentrated fire and barrier fire lines of artillery and mortars in the disruption zone, on flanks, and throughout the depth of the battle zone. Subordinate units and weapons are expected to coordinate with each other as well as flanks units in the coverage of kill zones.

4-133. Kill zones will be covered by frontal and flanking / cross fires of the OPFOR battalion's and other supporting weapons systems. The OPFOR will employ obstacles and fire concentrations to halt and hold the enemy within kill zones. Terrain considerations and available weaponry will dictate the size of the kill zone and the width of the OPFOR defense.

4-134. Support zone – The support zone may contain C2, CSS, indirect, and direct support fire assets, the reserve, as well as other supporting assets. The support zone will normally locate itself behind the SBP. Support zones are not typically found below the company level.

EXECUTING A SBP

4-135. SBP defenders will conduct aggressive counter-reconnaissance throughout their occupation of the battle position. Such counter-reconnaissance will occur primarily in the disruption zone, but measures will also be taken in the battle and support zones. OPFOR electronic warfare assets will attempt to detect the presence and location of enemy recon elements. The reserve element may act as a quick-response force to destroy any enemy reconnaissance assets discovered in the battle or support zones. Once a significant attacking force is detected, the OPFOR will employ fires (direct / indirect) to delay and attrit attackers in the disruption zone.

4-136. Defenders in the battle zone will attempt to defeat attacking forces. Should the enemy penetrate the main defenses or capture a position, defenders will take measures to defeat the penetration or recapture the position, to include the commitment of reserves and repositioning forces from other areas within the SBP.

4-137. Defenders in the support zone will provide support to defenders in the disruption and battle zones as required. In the event of the defeat or penetration of the SBP, they will maneuver as needed to avoid destruction or to support counterattacks.

4-138. Deception – To keep the enemy from discovering the nature of the OPFOR defenses and to draw PGM fire away from actual units, defenders will establish dummy firing positions. In addition to enhancing force protection, the OPFOR will employ deception positions as an economy of force measure to portray strength. These measures will include the creation of false entrenchments, heat signatures, and dummy vehicles.

Command and Control of a SBP

4-139. To maintain security during defensive preparations, defenders will make all possible use of secure communications, such as couriers and wire. However, once the main battle is joined, communications measures will tend to be those that support maneuver, such as radio and cellular technology.

Reconnaissance in a SBP

4-140. SBP defenders will perform aggressive counter-reconnaissance activities to prevent the enemy from remaining in reconnaissance contact with the SBP. The OPFOR will observe avenues of approach to provide early warning; determine location, composition, and disposition of attackers; and direct fires against key enemy systems or components of systems.

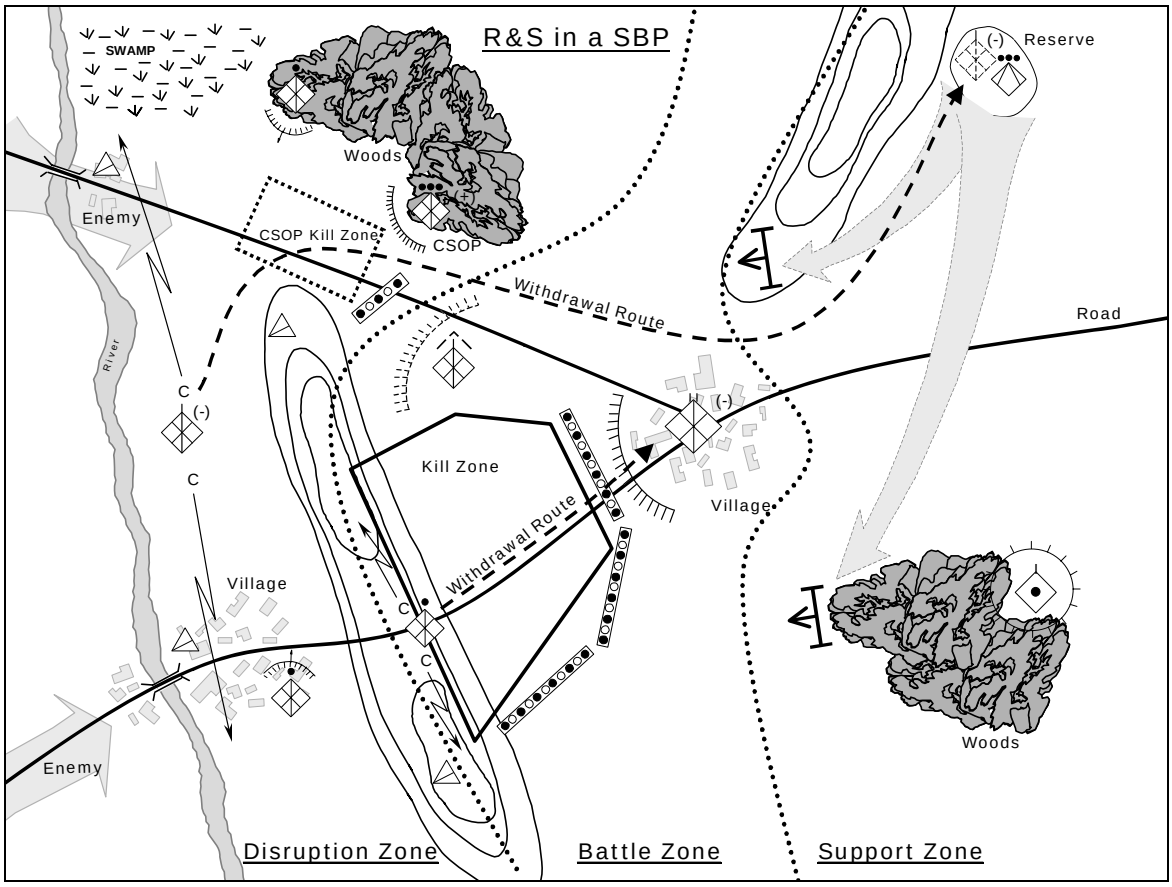


Figure 4-9 Reconnaissance Example 1

Armor Support to a SBP

4-141. When employed within a SBP, armor will typically serve an anti-armor role. Armored forces may also be massed as a counter-attack reserve. Defending armored vehicles will be in two-tier (turret defilade) vehicle fighting positions to provide maximum cover and concealment, or will fight above ground to take maximum advantage of maneuver capabilities. Armor defending SBPs does not prefer single-tier (hull defilade) vehicle fighting positions as they provide insufficient cover and concealment against PGM and restrict vehicular mobility.

Fire Support to a SBP

4-142. SBPs may receive fire support both from organic assets and from higher echelon supporting forces. Fire support is integrated with other adjacent units to ensure appropriate coverage. Defenders will employ fires to:

- Attrit attackers along the avenues of approach and in LZs
- Defeat attackers in the battle zone
- Defeat penetrations of battle positions / support counter-attacking

forces

Air Defense Support of a SBP

4-143. SBPs employ both active and passive air defense measures to protect the defender from air threats. AAA and shoulder-fired SAMs may be found interspersed throughout the SBP including anti-LZ ambushes. Electronically integrated air defense systems may be present when attached to the defending force from higher echelon supporting units.

Engineer Support to a SBP

4-144. Engineers support the SBP initially by preparing survivability positions and counter-mobility works that support the disruption and battle zones. Once these preparations are complete, engineer support will shift to mobility support for the reserve force to ensure that it maintains freedom of maneuver.

4-145. Engineer tasks are a shared responsibility throughout the OPFOR. Although engineers have the bulk of specialized equipment for constructing fortified positions, this work exceeds the capability of organic engineers and even those likely attached as reinforcements. Therefore the OPFOR use all available personnel and equipment.

4-146. Obstacle planning – SBP obstacles are normally employed to shape the battlefield by disrupting the enemy's approach march, blocking avenues of approach, turning the enemy into and fixing him in kill zones. Should the OPFOR retain a FASCAM capability, it will be used to reinforce pre-existing obstacles, block avenues of approach, or to re-seed breached obstacles.

4-147. Figure 4-10 shows tasks that are the first priority in the sequence of position preparation. Combat arms unit personnel clear fields of fire and view. Then they emplace barbed wire, mines, and other obstacles in front of each fighting vehicle, crew-served weapon, and individual infantryman. Personnel use open slit trenches. Using covered slit trenches, engineers dig in headquarters and medical points. Camouflage measures are also performed. If the situation permits, engineers will employ excavating and earthmoving equipment.

Tasks of Combat Troops and Engineers

- Clear fields of observation and fire.
- Emplace obstacles ahead of any CSOPs, then ahead of platoon strongpoint forward edge.
- Dig one- or two-man foxholes for riflemen, machinegun crews, snipers, and operators of grenade launchers, manpack ATGMs, and shoulder-fired surface-to-air missiles (SAMs).
- Connect foxholes into a squad trench (open slit trench).
- Prepare a continuous trench in platoon and company strongpoints.
- Prepare emplacements at primary firing positions for IFVs/APCs, tanks, ATGM launchers, and other weapons

in the platoon or company strongpoint.
- Build basic positions (covered slit trenches) for platoon, company, and battalion command posts.
- Build basic positions (covered slit trenches) for battalion or company medical points.
- Dig and prepare covered slit trenches for each squad, crew, or team.
- Camouflage positions, weapons, and vehicles against reconnaissance and for protection against enemy precision weapons.

Tasks of Engineers

- Emplace additional obstacles on the most likely axes of enemy attack in front of the forward edge, in gaps between units, on their flanks, and in the depth of the strongpoint.
- Deepen sections of trenches and communication trenches, and provide covered shelters for equipment on terrain that provides concealment from enemy observation and fire and permits the use of engineer mechanized equipment.
- Prepare lines of firing positions for reserve counterattack forces and prepare forward movement routes to these lines and to lines of deployment for counterattacks.
- Prepare routes for movement to the lines of deployment for the counterattack, lines of deployment of reserves, and firing positions.
- Set up water supply or distribution points.

Figure 4-10. First-priority preparation tasks for OPFOR BN defensive area.

Figure 4-11 shows tasks that are typically the second priority in the sequence of OPFOR position preparation.

Tasks of Combat Troops and Engineers

- Improve company and platoon strongpoints, adding overhead cover if possible.
- Finish building or improve command posts and medical points.
- Dig emplacements at alternate and temporary firing positions of IFVs/APCs, tanks, and other weapons.
- Dig emplacements at firing lines and assembly areas for company or battalion armored groups.
- Dig communication trenches to primary and alternate IFV/APC firing positions, to shelters, to command posts, and to the rear.
- Prepare dugouts on the basis of one per platoon and one for each company or battalion medical point.
- When possible, make covered slit trenches or dugout shelters for each squad, weapon crew, or team.
- Create and upgrade the system of trenches and communication trenches from a combat and housekeeping standpoint. Housekeeping and sanitary preparation or trenches includes making niches for storing food, water, and equipment and making latrines, sumps, soakage pits, and drainage ditches.

Tasks of Engineers

- Connect individual emplacements into emplacements for squads with sections of trench dug with mechanized equipment.
- Prepare a continuous trench in the battalion defensive area.
- Make bunkers for each company/battery and at battalion command posts.
- Make shelters for vehicles, weapons, equipment, missiles, ammunition, and other supplies.
- Improve or create additional obstacles ahead of the forward edge, on the flanks, and in gaps between adjacent strongpoints.
- Prepare main dummy objects in the company strongpoint or battalion defensive area.
- Prepare for demolition of roads, bridges, overpasses, and other important objectives in the depth of the defense.
- Prepare routes for maneuver, resupply, and evacuation.

Figure 4-11. Second-priority preparation tasks for OPFOR BN defensive area.

Figure 4-12 shows tasks that typically are the third priority in the sequence of position preparation. In addition to the addition and improvement of existing positions and obstacles, engineers connect squad trenches until they run continuously across the entire platoon, company, and battalion frontage.

Tasks of Combat Troops and Engineers
• Finish building or improving communication trenches and preparing strongpoints. • Improve engineer preparation of company strongpoints and the battalion defensive area. • Improve the platoon strongpoints and squad and weapon positions in a tactical and housekeeping respect. • Connect squad trenches in the platoon and company strongpoints with one another, if this has not already been done. • Build a system of engineer obstacles. • Develop a system of trenches and communication trenches in the company strongpoint or battalion defensive area. • Establish shelters for personnel and continue building shelters for equipment and deepening trenches and communication trenches. • Adapt the communication trenches for conducting fire. • Cover some parts of the trenches. • Prepare dugout shelters at platoon command posts. • Set up shelters (one per company and per battalion command post). • Dig communication trenches to the rear (first with a depth of 0.6 m and then 1.1 m). • Equip the trenches and communication trenches with alternate (lateral and forward) foxholes and emplacements for firing machineguns and grenade launchers and with embrasures, overhead protection, and niches/recesses for ammunition. • Prepare dummy positions, strongpoints, and defensive areas.
Tasks of Engineers
• Develop or improve a network of routes for unit maneuver, supply, and evacuation. • Expand the system of obstacles. • Improve fighting positions, firing lines, lines of deployment for counterattack, lines of deployment of reserves, command posts, assembly areas of reserves, and logistics elements.

Figure 4-12. Third-priority preparation tasks for OPFOR BN defensive area.

Logistics Support to a SBP

4-148. Logistics units, when present, will normally be found with the support element, to the rear of the SBP. Units in the disruption zone and battle zone will locally stockpile supplies, including multiple basic loads of ammunition, to ensure that they remain self-sufficient during the battle.

Information Warfare Support to a SBP

4-149. Information Warfare supports the SBP primarily by deceiving the enemy as to the defenders' actual location. The OPFOR will conduct deception operations that portray inaccurate defender locations and strengths. Such

measures will attempt to convince the attacker to strike areas were he will inflict minimal damage to the defenders, or maneuver himself to a position of disadvantage, such as the center of a kill zone.

DEFENDING A COMPLEX BATTLE POSITION (CBP)

4-150. CBPs are designed to protect the units within them from detection and attack while denying their seizure and occupation by the enemy. They are not necessarily tied to an avenue of approach. CBPs protect forces while providing sanctuary from which to launch local attacks.

4-151. CBPs are designed to protect the units within them from detection and attack while denying their seizure and occupation by the enemy. Commanders occupying CBPs intend to preserve their combat power until conditions permit offensive action. In the case of an attack, CBP defenders will engage only as long as they perceive an ability to defeat aggressors. Should the defending commander feel that his forces are decisively overmatched, he will attempt a withdrawal in order to preserve combat power.

4-152. Complex Battle Positions have the following characteristics that distinguish it from Simple Battle Positions:

- Limited avenues of approach
- Avenues of approach are easily observable by the defender
- 360 degree fire coverage / protection from attack (this may be due to the nature of surrounding terrain or engineer activity such as tunneling)
- Engineer effort prioritizing cover and concealment measures; limited counter-mobility effort which might reveal the CBP location.
- Large logistic caches

4-153. C3D measures are critical to the success of a CBP as the defender generally wants to avoid enemy contact. Additionally, forces within a CBP will remain dispersed to negate the effects of precision ordinance strikes. Generally, once the defense is established, non-combat vehicles will be moved away from troop concentrations to reduce their signature on the battlefield.

ORGANIZING FORCES TO DEFEND A CBP

4-154. **Disruption element** – The disruption element of a CBP is primarily concerned detecting attackers and providing early warning to the defending force. In addition to observation posts and ground ambushes, the security force will establish anti-landing ambushes and anti-landing reserves. When the CBP is attacked, security forces will remain in position to provide the OPFOR commander with a reconnaissance capability. The security force may also include indirect fire assets, such as mortars, to provide immediate, directly observed, harassing fires.

4-155. **Main Defense Element**– The main defense element of a CBP is responsible for defeating an attacking force, and for covering the withdrawal of the support force in the case of an evacuation of the CBP.

4-156. **Reserve Element** – The reserve element of a CBP exists to provide the OPFOR commander with tactical flexibility. During the counter-reconnaissance battle the reserve may augment forces in the disruption zone, in order to provide additional security to the main defense element. However, the reserve will rarely do so if such action would reveal the location of the CBP to the enemy. Some typical additional tasks given to the CBP reserve may include-

- Conducting a counter-attack.
- Conducting counter-penetration (blocking or destroying enemy penetration of the SBP).
- Conducting anti-landing operations.
- Assisting engaged forces in breaking contact.
- Acting as a deception element.

4-157. **Support Element** – The support element of a CBP has the mission of providing one or more of the following to the defending force:

- CSS
- C2
- Supporting direct fire (HMG, ATGM, recoilless rifle, AGL, etc.)
- Supporting indirect fire (mortar, artillery, etc.)
- Supporting non-lethal fires (Jamming, PSYOPS broadcasts, etc.)
- Engineer Support

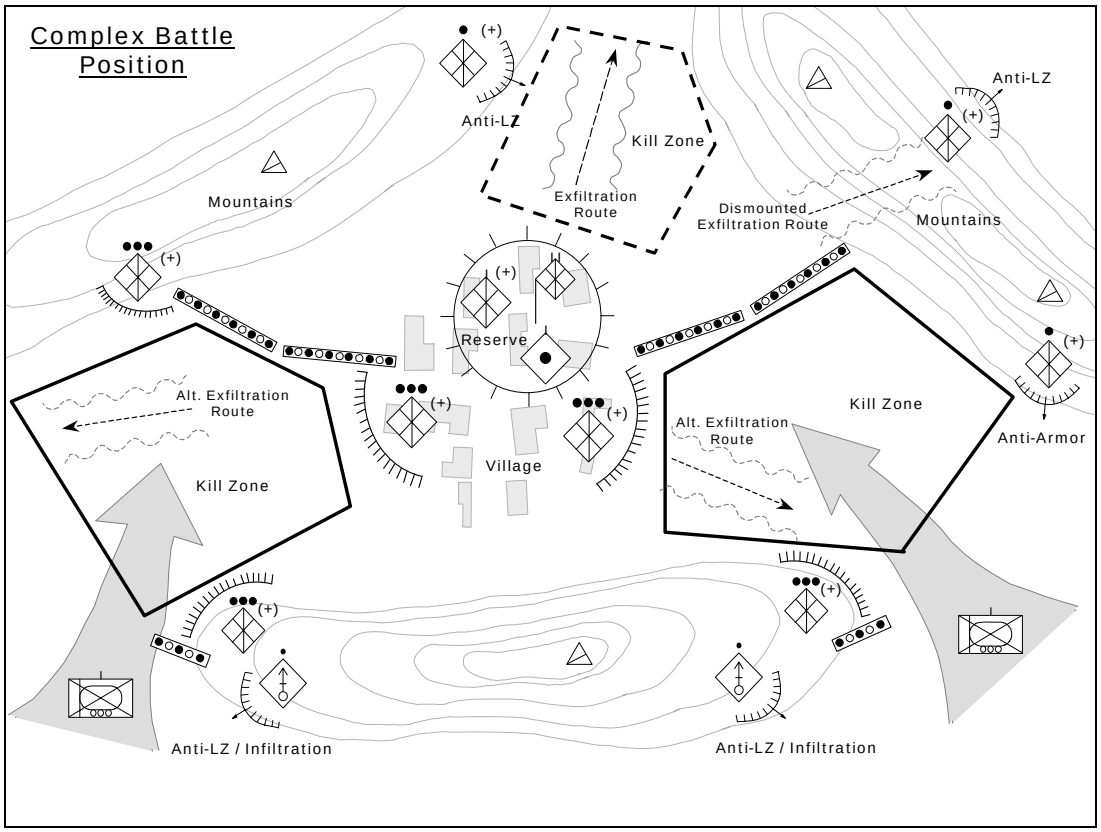


Figure 4-13 CDET in Complex Battle Position

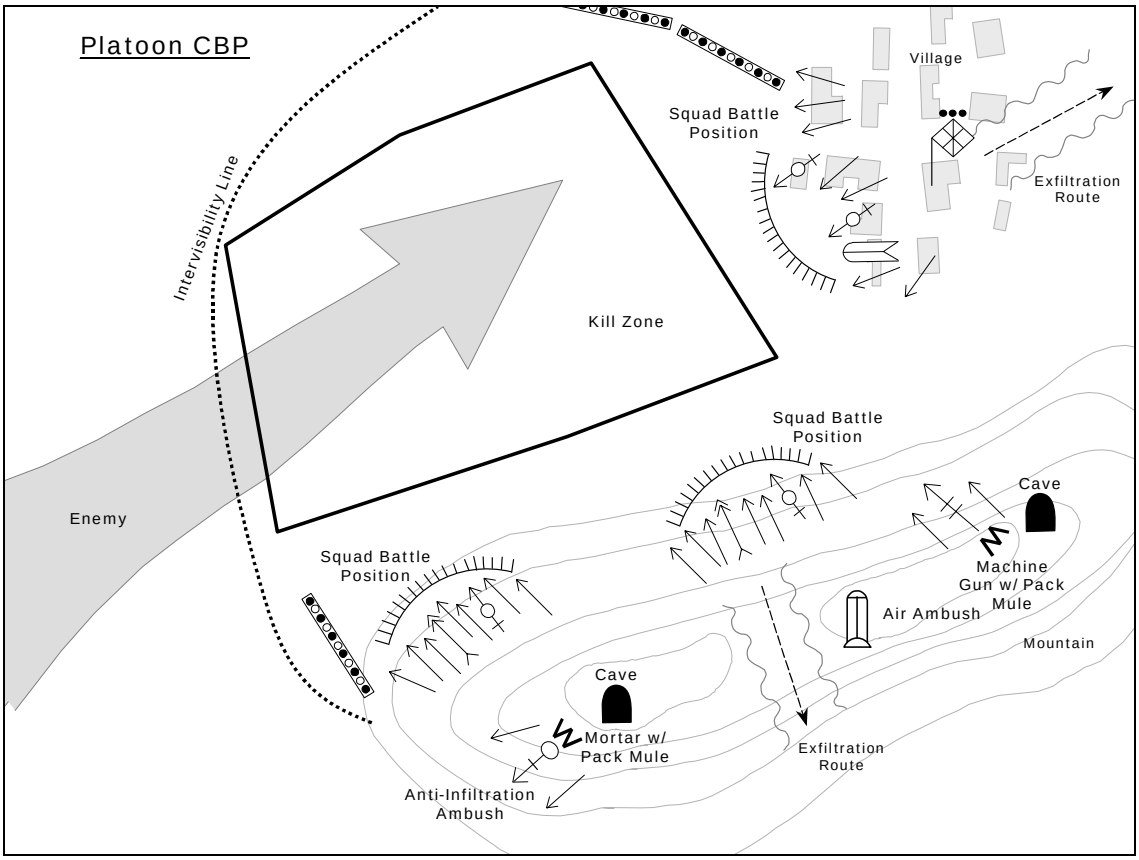


Figure 4-14 CSOPs Supporting a Complex Battle Position

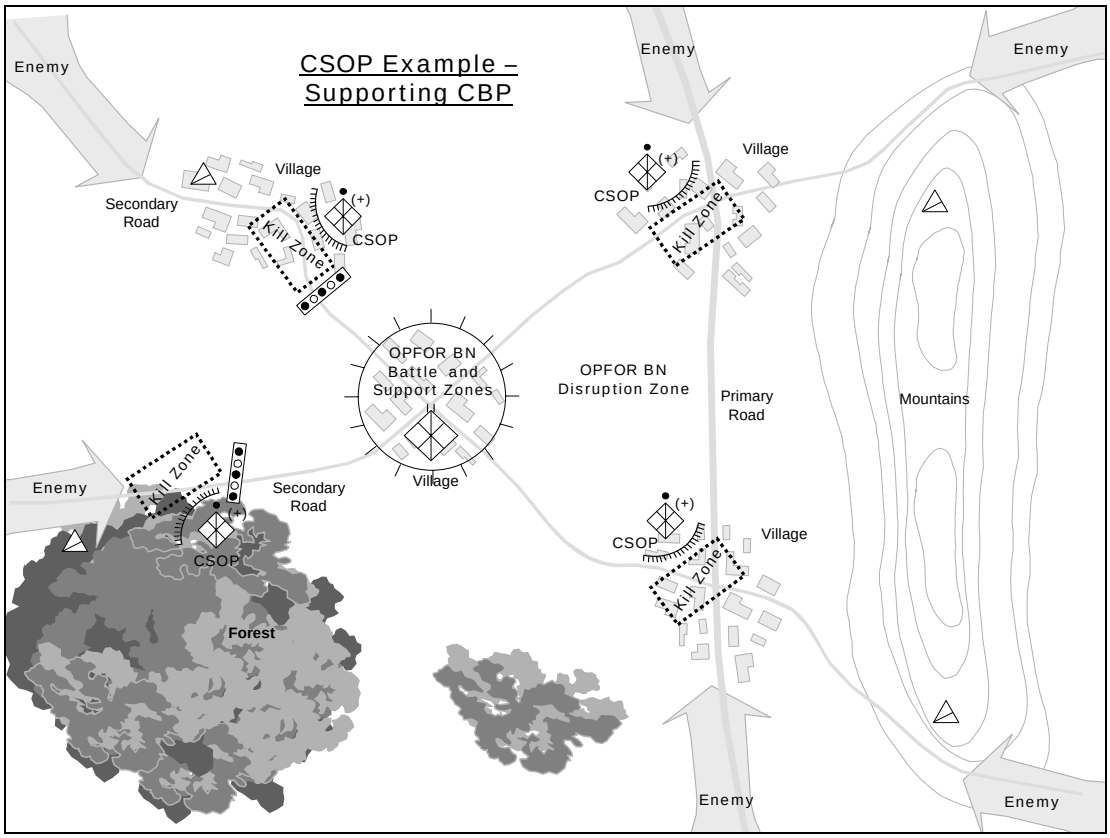


Fig. 4-15 CSOPs Supporting a Complex Battle Position

ORGANIZING THE BATTLEFIELD FOR A CBP

4-158. Disruption Zone - The survival nature of a CPB does not encourage having large amounts of combat power in the disruption zone as that could draw attention to the defense. Unlike a SBP, in a CBP disruption zone it is less likely that the OPFOR will employ large portions of the reserve as a covering force – again as a measure to reduce the battlefield signature of the CBP.

4-159. Battle Zone – This is the area where the defending commander commits the preponderance of his force to the task of defeating attacking enemy forces, or delaying them while the defenders withdraw. In a CBP the battle zone may be in a roughly circular perimeter around the support zone.

4-160. Support Zone – The support zone may contain C2, CSS, indirect and direct support fire assets, the reserve, and other supporting assets. The support zone will locate itself within the center of the CBP.

EXECUTING A CBP

4-161. Most security / counter-recon will be passive measures unless attack is imminent. In the event of an attack, fires (direct / indirect) will delay and attrit attackers.

4-162. Defenders in the battle zone will attempt to defeat attacking forces. Should the defending commander determine that he lacks the capacity to defeat attackers, defenders in the battle zone will cover the withdrawal of the rest of the unit before retiring themselves. Should the enemy penetrate the main defenses, it is likely the defensive commander will determine further resistance to be useless. In this case, he may commit reserves to delay further penetration while the remainder of the defending force withdraws.

4-163. Defenders in the support zone will provide support to defenders in the disruption and battle zones as required. In the event of a withdrawal, they will be some of the first elements to withdraw via exfiltration routes.

Command and Control of a CBP

4-164. C2 of a CBP is generally more difficult than that of a SBP because the defenders may be more dispersed. To maintain security and avoid detection, defenders will make all possible use of secure communications, such as couriers and wire.

Reconnaissance Support to a CBP

4-165. OPFOR reconnaissance assets will observe avenues of approach key to providing early warning and allow the commander to make "fight or flee" determination. The OPFOR is less likely to engage in counter-reconnaissance activities if such actions would reveal CBP location. In order to passively gather information, personnel will imbed themselves within local populations.

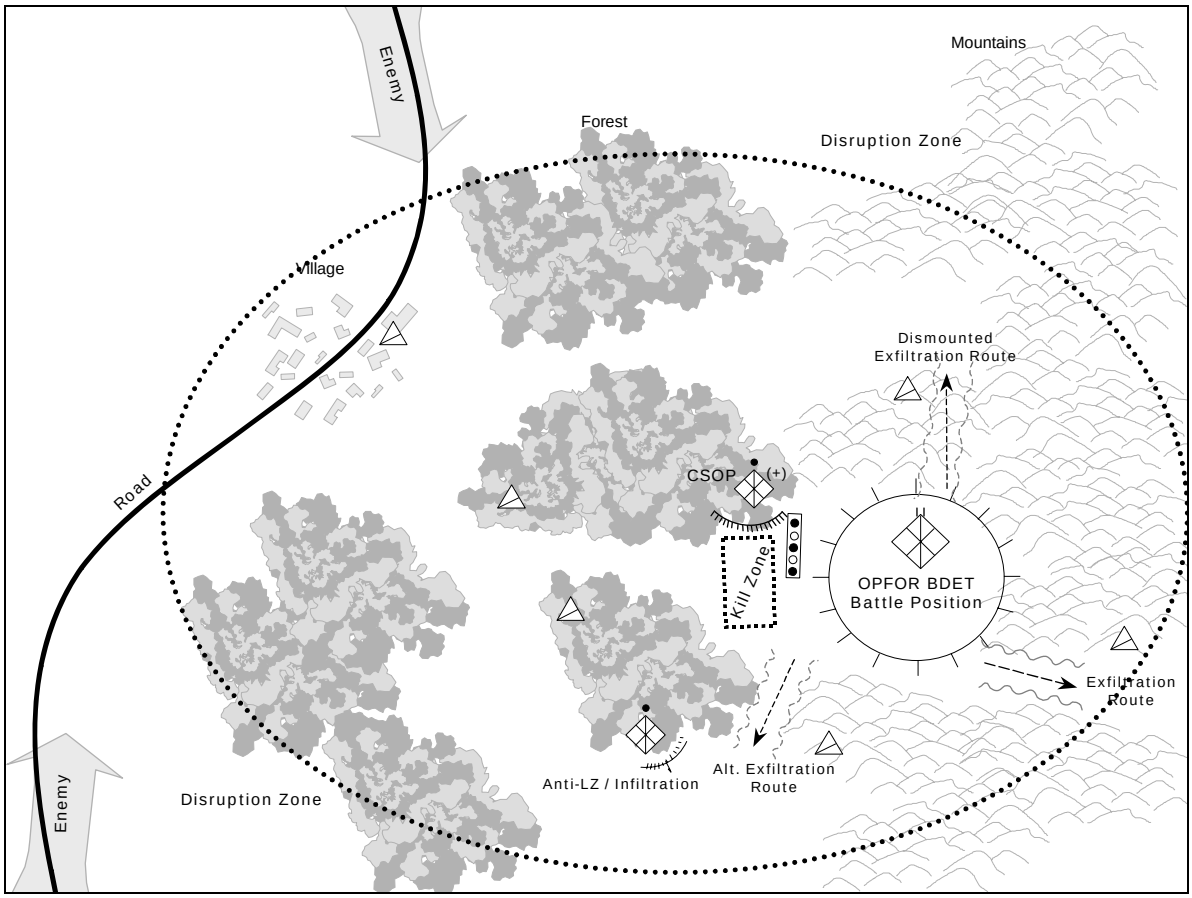


Fig. 4-16 Recon Support to a CBP

Armor Support to a CBP

4-166. Due to the larger signature of armored forces (and its tendency to draw PGM fire), forces defending a CBP are less likely to employ significant armor assets. When armor is employed, it will generally remain concealed in reserve and emerge only when needed to defeat attacking enemy forces or to cover a withdrawal.

Fire Support to a CBP

4-167. As CBPs are generally independent and self-supporting in their nature, all fire support will come from within the CBP itself. Defenders will employ fires to:

- Attrit attackers along avenues of approach and in LZs
- Defeat attackers in the battle zone
- Cover the withdrawal of defenders from the CBP

Air Defense Support to a CBP

4-168. Unlike SBPs, passive air defense is most common to CBPs, and active air defense will generally be of non-electromagnetic signature emitting nature. AAA and shoulder-fired SAMs may be found interspersed throughout the CBP including anti-LZ ambushes.

Engineer Support to a CBP

4-169. Engineer activity within the CBP will generally be of a non-signature, or low signature producing variety. Engineers will conceal survivability positions (Entrenchments, fortifications, improved caves, tunnels, hardened buildings, etc.). Counter-mobility efforts, such as AP / AT mines and booby-traps will likewise be hidden from observation. Wire obstacles, AT ditches, and vehicular survivability positions will be less common due to the difficulty in concealing such works.

4-170. Obstacle planning – While CBP obstacles may be used in the development of kill zones, they are generally more protective in nature than those in a SBP. For example, they may be employed to turn an attacker away from a vulnerable flank, or to protect an exfiltration route by blocking an avenue of approach into it.

4-171. Engineer preparation priorities will otherwise be of a similar nature to those of the SBP. (See SBP figures 4-x, 4-x, 4-x).

Logistics Support to a CBP

4-172. Logistic operations within a CBP are generally of a self-sustaining nature. Large supply caches will be common.

IW Support to a CBP

4-173. Elements from the CBP may attempt to integrate within any local communities for the purpose of gathering and disseminating information. Generally, the CBP will not have an easily detectable IW operation as it is attempting to maintain a low profile. IW may focus on downplaying the existence or significance of the CBP itself. If the CBP cannot be hidden, IW may attempt to convince enemy (extra-national) forces that the defenders are friendly to them. In some cases, senior OPFOR leaders may conduct IW from a CBP to convince followers in other locations that they are still alive and leading their organizations in the struggle against the enemy.

4-174. Complex battle positions in urban environments may make special use of sewer and subway systems. Sewers and subways will provide shelter as

well as covered and concealed avenues of approach and exfiltration routes. In some cases, an entire CBP may be subterranean.

Chapter 5

Battle Drill

The OPFOR derives great flexibility from battle drill. Contrary to the U.S. view that battle drill, especially at higher levels, reduces flexibility, the OPFOR uses minor, simple, and clear modifications to thoroughly understood and practiced battle drill to adapt to ever-shifting conditions. It does not write standard procedures into its combat orders and does not write new orders when a simple shift from current formations and organization will do.

The aim of battle drill is to achieve advantage in controlling the tempo of combat by performing basic combat functions without hesitation or need for further coordination, assistance or delay. Battle drill is intended to be the baseline of tactical competence for the OPFOR. Once able to execute all elements of battle drill, units can be directed to act with concise and rapidly formulated combat orders.

APPLICATION OF BATTLE DRILL TO DIFFERENT FORCE TYPES

5-1. Battle drill is not tied to a particular type of unit or level of command. It is described in terms of task-organized sub elements performing critical tasks. The composition of a security element may be different in different type forces operating on varied terrain, but the tasks the security element will be called upon to perform a given battle drill will be the same for any tactical unit. Similarly, a sub element may be called upon to fix an enemy force in a given battle drill and the methodology used to fix that force may vary between OPFOR organizations.

BATTLE DRILLS

5-2. OPFOR Battle drill is used to make the execution of basic tactical tasks standard throughout the OPFOR. It is not meant to be specific to a type of unit, but rather represents a common methodology for certain recurring missions tactical units are routinely called upon to accomplish.

TASK ORGANIZATION AND BATTLE DRILL

5-3. Battle drill is primarily oriented toward offensive action and attacking, or at least moving forces.

5-4. The standard battlefield organization of a detachment is into three parts: the *security element*, the *support element* and the *action element* (also known in specific situations as the firing or assault element).

5-5. The *security element* of a detachment provides local tactical security for the detachment and prevents the enemy from influencing mission accomplishment. The *action element* accomplishes the detachment's tactical task. The *support element* provides combat and combat service support and C^2 for the detachment. Due to such considerations as multiple avenues of approach, a detachment may organize one or more of each of these elements in specific cases.

5-6. In certain situations, a detachment may organize one or more *specialist elements*. Specialist elements are typically formed around a unit with a specific capability such as an obstacle clearing element, reconnaissance element or deception element.

ACTIONS ON CONTACT

5-7. Despite constant advances in situational awareness technologies and methods, it will be the rule rather than the exception that an OPFOR unit makes contact under precisely predicted conditions and with exactly the expected enemy. The actions on contact battle drill is designed to ensure OPFOR units retain the initiative and fight under circumstances of their choosing.

Forms of Contact

5-8. The OPFOR recognizes seven forms of contact:

- Direct Fire
- Indirect Fire
- Obstacle
- Air
- NBC
- EW
- Sensor

5-9. The actions on contact battle drill is primarily for use by a combat force making sensor and/or direct fire contact with an enemy force. When making undesired contact (indirect fire, air, NBC, EW or ground contact made by a non-combat unit), the Break Contact battle drill is employed instead. When making contact with an isolated obstacle, Situational Breach may be selected.

Actions on Contact Conditions

5-10. The commander making contact must rapidly determine what type of contact has been made:

- Contact as expected in his course of action
- Contact made at an unexpected time, but with the expected enemy
- Contact made in an unexpected location, but with the expected enemy
- Contact made at an unexpected time and location, but with the expected enemy
- Contact made with an unexpected enemy
-

5-11. The OPFOR considers it highly unlikely that contact will be made in the expected location at the expected time with the expected enemy force. Actions on contact are designed to provide the commander with the flexibility to either continue with the planned course of action or rapidly adopt a new course of action more suited to changed conditions.

5-12. This flexibility is achieved by:

- ensuring that contact is made with one or more security elements before the remainder of the force becomes engaged
- providing the commander with the ability to make his own decisions if communication with higher authority is impractical
- using C3D to prevent unwanted engagements

Actions on Contact Execution

5-13. *Fix.* The SE making contact fixes the enemy. It continues to provide early warning of approaching enemy forces and prevents them from gaining further information on the rest of the OPFOR force. This SE is then known as the fixing element. Fixing elements often make use of terrain chokepoints, obstacles, ambushes and other techniques to fix a larger force.

5-14. *Assess and Report.* The commander must make an assessment of the tactical situation that determines whether or not making contact in this manner and with this enemy constitutes a change in his course of action. This determination is the most vital step in successful execution of actions on contact because if it is performed incorrectly, the unit will subsequently be executing a course of action inappropriate to the mission and situation. Concurrent with his assessment, the commander reports to the chain of command the form of contact he has made, critical details of its composition and his assessment.

5-15. *Isolate.* The unit making contact maneuvers and deploys security elements to ensure additional enemy forces do not join the battle unexpectedly.

5-16. *Maintain freedom to maneuver.* The commander of the contacting unit ensures he makes contact with the minimum force necessary to fix the enemy. He makes use of C3D and the break contact battle drill to prevent his force from becoming decisively engaged. Security elements determine safe maneuver avenues for him to employ. Freedom to maneuver is also maintained by:

- Dominating avenues of approach into the battle area
- Determining location of enemy flanks or exposed areas of weakness

5-17. *Execute course of action.* The contacting unit either continues with its original course of action if deemed appropriate or executes a new one that suits the situation. A new course of action could be one given to the unit

based on the assessment it provide to its higher command or one chosen by the commander in absence of time or guidance.

5-18. The unit making contact ensures follow-on units are aware of the contact and de-conflict positioning, typically through the use of a standard marking system.

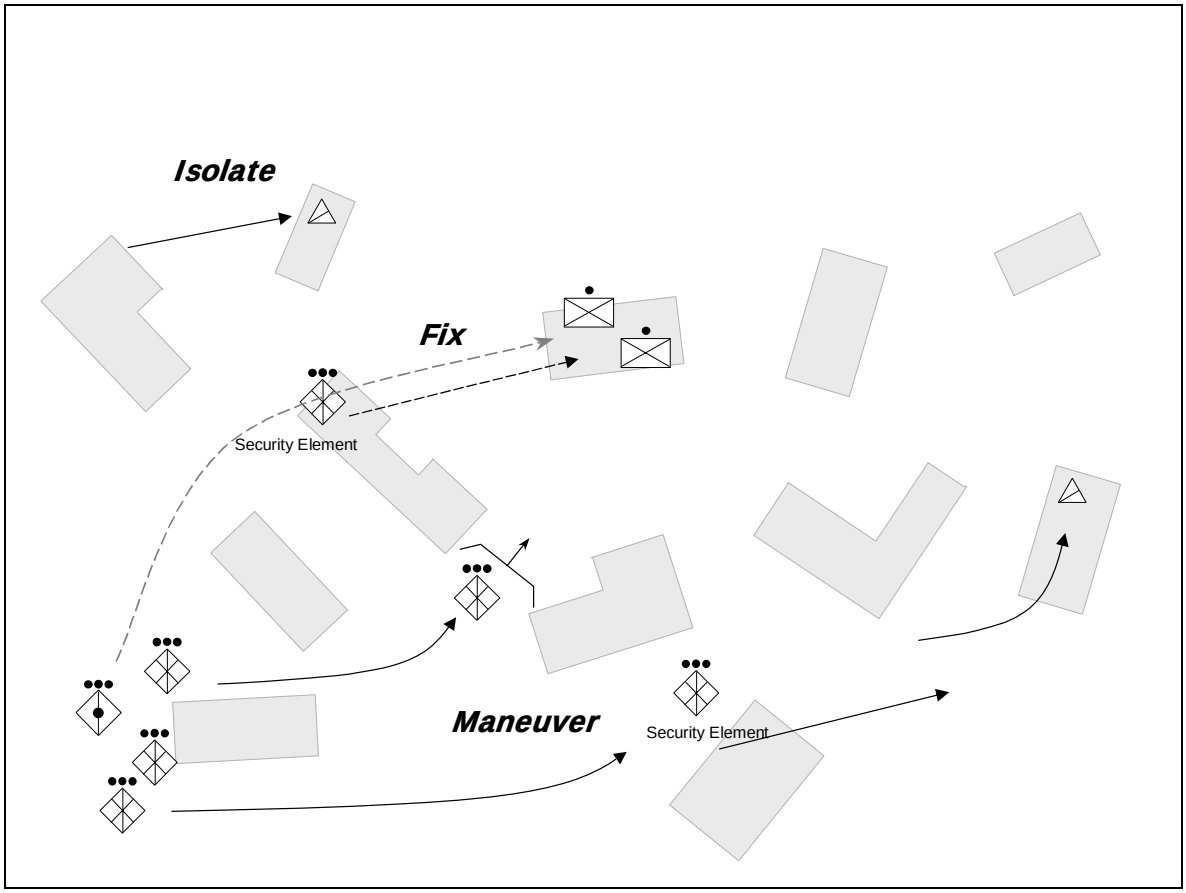


Figure 5-1. Example of Actions on Contact #1

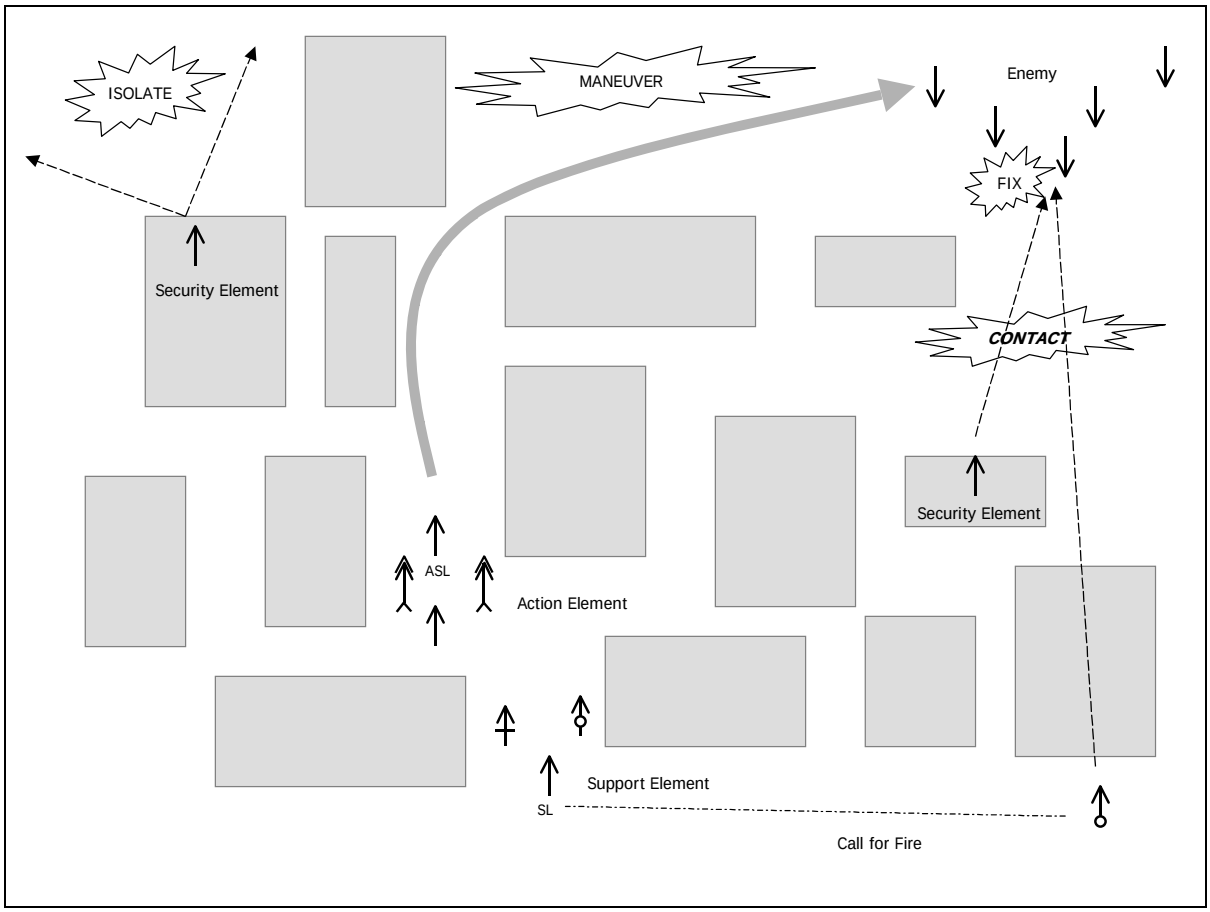


Figure 5-2. Example of Actions on Contact #2

SITUATIONAL BREACH

5-19. The OPFOR is prepared to overcome obstacles during all phases of combat. A situational breach is the reduction of and passage through an obstacle encountered in the due course of executing another tactical task. The unit conducting a situational breach may have expected an obstacle or not, but in either case conducts a situational breach with the resources at hand and does not wait for specialized equipment and other support.

5-20. Isolate. The security element takes action to ensure enemy elements cannot reinforce those defending the obstacle. It might accomplish this through C3D measures, counter-mobility tasks, direct or indirect fire engagements or a variety of other means.

5-21. Secure. The security element takes action to ensure enemy defending the obstacle are neutralized. This is typically accomplished by direct or indirect fire or the use of obscurants. This task may also be assigned to the support element alone or in combination with the security element.

5-22. Penetrate. The clearing element neutralizes the obstacle such that the action element and/or a follow-on force can complete its

mission. All OPFOR organizations carry sufficient equipment, whether field expedient or constituent, to penetrate basic enemy obstacle systems and urban construction and debris. Precise descriptions of OPFOR obstacle reduction techniques can be found in Chapter 12.

5-23. Execute Course of Action. Once the obstacle has been penetrated and the lanes isolated and secured, the action element and/or a follow on force executes the basic course of action.

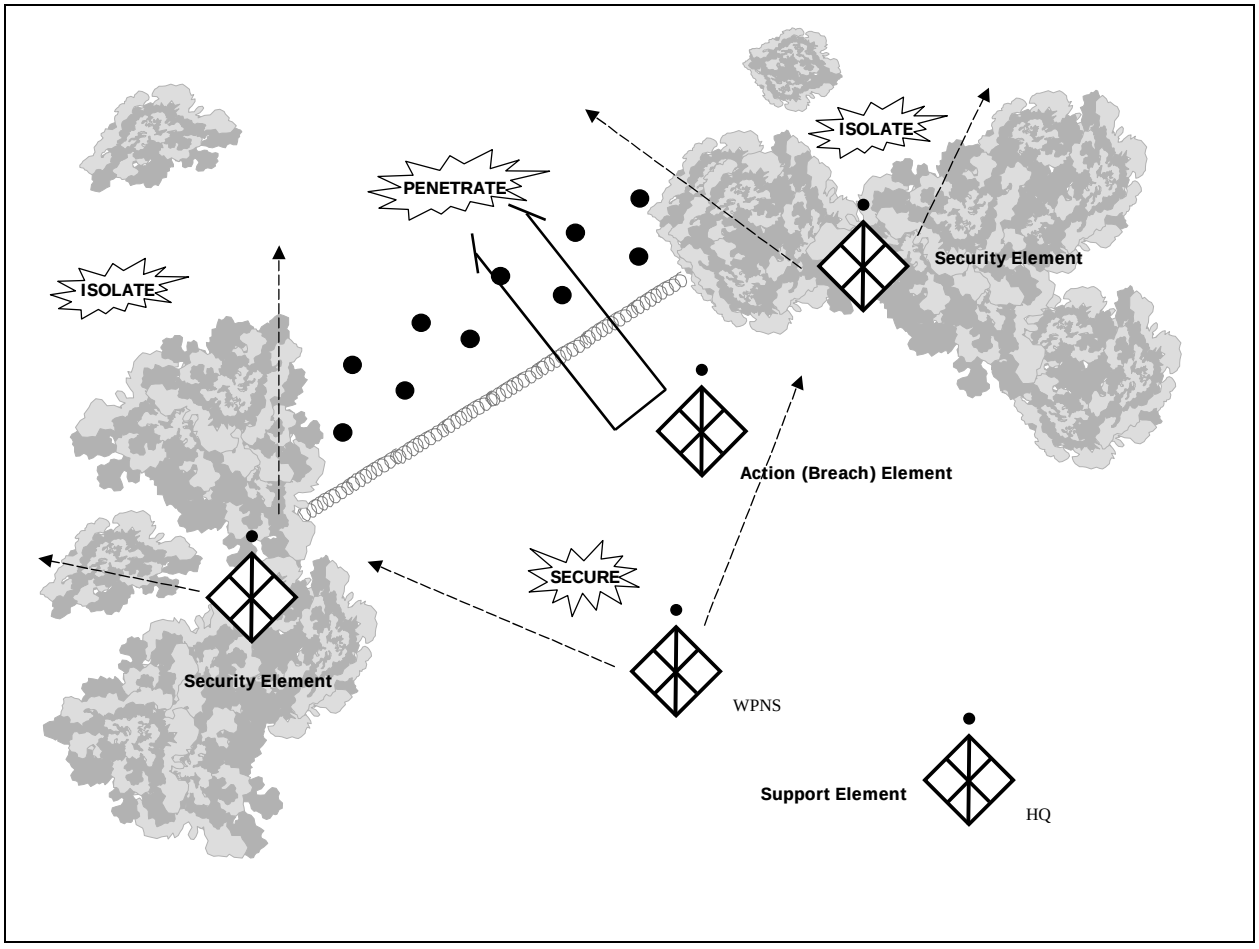


Fig 5-3 Situational Breach

BREAK CONTACT

5-24. The primary consideration in breaking contact is to remove the enemy's ability to place destructive or suppressive fires on the greater portion of the OPFOR force. This is accomplished by fixing the enemy, regaining freedom to maneuver and employing fires, C3D and counter-mobility.

5-25. *Fix.* The SE fixes the enemy. It prevents the enemy force from maneuvering to remain in contact with the rest of the OPFOR force. It may employ IW to appear to be larger than it is or even to appear to be the entire OPFOR detachment.

5-26. *Regain Freedom to Maneuver.* The commander reduces his elements in contact to only security element(s). He selects one or more routes from his current location that enable his detachment to remain out of contact while permitting him to maneuver in support of his mission.

5-27. *Employ C3D, Fires, and Counter-mobility.* The commander employs a variety of means to protect his force while it maneuvers to a position out of contact. Cover, camouflage, concealment and deception are employed to limit or remove the enemy's ability to maintain situational awareness of the OPFOR force. This may be as simple as placing obscuring smoke between the enemy and the OPFOR force or as complex as a sophisticated deception plan making use of decoys and mock-ups. The OPFOR commander employs fires as part of the break contact battle drill to suppress the enemy and prevent him from returning fire effectively and to fix him and restrict his maneuver. Counter-mobility actions, such as the emplacement of dynamic obstacles or the destruction of man-made structures also restrict the enemy's ability to maneuver and maintain contact with the OPFOR force.

5-28. *Execute Course of Action.* Once freedom to maneuver has been regained, the OPFOR force executes the basic course of action.

5-29. *Fixing Element Rejoins.* An important consideration within the break contact battle drill is that it is likely one or more security elements were given the task to fix the enemy force while the drill was executed. These elements must be accounted for in the action to break contact. Typically, the employment of C3D, fires and counter-mobility is focused on separating the fixing elements from the enemy while the fixing elements permit the rest of the force to break contact first.

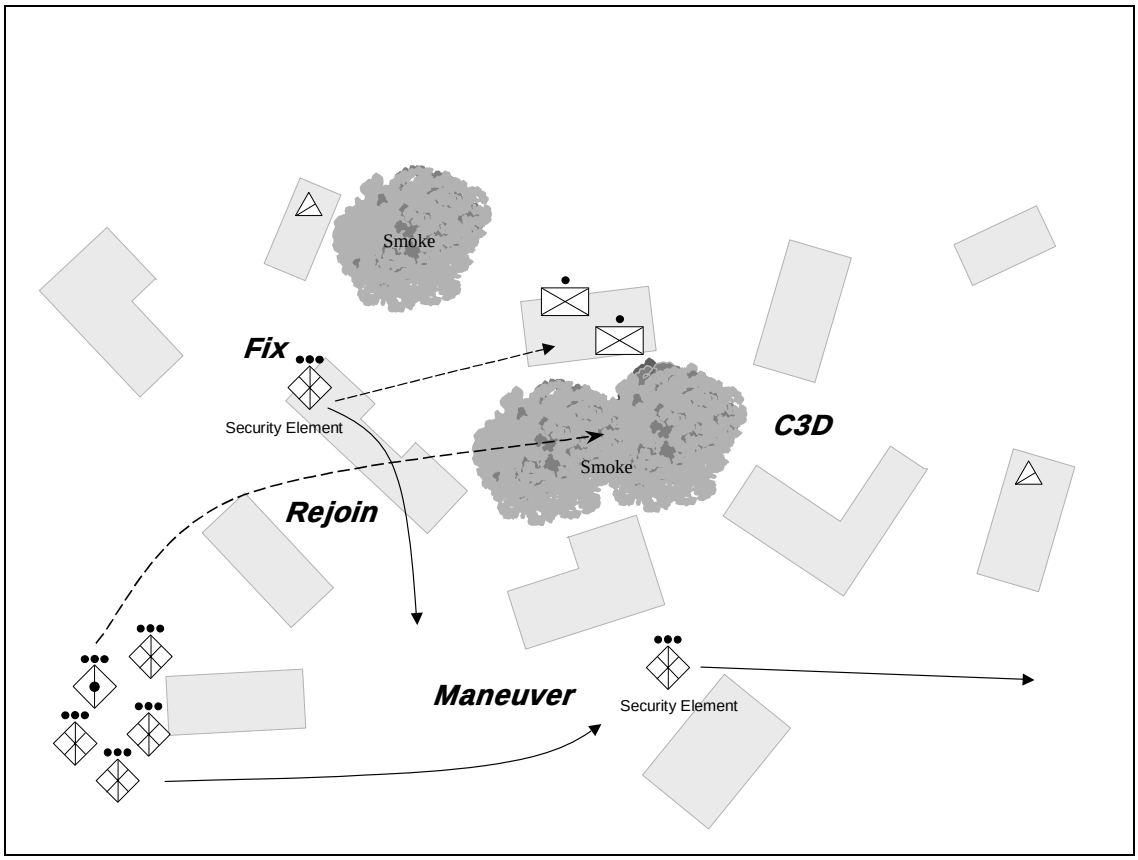


Fig 5-4, Break Contact

FIRE AND MANEUVER

5-30. The most basic of all OPFOR battle drills is fire and maneuver. Fire and maneuver is the way in which OPFOR small units move while in contact with the enemy.

5-31. When required to move while in contact with the enemy, the OPFOR commander selects a part of his force to be the support (or firing) element and part to be the action (or moving) element. The support element then directs suppressing fire against any enemy that has the ability to influence the movement of the action element. The action element then moves to either a firing line or to the objective and once its new position is reached it becomes the new support element and the former support element becomes the new moving element.

5-32. The critical aspect of executing fire and maneuver is the commander's selection of the right amount of combat power and resources to assign to each of the elements of his force. If the support element does not have the ability to significantly reduce the effectiveness of the enemy, the action element will

be destroyed. If the action element does not have the combat power to take the objective or assume its new role as support element, the mission will fail.

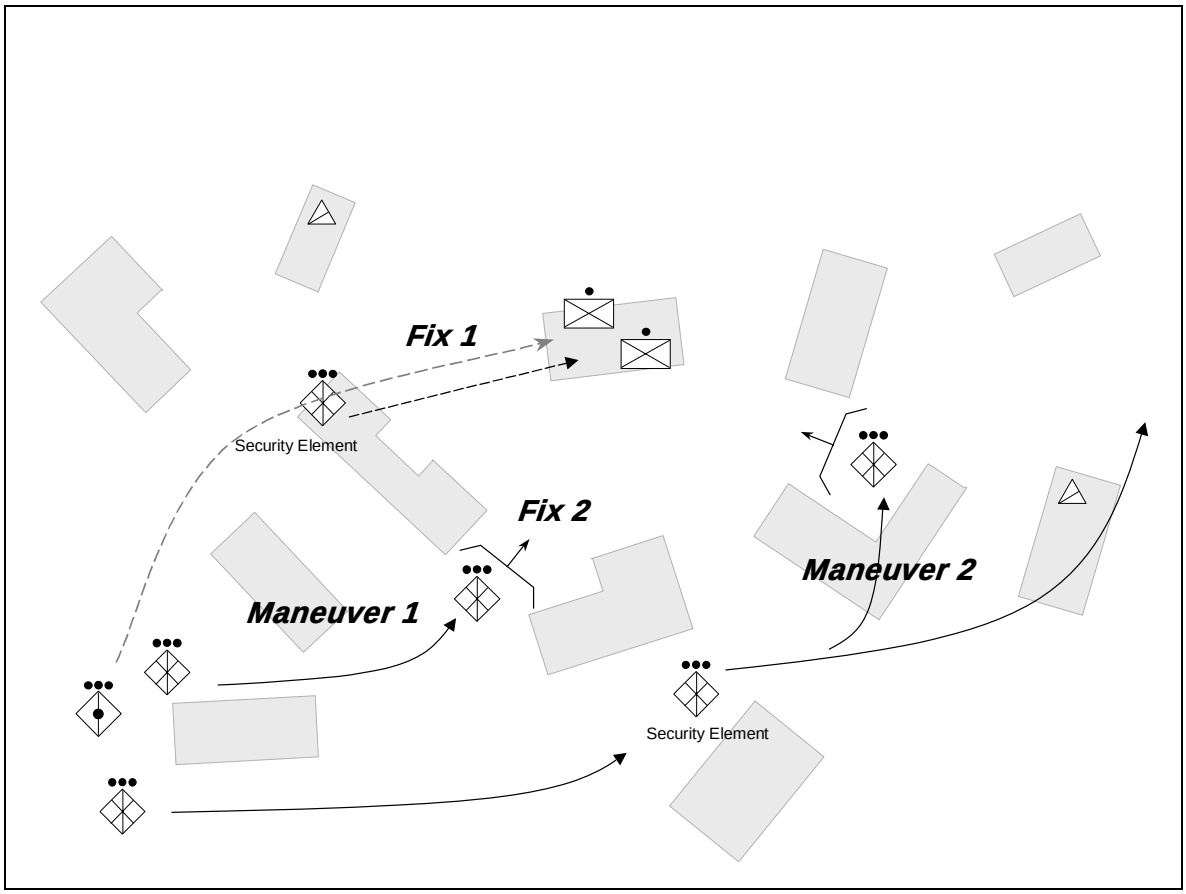


Fig 5-5 Fire and Maneuver

FIX

5-33. One of the most critical battle drills OPFOR units execute is to fix the enemy. The ability to fix the enemy at crucial points is the fundamental way units maintain the freedom to maneuver and retain the initiative.

5-34. An enemy becomes fixed in one of three basic ways: he cannot physically move, he does not want to move, he does not think he can move.

5-35. An enemy that cannot physically move is constrained in some real way. A soldier wounded in the legs, a tank with a track blown off and a platoon surrounded by scatterable mines are examples of this from of fixed. However, even this state can be temporary – a buddy can carry the soldier, the tank repaired, the minefield breached. Fixing an enemy by physically preventing him from moving is the most difficult and resource intensive method.

5-36. An enemy does not want to move when he feels that in doing so he takes great risk to life and material. Suppressive fires are the primary method by which an enemy is fixed in this way. Suppressive fires are simple to employ and are the least difficult and resource intensive means, but are also the means that places the OPFOR at the greatest risk – the soldiers and systems providing the suppressive fires are vulnerable to detection and return fire.

5-37. Fires. Fires fix the enemy by killing him or wounding him enough to prevent relocation (destructive) or by making it too dangerous for him to reposition (suppressive).

5-38. IW. Information Warfare fixes the enemy by convincing the enemy he does not want to move or by making him think he cannot move. Some examples of IW used to fix the enemy are:

- Propaganda claiming the enemy will be destroyed if he moves in the open.
- Information attack that simulates the enemy higher commander ordering the enemy unit to remain in place.
- Deception that makes the enemy think the fixing force is stronger than it is or at least capable of destroying the enemy force if it relocates.
-

5-39. Counter-mobility. Counter-mobility actions fix the enemy primarily by physically restraining his movement. In actuality, there is no obstacle that cannot be breached with effort, so counter-mobility actions are typically time-sensitive. The more time spent and resources gathered by the enemy, the less effective counter-mobility actions would be at fixing him.

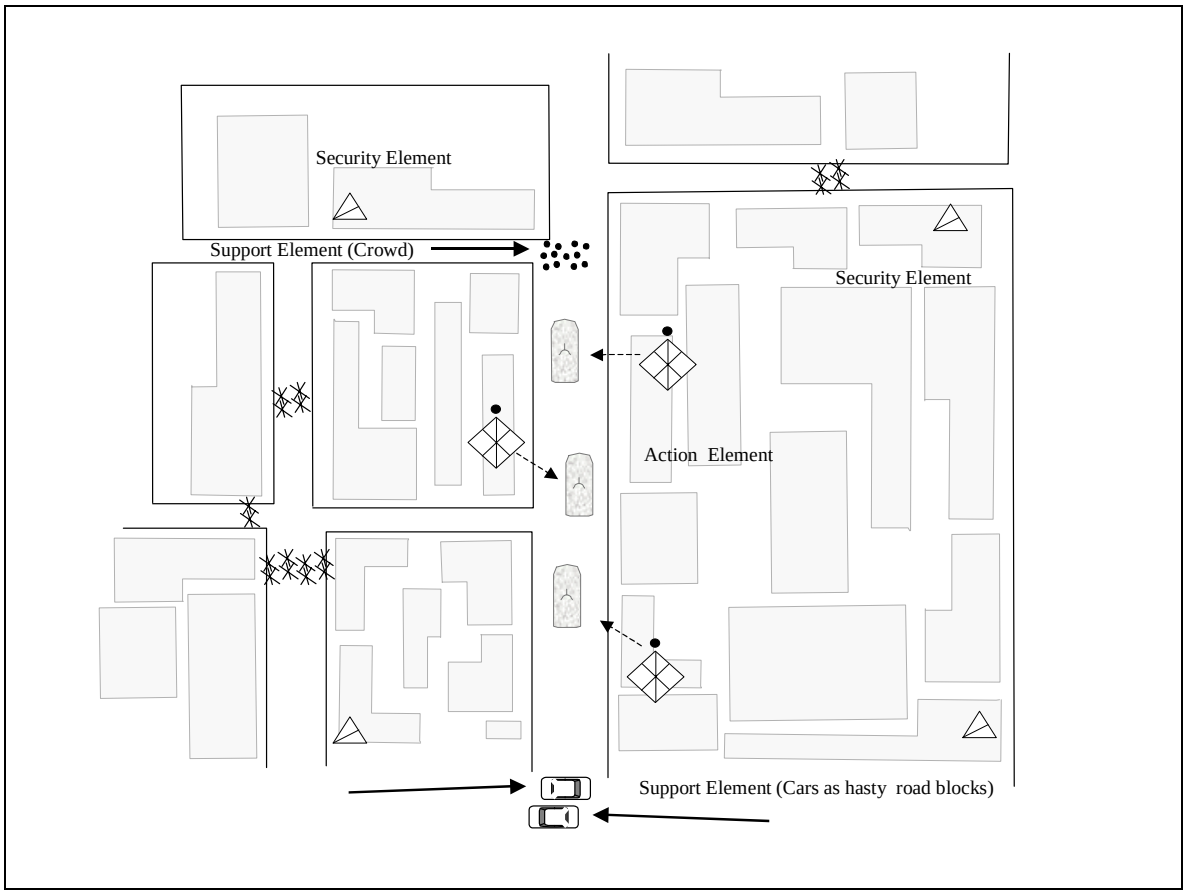


Fig 5-6 Fix

TACTICAL MOVEMENT

5-40. Tactical movement is the method by which OPFOR units move on the battlefield. It is employed in any situation where enemy contact is possible. It is most often used in offensive operations, to move from attack position to the point of attack.

ORGANIZING THE BATTLEFIELD FOR TACTICAL MOVEMENT

5-41. Even on a defensive battlefield, tactical movement is essentially an offensive action and, at least for the moving force, the battlefield will be organized in a manner similar to other offensive actions.

Axis

5-42. The moving force will move along an axis. The axis will define the area within which the greater part of the main body (defined below) will move. Exact routes within and along an axis that the force will use are called *attack routes.*

Attack Zone

5-43. The moving force typically operates inside its own attack zone to give it more freedom with which to fire and maneuver. If the moving force does not

have its own attack zone, it must clear fires with the unit who owns the terrain over which it is moving.

Firing Lines

5-44. Firing lines will be established on common graphics to facilitate coordination of direct fire. Firing lines are positions from which to engage the enemy that possess some inherent advantage (such as concealment or hull-down).

ORGANIZING FORCES FOR TACTICAL MOVEMENT

5-45. Some of the task organizations associated with tactical movement also play roles on other types of combined arms tactics. For example, SDs and SEs provide security during tactical movement and in other situations. Fighting patrols (FPs) perform reconnaissance missions during tactical movement and in other situations in which the OPFOR is not in direct contact with the enemy. The main body contains forces organized in the same manner as during the offense. Figure 5-8 shows an example of the possible deployment of various forces within a BTG during tactical movement.

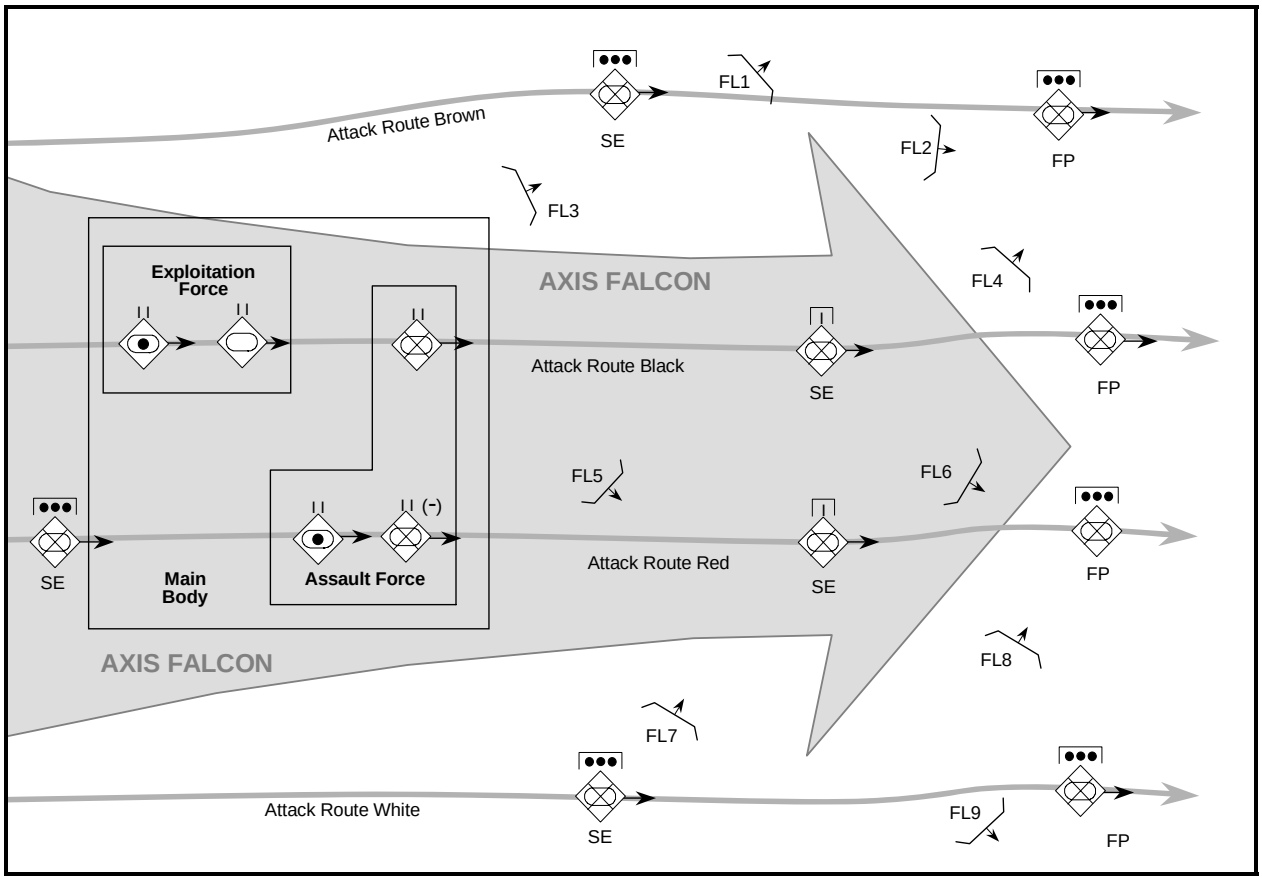


Figure 5-7. Tactical Movement Control Measures and Example Forces

Security Detachment

5-46. An SD is a task-organized battalion or company with the mission of protecting the moving force from direct fire and other forms of contact and from being fixed by enemy action. The SD is typically also the fixing force in an offensive action. The SD will be further organized into *security elements* to facilitate providing all-around security.

Security Element

5-47. An SE is a company- or platoon-size force that operates as part of an SD. SEs are typically charged with providing the moving force with protection from enemy action originating from a particular area along the axis (thus, they may be designated as a "front," "flank," or "rear" security element).

Fighting Patrols

5-48. Chapter 7 includes the complete discussion of FPs. However, a moving force will use as many FPs as the commander's analysis deems necessary to facilitate situational awareness and freedom of movement along each attack route.

Main Body

5-49. The main body consists of the assault, exploitation and supporting forces of the attacking unit. (See Chapter 3.)

PLANNING TACTICAL MOVEMENT

5-50. The focus of planning tactical movement is determining how to attack according to the commander's intent with no or little interference from the enemy. This is done by—

- Selecting attack routes the enemy cannot influence or could only do so with extreme difficulty.
- Properly allocating forces to the security detachment.
- Planning and executing IW to disrupt the enemy's ability to interfere with the moving force.

5-51. The second consideration in planning tactical movement is ensuring the moving force is ready to transition to an attack or defense as appropriate should the force encounter moving enemy. Planning factors are used to determine likely enemy movement routes and expected dispositions at contact. Preplanned indirect fire targets and direct fire firing lines are identified to support this transition.

EXECUTING TACTICAL MOVEMENT

5-52. Tactical movement is executed by moving as quickly as terrain and mobility assets allow. This is made possible by RISTA assets gaining and maintaining contact with enemy forces in the AOR and by the security detachment ensuring complete freedom of movement.

5-53. FPs clear routes and provide reconnaissance information to the SD and main body. When contact is made, FPs fix enemy forces and assist other FPs and security elements in their destruction. Other FPs continue to identify and clear alternate routes.

5-54. SEs fix and destroy enemy forces that might interfere with the progress of the unit. They serve as a base of fire for maneuver by other parts of the force.

Transition from Tactical Movement

5-55. Tactical movement is, in essence, an offensive action. Should the moving unit make contact with enemy forces prior to reaching its objective or initiating its attack, the commander is faced with the following basic choices:

- Bypass the new enemy force.
- Engage and destroy the new enemy force.
- Assume a situational defense.

Enemy forces are typically bypassed if small enough to be fixed entirely by one or more FPs or SEs. Figure 5-9 hows an example with a combination of fixing and bypassing an enemy force.

5-56. The new enemy force is destroyed by the moving unit conducting an integrated or dispersed attack from its movement formation. FPs and elements of the SD become the fixing force and elements of the main body provide the assault and exploitation forces. These may be the assault and exploitation forces from the original mission or a new task organization.

5-57. Only if there is no other choice or if the terrain is very favorable to defensive operations will the OPFOR transition a tactical movement to a defense. The type of defensive action selected (maneuver or area) will depend on the circumstances that brought about the transition.

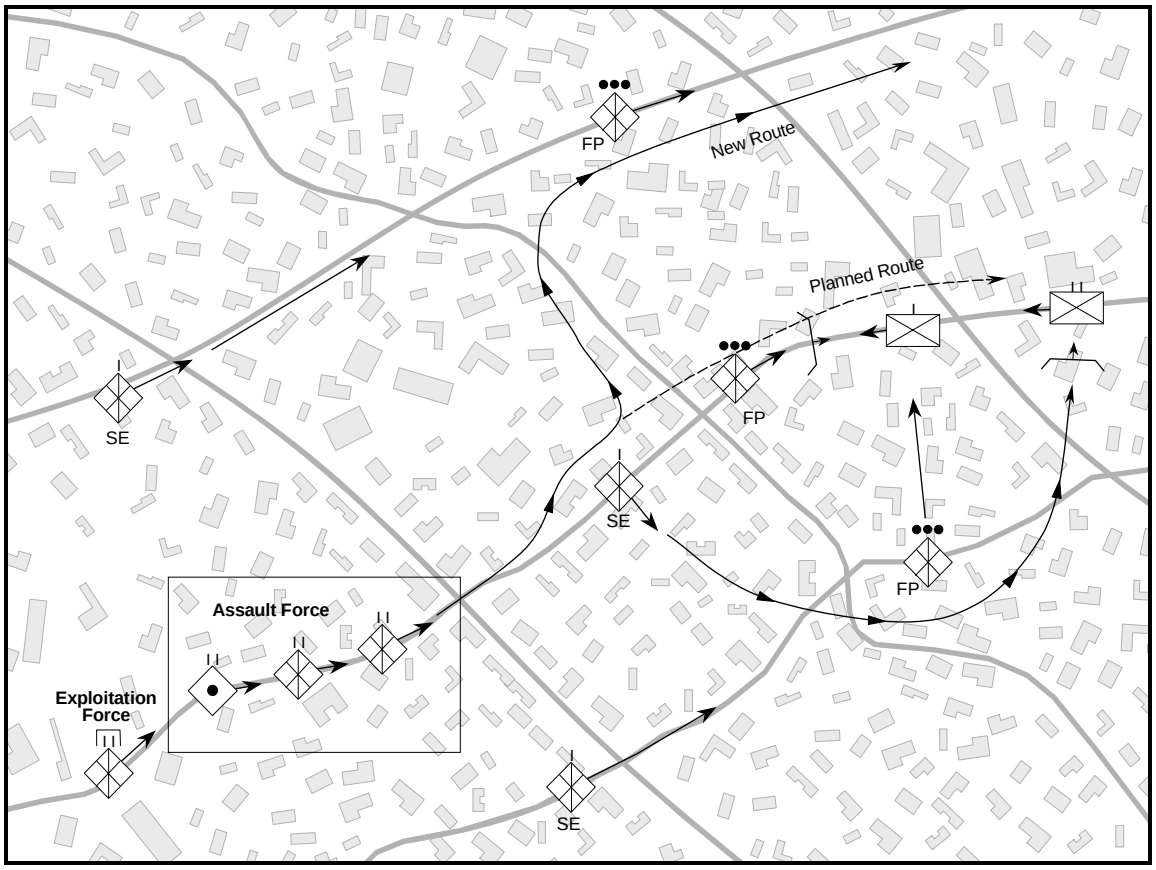


Figure 5-8. Transition from Tactical Movement

TACTICAL SECURITY

5-58. Tactical security is the collection of measures taken to protect a unit from the effects of enemy action. Tactical security is a continuous combined arms action performed in both offense and defense.

ORGANIZING THE BATTLEFIELD FOR TACTICAL SECURITY

5-59. Tactical security is performed throughout the AOR and uses the same control measures that define the AOR. In addition, security forces may receive their own attack zones in which to operate to allow them to better control their forces.

ORGANIZING FORCES FOR TACTICAL SECURITY

5-60. The OPFOR employs various types of forces in tactical security roles. The exact task organization depends on the situation and the force to be protected.

Security Force

5-61. If the commander chooses to have one organization responsible for all tactical security in his AOR, this is known as the security force. There is no set organization for the security force, but its subelements will be security detachments. A security force is typically formed when the types and number and separation of anticipated security actions requires a single responsible commander and planning staff. Some examples are—

- A DTG assigns an infantry-based BTG the security force role and allocates counterintelligence assets and a signals reconnaissance unit to it to focus on enemy special operations and long-range reconnaissance forces operating throughout its AOR.
- A DTG assigns an air defense-based BTG the security force role and assigns the antilanding reserve to it to focus on the enemy air, missile and air assault threat to the DTG AOR.
- A BTG creates a CRD and assigns it the security force role as the commander assesses the primary threat to the BTG is from enemy reconnaissance.
- A BTG creates a security detachment (SD) and assigns it the security force role while it undertakes tactical movement (discussed in detail later in this chapter).

Security Detachment

5-62. Detachments formed to undertake tactical security actions are SDs. An SD may be formed for and given any security mission. Most commonly, they are formed as part of a tactical movement. SDs designated to rapidly move anywhere in the AOR to respond to a variety of enemy threats are called *quick response forces* (QRFs).

Security Element

5-63. Security elements (SEs) are task-organized company- or platoon-size forces operating as part of a detachment. They execute an independent tactical security task, such as protecting the flank or rear of a moving force or providing local security while the rest of the detachment executes the

mission. (See the Antiarmor Ambush and Artillery Raid portions of this Chapter for examples.)

Combat Security Outpost

5-64. Combat security outposts (CSOPs) are task-organized platoon- or squad-size forces that provide local security to forces in battle positions or assembly areas. They prevent enemy reconnaissance or small groups from penetrating friendly positions and force the enemy to deploy and lose his momentum in the attack. They are typically assigned one or more of the following tactical tasks:

- Ambush.
- Attack by fire.
- Delay.
- Disrupt.
- Fix.

Counterreconnaissance Detachment

5-65. The CRD is discussed elsewhere in this chapter, but has a significant tactical security function. The CRD is focused almost entirely on enemy reconnaissance, while other security forces have the mission to protect from other types of enemy units and action as well. The commander has great flexibility in determining the size and composition of his CRD and its relationship with the security force, if formed.

Fighting Patrol

5-66. Fighting patrols (FPs) have a security function as well as a reconnaissance function. See Chapter 7 for information on FPs.

Reserves

5-67. Reserves will often be called upon to perform security missions. This is particularly likely in the case of unanticipated enemy action.

PLANNING TACTICAL SECURITY

5-68. Tactical security is planned as any other mission and is a component of all combat actions. The operations section coordinates tactical security planning, but gets significant input from the reconnaissance, IW and force protection subsections. The commander may assign some or all tactical security planning tasks to the security force headquarters if that organization has the resources to conduct effective C^2 integration.

5-69. All units are expected to execute tactical security in their AORs or zones. The mission is to protect key assets from enemy reconnaissance, special operations, intelligence services, and small-scale infiltrations.

5-70. The key to planning tactical security is to identify the threats to the unit and the accomplishment of the mission and to allocate the minimum essential forces necessary to mitigate or eliminate those threats. Minimum forces is an important consideration because the OPFOR does not want the execution of tactical security to degrade the unit's ability to accomplish the mission. Essential forces are those who by capability are best suited to deal with the particular threats faced by the command. For example, counterintelligence units may be a critical element of tactical security for a

DTG faced by enemy special operations forces or intelligence agents operating in the AOR, but not necessary in the security force of a DTG not faced by such threats.

EXECUTING TACTICAL SECURITY

5-71. Tactical security missions include—

- Cover.
- Delay.
- Tactical movement security.
- Combat security.
- Counterreconnaissance.
- Quick response.
- Area security.

5-72. *Cover* is a defensive tactical task that uses an area defense to protect a force from direct and indirect fire. Cover is described further in Chapter 4. *Delay* is a defensive tactical task that uses a maneuver defense to protect a force from direct and indirect fire. Cover and delay are described further in Chapter 4. The execution of tactical security for a force conducting tactical movement is described later in this chapter.

5-73. *Combat security* (also called local security) is executed by establishing outposts along enemy avenues of approach and conducting patrols to provide early warning to the main body and time for the main body to complete its current action and respond as needed to the new threat. Combat security forces also destroy enemy reconnaissance. Forces that execute combat security are CSOPs and SEs (see above). Figure 5-7 shows an example of combat security actions.

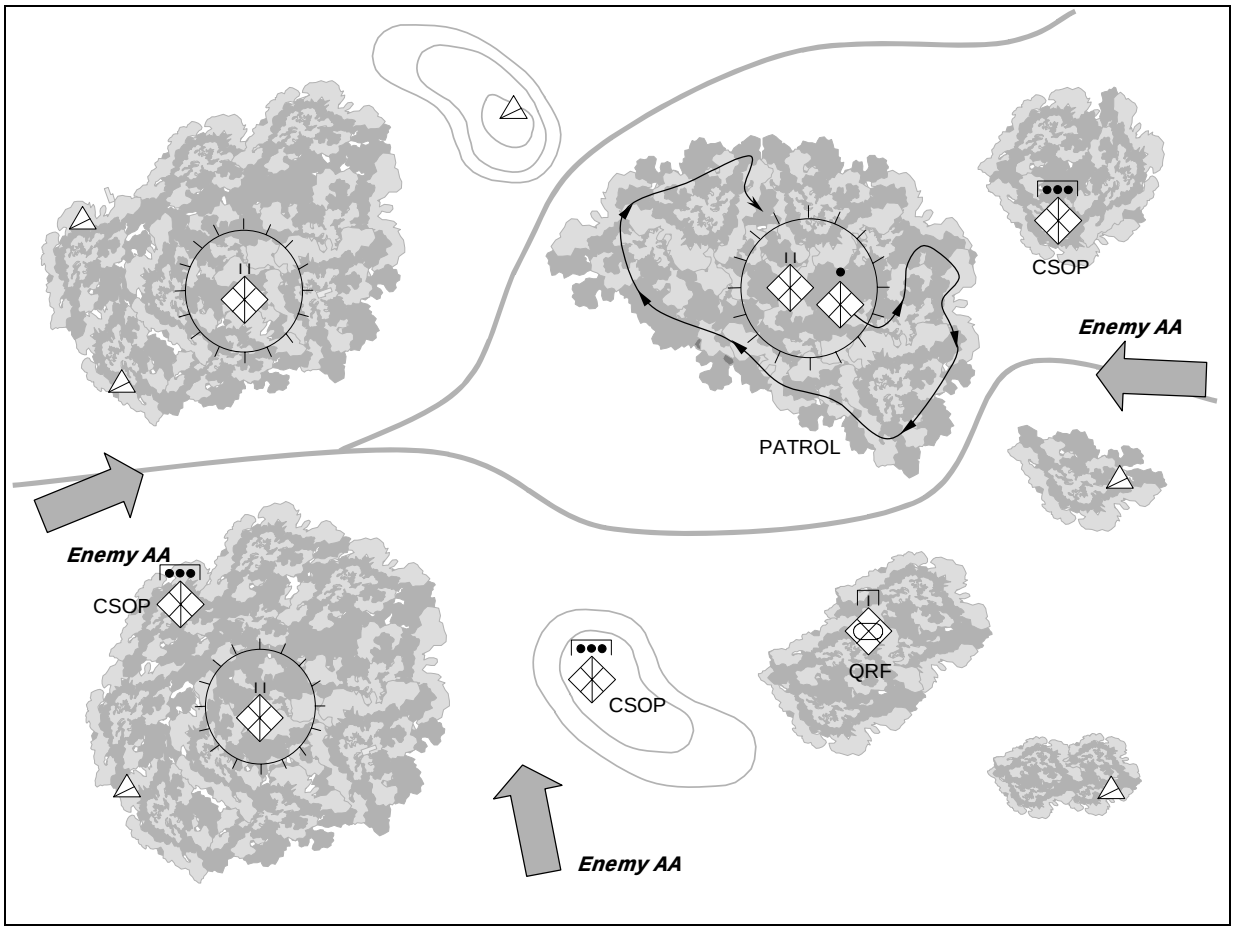


Figure 5-9. Combat Security Example

5-74. *Counterreconnaissance* is a tactical security task that protects the force by consolidating and focusing efforts to systematically destroy enemy reconnaissance elements. CR is described in detail elsewhere in this chapter.

5-75. *Quick response* is a tactical security task in which a force capable of rapid tactical movement moves to and eliminates or neutralizes a threat. A quick response force (QRF) is a detachment task organized to execute this task.

5-76. *Area security* is a tactical security task that integrates combat security and force protection subtasks into a single C^2 structure within a single AOR. Area security is designed to counter multiple threats by assigning two or more of the following tasks to a single security force:

- Combat security.
- Counterreconnaissance.
- Counterintelligence.
- Air and missile defense.
- Survivability.
- Counter-mobility.

- C^3D.
- Quick response.
- Counterfire.
- Antilanding actions.
-

Chapter 6

Combined Arms Tactics

Combined arms tactics are tactical actions that require the effective coordination of multiple arms to be successful. The tactics described in this Chapter are employed in combat actions that could be either offensive or defensive in nature.

ACTIONS OF THE DISRUPTION FORCE

6-1. The purpose of the disruption force is to significantly degrade the enemy's combat capability and to prevent the enemy from conducting an effective operation. The primary task of the disruption force is to initiate the attack against the enemy's combat system. (See Systems Approach to Warfare in Chapter 1.) The disruption force does this by initiating the attack on components of the enemy's combat system. Successful attack of designated components or subsystems begins the disaggregation of the enemy's combat system and creates vulnerabilities for exploitation in the battle zone. Skillfully conducted disruption operations will effectively deny the enemy the synergy of effects of his combat system. In addition, the disruption force—

- Destroys enemy reconnaissance.
- Forces the enemy to deploy early or disrupts his offensive preparations.
- Gains and maintains reconnaissance contact with key enemy elements.
- Deceives the enemy as to the disposition of OPFOR units.

6-2. The disruption force may be given any offensive, defensive or security mission that best suits the disruption of the particular enemy force in question in the specific battlespace assigned. To accomplish these missions, the disruption force executes a combination of tactical tasks designed to set the conditions for OPFOR success. These tasks include one or more of the following:

- Cover.
- Delay.
- Disrupt.
- Fix.
- Ambush.
- Contain.
- Canalize.
- Isolate.
- Neutralize.

- Interdict.

ORGANIZING THE DISRUPTION ZONE

6-3. The disruption zone is essentially the area of responsibility (AOR) of the disruption force. It may contain subordinate unit battle positions, kill zones, axes, objectives and attack zones based on the disruption force commander's intent.

ORGANIZING THE DISRUPTION FORCE

6-4. The size and composition of the disruption force depends on the level of command involved, the commander's concept of the battle, and terrain and enemy involved. A commander will also always make maximum use of stay-behind forces and affiliated forces existing within his AOR. Subordinate commanders can employ forces in a disruption zone role independent of the battle plan only with division or division tactical group (DTG) approval. Typically, a DTG disruption force is a BTG, while a BTG disruption force is typically an independent mission detachment (IMD). However, a disruption force has no set order of battle. It may contain—

- Ambush teams (ground and air defense).
- Long-range reconnaissance patrols and/or Special-Purpose Forces (SPF) teams.
- Reconnaissance, intelligence, surveillance, and target acquisition (RISTA) assets and forces.
- Counterreconnaissance detachments.
- Artillery systems.
- Target designation teams.
- Elements of affiliated forces (such as terrorists, insurgents, criminals, or special police).
- Antilanding reserves.

PLANNING THE DISRUPTION BATTLE

6-5. The disruption force headquarters plans the disruption battle. Key planning considerations for the disruption battle are:

- Identifying components or subsystems of the enemy's combat system that are priority for attack.
- Identifying priority intelligence tasks to be accomplished by the disruption force.
- Determining the disruption force role in the overall information warfare (IW) plan.
- Determining critical OPFOR elements that must be protected from enemy reconnaissance efforts.

EXECUTING THE DISRUPTION BATTLE

6-6. The disruption force fixes enemy forces and places long-range fire on key enemy units. It also strips away the enemy's reconnaissance assets while denying him the ability to acquire and engage OPFOR targets with deep fires.

This includes an air defense effort to deny aerial attack and reconnaissance platforms from targeting OPFOR elements. The disruption force seeks to conduct highly damaging local attacks.

6-7. Typical systems, units, or facilities to be attacked by the disruption force are—

- Command and control (C^2) systems.
- RISTA assets.
- Attack helicopter forward arming and refueling points.
- Airfields.
- Precision fire systems.
- Logistics support areas.
- Lines of communication (LOCs).
- Mobility and countermobility assets.
- Casualty evacuation routes and means.

COUNTERRECONNAISSANCE

6-8. The OPFOR defines *counterreconnaissance* (CR) as a continuous combined arms action to locate, track and destroy all enemy reconnaissance operating in a given AOR. The OPFOR conducts CR at all times and during all types of operations. The OPFOR understands the role of situational awareness in battle and will spare no effort or resource to hunt down and eliminate enemy reconnaissance troops and systems.

ORGANIZING THE BATTLEFIELD FOR COUNTERRECONNAISSANCE

6-9. The unit AOR will be divided into one or more CR zones (CRZs). There are many ways to do this depending upon the situation. For example, a DTG could fight the CR battle at its level and make the entire AOR the only CRZ. It could instead give the disruption force the CR mission in the disruption zone and each brigade or BTG responsibility for its CRZ. A CRZ is the AOR for one counterreconnaissance detachment (CRD, see below). Control measures key to CR action are those that assist in locating, tracking and destroying enemy reconnaissance elements. See Figure 5-1 for an example of a BTG's CRZ.

Reference Zones

6-10. Reference zones (RZs) are subdivisions of the CRZ that assist in rapid orientation on the ground and direction of killing forces or systems to enemy reconnaissance elements. RZs may take the form of a grid pattern with individual grids given code names, letters or numbers. RZs may also include target reference points whether for orientation purposes only or also as artillery targets.

Predicted Enemy Locations

6-11. Predicted enemy locations (PELs) are identified locations in the AOR where enemy activity, troops or systems are projected. PELs are not solely associated with CR, but the information section identifies a specific set for those locations where enemy reconnaissance is forecast.

Kill Zones

6-12. Kill zones are discussed in Chapter 2. However, the CRD commander will often identify his own set of kill zones associated with where he intends to kill enemy reconnaissance on the ground.

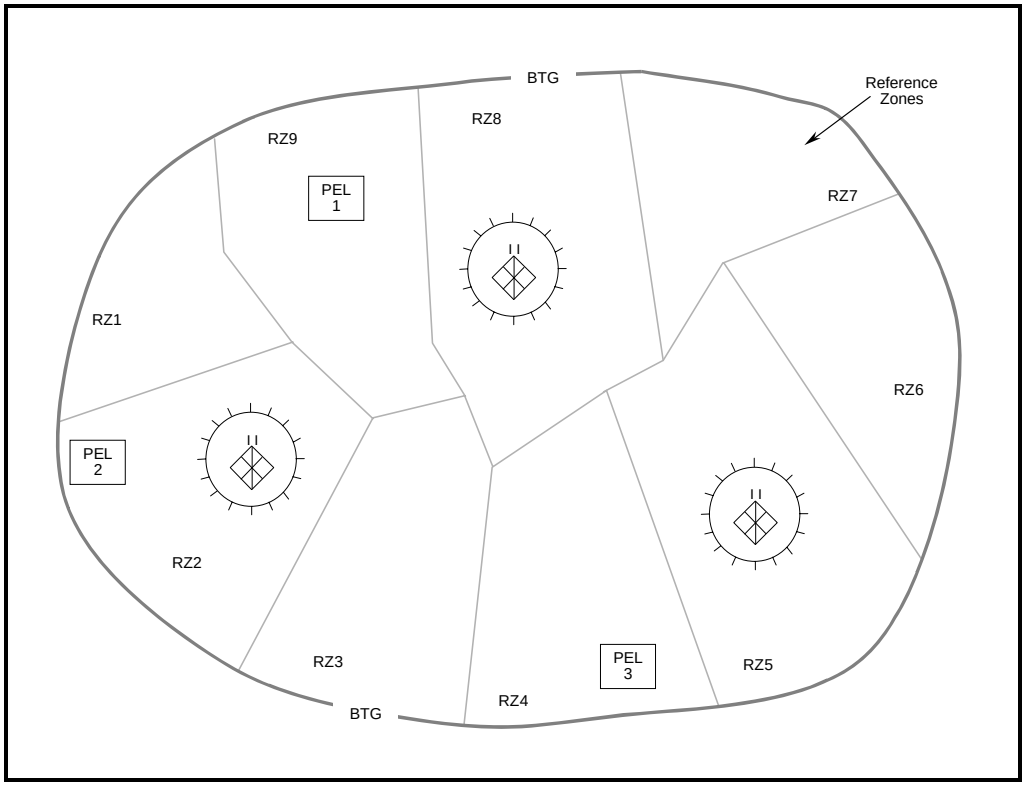


Figure 6-1. Counterreconnaissance Zone (Example)

ORGANIZING FORCES FOR COUNTERRECONNAISSANCE

6-13. Counterreconnaissance is a combined arms mission. Commanders will select the units best suited to locate, track, and kill enemy reconnaissance given the nature of the overall mission and the AOR.

Counterreconnaissance Detachment

6-14. A CRD is a detachment (see Chapter 2) task organized to be able to locate, track and destroy enemy reconnaissance throughout its CRZ. Each CRZ is the responsibility of one CRD.

6-15. **Command and Support Relationships.** As a detachment, the CRD is primarily composed of constituent and dedicated units. However, the supporting command and support relationship may be necessary to bring specialized capabilities to bear for limited periods of time. For example, the CRD may receive a precision-capable artillery unit in support in order to destroy enemy mounted reconnaissance targets. In another case, the CRD may re-

ceive a night-capable helicopter unit for use during a period of limited visibility.

6-16. **CRD and the Security Force.** The security force is charged with the force protection of the unit from all threats. A CRD is specifically designed to enemy reconnaissance and intelligence collecting elements. The commander has two basic options in designing their relationship. Typically, the CRD is a component of the security force. Alternately, the commander may give the CRD additional security responsibilities and resources and charge the CRD with performing the security mission in its AOR leaving the security force to execute missions in other parts of the higher AOR.

CRD Components

6-17. The CRD is a task organization created specifically for the CR mission. It is a combined arms organization, with various combinations of the following components. See Figure 6-2 for an example of a CRD organization.

6-18. **Reconnaissance.** Perhaps the most essential component of a CRD is its reconnaissance elements. If the CRD cannot locate and track enemy reconnaissance elements, it cannot perform its mission. CRD reconnaissance elements take many forms: long range reconnaissance units, mounted and dismounted (combat) reconnaissance units, signals reconnaissance, aerial reconnaissance, or SPF.

6-19. **Air Defense.** Air defense systems in the CRD might be used defensively to protect elements of the CRD. It might also be used offensively to destroy enemy aerial reconnaissance systems—unmanned aerial vehicles (UAVs), reconnaissance aircraft, or reconnaissance helicopters.

6-20. **Aviation.** Aviation assets play a number of roles in a CRD. They transport infantry rapidly to already located enemy reconnaissance targets. They perform armed and unarmed reconnaissance to locate enemy reconnaissance. As the CRZ is generally a large area for the forces in the corresponding CRD to cover, aviation assets may be used to resupply dispersed elements of the CRD.

6-21. **Artillery.** Artillery and other indirect fire systems provide an excellent means of killing enemy reconnaissance without involving direct fire engagements. The challenge is to employ artillery against enemy targets within the battle and support zones without endangering other OPFOR forces. Precision systems are uniquely suited to the CR mission and the OPFOR considers the expenditure of limited precision resources against enemy reconnaissance targets to be well worth it.

6-22. **Infantry.** Enemy reconnaissance units often seek concealment in complex terrain. Infantry units in the CRD attack and destroy such targets. Normally, other elements of the CRD locate these targets, but infantry may also be called upon to conduct reconnaissance missions in complex terrain in support of the CR effort.

6-23. **Engineers.** Typically a CRD does not have significant engineer resources. When present, they execute standard engineer missions when and where necessary. Combat engineer elements also accompany infantry in actions on complex terrain.

6-24. **Signal.** CRDs often operate over relatively large geographic areas. The CRD will be organized with appropriate signal assets to allow it to transmit and manipulate information securely over large distances.

6-25. **Electronic Warfare.** CRDs may contain electronic warfare (EW) assets to permit them to block enemy reconnaissance elements from communicating their observations to their higher headquarters and other enemy units.

6-26. **Armor.** If the enemy has a strong mounted reconnaissance capability, or when terrain conditions are favorable, the CRD may contain armor elements. The tank units can move rapidly to engage and destroy located reconnaissance targets.

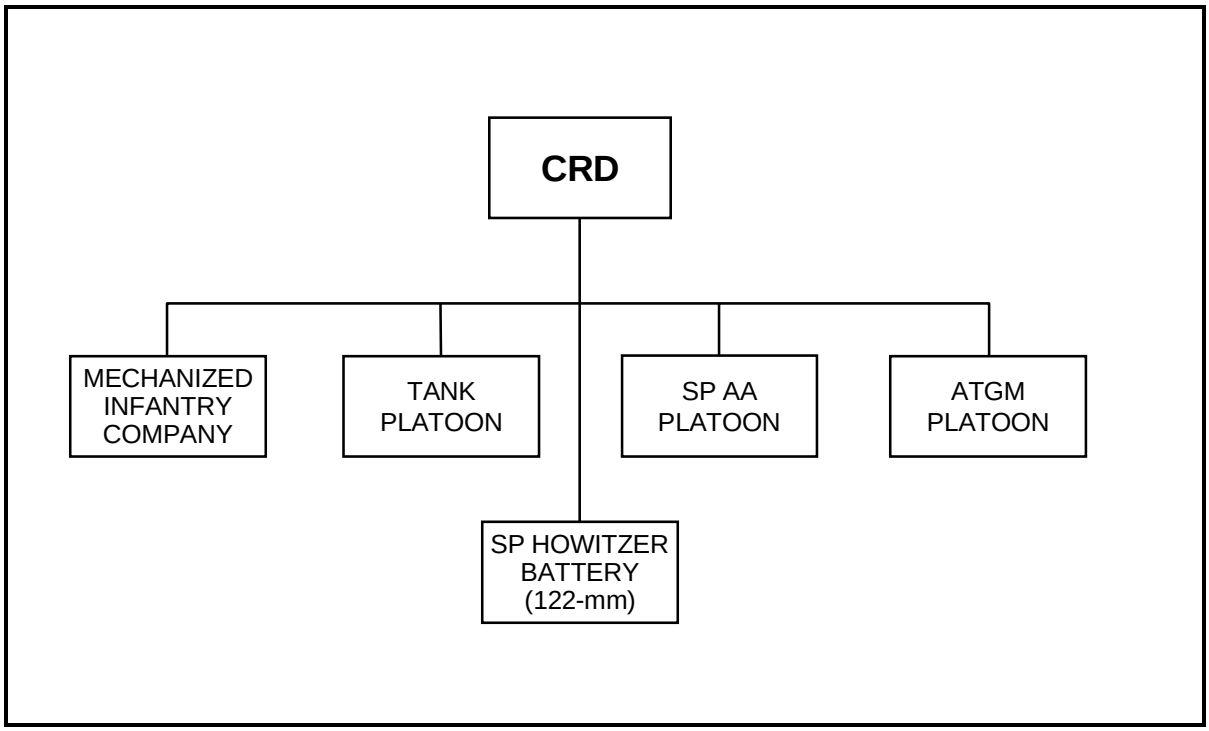


Figure 6-2. Counterreconnaissance Detachment (Example)

PLANNING COUNTERRECONNAISSANCE

6-27. The CR plan is written by the staff of the unit forming the basis of the CRD with guidance from the higher staff. CR is treated as an ongoing offensive action no matter what type action is being undertaken by the higher unit. The CR plan is the battle plan (see Chapter 2) of the CRD.

EXECUTING COUNTERRECONNAISSANCE

6-28. The CRD headquarters interacts with the reconnaissance section of the DTG or BTG staff to maintain a clear picture of enemy locations with an emphasis on his reconnaissance systems. As enemy reconnaissance assets are identified, they are tracked by the CRD headquarters and this information is provided to the CRD elements given the mission to destroy those elements. If

other OPFOR combat elements in the AOR are closer and/or better suited to find or destroy critical enemy reconnaissance elements, the CRD commander will recommend this action to the higher commander and, if approved, coordinate this effort. See Figure 6-3 for an example of CR execution within a BTG's AOR.

6-29. The CRD commander determines which enemy reconnaissance assets are to be destroyed in accordance with the higher commander's guidance. He assigns missions to attack and destroy those assets to appropriate subordinate elements. The CRD headquarters guides the attacking element in on the enemy reconnaissance asset until contact is made.

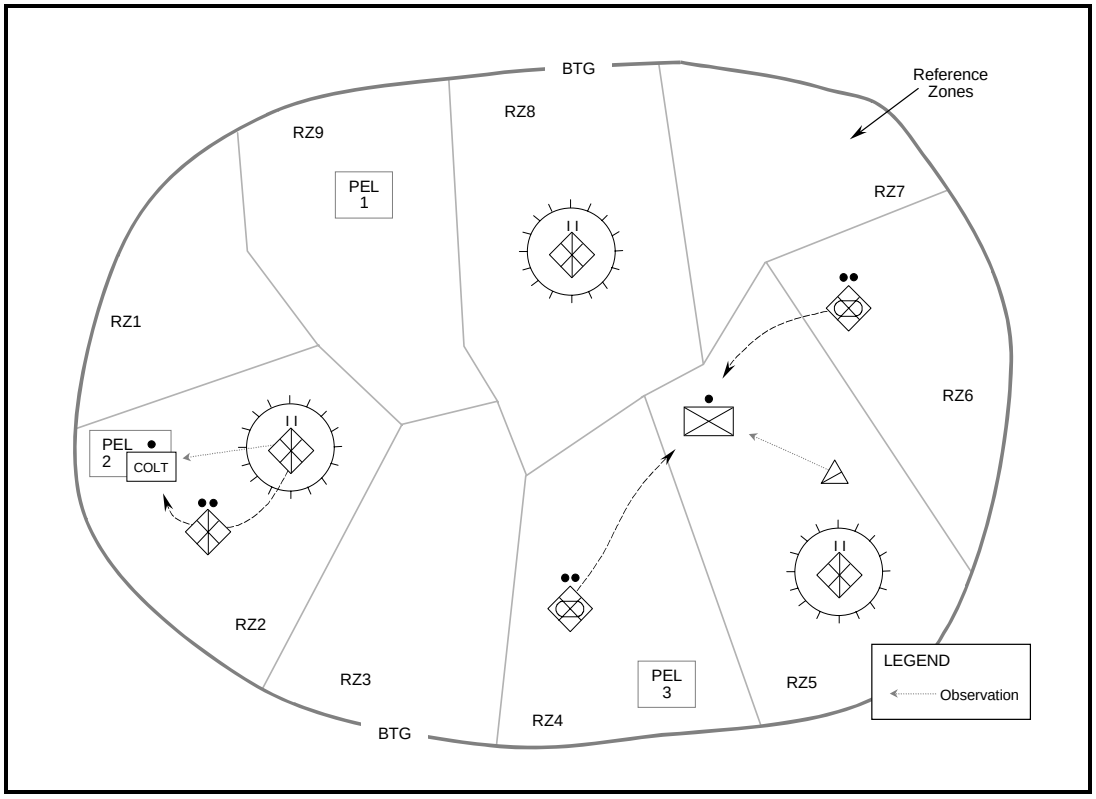


Figure 6-3. Execution of Counterreconnaissance (Example)

ALL-ARMS AIR DEFENSE

6-30. The OPFOR recognizes that air defense operations and tactics against a sophisticated enemy are problematic. Although there are adaptations that can be made in the tactics employed by air defense units to improve their chances of success; the OPFOR views the creative and adaptive use of other arms to accomplish air defense objectives as part and parcel of the overall air defense effort. They view this as a practical application of the combined arms concept. This application calls for the simultaneous employment of several arms, in some cases including air defense systems, to achieve an effect against the enemy air threat that will render greater results than the use of

air defense assets/systems alone. This air threat includes all aircraft capable of attacking, conducting reconnaissance or moving troops on the battlefield. The extent to which this can be applied is limited only by the commander and staff's knowledge of the enemy air threat, capabilities of their own systems and their ability to apply that knowledge to come up with innovative solutions.

6-31. This section addresses a number of example tactics that can be employed against the enemy air threat. It will include a brief discussion of planning from national through tactical levels. This is necessary to demonstrate that these tactics can be used to achieve strategic, operational and tactical results and therefore applied at all levels. They are part of an overall campaign to defeat or at least degrade enemy air capabilities.

6-32. The OPFOR organizes its forces and assets to assist in accomplishing the three basic phases of air defense:

- Actions taken to destroy enemy aircraft and control systems before they are employed.
- Actions taken to destroy enemy aircraft while in flight and before they enter airspace over ground forces.
- Actions to destroy aircraft that have penetrated airspace over ground maneuver forces.

Although these phases occur sequentially as hostilities are initiated, they occur almost simultaneously and are conducted continuously.

ORGANIZING THE BATTLEFIELD FOR ALL-ARMS AIR DEFENSE

6-33. In organizing the battlefield, the OPFOR first roughly equates the three phases above with where they will primarily occur on the ground. That is, the effort to destroy aircraft before they are employed will occur primarily in the enemy support area. This basically encompasses that area that extends from enemy home territory, allied basing, to and including in-theater enemy rear areas down to enemy division level. It is the area in which aircraft are based, refueled, maintained and resupplied. This area is the overall responsibility of the OPFOR theater commander. A large part of it could be given an OSC. Part of the area assigned could fall within the OSCs disruption zone. This area is referred to the "basing area."

6-34. The area in which aircraft fly before they enter air space over ground maneuver units extends from bases to the main battle areas of OPFOR units. This "flight area" overlaps the basing zone. The disruption zone(s) are included in this since one of the missions performed in this zone is to destroy aerial platforms before they get to the main battle area. Finally, the "target area" consists of the disruption, battle and support zones. The disruption zone is included here since part of the air defense mission in them is to protect forces on the ground within the zone.

6-35. These areas are transparent to tactical organizations. They will operate using the control measures discussed elsewhere in this manual. The purpose of these areas is to assist planners in rationalizing, planning, and organizing the overall effort.

ORGANIZING FORCES FOR ALL-ARMS AIR DEFENSE

6-36. The forces employed to execute these tactics consist almost exclusively small units. They include but are not limited to SPF, engineers, artillery and mortar, infantry, mobile and manportable air defense units or systems, and affiliated forces. These organizations are often used in combination or participate separately in attacking targets which, in effect, achieves a combined result.

PLANNING ALL-ARMS AIR DEFENSE

6-37. Planning begins at the national level and before the threat of war. Each contingency plan developed includes a detailed analysis of the area involved to include the identification of key airfields, ports, LOCs, and infrastructure, which could support an enemy force. In those areas controlled by the OPFOR, preparations are made to support planned missions. These include the identification of complex terrain in the vicinity of identified targets, potential cache sites, and forces to perform missions. Areas not in the direct control of the OPFOR, but anticipated to be included in the contingency, are also analyzed. Factors examined include all those mentioned above and the identification of insurgent groups, groups with ethnic ties to the OPFOR, groups which sympathize with the OPFOR for political reasons, individual sympathizers, terrorist groups and even criminal organizations. Potential means and routes of infiltration and potential sources of supply are also examined. Key targets and missions are identified and units tasked to be prepared to perform them. This information is shared with the OSCs assigned to the particular contingency and the planning effort coordinated. What is developed is an integrated plan consisting of a large number of tactical actions which support air defense objective at all levels. This is the basic plan from the OPFOR operates at the initiation of hostilities. It is modified, updated and new missions assigned as the contingency situation develops.

6-38. Plans are developed which, taken as a whole, may constitute a battle or operation within the designated area. This is particularly true in the basing area, since most of the forces operating there will be small units. Their actions are timed to occur simultaneously or sequentially to achieve a result over time. For example, a series of actions against an airfield, set to occur within certain timeframes, can have the net effect of not only destroying aircraft and their support facilities but also degrading enemy air operations. An additional payoff is the possible commitment of forces needed in other areas to secure the facility.

EXECUTION OF ALL-ARMS AIR DEFENSE

6-39. Single-round rocket launchers, towed multiple rocket launchers (MRLs), or (where suitable) higher-capacity MRL systems are placed in hide positions as friendly forces withdraw from an area. The hides are situated in complex terrain and previously determined firing data is set on the weapons. System hides contain only one system, are loaded and ready to fire, and highly camouflaged. These hide positions are dispersed over a wide area. Crews manning the systems bivouac away from the system to keep it cold. Crews have communication capability but are kept on radio silence. When monitoring and acknowledging one-time orders to execute they do so away

from the system. Once given the order to execute the firing systems work on a predetermined firing schedule issued as part of an overall plan. Each MRL may be may be assigned the mission of firing once. Firing occurs in a predetermined sequence separated by time. The net effect of this tactic is to destroy or damage facilities/aircraft on the ground and degrade the operating capability of support personnel. Munitions loads can be mixed dependent on the desired effect. They can include scatterable mines, delayed-fuzed munitions, high explosive (HE), and chemical.

6-40. This effort can be enhanced through the employment of mortars. Single mortar crews operating from pre-selected hides can move to firing positions where rounds with pre-set charges are cached. Once laid in the mortars can fire rounds in rapid succession at targets on the airfield and then move back to hides. Given range and terrain considerations larger caliber mortars (120-mm) can be used in conjunction with laser target designators to place rounds on point targets such as large aircraft, fuel storage and ammunition facilities and hangers.

6-41. The use of small special-purpose forces (SPF) teams equipped with man-portable non-line-of-sight ATGMs can target aircraft on the ground, maintenance vehicles and facilities and even air traffic control and communications vans.

6-42. In filtrated or stay behind special-purpose forces and infantry can conduct on-order raids against airfields and ground support facilities away from the airfields. These raids can be timed in conjunction with other methods so that they assist in keeping the target under constant pressure. They can also conduct small team ambushes along LOCs with the specific purpose of destroying certain types of vehicle or equipment related to air operations.

6-43. Terrorist and other affiliated groups can intimidate host country civilian contractors to force them to sabotage enemy operations they are supporting. Examples include contaminating fuel and lubricant supplies, placing bombs on generators or ground support equipment. Insurgent groups can be contacted, supplied and trained to perform missions that support the objective of the operation.

6-44. SPF teams can infiltrate man-portable, shoulder-fired surface-to-air missiles (SAMs) close to airfields or along identified and potential flight routes. These teams are best employed in pairs. Early warning can be achieved to some extent through the use of a team overwatching airfields and transmitting to SAM teams the departure of aircraft.

6-45. The planned combined use of antihelicopter mines, artillery and remote sensors by OSCs and their constituent organizations can be an effective tactic against attack helicopters using standoff firing techniques. Critical to this tactic is the identification through analysis of likely helicopter firing positions. These will be located primarily in the disruption zone. Once identified these areas are seeded with antihelicopter mines, remote sensors are placed to overwatch the sites and the sites registered as preplanned artillery targets. Once the sensors pick up the incoming helicopters, the information is relayed to artillery units that take the sites under fire using variable time fused munitions. This tactic can either destroy or damage the aircraft or cause the area to be untenable. In lieu of remote sensors small teams can be

positioned to overwatch the most likely sites and relay information back to the guns.

6-46. Antihelicopter mines can be placed on likely firing positions. This area can be left unattended and the technique can be used at sights to economize assets for use at the most likely sights. Another crude but potentially effective method employing engineers is the use of cables strung across avenues of ingress.

ANTILANDING ACTIONS

6-47. The OPFOR prefers to prevent landings by airborne or heliborne troops through the destruction of the troop transport aircraft in flight. Failing that, it will take significant actions to destroy landing forces on the ground as soon after landing as possible. Antilanding actions (ALA) can and will be executed by any force with the capability to affect the aircraft or the landing forces, but ALA is a combined arms action that primarily falls to the antilanding reserve (ALR) for execution.

ORGANIZING THE BATTLEFIELD FOR ANTILANDING ACTIONS

6-48. Antilanding forces are given their own attack zone to control their actions against landing forces. Such an attack zone may only be activated for the duration of an antilanding action or may be assigned to the ALR permanently. Kill zones are used to control both ground and air defense engagements. PELs are used to indicate anticipated enemy landing or drop zones (LZs or DZs).

ORGANIZING FORCES FOR ANTILANDING ACTIONS

6-49. Commanders form one or more antilanding reserves to conduct ALA during or after an enemy landing operation. ALRs can consist of any units the commander and staff's force analysis determines necessary to destroy an enemy airborne or heliborne landing. Typical ALRs include as subelements:

- Gun and missile air defense units.
- Infantry with AT weapons.
- Armor.
- Smoke units.
- Engineers.
- Aviation.
- Artillery.

ALRs are typically detachments, but an ALR for an anticipated major enemy landing operation may be a BTG or even a DTG should the situation warrant.

PLANNING ANTILANDING ACTIONS

6-50. The ALR plans actions to attack enemy transport aircraft en route to and in the vicinity of the LZ or DZ. This may require the assistance of other air defense units not in the ALR. The force protection subsection of the BTG or DTG staff performs this coordination.

6-51. The ALR plans and rehearses actions in the vicinity of the LZs or DZs as well as movement between assembly areas, hide positions, attack positions and between LZs or DZs.

EXECUTING ANTILANDING ACTIONS

6-52. Early warning is transmitted from the main command post to the ALR. The ALR moves to positions in the attack zone from which it can engage transport aircraft and destroy landing forces on the ground.

URBAN COMBAT

6-53. The OPFOR sees urban combat (UC) as a vital subcomponent of its tactical actions. Complex urban terrain provides significant advantages to the side that is ready to make use of them. OPFOR units train extensively in UC and expect to make maximum use of complex urban terrain and to act to deny such use to the enemy.

ORGANIZING THE BATTLEFIELD FOR URBAN COMBAT

6-54. Areas of responsibility in UC are constructed as they are in other actions. Urban detachments (UDs) are often given an attack zone in which to operate. Support zones are often located in sanctuary areas inside battle positions.

6-55. In addition to "normal" control measures, the OPFOR will place great emphasis in defining and using the third dimension that urban areas create. (See Figure 5-12.) All zones will be defined both in terms of horizontal dimensions as well as the vertical. It may well be for example, that the upper floors of a building are a kill zone while the lower floors are still in the battle or disruption zone and contain friendly forces.

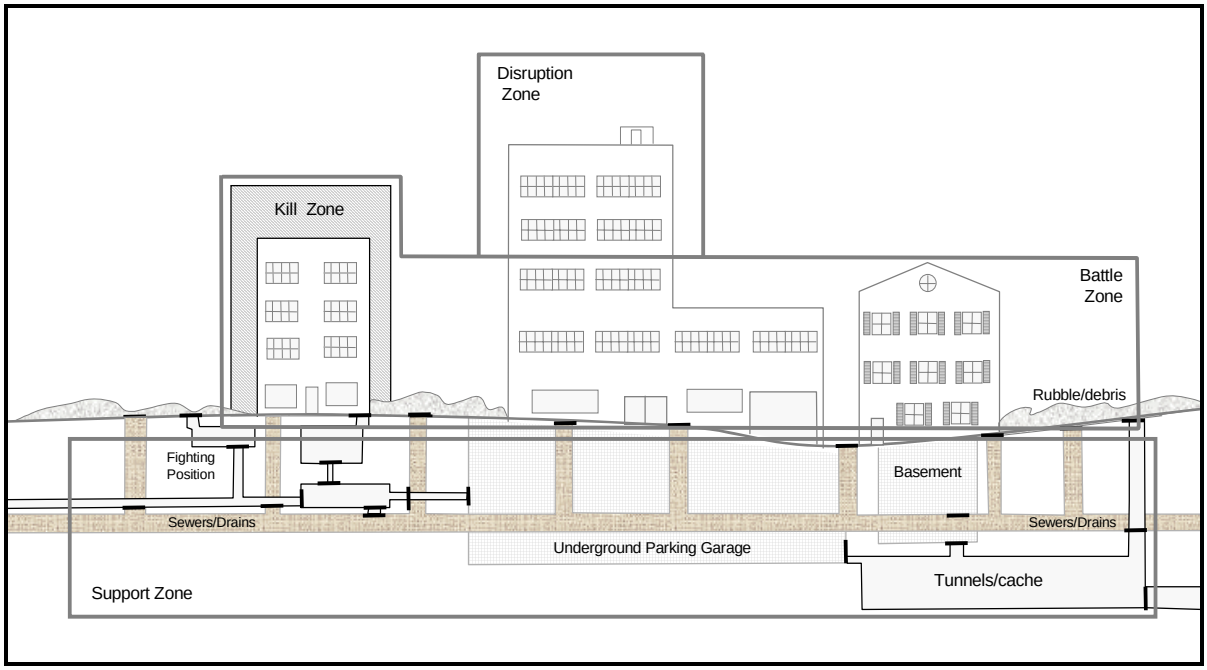


Figure 6-x. Three-Dimensional Battlefield Organization

ORGANIZING FORCES FOR URBAN COMBAT

6-56. The primary organization used by the OPFOR for UC is the *urban detachment*. A UD is a task-organized battalion or company given the mission to attack and seize selected portions of an urban area. The composition of UDs is mission dependent, but almost always includes, as a minimum, artillery, engineers and flame weapons troops.

6-57. Urban detachments consist of the following elements:

- Security element.
- Clearing element.
- Assault element.
- Support element.

6-58. The *security element* of a UD provides local tactical security for the detachment and prevents the enemy from influencing mission accomplishment. The clearing element ensures the assault element has an avenue of approach that is clear of obstacles, debris and rubble that would disrupt its movement. The *assault element* moves from a covered and concealed position and accomplishes the UD's tactical task. The *support element* provides combat and combat service support and C^2 for the detachment.

PLANNING URBAN COMBAT

6-59. The OPFOR sees certain aspects of UC as critical to success and addresses them in the plan for every action on complex urban terrain.

6-60. The populace of a given urban area represents key terrain: the side that manages it best has a distinct advantage. UC will see large segments of the populace remain in place. The OPFOR will use the population to provide C^3D for their operations, enhancing their mobility in proximity to enemy positions. The OPFOR will take advantage of enemy moral responsibilities and attempt to make the civil population a burden on enemy forces' logistical and force protection resources. They will herd refugees into enemy controlled sectors, steal from local nationals and hide among civilians during enemy offensive operations.

6-61. The civil population will also serve as a key intelligence source for the OPFOR. Local hires serving among enemy soldiers, civilians with access to base camp perimeters and refugees moving through enemy-controlled sectors will all be manipulated by threat forces to provide information on enemy dispositions, readiness and intent. Also, OPFOR SPF and reconnaissance assets will move among well-placed civilian groups.

6-62. The OPFOR will attempt to win the information war as much as they will directly oppose enemy action. Portable video cameras, internet access, commercial radios and cellular phones are all tools that permit the OPFOR to tell its story and turn the national wills involved against enemy participation in the operation. Enemy "atrocities"' will be staged and broadcast. Electronic mail will be transmitted to sympathetic groups to help undermine resolve.

Hackers will gain access to enemy sites to manipulate information to the threat's advantage.

6-63. The OPFOR plan for UC will always address the need for continuous combat. The plan includes a methodology for cycling soldiers out of positions in contact to reduce the effects of combat stress.

EXECUTING URBAN COMBAT

6-64. The OPFOR will identify and quickly seize control of critical components of the urban landscape to help them shape the battlespace to their own ends. Phone exchanges provide simple and reliable communications that can be easily secured with off-the-shelf technologies. Sewage treatment plants and flood control machinery can be used to implement weapons of mass destruction (WMD) strategies or to make sections of the urban area uninhabitable. Media stations significantly improve the controlling force's information ops position. Power generation and transmission sites provide means to control significant aspects of civilian society over a large area.

6-65. Upper floors and roofs provide the OPFOR excellent observation points and battle positions above many weapons' maximum elevations. Shots from upper floors strike armored vehicles in vulnerable points. Basements also provide firing points below many weapons' minimum depressions and strike at weaker armor. Sewers and subways provide covered and concealed access throughout the area of operations. The OPFOR will think in terms of these three dimensions. Conventional lateral unit boundaries will often not apply as threat forces control some stories of the same building while enemy forces control others. See Figure 5-12 for an example of UC in an enemy-controlled building complex.

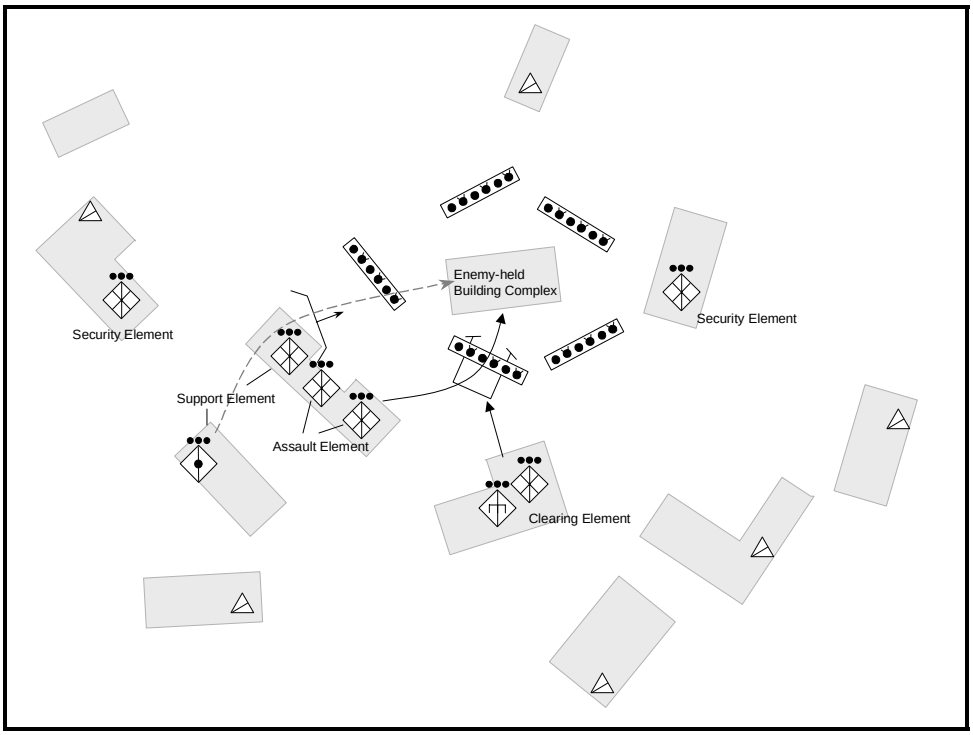


Figure 6-x. Urban Detachment Attacking Enemy-Controlled Building Complex

6-66. Whether they are purpose-built or adapted, many weapons will have greater then normal utility in an urban environment while others will have significant disadvantages. The following are examples of weapons favored by the OPFOR in urban operations:

- Weapons with no minimum depression or maximum elevation.
- Grenade launchers (automatic and rifle-mounted).
- AT grenade launchers and shoulder-fired ATGMs.
- Weapons with little or no backblast (such as gas metered or soft launch).
- Mortars.
- Sniper rifles.
- Machineguns.
- Grenades.
- Flame and incendiary weapons.
- Riot control and tranquilizer gases.
- Mines and boobytraps.
- Artillery pieces used in direct fire mode.

6-67. The OPFOR will "hug" high-technology conventional enemy forces in an urban environment to avoid the effects of high-firepower standoff weapon systems. Additionally, it will attempt to keep all or significant portions of en-

emy forces engaged in continuous operations to increase their susceptibility to stress-induced illnesses. Urban operations, by their nature, produce an inordinate amount of combat-stress casualties and continuous operations exacerbate this problem. The OPFOR will maintain a large reserve to minimize the impact of this on its own forces.

6-68. The OPFOR will prey on soldiers untrained in basic infantry skills. Ambushes will focus on these type soldiers conducting resupply operations or moving in poorly guarded convoys. Urban combat is characterized by the isolation of small groups and navigational challenges and the threat will use the separation this creates to inflict maximum casualties even when there is no other direct military benefit from the action.

Chapter 7

Information Warfare

The OPFOR and forces of the State's regional neighbors are rapidly increasing the levels of technology used by military communications, automation, reconnaissance, and target acquisition systems employed at the tactical level. Potential extra-regional adversaries rely heavily on such systems. In order to ensure the successful use of its own information technologies and to deny the enemy the advantage afforded by such systems, the OPFOR has continued to refine its doctrine and capabilities for information warfare (IW).

The OPFOR defines *information warfare* as specifically planned and integrated actions taken to achieve an information advantage at critical points and times. The goal is to influence an enemy's decision-making through his collected and available information, information systems, and information-based processes, while retaining the ability to employ friendly information, information-based processes, and systems.

Knowing it cannot maintain continuous information dominance, particularly against an extra-regional opponent, the OPFOR selects for disruption only those targets most critical to ensuring the successful achievement of its objectives. It attempts to gain an information advantage only at critical times and places on the battlefield. This chapter focuses on IW activities at the tactical level.[1]

ELEMENTS OF IW

7-1. Integrated within IW doctrine are the following seven elements:

- Electronic warfare (EW).
- Deception.
- Physical destruction.
- Protection and security measures.
- Perception management.
- Computer Warfare
- Information attack (IA).

[1] Unless specifically stated otherwise, references to division and brigade in this chapter also apply to a division tactical group (DTG) or brigade tactical group (BTG). A *tactical group* is a task-organized unit organized around the baseline, administrative structure of a division or brigade.

7-2. The seven elements of IW do not exist in isolation from one another and are not mutually exclusive. The overlapping of functions, means, and targets makes it necessary that they all be integrated into a single, integrated IW plan. However, effective execution of IW does not necessary involve the use of all elements concurrently. In some cases, one element may be all that is required to successfully execute a tactical IW action. Nevertheless, using one element or subelement, such as camouflage, does not by itself necessarily constitute an application of IW.

7-3. The use of each element or a combination of elements is determined by the tactical situation and support to the overall operational objective. The size and sophistication of an enemy force also determines the extent to which the OPFOR employs the various elements of IW. The commander has the freedom to mix and match elements to best suit his tactical needs, within the bounds of guidance from higher headquarters.

ELECTRONIC WARFARE

7-4. EW is activity conducted to control or deny the enemy's use of the electromagnetic spectrum, while ensuring its use by the OPFOR. The OPFOR realizes that it cannot completely deny the enemy's use of the spectrum. Thus, the goal of OPFOR EW is to control (limit or disrupt) his use or selectively deny it at specific locations and times on the battlefield, at the OPFOR's choosing. In this way, the OPFOR intends to challenge the enemy's goal of information dominance.

7-5. The OPFOR employs both nonlethal and lethal means for EW. *Nonlethal* means range from signals reconnaissance and electronic jamming to the deployment of corner reflectors, protective countermeasures, and deception jammers. The OPFOR can employ low-cost GPS jammers to disrupt enemy precision munitions targeting, sensor-to-shooter links, and navigation. *Lethal* EW activities include the physical destruction of high-priority targets supporting the enemy's decision-making process—such as reconnaissance sensors, command posts (CPs), and communications systems. They also include activities such as lethal air defense suppression measures. If available, precision munitions can degrade or eliminate high-technology command and control (C^2) assets and associated links.

7-6. EW activities especially focus on the enemy's advanced C^2 systems developed to provide real-time force synchronization and shared situational awareness. The enemy relies on the availability of friendly and enemy force composition and locations, digital mapping displays, and automated targeting data. By targeting vulnerable communications links, the OPFOR can disrupt the enemy's ability to digitally transfer and share such information. The OPFOR enhances its own survivability through disrupting the enemy's ability to mass fires with dispersed forces, while increasing enemy crew and staff workloads and disrupting his fratricide-prevention measures.

7-7. EW is a perfect example of the integrated nature of OPFOR IW elements. It overlaps significantly with protection and security measures, deception, and physical destruction. Reconnaissance, aviation, air defense, artillery, and engineer support may all contribute to successful EW for IW purposes.

Signals Reconnaissance

7-8. Signals reconnaissance conducted in support of the tactical actions focuses on identifying and disrupting the coordination of enemy forces. It includes both intercept and direction finding (DF). Priorities for signals reconnaissance include—

- Maneuver unit CPs and nets.
- Forward air controller (FAC) nets.
- Control links of—

- Fire support and tactical aviation assets.
- Maneuver reserves.
- Antitank reserves.
- Engineer elements.

Signals reconnaissance targets all forms of target acquisition systems and sensors, especially those associated with enemy EW activities.

Electronic Jamming

7-9. Jamming also supports the disaggregation of enemy forces. Jamming targets include—

- Company and battalion command nets.
- Brigade command nets.
- Artillery battery and battalion fire direction center (FDC) and command nets.
- Command links between brigade and division reserves and parent units.

7-10.

DECEPTION

7-11. The OPFOR integrates deception into every tactical military action; it does not plan deception measures and activities in an ad hoc manner. A deception plan is always a major portion of the overall IW plan. The OPFOR formulates its battle plan, overall IW plan, and deception plan concurrently. It attempts to deceive the enemy concerning the exact strength and composition of its forces, their deployment and orientation, and their intended manner of employment. When successfully conducted, deception activities ensure that the OPFOR achieves tactical surprise, while enhancing force survivability. All deception measures and activities are continuously coordinated with deception plans and operations at higher levels. Affiliated forces may assist in executing deception activities.

Deception Activities

7-12. OPFOR deception activities seek to confuse the enemy to the extent that he is unable to distinguish between legitimate and false targets, units, activities, and future intentions. Inserting false or misleading information at any point in the enemy decision-making process can lead to increased OPFOR survivability and the inability to respond appropriately to OPFOR tactical actions. Manipulation of the electromagnetic spectrum is critical to successful deception activities, as the OPFOR responds to the challenge posed by advances in enemy C^2 systems and sensors.

7-13. Deception activities can include—

- Executing feints and demonstrations to provide a false picture of where the main effort will be.
- Creating the false "picture" of a major offensive effort.
- Maximizing protection and security measures to conceal movement.
- Creating false high-value assets such as surface-to-surface missile (SSM) launchers, CPs, and armor concentrations with decoys or mockups.

7-14. The OPFOR employs all forms of deception, ranging from physical decoys and electronic devices to tactical activities and behaviors. The key to all types of deception activities is that they

must be both realistic and fit the deception story. Due to the sophistication and variety of sensors available to the enemy, successfully deceiving him requires a multispectral effort. The OPFOR must provide false or misleading thermal, visual, acoustic, and electronic signatures.

7-15. Integral to the planning of deception activities is the OPFOR's identification of the deception target. This target is that individual, organization, or group that has the necessary decision-making authority to take action (or to neglect to do so), in line with the deceiver's deception objective. On the tactical battlefield, this target is typically the enemy commander, although the OPFOR recognizes the importance of focusing actions to affect specific staff elements.

7-16. Successful deception activities depend on the identification and exploitation of enemy information systems and networks, as well as other "conduits" for introducing deceptive information. Knowing how the conduits receive, process, analyze, and distribute information allows for the provision of specific signatures that meet the conduits' requirements. On the tactical battlefield, the enemy reconnaissance system is the primary information conduit, and receives the most attention from OPFOR deception planners. The international media and Internet sites may also be a target for deceptive information at the tactical level, being fed false stories and video that portray tactical-level actions with the goal of influencing operational or even strategic decisions.

Deception Forces

7-17. The battle plan and/or IW plan may call for the creation of one or more *deception forces*. This means that nonexistent or partially existing formations attempt to present the illusion of real or larger units. When the IW plan requires combat forces to take some action (such as a feint or demonstration), these forces are designated as deception forces in close-hold executive summaries of the plan. Wide-distribution copies of the plan make reference to these forces according to the designation given them in the deception story.

7-18. The deception force is typically given its own command structure both to replicate the organization(s) necessary to the deception story and to execute the multidiscipline deception required to replicate an actual or larger military organization. The headquarters of a unit that has lost all of its original subordinates to the task organization of actual DTGs or BTGs is an excellent candidate for use as a deception force. Operational-strategic command (OSC) or DTG commanders can use deception DTG or BTG (or division or brigade) command structures to mislead the enemy and deny him information on the actual organization of forces in the operation plan or battle plan.

7-19. Deception forces may use a series of feints or demonstrations, ruses or decoys. All activities must fit the overall deception story and provide a consistent, believable, and multidiscipline representation. Basic tactical camouflage and cover techniques are used to support all types of deception.

7-20. **Feints.** Feints are offensive in nature and require engagement with the enemy in order to show the appearance of an attack. The goal is to support the mission and ultimately mislead the enemy. Feints can be used to force the enemy to—

- Employ his forces improperly. A feint may cause these forces to move away from the main attack toward the feint, or a feint may be used to fix the enemy's follow-on forces.
- Shift his supporting fires from the main effort.
- Reveal his defensive fires. A feint may cause premature firing, which reveals enemy locations.

7-21. **Demonstrations.** Demonstrations are a show of force on a portion of the battlefield where no decision is sought. They are similar to feints, but contact with enemy is not required. Demonstrations may be conducted for the purpose of deceiving the enemy by a show of force. Advantages of demonstrations include—

- Absence of contact with enemy.
- Possibility of using simulation devices in place of real items to deceive the enemy's reconnaissance capabilities.
- Use when a full force is not necessary because of no contact with the enemy.

7-22. **Ruses.** Ruses are tricks designed to deceive the enemy in order to obtain a tactical advantage. They are characterized by deliberately exposing false information to enemy collection means. IAs, perception management actions, and basic C^3D all support this type of deception.

7-23. **Decoys.** Decoys represent physical imitations of OPFOR systems or deception positions to enemy RISTA assets in order to confuse the enemy. The goal is to divert enemy resources into reporting or engaging false targets. It is not necessary to have specially manufactured equipment for this type of visual deception. Decoys are used to attract an enemy's attention for a variety of tactical purposes. Their main use is to draw enemy fire away from high-value targets. Decoys are generally expendable, and they—

- Can be elaborate or simple. Their design depends on several factors, such as the target to be decoyed, a unit's tactical situation, available resources, and the time available.
- Can be preconstructed or made from field-expedient materials. Except for selected types, preconstructed decoys are not widely available. A typical unit can construct effective, realistic decoys to replicate its key equipment and features through imaginative planning and a working knowledge of the electromagnetic signatures emitted by the unit.

7-24. The two most important factors regarding decoy employment are location, fidelity and realism. Logically placing decoys can greatly enhance their plausibility. Decoys are usually placed near enough to the real target to convince an enemy that it has found the target. However, a decoy must be far enough away to prevent collateral damage to the real target when the decoy draws enemy fire. Proper spacing between a decoy and a target depends on the size of the target, the expected enemy target acquisition sensors, and the type of munitions directed against the target. Decoys must be constructed according to a friendly unit's SOP and must include target features that an enemy recognizes. The most effective decoys are those that closely resemble the real target in terms of electromagnetic signatures. Completely replicating the signatures of some targets, particularly large and complex targets, can be very difficult. Therefore, decoy construction should address the electromagnetic spectral region in which the real target is most vulnerable.

Electronic Deception

7-25. Electronic deception is used to manipulate, falsify, and distort enemy sensors. It must be conducted in such a manner that realistic signatures are replicated. Electronic deception takes the form of manipulative, simulative, or imitative deception. The OPFOR may use one or all of these types of electronic deception.

7-26. **Manipulative Electronic Deception.** Manipulative electronic deception (MED) seeks to counter enemy jamming, signals intelligence (SIGINT), and target acquisition efforts by altering the electromagnetic profile of friendly forces. Specialists modify the technical characteristics

and profiles of emitters that could provide an accurate picture of OPFOR intentions. The objective is to have enemy analysts accept the profile or information as valid and therefore arrive at an erroneous conclusion concerning OPFOR activities and intentions.

7-27. MED uses communication or noncommunication signals to convey indicators that mislead the enemy. For example, to indicate that an OPFOR unit is going to attack when it is actually going to withdraw, the unit might transmit false fire support plans and requests for ammunition.

7-28. MED can cause the enemy to fragment his intelligence and EW efforts to the point that they lose effectiveness. It can cause the enemy to misdirect his assets and therefore cause fewer problems for OPFOR communications.

7-29. **Simulative Electronic Deception.** Simulative electronic deception (SED) seeks to mislead the enemy as to the actual composition, deployment, and capabilities of the friendly force. The OPFOR may use controlled breaches of security to add credence to its SED activities. There are a number of techniques the OPFOR uses.

- With unit simulation, the OPFOR establishes a network of radio and radar emitters to emulate those emitters and activities found in the specific type unit or activity. The OPFOR may reference the false unit designator in communications traffic and may use false unit call signs.
- With capability or system simulation, the OPFOR projects an electronic signature of new or differing equipment to mislead the enemy into believing that a new capability is in use on the battlefield. To add realism and improve the effectiveness of the deception, the OPFOR may make references to "new" equipment designators on other or related communications nets.
- To provide a false unit location, the OPFOR projects an electronic signature of a unit from a false location while suppressing the signature from the actual location. Radio operators may make references to false map locations near the false unit location, such as hill numbers, a road junction, or a river. This would be in accordance with a script as part of the deception.

7-30. **Imitative Electronic Deception.** Imitative electronic deception (IED) injects false or misleading information into enemy communications and radar networks. The communications imitator gains entry as a bona fide member of the enemy communications system and maintains that role until he passes the desired false information to the enemy.

7-31. In IED, the enemy's electromagnetic emissions are imitated to mislead the enemy. Examples include entering the enemy communication nets by using his call signs and radio procedures, and then giving enemy commanders instructions to initiate actions. Targets for IED include any enemy receiver and can range from cryptographic systems to very simple, plain-language tactical nets. IED can cause an enemy unit to be in the wrong place at the right time, to place ordnance on the wrong target, or to delay attack plans. Imitative deception efforts are intended to cause decisions based on false information that appears to the enemy to have come from his own side.

7-32. **Noncommunications Deception.** The OPFOR is continuing the development and fielding of dedicated tactical noncommunications means of electronic deception. It simulates troop movements by such means as use of civilian vehicles to portray movement to radar, and marching refugees to portray movement of troops in the rear. Simple, inexpensive radar corner

reflectors provide masking by approximating the radar cross sections of military targets such as bridges, tanks, aircraft, and even navigational reference points. Corner reflectors can be quite effective when used in conjunction with other EW systems, such as ground-based air defense jammers.

Deception Command Post

7-33. The IW plan may also call for employing deception CPs. These are complex, multi-sensor-affecting sites integrated into the overall deception plan to assist in achieving battlefield opportunity by forcing the enemy to expend his command and control warfare (C^2W) effort against meaningless positions.

PHYSICAL DESTRUCTION

7-34. Another method for disrupting enemy control is physical destruction of the target. The OPFOR integrates all types of conventional and precision weapon systems to conduct the destructive fires, to include fixed- and rotary-wing aviation, cannon artillery, multiple rocket launchers (MRLs), and SSMs. It can also utilize other means of destruction, such as explosives delivered by special-purpose forces (SPF), insurgents, terrorists, or other affiliated forces.

7-35. Physical destruction measures focus on destroying critical components of the enemy force. C^2 nodes and target acquisition sensors are a major part of the fire support plan during physical destruction action. Priority targets include—

- Battalion, brigade, and division CPs.
- Area distribution system communications centers and nodes.
- Artillery FDCs.
- FACs.
- Weapon system-related target acquisition sensors.
- Jammers and signals intelligence (SIGINT) systems.

7-36. The OPFOR may integrate all forms of destructive fires, especially artillery and aviation, with other IW activities. Physical destruction activities are integrated with jamming to maximize their effects. Specific missions are carefully timed and coordinated with the IW plan and the actions of the supported units.

7-37. The accuracy of modern precision weapons allows the OPFOR to strike at specific IW-related targets with deadly accuracy and timing. Due to the mobility and fleeting nature of many IW targets, precision weapons deliver the munitions of choice against many high-priority targets.

7-38. The OPFOR continues to research and develop directed energy weapons, to include radio frequency weapons and high-power lasers. While the OPFOR has fielded no dedicated weapon systems, it may employ low-power laser rangefinders and laser target designators in a sensor-blinding role.

PROTECTION AND SECURITY MEASURES

7-39. Protection and security measures encompass a wide range of activities, incorporating the elements of deception and EW. Successfully conducted protection and security measures significantly enhance tactical survivability and preserve combat power.

7-40. Protection and security measures conducted as part of IW include—

- Information collection, processing, and utilization.

- Reconnaissance and counterreconnaissance.
- Information and operations security.
- Camouflage, concealment, cover, and deception (C^3D).
- Force protection.
- Secure use of information-collection and -processing systems.

At the tactical level, the focus is primarily on counterreconnaissance, information and operations security, and C^3D measures.

Counterreconnaissance

7-41. The OPFOR tries to exploit the large number and apparently superior technology of the enemy's sensors. For example, it employs software at the tactical level that allows it to analyze the enemy's satellite intelligence collection capabilities and warn friendly forces of the risk of detection. The use of signature-reducing and signature-altering devices, along with diligent application of operations security measures, supports deception activities in addition to denying information.

Information and Operations Security

7-42. Information and operations security can protect the physical and intellectual assets used to facilitate command and control. Security must function continuously to be effective. It must conceal not only operational intentions, current locations and configurations, and actions but also the tactics, techniques, and procedures of information systems employment and operation.

7-43. The OPFOR clearly understands the importance of information security. Commanders understand their vulnerabilities to being attacked through their own information systems and develop means to protect these systems. In addition, the OPFOR must be capable of isolating attacks on its information systems while maintaining the ability to execute. In order to reduce the vulnerability, the OPFOR emphasizes strong communications, computer, and transmission security. It uses all available assets of the State to support this process and supply the necessary resources and intelligence.

Camouflage, Concealment, Cover, and Deception

7-44. The OPFOR gives particular attention to protective measures aimed at reducing the enemy's ability to target and engage OPFOR systems with precision munitions. Knowing that the enemy cannot attack what his RISTA systems do not find, the OPFOR employs a variety of C^3D techniques throughout the disruption, battle and support zones. These range from the most simple and inexpensive methods to hide from observation to the most modern multispectral signature-reducing technology.

PERCEPTION MANAGEMENT

7-45. Perception management involves measures aimed at creating a perception of truth that best suits OPFOR objectives. It integrates a number of widely differing activities that use a combination of true, false, misleading, or manipulated information. Targeted audiences range from enemy forces to the State's own citizens.

7-46. The various perception management activities include efforts conducted as part of—

- Psychological warfare (PSYWAR).
- Public affairs.

- Media manipulation and censorship.
- Statecraft.
- Public diplomacy.

7-47. The last two components, while not conducted at the tactical level, certainly have a great impact on how and where the OPFOR conducts tactical-level perception management activities. Perception management activities conducted at the tactical level must be consistent with the State's operational and strategic goals.

7-48. PSYWAR is a major contributor to perception management during combat. Targeting the military forces of the enemy, PSYWAR attempts to influence the attitudes, emotions, motivations, and reasoning of enemy personnel. Specialists plan PSYWAR activities at all command levels down to DTG or BTG. In addition to the enemy's military forces, the specialists also concentrate on manipulating the local population and international media in favor of the OPFOR, turning opinion against the enemy's objectives. Planners focus special emphasis on highlighting enemy casualties and lack of success. The enemy nation's population is a major target of these activities, due to the importance of public support for enemy military activities.

7-49. Statecraft (the art of conducting state affairs) and diplomacy (the art and practice of conducting negotiations with other states) are aspects of perception management conducted with foreign governments, and include those countries' populations as a target. The OPFOR skillfully employs media and other neutral players, such as nongovernmental and private volunteer organizations, to influence further public and private perceptions. It exploits the international media's willingness to report information without independent and timely confirmation.

7-50. The State employs public affairs and censorship to control its own population's access to information and perception of reality. Successful preparation of the population significantly enhances public support for the OPFOR's military actions. As part of this, the State prepares its forces and population for enemy IW.

INFORMATION ATTACK

7-51. The OPFOR recognizes the increasing dependence of modern armies on tactical information systems. The OPFOR attempts to preserve the advantages of such systems for its own use, while exploiting the enemy's reliance on such systems.

7-52. Information attack is a critical element of OPFOR IW. This type of action focuses on the intentional disruption or distortion of information in a manner that supports accomplishment of the mission. Unlike, computer warfare attacks that target the information systems, IAs target the information itself. Attacks on the commercial Internet by civilian hackers have demonstrated the vulnerability of cyber and information systems to innovative and flexible penetration, disruption, or distortion techniques. OPFOR information attackers (cyber attackers) learn from and expand upon these methods.

7-53. IA offers a powerful tool for the OPFOR. For example, an information attacker may target an information system for electronic sabotage or manipulate and exploit information. This may involve altering data, stealing data, or forcing a system to perform a function for which it was not intended, such as creating false information in a targeting or airspace control system.

7-54. Likely targets for an IA are information residing in the critical tactical systems of an opponent: telecommunications links and switches, fire control, logistics automation, ISR downlinks, situational awareness networks, command and control systems, etc.

COMPUTER WARFARE

7-55. Computer warfare consists of attacks that focus specifically on the computer systems, networks, and/or nodes. This includes a wide variety of activities, ranging from unauthorized access (hacking) of information systems for intelligence-collection purposes, to the insertion of malicious software (viruses, worms, logic bombs, or Trojan horses). Such attacks concentrate on the denial, disruption, or manipulation of the infrastructure's integrity. The OPFOR may attempt to accomplish these activities through the use of agents or third-party individuals with direct access to enemy information systems. It can also continually access and attack systems at great distances via communications links such as the Internet.

7-56. OPFOR computer warfare activities may be conducted prior to or during a military action. For example, by damaging or destroying networks related to an enemy's projected force deployments and troop movements, the OPFOR can effectively disrupt planning and misdirect movement, producing substantial confusion and delays. As modern armies increasingly rely on "just-in-time" logistics support, targeting logistics-related computers and databases can produce delays in the arrival of critical materiel such as ammunition, fuel, and spare parts during critical phases of a conflict.

The OPFOR can successfully conduct invasive computer warfare activities from the safety of its own territory, given the distributed ability to reach targeted computers anywhere in the world (as long as they are connected to the Internet). The OPFOR can continuously exploit the highly integrated information systems of an adversary.

TOOLS AND TARGETS

7-57. Tools for waging IW can include conventional physical and electronic destruction means, malicious software, denial of service (DOS) attacks, the Internet, the media, and communication networks, as well as various types of reconnaissance, espionage, and eavesdropping technologies. The OPFOR can employ IW tools from both civilian and military sources and assets of third-party sources.

7-58. The OPFOR sees the targets of IW as decision makers, weapons and hardware, an opponent's critical information infrastructure, C^2 system, information and telecommunications systems, and C^2 centers and nodes. Information links, such as transmitters, communication devices, and protocols, will be targeted. These targets may be more susceptible to precision fires and more traditional forms of attack based on EW. However, the OPFOR is extremely adaptive and will employ the best option available to degrade or destroy an information link.

STRATEGIC IW

7-59. Strategic information warfare (SIW) is the synergistic effort of the State to control or manipulate information events in the strategic environment, be they political, economic, military, or diplomatic in nature. Specifically, the State defines SIW as any attack (digital, physical, or cognitive) against the information base of an adversarial nation's critical infrastructures. The ultimate goal of SIW is strategic disruption and damage to the overall strength of the opponent. This disruption also focuses on the shaping of foreign decision makers' actions to support the State's strategic objectives and goals.

7-60. The Strategic Information Warfare Planning Office (SIWPO) within the National Command Authority (NCA) is responsible for developing a strategic information warfare plan (SIWP) and for reviewing and integrating information-related plans of all State ministries, both military and civilian. However, the SIWPO works most closely with the Ministry of Defense, specifically the General Staff, to ensure the development of the SIWP in concert with the military IW plan.

7-61. In Intelligence Directorate of the General Staff, the Chief of IW handles IW functions that transcend service component boundaries. He reviews and approves the IW plans of all operational-level commands as well as any separate theater headquarters that might be established. He drafts the overall military IW plan that, upon approval by the Intelligence Officer, is forwarded to the Operations Directorate of the General Staff for inclusion in the military strategic campaign plan (SCP). Once approved by the Chief of the General Staff, the military IW plan and the rest of the military SCP are forwarded to the SID for incorporation into the national-level SIWP and the national SCP, respectively. During peacetime and preparation for war, the Chief of IW continues to review and refine the military IW plan.

OPERATIONAL-LEVEL IW

7-62. The OPFOR conducts IW actions at the operational level to support strategic campaigns or operational objectives or to deny its opponents the ability to conduct such operations. The focus at this level is on affecting an adversary's lines of communication (LOCs), logistics, C^2, and critical decision-making processes. The OPFOR targets information or information systems in order to affect the information-based process, be it human or automated.

7-63. Just as there is a Chief of IW in the General Staff, there is a chief of IW under the intelligence officer in operational-level staffs. The intelligence officer coordinates all necessary national- or theater-level assets for the IW plan. He and chief of IW are responsible for ensuring that all IW actions undertaken at their level are in concert with the overall military IW plan and the SIWP. As necessary, the Chief of IW in the General Staff can directly task each operational-level chief of IW to support the SIW campaign.

TACTICAL-LEVEL IW

7-64. Information, its management, and its control have always been important to the successful conduct of tactical missions. Given today's tremendous advancements in information and information systems technology, this importance is growing in scope, impact, and sophistication. The OPFOR recognizes the unique opportunities that IW gives tactical commanders and continuously strives to incorporate IW activities in all tactical missions and battles.

7-65. IW may help degrade or deny effective enemy communications and blur or manipulate the battlefield picture. In addition, IW helps the OPFOR achieve the goal of dominating the tempo of combat. Using a combination of perception management activities, deception techniques, and EW, the OPFOR can effectively slow the pace of battle. For example, the OPFOR may select to destroy lucrative enemy targets or orchestrate and execute a perception management activity that weakens the enemy's international and domestic support, causing hesitation or actual failure of the operation. It executes deception plans to confuse the enemy and conceal true OPFOR intentions. More traditional EW activities can also contribute to the successful application of IW at the tactical level by challenging or weakening the enemy's quest for information dominance.

7-66. IW also supports the critical mission of counter-reconnaissance at the tactical level. The OPFOR constantly seeks ways to attack, degrade, or manipulate the enemy's reconnaissance, intelligence, surveillance, and target acquisition (RISTA) capabilities. All enemy target acquisition systems and sensors are potential targets. Long-range sensors in particular are a high priority for attack by fires or electronic jamming.

7-67. While the effects of IW can be multidimensional and at times hard to pinpoint, the OPFOR highlights the following tasks and associated effects as critical to the application of IW at the tactical level:

- **Destroy.** Destruction tasks physically render an enemy's information systems ineffective. Destruction is most effective when timed to occur before the enemy executes a C^2 function or when focused on a resource-intensive target that is hard to reconstitute.
- **Degrade.** Degradation attempts to reduce the effectiveness of the enemy's information infrastructure, information systems, and information collection means.
- **Disrupt.** Disruption activities focus on the disruption of enemy observation and sensor capabilities at critical times and locations on the battlefield.
- **Deny.** Denial activities attempt to limit the enemy's ability to collect or disseminate information on the OPFOR or deny his collection efforts.
- **Deceive.** Deception activities strive to mislead the enemy's decision makers and manipulate his overall understanding of OPFOR activities.
- **Exploit.** Exploitation activities attempt to use the enemy's C^2 or RISTA capabilities to the advantage of the OPFOR or to exploit any enemy vulnerability.
- **Influence.** The goal of perception management activities is to affect an enemy's beliefs, motives, perspective, and reasoning capabilities, in order to support OPFOR objectives.

SYSTEMS WARFARE

7-68. In the systems warfare approach to combat (see Chapter 1), the OPFOR often focuses on attacking the C^2 and/or RISTA elements that are critical components of the enemy's combat system. It is often more feasible to attack these types of targets, rather than directly engaging the combat power of the enemy's combat or combat support forces or even his logistics forces. Tactical-level IW can be a primary means of attacking C^2 and RISTA assets, either on its own or in conjunction with other elements of the OPFOR's own combat system.

OFFENSIVE IW

7-69. *Offensive IW* involves the integrated use of subordinate and supporting capabilities and activities, mutually supported by intelligence, to affect an adversary's decision makers or to influence others in order to achieve or promote specific OPFOR objectives. Using the elements of IW offensively, the OPFOR can either prevent an adversary from exercising effective C^2, challenge his quest for information dominance, or leverage enemy information systems to its own advantage.

Purpose of Offensive IW

7-70. Simply put, offensive IW seeks to deny, degrade, destroy, disrupt, deceive, and exploit an adversary's information systems and capabilities. Offensive IW helps the OPFOR seize and retain the initiative by degrading the enemy's information systems and forcing the enemy commander to be reactive. This can result in slowing the enemy's tempo, disrupting his decision cycle, and impacting his overall ability to generate combat forces and execute and sustain operations.

Possible Offensive IW Actions

7-71. Possible OPFOR offensive IW activities and actions can include—

- Denying the enemy the information necessary to conduct operations (destroy, degrade, or distort).
- Influencing the information (misinformation, manipulation, or "spinning").
- Disrupting the enemy's ability to observe and collect information and obtain or maintain information dominance.
- Degrading enemy information collection or destroying his collection means.
- Deceiving the decision makers by manipulating perception and causing disorientation within the decision cycle.
- Neutralizing or destroying the opponents' information capability by physical destruction of critical communications nodes and links.

DEFENSIVE IW

7-72. *Defensive IW* is the integration and coordination of policies and procedures, operations, personnel, and technology to protect and defend friendly information and information systems. Defensive IW also seeks to conceal the physical locations of critical information systems. IW activities, particularly defensive measures, play a significant role in ensuring the viability and survivability of the OPFOR C^2 process. IW defensive actions are planned at the strategic, operational, and tactical levels. IW measures, combined with the mobility and redundancy of C^2 systems, can provide a high degree of survivability, even if the enemy is successful in disrupting or destroying some elements of the process.

Purpose of Defensive IW

7-73. The objectives of OPFOR defensive IW activities and actions are—

- Protecting the information environment.
- Detecting attack.
- Restoring capabilities.
- Responding to attack.

Specific objectives of defensive IW include misleading the enemy concerning the OPFOR's force structure, location, and intent; protecting all critical information and communication links; and ensuring maximum survivability of friendly high-value assets and combat power.

Possible Defensive IW Actions

7-74. To achieve these objectives, the OPFOR conducts a variety of activities and actions that can—

- Provide for uninterrupted control of friendly forces.
- Ensure survivability through extensive use of signature-reducing measures.
- Conceal the identities and locations of critical elements.
- Portray false force dispositions and OPFOR unit strengths.
- Portray false levels of preparation, readiness, and morale.
- Portray false impressions of OPFOR operational intent.

IW IN THE OFFENSE

7-75. IW in the offense can include both offensive and defensive IW activities. IW in the offense may be in the form of deception planning and execution, physical destruction of C^2 systems, jamming, and/or IA of critical communication nodes. However, all elements of IW are available for use by the commander.

7-76. During transition and adaptive operations, many tactical offensive actions are intended to contribute to a larger effort to get the extraregional force to leave the region. Attacks to expel often have a strong IW component, with an increased role of perception management activities, with the goal of causing the enemy to remove himself from the area.

WINDOWS OF OPPORTUNITY

7-77. In order to conduct successful offensive action against an extraregional force that enjoys a technological overmatch, the OPFOR must exploit windows of opportunity. Sometimes these windows occur naturally, as a result of favorable conditions in the operational environment, but most often the OPFOR will have to create its own opportunities.

7-78. When the OPFOR must create a window of opportunity, IW activities can contribute to this by—

- Destroying or disrupting enemy C^2 and RISTA assets.
- Deceiving enemy imagery and signals sensors.
- Selectively denying situational awareness.
- Slowing the tempo of enemy operations.
- Isolating key elements of the enemy force.

IW can help create the necessary windows of opportunity for each type of offensive action by executing effective deception techniques, EW, and physical destruction.

IW ROLE IN FUNCTIONAL FORCES

7-79. The role of deception forces is discussed extensively earlier in this chapter. However, IW also can play an important role in any of the other functional forces associated with the various types of offensive action.

Disruption Force

7-80. IW supports the counterreconnissance mission of the disruption force. Units in the disruption zone attempt to strip away the enemy's reconnaissance assets (to deceive him of the location and configuration of the attack) while denying him the ability to acquire and engage OPFOR targets with deep fires. Typical targets for attack by the disruption force include enemy C^2 systems and RISTA assets.

7-81. In the disruption force, signals reconnaissance elements assist other OPFOR reconnaissance means in completing the identification of the type of forces deployed by the enemy. They also identify enemy reconnaissance reporting links for exploitation during the course of the offensive action. All fire support and tactical aviation nets are identified and monitored, as are C^2 links to enemy reserves. Combat engineer units are a high priority, since their composition and disposition on the battlefield are indicators of how and where the enemy expects to conduct his main defensive effort. Of particular interest are all units with obstacle-creating assets, such as minelayers.

Fixing Force

7-82. A fixing force may achieve its mission by conducting a successful feint or demonstration. In this case, the function of the fixing force could be achieved by means of a deception force. EW assets may be part of a fixing force. A combination of deception, EW, and other IW activities can fix defending forces and forces that might otherwise have been capable of disrupting or interfering with the actions of the assault and exploitation forces, or coming to the aid of the targeted enemy force. Such enemy forces and systems include reserves, quick-response forces, and precision fire systems that can respond rapidly to OPFOR offensive actions.

Assault Force

7-83. The assault force typically creates a window of opportunity that exposes the target and allows the exploitation force to achieve the objective. However, effective IW can assist in creating a situation in which no other assault force is necessary, since the target is already sufficiently exposed.

7-84. Jamming missions are critical for assault forces. The OPFOR heavily targets reconnaissance-reporting links, minimizing the enemy knowledge of the approaching force's composition and intentions. It jams fire support nets, and in particular reporting links between forward observers and firing batteries, to limit the number of calls for fire and fire missions. Depending on the amount of air activity conducted by both the enemy and the OPFOR, air defenses and FACs are targeted.

7-85. Specific targets jammed by the assault force, or in support of it, can include—

- Artillery FDCs and command nets.
- Ground-reconnaissance and forward observer reporting links.
- EW command and reporting links.
- Air defense target acquisition, command, and air warning nets.
- FAC-associated nets controlling attack aircraft.

Exploitation Force

7-86. Once the window of opportunity has been created by IW and/or other means, IW can continue to keep that window open throughout the conduct of the exploitation. If the target happens to be an enemy C^2 or RISTA asset, its physical destruction can meet the objective of the IW plan as well as the battle plan.

7-87. During exploitation activities, IW (specifically EW) focuses on disrupting enemy forces, such as reserves and attack air assets, that are capable of halting the OPFOR's movement and exploitation. Both signals reconnaissance and electronic jamming are performed by the exploitation force and in support of it.

7-88. As the OPFOR maneuvers, it monitors enemy reserves and follow-on forces for the response to the penetration. It also continues to monitor bypassed forces, in order to identify those enemy elements capable of reconstituting or reorganizing and counterattacking. The OPFOR typically tasks signals reconnaissance assets of exploitation forces with this mission, relieving the assault force assets of this responsibility.

7-89. Priority targets for signals reconnaissance include—

- Reserve and follow-on force command nets.
- Fire support nets (especially those units that could employ precision weapons)

- Antitank nets.
- Attack helicopter nets.
- NBC-related nets.

7-90. Jamming activities during exploitation target those maneuver and fire support units providing active resistance. The OPFOR heavily targets reporting links between reserve and follow-on maneuver units and their reconnaissance patrols, as well as their command nets.

7-91. All enemy maneuver and fire support units that may influence the OPFOR's exploitation force are jammed. This includes jamming of enemy air defense units that could jeopardize the use of OPFOR attack helicopters and fixed-wing attack aircraft.

7-92. Specific jamming priorities include—

- Command nets of units in contact with the OPFOR fixing or assault forces.
- Reserve and follow-on force command nets.
- Artillery battery FDC and command nets.
- Air defense target acquisition and command nets.
- FAC links and attack air command nets.

Reserves

7-93. The OPFOR will use information security and C^3D measures to conceal the location, size, and composition of an offensive reserve. For reserves (or any other force that has not yet been committed to battle), the OPFOR emphasizes rigid information security procedures. This includes limiting radio transmissions to the minimum required or using alternate communications means. Assembly areas will rely heavily on C^3D to protect the uncommitted force from observation and attack. In some cases, however, the reserve may act as a deception force, drawing attention away from the actual assault or exploitation force.

IW ROLE IN CERTAIN TYPES OF OFFENSIVE ACTION

7-94. IW can support all types of offensive action: attack (integrated or dispersed), limited-objective attack (sophisticated ambush, raid, spoiling attack, or counterattack), or strike. However, it can play particularly significant roles in certain types of action.

Dispersed Attack

7-95. Besides dispersion of forces, dispersed attack relies on IW to permit the OPFOR to conduct tactical offensive actions while overmatched by precision standoff weapons and imagery and signals sensors. Deception forces can also play an important role in a dispersed attack.

Sophisticated Ambush and Raid

7-96. Sophisticated ambushes and raids rely on supporting actions—usually primarily IW—to create a window of opportunity for the ambush element to operate. The IW plan is designed to facilitate infiltration or positioning of the ambush or raiding element and expose the target. Although sophisticated ambushes are executed by tactical-level forces, the OSC will be involved in IW planning and coordination of operational-level assets needed to support the ambush or raid. A sophisticated ambush or raid can destroy key C^2 and RISTA systems or facilities, denying critical information to the enemy. Quite often, the OPFOR may conduct a raid as a disrupting or misleading component of an IW plan surrounding another, larger tactical action or operation.

Strike

7-97. Strikes are characterized by significant reliance on deception and other IW measures. The window of opportunity needed to establish conditions favorable to the execution of the strike may be created by deceiving enemy imagery and signals sensors or selectively denying the enemy situational awareness. A combination of deception and EW can fix defending forces, and prevent the targeted enemy force from reacting in time to avoid destruction by OPFOR maneuver and/or fires.

IW IN THE DEFENSE

7-98. As in the offense, IW in the defense can include both offensive and defensive IW activities. Some defensive IW activities tend to be more important in the defense than in the offense. However, all elements of IW are available for use by the commander, and all can play a significant role. Offensive IW actions have important applications, since an overall OPFOR defensive action—even at the tactical level—typically incorporates many smaller offensive actions, which can involve IW as well as maneuver and fires.

7-99. Specific defensive objectives include: misleading the enemy concerning the OPFOR's force structure, defensive orientation, and intentions; delaying and fragmenting the enemy attack; and ensuring maximum survivability of friendly high-value assets and combat power. To achieve these objectives, the OPFOR conducts a variety of IW activities that can—

- Disrupt or destroy enemy C^2 nodes and links.
- Provide for uninterrupted control of friendly forces.
- Ensure survivability through extensive use of signature-reducing measures.
- Conceal the identities and locations of critical assets such as reserves, artillery assets, and CPs.
- Portray false force dispositions and strengths.
- Portray false levels of preparation, readiness, and morale.

IW ROLE IN FUNCTIONAL FORCES

7-100. The role of deception forces, discussed extensively earlier in this chapter, is extremely important in the defense. However, IW also can play an important role in any of the other functional forces associated with the various types of defensive action.

Disruption Force

7-101. The role of the disruption force and of IW supporting that force is much the same as in the offense. Targets for attack in the disruption zone include enemy C^2 systems and RISTA assets. However, IW efforts in the disruption zone may seek to either destroy or manipulate enemy reconnaissance assets.

7-102. The disruption force may selectively destroy or render irrelevant the enemy's RISTA forces and deny him the ability to acquire and engage OPFOR targets with deep fires. There will be times, however, when the OPFOR wants enemy reconnaissance to detect something that is part of the deception plan. In these cases, the disruption force will not seek to destroy all of the enemy's RISTA assets.

Main Defense Force

7-103. In either maneuver or area defense, the main defense force operates in the battle zone. The success of the main defense force in accomplishing the purpose of the defense (destroy, preserve, or deny) often relies heavily on successful execution of IW, especially in a defense against a technologically superior extraregional force.

7-104. **Maneuver Defense.** Part of a defensive "line" in a maneuver defense may consist of deception defensive positions. When the contact and shielding forces conduct defensive maneuver to positions on subsequent defensive lines, signals reconnaissance and jamming assets support the movement, when possible. Because of their high value to the commander, these assets normally do not deploy in positions that expose them to capture or destruction. Rather, they deploy to reasonably secure terrain available off the routes of defensive maneuver. Primary targets are enemy reconnaissance reporting links and fire support nets, in order to prevent or minimize attacks or fire strikes on the contact or shielding force. Operational-level signals reconnaissance and jamming assets may support a division's (or brigade's) maneuver defense; less likely, but possible, is support provided by flanking units.

7-105. **Area Defense.** IW is particularly important to the execution of the area defense in transition and adaptive operations. Deception is critical to the creation of complex battle positions, and effective perception management is vital to the creation of the windows of opportunity needed to execute maneuver and fires. Complex battle positions are defensive locations designed to employ a combination of complex terrain, C^3D, and engineer effort to protect combat forces from engagement by precision standoff attack. They are designed to protect the units within them from detection and attack. Engineers also support the IW plan through activities such as constructing deception defensive positions and preparing false routes. Defensive actions during transition and adaptive operations will typically include increased use of perception management in support of defensive actions.

Counterattack Force

7-106. As the OPFOR element designated as a counterattack force maneuvers to counterattack, early and accurate identification of any enemy recognition and response is critical. Enemy airborne and ground reconnaissance reporting links and sensors, and long-range fire assets are high-priority targets, although the OPFOR must rely on operational-level support for much of the targeting capabilities required.

7-107. Signals reconnaissance and jamming priorities are generally similar to those for the main defense force, with a few exceptions. Of particular importance are identifying and disrupting those command, fire support, and reconnaissance nets that link the penetrating enemy force with his main body. Artillery and aviation nets are jammed, in order to prevent attacks coordinated with the penetrating force.

Reserves

7-108. The commander positions his maneuver reserve in an assembly area using C^3D to protect it from observation and attack. In some cases, however, the reserve may receive the mission of acting as a deception force. Antilanding reserves may be allocated EW assets for the purpose of disrupting or defeating an airborne or heliborne landing.

ROLE OF IW ELEMENTS IN THE DEFENSE

7-109. In all types of defensive action, all elements of IW tend to be involved, to varying degrees, depending on the situation and windows of opportunity. The two basic types of defensive action (maneuver and area defense) share much in common from the IW perspective. Therefore, rather than discussing IW contributions to each of the types of OPFOR defensive action, this section

will discuss specific applications of various IW element that apply to the OPFOR defense, in which the paramount role of IW is to provide deception capabilities, protection and security, EW, and physical destruction, as well as to assist in attack detection and capability restoration. This discussion supplements the basic information found in the Elements of IW section earlier in this chapter, but with defense-specific applications.

Deception

7-110. The OPFOR develops a deception plan as part of the overall IW plan. The extent and complexity of the deception depends on the amount of time available for planning and preparation.

7-111. While creating the picture of the battlefield the OPFOR wants the enemy to perceive, deception planners have two primary objectives. The first is to cause the enemy to commit his forces and attack in a manner that favors the OPFOR's defensive plan. Specifically, the intent is to have the enemy attack and attempt to penetrate the defense at a location of the OPFOR's choosing, where the OPFOR has created a lethal antitank defense and can counterattack to destroy the enemy main force.

7-112. The second objective, and the focus of deception activities when time is limited, is to minimize friendly-force signatures. This limits detection and destruction by enemy attack.

7-113. **False Deployment.** The OPFOR attempts to deny the enemy the ability to accurately identify its defensive force dispositions and intentions. Knowing it cannot totally hide its forces, it tries to blur the boundaries and compositions of the defending forces, while providing indications of deception units and false targets.

7-114. Actions are also taken to hide the exact composition and deployment of forces. Specific activities include—

- Establishing deception defensive positions and engineer obstacles, supported by decoy vehicles.
- Establishing disruption zones to conceal the actual battle line of friendly defensive positions.
- Concealing unit movement and occupation of defensive positions.
- Creating the perception of false units and their associated activity.
- Creating false high-value assets such as artillery and rocket systems, tanks, and CPs.

7-115. By providing the appearance of units in false locations, the OPFOR attempts to induce the enemy to attack into areas most advantageous to the OPFOR. When the deception is successful, the enemy attacks the defense where the OPFOR can take maximum advantage of terrain. False thermal and acoustic signatures, decoy and actual vehicles, and corner reflectors, supported by false radio traffic, all contribute to the appearance of a defensive force where in fact none exists. Depending on the terrain, deception units may be created forward of the actual defense, causing the enemy to commit forces to the attack earlier than he should. Alternatively, the actual units could be forward of the deception units, providing surprise and lethal fires before the enemy is prepared.

7-116. Sufficient engineer support is critical to the success of any defensive deception activity. Units in the main effort receive the priority, to include the allocation of additional assets from operational-level engineer units.

7-117. **Signature Reduction.** Signature reduction of OPFOR units in the defense is critical to the success of any deception plan. Minimizing the thermal, radar, acoustic, and electronic signatures of combat vehicles and supporting systems is critical to ensuring deception of the enemy and, of course, enhancing survivability. The OPFOR extensively uses a variety of signature-reduction materials and procedures that provide protection from sensors and target acquisition systems operating across the electromagnetic spectrum.

Protection and Security Measures

7-118. At the tactical level, protection and security measures in the defense focus primarily on counterreconnaissance, C^3D, and information security. These and other protection and security measures measures may overlap into the realms of EW or deception.

7-119. **Counterreconnaissance.** Winning the counterreconnaissance battle is very important, since it can limit what information the enemy is able to collect and use in planning his attack. Tactical commanders realize that enemy operations hinge on an intelligence appreciation of the situation. Therefore, defensive preparations will focus on destruction and deception of enemy sensors in order limit the ability of enemy forces to understand the OPFOR defensive plan. A high priority for all defensive preparations is to deny the enemy the ability to maintain reconnaissance contact on the ground.

7-120. The OPFOR recognizes that, when conducting operations against an extraregional power, it will often be impossible to destroy the ability of the enemy's standoff RISTA means to observe its defensive preparations. However, the OPFOR also recognizes the reluctance of enemy military commanders to operate without human confirmation of intelligence, as well as the relative ease with which imagery and signals sensors may be deceived. OPFOR tactical commanders consider ground reconnaissance by enemy Special Operations Forces as a significant threat in the enemy RISTA suite and will focus significant effort to ensure its removal. While the OPFOR will execute missions to destroy standoff RISTA means, C^3D will be the method of choice for degrading the capability of such systems.

7-121. **Camouflage, Concealment, Cover, and Deception.** The OPFOR dedicates extensive effort to employing C^3D to protect its defensive positions and high-value assets. All units are responsible for providing protective measures for themselves, with support from engineer units. The OPFOR employs a variety of signature-reducing or -altering materials and systems, to include IR- and radar-absorbing camouflage nets and paints.

7-122. **Information Security.** In the defense, the OPFOR emphasizes radio silence and alternate communications methods. Rigid adherence to information security procedures and limiting radio transmissions to the minimum required can complicate the enemy's attempts to identify defensive positions and structures.

Electronic Warfare

7-123. EW activities conducted in support of the defense focus on identifying and disrupting the enemy maneuver C^2 networks, disrupting control links associated with enemy fire support and tactical aviation assets, and identifying sensor and target acquisition systems. As in the offense, specific targets are assigned a priority based on the expected impact of their disruption, as well as the time and location on the battlefield.

7-124. **Signals Reconnaissance.** In support of the defense, a division or separate brigade receives intelligence from the parent OSC concerning the projected enemy force's structure, composition, and intentions. This is especially critical for the signals reconnaissance effort, due to the relatively short range of the tactical systems employed by the division or brigade.

7-125. The OPFOR may choose to deploy signals reconnaissance assets forward within the disruption zone. These systems deploy along a baseline that best allows intercept and DF in the projected area through which the enemy main effort must travel. When possible, the assets deploy to pre-surveyed positions. It is extremely critical to select sites with access routes concealed from enemy observation.

7-126. Deploying vulnerable electronic systems forward is a risk the commander may assume to gain a tactical advantage. This deployment does allow the short-ranged tactical systems to collect on targets they would otherwise be unable to reach from positions within the battle zone.

7-127. As the enemy forces approach, the OPFOR targets specific types of units for identification and locating, to include—

- All reconnaissance units and systems, both ground-based and airborne.
- Command links and CPs of leading maneuver units (although typically most are still out of range).
- Engineer units, especially obstacle-clearing and crossing assets.
- Fire support and aviation nets, especially FACs and forward observers.
- Jammers.

7-128. Reconnaissance and engineer activities are high priorities for detection and locating, since they are excellent indicators of enemy intentions. The enemy moves obstacle-clearing equipment and water-crossing systems, such as pontoon bridges, into the areas where he expects to pass the main effort, and, in the case of rivers, where he plans to cross. The actions of reconnaissance assets, particularly ground reconnaissance patrols, similarly indicate likely intentions of the enemy main effort. Enemy jammers are always a high-priority target, due to their potential effect on OPFOR command and control.

7-129. As the enemy commits forces to the attack, the OPFOR tasks its signals reconnaissance assets with identifying and locating the enemy's main-effort maneuver and fire support elements, as well as those support units dedicated to supporting the main effort. The focus at this time is on providing targeting, as well as details on enemy strength and intentions. Targeting priorities for intercept and DF include—

- Maneuver battalion and brigade nets.
- Artillery nets.
- FAC and attack helicopter nets.
- Air defense nets.
- Communications jammers and SIGINT systems.
- Engineer nets.

As command elements of these enemy units (such as CPs and communications nodes) are identified and located, the coordinates are passed to the division (or brigade) for confirmation and targeting by fires.

7-130. Primary targets for the radar intercept and DF assets are the enemy's battlefield surveillance radars, weapon-locating radars, and air defense radars. In particular, detection of the enemy's battlefield surveillance radars provides a key indication of his main effort, as well as a general location of the enemy's leading forces.

7-131. **Electronic Jamming.** The OPFOR conducts electronic jamming from the disruption zone, although limited in scope. Because jammers are also limited in number, it dedicates them to the defense's main effort.

7-132. There are a number of circumstances where jamming is appropriate, and at times, critical. These include—

- Jamming of maneuver and fire support nets in support of withdrawing forces.
- Jamming of C^2 nets associated with NBC and precision weapons.
- Jamming of reconnaissance reporting nets.
- Jamming as part of a deception plan.

While the commander may employ jamming at other times, he must consider the potential gain against the risk of detection.

7-133. The OPFOR takes advantage of the time prior to an enemy attack to emplace expendable jammers (EXJAMs). These jammers can disrupt enemy communications nets. When used in conjunction with terrain (such as at natural choke points, mountain passes, or valleys), they can achieve significant results despite their short range and low power. The OPFOR can also use them to support a deception plan, without risking expensive vehicle-based systems.

7-134. While limited in number, artillery-delivered EXJAMs may be employed. These jammers are especially useful in those areas where support is not available from more powerful vehicle-mounted jammers. Proximity fuze jammers deployed to protect high-value assets are active, since the high-value assets are within indirect fire range from enemy artillery.

7-135. The OPFOR also employs jamming in the battle zone in support of its main defense force. Once enemy forces close with the defending units, jamming activities focus primarily on enemy maneuver and fire support assets engaged in his main effort, as well as any assets directly supporting them.

7-136. Jamming priorities are similar to those for signals reconnaissance. Maneuver units are jammed in order to disrupt coordination between and within units, especially when enemy units are achieving varying degrees of success. Reporting links between reconnaissance and engineer elements and the supported maneuver units are attacked as they attempt to exploit OPFOR weaknesses the enemy may have found.

Physical Destruction

7-137. During the defense, IW-related destruction measures focus on destroying enemy assets critical to the control of the attack. As in the offense, indirect fire, ground attack, and possibly air attack all can contribute to the effort. Specific targets vary based upon location and time, but typical high-priority targets include—

- Precision weapons systems.
- C^2 nodes and facilities.
- Artillery, tactical aviation, and air defense systems.
- Reserves.
- RISTA systems.

7-138. Special emphasis is given to destruction of RISTA capabilities prior to the attack on OPFOR defensive positions. Once the attack begins, the OPFOR heavily targets enemy C^2 nodes

responsible for the planning and conduct of the attack, along with supporting communications. Typically, destruction of C^2 nodes prior to the attack may allow the enemy time to reconstitute his control, whereas targeting them once forces are committed to the attack can cause a far greater disruptive effect.

IW PLANNING

7-139. OPFOR IW planning occurs at all levels of conflict and before and after conflict. At the strategic level, the initial focus is achieving State objectives and supporting the SCP. Perception management, protection and security measures, and deception activities are critical at this level.

7-140. As tensions escalate, IW at the operational level can be employed to disrupt the enemy's information systems, further demonstrating national resolve and military capability. The operational-level chief of IW formulates the IW plan as an integral part of all ground, air, sea, and space operations within the OSC. At the tactical level, IW activities focus on deception activities, the disruption of enemy military communications, and protection and security for OPFOR military actions (see Tactical–Level IW above).

7-141. An effective IW action demands the coordination of activities and capabilities into a single, focused plan. Any or all elements of IW may be effectively used in any given plan. Figure 6-1 provides examples of objectives and targets.

IW Element	Objectives	Targets
Electronic Warfare	Exploit, disrupt, deny, and degrade the enemy's use of the electromagnetic spectrum.	C^2 and RISTA assets and networks.
Computer Warfare	Disrupt, deny, or degrade the enemy's computer networks and information flow.	C^2 and RISTA assets and networks.
Deception	Mislead enemy decision makers. Cause confusion and delays in decision-making process. Persuade adversary's population and international community to support OPFOR objectives.	Key military decision makers. General population and international media sources and Internet sites.
Physical Destruction	Destroy enemy's information infrastructures.	C^2 nodes and links, RISTA assets, telecommunications, and power sources.
Protection and Security Measures	Protect critical assets.	Enemy RISTA assets.
Perception Management	Distort reality or manipulate information to support OPFOR goals.	RISTA assets, media sources (international and domestic).
Information Attack	Objectives vary based on situational needs	Computer networks, software, hardware, telecom-

	and objectives of the attack.	munications, power sources, and any other electronic source or conduit of communication or information.

Figure 6-1. IW Elements, Planning Objectives, and Targets

IW INFORMATION REQUIREMENTS

7-142. The OPFOR requires precise and reliable knowledge of the enemy's military information architecture, including the design and training of his command structure, his decision-making philosophies, and his communications and sensor capabilities. While not necessarily collected by tactical assets, information related to an enemy nation's civil communications, information system software, and even how the media influence decision makers may be exploited on the battlefield.

7-143. Information collected through reconnaissance is critical to the OPFOR IW planning process. The OPFOR uses all forms of information collection, ranging from signals and ground reconnaissance, to engineer reconnaissance, to radars and NBC detection systems. It can also use human intelligence assets such as agents and sympathizers. Each type provides critical pieces of the enemy commander's plan that, when integrated, provide an accurate understanding of the plan while minimizing the likelihood of accepting enemy deception for reality.

STAFF RESPONSIBILITIES

7-144. There is a chief of IW under the intelligence officer at division and brigade level, who has responsibilities that parallel those of the chiefs of IW in the General Staff and on operational-level military staffs. Within tactical-level staffs, the intelligence officer and chief of IW are responsible for ensuring that all IW actions undertaken at their level are in concert with the operational-level IW plan, the overall military IW plan, and the SIWP. As necessary, the Chief of IW in the General Staff or the operational-level chief of IW can directly task each tactical-level chief of IW to support the SIW campaign or the operational-level IW plan. (See the Strategic IW and Operational-Level IW sections of this chapter.)

Intelligence Officer

7-145. The intelligence officer heads the intelligence and information section of the primary staff. He ensures that all intelligence requirements are met and executes staff supervision over the IW plan. He coordinates the support of all necessary operational-, theater-, or national-level assets required for execution of the division (or brigade) IW plan. He must effectively task organize his staff resources to plan, conduct, and execute IW in a manner that supports strategic and operational-level IW plans. Traditional staff functions and relationships may be expanded or even redefined. (See Chapter 2 for a more detailed discussion of staff responsibilities and organization.)

Chief of IW

7-146. The division (or brigade) chief of IW belongs to the secondary staff, heading the IW subsection under the intelligence officer, under whose supervision he formulates the IW plan as an integral part of division- or brigade-level planning. An effective IW action demands the coordination of all activities and capabilities into a single, focused plan. Any or all elements of IW may be effectively used in any given plan.

7-147. The chief of IW supervises the execution of the division (or brigade) IW plan. He is responsible for—

- Coordinating the employment of IW assets, both those constituent to the division (or brigade) level and (with the help of his intelligence officer and those at higher levels) those assets available at higher levels that could support his IW plan.
- Planning for and supervising all information protection and security measures.
- Supervising the implementation of the deception plan and perception management objectives.
- Working with the operations section of the staff to ensure that targets scheduled for destruction support the IW plan, and if not, resolving conflicts between IW needs and tactical needs.
- Recommending to the intelligence officer any necessary actions required to implement the IW plan.

7-148. The chief of IW at each level of command submits his IW plan to the chief of IW at the next-higher level. The senior chief of IW issues directives to subordinate units' chiefs of IW. These directives are part of the next-higher command's battle plan (operations plan) or combat order (operational directive), and can be part of the SCP. What the subordinates plan and execute must be in concert with the higher plan and the higher headquarters also needs to ensure that the IW plan of one subordinate does not conflict with that of its adjacent units.

7-149. The chief of IW also plays a key role in coordinating IW activities with other staff sections and subsections, particularly with members of the functional staff. For instance, he coordinates with the division-level chief of integrated fires (or brigade-level chief of fire support) to ensure that deception and protection and security measures contribute to the success of fire support to overall offensive and defensive actions. He coordinates with the chief of force protection to prevent or mitigate the effects of hostile actions on critical information and information systems. He works closely with the chief of population management and representatives from the Ministry of Public Information regarding coordination of PSYWAR and other perception management activities.

PLANNING

7-150. A key element in planning the offense or defense is organizing IW activities that are appropriate and necessary to support whatever type of offensive or defensive action is being planned. The success of IW during any form of action relies on the effectiveness of earlier IW activities. Of course, it is important for all tactical-level IW plans to fit into the overall aims and plans already set into motion at the operational and strategic levels.

7-151. The components of a tactical-level IW plan include, at a minimum, the following:

- Statement of national- and operational-level military objectives and goals.
- IW objectives of the next-higher level of command.
- Definition of the missions of IW (public, private, military, and nonmilitary).
- Identification of all applicable State elements of power to assist in the execution of the IW plan.

- Potential targets and tools for destruction, degradation, or exploitation.
- Intelligence required to conduct IW missions.
- Specific unit responsibilities.

Other specific plan elements can include a review of the enemy's IW capabilities, a tactical analysis of all relevant information infrastructures (owners and vulnerabilities), requirements of IW capabilities, an organizational plan and staff responsibilities, a deception plan, and perception management objectives.

Chapter 8

Reconnaissance

To the OPFOR, the single most important component of military action is reconnaissance. Reconnaissance represents all measures associated with organizing, collecting, and studying information on the enemy, terrain, and weather in the area of upcoming battles. Aggressive, continuous reconnaissance allows the timely accomplishment of combat missions with minimum losses. Poor reconnaissance can lead directly to failure. The OPFOR will commit significant resources to any reconnaissance mission.

The OPFOR treats reconnaissance as an offensive action, since the enemy typically defends vital information with security actions and camouflage, concealment, cover, and deception (C^3D) measures. Thus, reconnaissance plans must always have a provision for defeating the enemy's efforts to protect himself.

COMBINED ARMS MISSION

8-1. Reconnaissance is a combined arms mission, not solely the business of reconnaissance troops. It involves the integrated efforts of troops from several branches. OPFOR reconnaissance actions often include the use of paramilitary and affiliated forces. Reconnaissance elements that are defeated before or during the accomplishment of their mission are reconstituted from any appropriate source.

8-2. This chapter focuses primarily on the reconnaissance activities of ground maneuver forces and specialized ground reconnaissance troops. However, there are also specialized reconnaissance assets in other arms, which other chapters in this manual discuss in more detail:

- Signals reconnaissance (Chapter 7).
- Artillery target acquisition (Chapter 9).
- Aerial reconnaissance (Chapter 10).
- Air defense reconnaissance, early warning, and target acquisition (Chapter 11).
- Engineer reconnaissance (Chapter 12).
- NBC reconnaissance (Chapter 13).
- Special reconnaissance (Chapter 15).

The integrated efforts of any or all of these reconnaissance means may be necessary to support specific missions. Efficient and accurate reconnaissance is also crucial to ensuring the success of information warfare (IW) activities.

CONCEPT

8-3. For the OPFOR, reconnaissance is a critical element of combat support. In modern combat, the battlefield develops unevenly, and units cannot rely on the security of their flanks or rear – in fact there may not even be 'flanks' or 'rear'. Friendly and enemy forces can become mixed, with the combat situation developing and changing quickly. Reconnaissance elements must warn commanders of developing threats and identify enemy strengths and vulnerabilities. The OPFOR organizes reconnaissance to acquire continuous, timely, and accurate information about the enemy's NBC and precision weapons; force disposition and intentions; and terrain and weather. This information is vital to the OPFOR decision-making and planning process. Reconnaissance can decisively influence the outcome of a battle.

PRINCIPLES

8-4. With the speed and potential non-linearity of modern combat, the role of reconnaissance has increased in importance. Without decisive actions of reconnaissance forces and assets, it is impossible to preempt the enemy, seize the initiative, and conduct a successful battle. The OPFOR uses the following set of interrelated principles to guide its reconnaissance activities:

Focus

8-5. Reconnaissance action must serve the commander's needs and focus on elements and objectives critical to the execution of combat missions. Each unit develops a comprehensive reconnaissance plan in accordance with the organization's mission. The reconnaissance plan must coordinate all available assets into an integrated plan.

8-6. The OPFOR understands that information is not the same thing as knowledge. With the number of sensors available to the tactical commander, the danger exists that analysts and decision makers could become overwhelmed with raw data. Therefore, all reconnaissance activities should focus on answering specific information requirements.

Continuity

8-7. The modern, fluid battlefield demands continuous reconnaissance to provide an uninterrupted flow of information under all conditions. Reconnaissance provides constant coverage of the enemy situation, using a wide variety of redundant assets. Not only must reconnaissance units answer specific requests for information; they also must continuously collect information on all aspects of the enemy, weather, and terrain to fully meet future requirements. The variety of overlapping assets ensures greater validity of collected information. Continuous reconnaissance decreases the likelihood that the enemy could carry out successful deception.

8-8. Reconnaissance units attempt to maintain contact with the enemy at all times. They conduct reconnaissance in all directions, in order to prevent

surprise. They collect information during all battle phases, 24 hours a day, in all weather conditions.

8-9. To ensure this continuity, units conducting reconnaissance must maintain a high state of combat readiness. They must be able to sustain themselves wherever they deploy, without relying on others for transport or subsistence. In the event that a specialized reconnaissance unit is destroyed or becomes combat ineffective, commanders reassign the mission to appropriate forces.

Aggressiveness

8-10. Aggressiveness is the vigorous search for information, including the willingness to fight for it if necessary. Reconnaissance troops must collect information creatively and make maximum use of all assets and methods to ensure success on the battlefield. The OPFOR vigorously employs all available collection resources and adheres carefully to the reconnaissance plan. However, it will alter the plan when its own initiatives or enemy actions dictate.

8-11. Although reconnaissance is the primary mission, all reconnaissance units train to defend themselves. Reconnaissance troops penetrate enemy defenses, avoiding contact if possible. When required, they can ambush and raid enemy forces. They do what is necessary to fulfill the commander's information needs.

8-12. The information requirement determines the techniques to use. Reconnaissance patrols by mechanized forces are not always the best means. Ambushes and raids are fruitful sources of information from captured prisoners, documents, and equipment. Such information-gathering actions are generally more important than any associated damage, but there are exceptions. Reconnaissance elements are often called upon to destroy high-value targets they find.

Timeliness

8-13. Timely information is critical on the modern battlefield. Because of the high mobility of modern forces, there are frequent and sharp changes in the battlefield situation. As a result, information quickly becomes outdated. The best intelligence is useless if it is not received in time. Timely reporting enables the commander to exploit temporary enemy vulnerabilities and windows of opportunity. Using increased data automation, he can adjust plans to fit a dynamic battlefield. The OPFOR achieves timeliness through increased automation for C^2 and processing of information; real-time or near real-time aerial downlinks; and satellite downlinks. This timeliness is especially critical for the success of integrated fires commands (IFCs).

Camouflage, Concealment, Cover and Deception

8-14. The OPFOR is aware that the enemy may learn a great deal about its intentions by discovering its reconnaissance plan. Commanders understand it is often not possible to completely hide the fact that reconnaissance is being conducted. However, every effort is made to conceal the scale, missions, targets, and nature of reconnaissance missions. Specific measures can include conducting reconnaissance across a broad range of targets, concealing the actions of reconnaissance elements, and covering and concealing assembly areas of reconnaissance forces and assets.

8-15. The OPFOR can also use C^3D to "paint a picture" that confirms the enemy's stereotyped views of how the OPFOR fights. By showing the enemy what he expects to see, the reconnaissance effort can help to establish the conditions for success during ensuing combat. This is a critical part of IW (see Chapter 7).

Accuracy and Reliability

8-16. The OPFOR uses all available reconnaissance means to verify the accuracy and reliability of reported information. A commander must base his decisions on reconnaissance information; so, the more accurate and complete the information, the better the decision. To maximize results, the plan requires accurate information on the enemy's size, location, equipment, and combat readiness. The accuracy and reliability of reconnaissance information are critical to the destruction of high-value targets such as enemy weapons of mass destruction (WMD), precision weapons, attack aviation, logistics centers, C^2, and communications. The OPFOR achieves accuracy through the creation of overlapping coverage and the use of improved technology.

8-17. Reconnaissance must reliably clarify the true enemy situation in spite of enemy C^3D and counter-reconnaissance activities. The first step is to tailor reconnaissance efforts to the tactical situation, selecting and allocating reconnaissance forces in accordance with their capabilities in terms of missions and targets.

8-18. The next step is to compare, cross-check, recheck, and integrate reconnaissance reports from multiple means of acquisition. The study and integration of reconnaissance information collected by multiple sources can help in identifying and assessing false targets and other false indicators of enemy actions or intentions.

ASSETS

8-19. Tactical reconnaissance supports division and below. It provides reconnaissance needed to plan and carry out tactical actions within each commander's area of responsibility (AOR). Divisions and below perform tactical reconnaissance using specially-trained reconnaissance resources and combat troops from maneuver units. Figure 8-1 summarizes the range capabilities of the reconnaissance assets that can support tactical commanders.

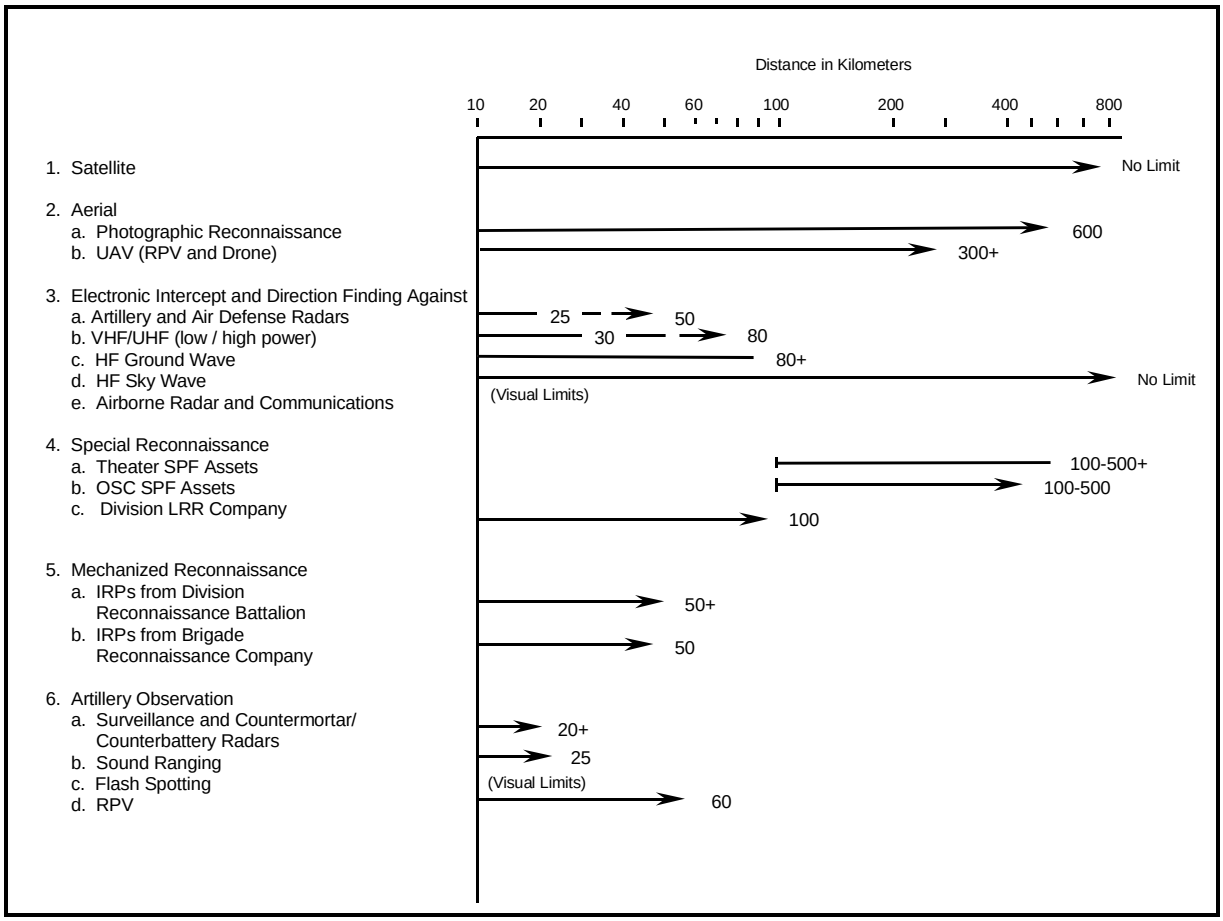


Figure 8-1. Effective Ranges of Reconnaissance Assets

GROUND RECONNAISSANCE

8-20. Tactical units may send out independent reconnaissance patrols (IRPs) to perform ground reconnaissance. The size of such patrols can vary, but is usually an augmented reconnaissance or combat arms platoon.

8-21. Long-range reconnaissance (LRR) units may form additional IRPs, or their vehicles can supplement patrols formed by the other reconnaissance units. However, LRR personnel are specially trained for insertion in small reconnaissance teams at distances up to 100 km beyond the battle line.

8-22. A tactical group may receive a special-purpose forces (SPF) unit to support its IFC or to perform other special reconnaissance and direct action missions. The SPF operate in small teams or as several teams grouped into a detachment. They can perform some of the same types of reconnaissance tasks as the LRR teams. However, the SPF receive special training and equipment that allows them to operate farther out and for longer periods. See Chapter 15 for more information on SPF.

8-23. Signals reconnaissance assets include radio intercept and direction-finding (DF) and radar intercept and DF systems as well as equipment designed to exploit signals from cellular, digital, satellite, fiber-optic, and computer network systems. See Chapter 7 for more detail on signals reconnaissance.

8-24. Engineer units can also dispatch one or more engineer reconnaissance patrols. This type of patrol consists of a squad or a platoon of engineer specialists sent out to obtain engineer intelligence on the enemy and the terrain. In enemy territory, it deploys as part of another ground reconnaissance element. See Chapter 12 for more detail on engineer reconnaissance.

8-25. Chemical reconnaissance units establish NBC observation posts as well as NBC reconnaissance patrols. Chemical defense units can also attach individual chemical and radiological specialists to reconnaissance, security, reserve and independent elements. Their role is to identify and mark areas of contamination, to determine the extent and nature of any NBC contamination and finding routes around contaminated areas. They may also find the shortest route through an area with low levels of contamination and select certain areas for decontamination. They monitor the effects of chemical or nuclear weapons and provide warning of downwind hazards. See Chapter 13 for more detail on NBC reconnaissance.

8-26. Artillery units often have their own reconnaissance assets. These include artillery command and reconnaissance vehicles, mobile reconnaissance posts, battlefield surveillance radars, target acquisition radars, counterfire radars, and sound and flash equipment. In addition, artillery reconnaissance assets may be made available from OSC level. See Chapter 8 for more detail on artillery target acquisition.

8-27. Insurgent and terrorist forces employ a wide range of reconnaissance techniques, often quite sophisticated. Their primary ground reconnaissance means is surveillance by teams that blend carefully and completely into the local population.

AERIAL RECONNAISSANCE

8-28. Aerial reconnaissance includes visual observation, imagery, and signals reconnaissance from airborne platforms. These platforms may be either piloted aircraft or remotely-piloted vehicles (UAVs).[1]

[1] The UAV represents one of two types of unmanned aerial vehicle (UAV); the other type is the drone. An UAV can be flown by remote control from a ground station, over a flight path of the controller's choosing. A drone, on the other hand, flies a set course programmed into its onboard flight control system prior to launch. See the appropriate OPFOR organization guide and equipment guide for details on UAV and drone organizations and capabilities.

Rotary- and Fixed-Wing Aircraft

8-29. Dedicated reconnaissance helicopters, depending on equipment, can conduct visual, thermal imaging, photographic, infrared, and signals reconnaissance. Attack helicopter crews report any unexpected enemy activity observed during their missions. They can report such perishable information immediately by radio to a ground command post (CP) unless such reporting would interfere with successful completion of their assigned mission. In the latter case, they report this information during post-mission debriefing. Transport helicopters or fixed-wing aircraft can insert LRR elements to distances not practicable with armored reconnaissance vehicles. See Chapter 10 for more information on aerial reconnaissance.

Unmanned Aerial Vehicles

8-30. UAV missions are planned by the chief of reconnaissance (COR). Flight profiles can vary according to the mission. For surveillance missions, the UAV typically uses a figure-eight or racetrack pattern to maintain it over the assigned surveillance area. (See Figures 8-2 and 8-3.) For reconnaissance, intelligence collection, target acquisition, and battle damage assessment (BDA) missions, a zigzag or loop pattern allows thorough coverage over a specific target area. (See Figures 8-4 and 8-5.) UAV operators can vary these basic flight patterns by taking control of the UAV and changing its altitude, speed, or direction of flight. This allows UAVs to search for high-priority targets or to collect more detailed information on such targets once it locates them.

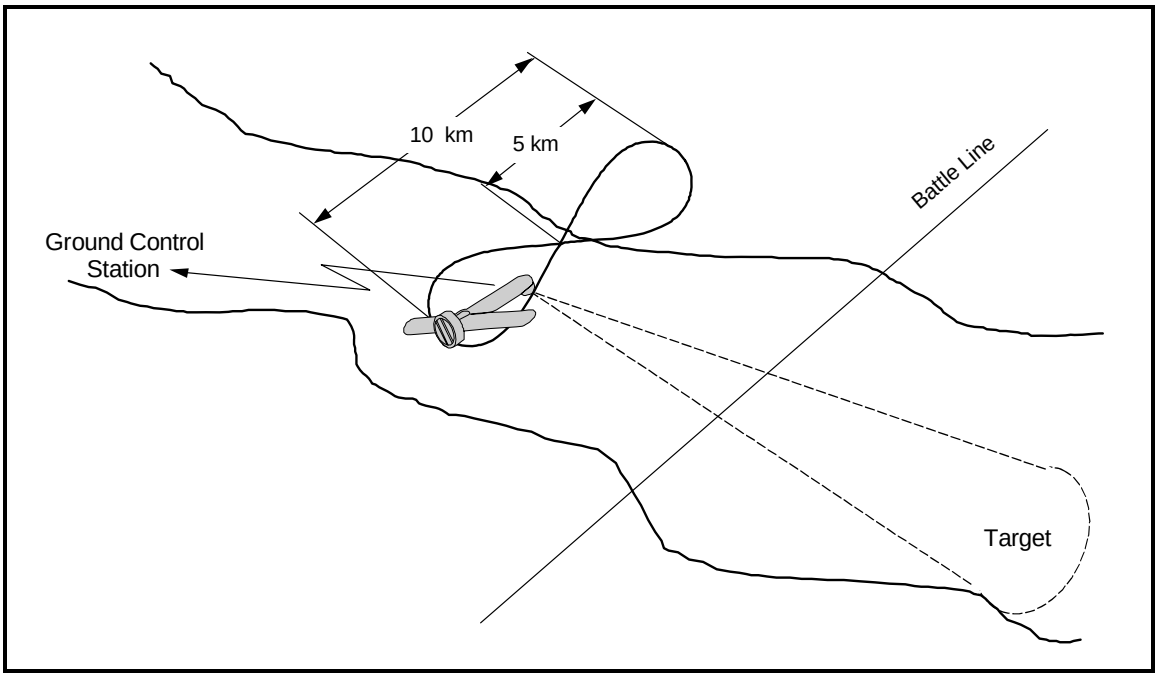


Figure 8-2. Figure-Eight Flight Path for UAV

8-31. While the radio command link gives an UAV greater flexibility, it also limits the range of the UAV to the line-of-sight transmission range from its control station. However, many UAVs can also operate in a preprogrammed mode at longer ranges.

8-32. As the UAV acquires priority point and area targets during these missions, it immediately transmits video imagery of the target to its ground control station. Personnel at the ground control station must use terrain and map association to determine target location in terms of grid coordinates. By this method, trained personnel can usually determine target location to within 100 m. Even with modern UAVs equipped with Global Positioning System (GPS) receivers, the transmission from the UAV gives the location of the UAV, not the location of the target. However, knowing the precise location of the UAV at the time it took the imagery can greatly facilitate terrain and map association.

8-33. Having determined the target location, the ground control station personnel must then transmit the target location via secure radio communications to the COR. For UAVs from artillery target acquisition elements, the target data would go directly to the artillery fire control element.

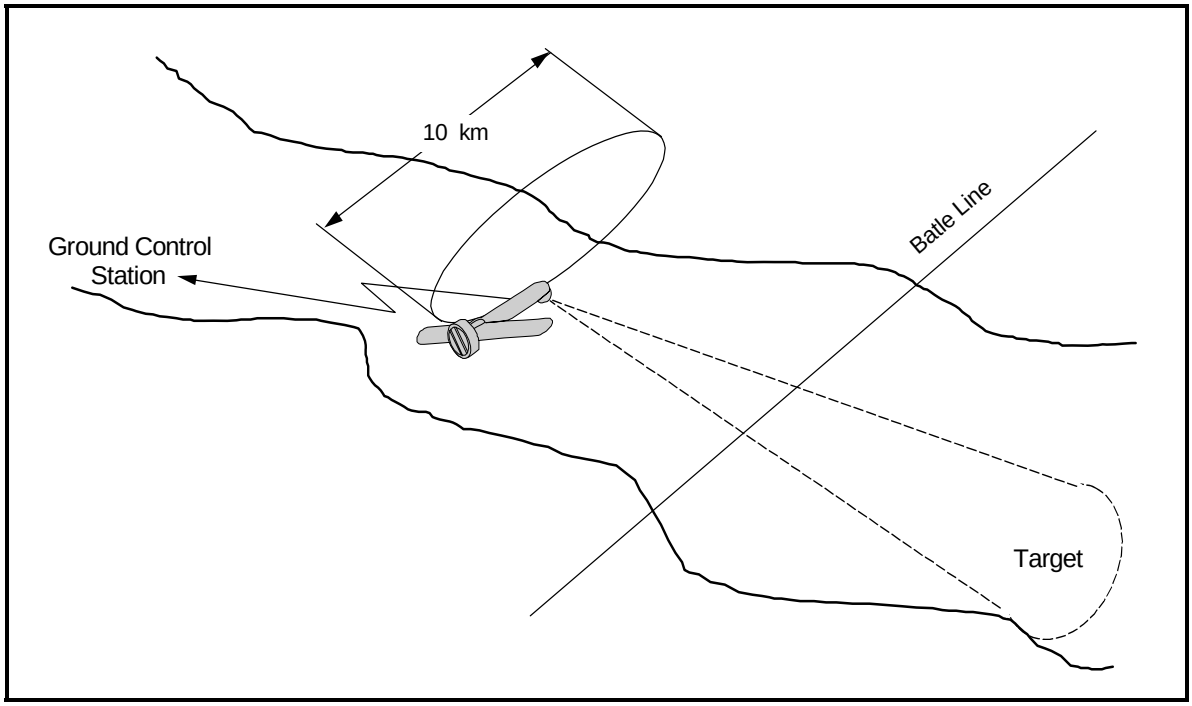


Figure 8-3. Racetrack Flight Path for UAV

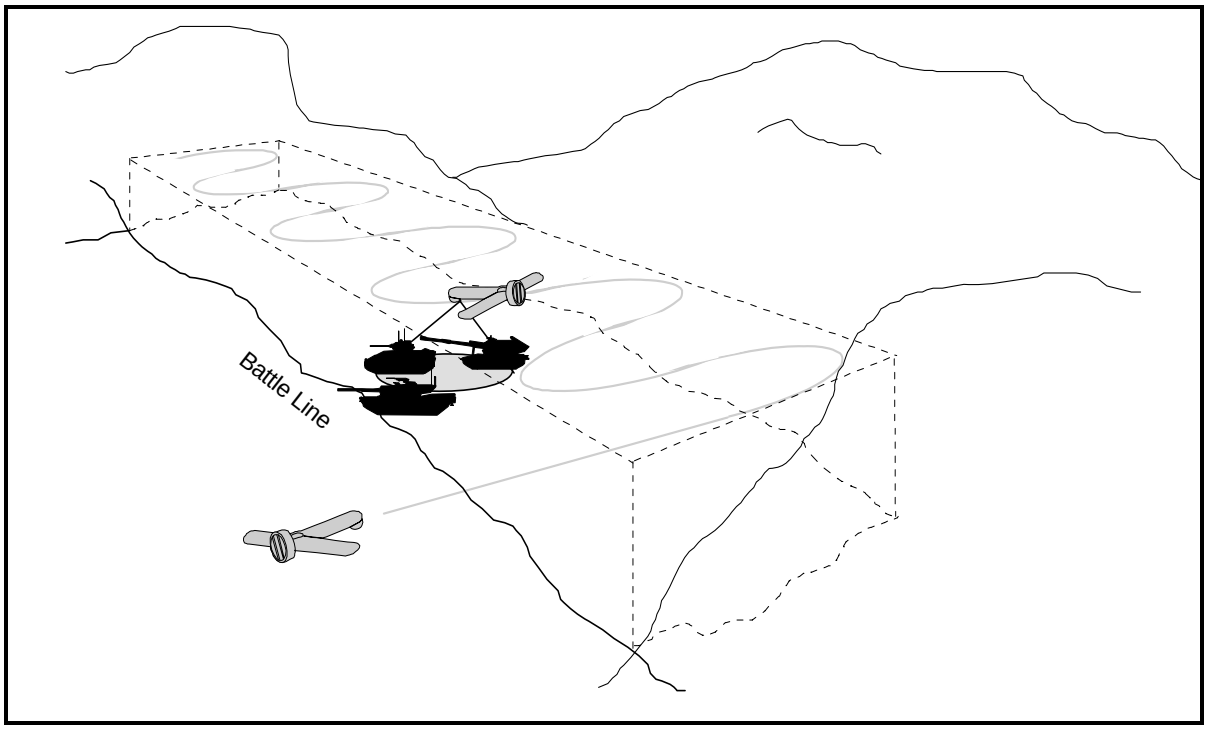


Figure 8-4. Zigzag Flight Path for UAV

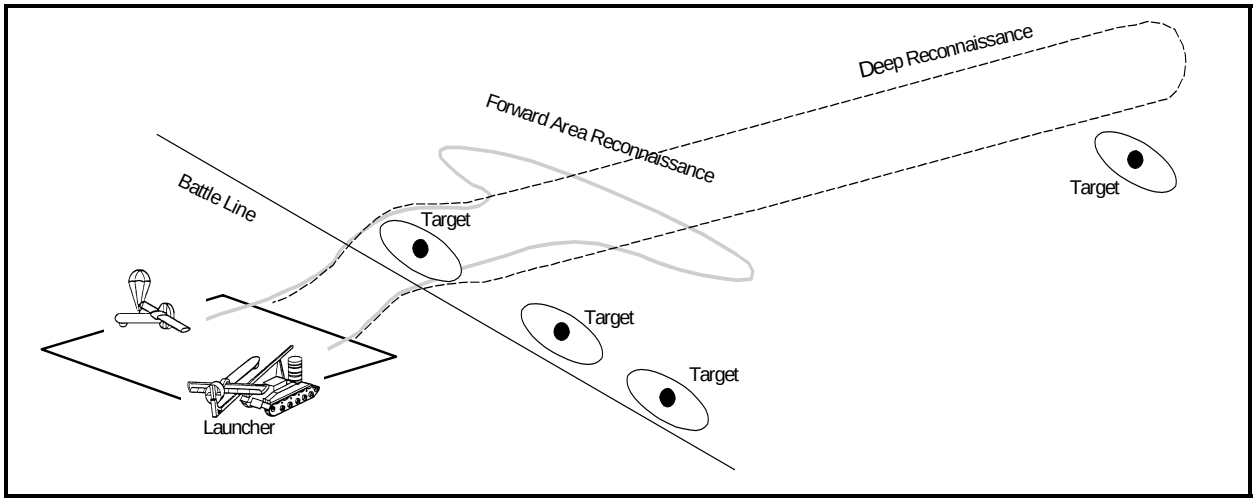


Figure 8-5. Loop Flight Path for UAV

RECONNAISSANCE PLANNING

8-34. The purpose of reconnaissance planning is to thoroughly coordinate the actions of all reconnaissance organizations and levels. Ultimately, the planning must ensure that missions, targets, times, forms of action, zones of reconnaissance responsibility (ZORRs), and the exchange of information are fully coordinated.

ZONES OF RECONNAISSANCE RESPONSIBILITY

8-35. Each tactical group and detachment has one or more ZORRs. This zone is the combination of the unit's AOR and the area outside of the AOR that can be observed by the unit's technical sensors. (See Figure 8-6.)

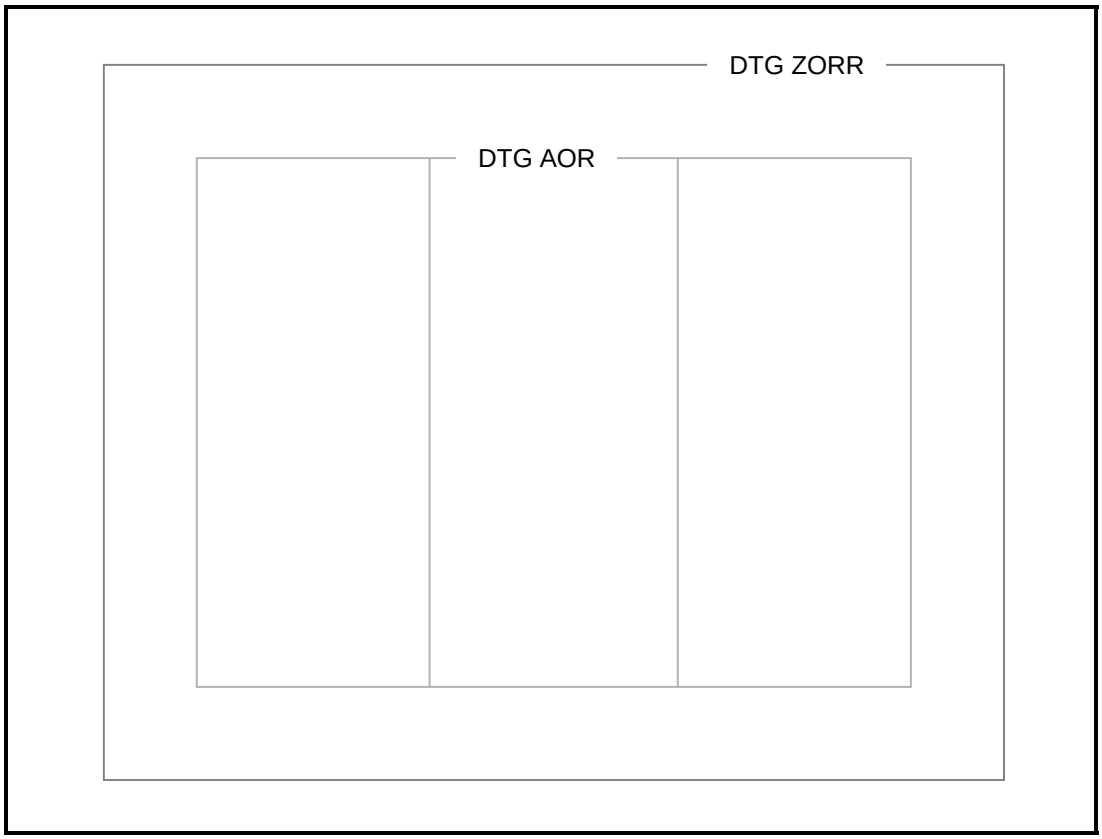


Figure 8-6. Zone of Reconnaissance Responsibility

8-36. By definition, the ZORR extends into adjacent unit AORs. This is to serve the dual functions of overlapping coverage and preventing surprise. Within this zone, the headquarters must be able to monitor enemy activity sufficiently to ensure that unexpected enemy moves do not disrupt its own plans. Reconnaissance in this zone should provide early warning of potential enemy movement into the AOR from any direction.

COMMANDER

8-37. Reconnaissance planning begins with the commander. Following the receipt of combat orders, the maneuver commander determines what additional information is necessary to conduct his mission. To fight the battle properly, the tactical commander typically needs information on—

- Enemy positions, boundaries, and strong and weak points.
- The location of key enemy systems and installations (such as FARPs, counterfire radars, C^2 nodes, or logistics centers).
- The location and movement of enemy reserves.
- Possible axes for enemy counterattacks.
- Terrain trafficability and cover.
- The location of and approaches to obstacles.

8-38. There are several pieces of information that can be of great interest before and during the battle. General aims that guide the reconnaissance process *prior* to the initiation of combat are the timely detection or determination of—

- Enemy preparations for an attack with conventional or precision weapons, or WMD.
- Indications of the enemy's concept for upcoming action.
- Groupings of enemy forces and their preparation for combat.
- Changes in the grouping or composition of these forces.

8-39. *After* combat begins, general information requirements can include—

- The effects of precision weapons and WMD.
- Further changes in the grouping or composition of enemy forces.
- Activities and composition of enemy reserves.
- Enemy preparations to prevent the deployment of friendly troops.
- Enemy preparations to launch amphibious, airmobile, or airborne assaults.

8-40. The commander analyzes his requirements for information and determines the reconnaissance needed. He defines the data he wants and when he needs it. Then the commander states broad reconnaissance instructions to his chief of intelligence. The amount of time available for conducting reconnaissance determines the amount of detail contained in the commander's instructions. If little time is available, the commander's instructions may be very short and simple.

8-41. The commander's instructions to the chief of intelligence outline the overall aim or goal of reconnaissance and the priorities of the reconnaissance mission. This can include specific reconnaissance tasks assigned by the commander or by higher headquarters. The commander can also assign specific objectives, sectors, areas, or axes for concentrating the main reconnaissance effort. His instructions may specify which reconnaissance

assets may or may not be used prior to combat. He establishes the type of information required and the deadline for receipt of this information.

CHIEF OF STAFF

8-42. The chief of staff interprets the commander's instructions and converts them into specific tasks. At this point, if not before, the general aims of the reconnaissance effort become specific information requirements and taskings to reconnaissance units.

8-43. The chief of staff has overall responsibility for providing the necessary information for the commander to make decisions. At the tactical level, he has a more clearly defined role in structuring the reconnaissance effort than at higher levels.

8-44. Because reconnaissance is a combined arms task, the chief of staff must coordinate the overall reconnaissance effort. Aside from reconnaissance troops, various other combat, combat support, and combat service support branches have reconnaissance tasks and capabilities. Thus, coordination involves not only ground reconnaissance, but also the efforts of target acquisition elements and chemical, engineer, and signals reconnaissance, as well as any aerial reconnaissance assets allocated to support the maneuver unit's mission. The chief of staff can ensure that the various branches report the results of all these reconnaissance efforts through the COR and the intelligence officer to the commander.

8-45. Upon receipt of the commander's reconnaissance instructions, the chief of staff refines the requirements and passes them to the intelligence officer for the detailed development of the reconnaissance plan. The chief of staff provides any other information available on targets and areas for concentration of the reconnaissance effort.

INTELLIGENCE OFFICER

8-46. The intelligence officer's instructions to the COR specify details of the missions identified by the commander, and the method of execution. He determines the sequence for the performance of these tasks and the manpower and equipment necessary to complete them. He specifies the reconnaissance assets to be used for the priority reconnaissance tasks. He determines the principal means of preparing and supporting reconnaissance units, and ensuring their interaction and coordination. He then specifies to the COR the times for preparing the reconnaissance plan and issuing combat orders to reconnaissance units.

8-47. The intelligence officer is responsible for the coordination between recon and IW, communications requirements. He reviews the efforts of all three areas and resolves conflicts. For example, if the IW plan recommended a particular enemy command and control center for destruction, but the reconnaissance plan sought to collect vital information from it, the intelligence officer would choose the course of action that best supported the commander's intent.

CHIEF OF RECONNAISSANCE

8-48. In tactical group headquarters, the intelligence and information section of the staff includes a reconnaissance subsection headed by the COR. This staff officer is responsible for organizing reconnaissance in accordance with the commanders' general plan. The COR works for and reports to the intelligence officer. Along with or through the intelligence officer, he reports to the commander concerning the organization of reconnaissance planning.

8-49. Like other section and subsection chiefs on the division and brigade staff, the COR has a dual reporting chain. He is responsible to the commander and chief of staff in whose headquarters he serves. However, he also receives additional instructions and guidance from his COR counterpart at the next-higher level. For example, a DTG COR coordinates with the OSC COR and with the CORs of subordinate BTGs. Through these channels, he can request reconnaissance support from higher levels or task reconnaissance elements of subordinate brigades to perform missions for the division. Thus, a tactical-level COR has access to information collected by means not available to him, such as aerial reconnaissance. He is also responsible for passing the results of reconnaissance both up and down the chain of command.

8-50. To the reconnaissance missions he receives from the chief of staff, the COR adds specific instructions to complete the reconnaissance plan. His knowledge of enemy doctrine, and his access to current intelligence enable him to assign precise missions to reconnaissance assets at his own level of command. He establishes time constraints, reporting schedules, and reporting methods. He also establishes measures for interaction and coordination of reconnaissance actions to ensure accomplishment of all missions and objectives. He organizes and continuously monitors communications with all maneuver units and with the headquarters of subordinate reconnaissance units. He can also provide guidance to immediately subordinate maneuver units regarding their contribution to the higher unit's reconnaissance effort.

RECONNAISSANCE PLAN

8-51. The COR at tactical group level develops a reconnaissance plan within the framework of the higher headquarters' mission and the higher commander's decision for combat. He combines this information with the higher headquarters' instructions on conduct of the reconnaissance mission, information currently available on the enemy, and status of reconnaissance assets.

8-52. Depending on the situation, the reconnaissance plan may include—

- The AORs of friendly units.
- The commander's concept and mission.
- All available information regarding known and suspected enemy groupings and intentions.
- A list of tasks (including obtaining new information, confirming previously available information, BDA, and calling for fire on targets of opportunity).
- A list of priority targets for reconnaissance.

- The deployment of reconnaissance assets in terms of these tasks and targets.
- The time and sequence for executing the tasks.
- Restrictions on reconnaissance actions during specific times or in certain areas.
- The method and time for reporting.

8-53. The content of reconnaissance missions depends on the commander's information requirements. These, in turn, depend on the nature of the unit's combat missions.

8-54. In the offense, reconnaissance must establish the enemy's effective combat strength, affiliation, combat effectiveness, and whether or not he has NBC or precision weapons. It must discover firing positions for weapons, strongpoints, gaps, and the nature of engineer preparation of defensive positions. It is also important to locate and track enemy reserves and possible axes for counterattacks. Reconnaissance must identify terrain that may present trafficability problems for advancing OPFOR units.

8-55. In the defense, reconnaissance must cover enemy preparation for an attack and determine the possible time of the attack. It must establish the makeup of the enemy grouping and identify the axis of his main attack and the nature of his maneuver. It is especially important to determine the locations of firing positions of artillery and other weapons, locations of C^2 facilities, the combat effectiveness of enemy troops, and their affiliation. The plan should include reconnaissance tasks for the entire course of defensive actions, as well as tasks that support an eventual transition to the offense.

INFORMATION FLOW AND COMMUNICATIONS

8-56. The commander's instructions, the reconnaissance plan, and combat orders to reconnaissance elements identify information requirements and specify how and when to report this information. To minimize radio traffic on command nets, the flow of information both up and down the chain of command normally is through reconnaissance channels. Commanders determine how frequently they wish to receive various types of situational data.

8-57. A reconnaissance element typically reports to the commander of its parent reconnaissance unit or to the COR (or chief of staff) of the maneuver unit that dispatched it. In exceptional cases, however, the capability for skip-echelon communications allows the leader of a reconnaissance unit to report to a higher level if so directed in specific instructions.

Reporting

8-58. Standard operating procedures developed for reconnaissance reporting seek to ensure that the supported commander receives critical information he requires to make a decision. To reduce the likelihood of information overload, there are two different reporting categories: periodic (reports submitted at a set time) and aperiodic (reports submitted on the staff's own initiative resulting from significant changes in the situation).

8-59. Under the direction of the COR, the reconnaissance subsection on a division or brigade staff evaluates and summarizes incoming information for the commander. It disseminates this information to those command and staff elements that require it, including higher headquarters and adjacent units. It is important to study information from all sources before reaching conclusions. This includes even information believed to be false because it contradicts information from other sources and does not correspond to the developing situation. The study of this false information can reveal the methods the enemy is using for deception.

Reconnaissance Report

8-60. Commanders and staffs receive reports from reconnaissance elements and/or CORs. Depending on the situation, these reports may be in the form of briefings, radio communications, or written reports.

8-61. The term *reconnaissance report* also applies to a specific document prepared by the headquarters of a brigade, division, or OSC for reporting information about the enemy to a higher headquarters. It may be a periodic reconnaissance report forwarded every few hours at set times specified in instructions. It may also be an aperiodic report prepared at the initiative of the subordinate commander or by special request from the higher commander. In either case, it includes, at a minimum, the following:

- The general nature of enemy activities throughout the reporting unit's entire ZORR.
- The disposition and grouping of enemy forces in each area or axis within the ZORR.
- Significant changes that have occurred since the previous report.
- The reporting unit's conclusions about possible enemy actions based on these indications.
- The source of the data and the time received.

Reconnaissance Summary

8-62. The *reconnaissance summary* is a report, prepared by the headquarters of a division or brigade that contains information about the enemy covering a given period of time. The reporting unit sends this summary to the higher headquarters at times established in instructions. It is normally provided once a day as a brief narrative of the highlights of the past 24 hours. It is also sent to adjacent and subordinate headquarters for information purposes. It typically includes the following:

- The general nature of enemy activities in the AOR.
- Data about the enemy's precision weapons and WMD and their employment.
- The positions of enemy forces at the time of preparation of the summary.
- Information about the enemy's air (and naval) forces, air defense, CPs, radar equipment, logistics installations, obstacles, and field fortifications.

- The reporting unit's general assessment of the disposition, activities, and condition of enemy forces and the nature of forthcoming enemy activities.
- Information gaps to be addressed during further reconnaissance.

The summary may include the significant results of prisoner interrogation or exploitation of captured documents or equipment.

RECONNAISSANCE ORGANIZATIONS

8-63. The general term *reconnaissance organization* applies to any unit or detachment given a specific reconnaissance mission. Some reconnaissance organizations are formed on the basis of a reconnaissance unit, but others come from maneuver units or other sources.

8-64. At the tactical level, the ground forces employ a variety of reconnaissance organizations, tasked and tailored to fit the specific needs of the tactical commander in a particular situation. These organizations vary in size and composition from a few scouts to a battalion.

8-65. Reconnaissance units at the tactical level may either operate independently or be task organized with personnel from maneuver units into special types of reconnaissance organizations. They may or may not have augmentation such as mechanized infantry troops, tanks, artillery, engineers, NBC reconnaissance personnel, and other specialists.

COMMANDER'S RECONNAISSANCE

8-66. Tactical commanders conduct a personal commander's reconnaissance, where possible, as part of the planning process. The commander goes to a field site in the vicinity of planned combat actions to conduct a visual study of the enemy and terrain. He takes with him his subordinate maneuver commanders, the commanders of dedicated and supporting units, and staff officers. The purpose of this reconnaissance is to refine and verify, on the terrain, and add details to the general plan already made on a map and missions already assigned to the troops; however, it can also occur prior to making battle plans. During the reconnaissance, the commander issues an oral combat order and organizes coordination.

8-67. Prior to departure for the field site, time permitting, a commander's reconnaissance plan is drawn up. It specifies the purpose and objective of the commander's personal reconnaissance, principal tasks, the composition of the reconnaissance group, routes and means of transportation, halt points for reconnaissance activity, and the principal items to be covered at each halt point. The OPFOR takes elaborate measures to disguise the conduct of this reconnaissance and the ranks of the participants in the commander's reconnaissance group.

OBSERVER

8-68. Within a squad, platoon, or company, an individual can be assigned as an *observer*. This observer can reconnoiter the ground and airspace, enemy and terrain, and observe the actions and position of his own unit, its subordinate units, and adjacent units.

OBSERVATION POST

8-69. The *observation post* (OP) is a team assigned the mission of conducting surveillance of enemy in a given zone or location. An OP can have literally any organization and can be drawn from any type force. Typically OPs are kept small and own and/or are given sensor and communications capability that permits stealthy and rapid movement and provides the OP with the ability to locate, track and report on its recon targets.

8-70. OPs typically operate in enemy-controlled areas. The recon plan will include the method by which the OP penetrates enemy security forces, eludes detection and observes and reports on the enemy. OPs will often be called upon to perform the infiltration tactical task. The IW plan will often include C3D measures that assist in preventing enemy detection of OPs. This C3D effort may include employing cover from the local population or affiliated forces.

PATROL SQUAD

8-71. A *patrol squad* is, as the name implies, a single squad sent out with a reconnaissance mission. It can be a single vehicle (patrol vehicle or tank) or a reconnaissance or infantry squad on foot. Patrol squads may be the only reconnaissance element deployed when the risk of meeting the enemy is low. However, they can also be deployed from a larger reconnaissance element, such as any platoon-size patrol. Any maneuver company or battalion operating in isolation from the main force can send out a patrol squad, even when not performing reconnaissance missions. This occurs chiefly when the maneuver unit is on the move or when occupying an assembly area.

8-72. As a rule, the patrol squad operates off-road, moving from one suitable observation point to another. It typically reconnoiters places where an enemy unit could be concealed, such as hills, woods, or built-up areas. If it sights the enemy, the patrol squad immediately reports this to the commander or platoon leader who dispatched it, and then continues to carry out observation. In the event of a sudden meeting with the enemy, the patrol squad can open fire on him.

RECONNAISSANCE TEAM

8-73. The *reconnaissance team* is an element, usually at squad strength, formed from specially trained personnel (e.g. from a LRR company). It conducts independent actions in the enemy rear to discover precision weapons, WMD, C^2 facilities, reserves, airfields, and other priority targets. A reconnaissance team may be inserted into the enemy rear on foot or in an armored reconnaissance vehicle. If the team leaves its vehicle behind, insertion could also be by helicopter or by parachute landing from fixed-wing aircraft.

RECONNAISSANCE PATROL

8-74. A *reconnaissance patrol* (RP) is a platoon-size tactical reconnaissance organization with the mission of acquiring information about the enemy and the terrain. The OPFOR distinguishes among various types of patrols that fit under the general descriptive term *reconnaissance patrol*. These specific

types of reconnaissance include the IRP, officer reconnaissance patrol, and fighting patrol (FP). The generic term also includes engineer reconnaissance patrols and NBC reconnaissance patrols (see Chapters 12 and 13, respectively).

8-75. Other than a generic descriptor for these specific types, the OPFOR also uses the term *reconnaissance patrol* to describe a tactical reconnaissance organization dispatched from a reconnaissance detachment in the process of accomplishing its mission. This type of RP is not "independent," because it is a subordinate of a larger reconnaissance element.

8-76. It is difficult to distinguish among the various types of RP by their strength, composition, or position on the battlefield. The size of each patrol is up to a platoon, augmented when necessary. A patrol in this configuration could be an RP, FP, or IRP. They all accomplish their missions through observation, ambushes, raids, and—when necessary—combat.

8-77. In the event of unexpected contact with the enemy, all types of RP try to break contact and then reach a position from which to identify and report the strength, composition, and location of the enemy force. If the patrol discovers the enemy in an unexpected position, the patrol leader immediately executes the actions on contact battle drill (see Chapter 5).

8-78. If a patrol observes enemy reconnaissance or security elements, its task is to avoid contact and continue on to locate the main force as rapidly as possible. In the event of a surprise encounter with a small enemy force, when evasion is impossible, the patrol acts decisively to destroy the enemy, capture prisoners, if possible, and continue its mission.

INDEPENDENT RECONNAISSANCE PATROL

8-79. A tactical group may send out *independent reconnaissance patrols* with a specific mission to conduct reconnaissance of the enemy and terrain. Each IRP is usually a reconnaissance or combat arms platoon, often augmented with engineers and NBC specialists. The size of each patrol depends on the terrain, enemy strength, and the importance of the axis or objective.

8-80. In the offense, an IRP is assigned a mission either an axis or an objective. In defensive situations, the IRPs are used to scout enemy reserves moving up from the rear or attacking on an open flank. An IRP can also support antilanding defense during an airborne or amphibious landing by the enemy.

8-81. As with other types of RP, the IRP accomplishes its missions through observation, ambushes, or raids. It may conduct reconnaissance by combat, if necessary, but becomes engaged in battle only if it cannot carry out its mission by any other method, if it suddenly encounters the enemy, or if it detects enemy precision weapons or other high-priority targets. Both the RP and the IRP can dispatch patrol squads to examine terrain features, detect enemy forces, or provide security. However, an IRP operates at a greater distance from the parent brigade or division than the RP and may stay out longer.

8-82. The distance from the parent unit depends on the nature of the mission, the composition of the patrol, the terrain, and ability to maintain

communications with the unit that dispatched it. IRPs move on multiple axes, although the main axis receives the primary reconnaissance effort.

OFFICER RECONNAISSANCE PATROL

8-83. A maneuver unit can send out an *officer reconnaissance patrol* when there has been an abrupt, unexpected situation change. The purpose of this patrol can be to update information on the enemy and terrain in the battle area, to determine the position of friendly troops, or to check contradictory situation data.

8-84. Depending on assigned missions, this patrol can consist of one to three officers with communications equipment, and possibly two to five soldiers assigned for security. This patrol can move by helicopter, tank, IFV, APC, or other vehicle. The officer reconnaissance patrol allows the commander to oversee and maintain tight control over the maneuver of his subordinate force. These patrols usually do not go outside the area under the immediate control of that commander's unit.

FIGHTING PATROL

8-85. The *fighting patrol* is a platoon-size element, normally composed of combat troops, dispatched from maneuver battalions (and sometimes companies). When necessary, engineer and NBC reconnaissance elements and other specialists can be allocated to the patrol. Units dispatch one or more FPs depending on the tactical situation.

8-86. An FP is generally deployed to reconnoiter and provide security. FPs are dispatched from units conducting tactical movement, during battle in the absence of direct contact with the enemy, and in other cases where it is difficult for the unit to directly observe the enemy's actions. The main mission of the FP is the timely detection of advancing enemy, locating enemy direct fire weapons, especially antitank weapons, and locating minefields. An FP normally moves in such a way that its parent unit can provide it indirect fire support.

8-87. An FP employs the same techniques as other reconnaissance patrols. Because of its security function, however, it is harder for the FP to avoid becoming engaged in combat with the enemy. It may engage a weaker enemy force using an ambush, or it may avoid contact altogether, taking up a concealed observation point or maneuvering around superior enemy forces. If it encounters what it considers to be enemy scouts or security forces, it attempts to penetrate them to locate the enemy's main force. FPs are also often called upon to fix enemy forces they encounter, to permit other security elements to maneuver to destroy them.

RECONNAISSANCE DETACHMENT

8-88. The largest organization the OPFOR employs at the tactical level to supplement specialized reconnaissance is the *reconnaissance detachment* (RD). It is typically a task-organized combat arms company or battalion. The detachment often receives such assets as tanks (if it is not a tank unit), air defense, artillery, engineers, or NBC specialists. The RD dispatches platoon-size RPs to reconnoiter specific objectives along the detachment's axis.

8-89. Although an RD typically consists of combat troops, its primary mission is reconnaissance. If it does encounter a weak enemy force, it may engage that force and take prisoners. When the detachment encounters the enemy's main forces, it assumes an observation mission, attempts to determine the composition and disposition of those forces, reports to the commander who sent it out, and continues its mission.

8-90. The RD is employed primarily in the offense. Its mission is to acquire information on the terrain and the enemy's location or gaps in his defenses. It can also reconnoiter key objectives. It conducts reconnaissance by observation, terrain inspection, ambushes, raids, and—only when necessary—by combat.

8-91. In the defense, in the absence of close contact with the enemy, a division or brigade may send out an RD into the disruption zone to determine the enemy's composition and main avenue of attack. The role of the RD is to establish contact with an advancing enemy force and monitor its progress. An RD can also reconnoiter enemy airborne or amphibious landing forces in support of an antilanding reserve.

RECONNAISSANCE METHODS

8-92. Reconnaissance elements collect information by various methods. These can include observation, listening (eavesdropping), raids, ambushes, imaging, interception of transmissions and DF of electronic resources, questioning of local inhabitants, interrogation of prisoners of war and defectors, and the study of documents and equipment captured from the enemy.

8-93. Information is also acquired during combat by maneuver units. Tactical units may also receive information on the enemy from higher headquarters and adjacent units.

8-94. More specifically, RPs can gather information using a number of standard methods, including—

- Observation.
- Raids.
- Ambushes.
- Reconnaissance Attack.

Other tactical reconnaissance organizations may use some of the same techniques.

OBSERVATION

8-95. Observation is the coordinated inspection of the enemy, terrain, weather, obstacles, and adjacent friendly forces during all types of combat activity. This type of reconnaissance, performed by troops conducting direct observation of the objective, is the most common method of gathering reconnaissance information. It is also one of the most reliable and accurate methods. In many cases, it is the only source of information.

8-96. The OPFOR has great confidence in the utility of observation, but it also recognizes the limitations. It is often difficult to determine enemy intentions through observation alone. To supplement observation, the

OPFOR conducts raids and ambushes to capture information that can give a clearer picture of enemy strengths and intentions.

RAIDS

8-97. The raid is more aggressive than most methods of reconnaissance because it involves the active search for and engagement of selected enemy targets. A raid can occur in any terrain, in any season, at any time of day or night, and under various weather conditions. However, it is generally conducted at night or under conditions of limited visibility.

8-98. Reconnaissance tactics involve two methods of conducting raids. The difference is in the purpose of the raid, the depth of the target, and the type of reconnaissance element performing it. See Chapter 3 for information on the execution of raids in general.

Reconnaissance Raid

8-99. The primary goal of a *reconnaissance raid* is to obtain information; any damage or destruction of enemy installations is incidental. It consists of the covert approach of the raiding unit to a preplanned and previously studied target (objective); a surprise attack to capture prisoners, documents, and equipment; and a swift withdrawal to friendly positions. The depth of the raid is limited to the enemy's forward edge or his immediate tactical depth. The raiding unit is usually a reconnaissance or maneuver unit up to platoon size, with some augmentation.

8-100. The reconnaissance raid is normally takes place in enemy-held terrain, typically during preparation for an attack. Typical targets are individual soldiers or small groups of soldiers. These might be isolated firing positions, OPs and observers; isolated sentries and guard posts; couriers; small, isolated work details; staffs; or communications centers.

AMBUSH

8-101. Reconnaissance by ambush (reconnaissance ambush) is a method of reconnaissance accomplished by surprise attack, from cover, for the purpose of seizing prisoners, documents, and samples of weapons or equipment. The ambush is similar to the raid with two exceptions:

- The ambush is more of a passive tactic than the raid; the ambush unit selects a concealed position along a probable route of enemy travel and attacks enemy units when the situation is favorable.
- The ambushing unit can consist of a specialized reconnaissance patrol or infantry unit.

For information on the execution of ambushes, see Chapter 3.

8-102. Typical targets for ambush are solitary enemy soldiers or small groups moving on foot or in vehicles. The most favorable conditions for finding such isolated targets are when the enemy is preparing for an attack or when he is regrouping or relieving his forces. In preparing for an attack, the enemy sends out reconnaissance elements and small groups of engineers looking for passages in obstacles; there is also increased movement within the enemy

position. During regrouping or relief, newly assigned enemy personnel that are unfamiliar with the terrain and situation may become isolated.

8-103. Information collection is the most common purpose of an ambush conducted by reconnaissance patrols. However, patrols also may execute an ambush to delay reserves or to inflict damage on a target of opportunity. Reconnaissance ambushes can occur in all kinds of battle, on any terrain, at any time or year or day, and under various weather conditions.

RECONNAISSANCE ATTACK

8-104. The most ambitious—and least preferred—ground reconnaissance tactic is reconnaissance attack. When other means of gaining information have failed, a reconnaissance detachment can undertake a reconnaissance attack.

8-105. In execution, a recon attack is similar to a search and attack. The primary difference is that a search and attack is designed to destroy the enemy or restrict freedom of movement. A reconnaissance attack is designed to gain information. It is structured to penetrate or dislocate the enemy's security forces and permit reconnaissance and/or surveillance of reconnaissance objectives.

8-106. Most commonly, a recon attack is conducted when the enemy's security structure is of sufficient effectiveness that a concerted independent effort must be made to achieve the commander's intelligence requirements.

8-107. A recon attack is conducted as a search and attack (Chapter 3) with the following specific components:

- It will include at least one recon element for each recon objective. The number of recon elements for each recon objective is primarily determined by the level of uncertainty over the location of those objectives.
- The action elements of a recon attack are the recon elements. Normally, any recon elements in the detachment support the detachment by detecting critical targets and forces during the course of the operation. But in a recon attack, the recon elements gaining information is the focus of the operation.

8-108. The recon objectives may be force or terrain/facility oriented, but the overall objective of a recon attack is force oriented.

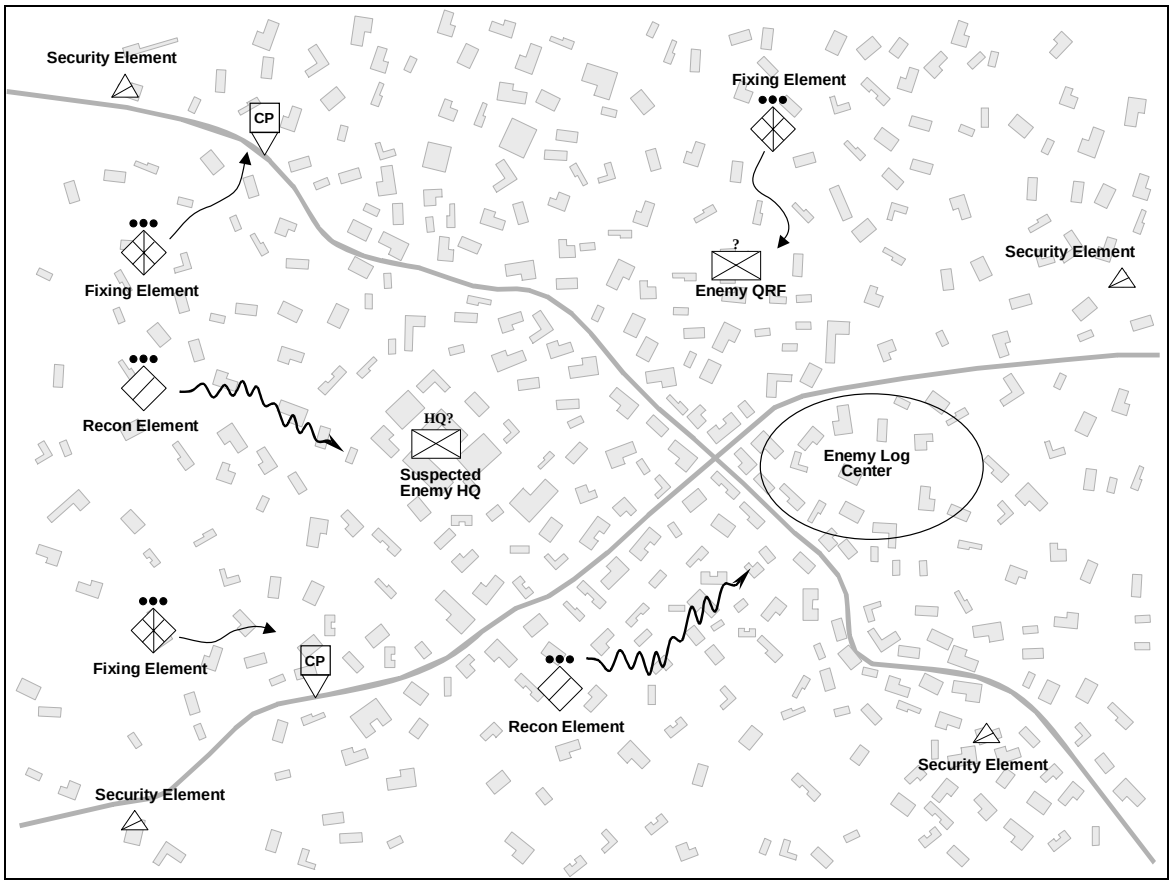


Fig 8-7 Reconnaissance Attack

Chapter 9

Indirect Fire Support

The integration of air, artillery, missile and non-lethal assets into a unified fire support plan is a major task for the combined arms commander. Integration is a decisive element, fundamental to the success of any tactical action on the modern battlefield. The OPFOR does not consider itself to be an "artillery-centric" army. Rather, it views itself as using various forms of fire support to achieve success during offensive and defensive combat. In the offense, fire support is important to the success of any attack. It can destroy key enemy systems; disrupt, immobilize, or destroy enemy groupings; and repel counterattacks. Fire support is also the cornerstone of any defense, blunting attacks at the crucial point in the battle. It disrupts enemy preparations for the attack and repels forces.

Modern battle is, above all, a firefight—in which indirect fire plays a decisive role in the effective engagement of the enemy. Uninterrupted and very close cooperation with the maneuver of supported combined arms units is the basis of the actions of indirect fire support units.

FIRE SUPPORT CONCEPTS

9-1. Fire support is the collective and coordinated use of target acquisition, indirect fire weapons, aircraft, and other lethal and nonlethal means in support of a battle plan. The goal is to synchronize all available fire support systems to achieve the most effective results, thereby maximizing combat power. Effective fire support enables OPFOR ground forces to attack successfully and quickly to exploit weaknesses. Commanders try to accomplish their missions using a combination of maneuver and fire. The OPFOR continues to expand and upgrade fire support systems to achieve a qualitative edge over its regional opponents. However, it realizes that it may be at a qualitative disadvantage compared to a modern extraregional force.

9-2. The OPFOR stresses that fire support should combine air assets, surface-to-surface missiles (SSMs), and artillery into an integrated attack throughout the enemy's defenses. The combined arms commander always seeks to increase the effectiveness of air and missile strikes and artillery fire to destroy enemy formations, weapon systems, or key components of an enemy combat system. (See Systems Warfare later in this chapter and in Chapter 1.) This ensures continuous fire support for maneuver units throughout the area of responsibility (AOR).

9-3. The OPFOR considers information warfare (IW) an essential element of fire support. It provides a nonlethal alternative or supplement to attack by fire and maneuver. It is integrated into the overall concept of the battle, to confuse, deceive, delay, and disorganize the enemy.

FIRE SUPPORT PRINCIPLES

9-4. The principles of fire support are the framework for a thought process that ensures the most effective use of fire support assets. These principles apply at all levels of command, regardless of the specific fire support assets available:

- Plan early and continuously.
- Exploit all available reconnaissance, intelligence, surveillance, and target acquisition (RISTA) assets.
- Consider airspace management and the use of all fire support (lethal and nonlethal) means.
- Use the lowest level of command capable of furnishing effective support.
- Avoid unnecessary duplication of effort.
- Use the most effective means to accomplish the mission.
- Provide rapid and effective coordination.
- Provide for flexibility of employment.
- Provide for safeguarding and survivability of the OPFOR fire support assets.
- Attempt to achieve surprise when possible.
- Deliver highly accurate and effective fire.

SYSTEMS WARFARE

9-5. The foundation of OPFOR planning is the *systems warfare* approach to combat. Thus, the OPFOR analyzes its own combat system and how it can use the combined effects of this "system of systems" to degrade or destroy the enemy's combat system. In systems warfare, the subsystems or components of a combat system are targeted and destroyed individually. Once a favorable combat situation has developed, the targeted enemy subsystem is quickly destroyed in high-intensity battle, thus making the enemy's overall combat system vulnerable to destruction or at least degrading its effectiveness. (See Systems Warfare in Chapter 1 for further information.)

9-6. Within the systems warfare approach, the OPFOR employs a fire support concept centered on a phased-cycle of finding a critical component of the enemy combat system and fixing its location with RISTA assets; engaging it with precision fires, maneuver, or other means; and recovering to support the fight against another part of the enemy force. The primary reason for attacking an enemy with fires is to destroy one or more key components of the enemy's combat system and/or to create favorable conditions for destroying other parts of his combat system.

TECHNIQUES TO EXPLOIT ENEMY VULNERABILITIES

9-7. The OPFOR seeks to avoid enemy strengths and exploits his vulnerabilities. In conflicts with extraregional powers, the OPFOR typically would be operating from relative strategic weakness. Therefore, it seeks to tactically outmaneuver, overwhelm, and outpace the enemy. It also seeks to deny him any sanctuary on the battlefield, as well as in the local theater or in his strategic depth.

9-8. During regional operations, the OPFOR will use fire support means (primarily aviation, SSM, and long-range rocket strikes) to attack targets in the homeland of a regional opponent. During all types of operations in a strategic campaign, the OPFOR may use various fire support assets in access-control operations and attack of the enemy's lines of communication (LOCs) and rear. It will attack the most vulnerable parts of the enemy's combat system. This may include strikes on the infrastructure or even civilian targets. Such OPFOR attacks will be coordinated with perception management efforts to convey the view that these terror tactics are no worse than enemy bombing campaigns.

9-9. The OPFOR will also leverage the effects of its available fire support means by integrating them into an integrated fires command (IFC) in organizations down to division or division tactical group (DTG) level. The IFC (described in detail in Chapter 2) synchronizes and focuses the efforts of RISTA and fire to destroy key enemy formations or systems—or key components of an enemy combat system. Destroying such targets can not only shift the balance of power in the region in the OPFOR's favor, but also undermine enemy morale and resolve.

TARGET DAMAGE CRITERIA

9-10. Target damage is the effect of fires on a given military target. It results in total, partial, or temporary loss of the target's combat effectiveness. The OPFOR categories of target damage are annihilation, demolition, neutralization, and harassment.[1] Of these categories, the first three fall under the general term *destruction*.

Annihilation

9-11. *Annihilation* fires render targets completely combat-ineffective and incapable of reconstruction or token resistance. For a point target such as an antitank guided missile launcher, the OPFOR must expend enough munitions to ensure a 70 to 90 percent probability of kill. For area targets such as platoon strongpoints or nuclear artillery assets, the OPFOR must fire enough rounds to destroy from 50 to 60 percent of the targets within the group. These fires result in the group ceasing to exist as a viable fighting force.

Demolition

9-12. The OPFOR uses the term *demolition* in reference to the destruction of buildings and engineer works (such as bridges, fortifications, or roads). Demolition requires enough munitions to make such material objects unfit for further use.

Neutralization

9-13. Fire for *neutralization* inflicts enough losses on a target to—

- Cause it to temporarily lose its combat effectiveness, or
- Restrict or prohibit its maneuver, or

[1] The use of precision weapons may render such target damage criteria obsolete, since precision weapons are always supposed to "annihilate" the targets completely, not just destroying a certain percentage of them.

- Disrupt its command and control (C^2) capability.

To achieve neutralization, the OPFOR must deliver enough munitions to destroy 30 percent of a group of unobserved targets. The expectation is that the target is severely damaged but could again become capable of coordinated resistance after the fire is lifted. The term *neutralization* applies only in an artillery context.

Harassment

9-14. The OPFOR uses a limited number of fire support systems and munitions within a prescribed time to deliver *harassment* fires. The goal of these fires is to put psychological pressure on enemy personnel in locations such as defensive positions, command posts (CPs), and logistics installations. Successful harassment fire inhibits maneuver, lowers morale, interrupts rest, and weakens enemy combat readiness.

COMMAND AND CONTROL

9-15. OPFOR tactical fire support is designed to be controlled at the lowest possible level. This ensures flexibility, survivability and the proper level of support to the tactical commander.

9-16. OPFOR commanders will allocate fire support assets and means to subordinates in direct correlation to their need based on the scheme of maneuver. The OPFOR will not retain assets at a higher level simply to preserve 'flexibility' – if a subordinate needs an asset to acco0mplish a mission, every effort is made to ensure he has it.

COMMAND AND SUPPORT RELATIONSHIPS

9-17. Units that provide indirect fire support for maneuver units may have one of three command and support relationships: constituent, dedicated, or supporting:

- Commanders of indirect fire support units in a subordinate (constituent or dedicated) status report directly to the commander of the maneuver unit or IFC to which they are subordinate. Units in a dedicated status continue to receive logistics support from their parent indirect fire support headquarters.
- Commanders of indirect fire support units in a supporting status are commanded by their parent organization but receive missions from their supported headquarters for the duration of the relationship.

INTEGRATED FIRES COMMAND

9-18. In combat, the IFC forms the framework for the C^2 of indirect fires in the division. A division or DTG always has an IFC, even if it receives no additional fire support units during task organization.[2] There is one IFC per divi-

[2] A division or DTG would still have an IFC headquarters, even if it loses its originally organic fire support assets to another command during task organization. This facilitates C^2 of any fire support assets that might be reallocated to that division or DTG during some subsequent phase of combat.

sion or DTG, to support the tactical battle plan. However, each IFC is capable of engaging designated operational and strategic targets, if necessary.

9-19. The DTG deputy commander is the IFC commander. Through his IFC commander, the DTG commander exercises C^2 over all subordinate (constituent and dedicated) indirect fire support and associated RISTA assets retained at this level of command. The following procedures apply to this process:

- The DTG commander specifies the organization of forces for combat and the tasks for indirect fire support assets.
- The IFC commander conducts and coordinates fire support planning. He also coordinates with the DTG chief of reconnaissance and the reconnaissance subsection for targeting data.

9-20. The IFC commander can also control (but not command) fire support and RISTA assets allocated to the DTG in a supporting relationship. He can give them mission priorities, but they are still commanded by their parent organization.

BRIGADE-LEVEL FIRE SUPPORT

9-21. A brigade that does not receive augmentation has whatever fire support unit was organic to the brigade in the administrative force structure. That fire support unit is directly under the C^2 of the brigade commander, who is advised by his chief of fire support (CFS) and the fire support coordination center (FSCC) in the operations section of his staff.

9-22. A brigade that becomes a BTG may receive additional fire support units (artillery, SSMs, or army aviation) in a constituent or dedicated relationship. Each of these additional fire support units, along with whatever fire support unit was originally organic to the base brigade in the administrative force structure (unless the BTG's higher command has reallocated that "organic" unit to some other subordinate during the organization of its fighting force structure), is under the direct C^2 of the BTG commander, advised by his CFS and FSCC.

9-23. Any brigade or BTG may receive one or more additional fire support units allocated to it in a supporting relationship. The supporting fire support unit(s) remain under the command of their parent headquarters (be that a fire support headquarters in some higher command's IFC or some higher headquarters remaining in its original status in the administrative force structure) and may or may not be located in the supported brigade's or BTG's AOR. However, the supported brigade or BTG commander can give mission priorities to these supporting fire support units and (if the supporting units are in his AOR) position these assets to carry out such missions.

FIRE SUPPORT BELOW BRIGADE LEVEL

9-24. A brigade or BTG can allocate some of its constituent or dedicated indirect fire support assets to a maneuver battalion in a constituent or dedicated relationship. More commonly, however, the brigade or BTG could employ some of its constituent or dedicated fire support units (or parts of units) to provide fire support for a particular battalion or detachment in a supporting relationship.

CHIEF OF INTEGRATED FIRES

9-25. Within the operations section of the division staff, there is a *chief of integrated fires*. This officer is responsible for coordinating and advising the commander on the effective integration of C^2 and RISTA means with fire support means (including precision fires) to support the overall battle plan. He controls, but does not command, the fire support units subordinate to or supporting the division. He advises the division commander on how best to use available fire support assets.

CHIEF OF FIRE SUPPORT

9-26. On the staff of maneuver unit commanders at brigade and battalion level, there is an officer responsible for planning and coordinating indirect fire support. At this level, his title is *chief of fire support* (CFS). The CFS controls, but does not command, the indirect fire support units subordinate to or supporting his maneuver unit. He advises the maneuver commander on how best to use available fire support assets.

FIRE SUPPORT COORDINATION CENTER

9-27. A fire support coordination center (FSCC) is established at each organizational level (maneuver battalion to IFC). The FSCC is the staff element responsible for the planning and coordination of fires to support the respective maneuver unit. It performs the following battle coordination functions:

- Acquire and identify high-payoff targets (HPTs).
- Recommend targets.
- Use target value analysis to identify target priorities.
- Determine fire support needs.
- Expedite fire support.
- Assess fire support effects.
- Change fire support plans.
- Coordinate the timing of fire support attacks (to include IW).
- Recommend the use of aviation.

SUPPORTING MANEUVER COMMANDERS' FIRE REQUESTS

9-28. Requests for supporting fires may originate at any organizational level. They are initiated when constituent or dedicated fire support means at that level are fully engaged, when the range of the target exceeds the constituent or dedicated fire support means, or when the constituent or dedicated fire support means have suffered combat loss. There are two methods of requesting supporting fires. The preferred method is for the request to be forwarded from the brigade commander to the integrated fires subsection in the division headquarters. An alternate method is for the brigade commander to request supporting fires from the division commander. The division commander either approves or denies the request. If the request is approved, the division commander tasks the IFC to provide the requested support.

NAVAL FIRE SUPPORT

9-29. Naval fire support, when available, is not allocated to a DTG as part of its IFC, since a DTG is not a joint command. Rather, naval assets may be allocated to an IFC at operational-strategic command (OSC) or theater level. Naval fire support (which includes shipborne gunfire and sea-launched cruise missiles) can give the OSC commander another means of long-range indirect fires. A division or DTG can request naval fire support through OSC channels.

9-30. A theater or OSC that receives naval fire support assets in a constituent or dedicated relationship may further allocate such naval assets to a division or DTG in a supporting relationship. However, such naval assets remain under the command of the theater- or OSC-level IFC.

9-31. Another option is for naval fire support assets to remain under the command of the Navy but to provide support for ground operations. During the course of such a supporting relationship, if enemy actions threaten naval operations, the target attack priorities of the ship may cause it to suspend or cancel land fire missions until the other threats subside. Once the threats have subsided, the fire support assets resume their support of the ground maneuver force.

9-32. A naval fire support liaison team augments the operations section of the division- or DTG-level IFC staff when naval fire support is required to support a ground maneuver force, even in a supporting relationship. The liaison team provides special staff representation and advice on naval fire support to the IFC commander. Additionally, it coordinates requests for naval fire support and operates the naval fire support nets in the IFC FSCC.

9-33. Members of the naval fire support liaison team are specially trained in the conduct of naval gunfire. However, the observer procedures are simplified and standardized so that any supporting arms observer can effectively adjust the fires of a supporting naval vessel with a minimum of additional training.

CONTROL OF FIRE SUPPORT OBSERVERS

9-34. The FSCC has three control options available to it when monitoring observers' requests for fire. (See Figure 9-3 for various methods of reporting targets for attack, starting from the point of detection by a human observer or other sensor.) After considering the tactical mission, the degree of training of the observers, and the availability of fire support assets, the FSCC determines which option is best suited for the mission.

Decentralized Option

9-35. The observer may call for fire from any fire support assets available to support the mission. This is the most responsive request, but allows the FSCC the least amount of control. Since the observer is allowed to determine which asset should engage each target, this option generally requires a highly trained observer.

Predesignated Option

9-36. The observer is assigned a particular fire asset from which he may request support, and he operates on that fire unit's radio net. If the observer thinks that the target requires a different fire support asset, he must request permission from the FSCC to change assets. Permission is granted on a case-by-case basis. Under this option, fire support is highly responsive if the FSCC determines that the asset is suitable to the type of target.

Centralized Option

9-37. The observer must contact the FSCC for each call for fire, and the FSCC refers the observer, or relays his request, to an appropriate fire support asset. This option is the least responsive for the observer, but offers the highest degree of control to the FSCC. This option is generally used when a maneuver commander acts as an observer.

Tailoring

9-38. Since the level of training and the tactical situation vary for each observer, the FSCC may assign the appropriate option to each supported unit. For example, a special-purpose forces (SPF) or reconnaissance unit may be predesignated. A maneuver unit may be centralized. An observer from an indirect fire support unit may be decentralized.

FIRE SUPPORT PLANNING

9-39. Fire support planning is the determination of the content, manner, and sequence of delivery of fire on the enemy in a battle or operation. The OPFOR accomplishes fire support planning at the highest possible levels. The fire support plan also includes input from subordinate units. The fire support planning process includes—

- Target acquisition.
- Organization of forces for combat.
- Assignment of tactical fire support missions.
- Determination of ammunition requirements.
- Formulation of a detailed fire support plan.

9-40. Fire support planning includes consideration of the following:

- The scheme of maneuver of the supported forces.
- The enemy force to receive fire.
- The location and character of individual targets within the designated enemy force.
- The required or desired level of target damage.
- Fire support assets available, both delivery systems and ordnance.
- Requirements for allocation of weapons and units (organization of forces for combat).
- Missions assigned to IFCs, units, and weapons.

- The manner and procedure of delivery of fire during the performance of missions.
- Requirements and distribution of ammunition by missions.
- Organization of coordination and command and control.
- Preparation of appropriately detailed fire support plans at various levels.

9-41. In the OPFOR's "top-down" approach to the planning and allocation of indirect fire support, fire support planning occurs at the highest level possible. The IFC commander at the OSC or division level or the CFS at brigade level plans and coordinates indirect fire support, always under the direction of the maneuver commander. The highest level of participating units coordinates and approves the fire support plan, with input from subordinate units. OSC and division headquarters perform general fire support planning. Detailed planning occurs in maneuver brigades, IFCs, and indirect fire support units. The fires of all indirect fire support units within a brigade are incorporated into the brigade fire support plan. In turn, brigade fire support plans become part of division fire support plans. Division fire support plans become part of OSC fire support plans.

9-42. In its simplest form, fire support planning is the process of determining the best way to engage all of the enemy's units with fires—ensuring that the required level of damage is inflicted in a manner consistent with the commander's concept of the battle. Above all else, this means that the fire support plan must match his concept for the sequence with which the battle will develop. The focus of fire support planning is on establishing and maintaining fire superiority over the enemy. Therefore, timing is critical.

ESTIMATE OF SITUATION

9-43. The planning process begins with an estimate of the situation. This estimate includes the following:

- Scheme of maneuver of supported forces.
- Locations and type of enemy targets.
- Required level of damage.
- Delivery means and ordnance available.

9-44. The commander, his IFC commander, and other staff members establish the basis for fire support planning during the commander's reconnaissance of the area of anticipated action. During this reconnaissance, the commander refines the organization of forces for combat and the means of coordination. The division commander gives the IFC commander the information base to determine the following:

- Targets for indirect fire weapons to engage and fire upon.
- Priority of each target.
- Sequence in which to attack targets.
- Time to attack each target.

9-45. The commander of an indirect fire support unit at any level coordinates the fires under his control. He determines new requirements and missions and, with the IFC commander or brigade CFS, makes suggestions to the maneuver commander about adjustments in tactical organization as the situation develops.

IFC PLANNING

9-46. An IFC commander and members of his staff conduct their planning in coordination with the rest of the division staff, concurrently with the division staff developing the battle plan. Planning considerations include target type, dimensions, degree of protection, mobility, and range to the target.

Allocation Procedures

9-47. The OPFOR carefully calculates fire support requirements in terms of weapons and munitions needed to produce a required effect on enemy targets. If insufficient fire support or ammunition is available to achieve the necessary result, the OPFOR does not fire less and hope for the best. Rather, if necessary, it engages fewer targets, adjusting the tactical, or even operational, fire support plan.

9-48. Fire support assets that are allocated to a DTG and not used in the IFC are allocated, in a constituent or dedicated relationship, to subordinate BTGs. Fire support units remaining under IFC command may provide fires for maneuver brigades or BTGs in a supporting relationship. The supporting relationship allows the IFC commander the flexibility to task fire support assets to engage key enemy targets throughout the AOR.

FIRE SUPPORT COORDINATION MEASURES

9-49. Fires pose a potential hazard to friendly maneuver forces and aircraft activities. (See Chapter 10 for more information on air and artillery coordination measures.) To reduce potential conflicts between indirect fires and maneuver forces or aircraft, information pertaining to firing positions, targeted areas, and fire support plans is distributed to commanders and their staffs. The fire support plan includes a map with graphics outlining the following control lines:

- **Coordinated Fire Line.** A line beyond which indirect fire systems can fire at any time within the AOR of the establishing headquarters without additional coordination.
- **Final Coordination Line.** A line established by the appropriate maneuver commander to ensure coordination of fire of converging friendly forces. It can be used to prohibit fires or the effects of fires across the line without coordination with the affected force. For example, this line may be used during link-up operations between an airborne or heliborne insertion and converging ground forces.
- **Joint Fire Line.** A line established by the appropriate OSC-level and above commander to ensure coordination of fire not under his control but which may affect his operations. The joint fire line is used to coordinate fires of air, ground, or sea weapons systems using various types of ammunition against surface targets.

- **Safety Line.** A line that denotes the fragmentation footprint of indirect fire munitions or bombs/rockets released from aircraft. This indicates the minimum distance between the impact area and the nearest friendly troops.

ASSIGNING FIRE MISSIONS

9-50. When assigning missions, indirect fire support commanders and planners consider several variables, depending on the situation. These variables include—

- Type of target (for example, equipment or personnel, deliberate or hasty defensive positions, hard- or soft-skinned vehicles, point or area targets).
- Deployment of target (dug-in or in the open).
- Whether the target is stationary or moving.
- Whether the target is under direct observation during the artillery attack.
- Range to the target.
- Type, caliber, and number of weapons engaging the target.
- Types of ammunition available.
- Time available to prepare for firing.

INDIRECT FIRE SUPPORT WEAPONS

9-51. OPFOR indirect fire support weapons consists of cannon systems, MRLs, mortars, and SSMs. These systems can be either towed or self-propelled (SP).

CANNON SYSTEMS

9-52. Cannon artillery includes field guns, howitzers, and hybrid systems. Of the two basic types, field guns generally have longer tubes, higher muzzle velocities, and longer ranges with higher-trajectory fire. Howitzers can deliver both low- and high-angle fire; the high-angle fire lends itself to attacking targets located behind cover or on reserve slopes. Hybrid cannon systems include gun-howitzers, which combine the principal characteristics of both guns and howitzers, and are particularly useful for counterbattery fire. There are also combination guns that can fire fin-stabilized, direct-fire projectiles, spin-stabilized howitzer projectiles, and conventional mortar projectiles.

9-53. The various systems make tradeoffs in their performance. Guns generally sacrifice mobility and projectile lethality for increased range, howitzers sacrifice range for versatility, and combination guns trade some of everything in order to gain versatility.

9-54. Towed cannon systems are lightweight, low-cost, simple, and extremely mobile on hard surfaces. Their disadvantages are a lack of cross-country mobility and no gun crew protection against nuclear, biological, and chemical (NBC) strikes or conventional counterbattery fire. The OPFOR continues to employ towed weapons, especially in artillery units at echelons above division, but its current emphasis is on acquiring SP artillery systems.

9-55. Tracked, SP systems greatly enhance the artillery's ability to provide continuous support to mechanized infantry and tank brigades. Their cross-country mobility and speed allows them to keep pace with combined arms combat. Their armor protection improves crew and weapon survivability. However, these SP systems can have ammunition resupply limitations because they depend on soft-skinned, wheeled vehicles for logistics support.

MULTIPLE ROCKET LAUNCHERS

9-56. Compared to cannon artillery, MRLs are relatively uncomplicated and easy to operate and maintain, and they are highly mobile. They offer an economical means to deliver massive, destructive fires on an area-type target in a very short period of time. The principal disadvantage of MRLs is that excessive dispersion does not permit direct, close support to maneuver elements. To compensate for this relative lack of accuracy, MRLs use salvo fire from their multiple tubes and often fire as battery and battalion groups. Some MRLs can fire guided projectiles.

9-57. The OPFOR rarely uses MRLs alone, but rather as a complement to mortar and cannon artillery fires. For instance, MRLs can provide the initial area coverage fires, while cannons and mortars either maintain fire at a steady volume or attack high-value point targets. MRLs are also excellent weapons for counterbattery fire, especially when the enemy uses large-area dispersion for survivability.

9-58. The OPFOR categorizes MRLs as large-caliber (220-mm and larger) and medium-caliber (100- up to 220-mm).[3] It uses MRLs to deliver heavy fire on important targets at decisive moments in a battle. The MRL is an excellent area coverage weapon, and its rapid ripple fire is an excellent delivery system for high-explosive (HE), volumetric explosive (VEX), and smoke projectiles; chemical agents; submunitions; and scatterable mines.

MORTARS

9-59. In infantry and motorized infantry brigades, mortars are constituent at the brigade level, and each infantry battalion has additional mortars. In mechanized infantry brigades, each mechanized infantry battalion has an organic mortar battery. These indirect fire support weapons help the brigade to maintain effective fire support.

9-60. Compared to cannon systems, mortars generally sacrifice range. However, their mobility makes them well suited for close support of maneuver units. Their high-angle fire enhances fragmentation effects and permits attack of targets in deep defilade. They are ideal weapons for attacking targets on reverse slopes, in narrow gullies, in ditches, in cities, and in other areas that are difficult to reach with low-angle fire. Mortars are especially effective for smoke and illumination missions.

9-61. Traditionally, mortars have been area-type weapons due to their lack of accuracy. However, modern ammunition developments have led to the avail-

[3] The OPFOR recognizes a third category of small-caliber (less than 100-mm) MRLs, but regards these as relatively low in combat effectiveness.

ability of "smart" mortar projectiles, as well as improved terminal effectiveness for all mortar rounds.

SURFACE-TO-SURFACE MISSILES

9-62. SSMs include tactical- through strategic-level ballistic missiles and land-attack cruise missiles using warheads ranging from conventional to nuclear. SSMs normally use liquid or solid propellant and are normally transported on a transporter-erector-launcher (TEL). Some OPFOR SSMs are indigenously designed variants of other nations' SSMs and have improved capabilities in delivering conventional, chemical, and nuclear munitions. SSMs are the weapon of choice where a precision engagement is required and economy of force is desired against relatively fixed targets. The OPFOR expects to employ SSMs against—

- Weapons of mass destruction delivery systems and storage sites.
- Aerial and sea ports of debarkation (APODs and SPODs).
- C^2 facilities.
- Key transportation hubs.
- Major logistics operating bases.
- Theater air and missile defense locations.

9-63. Figure 9-1 shows how SSMs are normally classified, according to their ranges. Missiles with ranges up to 5,500 km belong to the larger category of theater ballistic missiles (TBMs).

SSM Type	Range
Short-Range Ballistic Missile (SRBM)	Up to and including 1,000 km
Medium-Range Ballistic Missile (MRBM)	1,001-3,000 km
Intermediate-Range Ballistic Missile (IRBM)	3,001-5,500 km
Intercontinental Ballistic Missile (ICBM)	Greater than 5,500 km

Figure 9-1. Classification of Surface-to-Surface Missiles

9-64. SRBMs typically belong to the administrative force structure of ground forces. Thus, they will often be part of an OSC. The longer-range MRBMs, IRBMs, and ICBMs would typically belong to the Strategic Forces, but could be allocated to an OSC's IFC and thus could be based within the AOR of a division but controlled at higher level.

9-65. The term *theater missiles* includes both TBMs and cruise missiles. OPFOR cruise missiles can be launched from ground launchers or naval platforms.[4] Most ground- and sea-launched cruise missiles are generally em-

[4] OPFOR fixed-wing aircraft may also employ air-launched cruise missiles, possibly in land-attack roles.

ployed in antiship roles. However, applications may be developed for use against ground targets, as land-attack cruise missiles.

AMMUNITION OPTIONS

9-66. A wide variety of ammunition types may be available. In addition to standard ammunition, there are various types in the special munitions family for use against HPTs.

STANDARD MUNITIONS

9-67. The default munition is fragmentation high-explosive (Frag-HE) with a proximity or time fuze, except when the target is dug-in troops, vehicles, and equipment. These targets would be engaged with a 50-50 mix of point-detonating and short-delay-fuzed Frag-HE projectiles. Dug-in targets are assumed to have overhead cover for personnel positions and hull-down positions for vehicles. Frag-HE with a 25-75 mix of airburst and point-detonating projectiles is the preferred engagement when the target is unidentified troops and equipment.

COURSE-CORRECTED MUNITIONS

9-68. Course-corrected munitions (CCM) are designed to defeat area targets with major ammunition reductions. CCM are 5 to 10 times more accurate than conventional projectiles or rockets at longer ranges. CCM compare the actual flight path to the calculated flight path and change the trajectory to correct to the desired flight. This correction method is commonly referred to as "should-hit to did-hit data." However, CCM do not correct for inaccurate or untimely target location.

9-69. CCM use a variety of tracking schemes and actuators for course correction. CCM tracking schemes include inertial guidance, global positioning system (GPS), and external radar or radio transponder tracking (active and passive). The actuators include fins, thrusters, drag brakes, shifting mass, and bent nose.

9-70. CCM are capable of engaging any target. The munition does not care about the signature of the target. However, the warhead effects must match the target. Typical payloads include both Frag-HE and advanced munitions such as dual-purpose improved conventional munitions (DPICM), sensor-fuzed submunitions (SFSM), or terminally homing munitions.

9-71. CCM size limit does not allow for the shielding of the electronics. Thus, they are vulnerable to an electronic attack by an enemy with a substantial electronic attack capability. Severe winds in target area can also affect the accuracy of CCM.

ADVANCED MUNITIONS

9-72. Indirect fire support targeting with advanced munitions prioritizes targets for engagement. Prioritization is essential to avoid the waste of highly capable, relatively costly munitions. Numerous factors can affect prioritization, with the following five determinants predominating:

- Classification of the target.
- Location accuracy.
- Timeliness of targeting data.

- Type of operation.
- Availability of advanced munitions.

9-73. Figure 9-2 indicates a relative priority of munitions against generic target types. A dash indicates that a particular munition type is not appropriate for a given target. The default munition in every case is Frag-HE.

Target Type	Munition Type							
	DPICM	SALP	APSM	ATSM	THMP[d]	SFSM[d]	Flechette	VEX
SP Artillery	4	3[b]	6	5	2	1	—	7
Towed or Unidentified Artillery	1	3[b]	5	6	—	—	2[e]	4
Lightly Armored Vehicle Column	3	4[b]	6	5	2	1	—	7
Heavy Armored/ Mixed Vehicle Column	4	3[c]	6	5	1	2	—	7
Electronics or Radar Sites[a]	2	3[b]	5	6	1	7	4	1
Armored CPs	4	3[b]	5	6	2	1	—	7
Unarmored CPs	3	4[b]	7	8	6	5	1	2
Prepared Fighting Position with Armored Vehicles	2	1[c]	6	5	4	3	—	7
Armored Missile or Rocket Launcher	4	3[b]	7	6	5	2	—	1
Unarmored Missile or Rocket Launcher	2	4[b]	8	7	6	5	3	1
Exposed Troops	2	4[b]	5	—	—	—	1	3
Dug-In Troops and Equipment	4	1[b]	5	—	—	—	2[e]	3
Field Logistics Site/Port[a]	2	3[b]	4	5	7	8	6	1
Airfield/FARP[a]	2	3[b]	4	5	7	8	6	1

[a] ATSM, THMP, and SFSM are only effective if vehicles are present.
[b] SALP with Frag-HE warhead is preferred, if available.
[c] SALP with HEAT warhead is preferred, if available.
[d] Targeting data for these munitions should be less than 10 minutes old for mobile targets.
[e] Flechette is second choice *only* if artillery is known to be towed or open-mount, or if dug-in troops or equipment lack overhead cover.

Figure 9-2. Targeting Priority Matrix for Advanced Artillery Munitions

Dual-Purpose Improved Conventional Munitions

9-74. A DPICM round is a good general-purpose munition for most targets. Targets engaged by cannon-delivered DPICM have to be located to accuracies of no less than 200 m for group targets and 150 m for point targets. Targets engaged by MRL-delivered DPICM have to be located to accuracies no less than 350 m for group targets and 250 m for point targets.

9-75. The preferred cannon engagement method for large-area targets (greater than 200 x 200 m) is at least one battalion (18 to 24 guns). Smaller targets are normally engaged by a battery (6 to 8 guns) and point targets by a platoon (3 to 4 guns). MRL engagements are normally by platoon or battery.

Semiactive Laser-Guided Projectiles

9-76. Two classes of semiactive laser-guided projectiles (SALP) exist for field artillery. The first is equipped with a Frag-HE warhead, and the other is equipped with a high-explosive antitank (HEAT) warhead, with a limited secondary fragmentation effect. The former is, like its unguided counterpart, more of a general-purpose munition. The laser guidance is simply a mechanism to get a projectile close to or atop the targeted point. While not primarily designed to penetrate armor, the kinetic energy of the impacting shell, delay fuzing, and the explosive lethal mechanism can result in extensive damage to tanks in virtually all cases.

9-77. OPFOR artillery units train under realistic field conditions in order to effectively use laser-guided munitions. The training includes both gun crews and laser target designator (LTD) operators engaging and destroying stationary and moving targets. The targets are arrayed as a potential enemy would deploy forces on the battlefield. Thus, the LTD operator develops the skills required to determine laser-guided munition targets and learns the conditions that either enhance or degrade the use of the munition. Predicting when a target will enter a kill zone is a very difficult task when using a laser-guided munition. Therefore, LTD operators learn how to plan kill zones along avenues of approach or counterattacks in order to engage and destroy moving targets.

9-78. Timeliness is critical during the engagement of a moving target. The likelihood of a SALP achieving a first-round hit is severely reduced if the projectile is not delivered on time. Even the likelihood of a second-round hit is diminished due to the variation in location of a moving target. Therefore, the employment of the SALP is enhanced through the training of units in preplanning kill zones. Prior to engagement, the LTD operator conducts a terrain reconnaissance of the kill zone using the laser rangefinder on the target designator. He predetermines the points of engagement covered by the SALP's seeker footprint. The battery fire direction center (FDC) calculates gun range and azimuth settings in advance, and the gun crew chief records them. This translates into a higher probability of a first-round hit and destruction of the moving target. LTD operators and firing units train to the standard of achieving a direct hit on a moving vehicle on the first or second shot.

9-79. A major shortcoming of employing laser-guided munitions is the requirement to illuminate the target with the laser beam for 5 to 15 seconds. Long target-illumination times enable enemy targets equipped with laser warning detectors to effectively employ countermeasures that prevent further illumination of the target by the laser beam. Thus, the guidance of the SALP is disrupted, and the target survives the engagement.[5]

9-80. An effective counter-countermeasure is the use of an initial laser offset procedure. This requires the LTD operator to first determine a land feature or easily referenced landmark within the kill zone. The operator surveys the

[5] The most effective means of protection are laser warning detectors that automatically cue grenade launchers to fire a number of smoke grenades within 2 to 3 seconds after detection of a laser beam. A smoke cloud builds up around the vehicle 6 to 8 seconds after firing. The smoke cloud bends or refracts the laser beam and provides a false homing point for the SALP. In essence, an effective laser protection screen is deployed around the target within 8 to 11 seconds after a laser detection.

kill zone for background conditions that may cause sufficient backscatter (from other reflecting surfaces) to provide the target early warning of the LTD laser beam. The LTD operator lases at the predetermined offset point (15 to 20 m from the target) at the beginning of the fire mission. Either a "munition approach" light-emitting diode on the shot-synchronization equipment or a blinking signal light in the optics of the LTD alerts the operator or his assistant to the SALP's acquisition of the laser beam. The operator begins shifting the LTD crosshairs to the center of the target 4 to 5 seconds after the signal prompt. The shifting of the laser beam from the offset point to the target is 2 to 3 seconds prior to the terminal phase of projectile flight. The offset procedure process takes a total of 6 to 8 seconds. Thus, the SALP is able hit and destroy the target prior to employment of laser countermeasures. The offset procedure requires a skilled LTD operator due to the requirement for increased hand and eye coordination during the laser beam-shifting process.

Antipersonnel and Antitank Scatterable Mines

9-81. Although very different in effects, antipersonnel scatterable mines (APSM) and antitank scatterable mines (ATSM) are nearly always dispensed together to make mineclearing operations more difficult. These mixed minefields can be dropped on the target directly or can be emplaced to retard traffic, either anticipated or confirmed. Target locations provided by radar or signals reconnaissance must be known with a location error of not more than 650 m for MRL scatterable mines and 350 m for cannon-delivered mines.

9-82. MRL engagements normally take place by battery or battalion, with antitank mine densities of 0.005 to 0.01 mine/m^2 for an area minefield, or 1 mine per meter of frontage for a linear minefield. A common mix is one or two antipersonnel mines per every seven to nine antitank mines. The maximum minefield size depends on the desired mine density but normally does not exceed 75 to 100 hectares. The desired method of engagement is mixed minefields, with batteries or platoons mixing one launcher carrying APSM and the remainder carrying ATSM. Moving columns may be engaged by MRL firing ATSM, with the mines acting as the primary damage-causing mechanism.

9-83. Cannon engagements invariably take place by battalion due to the large number of mines emplaced. A special munitions unit that is assigned the mining mission for a specific time is most likely to deliver cannon-delivered mines. This unit may constitute the commander's emergency scatterable mine capability, because of the cannon unit's ability to deliver mines in a wide variety of conditions. The maximum size of a cannon-delivered minefield would be 16 to 20 hectares.

9-84. One technique used to increase the effectiveness of advanced top-attack munitions is to immobilize the target first with mines. Against enemy howitzers or MRLs using "shoot-and-move" tactics, on-call mining missions from either cannon or MRL units can stop the target with scatterable mines, for subsequent engagement by top-attack munitions. This type of attack can enhance the effectiveness of both types of munitions.

9-85. The last-minute or surprise use of scatterable mines from MRLs or cannon artillery (or from minelayers, helicopters, or aircraft) increases the effectiveness of the minefield. The sudden introduction of minefields into areas

thought to be clear can either delay the enemy or canalize him into other minefields or kill zones. Enemy forces in such a case would have little to no intelligence as to the existence of these mines until it was too late and would have little time to organize clearing efforts.

9-86. One method is to lay MRL-delivered minefields in a "checkerboard" pattern of smaller (400 x 400 m) minefields. This makes it harder for the enemy to locate the separate fields and delays his mineclearing efforts. Repeated encounters with smaller minefields can cause him more attrition and confusion than a single, long minefield that he only needs to breach once. This method can break up attacking formations and cause loss of morale and momentum. Breaching multiple minefields also can cause increased expenditure of mineclearing means.

Terminally Homing Mortar Projectiles

9-87. Terminally homing mortar projectiles (THMP) are generally limited to targets within 5 to 8 km of the battle line. They are employed against vehicles of all types. However, they will generally be reserved for tanks and ATGM-firing vehicles. Although these munitions have a secondary fragmentation effect, they generally are not used against personnel.

9-88. THMP are generally fired by battery salvos (six mortars) to maximize the number of engagements that occur in a relatively clean environment. Each platoon in the battery fires two to four mortar projectiles at each vehicle when vehicles are deployed in fighting positions and in columns with a spacing of 50 m or more. Vehicles that are tightly grouped (less than 50 m) or congested columns are engaged with several battery salvos. Each firing battery fires up to three to four rounds per tube to ensure the target area is covered.

9-89. If the targeted force is employing countermeasures such as thermal decoys or infrared-suppressive materials (that the firing unit considers to be effective), the firing unit uses the next-best munition that is available. It does not use THMP if the target vehicles have negligible thermal signatures (engines not running or otherwise in low contrast with background or vehicles under trees). If countermeasures are of an unknown type or capability, the firing unit defers to the next-best munition until it can determine the countermeasure efficacy.

Sensor-Fuzed Submunitions

9-90. Although SFSM can be used against a wide variety of targets, armored vehicles of various types are the primary targets. These munitions have a relatively small search area and a kinetic-energy kill mechanism. Because of the accuracy of the delivery system and the small footprint, cannon-delivered SFSM can be used against targets 2 km or more from friendly ground forces.

9-91. The engagement is normally by platoon or battery, with each unit firing at a specifically targeted area. The size of target area can be up to 12 hectares for a firing platoon or 20 hectares for a battery. Larger targets will be divided up and engaged by separate platoons. For employment of SFSM, the target-location error cannot be greater than 350 m. Preferably, it should be less than 200 m. If only a small number of SFSM are available (four to five

rounds per tube per day), then the firing unit would use the next-best munition until the target location error is reduced below 200 m. Moving targets (such as convoys) will generally not be engaged by SFSM.

Flechette

9-92. Flechette-filled artillery projectiles are antipersonnel munitions that are highly lethal, as much as five times as lethal as conventional Frag-HE projectiles. They are useful against all targets with large numbers of personnel, excluding personnel in armored vehicles, bunkers, and field fortifications with overhead cover. Because of the shape, distribution density, and terminal velocity of flechettes, they are useful against personnel wearing woven-fabric body armor and against personnel in shallow trenches and positions without overhead cover.

9-93. Flechette projectiles require adjustment due to their use of mechanical time fuzes, and their effects are very sensitive to burst height. An offset adjustment is normally used to avoid warning the target. To maximize shock effects, an engagement with flechette projectiles normally occurs with a minimum of a battery (four to eight guns), and battalion massed fires are most desirable. The target area is normally 8 hectares or less for a single battery or battalion, with larger effects requiring multiple battalions.

Volumetric Explosives

9-94. The use of VEX[6] is normally limited to MRL warheads, with diameters normally greater than 160 mm. These warheads are used against any target that has a target-location error less than 500 m and consists primarily of soft-skinned vehicles, personnel, and equipment presenting a large surface area (such as radars, bridging equipment, frame buildings, and aircraft on the ground). Increasing the accuracy of the delivery system can enhance VEX warhead effectiveness. For example, a course-corrected rocket can reduce dispersion in the target area.

9-95. Engagement with VEX warheads is normally by battery (six to eight launchers). Battalion missions would consist of three independent targets in the same vicinity. The maximum target size for a battery strike can be 25 to 36 hectares, depending on the hardness of the target. VEX warheads can also be targeted against minefields that use simple, single-impulse-detonated mines. VEX warheads are not used (except as a last resort) on targets that contain numerous armored vehicles or troops in extensive enclosed fortifications.

PRECISION MUNITIONS

9-96. Some of the advanced munitions described above fall into the category of *precision munitions*, which have a guidance or homing element. The OPFOR defines a *precision weapon* as one capable of delivering guided conventional munitions with a high probability of destroying enemy targets with a first-round hit (within range of the weapon delivery system). The presence of the precision munition transforms a weapon into a precision weapon. However, a precision weapon system must also incorporate a target acquisition

[6] Artillery VEX are commonly referred to as fuel-air explosives or enhanced-blast explosives.

and tracking subsystem and a missile or projectile guidance subsystem. Some of these subsystems may be combined.

9-97. Precision weapons have enabled the OPFOR to mass firepower at critical points on the battlefield and simultaneously reduce ammunition expenditure and mission time. Reconnaissance fire (defined later in this chapter) is an effective form of precision weapon engagement. It is sometimes called a "unified precision weapon system," because it links the highly accurate weapon to an automated reconnaissance and control system.

9-98. Precision munitions delivered by mortars, artillery, missiles, and aircraft can include—

- Homing and guided SSMs (some delivering advanced submunitions).
- Semiactive laser-guided artillery projectiles and bombs.
- Sensor-fuzed artillery submunitions.
- Terminally homing cannon and mortar projectiles.
- Terminally homing submunitions.

9-99. Precision munitions are primarily designed to effectively defeat armored vehicles; SP artillery systems; MRLs; C^2 and RISTA centers; defensive fortifications; and bridges.[7]

9-100. Not all OPFOR artillery units have precision munitions, making it necessary to allocate those rounds available against high-value targets (HVTs). Even the units that do receive them do not distribute them evenly among all delivery means, but typically designate one particular subelement to fire them.

NBC WEAPONS

9-101. The OPFOR might use NBC weapons either to deter aggression or as a response to an enemy attack on the State. The State considers the employment of NBC weapons as a responsibility of the National Command Authority. Delivery means such as long-range missiles and rockets are political tools, first and foremost. The OPFOR has SSMs capable of carrying nuclear, chemical, or biological warheads. Additionally, it can employ aircraft systems and cruise missiles to deliver an NBC strike.

9-102. OPFOR military doctrine distinguishes between fire support and an NBC strike. However, the two are closely related. Strategic and operational fire support units must plan and deliver the strikes. They must also adjust the fire support plan to account for the effects of NBC strikes on the enemy. Such strikes greatly affect the tempo of combat activity. This, in turn, influences the type of fire support required. It also influences the kind of logistics support needed, such as fuel or ammunition.

9-103. If needed, the majority of OPFOR artillery (152-mm and above) is capable of firing nuclear or chemical munitions. However, continued improvements in conventional munitions, especially precision munitions, increase the

[7] Air-delivered precision munitions include homing and guided air-to-surface missiles (including radar-seeking antiradiation missiles); guided bombs and cluster bombs containing homing elements; and air-launched cruise missiles.

likelihood that the OPFOR can achieve operational- or tactical-level fire superiority at the desired location and time without resorting to NBC weapons.

TARGETING

9-104. Targeting is the process of selecting targets and matching the appropriate response, taking into account operational requirements and OPFOR capabilities. Targeting requires constant interaction between maneuver, reconnaissance, fire support, and IW, at all levels. Target value analysis is an analytical tool that is used in the targeting process by which the supported maneuver commander—

- Provides focus for his target acquisition effort.
- Identifies priorities for the engagement of enemy targets that will facilitate the success of his mission.
- Identifies the target damage criteria.
- Permits planning for identified contingencies based on enemy options available when the enemy operation fails.

HIGH-VALUE TARGETS

9-105. HVTs are targets deemed important to the enemy commander for the successful accomplishment of his mission. The loss of HVTs can be expected to contribute to a substantial degradation of an important battlefield function.

HIGH-PAYOFF TARGETS

9-106. HPTs are HVTs that must be successfully acquired and attacked to contribute substantially to the success of OPFOR operations and tactical actions. They are developed on the basis of factors such as enemy situation, unit mission, terrain, and the time and resources available. They are not dependent on the ability of the fire support unit to acquire or attack them. If an HPT is beyond the capability of the target acquisition or reconnaissance unit to acquire, it should be passed to the next-higher headquarters as a priority intelligence requirement.

9-107. Based on a battlefield analysis, the division or DTG commander, with advice from his IFC commander, selects HPTs and establishes a prioritized list of them. The HPT list identifies the HPTs for a specific point in the battle in the order of their priority for acquisition and attack. While their target value is usually the greatest factor contributing to the target payoff, other considerations include the following:

- Sequence or order of occurrence.
- Ability to locate and identify the target.
- Degree of accuracy and identification available from the acquisition system.
- Ability to engage and defeat the target in accordance with the established target damage criteria.
- Resource requirements necessary to accomplish all of the above.

TIME-SENSITIVE TARGETS

9-108. Time-sensitive targets are those targets requiring an immediate response. The reason for the urgency is that they either pose (or will soon pose) a clear and present danger to the OPFOR or are highly lucrative, fleeting targets of opportunity.

TARGET ATTACK METHODOLOGY

9-109. The vast array of targets anticipated on the battlefield can generate competing demands for fire support. These demands could exceed the capability of fire support assets to adequately respond to all requirements. Therefore, the OPFOR uses the target attack methodology of plan, detect, deliver, and assess.

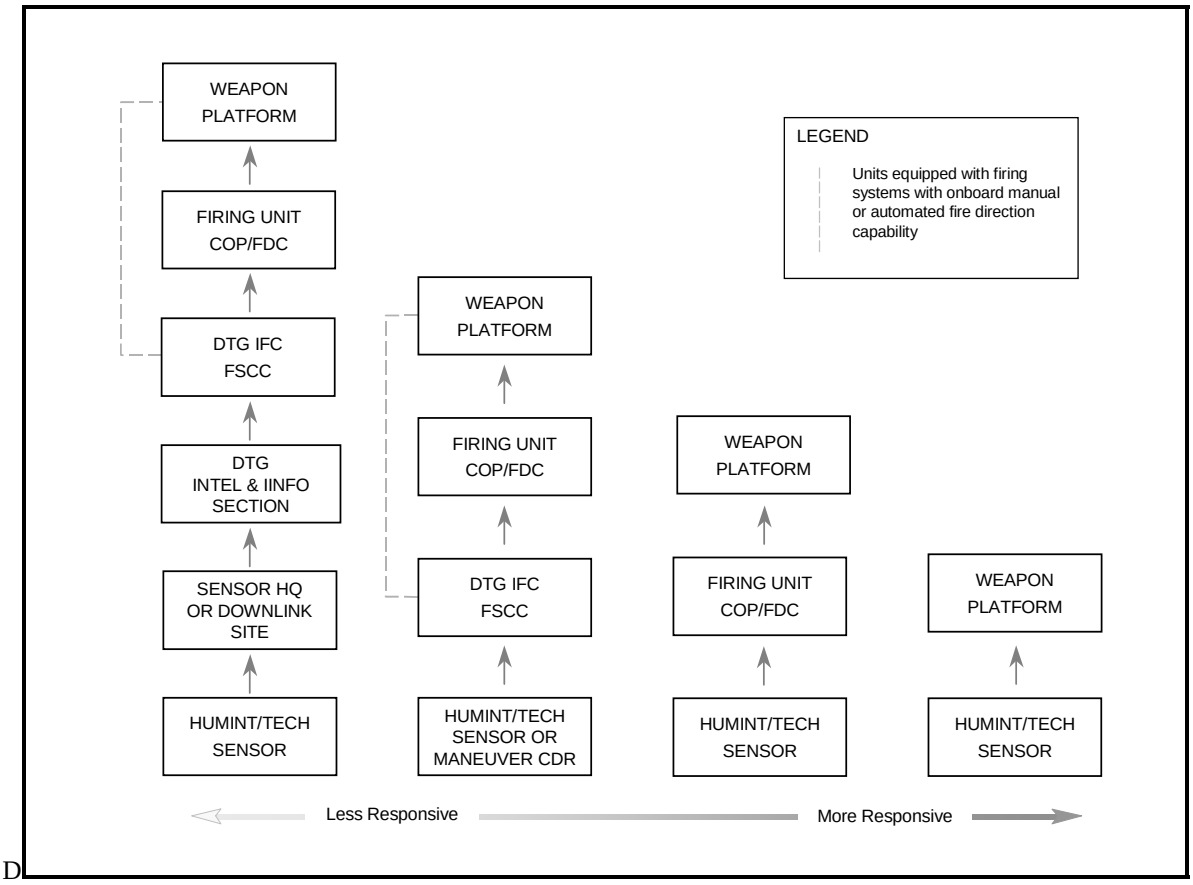
Plan

9-110. The plan phase provides the focus and priorities for the reconnaissance collection management and fire planning process. It employs an estimate of enemy intent, capabilities, and vulnerabilities in conjunction with an understanding of the OPFOR mission and concept of battle. During the plan phase, the division or DTG commander, with advice from his IFC commander, makes a determination of *what* HPTs to look for, *when* and *where* they are likely to appear on the battlefield, *who* (reconnaissance or target acquisition assets) can locate them, and *how* the targets should be attacked.

Detect

9-111. During the detect phase, the reconnaissance plan is executed. As specified targets are located, the appropriate command observation post (COP) or delivery system is notified to initiate the attack of the target.

9-112. Figure 9-3 illustrates the varying methods of reporting targets for attack from the point of detection by a sensor through delivery. The figure displays the methods along a range from the least to the most responsive.



D

Figure 9-3. Target Report Flow

Deliver

9-113. Timely, accurate delivery is the culmination of synchronization of fire support. The delivery is rapidly executed by having designated attack systems respond to the maneuver commander's guidance when the HPTs are observed.

Assess

9-114. Following the attack of the target, the RISTA assets are cued to determine if the target has been defeated in accordance with the established target damage criteria. If it is determined that the target damage criteria are not achieved, delivery assets re-engage the target until the desired target damage has been achieved.

METHODS OF FIRE

9-115. Critical to the success of OPFOR combat actions is the ability to plan, detect, deliver, and assess fire (in accordance with the commander's target damage criteria) against enemy C^2 and RISTA and weapons systems throughout the AOR. The focus is a systems warfare approach to combat,

where the objective of the combat action is to deny the enemy's combat system its synergistic capabilities. Thus, the OPFOR is able to compel enemy forces into multiple and rapid tactical transitions and to create opportunity by keeping them off balance, breaking their momentum, and slowing movement. The OPFOR uses various types of fire against the enemy. The methods of fire may have different purposes in the offense and defense.

INDIRECT FIRE SUPPORT TO A STRIKE

9-116. Indirect fire support to a strike involves the employment of a wide variety of ammunition types (such as standard, course-corrected, advanced, and precision munitions) to destroy an enemy formation after typically setting the conditions for its destruction through reconnaissance fire. IFC indirect fire support units are assigned interdiction fire missions to support the maneuver component throughout the strike. Constituent and dedicated indirect fire support units (allocated to the maneuver component) provide close support fire throughout the battle. Thus, indirect fire support to a strike incorporates other methods of fire.

RECONNAISSANCE FIRE

9-117. *Reconnaissance fire* is the integration of RISTA, fire control, and weapon systems into a closed-loop, automated fire support system that detects, identifies, and destroys critical targets in minutes. This integration capability normally exists only in an IFC. One reason for this requirement for accelerated engagement is that high-value targets may expose themselves for only fleeting periods. Reconnaissance fire is primarily designed to attack and destroy key enemy capabilities and/or set the conditions for a strike (see Chapter 3).

9-118. Reconnaissance fire enables the OPFOR to deliver rotary-wing air, SSM, cruise missile, and artillery fires (including precision munitions) on enemy targets within a very short time after acquisition. The OPFOR can use reconnaissance fire in offensive and defensive phases of combat. Assets designated for reconnaissance fire use are under control of the IFC commander, and control remains centralized for planning, analysis, and evaluation of reconnaissance data, and for execution of the reconnaissance fire mission. This type of arrangement allows the assets to execute other missions or taskings until the desired HPTs are detected. The IFC commander may establish a window of time for assets tasked to support reconnaissance fire (based on an intelligence assessment of when the enemy targets should be in designated kill zones).

9-119. The division commander selects and establishes the target priority and target damage criteria of the combat system component or components to be attacked in order to force the favorable condition to conduct a strike. The IFC staff and fire support component commanders develop the fire support plan designed to conduct reconnaissance fire necessary to create the favorable condition. The IFC commander then briefs the fire support plan to the division commander to ensure compliance with the overall battle plan. The IFC executes reconnaissance fire in accordance with the approved fire support plan.

CLOSE SUPPORT FIRE

9-120. *Close support fire* is fire used to support maneuver forces and attack targets of immediate concern to units such as battalions and brigades. The requirement is to provide a quick response time and accurate fires capable of either neutralizing or defeating all types of targets.

INTERDICTION FIRE

9-121. *Interdiction fire* is fire designed to attack targets in depth (such as logistics sites or assembly areas) and to prevent enemy follow-on or reserve forces from reinforcing or influencing a battle or situation. Generally, interdiction fire (when compared to close fire) has a slower response time, especially for stationary targets; accuracy may be lower; and the targets are generally not as well protected. However, technological improvements such as course-corrected rockets, projectiles, and fuzes facilitate long-range precision targeting.

9-122. The OPFOR employs long-range strike assets (operating from dispersed areas) to continuously engage targeted forces and systems. Operational and tactical RISTA systems direct them.

COUNTERFIRE

9-123. *Counterfire* is fire designed to destroy the enemy fire support infrastructure throughout the battlefield. The fire support infrastructure includes mortars, cannon, rockets, missiles, fire support C^2 and RISTA, and logistics assets. Counterfire enables the ground forces to achieve effective fire support on the battlefield. It is especially important for the early destruction of the enemy's long-range and precision weapons.

COUNTERBATTERY FIRE

9-124. *Counterbattery fire* is fire that accomplishes the annihilation or neutralization of enemy artillery batteries. It enables ground forces the ability to maneuver on the battlefield with little to no suppression by enemy artillery. However, combat with enemy artillery requires more than counterbattery fire. It requires the destruction of the enemy C^2 centers as well as his artillery support structure.

FINAL PROTECTIVE FIRE

9-125. *Final protective fire* is an immediately available preplanned barrier of indirect and direct fire designed to prevent an advancing enemy from penetrating a defensive position. Final protective fire is coordinated with direct fire assets to enhance the lethality of friendly weapon systems on the enemy force.

FIRE SUPPORT OF MANEUVER OPERATIONS

9-126. The fire support of maneuver operations is characterized by the use of all available fire support to carry out the commander's plan. The OPFOR believes that fire support must be flexible to meet all contingencies during combat. The OPFOR masses fires against an enemy objective with available fire

support assets, with the goal of achieving the commander's specified target damage criteria in the shortest time possible.

OFFENSE

9-127. Fire support considerations for the offense apply to all types of offensive action discussed in Chapter 3. The OPFOR plans and executes fires to support the attack and complete the destruction of the enemy. The use of selected lines or zones controls the shifting of fires, displacement of fire support units, and changes in command and support relationships between fire support units and maneuver units. Fires are planned to—

- Suppress enemy troop activity and weapon systems.
- Deny the enemy information about friendly forces.
- Prevent the enemy from restoring fire support, C^2, and RISTA systems neutralized during previous fire support missions.
- Deny the enemy the ability to use reserve forces to conduct a counterattack.
- If necessary, create favorable conditions for the conduct of a strike.
- Support the exploitation force.

DEFENSE

9-128. Fire support considerations for the defense apply to all types of defensive action discussed in Chapter 4. Key is the application of fire support as early as possible throughout the AOR in support of the defensive battle plan. Emphasis is placed on RISTA assets locating enemy formations and attack positions, with the goal of determining the direction and composition of the enemy main attack. Carefully analyzing the terrain over which the enemy will advance and canalizing his movement into kill zones can create conditions for fires in the defense. Fires are planned to—

- Deny the enemy information about friendly forces.
- Develop the situation early by forcing the enemy to deploy early and thus reveal the location of his main effort.
- Maximize the effect of obstacles as combat multipliers.
- Create favorable conditions for the conduct of a strike and counterattacks.

9-129. Close-support fire is directed against advancing enemy maneuver units. Close support fire includes fires within defensive positions that are initiated after the enemy has successfully penetrated friendly defensive positions. Indirect fires are used against enemy forces that have become wedged against defensive positions. The indirect fires may be massed or concentrated (point). The intent is to annihilate enemy forces in kill zones, thus preventing continuation of enemy offensive operations. Counterbattery fires also will be used to neutralize enemy artillery supporting the attack.

9-130. Final protective fire is planned along the most likely avenue of approach into the defensive position. Because the likely direction of attack can change as the enemy situation develops, the final protective fire section of the battle plan is reviewed an updated as required.

TACTICAL DEPLOYMENT

9-131. There are some basics of indirect fire support employment that apply to any tactical situation—offense or defense. These relate to the effectiveness and survivability of indirect fire weapon systems and units.

9-132. Two factors govern the deployment of indirect fire support: continuity and dispersion. The need for continuity of fire support leads to indirect fire support units being deployed in positions to support the maneuver force throughout the battlefield. The OPFOR understands that unplanned movements to alternate firing positions deny the maneuver force the amount of fire support it requires. Therefore, the OPFOR adheres to the principle of flexibility of employment in order to ensure the delivery of highly accurate and effective fires. Dispersion is the requirement to space batteries and battalions so that the enemy cannot destroy them with a single fire strike. Counterfire continues to be the greatest threat facing indirect fire units. Dispersion is a principle technique used to survive the counterfire threat. It is the least expensive technique in terms of effort and time.

9-133. The factors of accuracy and consistency are important since they determine the time and quantity of ammunition required to effectively attack a target. Accuracy is a measure of the precision with which the mean point of impact (MPI) of a group of rounds can be placed on the target. Consistency is a measure of the spread of rounds about the MPI when each round is aimed at the same target. Accuracy is the function of the overall indirect fire support system. This includes many sources of error, such as survey of the weapons, target location, ammunition variations, instrument precision (calibration), meteorology, and operator error. Consistency is affected by round-to-round variations in factors such as muzzle velocity, meteorology, sight setting and laying, and ramming during loading.

9-134. Another factor affecting the dispersion of rounds at a target is the spread or dispersion of the weapons at their firing position. The primary factor affecting the dispersion of the weapons in a position is type of terrain. For example, complex terrain such as heavily forested, mountainous, urban, and jungle-type terrain affects not only the mobility of weapon systems but also their ability to disperse within limitations of the weapon system. Traditionally when operating in complex of terrain, dispersion between mortar systems and cannon can range from 20 to 50 m, with MRL systems ranging from 50 to 60 m. However, to increase the survivability of the weapon systems against enemy counterfire and air attacks, it is advisable for mortar, cannon, and MRL systems to disperse no closer than 50 m from each other, as terrain permits.

9-135. Normally, it is acceptable or easier to fire each gun on the same bearing (lines of fire parallel) or with the bearings converged so that each projectile was aimed at exactly the same point. This is due to the inability of manual or some automated fire direction systems to be fast enough to predict the separate bearings and elevation for each gun in an optimum way. Recent advancements in technology have enabled ballistic computing to be fast enough to predict the separate bearing and elevation for each gun, so that the individual aim points cover the specified target dimensions and orientation in an optimum way. However, other factors, such as the enemy situation and capa-

bilities, terrain, weapon flexibility[8], communications, unit training, and type of sheaf all have an impact on the distance between weapon systems at a firing position.

MORTAR AND CANNON FIRING POSITIONS

9-136. Based on detailed map analysis, the senior maneuver or artillery headquarters selects the firing position areas for the artillery battalion. When possible, the artillery battalion commander also conducts ground reconnaissance of the area. When moving into an unfamiliar area, an artillery battalion (or an artillery regiment or brigade) may send out an artillery reconnaissance patrol to find possible firing positions or sites for COPs and routes of movement to them. The artillery battalion commander designates the individual battery positions or position areas in his orders to the batteries.

TYPES OF BATTALION FIRING POSITION AREAS

9-137. According to their purpose, firing position areas may be primary, alternate, or temporary areas. These have applications in both offense and defense.

Primary

9-138. The primary firing position area is designated for carrying out the primary fire missions in all types of battle. Its distance from the battle line of friendly units depends on the battalion's place in the IFC, the range of artillery systems, the nature of the terrain, and other conditions. Within the battalion firing position area, each battery has a primary firing position and possibly one or two alternate positions.

Alternate

9-139. The alternate firing position area is usually designated in a defensive situation for battalion or battery maneuver and to carry out fire missions during an intentional or forced abandonment of the primary firing position area. A battalion usually has one or two alternate firing position areas to the flanks of the primary area or in the depth of the defense. An alternate area can be several kilometers from the original location.

Temporary

9-140. The temporary firing position area can be designated for carrying out individual fire missions. It could be forward of the battle zone, for support of maneuver units defending in the disruption zone or for firing on distant targets. It could also be for carrying out missions as roving units. Other missions could include supporting the commitment of an exploitation force or commitment of a reserve unit to a spoiling attack or counterattack.

[8] Flexibility is the ability of a weapon to deliver fire over a wide front (traverse) and at all angles of elevation without time-consuming shifts. Flexibility is achieved by maximum on-carriage elevation and traverse. Flexibility of towed weapons is achieved through the use of rear-mounted trunions, split trails, and pintle traverse or a pivot and socket, and a firing platform. Flexibility of SP weapons is achieved through the use of ring and race traverse and rear-mounted trunion.

BATTALION BATTLE FORMATION

9-141. Within a battalion firing position area, batteries typically locate 500 to 2,000 m apart. At any given time, the firing positions of the three dispersed batteries normally form a large triangle. The triangle can be a forward or reverse wedge pointed toward or away from the enemy. The triangle is not always equilateral and sometimes even takes a form approaching a straight line. As batteries occupy alternate firing positions, the size and shape of the triangle can change considerably. Taking into account one or two alternate firing positions for each battery, the actual shape of the firing position area may not be a triangle at all.

9-142. For a battalion minus one battery (allocated to a lower-level maneuver unit), the firing position area is a straight line, possibly echeloned left or right. Figure 9-4 shows an example of an artillery battalion battle formation. (For the sake of simplicity, this figure does not show alternate battery firing positions within the battalion temporary and alternate firing position areas.) The battalion chief of staff operates the battalion fire direction center (FDC), which normally is inside the triangle of batteries and located 300 to 500 m from one of the batteries.

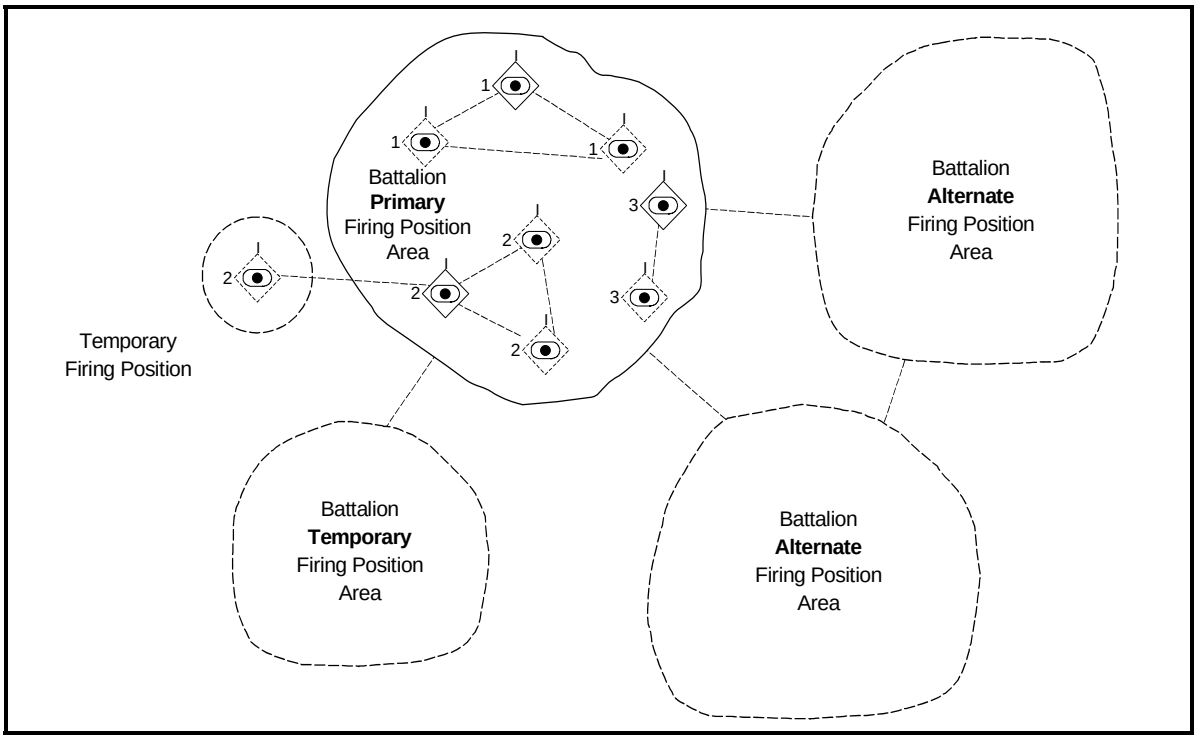


Figure 9-4. Artillery Battalion Battle Formation (Example)

9-143. The artillery battalion commander typically positions his COP vehicle where he can observe as much as possible of the battalion's sector of fire. Since this COP needs to communicate over longer distances, it may locate on the reverse slope of a hill, where it can elevate its antenna mast. The battalion battle formation can also include other types of observation posts (OPs), if

employed. (See Figures 8-4 and 8-5 for examples of deployment of the various OPs in a battalion battle formation.) It could also include artillery reconnaissance elements allocated from the parent artillery regiment or brigade.

BATTERY FIRING POSITIONS

9-144. A firing position is the sector of terrain occupied or prepared for occupation by a battery's firing platoons for delivery of fire. Selection of this location it is normally the responsibility of the battery commander, but he may receive guidance from the artillery battalion commander. The artillery battalion commander can assign the battery a firing position and COP location. If, instead, he designates a battery firing position area, the battery commander can select two or three firing positions for the battery within that area. At a given time, both of the battery's firing platoons are usually at a single firing position. In certain cases, each firing platoon may deploy at an independent firing position when using split-battery or roving unit tactics.

Types of Positions

9-145. As with battalion firing position areas, battery firing positions may be primary, alternate, or temporary. In the offense, an artillery battery can use any or all of those, and possibly create deception firing positions. The defense can require primary, alternate, temporary, and deception positions. The functions of primary and alternate firing positions are much the same as for battalion firing position areas.

9-146. **Temporary.** A temporary firing position can allow a battery to accomplish special, short-term, or emergency missions. In the defense, a battery can use a temporary firing position near the forward edge or forward of the main defensive zone to support maneuver units defending in the security zone or to fire on a distant target. A temporary position can also be for use by a roving battery or platoon. Although temporary, these firing positions can be prepared and camouflaged.

9-147. **Deception.** A battery (or battalion) may prepare *deception* firing positions and COP sites on its own or as part of the senior commander's deception plan. Their purpose is to mislead the enemy as to the actual deployment of artillery units. Their preparation and camouflage must not differ sharply from that of actual positions and sites. A roving unit may periodically deliver fire from the deception firing position.

BATTERY BATTLE FORMATION

9-148. A battery firing position includes places for artillery systems and ammunition, the battery senior officer's vehicle (FDC), and prime movers or ammunition resupply vehicles. The battery COP may or may not be within the firing position. The battery battle formation can also include a forward or lateral OP (FOP or LOP), if employed.

9-149. The battery commander normally positions his COP vehicle in hull defilade on terrain that permits him to observe the entire sector of fire for his battery. Depending on the situation, he can also choose to keep his vehicle in complete defilade and dismount his COP. The battery senior officer operates the battery FDC, which can be up to 200 m from the nearest artillery

weapon. The battery senior officer or gun position officers select individual gun firing positions.

9-150. Figure 9-5 is an example of a howitzer battery deployment in linear formation. In this example, the battery forms a straight line with equal intervals between guns. This pattern of deployment reduces emplacement and displacement time. It also simplifies the computation procedures required for battery fire missions. The reduced computation and mission times enable batteries to complete missions and relocate more quickly. This lessens their exposure to enemy fire and compensates for the vulnerability inherent in the formation.

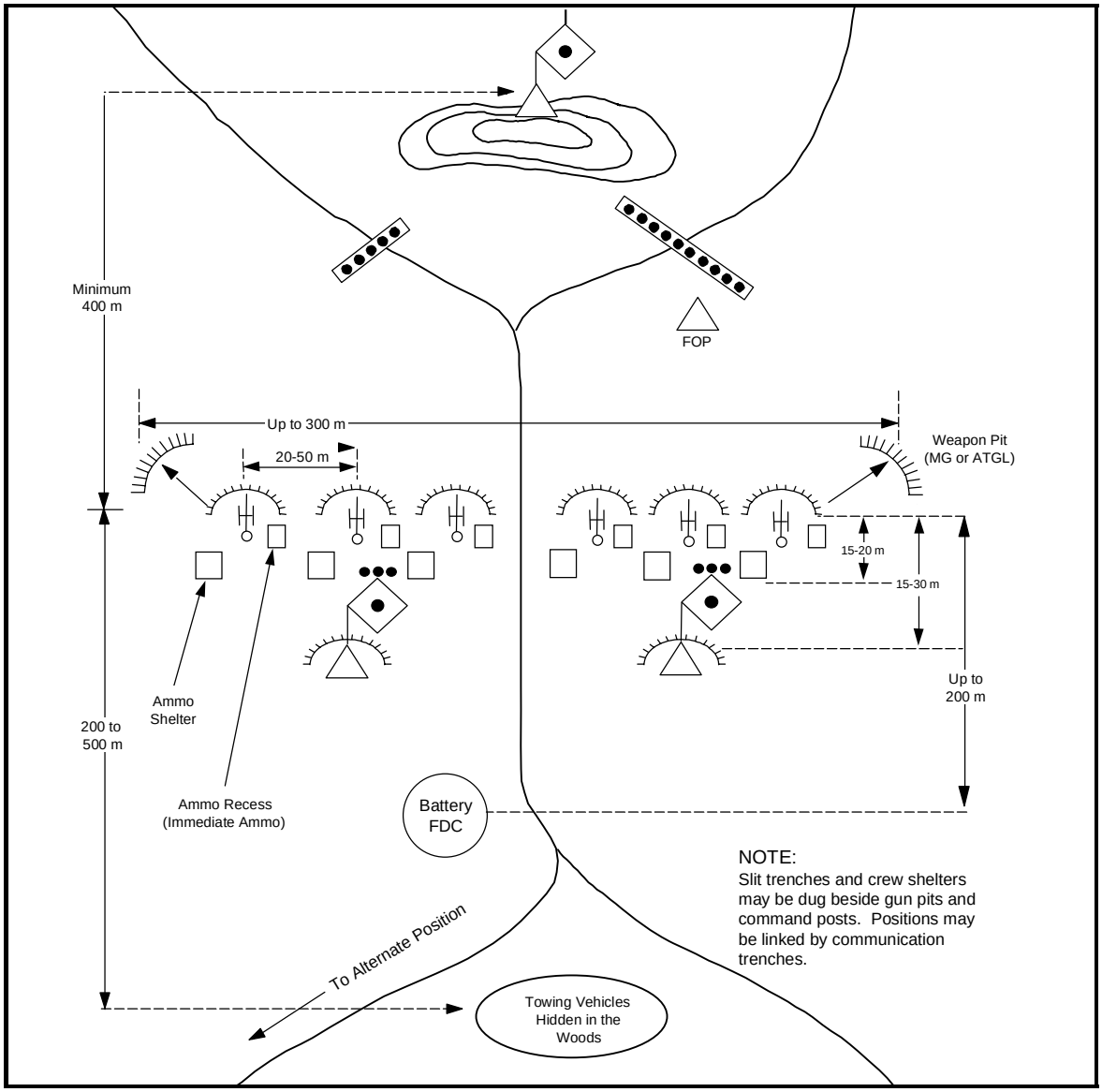


Figure 9-5. Howitzer Battery Deployment (Linear Formation)

9-151. For increased survivability, artillery uses formations that vary the interval between guns and disperse the guns in depth with the aid of computers. Guns may be in a wave formation, a forward or reverse wedge, or a semicircle. Figure 9-6 gives some examples of the nonlinear formations a battery might use. Even with computers, batteries may retain the linear formation for speed and simplicity. Its goal is to reduce the time that a firing battery remains in position after the first round fires.

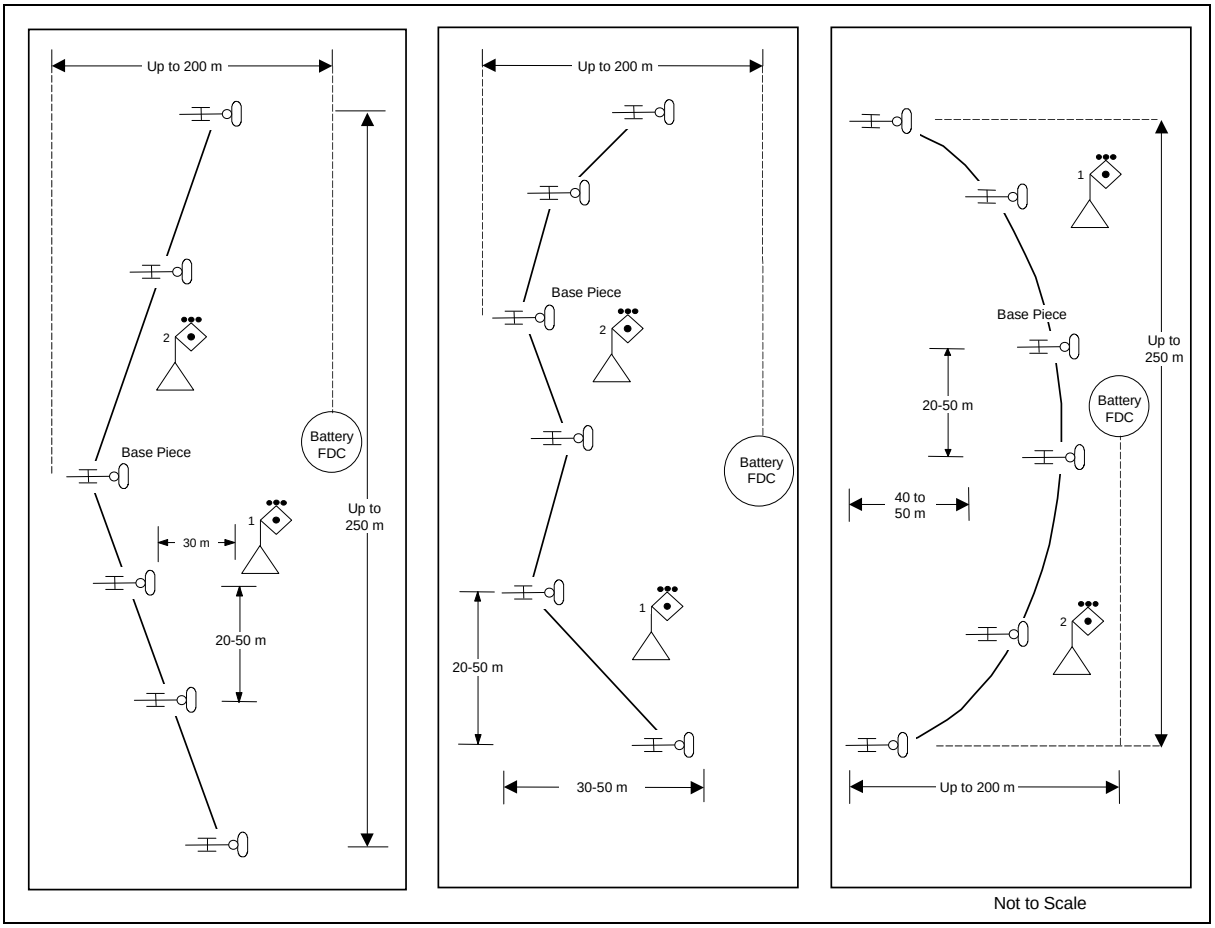


Figure 9-6. Nonlinear Deployment Patterns of a Howitzer Battery (Examples)

9-152. Given the tempo of modern combat, artillery must now deliver effective fire from emergency positions without firing a registration. The use of improved rangefinders can reduce adjustment time and eliminate the need for registration for many types of missions.

9-153. Battery firing positions consist of two firing platoons of three guns each.[9] The platoons may be separated a few hundred meters for greater survivability. Each platoon has a platoon headquarters and three gun sections. The platoon leader of one firing platoon is the battery senior officer, if there is not a separate officer for that position. The battery commander of an attached

[9] Some artillery units allocated from the operational level have firing platoons of four guns.

or supporting battery normally deploys near the COP of the maneuver unit to which it is attached or which it is supporting.

CONCEALMENT

9-154. In selecting firing positions, both battalion and battery commanders consider the concealment offered by the terrain. With respect to concealment, firing positions can fall into one of two categories:

- Concealed positions.
- Unconcealed or open positions.

In either case, the entrance to and exit from all gun positions should be concealed as much as possible.

Concealed Position

9-155. A concealed position is one in which the artillery systems are not exposed to enemy air or ground observation during delivery of fire. A primary way for an indirect fire unit to survive an enemy that has air parity or superiority is to occupy well concealed positions so that the enemy cannot detect the firing unit as a target. Site selection for an indirect fire position takes into account—

- The possibility of delivering fire at given minimum quadrant elevations and large deflection shifts from the base line.
- The possibility of direct fire for self-defense.
- The availability of convenient access routes and camouflage conditions.

9-156. For cannon systems, it is advisable to select firing positions primarily on avenues of likely tank approach, but behind natural antitank (AT) obstacles and minefields. For mortar and MRL units, firing positions should be in areas inaccessible to tanks, as much as possible. Deployment of artillery systems within the firing position depends on the terrain.

Unconcealed or Open Position

9-157. An unconcealed or open position is one in which the firing systems are not concealed from enemy air or ground observation. Such a position is usually found in desert type environments or environments where the lack of vegetation makes it difficult to camouflage the firing position. Even for an "unconcealed" position, site selection takes into account the possibility of camouflaging the artillery systems and the availability of concealed access routes.

9-158. The firing position should afford cover for the gun crews and their ammunition. If engineer assets are available, digging in all of the battery's vehicles below the ground surface and stretching camouflage nets flat or nearly flat over the vehicles provides not only good concealment from ground observation but also excellent cover against direct fire weapons. Another technique is to increase the distance between firing systems and support vehicles and equipment. Good locations for unconcealed firing positions may be near fences, thickets, and roads, or in ditches. Even if initially concealed and camouflaged, the systems become exposed and observable at the start of firing.

9-159. Terrain masking is important, especially when deploying within range of enemy antitank guided missiles (ATGMs) and other direct fire weapons. The position should allow the battery to accomplish a direct fire mission at the weapons' maximum effective direct fire range. Individual weapons should have interlocking fires with adjacent weapons. From such a position, the unit can deliver direct fire to destroy enemy tanks, other armored vehicles, and AT weapons or to demolish weapon emplacements and fortifications.

MORTAR AND CANNON EMPLACEMENT AND DISPLACEMENT

9-160. The specific technique used during the occupation of a firing position will vary based upon whether or not the occupation is conducted into a previously reconnoitered position. Generally, the OPFOR attempts to occupy positions that have been prepared for occupation.

Deliberate Positions

9-161. When time permits, the battery senior officer will send an artillery reconnaissance patrol forward to lay out and secure the future firing position. The position of each howitzer and the FDC will be marked with numbered cards and the vehicles will proceed to their assigned positions during occupation. A guide stake is emplaced at each howitzer position for the driver of the prime mover or SP howitzer to use when roughly aligning the cannon on the azimuth of fire. The howitzers may have luminous tape or paint (inside the gunner's door) for easy identification during periods of limited visibility. Once the base piece has halted, the senior officer uses the onboard periscopic aiming circle of his artillery command and reconnaissance vehicle (ACRV) to lay the howitzer for direction. Depending on the situation and time available, the remaining howitzers are either laid from the senior officer's ACRV or reciprocally from the base howitzer. The senior officer measures the azimuth and distance from his location to each of the howitzers and uses the data to compute individual locations and piece corrections based upon the disposition of the howitzers.

Hasty Positions

9-162. In the event the unit is required to occupy an unplanned position, the battery senior officer positions his ACRV at the selected battery center, oriented in the direction of the azimuth of fire (determined from the onboard land navigation system). The leading howitzer pulls in beside the senior officer's ACRV, and the other howitzers pull on-line, alternating sides. Once the base piece has halted, the senior officer repositions his vehicle at the left rear of the battery firing position and lays the howitzer for direction. The remaining howitzers are laid either reciprocally from the base howitzer or from the senior officer's ACRV.

Battery Emplacement Using GPS and an ACRV

9-163. The survey team from the battery's artillery reconnaissance patrol determines the battery center using GPS and the data to one of the guns to be used as a base piece. Other members of the artillery reconnaissance patrol mark each howitzer position (with a guide stake or camouflage net pole, for

instance) using GPS and record the data for future reference. The howitzers are guided (by their ground guides) to their respective positions (predetermined by GPS) using a compass for orientation. Once the base piece has halted, the senior officer uses his onboard periscopic aiming circle to lay the howitzer for direction. The remaining howitzers are laid either reciprocally from the base howitzer or from the senior officer's ACRV.

Battery Emplacement Using GPS and a Ground-Mounted Aiming Circle

9-164. The survey team, other artillery reconnaissance patrol members, and platoon sergeants follow the same initial procedures as for the vehicle-mounted aiming circle. The platoon sergeants set up the two aiming circles. Each aiming circle is marked with a different color of luminous paint or light for identification during periods of limited visibility. The first aiming circle is set up magnetically, and the second aiming circle is laid off of the first. The howitzers are guided (by their ground guides) to their respective positions (predetermined by GPS) using a compass for orientation. A communications link is established between the howitzers, FDC, and aiming circles using wire (preferred method) or short-range radios. The battery senior officer sets up and magnetically orients a safety circle over the orienting station grid established by GPS. The safety circle is checked against the first aiming circle, and a simultaneous observation is conducted with the battalion's surveyed point or one of the other batteries. Once the simultaneous observation is complete, the battery commander compares the survey azimuth to the magnetic azimuth in the battery computer. Immediately after being laid, each howitzer obtains a referred deflection to the safety circle and verifies the information to be checked out as safe.

Battery Displacement

9-165. The battery commander determines a battery rally point at least 300 m away from the occupied position. The rally point location is given to each howitzer crew chief, the FDC, and the ammunition transport section chief. During displacement, each howitzer crew proceeds in the most expeditious manner to the rally point. Upon arrival at the rally point, the travel locks (on guns lacking the automated travel lock) are emplaced and a check of all equipment and personnel is conducted prior to movement to the battery's alternate or temporary position. The rally point is occupied no longer than 3 to 5 minutes.

MRL FIRING POSITIONS

9-166. Prior to occupying their firing positions, MRLs usually remain in a camouflaged assembly area short distance away from the firing point. The launchers usually have their full complement of ready rockets loaded. Then MRL batteries move forward to support the battle, with one or more ammunition trucks accompanying each launcher to the firing position.

9-167. Immediately after firing, MRLs normally move to either a camouflaged position or to a new firing position to evade counterbattery fire. The OPFOR also employs MRLs in roving unit missions and counterattacks.

9-168. For MRLs, the battery firing position includes all the same things listed above for a cannon artillery firing position. In addition, it includes a loading point and a meteorological station. For some MRLs, crews can launch rockets remotely from shallow trench shelters located 50 m or more from the launcher vehicle. The battery senior officer operates the battery FDC, which usually is 150 to 300 m behind the line of MRLs.

MRL EMPLACEMENT AND DISPLACEMENT

9-169. Like mortar and cannon emplacement and displacement, the specific technique used during the occupation of a firing position will vary based on whether or not the occupation is conducted in a previously reconnoitered position. Generally, the OPFOR attempts to occupy positions that are reconnoitered prior to occupation.

9-170. The requirements for the MRL firing position are relatively simple. They should be covered positions so that the battery may safely occupy them without risking direct observation by the enemy. When practical, there should be covered routes into and out of the firing position. The position area should be generally level, since a cant of greater than 3 to 4 degrees makes it impossible to properly emplace the launcher. The senior officer will locate his ACRV in a position advantageous for controlling the entire battery. The desired location is one centrally located within the battery. The positioning between launchers is based upon the firing position, the mission, and the method of fire. Communications within the battery may be by voice, radio, or wire depending on visibility, time, and the threat.

9-171. Most MRL vehicle cabins accommodates both the launch preparation and firing equipment. These vehicle cabins also contain louvered windows or shutters for protection during firing. MRL crew members operating these types of systems remain inside the cab during the fire mission. However, MRL crews operating from a launch cabin not capable of affording protection during firing or operating an MRL with a remote firing capability use the following procedure. Once the weapons are laid on the target, the crews move to a covered position beside the launcher at a distance of up to 60 m. The crew position is also in an area avoiding the blast danger to the rear of the launchers.

9-172. Resupply and other support vehicles (such as maintenance vans or cargo trucks) are positioned in a covered and concealed position to the rear of the launchers. This position is terrain-dependent, but is always out of the backblast danger area (approximately 150 to 360 m. Additionally, the support vehicles are positioned far enough away that the destruction of either the launchers or the support vehicles will not be a hazard to other battery elements.

Deliberate Firing Positions

9-173. When time permits, the battery senior officer will send an artillery reconnaissance patrol forward to lay out and secure the future firing position. This is a laborious process that is not frequently used. This process is used primarily for initial firing positions or those planned for nighttime occupation. The artillery reconnaissance patrol is responsible for determining the

coordinates of the battery center and the directions for several distant aiming points. It is also responsible for conducting a security sweep of the position (checking for mines, enemy observers, or ground-emplaced reconnaissance sensors) and for marking the positions for each of the vehicles (firing and support). The position of each MRL and the fire direction center (FDC) is marked with numbered cards, and the vehicles proceed to their assigned positions during occupation. A guide stake is emplaced at each MRL position for the driver to use when roughly aligning the launcher on the azimuth of fire. The MRLs may have luminous tape or paint on the vehicle body for easy identification during periods of limited visibility.

9-174. Once the artillery reconnaissance patrol has completed the reconnaissance of the planned position, the senior officer returns to the original firing position (or assembly area) to guide the battery to the new location. Once the base MRL has halted, the senior officer uses his ACRV's onboard periscopic aiming circle to lay the MRL for direction. The remaining MRLs are laid from the senior officer's ACRV. The senior officer measures the azimuth and distance from his location to each of the MRLs and uses the data to compute individual locations and piece corrections based upon the disposition of the MRLs.

Hasty Firing Positions

9-175. Typically, OPFOR MRL batteries will occupy sites that are unplanned, but reconnoitered prior to occupation. Prior to the senior officers' ACRV occupying the position, artillery reconnaissance patrol members conduct a security sweep. Then the battery senior officer positions his ACRV at the selected battery center, oriented in the direction of the azimuth of fire (determined from the onboard land navigation system). The leading MRL pulls in beside the senior officer's ACRV, and the other MRLs pull on-line, alternating sides. Once the base MRL has halted, the senior officer repositions his vehicle at the left rear of the battery firing position and lays the MRL for direction. The remaining MRLs are laid from the senior officer's ACRV.

Battery Emplacement Using GPS and an ACRV

9-176. The survey team from the battery's artillery reconnaissance patrol determines the battery center using GPS and the data to each MRL position. Other members of the artillery reconnaissance patrol mark each MRL position (with a guide stake or camouflage net pole, for example) using GPS and record the data for future reference. The MRLs are guided (by their ground guides) to their respective positions (predetermined by GPS) using a compass for orientation. Once the base MRL has halted, the senior officer uses his onboard periscopic aiming circle to lay the MRL for direction. The remaining MRLs are laid from the senior officer's ACRV.

Battery Emplacement Using GPS and a Ground-Mounted Aiming Circle

9-177. The survey team, other artillery reconnaissance patrol members, and platoon sergeants follow the same initial procedures as for the vehicle-mounted aiming circle. The platoon sergeants set up the two aiming circles. Each aiming circle is marked with a different color of luminous paint or light for identification during periods of limited visibility. The first aiming circle is

set up magnetically, and the second aiming circle is laid off of the first. The MRLs are guided (by their ground guides) to their respective positions (predetermined by GPS) using a compass for orientation. A communications link is established between the MRLs, FDC, and aiming circles using wire (preferred method) or short-range radios. The battery senior officer sets up and magnetically orients a safety circle over the orienting station grid established by GPS. The safety circle is checked against the first aiming circle, and a simultaneous observation is conducted with the battalion's surveyed point or one of the other batteries. Once the simultaneous observation is complete, the battery commander compares the survey azimuth to the magnetic azimuth in the battery computer. Immediately after being laid, each MRL obtains a referred deflection to the safety circle and verifies the information to be checked out as safe.

Battery Displacement

9-178. The battery commander determines a battery rally point at least 300 m away from the occupied position. The rally point location is given to each MRL crew chief, the FDC, and the ammunition transport section chief. During displacement, each MRL crew proceeds in the most expeditious manner to the rally point. Upon arrival at the rally point, a check of all equipment and personnel is conducted prior to movement to the battery's next firing position. The rally point is occupied no longer than 3 to 5 minutes.

SSM EMPLOYMENT

9-179. SSMs may be fired from both fixed and mobile launchers. The OPFOR prefers to fire SSMs from mobile launchers. The value of a mobile SSM is its crew's ability to rapidly move the SSM from a hide site to a launch site, perform pre-launch procedures, launch the missile, and displace from the launch site in a short time.

9-180. A missile mounted on a wheeled or tracked vehicle chassis characterizes the mobile launcher. The vehicle is referred to as a transporter, erector, and launcher (TEL). The vehicles that provide the mobility to these missile systems range from specially designed vehicles with mobility-enhancing features to modified commercial or military all-wheel-drive trucks, to commercial trucks and trailers. Generally, TELs are unarmored and have vital components such as erection and pre-launch control panels and auxiliary power equipment exposed or covered by thin metal.

SSM LAUNCH SITE

9-181. SSMs are launched from a deliberate (prepared) site or a hasty (unprepared) site as well as from a road movement. A deliberate launch site is located close to a road and consists of a pre-surveyed hard surface (firm soil or concrete) launch pad or area. The launch pad is aligned to predetermined targets to simplify the TEL alignment process. The entire site, including the launch pad, is concealed when unoccupied. A hasty launch site is also located close to a road and consists of a hard surface launch area that is not pre-surveyed. During a road movement, the SSM unit can receive an order to establish a hasty launch site and immediately launch the missile. However, the

OPFOR considers this procedure unusual and will use this only in emergency situations.

9-182. Normally, the TEL stops near the selected launch point, and the launch point coordinates are determined using the TEL's onboard navigation or survey system. The launch azimuth is determined using the launch point coordinates and target coordinate information. The TEL is then positioned on the launch point, and launch preparation begins. Once the missile is fired, the TEL quickly displaces from the launch site to a resupply point or hide site.

READINESS CONDITIONS

9-183. The OPFOR use four readiness condition to describe the status for SSMs. They are stand down, standby, alert, and ready.

Stand Down

9-184. Stand down is sometimes referred to as garrison or administrative status. During this stage, the missile is located on a TEL in a missile storage and checkout building. General support equipment such as empty propellant vehicles, warhead vans, and other vehicles are maintained in normal unit storage areas. The warhead and the propellant (when needed) arrive from separate storage points via motor transport, rail, water, or air. The SSM crew follows normal duty and training schedules and periodically performs system maintenance. Additionally, they occasionally conduct filed training.

Standby

9-185. The SSM is deployed in a forward operating location and remains in a hide position. The hide site may be—

- Bunkers or underground facilities.
- Culverts or bridges.
- Revetments.
- Civilian buildings.
- Vegetation with camouflage nets.

9-186. The distance between the hide site and the launch position is dependent upon the terrain and operational capabilities of the SSM. During this stage, the warhead may or may not be present. The warhead may be stored in a hardened facility near the launch site or in a warhead van. General support equipment vehicles such as propellant and oxidizer vehicles, maintenance vans, and engineer equipment are located in dispersed locations near the hide site.

Alert

9-187. During the alert stage, the SSM deploys to predetermined locations in preparation for launch. Once the TEL is on the launch point, the missile may be erected on the launch stand with the propellant loaded. The crew has completed all subsystem checks and monitors the missile status.

Ready

9-188. The SSM is erected on the launch stand, propellant and (oxidizer if necessary) are loaded, and the final guidance alignment is completed. The launch pad and apron is cleared and the umbilicals remain attached. The crew has completed all system checkouts and final checks and continues to monitor the missile status.

SECURITY AND DEFENSE

9-189. There are three primary types of security and defense functions performed for deployed missile units:

- Passive defense measures against visual and electronic detection.
- Physical site security.
- Air defense coverage.

Passive Defense Measures

9-190. The OPFOR considers SSMs a high priority asset that affords protection against intelligence sensors and platforms and air and ground attack assets (including enemy special operations forces). It uses camouflage, concealment, cover, and deception (C^3D) concepts designed to enhance the survivability of the SSM. These concepts include use of the following:

- Radar-absorbing paints, nets, and covers.
- Smoke and obscurants.
- Radar corner reflectors and jammers.
- Decoy launchers and launch sites.

9-191. The OPFOR also attempts to keep the signatures of launch-related activity to a minimum. These signatures include the following:

- Excessive radio communications.
- Activities at facilities previously associated with SSM activities.
- Unusual placement of air defense assets.
- Employment of large security forces.

9-192. The OPFOR uses a variety of means of communicating firing orders. These include landline, couriers, and short coded burst radio transmissions. Regardless of the communications means, the firing orders are always in a secure code format.

Physical Site Security

9-193. The OPFOR assigns a maneuver unit to provide security for the deployed SSMs. The security unit may range in size from a platoon to a company. The security force protects convoys and provides local security patrols once the missiles are deployed.

BATTERY DEPLOYMENT TACTICS, TECHNIQUES, AND PROCEDURES

9-194. The OPFOR employs indirect fire support tactical concepts that include a variety of battery tactics, techniques, and procedures (TTPs) for effectiveness and survivability. The plans for the employment of the battery are very thorough and cover—

- Mission.
- Location of firing positions.
- Method of fire.
- Number of rounds to be fired from each position.
- Movement schedule of the battery.
- Duration of the battery mission.

9-195. The TTPs are applicable to all indirect fire units. These techniques also provide the battery commander with more flexibility to conduct multiple fire missions simultaneously, since the battery can organize into more than one distinct firing unit. The techniques include—

- Fire from dispersed locations.
- Fire and decoy.
- Shoot and move.
- Fire from fixed locations.

FIRE FROM DISPERSED LOCATIONS

9-196. The OPFOR employs indirect fire support weapons with a variety of dispersed battery techniques applicable to mortar, cannon, and MRL units. A common technique is to increase the intervals between the weapon systems in the firing position. Two other effective techniques are the split-battery (two-platoon) and dispersed-platoon formations.

Split Battery

9-197. *Split battery* is a tactic designed to increase the survivability of OPFOR artillery against enemy counterfire and counterbattery fire. Positioning the firing platoons 200 to 500 m apart can move at least one platoon from the beaten zone of a conventional fire strike. As a countermeasure to precision munitions and submunitions, the increased dispersion can keep one platoon out of the seeker footprint of munitions employed against the other platoon. This can force the enemy to either employ more munitions over a larger target area or increase the number of targets to be serviced. In most cases, the battery COP can control the fires of both platoons. The battery FDC would deploy with one of the platoons but maintain communications with the other platoon.

9-198. When using advanced or precision munitions, a single firing platoon can provide fire support with the lethality of a battery or battalion using conventional munitions. The use of such munitions reduces the time required for a unit to execute fire missions, thereby reducing its exposure time to enemy

RISTA systems and precision weapons strikes. This reduction involves the battery engaging targets from hide positions and engaging only one, or at most two, targets from one position without moving.

Dispersed Platoon

9-199. *Dispersed platoon* is another tactic designed to increase the survivability of OPFOR indirect fire support weapons against enemy counterfire and counterbattery fire. The tactic also facilitates the employment of single firing systems or pairs in multiple small areas that would not accommodate larger groups of firing systems. Thus, the firing unit is able to maximize scarce terrain resources and still maintain the ability to mass the effects of indirect fires. If the battery is organized as a six-gun (3x6 battalion) configuration, the platoon occupies positions with the guns dispersed up to 150 m apart. Each platoon is dispersed at least 500 to 1000 m apart. If the battery is organized as an eight-gun (3x8 battalion) configuration, the firing systems are dispersed in sections of two each. In this case, each two-gun section is dispersed at least 300 m apart with each platoon at 500 to 1000 m apart.

9-200. The dispersed platoon is clearly the most survivable technique against enemy counterfire. The tactic requires highly trained personnel capable of executing a very complex, decentralized type of operation. The tactic also works best with firing systems incorporating onboard position location (such as GPS), fire direction, and survey systems.

FIRE AND DECOY

9-201. The OPFOR employs fire-and-decoy techniques to increase survivability as well as to deceive the enemy of the actual firing unit location. The techniques include roving gun, roving units, deception battery, and false battery.

Roving Gun

9-202. *Roving gun* is a technique designed as a countermeasure against an enemy that has a sophisticated target acquisition capability. The goal is for the enemy to detect and engage this target, thinking that it is an entire unit, expending munitions that would otherwise have been used on an actual target. Enemy units that are particularly susceptible to this technique are those capable of accurately detecting units as soon as they begin firing and then attacking the target within a matter of minutes.

9-203. Within his assigned area, the battery commander selects a primary roving gun position and one or more alternate firing positions. Each position is at least 500 m away from the previous position. The battery commander also selects the primary and alternate positions for the remainder of the battery at least 500 m away from the roving gun primary and alternate positions. One or two weapons occupy a firing position apart from the rest of the unit and begin to fire on the enemy. Upon completion of the firing mission, the roving gun immediately moves or displaces to an alternate firing position. Depending on the enemy and friendly tactical situation, the remainder of the battery may remain silent or fire close support, counterfire, or counterbattery missions

9-204. A number of limitations preclude widespread adoption of this technique. First, there must be sufficient maneuver area so that fire against the roving gun does not engage another friendly unit. Second, the firing positions chosen must be plausible firing positions (for example, they cannot be located in swamps or narrow defiles that could not be occupied by a firing battery). Third, the enemy must be predisposed to engage the indirect fire position immediately. Also there is a real danger that the enemy may prove to be more responsive than imagined; thus the roving gun could become an unintended sacrifice.

Roving Unit

9-205. *Roving unit* is another technique designed as a countermeasure against an enemy that has a sophisticated target acquisition capability. It is similar to the roving-gun technique. The difference is that roving unit involves the displacement of the firing unit versus the individual indirect fire weapon system. Taking advantage of the mobility of SP artillery, the OPFOR can move artillery batteries or platoons within an assigned firing position area to escape enemy counterbattery fire. Within his assigned area, the battery commander selects a primary position and one or more alternate firing positions. Each position is at least 500 m away from the previous position. The roving battery or platoon fires a mission of no more than 3 to 4 minutes duration and then moves to an alternate position. This technique is useful during a long offensive preparation or in the defense when forward or rearward movement is limited.

9-206. The goal of roving indirect fire support units is to confuse the enemy as to the deployment and fire support plans of friendly artillery forces. They can also engage important targets without disclosing the location of the main fire support formation. Therefore, the brigade CFS usually develops the plans for the deployment of roving units in detail.

9-207. Based on instructions from the senior commander or CFS, the indirect fire support battalion commander organizes the execution of the plan by a battery or platoon. The roving unit may leave camouflaged decoys in the primary firing position to create the impression of use. For convenience or to enhance the deception, the roving unit could fire from a site prepared as a deception firing position. The COP of the battery supplying the roving element controls the fire of the entire battery. When one platoon performs the roving mission, the battery FDC may maneuver with the roving platoon or remain in the primary firing position.

Deception Battery

9-208. The *deception battery* is a technique where the OPFOR creates an additional battery in an attempt to deceive the enemy of the actual battalion location. This technique is also referred to as the *"fourth battery"* technique. The OPFOR may use two methods to create a deception battery.

9-209. The preferred method is for a battery to split into two platoons with the battery commander in charge of one platoon and the battery senior officer in charge of the other platoon. The battery FDC also splits into two sections to support each platoon. Additional weapon systems are allocated to the two

platoons from the remaining two batteries to provide each platoon a signature of a battery.

9-210. A second method is for the battalion commander to issue instructions for each firing battery to provide one to two weapons systems to create the deception battery. Either a battery commander or battery senior officer (or a separate officer such as the battalion's most experienced platoon leader) is directed by the battalion commander to command the deception battery. Fire direction for the deception battery is provided from the battalion COP.

False Battery

9-211. The *false battery* is a technique that involves the use of active and decoy weapon firing positions to give the appearance of a battery firing position. Depending on conditions such as the terrain, enemy situation, and mission, the battery commander may employ up to two indirect fire support weapons in each platoon position with the camouflaged decoys or derelict equipment in the primary firing position to create the impression of use. (Derelict equipment is real pieces of military equipment that are non-operational—often damaged or unserviceable. Given that it is a real piece of equipment, a derelict has the same visual and radar characteristics of an operational piece of equipment.) The remaining indirect fire support weapons move to a hide site 500 m from the decoy position. The FDC is capable of producing the firing orders for the two firing units.

9-212. The OPFOR also use this technique to exploit a vulnerability of weapon-locating radars (WLRs). Enemy commanders realize that the number of OPFOR indirect fire support weapons firing will influence their radar performance. This is because the number of weapons rapidly firing many rounds can quickly fill the radar temporary display queue. Thus, indirect fire support weapons firing from new locations will not be detected unless the technician reduces the backlog from the temporary display queue. Location averaging and automatic censoring modes are used to prevent the overloading of the target display queue. The automatic censoring mode causes an examination of each round for proximity to previous weapons locations in permanent storage. Enemy commanders also establish a predetermined threshold criterion (certain number of rounds coming out of a certain diameter) for WLR. If a round appears to originate from a previous indirect fire support weapon location and/or the threshold criterion from one location is not reached, the radar technician deletes the track. For example, an enemy commander establishes a threshold criterion of six or eight rounds to represent a battery firing position. If the WLR technician receive detections that are less than the established criterion, the tracks are deleted. If the OPFOR firing unit occupying a false battery position meets the threshold criterion, the WLR technician passes the target to the respective enemy counterfire unit. Thus the OPFOR has accomplished the objective of deceiving the enemy to either fire at a false unit location or ignore the location.

9-213. The false battery technique can create a stealthy condition during the employment of an indirect fire support special weapons battery. For example, a special weapons battery normally fires one to two SALP rounds per firing mission. If the enemy WLR technician receives detections that are less than

the established criterion for a battery (six to eight rounds) the tracks are deleted. Thus, the special weapons battery virtually goes undetected.

SHOOT AND MOVE

9-214. *Shoot and move* is a technique that involves the rapid displacement of a firing unit from a firing position immediately after completion of a fire mission. It is an effective countermeasure in protecting indirect fire support assets from enemy counterfire and counterbattery fire. The shoot-and-move technique requires sufficient room free of other units (in the event that one of the position areas is attacked). Unless the weapons are in constant communications with a controlling headquarters or FDC and are capable of rapid displacement, sufficient units must be available to provide continuous support to the maneuver commander. This technique is an ineffective option if the unit lacks integral survey and/or land navigation capability, firing data computation and/or data transmission systems, and reliable communications.

9-215. The technique is advantageous to SP indirect fire support weapon systems incorporating position location systems, onboard fire direction computation, and a digital communication capability. Emphasis is on massing fires from dispersed locations to hit key targets at key times. This involves centralized planning and decentralized execution. Indirect fire support units place high priority on locating and destroying enemy C^2 and RISTA systems and nodes.

Artillery Sniper Attacks

9-216. The indirect fire weapon sniper attack or *artillery sniper* is an interdiction technique that is used to cause casualties among enemy personnel, deny or hinder his use of certain routes, or require him to employ a disproportionate number of soldiers to rid the area of snipers. It is economical in the use of personnel and has a demoralizing effect on the enemy. The OPFOR uses the artillery sniper team to accomplish the following:

- Attack HVTs such as C^2, RISTA platforms, attack helicopters, and air defense platforms.
- Cover minefields or obstacles.
- Attack field fortifications and observation posts prior to an attack.
- Minimize collateral damage during adaptive operations.
- Conduct counter-sniper missions.
- Conduct covert ambushes.

9-217. The artillery sniper team consists of two basic elements: observer/sniper and firing. The observer/sniper element may cover an area that has been mined, act as part of a raiding or ambush force, or operate independently. The following is an example of the composition of an LTD-equipped observer/sniper element:

- 1 x sniper and 1 x observer.
- 2 x LTD operators.
- 1 X radioman (can call for fire).
- 1 x team leader.

9-218. The firing element is equipped with laser guided projectiles and can range in size from a battery to an autonomous weapon. The OPFOR takes a different approach from an extraregional force on the use of SALP. The OPFOR realizes that the extraregional force considers SALPs as "artillery-fired ATGMs" against armored formations. However, the OPFOR views SALPs as a compliment to traditional sniper missions.

Autonomous Weapon Attack

9-219. *Autonomous weapon attack* is a technique designed for single indirect fire systems to attack single or multiple targets from dispersed locations. This technique exploits the capability of indirect fire systems incorporating onboard position location (such as GPS), fire direction, and survey systems. When properly conducted and coordinated with other activities, autonomous weapon attacks can make significant contributions to the destruction of enemy combat power and his will to fight. Although tactical in execution, autonomous weapon attacks can contribute to operational and/or strategic objectives and have both immediate and long-range effect upon the enemy, his military force, and continued popular support for his intervention in the region. Therefore, the autonomous weapon attack is the most closely controlled tactic available and is employed only against carefully selected targets.

9-220. The OSC commander can establish both the firing and target damage criteria and exercise C^2 of units conducting autonomous weapon attacks. The IFC at OSC or division level recommends the firing systems to the OSC commander, who approves those assets to perform that mission. The IFC develops the firing orders and firing data computation and transmits this information in a coded format to the firing unit. Because the OPFOR's communications are particularly vulnerable to attacks, transmission may have to be via a civilian telephone system (to include cellular phone), messenger, or even newspaper.

9-221. The OPFOR can use autonomous weapon attacks with one or more of the following objectives:

- Delay the deployment of enemy forces.
- Inflict casualties.
- Destroy and/or severely damage rotary- and fixed-wing aircraft.
- Interdict LOCs.
- Destroy enemy logistics facilities.

9-222. The OPFOR often uses SP and towed MRLs and single-round rocket launchers to conduct autonomous weapon attacks. Both the single-round rocket launchers and towed MRL may be configured for mounting on a vehicle or waterborne craft. Whenever possible, the OPFOR use fabricated covers (canvas, metal, or other materials) to disguise the MRLs and single-round rocket launchers. The goal is to reduce the signature of the firing system and allow it to blend in with commercial vehicular or waterborne traffic.

9-223. The OPFOR continuously analyzes the enemy's counterfire tactics to determine strengths and exploit weaknesses. Then it employs countermea-

sures to degrade the effectiveness of the enemy counterfire tactics. These countermeasures include but are not limited to—

- Air defense ambushes using shoulder-fired surface-to-air missiles against enemy RISTA and attack platforms.
- Ambush of enemy search patrols.
- Destruction of enemy target-locating and ground surveillance radars and sensors.
- Use of deception positions.

9-224. **Target Analysis.** During the conduct of autonomous weapon attacks, targets are not attacked indiscriminately but are part of an overall scheme or plan to destroy an enemy complex. A target complex is a series of interrelated or dependent target elements that together serve a common function. The target could also be part of the infrastructure or a particular part of the enemy combat system.

9-225. The OPFOR considers the following five factors for selection of targets in a particular target complex: criticality, vulnerability, accessibility, recoverability, and effect on the local population. The FSCC uses diagrams, maps, photographs, and other intelligence to analyze a target complex and select targets for attack that offer maximum timeliness and effect. The analysis enables the OSC to select the appropriate system or mechanism to conduct an attack. Some of the simplest operations can either cause or create favorable conditions for great damage to the enemy.

9-226. **Firing Site Characteristics.** The OPFOR uses military or civilian maps to determine prominent or readily identifiable terrain features for autonomous weapon firing sites. These terrain features may be road or canal intersections, trail junctions, stream junctions, recreational fields, graveyards, religious or national monuments and shrines. The weapon firing sites are usually in areas that afford mask clearance and that have a good access route in and out of the area. The OPFOR prefers to locate the weapon firing sites near urban areas in order to take advantage of established enemy rules of engagement or restrictions for collateral damage avoidance. The OPFOR also attempts to gain information that enables it to determine the location of enemy military unit boundaries. The OPFOR establishes weapon firing sites along unit or international boundaries to take advantage of the difficulty encountered by enemy forces, particularly enemy allied or coalition forces, in obtaining fire clearances near boundaries.

9-227. **Conduct of Fire.** Usually the OPFOR will conduct autonomous weapon attack missions during periods of limited visibility (such as night, fog, or dust). However, depending on the availability of the target, the missions may be conducted during daylight hours. Upon completion of the firing mission, the weapon system usually displaces and attempts to avoid detection by merging into civilian vehicle traffic flow. However, the OPFOR will not hesitate to reuse a autonomous weapon firing site. It bases its decisions for the reuse of previously occupied weapon firing sites on the type and frequency of enemy surveillance of the site as well as the response time and type of enemy response to a firing mission.

9-228. The autonomous weapon attacks may be part of a combined or independent access-control action to impede the deployment of forces. For example, the OSC may decide to employ mortars and rockets in attacking the APOD or SPOD simultaneously or sequentially. The attacks are conducted at irregular times (such as 0910, 0956, 1034, 1121, and so forth) based on a schedule developed by the FSCC.

9-229. **Resupply.** The OPFOR establishes hidden ammunition storage locations or caches along access routes near the weapon firing sites. Commercial and military vehicles, as well as waterborne vessels are used to transport the rockets to the hidden locations. If a cache is discovered by enemy troops, the FSCC will direct the firing unit to another cache.

FIRE FROM FIXED LOCATIONS

9-230. The fire-from-fixed-locations technique is generally employed where there is limited movement in areas such as mountains, jungles, or urban areas. The firing battery occupies dispersed pre-surveyed positions and may use hide sites for as measures of both survivability and force preservation for the conduct of future battles and operations. The hide site may be—

- Bunkers.
- Underground storage facilities.
- Hardened sites, caves, and tunnels.
- Culverts or bridges.
- Revetments.
- Civilian buildings.
- Vegetation with camouflage nets.

The distance between the hide site and the firing position is dependent upon the terrain and operational capabilities of the weapon system.

9-231. Position hardening presupposes an enemy attack and represents measures taken to minimize the effectiveness of enemy fires. The hardening may be applied to the weapon or crew, independently or in concert.

9-232. Constructed field fortifications around weapons are common in warfare characterized by little movement. The positions typically consist of an earthen berm around the weapon and adjacent bunkers for personnel and ammunition. Such positions clearly do not protect against munitions delivered inside the berm. Because of the effort required to prepare these positions, they are only practical when the unit will be stationary or if there are sufficient positions to permit the crew to move among several firing positions. Such measures also tend to make firing positions easier for the enemy to locate with electro-optical reconnaissance systems.

INDIRECT FIRE UNIT MOVEMENT

9-233. The movement of an indirect fire support battalion can follow several different patterns depending on such factors as enemy situation, mission, terrain, weather, and visibility. Once the battalion has reached the assembly area and completed its organization of forces for combat, it may move by battalion or by battery.

9-234. Movement is particularly important during offensive actions, when the indirect fire support unit must keep pace with the advance of supported maneuver units. Fire support planners strive to maintain continuous support from the initiation of preparatory fire until the accomplishment of the offensive mission, including the commitment of the exploitation force. As an indirect fire support unit shifts its fires successively deeper into the enemy defenses, displacement of indirect fire support units becomes necessary. Thus, after the initial fires in support of the attack, indirect fire support units supporting or attached to fixing and assault forces begin to displace. This displacement is preplanned to accommodate the advance of the attacking maneuver forces.

BY BOUNDS

9-235. The indirect fire support unit normally displaces by bounds, attempting to retain two-thirds of its weapons in positions within range to provide continuous support for the attacking or withdrawing force. In planning deployment of their units, indirect fire support commanders follow the "rule of a third." For example, when only a third of the maximum range of their indirect fire support weapons remains in front of the attacking OPFOR troops, they move a third of their force forward. Once redeployment starts, no more than a third of the available guns is moving at any one time. This leaves two-thirds of the weapons in position to support tactical maneuver actions.

BY BATTALION

9-236. Movement by battalion is possible only when the battalion has not been committed to battle or when there are other units available to perform any required fire missions while the battalion is moving. All elements of the battalion displace at the same time (based on a movement schedule) and are typically expected to be in their new positions at the same time.

BY BATTERY

9-237. In the offense or defense, the most common movement technique is for an indirect fire support battalion to move by battery. The battalion moves its batteries individually by bounds. Depending on the route and the pace of combat, there may be a temporary halt to rearm and refuel during the movement. Once the battery is in position and ready to fire, the next battery starts to displace. Typically, the battalion FDC displaces with the center battery.

9-238. Movement of an indirect fire support battery is typically by order of the battery or battalion commander and is under the command of the battery senior officer. The battery senior officer's vehicle (battery FDC) leads the battery column, followed by the indirect fire support weapons. The indirect fire support weapon designated as the base weapon leads the other indirect fire support weapons. They are followed, in turn, by battery ammunition and supply vehicles.

TARGET ACQUISITION AND RECONNAISSANCE

9-239. Indirect fire target acquisition is the process of detecting and locating hostile mortar, cannon, and rocket units with sufficient accuracy, reliability, and responsiveness for counterfire and counterbattery fire to be directed against the enemy unit. Recent technological advances in RISTA and fire control systems provide the OPFOR a capability to rapidly disseminate information on suspected enemy targets within one minute or less. This includes the time from acquisition to computation by an FDC and the initial transmission of data to a firing battery. Under favorable conditions, the first artillery round may be on target within 2 to 4 minutes of acquisition. The desired identify-destroy cycle should not last any longer than 6 to 10 minutes. The following is a discussion of the types of RISTA systems available for artillery target acquisition.

WEAPON-LOCATING RADARS

9-240. WLRs are probably the most reliable artillery target acquisition system. They are programmed to detect targets following a ballistic path, and they are almost impossible to deceive. (Any system that follows a non-ballistic or altered ballistic path may not be locatable to the same degree of accuracy, if at all.) Older radars tracked the projectile in flight or used the position and time difference as the projectile passed through the radar's split or dual beam. These systems were easily overloaded, and multiple targets led to inaccurate locations or a complete inability to determine a location. Phased-array radars have effectively solved this problem.

SOUND RANGING

9-241. Sound ranging was the "high-technology" artillery target acquisition system of World War I. Although its basic principle (using a sound wave's different arrival times at a series of microphones) is unchanged, numerous upgrades have occurred. The most common one involves using surface-emplaced microphones and a computer (with graphical display) to process the data. The required parameters and microphone coordinates are fed into the computer for the different functions of the system. Most modern-day sound-ranging systems can be characterized as completely automated, EMP-protected, accompanied by a meteorological unit, resistant to electronic jamming, and completely passive. However, sound ranging is still limited by a number of factors, particularly the requirement that each microphone location be surveyed. Microphones cannot process targets when sound waves arrive at less than 0.5-second interval. Thus, sound ranging requires data to measure the effects of meteorological changes on the speed of sound. High winds, other meteorological conditions, and terrain can degrade the performance of sound-ranging systems.

FLASH RANGING

9-242. Flash ranging is often used as a companion to sound ranging. Flash ranging involves determining the lines of bearing to a muzzle flash from several surveyed OPs. Flash ranging is very slow and not automated. It is easily fooled by flash simulators and generally requiring commanding terrain for

the OPs. Therefore, flash ranging has been deleted from the inventory of most OPFOR target acquisition units.

BATTLEFIELD SURVEILLANCE RADAR

9-243. Selected battlefield surveillance radars (BSR) can be used for both target location and fire adjustment. However, they are ineffective as artillery-locating or weapon-locating systems. When long-range systems are available to field artillery units, they are used to develop general artillery target intelligence but not to locate firing weapons.

UNMANNED AERIAL VEHICLE

9-244. An unmanned aerial vehicle (UAV) is considered as a RISTA asset that can be used to support counterfire missions. There are two kinds of UAVs: drones or remotely piloted vehicles (RPVs). UAVs can provide increased range and possibly offer increased accuracy and responsiveness depending on the sensor suite chosen. UAVs used for dedicated artillery target acquisition generally rely on a television sensor and data downlink such as a sensor suite, but can add infrared linescan and other reduced-visibility sensors.

HUMAN INTELLIGENCE

9-245. Artillery target acquisition assets also include human intelligence (HUMINT) sources or observer units. HUMINT is another RISTA asset that can be used to support a counterfire mission. HUMINT assets are units such as FOPs, artillery reconnaissance patrols, and special reconnaissance forces.

OBSERVATION POSTS

9-246. The OPFOR uses an extensive system of OPs to provide fire support to the maneuver forces. These OPs are mobile in order to accompany rapidly moving forces. They may be in wheeled or tracked vehicles, or in the air. The configuration depends upon the level of command and the type of units.

9-247. After establishing a functional OP, scout observers can construct a deception OP to confuse the enemy about the actual position of the OP. Figure 8-7 shows an example of the deployment of some of the most common types of OPs discussed below. Other vehicles serve as FDCs and mobile reconnaissance posts (MRPs). Artillery commanders can also send out artillery reconnaissance patrols.

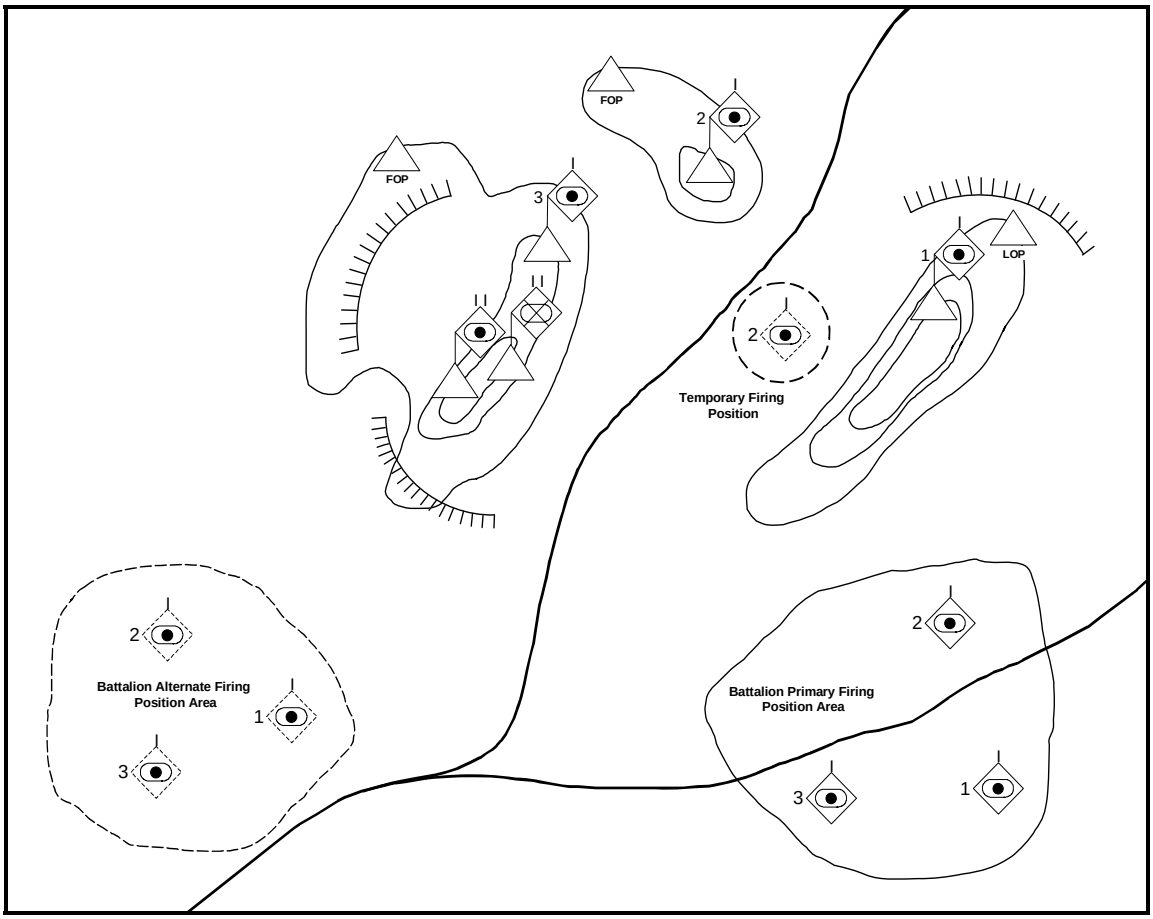


Figure 9-7. Observation Posts in the Battle Formation of an Artillery Battalion (Example)

Command Observation Post

9-248. In indirect fire support battalions and batteries, the COP serves as both an OP and CP.[10] From it, the fire support commander—

- Controls the fire and maneuver of his subordinates.
- Conducts reconnaissance of the enemy and terrain in his zone or sector of fire.
- Observes the actions of friendly combined arms units and maintains coordination with them.
- Since the artillery battalion is the basic firing unit, its COP is the place where decisions are made and from which orders stem.

9-249. The battalion COP normally contains the battalion commander, chief of reconnaissance, and chief of communications.[11] The battery COP normally

[10] An indirect fire support regiment or brigade can have a COP, sometimes called a forward CP. It can also have other types of OPs. Although these observers could adjust fire on selected targets, they normally pass target information to subordinate battalions for engagement.

[11] Depending on the type of combat action, the chief of communications may be part of the battalion FDC, rather than the COP.

includes the battery commander and the control platoon leader (who is responsible for reconnaissance and signal functions).[12] In addition to these officers, COPs at both battalion and battery level include fire direction, communications, and reconnaissance personnel. In either case, these personnel can operate the COP either on the ground or mounted in an ACRV.

9-250. In most cases, the commander of an attached or supporting artillery unit colocates his COP with the COP or forward CP of the maneuver unit commander to which the artillery unit is attached or which it is supporting, or at least locates it near that COP. From that position, both the maneuver and artillery commanders should be able to observe the zone of responsibility or sector of fire. When the artillery unit is neither attached nor supporting, but remains directly subordinate to the senior maneuver or IFC commander, its COP is positioned near that commander's CP or COP.

9-251. Other OPs and artillery reconnaissance patrols send reconnaissance data to the COP. The artillery commander determines which targets are to be engaged, and the COP relays target data to the firing position.

Forward Observation Post

9-252. Artillery commanders can establish one or more FOPs to supplement the COP. The purpose of the FOP is to conduct reconnaissance of the enemy and observe the terrain directly in front of the forward maneuver units. It can locate and adjust fires against targets that the COP is not in a position to observe. It also assures continuous close fire support for the maneuver forces when the COP is displacing. An FOP may be with the supported unit commander or with one of the advance maneuver elements. This enables it to maintain closer communication and coordination with supported maneuver forces.

9-253. At the battalion and battery levels, the FOPs often contain the battalion chief of reconnaissance (or the battery's control platoon leader), a scout, and a radio operator. The FOP can deploy on foot or mounted in an MRP vehicle that has a battlefield surveillance radar, as well as observation and rangefinding equipment.

Lateral Observation Post

9-254. An artillery commander may establish an LOP to cover areas not observable from the COP or FOPs. The LOP is usually on the flank of the supported unit and should have a good view of the artillery unit's zone of responsibility. An LOP can work with a COP or FOP to conduct bilateral observation of a target area for improved accuracy. At battalion level and higher artillery echelons, the LOP accurately locates targets, reference and registration points, and can adjust fire. The artillery unit or the division's artillery regiment may send reconnaissance and communications personnel to form the LOP. The LOP can deploy on foot or in a vehicle, such as an MRP. An LOP is generally smaller that a COP, manned by two to three reconnaissance specialists who communicate back to the COP.

[12] Depending on the type of combat action, the platoon leader of the control platoon may be part of the battery FDC, rather than the COP.

Aerial Observation Post

9-255. The artillery commander may use an aerial observation post (AOP) to supplement FOPs and LOPs. The AOP is generally established to cover rapidly moving forces in areas larger than can be covered by a ground OP. The AOP is especially effective during heliborne assaults or a pursuit.

Mobile Reconnaissance Post

9-256. An MRP is an armored, tracked vehicle with a battlefield surveillance radar and other observation and rangefinding equipment. This vehicle is designed to operate near—or even across—the battle line. It has a data transmission system for passing target information and fire missions directly to associated FDCs. There is typically one of these vehicles per artillery battalion, one in the artillery regiment's headquarters, and one in its target acquisition battery. However, the regiment typically uses an MRP to support its own COP. At battalion level, an MRP may function as an FOP or LOP. However, it can also remain near the COP in a forward position or within the artillery battalion firing position area. The artillery regiment or battalion commander designates the position and the sector of observation for the MRP.

9-257. In the offense, the MRP may advance closely behind or within lead mechanized infantry or tank units. It can conduct reconnaissance and fire missions on the move or during short halts. During movement, the MRP can move as part of an artillery reconnaissance patrol. This single vehicle can perform reconnaissance and adjust artillery fire on targets while located with these units. In the defense, MRPs may form part of the combat outposts in the disruption zone. In either offense or defense, an artillery reconnaissance patrol can also set up an FOP behind enemy lines to adjust artillery fire and to report on enemy organization and deployment. Its primary mission is to locate enemy artillery units.

TARGET MARKING TECHNIQUES

9-258. Since firing unit commanders and observers do not always select their own targets, it is often necessary to mark the target to facilitate its identification and subsequent attack. The two principal methods are by computation and marking the target with smoke.

Computational Method

9-259. The preferred technique for identifying targets is to provide the orientation data for the observer. This would normally be done in situations where the indirect fire support regiment's FDC is passing a target it has located to a subordinate indirect fire support battalion commander or when a battalion commander passes a target to a subordinate battery commander. Using the standard plotting board, the original observer can plot the location of the target and the new observer, and then compute the new observer's direction and range to the target. At that point, the new observer can simply orient his observation equipment on the directed azimuth and locate the target at the indicated range. While leaving little room for error, this technique is time-consuming and not well suited to a fluid or fast-moving battle.

Target-Marking Smoke

9-260. The fastest and easiest method of target marking is simply to mark the target with a colored smoke projectile. This allows all observers to immediately identify and locate the target. This also has the disadvantage of warning the target, but is acceptable when the target is unable to move (at least between being marked and being engaged). Almost any projectile could be used to mark the target, but smoke projectiles offer longer dwell times and therefore increase the chance of all observers being able to locate the target.

TARGET ACQUISITION ZONES

9-261. The maneuver commander and the IFC commander conducts a battlefield analysis to determine the targets to be acquired and attacked, where and when targets are likely to be found, and who can locate them. Upon completion of this process, the IFC commander establishes target acquisition zones to focus the target acquisition assets. Each asset is assigned a target acquisition zone of responsibility.

Detailed Target Zone

9-262. The detailed target zone (DTZ) is an enemy area that the maneuver commander wishes to monitor closely. It is used to protect maneuver forces or assets whose loss could seriously jeopardize the mission. Targets acquired in this zone are reported to the FDC ahead of general target zone detection.

General Target Zone

9-263. The general target zone (GTZ) is a search area that is established to monitor enemy targets the commander wants neutralized or annihilated. The GTZ is the second most responsive priority for requests for fire.

Censor Zones

9-264. The censor zone (CZ) is an area from which the commander wishes to ignore all target detections. A CZ may be used to ignore a friendly indirect fire support position that, because of its aspect angle to the WLR, could be detected as enemy artillery. This situation is common in nonlinear, noncontiguous operations as well as linear operations where friendly units are in enemy territory.

RADAR TECHNICAL AND TACTICAL CONSIDERATIONS

9-265. As the target acquisition planner selects a general position for radars, he must be aware of the technical and tactical considerations that influence his selection. Some of these considerations cannot be fully determined by the planner and can be applied only by the radar technician as he makes the actual site selection. During the site selection process, the radar technician considers the following points:

- Accessibility.
- Communications.
- Concealment.
- Cover.

- Radar attenuation.
- Routes of approach.
- Security.
- Survey.
- Slope.
- Aspect angle.
- Cable length.

ACCESSIBILITY

9-266. Depending on mission requirements, the radar site must be accessible by road, air, or water. Accessibility depends on the mobility characteristics of the radar platform.

COMMUNICATIONS

9-267. The communications requirements depend on the mission and therefore will vary. The site must permit establishment of the required communications. If large hills or mountainous terrain exists between the radar site and the supported unit, direct communications may not be possible by radio unless a radio relay station is used. Another deciding factor is the effectiveness of enemy electronic countermeasures (ECM). If the enemy's ECM are active and effective, wire communications may be necessary.

CONCEALMENT

9-268. The maximum use of natural concealment, such as trees and shrubs, should be considered in selecting a site for the radar. However, the concealment must not interfere with the radar beam. The edge of a tree line is the most desirable location for a radar site. The radar can be placed on the outer edge of the tree line and camouflaged to blend into the background trees. The remaining support vehicles and equipment can be placed in the woods and hidden from view by camouflage nets, trees, and other types of camouflage. Camouflage should be a continuous function of the radar section.

COVER

9-269. If possible, the radar should be emplaced in defilade. This affords protection from enemy observation and fires. The exception to this is a BSR, which must have a line of sight to the target area.

RADAR ATTENUATION

9-270. The area in front of the antenna is important when selecting a site. Items such as trees, foliage, buildings, and equipment may cause attenuation of the radar beams or multipath errors. Attenuation of the radar beams reduces the chance of detecting enemy projectiles.

9-271. If other radar sets are operating in the same area, care should be taken to ensure that the antennas do not face each other. This is especially true of radars of the same type that operate on the same frequency.

ROUTES OF APPROACH

9-272. The radar site selected should have more than one covered route of approach. These routes will allow occupation of the site that is unobserved by the enemy. One must consider road conditions, overhead clearances, bridges, and water crossing areas.

SECURITY

9-273. The radar technician should try to locate the radar site within the perimeter of an adjacent maneuver unit. This will improve his local security. If feasible, the radar section could be augmented with a reinforced maneuver squad or platoon.

SURVEY

9-274. A WLR must be sited accurately in order to provide accurate target locations. A survey section should be available near the site to assist in determining site data. If a survey team is not available, the radar section will conduct a hasty survey. The hasty survey will provide the data required to initialize the radar.

SLOPE

9-275. The slope of the ground is important for proper drainage and quick leveling of the antenna. The radar will not function properly without leveling. The drainage must also be checked to ensure that radar equipment will not become stuck in heavy rain.

ASPECT ANGLE

9-276. The aspect angle is the angle between the radar antenna and the target path. The aspect angle is similar to Angle T. Angle T is the angle formed by the intersection of the gun-target line and the observer target line with its vertex at the target.

CABLE LENGTH

9-277. Once the technical aspects of choosing a radar site have been addressed, the length of the system's cables must be considered for systems that are either mounted on a trailer or configured in a two-vehicle set. The two-vehicle set consists of one vehicle that carries the radar while the other vehicle carries the command cabin and system power supply. The cables attach the command cabin and system power supply to the radar. The cable lengths are limiting factors in the actual layout of the radar position area.

WLR SURVIVABILTY

9-278. Every effort should be made to reduce the vulnerability of WLRs to direction finding and analysis. These efforts include occupying optimum sites, reducing radiation times, and narrowing the sector of search.

Optimum Sites

9-279. The best countermeasure to enemy electronic warfare (EW) is to occupy an optimum site. An optimum site is one in which the WLR is emplaced

on level terrain having a gentle downward slope for the first 200 m in front of the radar and then a sharp rise to a screening crest. In an optimum site, tunneling is effective in reducing side-lobe radiation. However, the number of optimum sites for positioning may be limited.

Screening Crest

9-280. The use of a screening crest is absolutely critical to radar survivability in an environment where the enemy has ECM capability. A screening crest is not essential for locating enemy weapons with the WLR. However, it does increase survivability of the system by serving as a defense against enemy observation, direct fire, and ECM. A WLR site must be selected to ensure that the screening crest is high enough to protect the radar section from the enemy yet low enough to allow the WLR to track an enemy projectile on its ascending trajectory. The WLR technician conducts a map reconnaissance and estimates his mask angle for future positions. The WLR technician should try to select his radar site so that the screening crest is within 1,000 m of the site.

Double Screening Crests

9-281. The use of two screening crests makes the radar more difficult for the enemy to locate. Radiation that is diffracted by the first crest and diffracted again by the second crest cannot be accurately located by direction finding.

Tunneling

9-282. Tunneling is the technique of reducing the side, top, and back lobes of radiation by careful site selection. Positioning the WLR so that vegetation is to the sides and rear is an example of tunneling. Tunneling also may be accomplished by the use of digging-in or by sandbagging the position.

Background

9-283. Background is the area against which the target is detected. Normally, background considerations are associated with moving target locating radars. Backgrounds can be open, hard, or soft. An open background just above a screening crest is optimum for a WLR.

Reduce Radiating Time

9-284. The shorter a WLR radiates, the less apt it is to be acquired. Therefore, radiation time should be kept to the absolute minimum when feasible.

Narrow the Sector of Search

9-285. Another countermeasure to reduce the vulnerability is to narrow the WLR sector of search. Although most WLRs can search a wide sector, in an EW threat environment, the beam should be narrowed to the minimum to accomplish the mission.

BSR SURVIVABILTY

9-286. Like WLRs, BSRs produce a distinctive electromagnetic signature that makes them particularly vulnerable to enemy ECM. Additionally, BSRs re-

quire an electronic line of sight to the target and are emplaced in areas that make them extremely vulnerable to visual detection.

Optimum Site

9-287. A site that facilitates good cover and concealment is critical for a BSR to survive. Normally, the system should be elevated and employed during pertiods of limited visibility. Tunneling and narrowing of sectors of search, as discussed for WLRs, also apply to BSRs.

Reduce Radiating Time

9-288. Like WLRs, the shorter a BSR radiates, the less apt it is to be acquired. Therefore, radiation time should be kept to the absolute minimum when feasible.

Narrow the Sector of Search

9-289. Like WLRs, the BSR beam should be narrowed to the minimum to accomplish the mission. This reduces the likelihood of being acquired.

Background

9-290. If there are no terrain features or vegetation to reflect or absorb the radar beam beyond the target area, the background is open. Unrestricted access to unreflected radar beams is an ideal situation for enemy EW operators. Hard backgrounds such as rock, buildings, bunkers, or structures reflect radar beams. During reflection, the beam is bent and some phase shifting occurs. A phenomenon know as multipath effect (the receiving of the same signal from different directions and out of phase with each other) makes it difficult to obtain good direction-finding bearings to the radar. However, this does not keep the radar intercept operator from performing signal analysis. Hard backgrounds are better than open backgrounds but not as good as soft backgrounds such as foliage, tree lines, or brush. If a BSR is oriented toward soft ground and is sighted to take advantage of tunneling, its vulnerability to intercept and direction-finding will be reduced considerably.

WLR CUEING

9-291. Cueing is the process designed to prompt, or notify, another target acquisition asset to begin a search for a target in a specific area. Cueing of WLRs is one of the most difficult planning decisions. Although individually scheduled cueings may be random, preplanned cueing "schedules" are often ineffective and unnecessarily subject the radars to enemy-direction finding and analysis. Target acquisition commanders who operate under specific cueing guidance can cue radars more effectively. The cueing guidance is designed to fully exploit the radar potential and still minimize or eliminate unnecessary radiation. The situation will dictate who can best cue the radar and the specific conditions under which it can be cued.

9-292. Cueing must be based on real-time information so that the WLR has a high probability of tracking projectiles when it is turned on. Cueing sources capable of providing this information may include—

- Fire support observers such as COPs, AOPs, or MRPs.

- SPF and maneuver reconnaissance personnel.
- Reconnaissance and target acquisition systems such as EW platforms, sound-ranging systems, BSRs, and UAVs.

9-293. Cueing of WLRs may be centralized, with all requests going through the radar controlling headquarters, or it may be decentralized. For decentralized cueing, the controlling indirect fire support headquarters will establish cueing guidance, to include authorized cueing sources, communications links, and conditions under which the radar may be cued.

9-294. Communications links used to cue radars should be defined in the cueing guidance. The preferred means of communications between the WLR and the indirect fire support unit is wire. However, voice radio nets that are normally monitored by the radar are the most responsive means. Messages are normally sent by voice unless the radar and the cueing source are provided with a digital communications capability. Because this link is usually an indirect fire support unit command net, cueing sources should restrict the time they use the net. Cueing sources should use the radio net only in the time required to initially establish communications and then to cue the radar as necessary.

9-295. The special conditions under which the WLR should be cued must be passed to the cueing sources. For example, enemy artillery or mortar attacks that are observed by a cueing source but does no serious damage may not constitute cause for cueing the radar. Rather, the criterion for cueing the WLR are fires causing significant damage such as enemy neutralizing or annihilation fires.

9-296. The maneuver unit and/or fire support rehearsals should include the activation of cueing sources by use of the appropriate cueing guidance. Clarification of the cueing guidance or designation of other cueing sources, if required, should be issued at that time.

TARGET ACQUISITION RADARS IN THE OFFENSE

9-297. The primary role of target acquisition radars in the offense is to protect the friendly force by locating targets for engagement. During offensive actions, particular attention must be given to planning target acquisition to facilitate future actions. Target acquisition planners need to ensure a smooth transition from one phase of the battle to the next by providing for continuous coverage of the zone of responsibility.

9-298. Assets may have to be decentralized to facilitate C^2 and movement. Cueing should be more decentralized during the offense. The controlling headquarters must inform the radar sections who the designated cueing sources are and which ones have priority. This action is necessary to streamline the acquisition and counterfire effort when committed maneuver forces may be particularly vulnerable to enemy indirect fire.

9-299. High-tempo offensive actions may require target acquisition assets to move a pace that a survey of the future sites may be unavailable. Therefore, the target acquisition assets may have to use hasty survey procedures for control until a survey is available.

TARGET ACQUISITION RADARS IN THE DEFENSE

9-300. The primary role of target acquisition radars in the defense is to protect the units and facilities the commander deems critical to a successful defense. Target acquisition planners must also consider how to execute a transition from defensive to offensive actions such as counterattacks. The positioning, task organization, and mission should facilitate the transition.

FIRE DIRECTION AND COMPUTATION

9-301. Fire direction is the process of determining the specific data required by the crew to orient the weapon and set (or possibly program) the fuze to function properly. It is sometimes called technical fire control.

FIRE DIRECTION CENTER

9-302. In addition to a COP, both battalions and batteries have FDCs at the firing position. The FDC contains the artillery battalion chief of staff or the battery senior officer, plus fire direction specialists and communications personnel. The battalion or battery commander in the COP chooses the targets of opportunity for firing. He also decides how to attack the targets relayed to him by the maneuver forces he is supporting. The COP and the FDC may conduct fire direction computations simultaneously. However, the battalion FDC has primary responsibility for obtaining and processing meteorological and survey data and determining firing data using computers and backup instruments. A battery FDC may receive fully computed firing data from the battalion FDC. Like the COPs, FDCs are mounted in tracked or wheeled ACRVs.

FIRE COMPUTATION

9-303. The OPFOR may employ either manual or automated computation to determine firing data. Figure 8-8 reflects the average processing time for the indicated computational method for an average FDC.

Data Requirement	Manual	Automated
Determine Initial Data	2 minutes 15 seconds (estimated)	45 seconds (estimated)
Determine Subsequent Data	55 seconds (estimated)	20-30 seconds (estimated)

Figure 9-8. Average Time Required for an FDC to Compute Firing Data

Manual

9-304. Manual computation requires the FDC to mark the firing unit's location a chart and then determining the direction and range to the target. The range determines the propelling charge, and the effect of the two determines the elevation setting and time of flight. Time of flight is used to determine the fuze setting. The major factor determining responsiveness is operator training, while accuracy depends on both operator training and the validity of supporting data (such as survey, meteorological data, and propellant tem-

peratures). Adding a simple hand-held calculator to perform arithmetic computations can enhance the responsiveness and accuracy of manual fire direction.

Automated

9-305. Automation can greatly enhance the responsiveness of fire direction computations. The level of automation can range from a single battalion- or battery-level computer that determines a single solution for each battery to computers (located at the battery FDC) capable of determining data for individual weapon platforms. These fire direction computers can quickly calculate corrections in elevation and deflection settings for each firing platoon and possibly for each weapon. This is particularly useful during frequent moves.

9-306. The fire direction computers may be part of an automated fire control system (AFCS). An AFCS is comprised of subsystems for reconnaissance, initial orientation and location fixing, weather and ballistic information, communications, and data transmission The OPFOR can employ AFCSs that are automatically linked to a data-processing computer. Automatic connections to external reconnaissance means can include radars, sound-ranging systems, UAVs, and reconnaissance helicopters. The system can also have links with higher, lower, and adjacent headquarters. The OPFOR can adapt the AFCS to new types of weapon platforms, ammunition, and reconnaissance systems.

FIRING DATA

9-307. The following individuals are responsible for the preparation and accuracy of firing data:

- The battalion chief of staff (in the battalion FDC).
- The battery senior officer (in the battery FDC).
- The fire direction specialists located in the firing position (in the battery FDC).
- The fire direction specialists located in the battalion FDC.
- The fire direction specialists located in the battalion and battery COPs.

9-308. This system demands that the battery commander, senior officer, and battalion chief of staff be as proficient in computing firing data as the fire direction specialists. The independent computation of firing data by different individuals significantly reduces the chances for a large error. This technique also ensures that a fire direction system is readily available if the fire direction capability at either the COP or FDC is destroyed or suppressed.

9-309. The battalion and battery commanders have overall responsibility for the execution of fire missions. Therefore, they supervise the fire direction specialists in their respective COPs, who must be prepared to assume the functions of the FDC if the latter is put out of action. The battery senior officer and the battalion chief of staff supervise the work of the fire direction specialists in their respective FDCs.

9-310. The FDC in the battery firing position receives target data from artillery reconnaissance patrols, OPs, or COPs. The fire direction specialists located at the battery firing position compute (either manually or electronically) the firing data for the targets. A battery FDC may receive fully computed firing data from the battalion FDC, or even the battalion COP. In any case, the battery senior officer (or his designated representative) verifies the firing data and relays the data to the gun platoons, where the gunners set the data on the gun in preparation to fire. He also reports this data to the battalion FDC and the battery commander.

9-311. The fire direction specialists in the battery COP may also compute the firing data as a separate check on the data supplied by the firing position fire direction specialists. If for some reason the data from the battery COP is ready before that of the firing position, the battery commander transmits his data directly to the firing position. If a difference exists between the firing data supplied by the fire direction specialists at the firing position and the COP, the battery commander or battalion chief of staff decides which data is passed to the gun platoons to fire.

9-312. When the indirect fire support battalion controls the conduct of fire, it conducts the observation, computation, and firing similar to battery level. The battalion commander is at the battalion COP near the COP or CP of the supported commander. Target acquisition and fire direction specialists assist him in acquiring targets, computing fire missions, and adjusting fire. Normally the battalion chief of staff is in charge of the battalion firing position area and the battalion FDC. Depending on the type of mission, battalion dis-

persion, and time available, battalion fire direction personnel may compute the gunnery problem for the entire battalion or run check computations while each battery computes its own data. The battalion commander gives the order to fire. He can require each battery commander to adjust fire for his own unit by weapon or by battery salvos.

9-313. Forward ground or air OPs supplement battery and battalion COPs. Observation teams can locate forward in armored vehicles. Forward and air observers transmit target data to the battalion chief of staff, at the battalion FDC, for computation.

9-314. The OPFOR also integrates electronic computers into its field artillery battalions to exploit this new capability for firing procedures. The battalion probably still has centralized control of fire mission computation and fire control. It can give battery fire direction personnel fully computed data that is ready to pass to the guns. Centralizing electronic computation at battalion level is consistent with establishing the battalion as the basic firing unit in OPFOR artillery. The battalion and battery may run check computations manually on a routine or random basis.

LOGISTICS

9-315. The OPFOR applies the "push forward" concept of logistics. Units do not request ammunition; rather they are allocated ammunition in the fire support plan to support the maneuver battle. Ammunition has the highest priority within the OPFOR supply system. The determination of required expenditures is the responsibility of the IFC commander or CFS, while the chief of logistics is responsible for delivery.

AMMUNITION RESUPPLY

9-316. The OPFOR uses standard cargo trucks as resupply vehicles for cannon and mortar systems; for towed systems, the trucks also serve as prime movers. The only dedicated ammunition resupply vehicles are for some MRL systems. These vehicles have the same chassis as the rocket launcher and are fitted with racks to hold the rockets during transport. Resupply vehicles for large-caliber MRLs have cranes for reloading the launcher.

9-317. To the maximum extent possible, the ammunition remains loaded on resupply vehicles to maintain mobility. In most cases, the ammunition packaging is designed so that two men can easily move any single item, lessening the requirement for materiel-handling equipment at ammunition transfer points and in the firing position.

9-318. To facilitate the movement of ammunition, general practice is to establish ammunition transfer points for each IFC or maneuver brigade. Under normal circumstances, the artillery battalion sends its resupply vehicles to this point to pick up ammunition and deliver it to the firing unit. Transport units may skip an echelon, if necessary, to keep units resupplied.

BATTERY RESUPPLY

9-319. When necessary, the battery will make one halt to reload the indirect fire support weapons, refuel (if required), and conduct necessary mainte-

nance. Normally, this halt is short in duration and the unit will proceed to its next firing position once resupply and maintenance actions are completed. The resupply point is normally a location that is ideally covered and concealed along the route to the next firing position. If the size of the resupply point is large enough, all of the battery's indirect fire support weapons are resupplied simultaneously. If not, the maximum number of indirect fire support weapons that can be occupy the site at one time are resupplied followed by the remaining indirect fire support weapons. The resupply action is normally done in the order of movement. All of the vehicles remain in the area until the resupply action is completed.

9-320. If there is sufficient time available, the senior officer of the battery will take an advance party forward to prepare the next location. The battery senior officer may exercise the option to return and guide the battery to the next location. Or, the senior officer may designate personnel to guide the battery to the next firing location.

9-321. Depending on the threat, time, terrain, and other conditions, the battery commander may accept the risk of conducting a resupply in the firing point. Whenever feasible, the transport unit offloads in the firing position any ammunition the firing unit will consume prior to repositioning. However, this is the least preferable method of resupply and if all possible should not be attempted.

RECONSTITUTION AND REORGANIZATION

9-322. Restoring combat effectiveness of subordinates is one of the most important duties of indirect fire battalion and battery commanders. It includes—

- Determining the degree of combat effectiveness of subordinates.
- Detailing missions to subordinates that are still combat-effective.
- Withdrawing units from areas of destruction or contamination.
- Providing units with replacement personnel, weapons, ammunition, fuel, and other supplies.
- Restoring disrupted command and control.

9-323. The OPFOR makes an effort to keep some units at full strength rather than all units at an equally reduced level. Usually, the unit with the fewest losses is the first to receive replacement personnel and equipment. However, once the casualties or equipment losses are sufficient to threaten the total loss of combat effectiveness, the commander may apply the concept of composite unit replacement. The composite unit concept involves a unit formed from other units reduced by combat action.

Chapter 10

Aviation

The ability of the OPFOR to employ its aviation assets will be dependent on the level of airspace dominance the OPFOR possesses. When fighting a regional opponent, the OPFOR expects to establish and maintain air superiority and thus to employ its aviation with relative ease. When faced with a superior enemy, however, the OPFOR will alter aviation missions to ensure the most effective use of its air power without the unnecessary loss of assets. This chapter will discuss the OPFOR aviation tactics of both fixed- and rotary-wing aircraft. When appropriate, the discussion will include the distinctions of fighting a regional foe versus an extraregional foe. For more information on the impact of strategic concepts on aviation operations and airspace dominance, see FM 7-100.1.

ORGANIZATION

10-1. Aviation forces are constituent or dedicated to specified levels of command to meet mission requirements. Organizational structures are designed to maintain the appropriate level of centralized control to ensure the limited number of assets are available at the right place and time. For more information on the organization of aviation units at the operational-level or above, see FM 7-100.1. However, even aviation units that are task organized above the tactical level can perform missions that have tactical-level impact and, therefore, must be addressed in a tactical context.

DECENTRALIZED VS CENTRALIZED CONTROL

10-2. The OPFOR will task organize aviation assets, similar to ground elements, to tailor the force for the specific mission. For this reason, it is possible to task organize a fixed–wing unit to an operational-strategic command (OSC), while army aviation assets can be found subordinate to an OSC or to a division tactical group (DTG) or a brigade tactical group (BTG)[1]. The OPFOR is more likely to task organize its aviation to the lowest levels against a regional opponent, when it has established air superiority. This decentralized control allows the ground commander greater flexibility and responsiveness from OPFOR aviation assets.

10-3. However, against an extraregional force the OPFOR is apt to maintain control of its helicopters and airplanes at OSC and theater level, respectively. This centralized control allows the OPFOR to better protect its assets, more

[1] A *tactical group* is a task-organized unit organized around the baseline, administrative structure of a division or brigade. Throughout this chapter, the terms *DTG* or *BTG* will be used to identify that level of command, since a maneuver division or brigade does not include constituent or dedicated aviation assets unless it has been task organized as a tactical group. The terms *division* or *brigade* will be used only to highlight differences (when they occur) from a tactical group.

thoroughly plan missions, and improve reaction time during the limited windows of opportunity.

COMMAND AND SUPPORT RELATIONSHIPS

10-4. The OPFOR employs its aviation assets using its standard command and support relationships. Since army aviation assets are not found below the operational level in the administrative force structure, it is the OPFOR practice to augment tactical maneuver units by allocating aviation assets in one of three command and support relationships: constituent, dedicated, or supporting.

Constituent

10-5. A *constituent* command relationship is the assignment of a unit to a headquarters. The headquarters has the authority for its employment and the responsibility for all of its logistics support. An example of this type of command relationship would be a medium-lift helicopter battalion assigned to a DTG to provide the transportation capabilities for its ground forces.

Dedicated

10-6. A *dedicated* command relationship is similar to constituent with the exception of logistics support. The subordinate unit still receives logistics support from its parent aviation unit. An example of a dedicated relationship is an attack helicopter battalion dedicated to a DTG. The battalion continues to receive logistics support from its parent combat helicopter brigade, while the DTG has sole employment authority of the battalion.

Supporting

10-7. A *supporting* aviation unit remains under the command of its parent organization. It also receives all of its support from its parent unit. It executes missions according to the supported unit's priorities. The supported unit plans and employs the asset for the time allotted by the higher headquarters. The principle advantage of this is to the parent commander who retains maximum control of his most flexible assets. An example of a supporting relationship is the employment of theater or OSC attack aircraft in the DAS role at division or brigade level.

FIXED-WING AVIATION

10-8. Fixed-wing assets of the Air Force are not task organized in a constituent or dedicated relationship below the OSC level, since that is the lowest level of joint command. However, Air Force units retained at higher levels of command might have a supporting relationship with a division, DTG, brigade, or BTG. Subject to the approval of the theater or OSC commander to whom they are subordinate, they can also respond to mission requests from tactical-level units (see the section on Request Process later in this chapter).

ROTARY-WING AVIATION

10-9. Helicopters are employed across the battlefield to support the ground commander in the combined arms fight. Because of their flexibility, maneuverability, speed, and firepower, they have the capability to execute missions down to the BTG level. Helicopters can be called upon to execute

any mission to support both the offense and defense. Based on mission, command and support relationship, and availability of aircraft, the OPFOR organizes its helicopters using three methods: Attack helicopters and possibly some combat support (CS) and combat service support (CSS) helicopters with missions related to fire support can be part of a DTG's integrated fires command (IFC); other CS and CSS helicopters can be directly subordinate to the DTG commander; still other attack, CS, and/or CSS helicopters can be subordinate to a BTG commander.

Aviation in DTG IFC

10-10. The IFC is a command and control (C^2) structure with a task organization that allows rapid employment of aviation systems with other ground systems. The assignment to the IFC may be in either a constituent or a dedicated relationship, but it is always tailored for the specific mission of the organization it supports. An IFC may be found at DTG and higher levels and is normally commanded by the organization's deputy commander. Figure 10-1 shows an example of an IFC at DTG level.

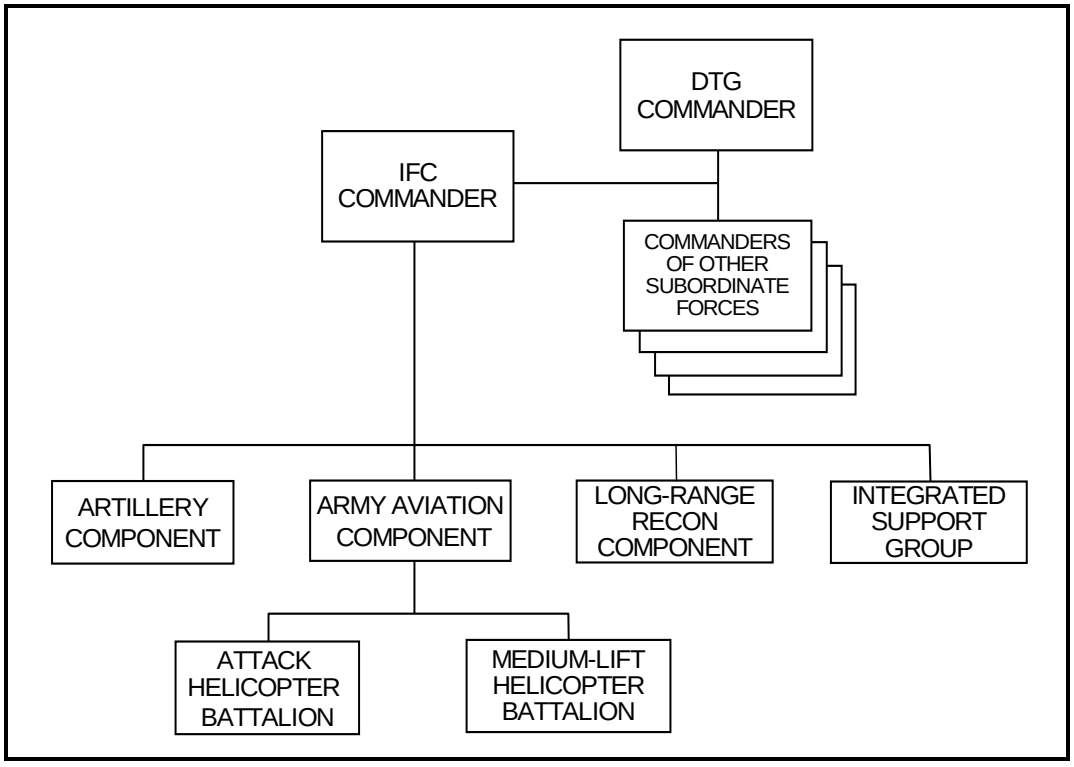


Figure 10-1. Example of Aviation in a DTG IFC

10-11. An IFC may be organized to include an army aviation component. The missions assigned can include attack, direct air support (DAS), and reconnaissance for an attack helicopter unit, or the IFC may employ CSS helicopters for troop movement, resupply, and C^2 platforms. The command and support relationship to the IFC is based on the type of mission, available

assets, and duration of the mission. If the IFC requires continuous lift capabilities to rapidly employ forces, a lift helicopter battalion may be constituent or dedicated to the IFC. On the other hand, if the movement of troops is a one-time requirement, the helicopter battalion may not become part of the IFC, but instead may have a supporting relationship for the duration of the mission while remaining under the control of the parent aviation unit. The same applies to the attack helicopter units. See Chapter 2 and Chapter 8 for more details on the IFC.

Aviation in DTG Other Than in IFC

10-12. Because the IFC is tailored for fire support missions, not all aviation assets are organized under the IFC headquarters. Army aviation units that are constituent or dedicated to a DTG, but not associated with fire support, are directly subordinate to the DTG commander or perhaps to a BTG within the DTG. Figure 10-2 shows an example of aviation units that might be outside the IFC in a DTG organization.

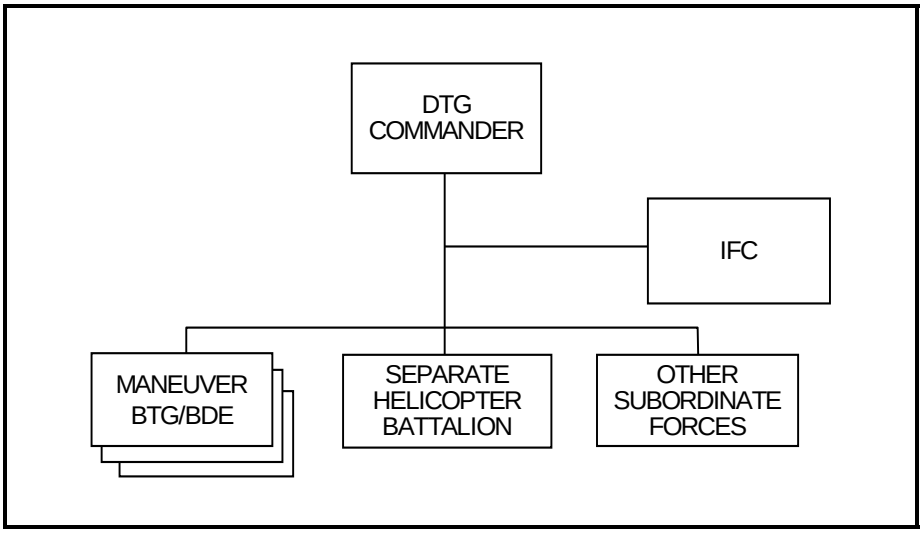


Figure 10-2. Example of DTG-Level Aviation Other Than in the IFC

10-13. A combat helicopter brigade or one or more of its battalions may become constituent or dedicated to a DTG. In this case, the attack helicopters are most likely to be employed in the DAS, attack, reconnaissance, and security roles outlined later in this chapter. In the first two of those missions, they would most likely be part of the DTG's IFC (unless allocated to a subordinate BTG). In reconnaissance and security roles, however, they could be employed outside of the IFC unless those roles are specifically related to fire support.

10-14. As an exception to the rule, a highly-trained unit equipped with modern attack helicopters may be employed as a maneuver element in the ground commander's scheme of maneuver. In this role, the attack helicopter unit can be used as a fixing, assault, or exploitation force in the offense, or serve as a disruption or counterattack force in the defense. In either offense

or defense, it could serve as a reserve or deception force. Such missions would require thorough planning and rehearsals to be successful.

10-15. For CS and CSS helicopters units, the various missions are assigned primarily with a supporting relationship. However, some units that rely on routine support may be allocated a helicopter battalion or company with a constituent or dedicated command relationship.

10-16. If allocated to a DTG in a constituent or dedicated relationship, a combat helicopter brigade's lift helicopter and reconnaissance helicopter battalions (or companies from them) would normally be in the DTG's IFC only if they perform missions associated with fire support. Otherwise they would be outside the IFC, under either the DTG commander or one of his BTG commanders. This would also be true of CS and CSS helicopters from separate helicopter battalions that were not part of a combat helicopter brigade.

10-17. If a DTG is allocated an entire combat helicopter brigade (or major parts of one), that brigade's headquarters would typically come under the IFC headquarters, especially if that is where most of its battalions are employed. If most of its subordinate battalions are employed outside the IFC, the brigade headquarters could be directly under the DTG headquarters.

Aviation in BTG

10-18. Attack, CS, and/or CSS helicopters can be directly subordinate to a BTG commander. An example of this would be an infantry BTG conducting heliborne assaults. Such a BTG may include a medium-lift helicopter battalion to insert infantry units and an attack helicopter battalion to provide security and armed escort for the troop-carrying helicopters or to prepare the landing zone (LZ) by fire (see Figure 10-3).

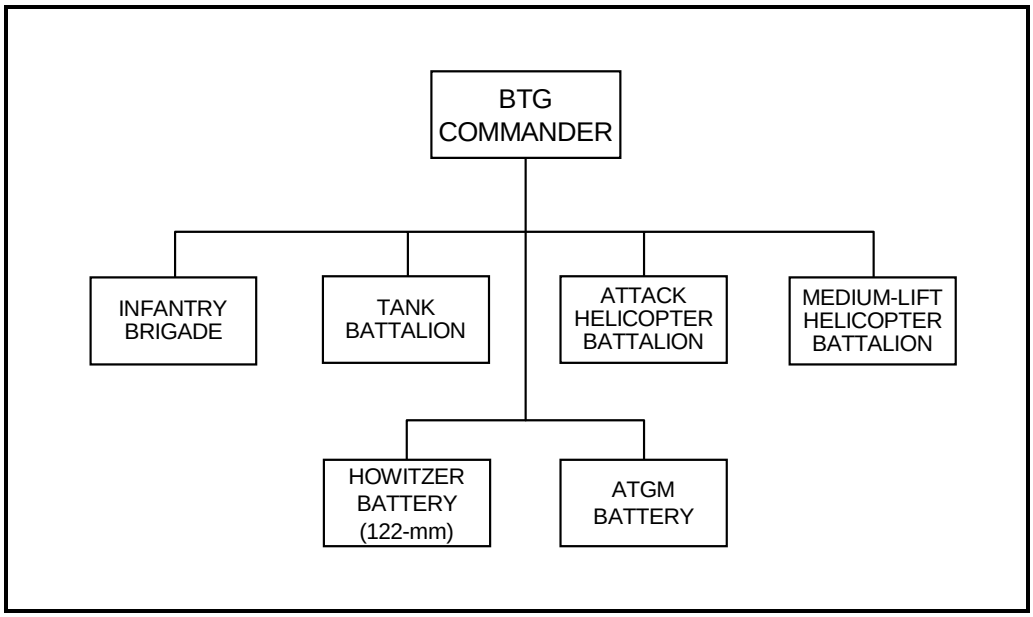


Figure 10-3. Example of Aviation in a BTG

AIRSPACE MANAGEMENT

10-19. The OPFOR assigns its organizations an area of responsibility (AOR) that includes not only the surface area of a defined geographic space but also the associated airspace. The coordinated use of battlefield airspace and aerial delivery of ordnance close to friendly troops are two problems any combined arms force faces. OPFOR doctrine stresses the need to provide maximum aviation support to ground force commanders. Therefore, aviation control and communications are closely aligned with those of the ground force to ensure effective and continuous communications.

10-20. To reduce air-to-ground coordination problems during the execution of missions, the OPFOR employs proactive staff elements and control measures to ensure coordination with ground maneuver units. Planners can use attack helicopters, fixed-wing ground-attack aircraft, unmanned aerial vehicles (UAVs), and artillery simultaneously in the same part of the AOR only if coordination measures exist and controlling elements are working in conjunction with each other to ensure deconfliction.

CHIEF OF AIRSPACE OPERATIONS

10-21. Air and ground force commanders and staffs work out coordination procedures between aviation elements and ground forces before the launch of combat air missions. These procedures are the responsibility of the chief of airspace operations (CAO) at all levels of command down to brigade or BTG, even when no aviation units are subordinate to that headquarters.

10-22. At every level of command, the CAO is responsible for airspace deconfliction. To assist in that function, he has a staff at his disposal for coordination and deconfliction of air missions. He and his staff make up the airspace operations subsection (AOS) under the operations officer. This staff subsection includes liaison officers from all subordinate units requiring airspace deconfliction; this ensures that the aviation, fire support, and air defense units continually coordinate all operations with each other. Since aviation assets are not constituent or dedicated to the pure division or brigade, the primary functions of the CAO and his staff there are to request and monitor employment of higher-level aviation assets allocated to the division or brigade in a supporting role.

AIRSPACE OPERATIONS SUBSECTION

10-23. This coordination occurs in a staff element referred to as an airspace operations subsection (AOS). The overall mission of the AOS is to advise commanders and staffs on the use of all air assets and to deconflict airspace use. There is an AOS at each level of command down to and including maneuver brigades. These AOSs all perform the same mission, but vary in size and complexity.

10-24. The AOSs form a vertical and horizontal channel through which airspace coordination requirements, plans, orders, and information are coordinated, disseminated, and synchronized with the battle plan. They transmit air support requests to higher-level AOSs and aviation organizations, coordinate all air support, and maintain communication with and provide deconfliction for all aircraft in the AOR. The AOS may divide

into two or more cells. The primary cell is located in the main command post (CP), while smaller AOS cells may be in the forward CP and/or IFC CP.

Theater-Level

10-25. For issues related to air support and interface, the theater-level CAO coordinates with aviation assets within the theater, including the theater air army CP (Air Force) and army aviation CP, and elements of the subordinate air defense and artillery units. The AOS at theater level consists of several dozen individuals with aviation, artillery, or air defense coordination experience filling permanent staff positions and interfacing with their respective subordinate units.

10-26. The AOS is the theater commander's primary means of turning his guidance into a comprehensive plan for air operations. It allocates resources and tasks forces through the publishing of the aviation support plan (ASP). For more information, see the Aviation Support Plan section of this chapter.

10-27. The AOS establishes vectoring and target designation posts (VTDPs) as necessary to exercise control of aircraft in a designated AOR. These posts are air traffic control facilities that support the movement of aviation assets within an AOR and can also direct aircraft to ground targets. The VTDPs are primarily ground-based and serve as an intermediate air traffic control facility between the aircraft's parent unit and the forward air controller (FAC). (See below under BTG.) They accomplish direct coordination among helicopters, ground-attack and fighter aircraft, ground-based air defense units, and FACs, primarily through VHF voice transmission. These posts are equipped with radar, communications, and automated equipment used for identification and tracking of both friendly and enemy aircraft.

10-28. Occasionally the OPFOR can employ airborne command and control (C^2) aircraft to perform the same intercept function as a VTDP. These aircraft are referred to as airborne control stations (ABNCSs), and may be used to augment or replace VTDPs within the OPFOR AOR.

10-29. In mountainous terrain with VTDP radar deadspace, visual observers (VOs) are used. These observers are connected into the VTDP network via VHF communications. Each observer section is equipped with radios, binoculars, and sound detection devices.

10-30. If the OPFOR uses ABNCSs or VOs, their employment is no different than that of a VTDP. They control the flow of friendly aircraft, and provide enemy intercept data to OPFOR counterair aircraft and air defense units.

OSC-Level

10-31. The AOS at OSC level is manned and equipped similar to the theater-level AOS. When the theater only has one OSC, the theater AOS functions are performed by the OSC AOS.

DTG-Level

10-32. At the DTG level, this subsection has some personnel filling permanent staff positions and some liaisons from subordinate units. Air support coordination is controlled by the interaction between staffs within

the fire support coordination center, army aviation CP, and subordinate air defense unit CP. These staffs provide deconfliction for all aircraft operating within their AOR by monitoring radar and radio communications.

10-33. Since Air Force aviation units are not constituent or dedicated to a ground forces division or DTG, the supporting aviation regiments or squadrons normally colocate a CP with the division or DTG main CP. This facilitates the close coordination required by the AOS.

BTG-Level

10-34. The BTG-level AOS is located with the BTG main CP to assist the commander and staff in all tasks associated with planning and employing air support assets. The AOS is responsible for coordinating air support by serving as the primary—

- Liaison between the BTG staff and the DTG's AOS.
- Liaison between ground forces and supporting fixed- or rotary-wing aircraft.
- Director for attacking aircraft by passing messages directly to the flight leader about targets.

10-35. The CAO is responsible for the operation of the AOS. He coordinates with the BTG commander to ensure proper integration of air missions into the overall scheme of maneuver. If a BTG employs a forward CP, a subelement or representative of the AOS may locate forward with the commander, if required. These representatives are also qualified to perform the duties of a FAC if necessary, but this is not preferred.

10-36. The BTG AOS is responsible for the coordination of all airspace and air routes within the BTG's AOR. It coordinates with the air defense units, aviation units, and the chief of fire support. The AOS serves as the central point of contact for all actions between the ground force and aviation units. It continually monitors the status of ongoing and planned missions and the availability of air support.

10-37. FACs may colocate with the maneuver battalions when air strikes or support missions are planned, or when the brigade or BTG commander expects the battalions to require immediate or on-call air support. The FAC is a senior helicopter pilot experienced in combat helicopter brigade support procedures. The FAC's goal is to employ fixed- and/or rotary-wing aircraft simultaneously in the same area, and coordinate aircraft employment with artillery fires. If successful, impacts coincide in time, with different target sectors allocated.

10-38. The FAC arrives at the maneuver battalion's CP prior to a mission with his own radio set for communications with helicopters and/or fixed-wing aircraft. The type of radio, which he must provide, is based on the type of aviation he supports, since fixed-wing and rotary-wing missions use different frequencies for communication. The radio is either VHF or UHF. Provision is made in the brigade or BTG headquarters for a FAC vehicle, and it has unique mounts for these radio sets.

10-39. A FAC plans air missions to support the ground commander's scheme of maneuver (based on the sortie allocations from higher headquarters), establishes control procedures, and orchestrates mission execution. He serves as the ground commander's direct liaison with aviation support.

Battalion

10-40. A maneuver battalion seldom has a staff member dedicated to serve as an air representative and rarely receives a dedicated FAC. The brigade or BTG may allocate a FAC to a battalion when air support is planned specifically in its AOR. In such cases, a FAC works in conjunction with the commander and an artillery observer to coordinate the actions of attack aircraft with the artillery fires and the ground scheme of maneuver.

AIRSPACE CONTROL MEASURES

10-41. The purpose of airspace control measures is to maximize the effectiveness of combat missions. Airspace control measures are established so that ground and aviation units may apply timely, efficient, and mutually supporting combat power while minimizing the risk of fratricide. This is accomplished through two methods: positive control and procedural control. In the airspace coordination order (ACO) portion of the ASP, the CAO delineates all positive and procedural airspace control measures.

Positive Control

10-42. *Positive control* is a method of airspace control that relies on electronic means such as positive identification, tracking, and aircraft vectoring, done by radar control or electronic monitoring. Positive control is established by air traffic control services around airbases and in the support zone. As aircraft depart these areas, they are handed off to subordinate airspace coordination facilities (such as a VTDP, ABNCS, or VO) and then finally to the FAC as they approach his AOR.

Procedural Control

10-43. P*rocedural control* relies on previously coordinated and disseminated orders or procedures to control the operation and flow of air traffic. These procedures, coupled with the OPFOR emphasis that combined arms forces must be generally familiar with each other's tactics and equipment, help alleviate problems that arise in coordination during combat.

10-44. The OPFOR employs coordination procedures that separate airspace horizontally, vertically, or both. This buffer zone minimizes the possibility of fratricide while maximizing ordnance effects. Figure 10-4 depicts the different airspace coordination procedures available to the OPFOR.

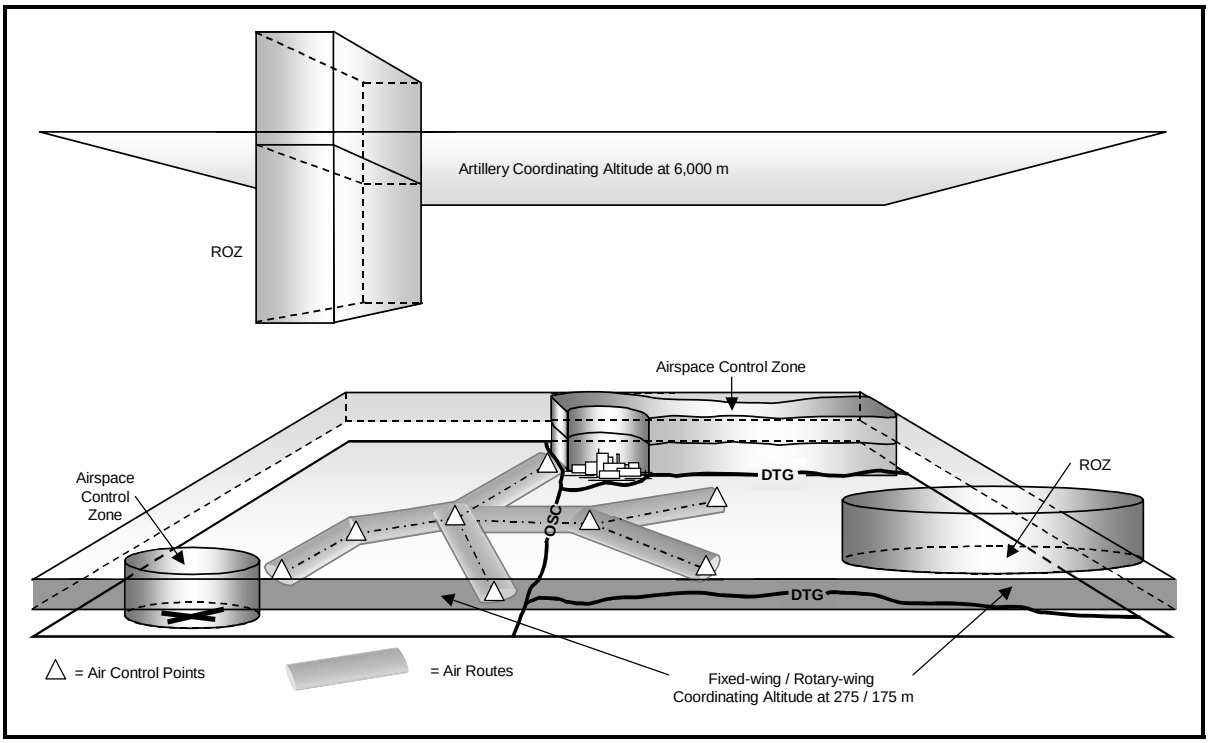


Figure 10-4. Airspace Procedural Control Measures (Example)

10-45. **Coordinating Altitudes.** A coordinating altitude outlines an arbitrary altitude below which fixed-wing aircraft do not fly, and above which rotary-wing aircraft do not fly. Artillery coordinating altitudes exist to deconflict artillery shell trajectories and fixed-wing traffic at high altitudes. A buffer zone may exist between coordinating altitudes to allow small altitude deviations. For example, coordinating altitudes are generally no higher than 175 m above ground level (AGL) for helicopters and no lower than 275 m AGL for fixed-wing aircraft. Deviating from these altitudes requires further coordination. Artillery coordinating altitudes are generally established at 6,000 m AGL or higher. Fixed- or rotary-wing aircraft planning extended penetration of the coordinating altitudes must notify the appropriate AOS, but prior coordinating altitude deviation approval is not required.

10-46. **Airspace Control Zones.** These zones define airspace that is characterized by a high density of aircraft or a high concentration of usage. An airspace control zone has defined dimensions that coincide with geographic or manmade features and extend vertically to a given altitude. The requesting authority, such as a brigade or division commander, dictates air defense weapon control status within the airspace control zone.

10-47. **Restricted Operations Zones.** A restricted operations zone (ROZ) is established to define a volume of airspace for a specific mission or purpose, such as a drop zone, landing zone, UAV flight pattern, or electronic warfare (EW) aircraft flight route. A ROZ is used to restrict some or all airspace users until termination of the mission. It may restrict airspace horizontally and/or

vertically and by time of usage. A ROZ, for example, may be set up to restrict airspace from 1,500 to 3,000 m AGL, 5 km in all directions from a given point, from 0200 to 0600 hours, for the purpose of UAV overflights. The requesting authority, such as a brigade or division commander, controls air defense weapon control status within the ROZ.

10-48. **Air Routes.** Air routes are made up of air corridors and air control points. These control measures are implemented to control the travel of aircraft through friendly airspace and to prevent friendly forces from firing on friendly aircraft. Air control points are predetermined points over the ground at a given altitude where the air route changes direction or links with another air route. An air corridor is the path of linked air control points starting at the initial point (IP) and ending at the release point.

10-49. Some air routes may include the use of mandatory reporting points. These points serve to control and monitor the flow of air traffic by requiring radio calls to the controlling authority stating the aircraft's position. An air route, for example, may dictate: returning aircraft fly above 1,500 m AGL, outbound aircraft fly below 1,500 m AGL, all helicopters below 30 m AGL. All aircraft should see and avoid other aircraft and remain within 500 m of the corridor centerline for safe transit.

10-50. Every level of command down to BTG has a unique airspace structure supporting the movement of aircraft within its AOR. Air routes run from the supporting airfields, through the theater and/or OSC airspace controlled by the VTDPs, to a "crossing checkpoint" at the DTG boundary. The aircraft then follows the airspace structure unique to that particular DTG until it reaches a BTG boundary. The BTG will provide routes that support the mission taking the aircraft to the landing zone (LZ), pick-up zone (PZ), or to an initial contact point where control is assumed by the FAC. Using the ASP, the routes are published and distributed to each level of command. Each air defense element is responsible to disseminate the information to the troops within those boundaries to prevent the fratricide of friendly aircraft. The ASP incorporates all forward arming and refueling points (FARPs) and all planned LZ/PZs. The ASP may change the route structure on a daily basis.

Air Defense Control Measures

10-51. To coordinate the use of aviation assets with ground forces, the OPFOR utilizes different types of air defense weapons control status and procedural controls. Primarily, it employs a system of identification, friend or foe (IFF) between aircraft and air defense systems. To protect friendly aircraft from fratricide from non-IFF-capable systems, strict procedural controls are enacted. These control measures were mentioned in the previous section and are disseminated daily using the ASP through AOS channels and aviation unit headquarters elements.

10-52. The air defense coverage may be "switched off" to allow friendly aircraft to pass on a mission planned in advance and then "switched on" as they exit the area. For other missions, air defense coverage may allow aircraft to transit only on "safe corridors" based on air routes or other procedural methods. If aircraft deviate from these coordinated areas, they risk being shot down by friendly ground force units. The OPFOR views the

possible loss of aircraft through fratricide as a lesser risk than allowing gaps in its radar and air defense coverage that the enemy might exploit. See also Chapter 10 for more information on air defense asset employment.

Fire Support Coordination Measures

10-53. Fires from mortars, cannon and rocket artillery, and surface-to-surface missiles (SSMs) pose a potential hazard to friendly aircraft activities. The highest probability of conflict between aircraft and surface-to-surface indirect weapons fire occurs at relatively low altitudes in the immediate vicinity of firing positions and targeted areas. To reduce these potential conflicts between indirect fires and aircraft, information pertaining to firing positions, targeted areas, and fire support plans is provided to the AOS at each level of command. See Chapter 8 for more information on artillery asset employment and coordination measures.

MISSIONS

10-54. The OPFOR considers the ability of its aviation assets to provide responsive and continuous fire support to ground forces a tremendous influence on the battlefield. It emphasizes that aviation must be employed early to achieve the following goals:

- Early attainment of air superiority.
- Effective reconnaissance and targeting.
- A coordinated attack on enemy targets at all tactical and operational depths.
- Employment in mass during all phases of combat.
- Survivability and responsiveness using effective planning and preparation.

10-55. Aviation assets perform numerous other missions to support ground forces in combat and logistics roles. Many of these missions are performed by elements located at the operational or strategic level. However, tactical ground force commanders may feel their impact.

AIR FORCE

10-56. As enemy air and ground forces are introduced into an AOR, the Air Force must concentrate missions to gain the desired degree of airspace dominance. However, the operational situation dictates the amount of aircraft dedicated to the attainment of air dominance versus support of ground forces.

10-57. Initially, most theater air assets conduct strategic- and operational-level missions. Examples of these higher-level missions are strategic bombing, counterair, air interdiction, theater air reconnaissance, EW, and NBC delivery.

10-58. Early operational and tactical aviation missions—such as air interdiction and attacks (air strikes) on ground targets—may allow the OPFOR to attain air superiority from the outset, at least against a regional opponent. The degree of airspace dominance dictates aircraft employment throughout the theater at the strategic, operational, and tactical levels.

Degree of Airspace Dominance

10-59. The degree of airspace dominance has the following affects on the missions of the Air Force and how it supports the ground force:

- Aircraft sortie rates change.
- Aircraft missions may be restricted.
- Depth and distance of mission execution may be limited.
- Aircraft may assume other roles than those for which they are specifically designed.
- Aircraft ordnance changes.

10-60. The OPFOR uses standardized terms to define the degree of airspace dominance. This allows planners to best employ assets in the theater to satisfy the requirements to support ground forces.

10-61. **Air Supremacy.** Air supremacy is defined as the condition when the enemy air force is incapable of effective interference. Through the complete destruction of the enemy air forces, this condition is the ultimate goal of air operations. Yet, this condition may be difficult or even impossible to achieve. It may occur, however, through the establishment of a diplomatic "no-fly zone." Under the condition of air supremacy, the OPFOR commander employs all of his aircraft at will.

10-62. **Air Superiority.** Air superiority is defined as the condition when the conduct of operations is possible at a given time and place without prohibitive interference by the enemy. The most efficient method of attaining air superiority is to attack enemy early warning, C^2, and ground-based air defense sites, and enemy aviation assets close to their source of maintenance and launch facilities.

10-63. The OPFOR expects to be capable of achieving air superiority against a regional opponent. However, if it is faced with a superior enemy, the theater commander may be forced to hold more aircraft in reserve and to redirect aircraft from ground support to air defense operations. This will increase the burden on rotary-wing assets to fill the ground support role.

10-64. **Local Air Superiority.** Even though the OPFOR hopes to attain air superiority, it recognizes the potential for only local air superiority to exist. Purely geographic in nature, this condition is characterized by well-timed aviation missions to coincide with enemy aircraft downtime, returning sorties, aircraft rearming, or gaps in air defense coverage. This condition may also occur in areas across the theater where the OPFOR or the enemy may not have adequate assets available to ensure air superiority. In certain situations or against certain enemies, local air superiority for a specified period of time may be a more realistic goal.

10-65. **Air Parity.** Air parity is defined as the functional equivalency between enemy and friendly air forces in strength and capability to attack and destroy targets. Under the condition of air parity, where neither side has gained superiority, some enemy capabilities affect friendly ground forces at times and places on the battlefield. Air parity manifests itself to the commander primarily in the amount of fixed-wing aircraft used for DAS of ground forces.

More aircraft are dedicated to interdiction and attack missions to gain air superiority.

Counterair

10-66. Counterair missions integrate offensive and defensive actions to establish and maintain the desired degree of air dominance. For the mission of countering enemy air forces, the OPFOR is heavily reliant on VTDPs as well as friendly air defense assets. OPFOR aircraft survivability and success in counterair missions depend on the ability of the VTDP network to identify enemy targets and redirect fighters in flight to the proper location at the most opportune time for a successful engagement. This mission primarily falls on the assets at the operational or theater level. OPFOR ground force commanders may feel the effects of this, because assets needed to support counterair missions may detract from the ability of the theater or OSC to support the tactical maneuver.

Reconnaissance and Targeting

10-67. The theater or OSC commander's staff prepares an overall reconnaissance plan detailing tasks for all aviation reconnaissance assets. Operational-level air reconnaissance is the principal method to gather deep target intelligence. Yet, the information the aircrews obtain from those missions is analyzed and disseminated to tactical commanders.

10-68. Specifically-equipped aviation assets (such as a reconnaissance aviation regiment) have the primary responsibility for air reconnaissance. They provide reconnaissance support for tactical combat actions by transmitting target information to ground CPs via radio from specially equipped reconnaissance aircraft. The division or DTG conducts its own tactical reconnaissance primarily through ground reconnaissance and UAV assets. Aircrews at all levels of command returning from missions are instructed to report sighted enemy locations and activities. The classification and location of targets obtained through intelligence gathering is the basis for planning air interdiction and attack missions.

Interdiction

10-69. The theater air forces conduct air interdiction missions to annihilate, or neutralize the enemy's military potential before it can be used to inflict damage on friendly forces. These missions are flown to the extent of the enemy's operational width and depth, and they require little integration between friendly air and ground assets.

10-70. Interdiction missions are flown to attack targets beyond the range of friendly surface weapons. These missions are usually planned and conducted at an operational level by the OSC to achieve theater and/or OSC objectives. Therefore, the tactical ground force commanders provide very little input to target selection and little or no assistance during the mission execution. Maneuver commanders may notice the impact of these missions and factor the results into their planning process.

10-71. Air interdiction missions are planned at the highest level to synchronize, complement, and reinforce the ground force scheme of

maneuver. Typical targets include bridges, roads, railroads, airfields, and large troop support facilities such as supply depots or logistics bases.

Attack

10-72. The OPFOR considers air strikes within the enemy's tactical depth to be attack missions. These are deliberate missions to attack priority enemy targets such as assembly areas, supply routes, artillery or antitank positions, multiple rocket launcher (MRL) positions, forward air bases, and reserves.

10-73. With attack missions, the ground force commander nominates targets to facilitate his scheme of maneuver. (For more information, see Planning and Preparation later in this chapter.) Targets are classified as single, multiple, line, or area. Figure 10-5 shows the OPFOR classification of targets and attack techniques.

Classification	Example Target	Attack Technique
Single (or Point)	An MRL, tank, or armored vehicle; parked aircraft or helicopter; radar, observation post, or bunker	Single pair of aircraft using lower-level or dive delivery of ordnance
Multiple	Group of 10-20 single targets, occupying an area of 1-1.5 km^2	Attack by a small group of (2-8) aircraft
Line	Tactical march column (usually 1 km or longer), a train, or a runway	Attack by a single or small group of aircraft along the long axis of the target, or flanks
Area	Assembly areas of battalion or larger unit, supply depot, large C^2 center, or airfield	Massive and concentrated air attacks delivered from various altitudes and directions

Figure 10-5. Classification of Attack Targets

10-74. Attack missions are planned by the AOS to ensure coordination between the aviation force and the ground force and to ensure survivability. Based on the target classification, aircraft sorties and ordnance types are requested to achieve the desired results. The missions are well planned with triggers to signal aircraft launch. Procedures for airspace deconfliction are enacted prior to launch.

10-75. The ground force commander uses attack missions to shape the battlefield. By attacking priority targets, these missions should prepare the conditions for his success over the ensuing 24 hours or reinforce successful attacks by his ground forces. Attack missions can help create penetrations, cover withdrawals, and guard flanks, and can be most effective when employed at decisive points in a battle. The ground force commander plans an energetic scheme of maneuver to complement attack missions and trap or destroy major elements of the enemy force.

Direct Air Support

10-76. The objective of DAS is to disrupt and destroy enemy forces in proximity to friendly forces. Although DAS is the least efficient application of air forces in terms of damaging enemy capabilities, it is the most critical to ensuring the success and survival of ground forces. These missions have the greatest

potential to make an especially important contribution to the ground force commander's plan. He must be ready to exploit the effects of DAS through rapid maneuver, either by closing with and destroying the enemy or by bypassing enemy forces.

10-77. Due to the proximity of these missions to friendly ground forces, extensive care is taken to minimize fratricide. Effective DAS requires reliable air-to-ground communications and flexible, responsive command and control. (See Airspace Control Measures earlier in this chapter.) It requires aviation components to appreciate the capabilities, limitations, and risks to ground forces; it also requires the ground component to understand the capabilities and limitations of DAS.

10-78. The OPFOR normally conducts DAS with fixed-wing ground-attack aircraft and rotary-wing attack aircraft. These missions typically extend only to the range of friendly ground-based systems. That is, OPFOR aircraft are covered by the fire of friendly weapon systems, and under the air defense coverage of friendly systems. They target objects of immediate concern to the ground force commander when the fires of his constituent or dedicated assets are not capable of engaging the enemy or when a mass concentration of fire is required.

10-79. DAS missions are entirely controlled by the FAC. Once the AOS or the VTDP notifies the FAC that aircraft are inbound to his location, he establishes communication with the aircraft and provides the necessary data for the aircraft to complete their mission. A FAC controls all aspects of their mission. FAC control procedures include—

- Establishing an IP.
- Establishing attack positions (APs), normally at maximum effective weapons range.
- Issuing control graphics.
- Identifying and marking friendly troop locations.

10-80. As the aircraft travel inbound from the IP, the FAC provides the pilots with target location (either in grid coordinates or in relation to a predetermined reference point), the exact time to execute the attack, and information on the ground situation. He may also give the flight leader a signal to direct the flight to climb, acquire the target, and attack.

10-81. The primary responsibility of pinpointing the target is left up to the flight leader; he orders the flight into different formations, divides the target, and assigns individual sectors to the aircraft in his flight. The FAC assesses damage and adjusts the flight for successive target runs if necessary. So, the FAC must maintain visual contact with the target while the aircraft are on station.

Airlift, Transport, Airborne, Airdrop, and Aerial Resupply

10-82. Airlift, transport, airborne, airdrop, and aerial resupply missions are all fixed-wing transport aircraft missions that are performed by operational-level assets.[2] They may, however, have impacts on the tactical ground force

[2] Air Force or army aviation helicopter units and mixed aviation units can also perform some of these missions.

commander, by limiting his maneuver. For example, if a forward airbase or an airdrop site is set up by the operational-level commander to resupply adjacent tactical units, a large area is dedicated to the Air Force for the mission. This area may present an obstacle or a restriction to the ground scheme of maneuver for the tactical commander.

ARMY AVIATION

10-83. Army aviation is a component of the ground forces and is intended for actions directly in the interests of combined arms organizations. Based on the type of missions performed, army aviation is divided by predominate aircraft capabilities into attack, CS, and CSS aviation.

10-84. Attack helicopters are the primary assets used to provide firepower to ground forces. These assets can perform armed reconnaissance or fire support in all types and phases of ground combat. They can also provide fire support for heliborne landings. Other helicopters can also conduct heliborne landings, lay minefields, or perform a variety of logistics, reconnaissance, liaison, and communications functions in accordance with the plans of the supported combined arms organizations. Some helicopters are capable of performing in multiple roles.

Attack Helicopters

10-85. Attack helicopters (also referred to as fire support helicopters), rather than fixed-wing aircraft, provide the preponderance of the support to the ground force and provide an excellent fire and maneuver capability to the ground commander. The primary categories of tactical missions for attack helicopters are attack, DAS, and reconnaissance and security. Some attack helicopters may be modified to perform air-to-air combat roles.

10-86. Attack helicopters may have integral cannons or miniguns, and have the provisions to mount antitank guided missiles (ATGMs), rockets, bombs, or other ordnance on fuselage or under-wing hardpoints. Most employ target acquisition and sighting systems.

10-87. The OPFOR may employ multirole helicopters in the same capacity as a pure attack helicopters, but generally with less firepower. These aircraft have the provisions to carry a limited number of passengers and may have mounts for a cannon, rocket pods, or a few ATGMs. They are small, relatively quiet, and easy to conceal from radar and visual detection when silhouetted against background clutter.

10-88. Helicopter Attack. Helicopter attack missions are conducted within the enemy's tactical depth. Similar to the fixed-wing attack mission, the purpose of helicopter attack missions is to destroy priority enemy targets such as artillery or antitank positions, MRL positions, and reserves. The OPFOR may employ army aviation helicopters to attack counterattacking enemy armor columns or enemy columns moving forward to reinforce engaged units.

10-89. Deep autonomous attack helicopter missions in the disruption zone are the exception rather than the rule, yet they may occur against an extremely high-priority target. The commander understands the risks involved

in missions such as these and realizes the high probability of loss of aircraft and crews.

10-90. For these disruption zone attacks, the OPFOR will launch the minimal number of aircraft (two to four) to accomplish the mission. Suppression of air enemy defenses (SEAD) is normally executed in support of the mission. The focus of the SEAD is to destroy, degrade, or neutralize enemy air defense systems in a specific area through either attack or electronic jamming. The depth of these helicopter attacks will be primarily limited by the range or endurance of the aircraft. Consideration is given for planning additional contingency time for the aircrews to react to unexpected actions in enemy territory. The distance may also be limited by the range of the artillery. Normally, if attack helicopters are operating deep, they are operating as part of an IFC at OSC or DTG level. If the target cannot be engaged with (precision) artillery, the OPFOR can send attack helicopters.

10-91. The primary deep mission in the disruption zone for attack helicopters is in support of heliborne landings. These helicopters can provide security and armed escort for troop-carrying helicopters. They may prepare the LZ by fire and remain after the insertion to provide DAS to the ground force. The number of aircraft employed depends on the size of the force, the degree of protection desired, and expected enemy resistance. For more information on the heliborne landings, see Combat Support Helicopters.

10-92. Like fixed-wing attack missions, helicopter attack missions are planned by the AOS to ensure coordination between the aviation force and the ground force, and minimize the risk of the mission. Based on the target, number of available helicopters, and required ammunition, missions are planned to achieve the desired results. The missions are planned in detail with triggers to signal aircraft launch. Rehearsals are performed to identify any problems and increase the probability of mission success.

10-93. **Direct Air Support.** The disruption and battle zones provide opportunities to the commander to effectively employ attack helicopters when the enemy presents numerous targets in the open. Armed with ATGMs and rockets, helicopters provide DAS for the advance of the ground forces by flying behind OPFOR ground forces and firing over them. This places the helicopters out of friendly direct fire ranges and behind or under friendly artillery trajectories.

10-94. Since army aviation serves as the ground force commander's primary asset for air support, DAS is the most common type of mission. In the DAS role, helicopters can augment fixed-wing DAS, ground-based artillery, and direct fires from ground forces. This fire support is conducted throughout the disruption and battle zones. Attack helicopters destroy tanks, antitank weapons, and other armored targets located in proximity to friendly units.

10-95. DAS missions use two to eight aircraft per mission. They are flown using the wingman concept with a minimum of two aircraft. The wingman has the responsibility to provide local security while lead is focused on the target. Helicopters firing ATGMs are exposed and vulnerable during missile flight. To minimize exposure time, the helicopters can also employ rockets or the main gun in lieu of ATGMs, but with less effectiveness.

10-96. While in proximity to friendly forces, attack helicopters are afforded the protection of air defense assets and the covering fire of ground systems. Using the integrated fires of tank or mechanized forces, artillery, and attack helicopters, the commander creates corridors through the enemy's forward ground forces. These corridors, coupled with SEAD, allow further employment of all other types of air assets.

10-97. In the defense, helicopters can be used to counterattack tank or mechanized forces while serving as the commander's antitank reserve. The commander may employ them to independently execute a counterattack into the flanks of an enemy formation. Armed with ATGMs and rockets, the helicopter force seeks routes allowing undetected approach to the flanks of the enemy force. If terrain variations do not provide adequate concealment for the force, the helicopters may use smoke to conceal their approach. The helicopter formation then engages enemy targets from APs along preplanned attack routes.

10-98. **Reconnaissance and Security.** Attack helicopters are used for armed reconnaissance when visibility is limited, target information is incomplete, or enemy flanks are unprotected. In these circumstances attack helicopters, by flights of two, conduct high-speed, low-altitude penetration of enemy lines. Targets of opportunity such as radars, communication nodes, missile launchers, and antitank weapons are engaged at the discretion of the flight or formation leader. Because these missions are considered hazardous, they are normally reserved for very experienced pilots, and therefore are quite risky to the ground force commander.

10-99. Commanders also employ attack helicopters to provide assistance with the ground force counterreconnaissance battle. These helicopters are launched in small numbers to positions in the disruption zone to engage enemy ground reconnaissance assets as they approach friendly positions. The commander's intent is to deny the enemy the reconnaissance information that may expose weaknesses in his scheme of maneuver.

10-100. Attack helicopters may be employed to protect the flanks of a tank or mechanized column in the attack or counterattack and in a tactical movement by screening the column from the enemy. The aircraft protect the column by flying along the route or maneuvering by bounds using the cover and concealment of the terrain along the route. Similarly, they may serve as convoy escort.

10-101. **Counterair.** Helicopter air-to-air combat modifications are commonly available on the open market, and newer helicopters may be designed with the capability.[3] Helicopters can employ from external weapon racks the same missiles used as surface-to-air missiles in the ground forces. Several antitank guided missiles (ATGMs) are able to engage other aircraft from aerial platforms, and mounted automatic weapons may also be employed. Helicopters equipped with such weapons (if available) are the only form of air-to-air engagement available to support the tactical ground force commander.

[3] While attack helicopters are likely candidates for this role, other types of helicopter could be configured to mount air-to-air weapons.

Combat Support Helicopters

10-102. Combat support helicopters serve in numerous roles. They are designed with troop- or cargo-carrying capabilities and can be armed with miniguns or machineguns fired by crewmembers other than the pilots. They have provisions to carry external loads such as fuel tanks, ATGMs, rockets, or EW equipment on external hardpoints or underslung on cargo hooks. Their primary function is to act as transport aircraft in the heliborne landing and to serve in other supporting roles. Thus, the resulting cargo weights limit the type and amount of armament used. If the OPFOR lacks a dedicated attack airframe, these helicopters may perform both roles. They would be less effective than designed attack helicopters, because they lack an integral fire control, sensor, and optic systems.

10-103. The OPFOR launches a heliborne landing for the purpose of inserting a ground force or reconnaissance assets, usually in the disruption zone. This normally occurs under the cover of darkness and up to 2 to 6 hours prior to a planned ground attack.

10-104. LZs are selected beyond the range of enemy direct fire weapon systems and prior to insertion are targeted with artillery (if within range) or escorting attack aircraft. After troop insertion, the CS helicopters depart, and the attack helicopters may remain. Forces remaining in position longer than 24 hours are resupplied by helicopter.

10-105. In addition, CS helicopters are called upon to transport antitank squads or perform electronic jamming. Combat support aircraft can also supplement obstacle detachments by laying mines along threatened flanks and gaps, and assist in the preparation of complex battle positions by providing logistics support. They may also fill a variety of other support or logistics functions.

Combat Service Support Helicopters

10-106. Helicopters providing CSS are large and lightly armed (if at all). They have large cargo areas with provisions to load freight and fuel internally or carry them underslung on cargo hooks. Their movement is usually limited to conducting resupply missions in the support zone, yet they may be employed in the battle and disruption zones in some circumstances.

10-107. These aircraft may be employed to transport an airborne or heliborne force. Attack aircraft may escort them to the drop or landing zone. The forces they carry are used to augment the prior insertion of a heliborne force by CS helicopters once the objective is secured.

10-108. Some CSS helicopters can be fitted with extra fuel tanks and pressurized refueling hoses and may be employed to establish a FARP prior to a heliborne insertion or attack mission. They do not perform this mission in enemy territory.

10-109. These helicopters may also be used in search and rescue, and downed-aircraft recovery roles. Missions such as these are escorted by two to four attack helicopters.

Forward Arming and Refueling Point Employment

10-110. The flight services elements of the army aviation units have the personnel and equipment to establish FARPs.[4] The OPFOR does not place as much emphasis on FARP employment as do military forces of some other nations. This is due to the lack of deep autonomous attack helicopter missions that would require FARPs.

10-111. FARPs will normally be established within friendly territory to support helicopter missions. FARPs are placed near open areas to allow for landing sites, but with nearby terrain that affords cover and concealment from the enemy. FARP operations will move to an alternate site if compromised. The flight services element may set up temporary or deception FARPs based on supporting the ground force scheme of maneuver. A combat helicopter brigade has the ability to place one FARP per attack helicopter battalion. The FARP includes four to six refueling points and an area for rearming. Under reasonable conditions, a flight of four aircraft can expect to be replenished with fuel and ammunition in 45 minutes. In maximum employment conditions, this time increases due to logistics constraints and a finite number of refueling points. Also, in adverse weather and at night, these times increase. Some aircraft may perform area security while others in the flight are refueled and rearmed. Upon completion of the air support mission, the FARPs are moved or removed, while aircraft recover to their holding areas or airfields.

PLANNING AND PREPARATION

10-112. Ground commanders can employ air support, integrated with other forms of fire support, throughout the AOR to attack the greatest threats to successful ground combat. Mission planners are responsible for incorporating the most current information on enemy and friendly positions, current weather, terrain, fire support plans, and EW targets to plan air support missions that complement the ground maneuver plan.

10-113. Planned missions afford ground maneuver commanders greater freedom of movement and flexibility by allowing them to mass firepower at decisive points to annihilate or neutralize enemy forces. At every level of command from battalion to OSC, ground commanders nominate targets for air support assets to attack. Assets are requested, forces are allocated, an ASP is produced, and pre-mission planning is performed to maximize effects and minimize risk.

TARGET SELECTION

10-114. At theater and OSC levels, the targets are selected based on strategic or operational-level goals. At tactical levels, targets are selected to shape the battlefield for the success of the ground forces. The targeting process is mostly preplanned, based on integrating the fires of ground assets (such as artillery, MRLs, and SSMs) and aviation assets. It is a continuous, ongoing process designed to exploit current intelligence and attack high-priority targets in all phases of the battle to best achieve the commander's scheme of maneuver. As the tactical battle continues, targets are selected from the existing targeting database, or new ones emerge as windows of opportunities develop.

[4] Air Force helicopter units would also use the same tactics.

10-115. Target lists are categorized and prioritized based on depth into the enemy forces. The OPFOR attempts to plan targets for its attack aircraft which shape the battlefield versus reacting to ground maneuver forces that require immediate support. However, the following priorities are established:

- Enemy forward positions, maneuver units, artillery, and C^2 nodes.
- Deeper artillery, C^2 nodes, reserves, assembly areas, supply routes, artillery or antitank positions, MRL positions, and forward air bases.
- Deeper reserves, lines of communication, airbases, and troop support and logistics facilities.

10-116. From these target lists, requests for artillery fire and air support are generated at every level down to battalion. The targeting responsibilities of the ground force do not end with target nomination. Commanders and their AOSs planning fires must continue to refine and update target information until the desired results are achieved. The forum for this is the targeting meeting held within the AOS at every level of command. These ASEs correlate the ground force commander's targeting priorities with actual targets, plan attack positions, incorporate FAC input from prior missions, and discuss mobile targets. The latter is particularly important, since mobile targets represent the most difficult problem facing ground force commanders. When considering mobile targets, commanders may employ one of three methods to control the timing of the air attack: on-call, immediate, or preplanned. For more information on this subject, see Aviation Support Plan below.

10-117. Commanders plan for targeting contingencies during the course of a battle. When a target of opportunity presents itself, the commander—through his AOS and FACs—has the ability to redirect his air support to attack the new target. Additionally, pilots have the capability of acquiring targets in the performance of their mission. This presents an ability to exploit targets of opportunity that present themselves to the pilots, provided the targets are included on the commander's targeting list.

REQUEST PROCESS

10-118. Formally, the lowest command level capable of requesting aviation support is the brigade or BTG. Battalion commanders input requests to the brigade or BTG. However, as every commander plans and conducts combat actions, he identifies situations where aviation attacks or DAS can be employed to enhance mission accomplishment. The brigade or BTG AOS also assists in nominating targets and integrating aviation into the overall scheme of maneuver. This same procedure occurs at each level of organization by the supporting AOS.

10-119. Air support requests from ground maneuver forces are screened at every level of command to determine whether or not—

- Ground support missions can be supported while meeting strategic- or operational-level air requirements.
- The level of air support to ground forces meets operational and tactical requirements for achieving the goals of ground battle plan.
- Alternate systems (such as artillery, MRLs, or SSMs) would be more effective to accomplish the mission.

- Air requests are supportable based on current available aircraft.
- Planned airspace usage, artillery fires, and intelligence requirements can be met.

10-120. All requests for aviation support are compiled and submitted through AOS channels for approval by the theater and OSC commander. The DTG commander will approve missions for rotary-wing aircraft constituent or dedicated to his level of command. The AOS must divide the requests between those supportable by rotary-wing assets and those supportable by fixed-wing assets. Helicopter missions are ranked by assigned priority and precedence, and given to the executing army aviation headquarters for planning. Some air support requests continue on to be filled by theater or OSC fixed-wing assets. If approved, these requests are also assigned a priority and precedence. Requests for air support are submitted as early as 72 hours prior to the requested aircraft on-station time and no later than 24 hours prior to the start of the ASP.

10-121. *Preplanned*, *immediate*, and *on-call* refer to the requests themselves. Preplanned requests are those submitted in time to be included in the published ASP. Immediate requests fill operational or tactical requirements that are too late to be published in the ASP. On-call mission requests do not state a specific aircraft time-on-target. They involve aircraft placed on an appropriate alert status and employed when requested by the supported unit. Aircraft used to fill immediate requests may come from on-call missions established for this purpose.

10-122. Starting at the brigade or BTG level, the CAO submits the air support requests. He submits *preplanned* requests through ground command and staff channels, or *immediate* requests through AOS channels. O*n-call* requests are transmitted by the FACs or the AOS to the division or DTG AOS using VHF communications.

10-123. The AOS at every level is of key importance in the processing of immediate air support requests. This type of request is primarily passed via the FACs and AOSs to the level of command that controls the required aircraft. If an OSC aviation unit can support the requesting ground force, it fills the requirement. If not, the request will be passed up to the theater ASE. Once an immediate request is approved at the theater or OSC level (depending on the type of supporting aircraft), the ASE tasks on-call missions or diverts scheduled missions to satisfy that request.

10-124. Once a request is approved at either theater or OSC level, it is forwarded to the aviation unit to determine if it is supportable based on the projected sortie generation rate and operational tempo. If disapproved at any level, the requests are returned to the originator through AOS channels with an explanation.

10-125. For all requests, the higher aviation command or IFC provides the required information (including target, location, required on-station time, and radio frequency) to the tasked unit. Each aviation unit then conducts its own mission planning and coordinates directly with the ground maneuver unit. The approved missions and enacted airspace procedures are disseminated to all levels of ground and aviation commands through the ASP.

SORTIE GENERATION

10-126. The aviation units are able to manipulate and predict to some extent their ability to launch and sustain aircraft. This information is compiled and forwarded up to the AOS at theater and OSC level where it is reconciled with the commander's scheme of maneuver and the requests for air support. There, the commander determines the number of air assets to best fit into his plans for the operation. The decision is made how to employ all of the available air assets to accomplish the theater or operational goals, including support to ground forces. The resulting product is known as the maximum sorties available in a single 24-hour period.

10-127. The OPFOR defines an aircraft sortie as a flight by one aircraft in an air action. Across the theater, the maximum aircraft sortie rates are determined daily incorporating many factors, at every level of organization. Figure 10-6 contains a generic formula that holds true for both fixed- and rotary-wing aircraft. It can incorporate many of the factors involved, which are listed in the paragraphs following the figure.

Maximum Theoretical Sorties/Day =
(Total Aircraft Available – Attrition) x Allocation x OR Rates x Aircraft Sorties/Day

An example calculation of sortie generation rate follows.

Conditions:

- 110 total aircraft.
- 10 lost yesterday through combat action.
- The commander wants 40 % dedicated to DAS, 30 % to attack, and 30 % to interdiction.
- OR rate today = 80 % based on logistics sustainability and maintenance posture.
- Aircraft sorties/day are: 3.5 DAS, 2.0 attack, and 2.5 interdiction.

(110 – 10) x 40 % x 80 % x 3.5 = 112 DAS sorties today
(110 – 10) x 30 % x 80 % x 2.0 = 48 attack sorties today
(110 – 10) x 30 % x 80 % x 2.5 = 60 interdiction sorties today

Figure 9-6. Calculation of Aircraft Sorties (Example)

Total Aircraft Available

10-128. Total aircraft available, or "flyable," is calculated to incorporate all aircraft regardless of type or mission. This number can be calculated to account for aircraft by specific mission type.

Attrition

10-129. Attritted, or "non-flyable," aircraft is the number of aircraft losses due to combat, fratricide, or irreparable enemy damage since the last sortie generation calculation. Attritted aircraft may be returned to service for future sortie generation cycles.

Allocation

10-130. Allocation or "how flying," is the ground force commander's intent on how sorties should be allocated to individual missions, such as interdiction,

attack, DAS, counterair, airlift, or transport. As hostilities develop in the region, the OPFOR balances the strategic- and operational-level goals against the tactical air support requirements to determine how to best allocate the aircraft to specific missions to attain the desired effect or change upon the enemy. At the strategic level, this allows the ground commander to account for the air objectives and ground force objectives. At the operational and tactical levels, it allows ground force commanders to allocate percentages of air support assets to best fit the ground scheme of maneuver.

10-131. Depending on how the OPFOR perceives the air situation, the allocation may differ. (See Degree of Air Dominance earlier in this chapter.) Multirole aircraft prove most valuable in considering allocation. They can quickly and easily be tailored to perform different missions based on the commander's needs. Commanders may also elect to keep a number aircraft as a reserve ready to serve if needed for unexpected contingencies.

Operational Readiness Rate

10-132. The operational readiness rate (OR rate), or "ready-to-fly rate," refers to the capability of a unit, equipment, or weapon system to perform the mission or function for which it was organized or designed. This encompasses the ability of the OPFOR to sustain its aerial forces. Factors such as on-hand major end items, spare part availability, scheduled aircraft maintenance, logistics and resupply procedures, transportation capabilities, and aircraft cannibalization and/or transfer procedures are considered. Initially, an OR rate in excess of 85 to 90 percent is considered normal. As hostilities continue, this rate can diminish considerably, based on the above-listed factors.

Aircraft Sorties per Day

10-133. The number of aircraft sorties each day, or "turns per day," varies with each type of aircraft and is primarily a function of mission duration and the time required to refuel and rearm the aircraft for the next mission. This also can incorporate the human factors of pilot-to-aircraft ratio, aircrew availability, proficiency, endurance, and training level. It can also encompass the availability of fuel and proper munitions for the intended mission. If the aircraft is fueled, properly armed, and mission-ready, it cannot fly the planned number of sorties per day without a qualified, prepared crew to man the cockpit.

10-134. Commanders must balance their ability to regenerate their aviation assets against their willingness to allow that ability to be degraded through loss of assets. Planning rates allow aviation units to operate at a certain sortie rate for a certain period of time, normally 30 days, without resupply. Units may elect to operate in a "sustain mode" with a slower operational tempo, planned maintenance, and a normal logistics flow. This allows them to operate at a higher rate over a longer stretch of time.

10-135. Alternatively, units may elect to conduct "surge operations." This is characterized by a higher than usual operational tempo, and neglecting preventive maintenance and scheduled services for 1 to 2 weeks. This gives them the ability to fly more sorties than normal in a short period of time. Compared to sustain mode, surge operations actually force a slower

operational tempo over the long term, since more extensive maintenance needs to be performed on these aircraft. Eventually logistics stocks are depleted and fatigue increases. Following an extended surge, a unit must recover by performing the maintenance that has been neglected. If the unit returns to surge rate prior to recovery, its sortie generation capability may continue to fall, and future recovery time increases.

AVIATION SUPPORT PLAN

10-136. The theater or OSC AOS publishes a daily document called the ASP. This document has two parts: the air tasking order (ATO) and the airspace coordination order (ACO). The ATO is the portion that outlines all approved fixed-wing, rotary-wing, and UAV missions to include interdiction, attack, DAS, counterair, reconnaissance, airlift, transport, or aerial refueling. The ATO development process is continual and starts with requirements for air support that are submitted as requests. These requests are changed, refined, or reviewed at each day's targeting meeting. (See Target Selection earlier in this chapter for more information.) All requests must be finalized and submitted no later than 24 hours prior to the beginning of the next ATO cycle. The ATO is published 12 hours prior to going into effect, which occurs in the early morning hours and continues for 24 hours.

10-137. To publish the ATO, the theater or OSC AOS—with the assistance of the air army (Air Force) CP, the army aviation CP, and the theater or OSC IFC CP—reconciles air support requests from all levels of command with sortie generation capabilities and command objectives for the allocation of air assets to publish the ATO. Ground commanders are advised to submit preplanned requests for on-call missions to ensure availability of sufficient sorties with appropriate ordnance to respond to immediate air support requests. If more aircraft are available on a given day than required for combat operations, the excess are either assigned missions to augment the air missions already planned or held in reserve. Conversely, if there are more air support requests than available aircraft, missions are filled based on the priority assigned to each request.

10-138. Once the ATO is published, it is an execution order. All published missions occur for that 24-hour period. Ground force commanders may not know which unit or what type of aircraft will support them, but they are assured the support.

10-139. The second portion of the published ASP is the ACO. This is also an execution order that delineates all positive and procedural airspace controls enacted to best accomplish the ATO. The ACO controls the combined efforts of all aviation assets, and missile and artillery forces. The ASP is disseminated to all air and ground force unit's AOSs.

10-140. The OPFOR uses three types of air support requests to meet the needs of ground force commanders. The names are based on the types of request and on the timing of the air support. They are preplanned, immediate, and on-call.

Preplanned

10-141. DAS missions are primarily preplanned. The ground force commander identifies the targets, times, and desired damage for the missions. The IFC commander determines the force, size, ordnance, and technique that can accomplish the mission. The IFC staff plans these missions in great detail and integrates them with other forms of fire support. The target selection process identifies possible kill zones for the application of aviation assets. The sortie generation process coupled with the ASP cycle, assigns aviation assets to the highest-priority missions to attack targets allowing the ground force commander to achieve his scheme of maneuver. Aircraft are allocated, prepared with the proper ordnance and countermeasures, and launched to attack a target at a specific time and place as a part of an integrated ground and air scheme of maneuver.

10-142. After ASP confirmation of preplanned requests for air support, a ground force commander consults his IFC staff to finalize detailed plans for the coordinated air and ground scheme of maneuver in his AOR. If they plan to use attack helicopters, the planners coordinate directly with the army aviation unit to ensure target deconfliction and to limit fratricide. The planned attack allows the ground force to update targets, current enemy and friendly situation, and disposition of enemy air defenses just prior to the mission.

10-143. Additional detailed pre-mission planning and coordination done prior to a preplanned mission by the ground force and the aviation force specifies—

- Target description and desired results.
- Type and number of assets required to accomplish the mission.
- Time.
- Location.
- Attack technique.
- Ordnance required.
- Communication frequencies and codes.
- Approach and departure routes.
- EW support.

10-144. Once airborne, the aircraft proceed to a designated checkpoint behind friendly lines and confirm their target assignment with VTDPs controlling their transit through the AOR to their APs. En route to the IP, the flight receives target updates from the VTDP or the FAC.

10-145. Preplanned missions are similar for CS and CSS helicopters. Most of the missions flown by these types of helicopters are preplanned in nature. The lack of time-critical constraints allows the aviation unit and the maneuver unit to conduct the greatest amount of coordination before the mission even commences. This coordination can cover issues such as LZ/PZ preparation, equipment preparation, pick-up and drop-off times, airspace management, and communications. Preplanned missions also allow the aviation units to take all possible steps to minimize risk throughout the course of the mission.

Immediate

10-146. Most air support missions are preplanned, but immediate missions also are used extensively. Ground force commanders can request them through AOS channels for inclusion in the ASP. By doing this, ground force commanders identify general times and places where they believe air support is required, but without finalizing the intricate details as in a preplanned mission. An immediate mission allows the ground force commander to have air support assets readily available to employ at a given time against targets. This type of request is used primarily for attack aircraft. If a CS aircraft is needed for this type of mission, it locates in the vicinity of the requesting CP and assumes more of an on-call role.

10-147. The ASP allocates air support assets for immediate missions. Some pre-mission planning and coordination occurs between the supported and supporting forces to ensure aircraft survivability. Aircraft designated for immediate missions can be airborne or on the ground at airfields. Before takeoff, pilots are briefed on a checkpoint to proceed to, and possible target type and location. Aircraft are prepared with the ordnance and countermeasures for the most probable target they may encounter. As the ground force commander decides he needs the air support to engage, he notifies the AOS or the FAC to pass the request. The request is passed to the attack helicopter battalions or to the fixed-wing units. See Figure 10-7 for details on the immediate DAS request process.

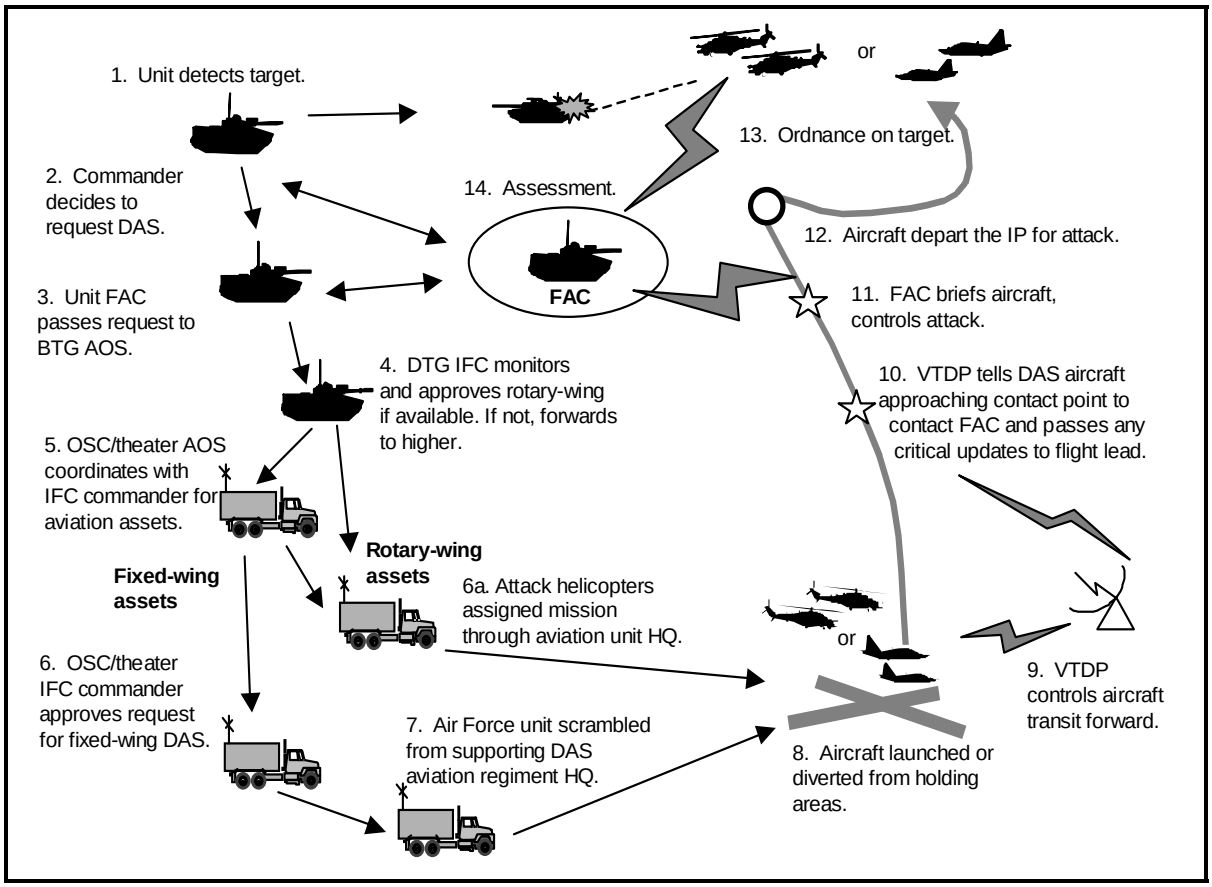


Figure 10-7. Immediate DAS Request Process

10-148. The aircraft are launched from airbases, or released from holding areas.[5] The flight or formation establishes communications with the VTDP as it moves forward. En route, the aircraft are briefed on the frequency and contact point to establish communications with the FAC, and receive critical mission updates. With communication established, the FAC gives them final target designation and confirmation, and the aircraft depart the IP for the attack.

10-149. In some cases, there may be an excess of aircraft available as compared to requested missions outlined in the ASP. Then the theater or OSC IFC commander can establish a pool of aircraft to be available for immediate missions if unforeseen contingencies develop. He may also designate that multirole aircraft be configured for DAS. These extra aircraft may be armed and prepared for "generic" targets and launched to holding areas. Once in the holding area, they serve as an available asset to subordinate ground force commanders that require immediate air support. The ground commander's FAC requests these aircraft and briefs them on the target en route. Sometimes the OPFOR refers to this practice as "push" DAS.

[5] A *holding area* is a site (on the ground or in the air) located between airbases or FARPs and IPs that may be occupied for short periods of time by aircraft while coordination is being made for movement to the IPs.

On-Call

10-150. Planners may allocate aviation assets for on-call missions where the ground force commander can time the attack at his discretion. He bases the trigger for the attack on the enemy's reaction to the OPFOR scheme of maneuver at planned decision points. This allows him to mass his fires at decisive places and times on the battlefield, and to refrain from employing the attack assets if the target no longer threatens. Additionally, he may elect to shift the assets to attack another target. If not supporting a preplanned mission, CS and CSS helicopters assume an on-call role. By using these methods of employment, the commander can conserve his air assets for use when needed, or avoid the need for the ground forces to halt their attack to wait for an unnecessary preplanned air support mission.

10-151. On-call mission requests do not state a specific aircraft time-on-target. They involve aircraft placed on an appropriate alert status and then employed when requested by the supported unit. Prior to the employment of air assets, the ground force will have established communications or liaison with the aviation unit. On cue from the ground force, the aviation unit performs the necessary preparations to launch when the ground force requires the air support.

READINESS CONDITIONS

10-152. The OPFOR recognizes three levels of combat readiness for fixed- and rotary-wing aircraft and aircrews. Aviation unit CPs use these three categories to describe varying levels of alert status or readiness conditions and thus to guide the units to total mission preparedness for the most probable launch execution order. Aircraft in categories one and two can be expected to respond to on-call missions timed by the ground force commander. Figure 10-8 lists the categories and shows their duration and time before assets can be in the air. Based on his decision points, the ground force commander tells the designated aviation unit when to increase the level of readiness. Under these conditions, both parties prepare to execute the air support mission when needed.

Category	Crew and Aircraft	Duration of Readiness	Time Before Takeoff
One	Aircraft are fully serviced and armed. Combat crews are briefed on their mission and are in the aircraft ready to start engines. Ground personnel are assisting the combat crews.	1-2 hours	3-5 minutes
Two	Aircraft are fully serviced and armed. Combat crews are briefed and are on standby in the vicinity of the aircraft, ready to take off within a specified short period of time after receiving a mission order.	2-4 hours	15 minutes

Three	Aircraft are refueled and serviced. Cannons are loaded. External systems (bombs, rockets, missiles, fuel tanks, etc.) are not loaded. Combat crews are designated, but not on standby; they have not been briefed on the air and ground situation, but will be before takeoff.	2-4 days	1-2 hours

Figure 10-8. Levels of Combat Readiness

10-153. Army aviation tends to operate from FARPs or holding areas. A flight of helicopters held at the highest state of readiness should reach its target in 15 to 20 minutes; a full squadron requires up to 25 minutes. Preparation of a follow-on attack could take as little as 15 to 20 minutes depending on the number of helicopters involved and refuel and rearm procedures. Fixed-wing aircraft, at the highest readiness state, should reach their target in 20 to 30 minutes after launch, since the aircraft are based further away, but travel at much faster speeds. Ground commanders are aware of these approximate aircraft transit times and factor them into the launch trigger.

RISK MANAGEMENT

10-154. Effective pre-mission planning and preparation are paramount to increasing the survivability of aircraft in combat. Prior to any aviation mission, aircrews must have a detailed intelligence picture of the battlefield. They use this information to plan every aspect of the mission. This helps crews to determine ingress and egress routes through gaps in enemy air defense coverage and to plan tactical maneuvers. Similarly, they try to use routes that afford cover and concealment from the enemy, while allowing the protection of friendly air defense assets.

Deception and Surprise

10-155. The OPFOR emphasizes the importance of deception and surprise to paralyze hostile air defenses and enhance aircraft survivability. Aircraft approach target areas at the lowest permissible altitude, given weather and terrain restrictions. They maintain minimum radio transmissions, emanating only the minimum required communications and sensor signals. The OPFOR exploits detected gaps in enemy radar coverage and often uses decoy flights in advance of attacking aircraft to distract enemy air defense systems. If more than one pass is necessary to destroy the target, attacking formations approach the target from different directions or from bright sunlight, minimizing air defense effectiveness, visual detection, and recognition.

Suppression of Enemy Air Defenses

10-156. Whenever possible, the combined arms commander includes a plan for SEAD. He can employ other aviation assets, artillery, MRLs, SSMs, and EW assets to prepare the ingress and egress routes for helicopters and fixed-wing aircraft air support missions. The entire purpose behind SEAD is to disarm or disable enemy early warning radars and to destroy or reduce enemy air defense assets that may come to bear on friendly aircraft. If SEAD is employed, it precedes the approaching aircraft by 20 seconds to one minute. SEAD may be employed along the flight route to cover areas where

the aircraft are unprotected by terrain or friendly weapon systems. It may also be employed to prepare the AP prior to aircraft occupation.

10-157. The effectiveness of air support may be increased through the use of artillery to suppress enemy air defenses. Additionally, suppression of electronic systems that provide early warning, target acquisition, fire control, communications, and data support for air defense systems is a high priority. Specially-equipped airborne and ground-based EW systems target both the radar and C^2 networks used by enemy air defense. Both fixed- and rotary-wing aircraft, particularly the most advanced, employ a mix of radar warning receivers, self-protection jammers, flares, and chaff.

FLIGHT TACTICS

10-158. To obtain the full potential desired from an air assets, different tactics are employed by fixed-wing and rotary-wing aircraft. The OPFOR prefers to employ fixed-wing aircraft more frequently on missions with previously reconnoitered routes, fixed or semifixed targets, and greater depths. Fixed-wing aircraft are vulnerable to ground-based air defenses when executing ground attacks. This necessitates a low-altitude, high-speed target approach and minimum time in the target area. Under such conditions the pilot's ability to visually acquire and properly identify the target may be extremely limited.

10-159. The OPFOR prefers to use helicopters for time-sensitive attacks close to friendly forces. Helicopters have reduced logistics requirements compared to fixed-wing aircraft, allowing their deployment close to the battle zone. This proximity enhances their ability to respond to requests for air support. Tactically, helicopters have two advantages over fixed-wing aircraft: their ability to maneuver relatively undetected, and systems that allow the pilots to rapidly evaluate and react to battlefield conditions.

FIXED-WING TACTICS

10-160. Fixed-wing assets can be employed at the strategic, operational, and tactical levels simultaneously. The tactics employed by fixed-wing assets to support tactical ground force battles are designed to ensure aircraft survivability in a high-threat air defense environment and provide supporting fires to the scheme of maneuver. Fixed-wing aircraft are employed much less often than attack helicopters to support the ground force commander. Yet, when effectively employed, these aircraft have the ability to give friendly forces great advantages in firepower, mobility, and shock effects.

Formations

10-161. Fixed-wing interdiction, attack, and DAS missions are usually conducted in two-ship formations. The wingman flies in an echelon or trail position, with lateral and vertical separation depending on terrain and enemy air defense threat.

Low-Level Engagement Profiles

10-162. During low-level air interdiction, attack, and DAS missions, the aircraft can employ several engagement profiles. The four discussed here

are the 90-degree battle curve, 180-degree battle curve, attack from the loop, and the combined looping battle curve. All four profiles begin in the same way: the aircraft approach the target at low altitude (typically 30 to 100 m AGL) and then initiate a climb to an altitude of 500 to 2,500 m AGL. The differences among these profiles are in where the aircraft start the climb and how they maneuver during the climb and subsequent dive. All four profiles end in the same way: from the altitude reached in the climb, the aircraft dive toward the target at a 10- to 20-degree angle, release their ordnance, and then egress the area at a high-speed, in low-level flight.

10-163. In the *90-degree battle curve* (Figure 10-9), the attacking aircraft approach a position 3 to 8 km abeam of the target. At that point, the aircraft initiate a 90-degree turn toward the target. As the aircraft turn, they gain altitude. The aircraft are at the peak of their climb when they turn the full 90 degrees and should be aligned with the target.

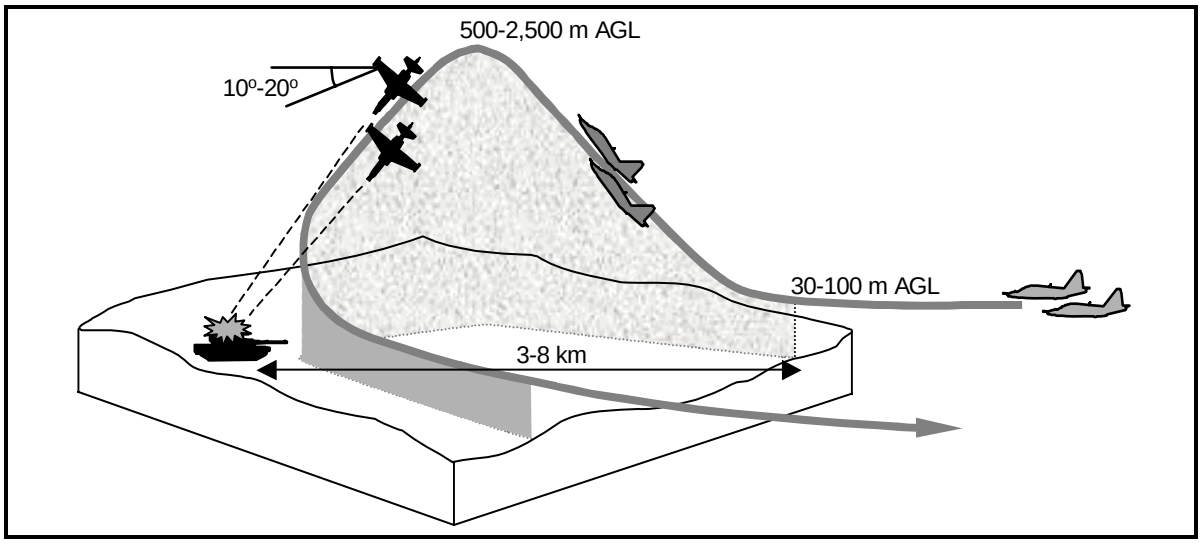


Figure 10-9. 90-Degree Battle Curve

10-164. The *180-degree battle curve* (Figure 9-11) requires the attacking aircraft to fly at least 3 km past the target. They continue past this point for another 10 seconds, then begin a climb while executing a sweeping 180-degree turn. The aircraft are at the peak of their climb when they end the turn, and should be aligned with the target.

10-165. In the *attack from the loop* (Figure 9-11), the aircraft execute a climbing inside loop beginning approximately 3 km away from the target. On the downward side of the loop, the aircraft align themselves with the target.

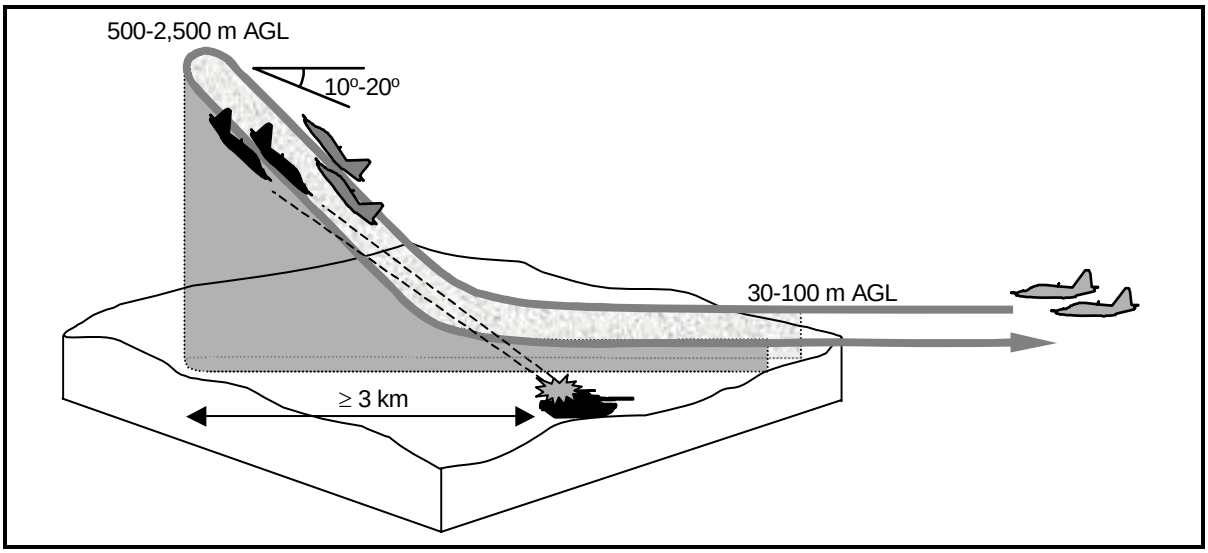


Figure 9-11. 180-Degree Battle Curve

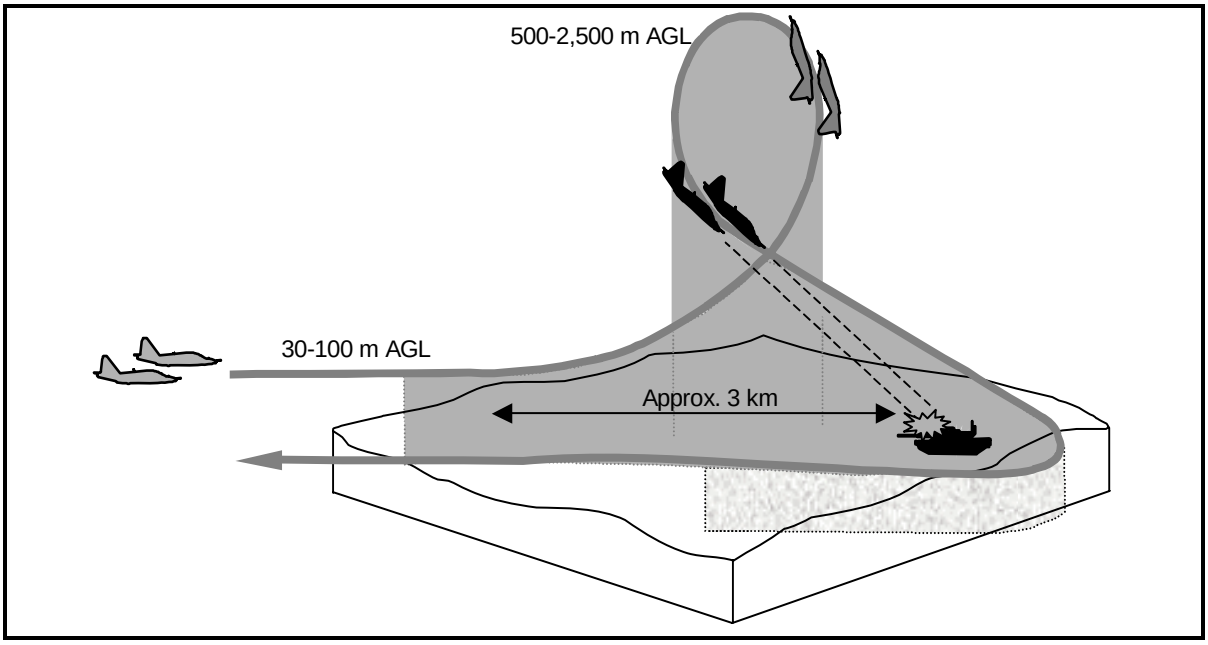


Figure 9-12. Attack from the Loop

10-166. Another possibility is the *combined looping battle curve* (Figure 9-13), which is a combination of the loop, and the 180-degree battle curve. This profile requires the attacking aircraft to fly at least 3 km past the target. The aircraft will continue past this point for another 10 seconds, then begin a climb while executing an inside loop. At the apex of the loop, the aircraft roll level, and align with the target.

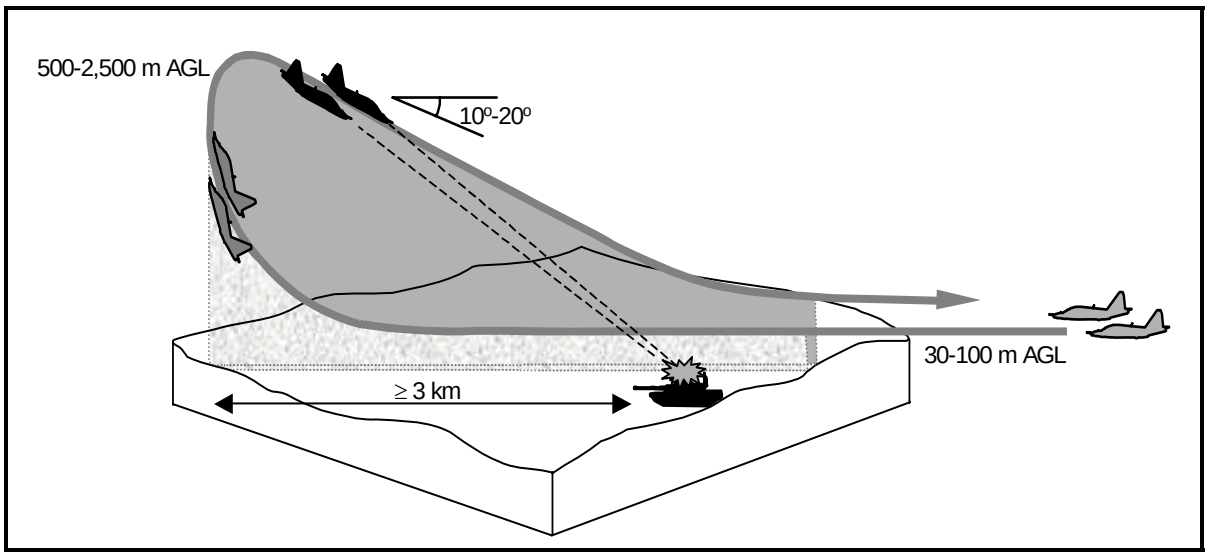


Figure 9-13. Combined Looping Battle Curve

Alternative DAS Engagement Profile

10-167. In addition to the four profiles used for low-level interdiction, attack, and DAS missions, DAS missions can follow another engagement profile, possibly starting from a higher altitude. In this profile, the attacking aircraft fly a non-evasive approach toward the target. Once the aircraft are within 1,500 m of the target, they dive toward the target at a 10 to 20-degree angle, release their ordnance, and execute evasive maneuvers (varying airspeed and altitudes while using available terrain for cover) to exit the target area.

ROTARY-WING TACTICS

10-168. Many of the tactics and techniques used by the OPFOR are similar to tactics employed worldwide. Helicopter design dictates the capabilities and limitations of each aircraft and, to a large extent, their employment. Some minor variations among models can cause similarly designed helicopters to differ in hovering capabilities, cargo and load capacities, and employment characteristics.

Flight Modes

10-169. All OPFOR helicopters can employ any of three differing flight modes: nap-of-the earth (NOE), contour, or low-level. See Figure 9-14.

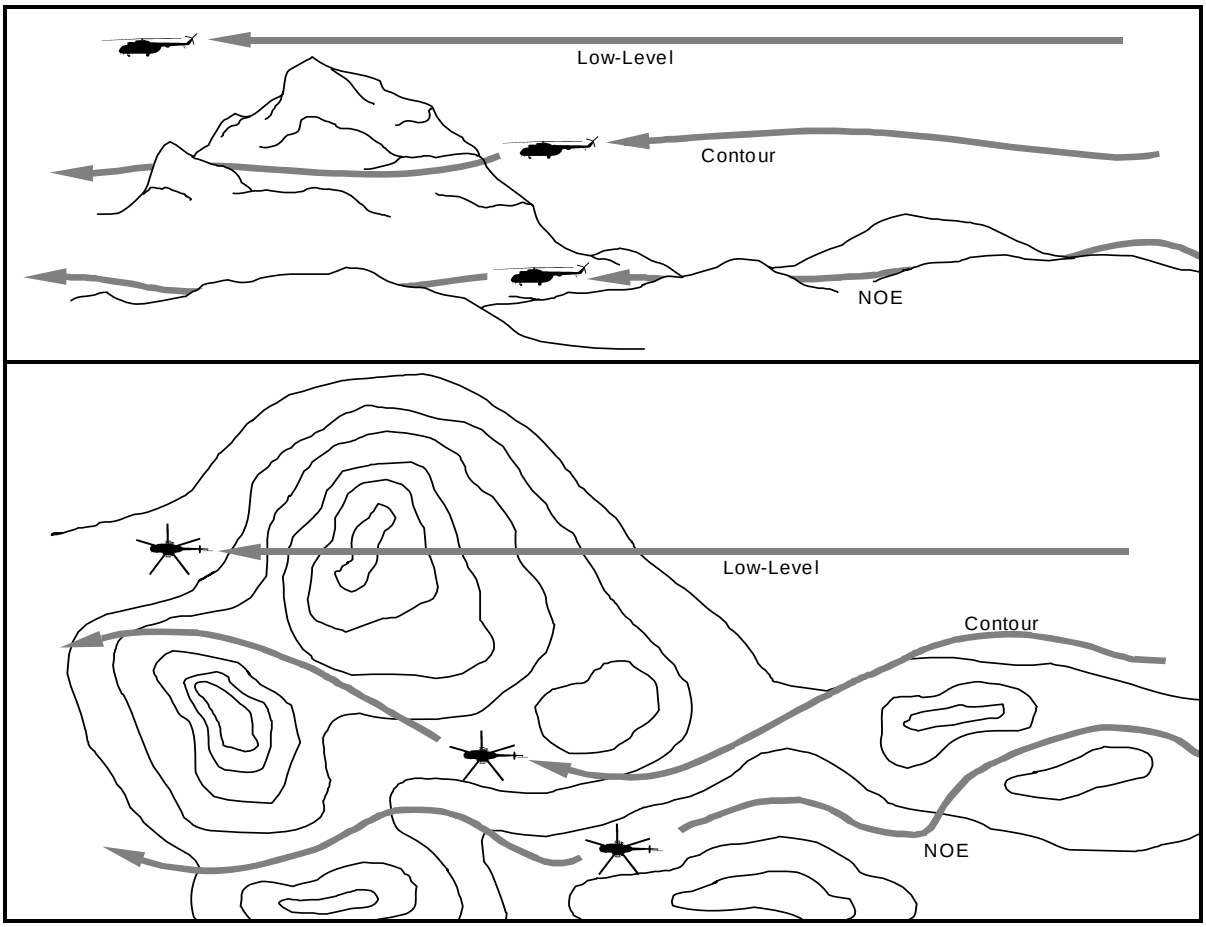


Figure 9-14. Helicopter Flight Modes

10-170. **Nap-of-the-Earth.** NOE is flown at varying airspeeds and altitudes as close to the earth's surface as possible while following the contours of the terrain. It is a weaving flight path that orients along the axis of movement and takes advantage of terrain masking.

10-171. **Contour.** This mode is flown at relatively low altitudes conforming generally to the contours of the terrain. The flight is characterized by varying altitudes and varying airspeed. This mode of flight is most often employed with helicopters offering limited maneuverability. Because altitudes are higher than NOE, aircrews are able to fly at higher airspeeds to reduce exposure times. The aircraft may begin in support zones at contour altitudes and then reduce altitude and airspeed to NOE flight as the probability of enemy contact increases.

10-172. **Low-Level.** This mode is flown at low altitude, with constant heading, airspeed, and altitude to facilitate speed and ease of movement while minimizing detection. It is used only in areas where enemy contact is not likely.

Attack Helicopter Employment

10-173. Employment of attack helicopters varies according to scheme of maneuver and the desired results in an attack. Ground force commanders may elect to subdivide helicopter units and employ them at varying strengths as needed. This allows for longer asset employment and accounts for variations in strength of asset coverage. For example, if an attack helicopter battalion has 20 attack aircraft, it may be arranged in five companies of four aircraft each (assuming that the unit has not been attritted and has no aircraft that are in scheduled maintenance). Any number of companies may be employed on a mission.

10-174. The battalion commander typically employs his aircraft as companies, unless conditions dictate employment as a battalion. Subordinate company commanders decide employment within the companies. They may choose employment as a company or in pairs. The OPFOR categorizes these employment methods as maximum, alternating, and continual. (See Figure 9-15.) The descriptions below apply to the employment of a battalion; however, with minor adjustment they also apply to employment of companies.

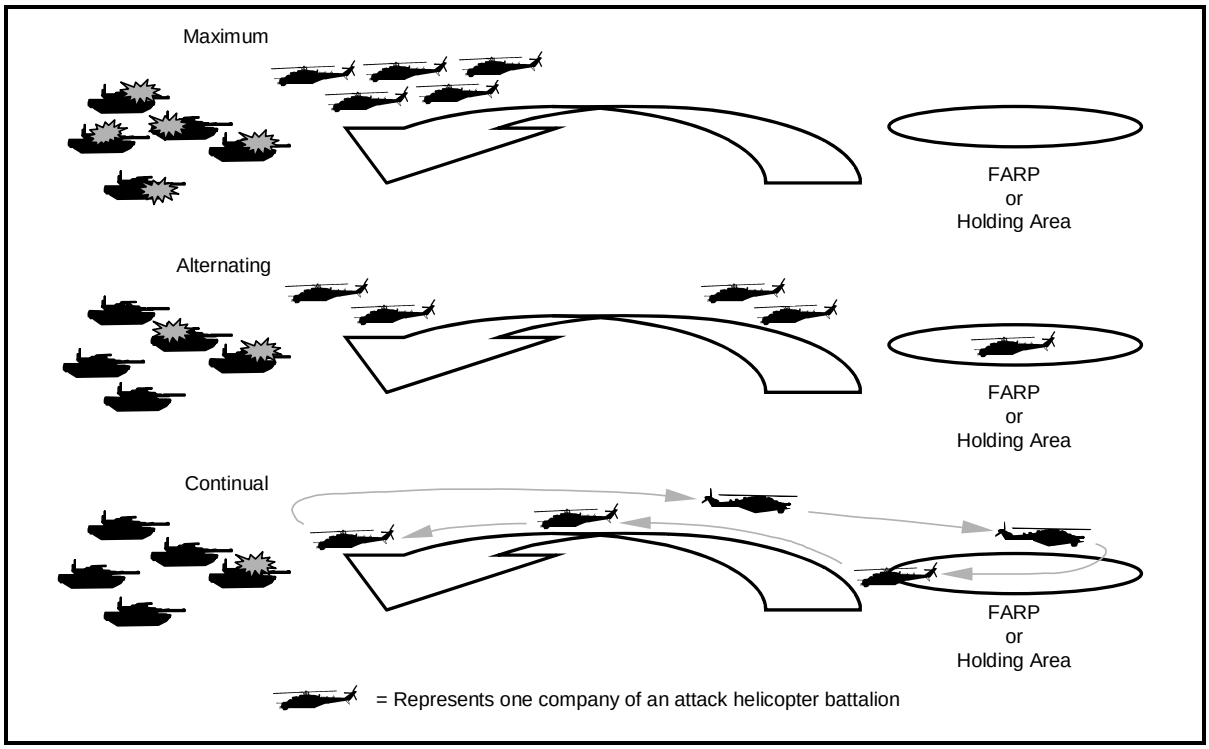


Figure 9-15. Helicopter Employment

10-175. **Maximum.** The entire helicopter force is launched simultaneously to different APs to produce a great force multiplier and shock effect for the OPFOR to rapidly defeat the enemy. The aircraft remain in the APs as long as their fuel and ammunition last, and as long as they are afforded the security of friendly air defense coverage. This employment method allows the OPFOR a great advantage in the battle, yet it removes supporting aviation assets from the battle for several hours after they attack, since they must return to rear areas for refueling and rearming. This high number of aircraft requiring service at the FARP at the same time places a heavy demand on the logistics system.

10-176. **Alternating.** The alternating method allows for some helicopter companies to attack the target, while the others wait in a holding area or at the FARP. For example, as the two companies engaging the enemy begin to break contact, the third and fourth fly in to continue the attack. As the latter leave station, they are replaced by the fifth company to continue the attack, but at a diminished rate. The alternating method allows the OPFOR to achieve a moderate amount of shock effects and force multiplier initially, but it allows for a longer engagement than the maximum method. This method also does not strain the logistics system as much. Therefore, the aircraft serviced at the FARP have the potential to return to the battle quicker and replace the company or companies in the AP.

10-177. **Continual.** The continual method employs only one helicopter company at any given time. While one company is in the AP, another is waiting in a holding area to replace it, a third is waiting in the FARP, and the other two flights are in transit between any two of the points. As the first breaks contact to return to the FARP, the others rotate forward. One moves in to continue the attack, while another assumes its position in the deployment area. This method allows the OPFOR the opportunity to keep constant pressure on the enemy with supporting aviation assets. It places little strain on the operation of the FARP, so individual companies can expect a quick turnaround time. This method allows the engagement to continue indefinitely, based only on the logistics capabilities to resupply the FARP, and the fatigue of the aircrews.

Attack Helicopter Formations

10-178. Attack helicopters utilize several formations in the attack, and the OPFOR stresses their use in flights consisting of companies or pairs. The most common formations used are line abreast, echelon (left or right), or trail. See Figure 9-16 for examples of these formations.

10-179. In any of the three formations, separation between aircraft can be up to 90 m horizontally. Altitude may vary by up to 10 m between helicopters in a pair. Separation between pairs in trail can be up to 20 to 40 seconds, and vertical separation between pairs can vary from 100 to 300 m. Separation depends on terrain, visibility, aircrew proficiency, and the enemy air defense threat.

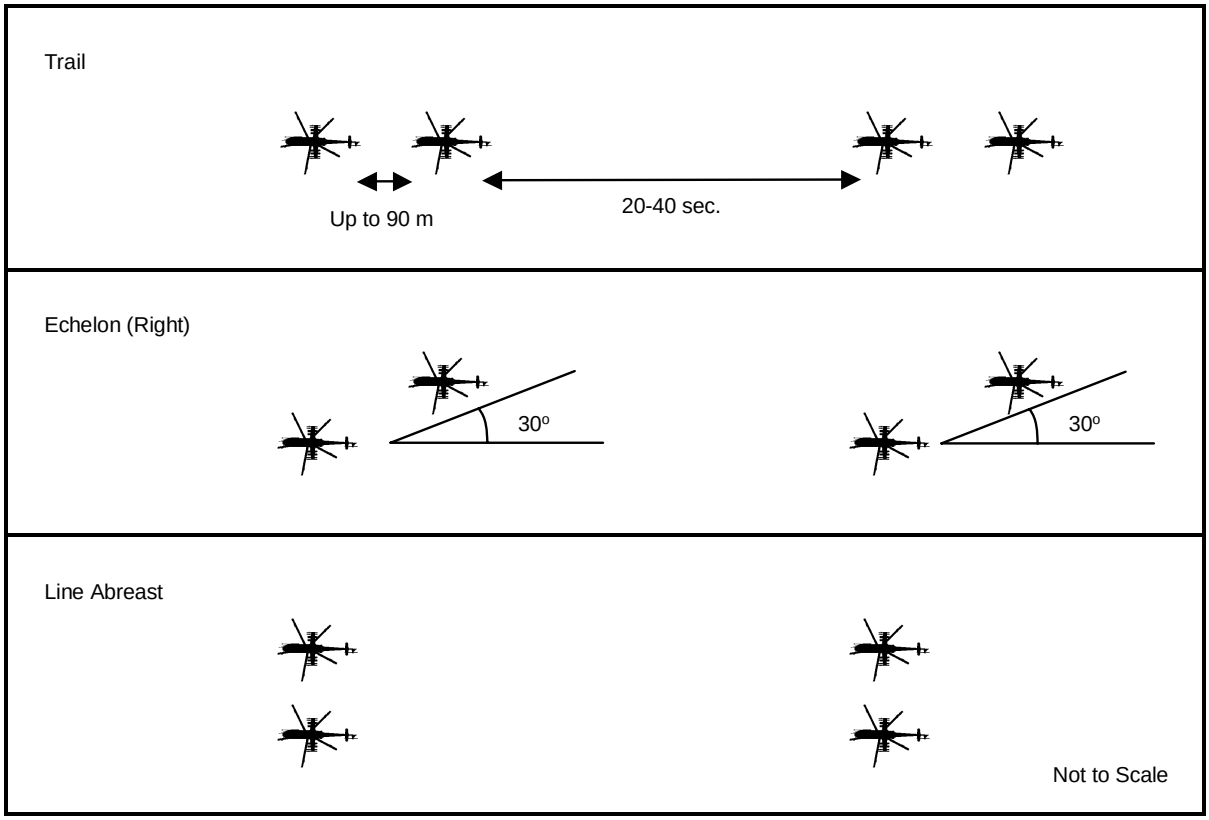


Figure 9-16. Attack Helicopter Formations

10-180. Once the FAC provides the flight with target location, the flight commander executes attack control. Inbound to the AP from the IP, he orders the appropriate formation, divides the target, assigns individual target sectors, and determines the movement technique and engagement profile.

Movement Techniques

10-181. Approaching the AP from the IP, the flight commander may employ movement techniques based on the likelihood of enemy contact. The techniques are traveling, traveling overwatch, and bounding overwatch.[6] See Figure 9-17 for additional clarification.

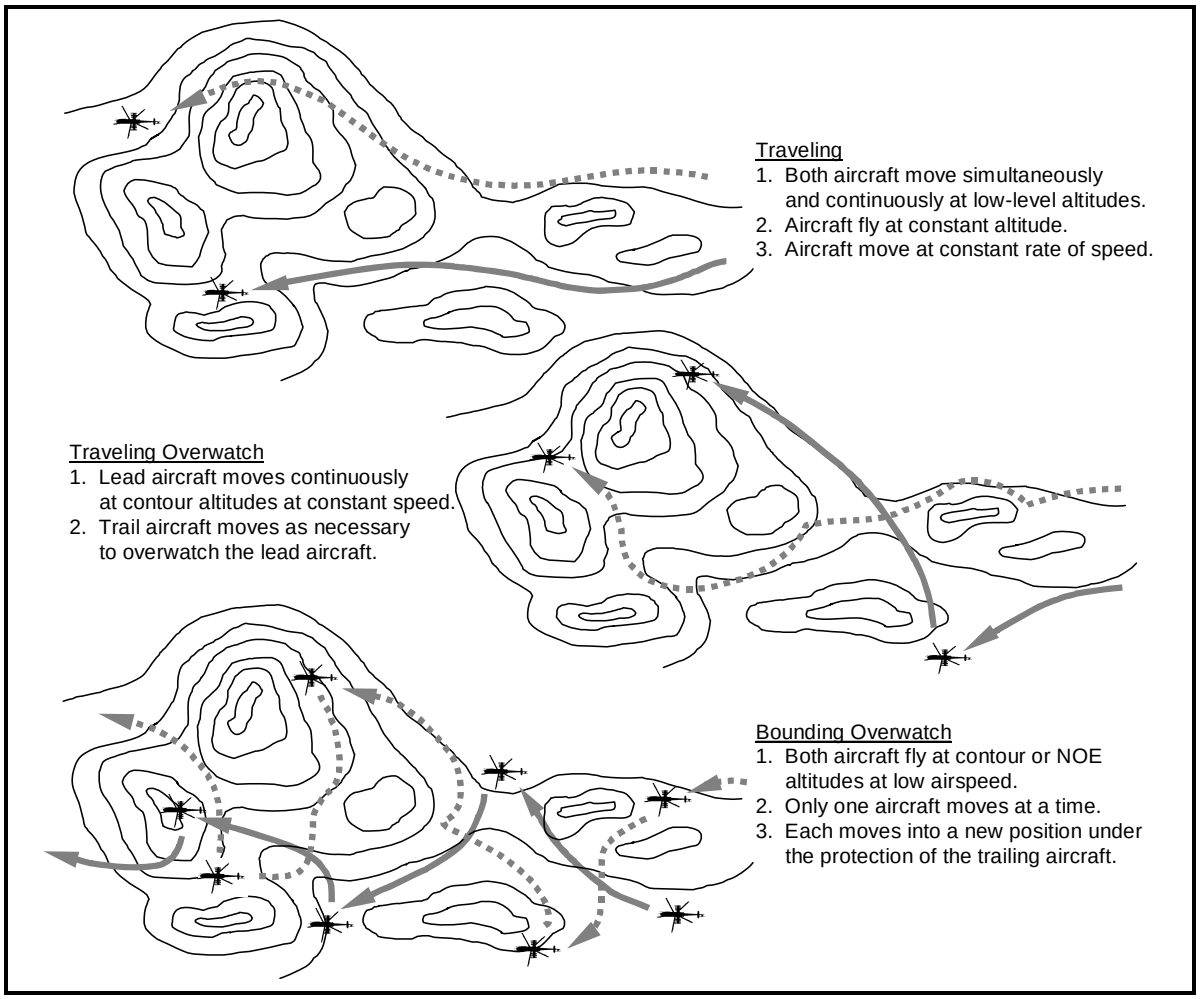


Figure 9-17. Helicopter Movement Techniques

Engagement Techniques

10-182. OPFOR engagement techniques, like much of the helicopter doctrine and employment techniques used worldwide, are based on the capabilities and performance of the aircraft and the ordnance they carry. The flight commander selects the appropriate engagement profile for his flight as determined by the situation. Either a hovering fire or a running fire is employed. The design of some helicopters makes them more conducive to the

[6] The traveling overwatch and bounding overwatch techniques can be used by all armed helicopters, not just attack helicopters.

employment of the hovering technique, versus other helicopters that may require a running technique. Even two of the exact same model helicopters flying similar profiles under the same atmospheric conditions may perform differently based on gross weight. One may be able to hover because of a lighter fuel load and no cargo. However, the other may have a full fuel tank and be loaded to its maximum gross weight. This would cause the latter helicopter to require a running attack technique.

10-183. **Hover Fire.** The OPFOR employs hover fire (Figure 9-18) in the attack if the capabilities of the aircraft allow. APs are chosen so that surrounding terrain provides cover and concealment for attack helicopters. They should also afford good, unrestricted fields of fire as the OPFOR attempts to engage the enemy at the maximum effective range of its weapons. These APs are near the ground forces, within the range of friendly air defense assets, and within range of friendly artillery. In the defense, the OPFOR prefers this technique, rather than running fire, and chooses APs to provide flanking fire on advancing enemy formations.

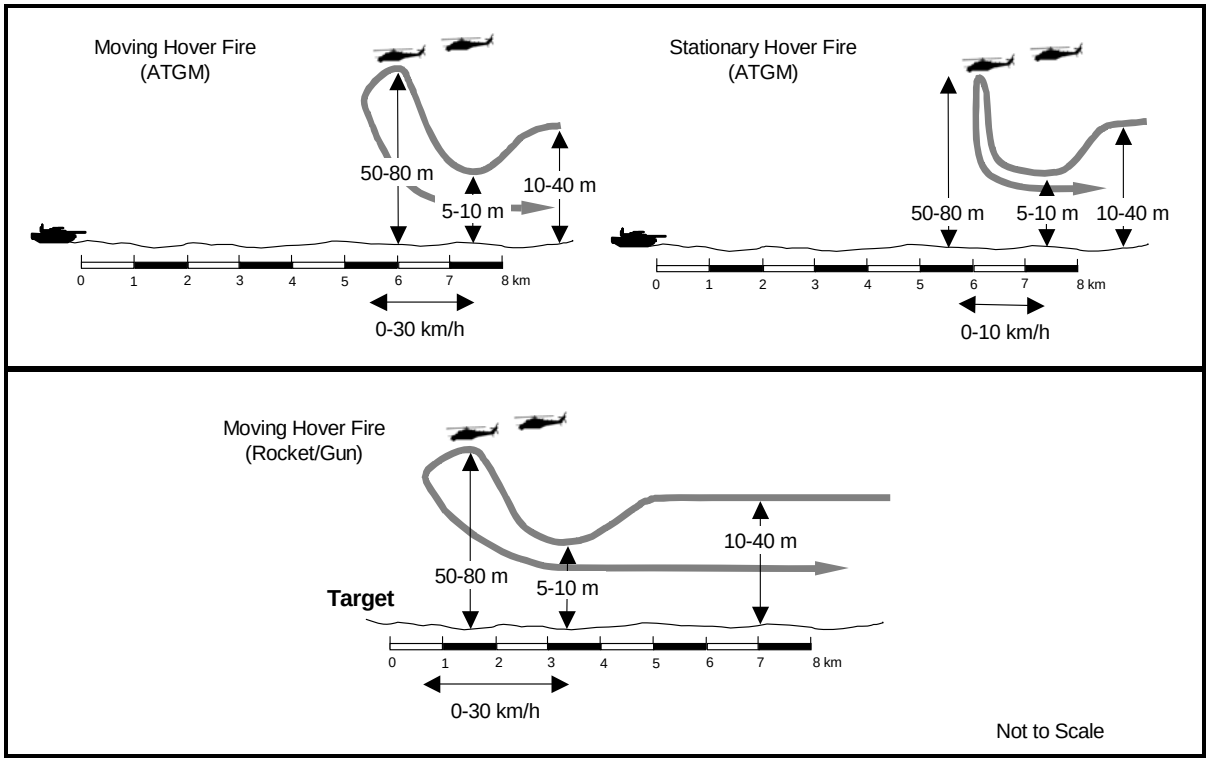


Figure 9-18. Hover Fire Profiles

10-184. In the APs, the aircraft form into the attack pair, and mask themselves behind covering terrain. They unmask vertically or horizontally, fire their ordnance, and then remask. Based on a quick battle damage assessment, the FAC then directs the aircraft to engage the enemy again or to disengage. Because the AP was compromised, standard practice is to move to another location within the AP or to an alternate AP before firing again.

10-185. In hover fire, the helicopter may either be stationary or moving slightly. In either case, the pilot must keep the aircraft stable, for most accurate delivery of ordnance. In moving hover fire, the helicopter deliberately makes horizontal movement, which may be in any direction. However, movement is always below effective translational lift airspeed. The pilot can allow the helicopter to drift with the wind, if the threat situation and terrain permit.

10-186. If their weapons afford them a greater standoff range than enemy air defense systems can range, attack helicopters may not be concerned about masking. This allows them to employ their ordnance at the maximum range capable, and with a clearer shot at the target. These conditions also facilitate use of stationary hover fire.

10-187. **Running Fire.** If not employing a static AP with hover fire, attack helicopters can perform an attack using running fire (Figure 9-19). They can attack as a company or break down into pairs. Both simultaneous and successive attacks can be conducted from either one or two directions depending on the situation and target area.

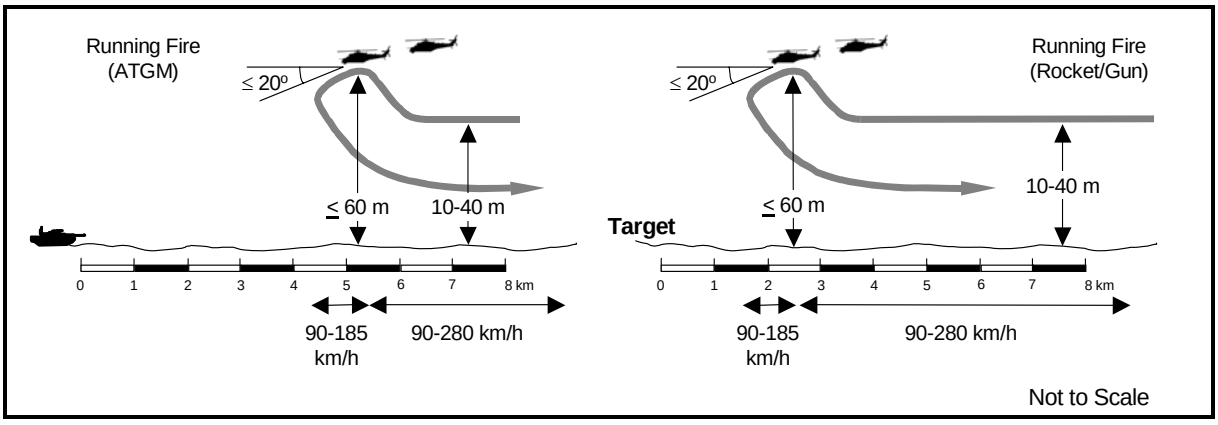


Figure 9-19. Running Fire Profiles

10-188. The running fire profile is flown with an altitude that is terrain-dependant and is characterized by an increase in altitude prior to weapons release in order to acquire line of sight to the target. Airspeed varies between 90 and 280 km/h. The forward airspeed during running fire adds stability to the helicopter and thus increases the accuracy of ordnance delivery, especially for rockets. The dive to engage the target also results in fewer rotor down-wash effects on munitions, further increasing accuracy.

10-189. Engagements using running fire begin with a high-speed, low-altitude run using one of the movement techniques from the IP to the AP. The flight commander selects an IP about 8 to 10 km from the target. The IP is typically an easily identifiable terrain feature along the desired route to the target. Beginning at the IP, the helicopters move toward the target, usually at contour altitudes, using terrain to mask the approach. Once the AP is reached, the flight commander directs the helicopters to climb and acquire the target. When the target is identified, the helicopters execute a

shallow dive toward the target and engage it. Depending on the range of the weapon system to be used for the engagement, they may level off for a short distance, between acquiring the target and beginning a dive toward the target.

10-190. The distance at which the helicopters begin the dive and begin firing depends on the type of ordnance to be used. The helicopters begin firing during the dive, as they reach the most effective range for their munitions. The wingman maintains his position during the firing run and releases his ordnance simultaneously with the lead. The running fire profile can be used for delivery of either guided or unguided munitions.

10-191. For firing *guns* or delivering *unguided rockets*, helicopter pairs acquire the target and enter a shallow dive, not exceeding 20 degrees, along the attack heading. For delivery of fire from guns, the dive may begin about 1 km to 1.5 km from the target and the helicopters begin firing. For firing rockets, the dive might begin from 1 to 5 km from the target, depending on the range of the rockets used. The wingman generally maintains an echelon position behind the lead, and both aircraft fire their guns and/or rockets, disengaging as soon as the ordnance is expended. Disengaging the firing run features a descending turn in an attempt to remask. The disengagement turn is away from the wingman. This maneuver allows multiple pairs to attack the same target, with each pair covering the disengagement maneuvers of the preceding pair. Timing between pairs can be as little as 15 seconds, but is normally 20 to 30 seconds. The timing is dependent on the overall threat to helicopters, and their ability to cycle sorties into the target area. Total exposure time from attack initiation to remasking averages 15 to 30 seconds, dependant on whether the target location is known or the pilots must search before acquiring.

10-192. The running fire profile can also be used when employing *ATGMs*, but with some modifications. Altitude on the approach may vary with terrain, but usually is within a contour flight mode. During the pass, the pilot initiates the approach, while the weapons operator attempts to visually acquire the target and gain line of sight for the weapon system. Once the target is acquired, the helicopter must be kept on a stable flight path as the weapons operator tracks the target and fires the ATGM. Firing usually occurs from 2 to 8 km away from the target, depending on ATGM carried. After launch, the helicopter must remain stable to keep the target within the constraints of the operator's sights to maintain line-of-sight with the target. Minimum aircraft exposure times, at missile maximum effective ranges, can be up to 25 seconds depending on type of missile.

10-193. At the end of the firing run (regardless of the types of munitions delivered), all aircraft break off and dive down and away from the target area, leaving at minimum altitude and using terrain masking. The FAC then directs the aircraft to return to the same AP, a different AP, the IP, a holding area, or a refueling point. If more than one pass is needed, helicopters may approach from another direction, or from the sun, to hinder visual identification. This type of attack is normally conducted during daylight. Yet, attacks using this technique can be conducted with the use of flares during darkness or periods of limited visibility if the target is illuminated. Target

identification and engagement distances are shorter when using this technique at night.

CS and CSS Helicopter Employment

10-194. Combat support and CSS helicopters primarily perform preplanned missions to support the ground force commander. In this role, these helicopters are employed individually or in pairs across the width and depth of the battlefield, but primarily in the support zones, to perform their individual missions as required. If they are flying in areas where enemy contact is likely, they operate with attack helicopter escort.

10-195. The CS and CSS helicopters fly to an LZ/PZ established by the ground force unit. It is carefully planned to ensure a landing area clear of debris and with minimal slope. The takeoff and landing direction is into the wind, and landing spots within the LZ/PZ are carefully marked to allow proper spacing and safe operating distances between aircraft. The marked sites should allow for both larger and smaller helicopters to maneuver in the LZ/PZ without their rotor downwash interfering with the operation of each other.

10-196. An airfield or LZ/PZ without an air traffic controller would have an assigned air-to-air radio frequency. Inbound flights make a call on that frequency approximately 10 km away. In this radio call, the flight commander states his intentions, requests information on the wind direction and the established landing direction, and passes all pertinent information: number of aircraft, formation used, and loads carried. If other aircraft are already operating in the LZ/PZ, they return the call stating their intentions, size of helicopter, and their location and number within the LZ/PZ. They also notify the incoming flight of the landing direction in use, and the inbound flight adopts the same procedures.

10-197. Similarly, if the helicopter or flight is arriving at a specific unit's LZ/PZ, the flight or formation leader makes an initial radio call to the ground force point of contact on a predetermined frequency upon entering the AOR. Another radio call is made 3 to 5 km away from the LZ/PZ. If there are no other aircraft operating in the vicinity, the flight commander or flight leader states his intended landing direction. Once communication is established with the ground force and landing is assured, the aircraft requests a frequency change from the VTDP, and continues with no positive air traffic control into the LZ/PZ.

10-198. On takeoff, similar procedures are followed. The flight commander announces his intentions to taxi and takeoff. If operating alone in the LZ/PZ, he can set his own procedures. If operating in conjunction with other aircraft, he uses the procedures already in effect. Another radio call is made to notify the LZ/PZ traffic the flight is clear of the LZ/PZ. The aircraft or flight lead then reports when leaving the ground forces unit's AOR.

WEATHER AND NIGHT CAPABILITIES

10-199. Some OPFOR aircraft possess limited aerial night and adverse weather capabilities. Night-vision goggles or night systems are not regularly employed, yet the OPFOR continually improves techniques for air support

operations in bad weather and at night. Although most aircraft are equipped for navigation during darkness and limited visibility, they are not equipped well enough to perform their tactical mission the same as if it were daylight. Night systems, infrared radar, or avionics upgrades are readily available for procurement on the open market. Regardless of modern systems capabilities, the OPFOR still expects pilots to navigate by land, search for targets visually, and determine distances to targets. The effectiveness of air support depends on the ability of aircrews to positively identify targets in prevailing weather and light conditions.

10-200. The OPFOR realizes that system upgrades and improvements are financially more attainable and easier to procure in smaller numbers. It also understands that every aircraft in the inventory does not require the modification. Similarly equipped units or higher-capability aircraft working in conjunction with unimproved aircraft can still present a definitive edge to OPFOR aviation and the ground force commander. Even a limited number of upgraded aircraft may have a significant impact on the battle.

10-201. Currently, flights in poor weather or at night are primarily conducted by helicopters, since they are routinely employed in marginal weather conditions, well below those acceptable to fixed-wing aircraft. They navigate through the use of instruments. This forces air assets to fly at a higher altitude and at slower airspeeds. Although this allows the OPFOR to accomplish missions in less than ideal conditions, it exposes the aircraft to greater danger. They are no longer afforded the cover and concealment of terrain, and may be unsupported by direct fire coverage from friendly ground force units.

10-202. Older or unmodified OPFOR aircraft are not likely to have any night-fighting capabilities without the aid of artificial illumination. Artificial illumination is still not adequate to fire ATGMs using day-only visual sighting, although guns and rockets can be effective under these conditions. If employed, illumination (flares or illuminating rounds) is fired from artillery or aerial platforms to assist friendly forces in engaging the enemy during periods of darkness or limited visibility.

10-203. The use of precision munitions offers a higher probability of the ordnance hitting the target than conventional projectiles or rockets that have ballistic trajectories. Precision munitions may be used for surgical air attacks in minimal weather conditions against targets like bridges, small targets (weapon emplacements or armored vehicles), and specific buildings. External stores racks may allow OPFOR aircraft to carry precision munitions, yet most aircraft do not have the systems to aim or deliver these weapons to hit their intended targets. The munitions must be guided by other ground-based sources. Newer or recently modified aircraft may be able to deliver precision munitions in bad weather or at night.

Chapter 11

Air Defense Support

The OPFOR system of air defense includes the strategic, operational, and tactical levels. This chapter concentrates on tactical-level air defense. It discusses operational-level air defense when it contributes to an understanding of tactical air defense and the relationship between the two. More detailed information on air defense at the strategic and operational level can be found in FM 7-100.1. The goal of the tactical air defense system is to reduce the effectiveness of enemy air attacks preventing enemy air action from disrupting the activities of ground forces.

AIR DEFENSE SYSTEM

11-1. Air defense effectively supports the concept and requirements of combined arms combat. A large number and variety of weapons and associated equipment integrated into a redundant air defense system best accomplish air defense.

CONCEPTS

11-2. OPFOR air defense doctrine emphasizes two key and interrelated concepts. The first is that air defense is an integral part of combined arms combat. The maneuver unit commander who disregards the enemy air threat or fails to properly plan for defending against it risks mission failure.

11-3. The second concept is that air defense weapons, radars, and associated equipment cannot be regarded as single pieces of equipment or even units engaged in combat actions but as parts of an integrated system of air defense. Proper integration of these assets as both a system and integral part of mission planning and execution for mission accomplishment is the ideal way the commander can effectively deal with the enemy air threat.

11-4. Against a regional neighbor the OPFOR has confidence that it can effectively conduct a totally integrated air defense; however, it also recognizes that it is unlikely to be able to defend its entire airspace in the event of extraregional intervention. Fundamentally, the OPFOR accepts that it may not be able to employ a nationally integrated air defense system against a modern extraregional force. Thus the OPFOR is prepared to adapt its air defense operations and tactics to employ integrated air defense at sector levels. At sector level units may be hard-wired and do not require as large a footprint physically and electronically.

11-5. In choosing to fight within sectors, the OPFOR accepts risks, in that air defense sectors present seams in the defenses and may be unable to provide mutual support. On the other hand sector defense porvides three descrete benefits: facilitating passive air defense, reducing the signature of defensive

systems, and enabling the OPFOR to mass air defense assets from dispersed sites to protect the most critical targets. The OPFOR also employs passive air defense techniques including dispersal, deception, and camouflage. To the exent possible,it disperses high value assets.

PHASES

11-6. Essential to integration and successful employment at the strategic and operational level is the use of three phases. The first includes all actions taken to destroy enemy aircraft before they are employed. Aviation, surface-to-surface missiles (SSM), special-purpose forces (SPF), affiliated organizations, and artillery are used to destroy air command and control (C^2) facilities, aviation support facilities, and the enemy's aircraft while they are still on the ground. This phase is conducted using primarily strategic and operational assets of the Army and the Air Force. The second phase aims at destroying enemy aircraft while in flight and before they enter the airspace over OPFOR ground maneuver forces. Again this mission is performed primarily at the strategic and operational levels. Interceptor aircraft and long- and medium-range surface-to-air missiles (SAMs) conduct this phase of the air defense. The third phase entails the destruction of enemy aircraft that have penetrated into the airspace over OPFOR ground maneuver forces. Tactical fighters, short- to medium-range SAMs, antiaircraft (AA) guns, and other weapons of the ground maneuver units execute this phase. It is in this phase that ground-based tactical air defense plays its primary role. The objective is to deny enemy aviation the ability to interfere with ground maneuver units. Air defense forces can accomplish this either by destroying enemy aircraft or by forcing them to expend their munitions beyond effective range or diverting their aircraft before reaching their targets.

PRINCIPLES

11-7. The OPFOR follows several basic principles when conducting air defense: surprise, firepower, mobility, continuity, initiative, coordination, and security. Of these, the element of surprise is the most critical.

Surprise

11-8. Achieving surprise is fundamental to any successful air defense battle. At the tactical level, surprise can be achieved through a variety of means. The positioning of air defense systems in unexpected locations; the use of camouflage, concealment, cover and deception (C^3D), and the use of non-air defense systems in conjunction with air defense systems can all be important in creating the element of surprise.

Firepower

11-9. The OPFOR force structure includes a wide variety of air defense weapons (both missiles and guns). This mix of capabilities gives ground force commanders outstanding firepower for air defense. It is important that air defense planning consider and employ all assets available, across all arms to achieve maximum firepower.

Mobility

11-10. When planning air defense, the commander must always consider the mobility of air defense weapons and the time required for their deployment. The ground forces, for which air defenses provide cover, are quite mobile and frequently change formation as they deploy. The air enemy is mobile and can attack from many directions or altitudes. Therefore, the commander must use to the maximum the mobility and firepower of his assets, creating optimum groupings and fire plans. Tactical dispersion of ground maneuver forces has become increasingly important and the commander must take this requirement into consideration when assigning missions and deploying air defense assets.

Continuity

11-11. Air defense forces must provide continuous protection of critical organizations and assets. Only constantly moving air defense units that have adequate logistics support can ensure comprehensive coverage. They must provide air defense day or night in all weather conditions. Mobility contributes directly to continuity.

Initiative

11-12. The modern battlefield is a fluid and volatile environment where air defense unit commanders must respond to constant changes in the situation. This demands aggressive action, initiative, and originality. Commanders must operate efficiently when communications with other air defense units fail. If the supported unit receives a modified mission, the commander must reevaluate his own unit's deployment in light of the new requirements. He also must be aware of changes in the tactics enemy air forces employ.

Coordination

11-13. The OPFOR stresses coordination between supported maneuver and supporting air defense units, between air defense units, and with other arms. It views air defense as a single system composed of various parts. All tactical-level air defense weapons must coordinate precisely with flanking units, with operational-level air defense, and with aviation. Failure to coordinate can result in gaps where they are not wanted, excessive ammunition expenditure, and casualties to friendly air forces.

Security

11-14. The OPFOR recognizes that enemy air assets can attack from any quarter. Therefore, it must provide security for units at any depth and from any direction. Air defense must function with unremitting reliability and overall security. This requires careful deployment, uninterrupted ammunition supply, and a comprehensive early warning system. Commanders must factor security into air defense planning.

ASSETS

11-15. The OPFOR inventory of ground-based air defense weapons includes a variety of missiles, guns, and support equipment. The OPFOR has an administrative force structure that manages its military forces in peacetime. This

force structure is the aggregate of various military headquarters, facilities and installations designed to man, train and equip the forces. In peacetime forces are commonly grouped for administrative purposes into army groups, armies, or corps at the operational level and into divisions or separate brigades at the tactical level. In wartime these administrative headquarters serve as force providers during the creation of fighting headquarters. Especially at the operational level, and often at the higher tactical levels, the OPFOR's go-to-war structures can differ from the administrative force structure. Other parts of the administrative force structure consist of assets centrally controlled at the national or theater level, such as the national-level Air Defense Forces under the Air Force.

Administrative Force Structure

11-16. There are air defense weapons at every organizational level from army group through maneuver company. The OPFOR has large numbers of surveillance and target acquisition radars. The majority of air defense surveillance radars are concentrated above the tactical level. Since OPFOR air defense is so closely integrated at various levels of command, it is difficult to discuss air defense assets without some examination of those systems in the army groups, armies, or corps of the administrative force structure.

11-17. Regardless of the number of armies or corps, an army group will normally include an early warning regiment or brigade, two long-range SAM brigades, an air defense division, and an air defense jamming regiment. The air defense division's structure, that is the number of SAM brigades and AA gun regiments it will have, corresponds directly to the number of armies and corps assigned to the army group.

11-18. Armies contain a long-range SAM brigade and an early warning battalion while the corps has the long-range SAM brigade but no early warning battalion. See the applicable OPFOR organization guide for more information regarding air defense assets at army and corps level. In time of war and dependent on the mission, these assets would normally be allocated to operational strategic commands (OSCs).

Operational-Strategic Commands

11-19. The OSC is the OPFOR's primary operational organization. It is to these operational-level headquarters, activated during time of war, that forces are allocated from the administrative force structure. Most of the air defense organizations located at army group, army or Corps level will normally but, not always, be found at OSC level. It is also at this level that air defense, would be able to use joint assets of the Army and the Air Force.

Divisions

11-20. Most maneuver divisions contain a SAM regiment. The regiment is fully capable of providing air defense coverage for the entire division. Divisions can be assigned to create task-organized division tactical groups (DTGs). When this occurs, consideration must be given to allocating additional air defense assets to insure protection of the augmented force. In some situations the DTG may be allocated assets normally associated with operational-level organizations.

Divisional and Separate Brigades

11-21. Divisional maneuver brigades contain organic air defense assets**.** They may also have additional assets within their assigned battalions. Like the division, brigades may be task organized as brigade tactical groups (BTGs) and may require additional air defense assets to protect newly allocated units. A brigades or BTG can serve as detachments to perform a specific offensive mission and the organization of its air defense assets requires careful consideration in light of that mission. Separate brigades typically contain a more robust capability than divisional brigades, even without augmentation.

Battalions

11-22. Maneuver battalions may or may not have organic air defense assets. Battalions, like brigades, can serve as detachments to perform a specific offensive mission. When assigning air defense assets to battalions or brigades designated detachments, planners need to pay special attention to the command and support relationship they assign (see Chapter 2).

Tactical Level Assets

11-23. Tactical-level air defense includes short- and medium-range SAMs, short-range AA guns, and shoulder-fired SAMs. Tactical air defense assets may also include some combination AA gun and missile systems, offering added flexibility. The OPFOR's tactical air defenses support the need to protect ground forces and the desire to seize any opportunity to shoot down high-visibility (flagship) enemy airframes.

11-24. The OPFOR believes that every soldier with a shoulder-fired SAM is an air defense firing unit. The small size and easy portability of these systems provides the opportunity for ambush of enemy airframes operating in any area near OPFOR units. The OPFOR could also employ them to set traps for enemy helicopters in an attempt to bring down what it perceives to be an enemy flagship system.

11-25. Throughout maneuver units, there are a number of systems designed for air defense and other systems that can be used in an air defense role. The heavy AA machineguns on tanks are specifically designed for air defense. Machineguns on APCs and automatic cannon on IFVs can engage both ground and air targets. Some antitank guided missiles (ATGMs) can be effective against low-flying rotary-wing aircraft. Field artillery and small arms can also be integral parts of the air defense scheme.

11-26. Radar-controlled self-propelled AA guns can fire on the move. Aside from short-range air defense, they also can be employed against all but the heaviest of enemy ground force systems, as well as against personnel, with devastating effects.

11-27. A variety of relatively new systems, which significantly enhance air defense capabilities, have entered the OPFOR inventory. These include but are not limited to remote helicopter infared (IR) sensing devices and passive acoustic acquisition systems. Anti-helicopter mines are widely available and increase the OPFOR ability to deny firing positions and landing sites to enemy rotary-wing aircraft.

11-28. The OPFOR also recognizes that air defense is a combined arms effort. The use of artillery in conjunction with anti-helicopters mines against attack helicopter firing postions is just one example of this approach. The OPFOR continuosly looks for new and adaptive ways of employing not only air defense systems but also systems not traditionally associated with air defense. (See the All Arms Air Defense portion of Chapter 5.) It attempts to adapt these systems and develop new tactics which may help to fill the void when a specific capability is denied by a more sophisticated enemy.

NONLETHAL AIR DEFENSE ASSETS

11-29. The OPFOR also uses nonlethal air defense-related systems, such as air defense jammers and radar corner reflectors, it sees the employment of such systems a potential combat multiplier, when employed in conjunction with SAM and AA gun systems.

Air Defense Jammers

11-30. OPFOR operational-level commands can have air defense jamming units. These units employ a variety of radar and communications jamming and target acquisition systems. Electronic intercept systems provide targeting information to the jammers.

11-31. Air defense jammers target the onboard emitters of enemy aircraft used for terrain-following, navigation, and radar-aided bombing, as well as airborne radar reconnaissance systems. The goal of jamming these systems is twofold. The primary goal is to force the attacking enemy aircraft to alter their flight profile, bringing them into the targeting umbrella of SAMs or AA guns. Jamming the terrain-following radars or radar altimeters employed by attacking aircraft does this by forcing low-flying aircraft to gain altitude. The secondary goal is to cause the aircraft to miss their target or abort the mission through the disruption of radar-aided bombing and target acquisition systems.

11-32. The OPFOR deploys air defense jamming assets, in conjunction with lethal systems, to defend what the OPFOR has identified as high-value assets. Examples of these include air bases, major logistics centers, critical lines of communication (LOCs) and choke points, and higher-level military command posts (CPs).

Corner Reflectors

11-33. Passive systems such as radar corner reflectors provide a low-cost and effective addition to expensive air defense jammers. These systems can deceive enemy airborne surveillance and target acquisition radars by providing false or multiple targets. Corner reflectors can also mask or distort radar reference points.

GPS Jammers

11-34. The OPFOR also can employ low-cost GPS jammers to disrupt aircraft navigation and precision munitions targeting. GPS jammers are also effective against cruise missiles.

PASSIVE AIR DEFENSE MEASURES

11-35. In addition to active air defense, the OPFOR practices a variety of passive air defense measures, particularly use of camouflage, concealment, cover, and deception (C^3D).

11-36. When conducting actions against a superior foe, the OPFOR must seek to operate on the margins of enemy technology and maneuver during periods of reduced exposure. Sophisticated camouflage, deception, decoy, or mockup systems can degrade the effects of enemy systems.

Camouflage, Concealment, Cover, and Deception

11-37. The OPFOR emphasizes the use of natural terrain and vegetation, camouflage netting and other artificial materials, smokescreens, and decoy equipment to provide C^3D. Deception includes dummy positions and decoys. The OPFOR can use quick-setup, high-fidelity decoys; derelict vehicles; radar emitter decoys; quick-hardening foams; and many other types of manufactured and field-expedient means. It also employs simple heat sources to confuse infrared sensors and weapons seekers.

11-38. The dispersion measures discussed below should be employed with consideration of the protective and screening properties of natural and artificial screens, and would be combined with thermal camouflage and engineer preparation of positions. Natural screens consist of vegetation, terrain folds, populated areas, and local features or objects. Artificial screens include camouflage nets that would enhance natural screens, and radar-opaque screens using local features, radar nets, metallic nets, and corner reflectors. Concealment would be combined with the use of dummy positions, using decoy equipment and activities. Like real positions, dummy positions would be changed periodically. Dummy emitters and jammers would be used to attract enemy reconnaissance and targeting.

Maneuver and Dispersal

11-39. Maneuver and dispersal of air defense assets, both emitters and other types of equipment, is important for their survival in both combat and march formations. Sudden maneuver and periodic changes of position are simple and effective means to counter enemy reconnaissance and precision weapons; these measures are planned and implemented at the tactical level.

11-40. All, or only a portion of, the elements of air defense units may maneuver to alternate positions, depending on such factors as the degree of air threat, time of day, and meteorological conditions. The first elements to shift positions are those that have performed combat alert duty for an extended period, or that have been deployed in the position they currently occupy since before the onset of combat. The optimum configuration for shifting to alternate positions involves no more than one-third of the assets of a given unit shifting at one time, to maintain adequate air defense coverage.

11-41. The OPFOR uses certain rules of thumb for distances related to dispersion and distances of air defense units from supported units and from the battle line. The OPFOR recognizes that these distances vary with the situation and the threat. Of special concern is the enemy ATGM and precision weapon capability. If it is high, the OPFOR increases the spacing between

SAM launchers and the distances of air defense systems from the battle line. Ideally, the degree of dispersal for units would be the same whether the enemy is employing conventional or precision weapons or even tactical nuclear weapons. A general rule for the degree of dispersion is that the enemy strike should not destroy two adjacent units simultaneously. A maximum of one-third of a unit should be vulnerable to a single precision weapon or nuclear strike.

AIR DEFENSE SECURITY

11-42. Other measures taken to improve air defense system security include the following:

- **Signals security**. SAM and AA gun system radars, which move forward to cover the initial assault, remain silent until after the assault begins.
- **Frequency spread**. Each of the air defense systems operates within separate radar frequency bands. (No one jamming system could operate simultaneously against all bands.)
- **Frequency diversity**. Tracking and guidance radars change frequencies to overcome jamming.
- **Multiple and interchangeable missile guidance systems**. Some OPFOR systems work on pulsed radar; others work on continuous waves. Some radar tracking systems also possess optical tracking for continued operations in a high electronic counter-measure (ECM) environment; others systems use infrared homing.
- **Mobility**. All OPFOR tactical air defense systems and most operational-level systems are mobile. They can quickly change positions after firing or after enemy reconnaissance units detect them.

COMMAND AND CONTROL

11-43. It is the intent for air defense forces at all levels of command to create a continuous, unbroken umbrella of air defense coverage. An integrated communications system is established to provide target information and early warning to air defense and ground maneuver units. Integration is both vertical and horizontal. Vertical integration is between the strategic, operational and tactical levels, while horizontal integration is within each of these levels. Enemy capabilities may present a situation where a totally integrated system at the strategic and or operational level is neither possible nor even desirable (see FM 7-100.1) At the tactical level, the commander normally strives to achieve horizontal integration. His ability to integrate or be integrated vertically will depend on the air defense course of action taken at the next-higher level. Commanders should be flexible and prepared to use non-standard solutions to prevent gaps from developing during combat.

CENTRALIZATION VERSUS DECENTRALIZATION

11-44. Air defense C^2 relationships are subject to conflicting pressures for centralization and decentralization. Factors favoring the former include greater efficiency and effectiveness of centralized target detection systems and the increased ranges of modern SAM systems. Factors favoring the latter

include the need for flexibility to support fast-paced operations by maneuver units and the many contingencies that can arise in local situations.

11-45. Centralized control is necessary, especially during defense, to ensure that the coverage of air defense units is mutually supporting and comprehensive. At the same time, decentralized control is required as OPFOR air defense commanders are expected to demonstrate aggressive action and originality, responding to changes in the tactical situation and operating effectively when cut off from communications with other air defense units.

DUTIES AND RESPONSIBILITIES

11-46. At division and brigade, the commander of the air defense units at that level has the following duties and responsibilities:

- Organize, plan, and conduct the air defense of the organization.
- Prepare recommendations on the employment of air defense assets.
- Contribute to the maneuver commander's decision-making process.
- Know the situation, status, and capabilities of air defense units at any stage of the battle.
- Issue orders to air defense units and staffs of subordinate units.
- Direct the regrouping of forces during the battle.
- Coordinate logistics support of air defense units.
- Establish coordination between air defense units.
- Organize communications.
- Provide liaison to the division or brigade staff.
- Monitor the execution of orders.
- Assist subordinate units/staffs.

11-47. It is the unit commander who is responsible for the success or failure of these operations. For example, during the planning phase, the division or brigade commander (assisted by the aerospace operations officer and force protection staff officers) personally directs the deployment of his air defense weapons to support his mission and establishes priorities and procedures for logistics support. At the maneuver battalion level, the maneuver battalion commander has overall responsibility for the organization and conduct of air defense.

11-48. The OSC commander plays a major role in the control of air defense assets of his subordinates. He may direct some assets be used to augment the air defenses of the OSC. He may direct that other assets be used to provide OSC-wide coverage of gaps. There may be situations when the OSC will specify how divisional maneuver brigades employ their air defense batteries. Although this would not be common practice, a lack of assets within the command could require that the OSC commander take such action. The division can dictate how maneuver brigades employ their air defense batteries. Finally, the maneuver brigade's air defense commander has overall responsibility for the coordinated air defense coverage and administrative control of the shoulder-fired SAM gunners constituent to the maneuver battalions.

11-49. The operations section is the primary staff section responsible for air defense. Within that section is the aerospace subsection that does the planning and insures that those plans are executed within the commander's intent. The aerospace subsection is assisted in this effort by the force protection staff element. It is the force protection staff element that receives liaison teams from constituent, dedicated and supporting air defense units associated with the division or DTG.

COMMAND POSTS AND COMMUNICATIONS

11-50. The division aerospace operations officer (AOO) and his staff normally colocates with the division staff at the division main command post (CP). Also located there is the aviation control group with whom he closely coordinates for airspace management. (See Chapter 9 for additional information on airspace management.) A staff member is located at the forward CP to represent the AOO and advise the division commander.

11-51. The division air defense organization has a target acquisition battery that includes surveillance and height-finding radars, identification friend or foe (IFF) interrogators, communications vehicles, and CPs. The surveillance section of the battery provides redundancy in that it can take over the CPs function in an emergency. The basic rule for the establishment of communications between supported and supporting unit is that the higher command allocates landline, radio relay, and mobile communication means, while radio equipment is allocated by both higher and subordinate levels. This ensures proper coordination of communications. If communication is lost, the commanders and staffs of all units involved are responsible for the immediate restoration of communication. An air defense and NBC warning communications net is established to warn maneuver units, the staffs, and logistics units of incoming enemy aircraft. The warning is communicated through signal equipment that is specially allocated for this purpose.

RECONNAISSANCE

11-52. Reconnaissance is a perfect example of the systematic approach the OPFOR takes in conducting air defense. Although this chapter primarily addresses ground-based air defense at the tactical level, ground-based and airborne reconnaissance assets at the operational level play a major role in gathering, integrating, and disseminating information to tactical units. The principal objective of reconnaissance is to establish a system that not only provides the earliest possible warning of approaching enemy aircraft but also develops target information for planning and conducting the air defense. The OPFOR concept of air defense reconnaissance includes terrain reconnaissance and air surveillance.

TERRAIN RECONNAISSANCE

11-53. Both the commander of the supported maneuver unit and the commander of the supporting air defense element usually conduct terrain reconnaissance. A preliminary map reconnaissance can tentatively identify positions for deployment of air defense weapons in defensive positions, along movement routes, or in areas to be seized by advancing forces. (See also Movement of Air Defense Units in this chapter.) Significant emphasis is

placed on identifying all potential attack routes for low-flying enemy aircraft of all types. Routes of approach suitable for armed helicopters and positions from which these helicopters might fire ATGMs are of special concern, since the OPFOR considers such helicopters an especially serious threat to ground maneuver units.

AIR SURVEILLANCE

11-54. Air surveillance is conducted by radar, electro-optical means, and by visual observation. Radar is used for technical surveillance, providing an all-weather detection capability. Radars fall into the general categories of surveillance and fire control. Surveillance radars include early warning, target acquisition, and height-finding radars. Some fire control radars also have a limited target acquisition capability.

11-55. Preliminary target data is passed from higher-level radar units to air defense commanders and their firing batteries; this practice reduces the vulnerability of battery radars and radar-equipped gun carriages and missile launchers to ECM. Ideally, only those aircraft that have been positively identified as hostile will be engaged.

11-56. Despite the presence of a technologically advanced early warning system, the OPFOR continues to stress the importance of visual surveillance. An effective system of visual surveillance may often provide the first warning of an enemy air attack, especially one conducted by armed helicopters using nap-of-the-earth techniques. This is especially true at the small unit level. Air observers are posted in all units when operating close to enemy forces or in areas where enemy air attack is considered likely. In the defense, posts are set up at suitable locations, usually on terrain offering good visibility, near CPs, and/or close to air defense units in firing positions. During tactical movement and during both the defense and offense, observers are posted on each vehicle. Observers are changed frequently to reduce fatigue and maintain their effectiveness.

11-57. The information required by air defense units is divided into two categories. The first category includes all data from which a determination of probable enemy air actions may be derived. These data are necessary for planning and organizing the air defense system. Included in this category are—

- Tactical-technical characteristics and combat capability of enemy aircraft.
- Composition and strength of enemy air power.
- Locations of airfields and forward arming and refueling points (FARPs).
- Avenues of low-level flight.
- C^2 sites.
- Potential armed helicopter firing positions.

11-58. The second category includes data on which to develop a clear picture of the air situation and determine the enemy's plans, air order of battle, and strike objectives. These data are needed to conduct the air battle (assign targets to fire units or reposition units. Included in this category are the exact

coordinates (which change constantly), types, numbers, direction, speed, and altitude of aircraft in flight. The determination of the first category of information is a joint responsibility of all reconnaissance elements, and the second is the specific responsibility of air defense reconnaissance and target acquisition elements.

MISSION ASSIGNMENT

11-59. Whatever the nature of combat being conducted by maneuver forces, the actions of supporting air defense units are, as the term implies, inherently defensive. Assigning specific missions to air defense units requires an understanding of the types of missions, the planning considerations involved, and the engagement procedures used.

MISSIONS

11-60. The primary mission of OPFOR ground-based air defense systems is to protect maneuver units and installations from attack by fixed- and rotary-wing aircraft, thus reducing the availability of enemy air assets to influence the development of the ground battle. As part of the overall air defense effort, these forces also perform a variety of other missions, including the following:

- Timely detection of incoming aircraft, continuous tracking of airborne targets, and warning troops of attacking aircraft.
- Protection of the immediate rear with a primary emphasis on protecting targets that play key roles in supplying troops.
- Destruction of enemy reconnaissance aircraft.
- Destruction of airborne or air assaults during overflight, airdrop, or landing.
- Prevention of deeper penetration by enemy aircraft, in cooperation with adjacent air defense elements.
- The prevention of reinforcement or resupply of encircled enemy forces.

MISSION PLANNING AND EMPLOYMENT CONSIDERATIONS

11-61. Missions are assigned to air defense units after detailed studies of the role and features of the defended unit or area. Assignment of an air defense mission normally is based on the availability and technical characteristics of air defense units. Consideration is given to—

- The effective range of the air defense unit's specific weapon system. If the effective range does not exceed 10 km, the air defense unit is not assigned a mission covering 30 km. The same applies to altitude; a unit of small-caliber AA guns is not assigned a mission of independently protecting an object that can be successfully hit by an airstrike from altitudes over 2,000 m.
- Effectiveness of fire of an air defense unit's weapon usually is described by its probability of destroying an air target. If the probability is small, the object may be covered by several air defense elements.

- If enemy aircraft are capable of striking the object during any weather condition, units without fire control radar are not capable of providing adequate air defense.
- An air defense system chosen to defend a given object must have at least the same mobility as the object defended.
- The availability and capability of early warning and target acquisition radars, weapons, electronic jamming and electronic protection measures ability, and the operating requirements of these systems.

11-62. The essence of an air defense unit's combat mission can be expressed in two words: "to cover." Combat orders indicate the combat units to be covered, as well as the starting time and duration of the air defense mission. Also given are the degree of readiness and procedures for conducting fire, procedures for organizing early warning, target acquisition, and communications; routes of movement to the fire or launch position area; coordination between ground troops and friendly aviation, control, communications, and logistics elements, and other applicable instructions.

11-63. The characteristics of the objects to be defended are the determining factors in the tactical employment of air defense units. Primary among these are the combat function and location of the defended unit or object. This is determined primarily by the role and location of ground combat units, logistics units, and the current tactical situation. Other factors have a considerable influence on a decision as to the type and quantity of air defense units assigned, such as—

- **Sensitivity of the target**. A fuel dump is more sensitive to air strikes than a fuel depot. A mountain road is considerably more critical than a road on a plain, since damage to the road surface would forces troops to halt in the first case, but not necessarily in the second.
- **Geometric dimensions of a target**. The larger the target, the greater the probability of its being hit. If a target's dimensions are large, it can be attacked from horizontal flight at medium-to-high altitudes. In most cases, targets of smaller dimensions would be attacked from very low altitudes or by diving aircraft.
- **Mobility of a target**. Targets maneuvering on the battlefield are harder to locate and attack than are fixed targets. The enemy will, therefore, most likely attempt to destroy them immediately upon detection. Stationary or immobile targets are not necessarily subject to air strikes immediately upon their detection, but as the tactical situation warrants.
- **Weather and visibility**. Various kinds of weather and night time conditions can affect the possibility of attacking aircraft locating a target. The possibility of attacking aircraft locating a target in various kinds of weather and at night. Reference points on the approaches to the target, and at the target's location, can be used for navigational fixes to more accurately acquire the target.

11-64. The tactical importance of units and facilities is not constant but changes during the course of combat as assigned missions are accomplished. For example, the role of a battalion advancing along the main axis and that of a battalion removed to the reserve are not of equal importance with respect

to successful accomplishment of the combat mission. Also, a water-crossing site loses value after the main body of troops has crossed it. Over time, there is a systematic and continuos reappraisal of the role and function of combat units and support facilities. Their role and signifigance in accomplishing the overall mission can change and therefore their priority for protection can change also. In certain cases, there may be insufficient air defense assets to cover all targets. In those cases, air defense units are relieved from covering targets that have become of secondary importance and are assigned to cover new, more important targets to ensure the ability of the combined arms forces to complete their missions without interference from enemy air action.

11-65. Air defense planning is not strictly limited to considerations for the employment of air defense systems. It also includes coordination with other arms. Air defense planners should view air defense as pulling together all aspects and potential contributions of other arms to supplement and complement the air defense plan Airspace management is one obvious requirement; however, there is also the need to identify likely air avenues of approach and hovering sites for enemy rotary-wing aircraft. The hovering sites would be submitted through artillery channels as preplanned targets available on-call. Similar coordination is also required with electronic warfare elements and engineers.

ENGAGEMENT PROCEDURES

11-66. Aircraft posing the greatest threat are engaged on a priority basis. Aircraft are engaged with as many weapons as possible and in the shortest time possible to achieve the greatest destructive and deterrent effect. The preferred engagement technique is to continue firing at an already engaged target rather than to switch from target to target, unless a later-acquired target seriously threatens the air defense unit itself or a high-priority target. The OPFOR would rather engage an enemy aircraft prematurely and waste some ammunition than wait too long and allow the aircraft to gain a favorable attack position. Aircraft are fired on as long as they remain within range. Air observers and weapons crews outside the attacked sector maintain continuous observation and readiness to fire in order to prevent the enemy from conducting a successful attack from several directions simultaneously.

11-67. The OPFOR emphasizes that air defense units do not have to destroy aircraft to accomplish their mission, although such destruction is obviously desirable. The mission is accomplished if air defense units prevent enemy aircraft from conducting successful air activities. For example, air defense units can force enemy aircraft to break off their attacks or to expend their ordnance inaccurately without having to destroy the aircraft. In fact, the mere presence of active and effective air defense weapons systems can reduce the effectiveness of enemy air activities by forcing aircraft to avoid the systems or to operate using less than optimum procedures.

EMPLOYMENT TECHNIQUES

11-68. The details of the employment of air defense assets are not templated, carbon copy solutions. Employment options depend on several factors, some of which are—

- Missions assigned.
- Scale of the missions.
- Availability and capability of systems.
- Enemy air order of battle.
- Priority of the protected target.
- Conditions under which combat is waged and the type of combat.
- Specific terrain and meteorological conditions.

Whatever the nature of combat actions conducted by maneuver forces, the actions of supporting air defense units must prevent enemy aircraft from successfully attacking maneuver forces engaged in either offensive or defensive actions.

MOVEMENT OF AIR DEFENSE UNITS

11-69. Where time permits, alternate positions are reconnoitered and prepared in advance. Ideally, major movements are conducted at night or in adverse weather. The OPFOR seeks to maintain effective air defense coverage by ensuring that not all elements relocate at the same time, leaving one or more firing batteries in their positions to provide coverage while others move. If the air threat is not imminent, the air defense unit may move separately to its new position. In this case, the air defense battery commander usually conducts an initial map reconnaissance and designates the movement route and tentative firing positions in the new area. He sends out a reconnaissance patrol that normally consists of one of the firing platoon leaders, several soldiers and a vehicle. This patrol conducts route reconnaissance, identifies temporary firing positions along the movement route, and conducts limited NBC reconnaissance. The reconnaissance patrol then confirms the suitability and location of the new positions. The reconnaissance patrol can operate as part of a supported maneuver unit's reconnaissance patrol, as part of the reconnaissance patrol of the next-higher air defense unit, or it can carry out its mission independently.

11-70. Ideally, every air defense unit should have two to three alternate positions; movement to them can be carried out at night or under conditions of limited visibility whenever possible. Air defense units would most likely move to alternate positions immediately after enemy reconnaissance aircraft have overflown their current position, after an air strike has been repulsed, or after units have been at a single position for an extended period.

11-71. For divisional air defense assets, this extended period of time would consist of approximately 4 to 6 hours, after which they would move to alternate positions. This time could obviously be reduced when there is a high threat of air or precision attack. In some cases, given the systems' capability to do so, moves could take place as often as every 10 minutes. For more information see Passive Air Defense Measures.

11-72. The total time for movement of air defense units includes the time for leaving the position, moving to the area of the new position, and occupying this position. It is the mission of commanders and staffs to reduce this time to the minimum, since during this period the unit is removed from battle. However, a necessary condition for air defense effectiveness is the destruction of

enemy aircraft on the approaches to the supported units. This must be taken into account, along with survivability considerations, when determining the frequency of changing positions. The procedure and time periods for movement, and occupying and preparing positions, are determined during planning for combat.

LOCAL SECURITY AND SELF-DEFENSE

11-73. Air defense units at division and below are usually deployed close to enemy ground forces, where vulnerability to both ground and air attack is significantly greater. Self-defense against air attack is accomplished through the use of the unit's primary weapons and small-caliber AA guns and shoulder-fired SAMs.

11-74. Units equipped with AA guns can defend themselves against ground attack, to some extent, through the employment of their systems in a direct fire role. Personnel armed with light antitank weapons can augment local ground defense capabilities. If SAM batteries are threatened by ground attack, they can move to more secure positions without seriously degrading their capability to continue their primary mission.

AIR DEFENSE OF TACTICAL MOVEMENT

11-75. The OPFOR anticipates that units conducting tactical movement may be subjected to intense attacks by both fixed-wing ground-attack aircraft and armed rotary-wing aircraft. They also recognize that these attacks can occur anywhere on the battlefield. Accordingly, units engaged in movement are protected by their organic assets and, in many cases, are allocated additional air defense assets from their parent unit.

11-76. In general, air defense units are integrated into tactical units and are ready to fire. Many SAM and AA gun systems can be fired on the move; however, stationary engagements are preferred. SAM units that require setup time may move along separate routes by bounds, alternating moves by platoon or battery. Tactical units may also receive air defense coverage from air defense units of higher echelons and possibly adjacent units. In the interests of secrecy, air defense radars and associated communications systems of the moving unit are placed in a standby and receive-only mode, respectively, unless absolutely required to engage enemy aircraft.

11-77. Enemy air attacks are considered particularly likely at obstacles (such as river crossings) or at choke points (mountain passes, defiles, or places where off-road movement is restricted, such as in swampy areas). To ensure air defense coverage for units moving through such areas, a portion of a unit's air defense weapons may be dispatched ahead of the unit to deploy in and around the obstacle to provide effective coverage as the unit passes. The remainder is spread throughout the supported unit. If adequate coverage of the unit can be maintained by higher-echelon and adjacent unit assets, then the entire air defense unit may be sent forward of the parent unit formation. Alternatively, individual batteries or sections may be sent ahead. If the restricted terrain area is of such size as to exceed weapon and or sensor coverage of the air defense weapons, then air defense elements may move by

bounds ahead of each other to provide continuous coverage by the parent unit.

11-78. Reconnaissance and air surveillance are vital to protecting moving units from air attack. Air observers are posted on all vehicles, and air defense elements, including shoulder-fired SAM gunners, remain ready to engage targets at all times. As in other tactical situations, shoulder-fired SAM gunners are assigned specific sectors of observation and fire to preclude several gunners engaging one target. Vehicle-mounted weapons are also employed. For example, anti-aircraft machineguns on tanks are specifically designed for this purpose; missile-firing tanks have a capability against rotary-wing aircraft. If the tactical situation requires and terrain conditions permit, surveillance and target acquisition radars may be set up at suitable locations adjacent to the movement routes to provide continuous radar coverage.

11-79. Brigade air defense weapons play a major role in the defense of units on the move. These systems are normally employed in mutually supporting pairs. System range determines the distance that can be maintained between them. The systems must also ensure that they maintain sufficient distance from other vehicles to ensure an unobstructed field of fire in engaging low-flying aircraft. Whenever a column stops, even for brief periods, brigade systems pull off to the side of the road with the rest of the column and remain ready for action.

11-80. Battery personnel who are not operating with the firing platoons may be directed to engage enemy aircraft with small-arms fire. In some circumstances, a supported unit may continue to move while the air defense elements halt to engage enemy aircraft. This is not the recommended course of action, because it leaves the supported unit with reduced or no coverage while the air defense elements are engaged.

AIR DEFENSE AMBUSHES AND ROVING UNITS

11-81. The OPFOR recognizes the disproportionate effects that sudden, unexpected destruction of an aircraft or small group of aircraft can have can on enemy tactics and morale. For example, the surprise destruction of one or two lead aircraft on what the enemy perceived to be a clear avenue of approach, could cause an enemy airmobile assault to be called off or seriously disrupted. Air defense ambushes may set up at temporary firing positions to surprise and destroy enemy aircraft and disorganize enemy fixed-wing aircraft and rotary-wing operations. Ambushes and roving air defense units can cause the enemy to believe that significant air defense units are located in areas where actually there are only a few weapons. This can reduce the effectiveness of enemy reconnaissance and the likelihood of enemy air attack in the area concerned. Tactical air defense ambushes usually comprise a single AA gun or SAM weapon, section, platoon, or battery with the mission of engaging enemy aircraft from a hidden or unexpected position.

11-82. Air defense ambushes are placed on secondary and tertiary air avenues of approach, along flanks, forward, behind and in gaps between units. Often they are placed in terrain that offers poor fields of observation and fire "window shots." Ambushes can be placed in valleys or defiles likely to be used as ingress/egress routes by infiltrating aircraft, or placed on adjacent

heights to shoot down onto them; or placed just behind a crest to catch aircraft from behind as they clear a ridge. Single launcher shoulder-fired SAM ambushes may be set up on wooden platforms built in treetops to catch aircraft flying over a forest.

11-83. In urban areas, AA guns or blinding lasers could be set up within the top or middle floors of buildings to fire laterally or even down on low-flying aircraft while remaining unseen from almost every angle. Weather conditions may also facilitate the use of an air defense ambush. For example, low cloud bases may force enemy aircraft down into the envelope of a particular weapon. Ambushing units may work in concert with smoke/aerosol dispensing units, or ground-based jammers that jam low-flying aircraft's terrain-following radar, forcing it up into the ambush weapon's optimum engagement envelope.

11-84. Occasionally AA guns may choose not to employ their radars, using strictly electro-optical sights. This tactic takes into account the capability of modern aircraft, including attack helicopters, to detect radar and infared systems.

11-85. Air defense ambushes are often employed when there is a perceived inadequacy of air defense assets. Typical missions include defending second-echelon maneuver units, CPs and reserves, artillery and missile units, other air defense units in firing positions, river-crossing sites, and first-echelon maneuver units.

11-86. The unit or weapon assigned to an air defense ambush usually occupies the site in hours of darkness or under the cover of poor visibility conditions. The unit or weapon is carefully camouflaged and keeps all its emitters off or in "dummy load" until ordered to engage a target. It may assume a hide position and establish local ground security and air observers. Depending on the unit or weapon involved and the situation, it may be able to receive automated surveillance and target tracking data from its parent unit. More than one air defense ambush, involving more than one weapon type may be established along an air avenue of approach. These may work independently or in concert depending on the situation. Target engagement decisions may be left up to the ambushing unit commander.

11-87. Air defense ambushes may be planned and executed on short notice with little preparation, or involve elaborate preparation and camouflage, tracking enemy aircraft over several days to discern operational patterns and possibly weaknesses, optimum weather patterns for a specific ambush site. Detailed preparations can involve removal of tracer ammunition from AA gun ammunition belts so that near misses do not alert the target aircraft, or construction of air observers/shoulder-fired SAM "tree-stands" in remote locations, with provision made for the alert of the ambush unit through wire, visual, or radio signals. Decoys or derelict weapons may be placed to draw the attention of enemy aircrews, causing them to enter the ambush zone or fire at the wrong target. Visual decoys can be made more believeable through the use of imitative communications or even decoy emitters. The key to a successful pre-planned ambush is creating a credible target or set of targets that the enemy will attack. Special engagement techniques may be used, such as

delaying radar illumination until the last possible moment, coupled with a favorable cloud base and remote track information from other sensors.

11-88. When a target is detected, the ambushing weapon or unit prepares to engage, which may involve removal of some camouflage, or a short movement from its hide position to its firing position. The ambushing unit fires on the target until it is destroyed or until the target moves out of its firing zone. After ensuring that it is safe to move, the ambushing unit or weapon immediately displaces via a concealed route to a new ambush site or returns to its parent unit.

11-89. Employment of roving units is similar to that of air defense ambushes. The primary difference is that, while an ambushing unit lies in wait for approaching enemy aircraft, a roving unit moves to the most likely areas of enemy air attack and occupies a series of predesignated positions in the supported unit's area of responsibility (AOR). The commander of the roving unit identifies these positions during his terrain reconnaissance and coordinates them with the air defense and maneuver unit commanders. The roving unit occupies these positions according to a prearranged schedule or on order of the air defense unit commander. Ambushing and roving units terminate their missions and return to previously designated primary firing positions upon direction of the commander of the parent air defense unit.

AIR DEFENSE AGAINST UNMANNED AERIAL VEHICLES

11-90. The OPFOR recognizes the increasing importance of unmanned aerial vehicles (UAVs) on the battlefield to both its own forces and those of the enemy. They can perform high-and low- altitude missions, collect the full spectrum of intelligence, and immediately downlink the data to a ground station. They have the capability to loiter or to fly deep. They can collect against a predetermined target or look for targets of opportunity. Their construction can make them difficult or easy to detect.

11-91. Typically the enemy conducts reconnaissance missions using UAVs operating in the "window" between low-flying helicopters and higher-altitude fixed-wing aircraft. This altitude window is between 300 to 4,000 m. The most common technique is to approach the target area at high altitude and, once at the target area, drop down to a lower altitude that optimizes the capabilities of the sensor package on board. Once the mission is complete in the target area, the UAV climbs to higher altitude and departs the mission area.

11-92. Most UAV systems consist of three basic subsystems: the air vehicle, the ground station, and the launcher. (In some cases the latter two may be one vehicle.) There are also a variety of communication data links between the ground station and the air vehicle. Some systems also include satellite links. Countering tactical UAVs requires not only an integrated air defense system but also an integrated all arms approach. Air defense commanders and planners should view the three UAV subsystems as three separate targets which can be countered through a variety of means. This view reinforces the concept of an integrated system that includes coordination with others arms to ensure all targets are addressed. These means are both passive and active.

PASSIVE

11-93. Since the mission the UAV is executing may not be apparent, actions should be taken to counter all possibilities. The integrated use of the passive measures described under survivability combined with C^3D can reduce the effectiveness of UAVs. The use of a variety of decoys provides a false picture of the mission area to the enemy and to a large extent can deny information or distort the information collected by the UAV.

ACTIVE

11-94. A wide variety and large number of active measures are available to the OPFOR to counter UAVs. The effectiveness of air defense radars can vary dependent on the radar cross section (RCS) and altitude of the vehicle. Of course, this does not preclude the use of radar, since these factors are considerations in detecting any aircraft. The relative small size of many UAVs obviously reduces their RCS.

11-95. A of sound-ranging systems are available which can provide early warning and azimuth of an approaching UAV. This in turn provides air defense weapons and maneuver unit weapons an opportunity to prepare for the vehicle's approach and to put up a large volume of fire, provided the UAV can subsequently be visually detected. The early warning provided by sound ranging increases the probability that visual observers will be able to spot the vehicle.

11-96. The location of UAV ground stations and launchers should constitute a high priority for reconnaissance. Since UAVs can also support enemy multiple rocket launchers (MRL) targeting and fires from long range, their priority for destruction increases. Locating these targets can be tied to artillery, MRL or aircraft strike complexes which can quickly engage the targets once the information is received. The use special-purpose forces operating in the enemy rear can also be a valuable asset in locating launchers and ground stations. They can either take direct action to destroy the targets or relay location information to allow other means to be employed against them.

11-97. Jamming techniques can also be used to counter UAV system data links. In some cases data links cannot be jammed but they can be monitored. The effectiveness of these procedures varies according to the UAV system being attacked. High power spot/barrage noise jammers can be effectively used to mask ground targets from side looking airborne radars. Many satellite up- and downlinks employed are through the use of the commercial telecommunication infrastructure. This infrastructure and supporting satellites can be jammed or monitored to some degree. Countering UAVs should not be viewed as just a defense against the aerial vehicle, although that is important. The air defense staff must coordinate with other arms to ensure that UAVs are being attacked not just in the air, but that their related subsystems are also addressed. The successful destruction of a UAV ground station has a far greater impact than the destruction of a single air vehicle.

AIR DEFENSE AT NIGHT

11-98. Air defense can be conducted at night or during other periods of reduced visibility almost as effectively as during periods of normal visibility,

because of the numerous surveillance and fire control radars in air defense units and the inherent limitations of enemy aircraft maneuvers and coordination at night. Commanders prefer to move or realign units at night or during other periods of reduced visibility to reduce the likelihood of detection by the enemy, and such moves must be covered by air defenses.

11-99. Air defense units frequently deploy closer to supported units at night and, like other units are more likely to conduct maintenance and resupply at night. The OPFOR recognizes, however, that the increasing night capabilities of aircraft and the proliferation of "night strike packages" requires air defenses be ready 24 hours a day.

11-100. The greatest difficulty in tactical night air defense is in evaluating the impact of terrain on a unit's tactical mission, especially if the unit is moving into a previously unoccupied area. If a timely and comprehensive terrain reconnaissance cannot be conducted because of darkness, movement and establishment of new positions are far more difficult. To assist in the accurate assessment of local terrain positions, air defense units use reconnaissance patrols when they relocate at night.

11-101. From a technical standpoint, IR systems have trouble acquiring targets during hours of darkness, because the gunner must visually acquire the target before launch. (This problem is shared by all shoulder-fired SAM systems. Thus, it is a target acquisition problem not a seeker limitation.) These problems can be significantly reduced with the use of available night-vision devices. In addition, various "clip-on" image-intensifier night sights can be fitted to some shoulder-fired SAMs. Some radar-guided SAMs possess electro-optical tracking backup that can be used in daylight hours in the event the radar is jammed, and a night low-light-level television channel for engagements in clear nighttime conditions. On some systems, the electro-optical mode is considered the primary mode for target engagement, with radar-only engagement mode being the second choice.

OFFENSE

11-102. The OPFOR ground force structure includes air defense units, which are equipped with a variety of systems having the firepower, mobility, and range to fully support fast-moving tank and mechanized forces in dynamic offensive operations. Air defense units of an OSC conduct basically an area defense, engaging enemy aircraft at some distance from the supported maneuver divisions and themselves. The divisional air defense regiments conduct primarily an area defense, though there is a significant element of point defense in support of the divisions maneuver brigades. Air defense by batteries and the shoulder-fired SAMs of the maneuver brigades is largely of the point type, owing to the nature of the units to be defended and the capabilities of their weapons.

ASSEMBLY AREA

11-103. Assembly areas are most commonly used in the offense and therefore are addressed in this section. Brigade or division assembly areas are essentially composed of a series of battalion assembly areas. The brigade commander assigns air defense elements, normally a platoon of AA gun or gun-

missile systems, the mission of supporting a particular battalion for a specified period of time. This period can begin before the battalion moves into its assembly area, in which case the platoon provides protection to the battalion during movement to the assembly area.

11-104. The air defense element may also join the maneuver battalion in the assembly area, although it is preferable to have both arrive at the same time to ensure the battalion is not exposed to possible enemy air attack. In either case, the air defense platoon leader reports to the maneuver battalion commander, and direct communications are established between the two units. The platoon continues to maintain communications with the brigade's air defense battery or battalion. It also receives information from the division air defense target identification and warning network; this ensures timely receipt of information on the tactical situation.

11-105. While in the assembly area, the maneuver battalion commander uses all available C^3D techniques to reduce the likelihood of detection. Additionally, a 360-degree surveillance of the surrounding airspace provides early warning, while proper placement of air defense weapons increases the engagement envelope to the maximum extent possible. The maneuver battalion commander and the supporting air defense platoon leader, from the parent brigade air defense battalion, work closely to integrate their weapons into an effective air defense plan. The battalion commander provides guidance for the placement of all air defense systems while the air defense platoon leader supervises the details of the placement of his weapons. As is the case in most tactical situations, the platoon leader must ensure that his AA gun-missile or gun systems are kept within mutually supporting distance. As a rule, one crew in each pair of systems remains alert, except when warning of an air attack is received. Any attached or organic shoulder-fired SAMs supplement the defense and the attached air defense platoon leader may be given some degree of control over the SAM gunners. Radio silence and light discipline are observed. If the supported unit is to remain in the assembly area overnight, the air defense systems are dug in.

11-106. Observation posts and firing positions are often colocated. This is especially true in the case of shoulder-fired SAM systems. The posts and firing positions should be positioned to provide comprehensive observation and interlocking fires on the most likely approach routes for low-flying fixed or rotary-wing aircraft. All other weapons, to include AA machineguns on tanks and ATGMs, are further integrated. Even planning for the use and integration of massed small-arms fire is essential to an effective air defense at the tactical level.

11-107. The net result of the proper planning and execution at battalion and further integration into the overall air defense scheme of the brigade, division, and higher levels of command is the requirement for enemy aviation to pass through overlapping coverage to attack the assembly area. Attacking enemy aircraft must first penetrate the OSC, and division engagement envelopes formed by their respective missile units. The aircraft then come within range of the maneuver brigade and battalion systems. Missile, gun and gun-missile systems engage enemy aircraft as soon as they come within range. Shoulder-fired SAM gunners engage aircraft that maneuver to avoid these systems or pass over the shoulder-fired SAM positions. Finally, small arms

and vehicle-mounted weapons engage enemy aircraft that pass over the maneuver battalions' positions.

AIR DEFENSE IN SUPPORT OF OFFENSIVE ACTIONS

11-108. Employment of air defense varies between the three basic zones that make up an organization's AOR. In the best case situation the division will have sufficient assets to provide coverage over it's AOR. Ideally, brigades or BTGs should also be able to provide coverage for their units and vertically integrate with division coverage. The degreee to which these assumptions apply depend on mission, assets available and enemy capabilities. Against a regional opponent the OPFOR is fully confident of its abilitily to provide complete coverage to its units at all times such coverage is required. In the event of extra reginal intervention and the OPFOR begins to transition to adaptive operations air defense must change accordingly.

11-109. The greatest exception to this "rule of thumb" could occur in the disruption zone. The commander may create a disruption zone that extends well into enemy-held territory. In this case, disruption forces operating in that area may or may not have coverage. SPF and affiliated forces may rely strictly on C^3D for protection from enemy air. Stay-behind regular forces should have sufficient man-portable assets to provide protection for the force. Some of the stay-behind forces may be air defense teams, equipped with man-portable assets and assigned pre-planned targets to ambush. Coverage for maneuver forces in the disruption zone is a priority, but air defense units may be assigned missions that are offensive in nature and not directly tied to the defense of a specific organization or site. Their missions could include establishing air defense ambush sites along likely air ingress routes, an integrated effort to destroy FARPs or aircraft using FARPs, and actions to destroy UAVs before they reach the battle zone.

11-110. Air defense in the battle zone requires assets that provide coverage and have the mobility to move with those supported forces. Relative to the battle and disruption zones the commander can afford to defend the support zone with less mobile assets. Requirements differ for units involved in the three types of offensive actions: the attack, the limited objective attack and the strike. These offensive actions are discussed in the following paragraphs.

Attack

11-111. There are two forms of attack: the integrated attack and the dispersed attack. An integrated attack has as its ultimate goal the penetration of enemy defenses and subsequent destruction of his support infrastructure. The integrated attack may be conducted from positions in direct contact with the enemy, or require a tactical movement forward from behind forces in contact. In the former case, the forces in contact constitute the bulk of the fixing force. While protection of this force is important, the situation may permit the allocation of fewer air defense assets in favor of the assault and exploitation forces.

11-112. The dispersed attack is normally conducted when confronted by a superior enemy and/or when unable to mass or provide integrated command and control. An important consideration in task organizing air defense assets

for the integrated or dispersed attack is the degree of movement required for the fixing force, the assault force, and the exploitation force to accomplish their missions. It is especially important to support units conducting the penetration, prevent the enemy from conducting air reconnaissance, and prevent him from locating the movement of forces and assets. During troop movement and deployment for the attack, an attack from the air represents the greatest danger; therefore, the primary mission of air defense is to protect that movement and deployment. During the attack, the positions of supported maneuver units change and the success of air defense units in performing their missions is determined by their ability to accompany maneuver forces without separating from them by a distance at which effective coverage is not maintained. The complexity and dynamism of the situation require systematic analysis of the supported units missions and maintaining continuous communication with them.

11-113. The assets contained in the division's air defense units are capable of providing the commander with true area defense and medium-altitude coverage. Their mission is to protect the division's maneuver elements and other units within its AOR. Assets redeploy as necessary to maintain coverage of advancing forces. Many systems are capable of providing air surveillance on the move and rely on their short setup time to respond to detected enemy aircraft. They can also displace by pairs or as batteries to provide stationary coverage of the force as it moves.

11-114. There is no fixed pattern of deployment. The decision for deployment depends primarily on the supported unit's mission, the terrain, and on the ground and air tactical situations. Generally, OSC level weapons deploy rearward from the forward edge at from one-third to one-half their engagement range. This rule of thumb applies to both the offense and the defense. (Some differences are identified in the defense section of this chapter.) The OPFOR recognizes that "rules of thumb" are just that, and the tactical situation and common sense may dictate that these distances and positioning be modified. Redeployment takes into account the requirement for maintaining mutual support among air defense units, covering the main threat, and providing comprehensive coverage to all elements within the division AOR. In addition to maneuver units, coverage must include the division headquarters, artillery units, and logistics units. C^2, terrain mobility, and dispersion to reduce vulnerability are also considered in both deploying and redeploying.

11-115. In the dispersed attack it is still the goal for the division to be able to provide coverage for all units in it's AOR. There may be times when dispersion is so great that this is not possible. In these cases the commander must strive to position his assets to support forces in priority of their importance to mission accomplishment. Some risk may have to be taken in certain areas and commanders should plan for increased C^3D and the increased use of other arms to assist in those areas. Allocation of air defense units is weighted in favor of maneuver units in those areas where the threat is perceived to be the greatest. Accordingly, maneuver elements normally have their organic air defense assets augmented by divisional air defense assets. If these batteries are equipped with SAMs, they need not operate in the maneuver brigade's formation; the range capability of their radars and missiles allows them to provide support from positions farther away. This provides an additional ad-

vantage to the commander in enabling him to more quickly shift priorities of air defense coverage in the event the enemy increases his attacks in other areas.

11-116. As the supported unit performs its assigned missions, it continuously changes its location and combat formation. The air defense unit commander must respond to these changes and redeploy his weapons in a timely manner to provide continuous and effective coverage to the supported unit. The methods of movement of air defense units in the offense depend on the situation, missions of the supported units, the effective range of systems, and their maneuver capabilities.

Limited-Objective Attack

11-117. A limited-objective attack seeks to achieve results critical to the battle by destroying or denying the enemy key capabilities through primarily military means. The primary objective of this type of attack is a particular enemy capability. This section discusses the role of air defense in protecting units involved in a limited objective attack. Air defense systems or organizations can also have a role as a key system conducting the attack. For example, air defense may be the principle means of destroying certain airborne flagship systems. There are four types of limited-objective attack: the sophisticated ambush, the raid, the spoiling attack, and the counterattack.

11-118. Air defense support to a sophisticated ambush requires special attention to task organizing. Elements involved may not have the constituent air defense assets required to protect them during the conduct of the sophisticated ambush. As in other situations, the commander must ensure that the assets allocated to them have the necessary mobility and capabilities to support the mission. Finally, consideration should be given to the amount of coverage provided by assets located at higher levels of command. The repositioning of some air defense assets within a division, for example, may allow continued protection of the division while also providing mid-altitude coverage for the sophisticated ambush element. From an air defense perspective, the key element in the sophisticated ambush is the fixing force. Since it's mission is to prevent enemy response and security forces from discovering the exploitation force it must be prepared to engage and defeat aircraft supporting suchforces.

11-119. The raid is similar to the sophisticated ambush in terms of the considerations for air defense. Given the nature of the forces normally associated with conducting a raid, air defense assets accompanying the raiding unit should be man-portable. The commander may also consider providing the majority of air defense support of the raid with systems not actually accompanying the raiding element. When assets do accompany the raiding elements, the situation and terrain may be particularly conducive to the establishment of air defense ambushes as a primary means of providing local coverage.

11-120. The spoiling attack allows less time for the commander to allocate additional assets to the force conducting the attack. This problem can be largely mitigated when initially allocating assets to the forces that typically conduct this mission. The commander must also be prepared to shift the priorities of available air defense units that on short notice could support the ac-

tion from their position or with a minimum of repositioning. Quick response forces which deploy by means of rotary-wing aircraft would be equipped with man-portable systems, and the requirement for a quick reassigment of priorities of other air defense units within range takes on extra importance.

11-121. Support considerations for the counterattack are similar to those of the spoiling attack. A key difference is that larger forces are involved due to difference in purpose. Commanders must be prepared to make rapid shifts in priority assignments. They should also begin anticipating requirements to support a rapid transition of the remainder of the force to offensive actions. Fixing forces involved in the counterattack should not require extensive changes in air defense mission assignment. The assault force, if one is used, needs sufficient assets to allow it to effectively engage rotary-wing aircraft that will be part of any mobile forces committed against it. The exploitation force requires sufficient assets to defend against air attack once discovered and to allow it to consolidate its gains.

Strike

11-122. A strike seeks to achieve a tactical or operational decision through the rapid destruction of a key enemy organization through a synergistic combination of massed fires and maneuver. Divisions conduct strikes. The maneuver is normally conducted in the form of a dispersed attack. Obviously the two key priorities for air defense units are protecting the maneuver force and precision fire assets. More than in any of the previously described offensive actions, a key component of the air defense plan is its integration into the deception plan. It is extremely important that air defense not serve as a means of assisting enemy forces in determining the disposition, location, and intention of units participating in the strike. This can be accomplished in a variety of ways. The most important is that air defense planners ensure that air defense units and decoy units or systems are arrayed in a fashion that will support the deception plan.

DEFENSE

11-123. As in the offense, the division and its subordinate brigades have sufficient assets to provide air defense coverage for all of their units. In cases where a DTG or BTG has been formed, additional air defense assets should be allocated to satisfy increased requirements. During transition and adaptive operations the employment of a decentralized defense, where C^2 capabilities have been degraded, sufficient assets are available to protect forces, but the ability to integrate horizontally and thus provide mutual support will likely be effected. The same would apply to the commander's ability to achieve vertical integration between brigade and division assets. In the integrated defense, the ability to integrate air defense assets is higher.

11-124. In a situational defense the limited time available determines the air defense organization. Under these conditions the role of mobility, actions of commanders and staffs, speed and secrecy in the maneuver of units and of their deployment, and the organization of C^2 increases.

ORGANIZING THE DEFENSE

11-125. When organizing the defense the commander designates three principal zones within his AOR. Each serves a purpose and provides a basic understanding of the types of missions air defense will perform in defending forces located within them. In the disruption zone, the OPFOR seeks to delay enemy forces or destroy them before they can decisively engage forces in the battle zone. The battle zone is the area in which the main defense force operates. The support zone is that area designed to be sufficiently free of enemy forces to allow effective logistics and administrative support of forces.

Disruption Zone

11-126. The forces defending the disruption zone are tasked to force the enemy to reveal his intentions, delay his advance, and to create lucrative targets. It is the area from which the division executes long-range fires and strikes and mounts an aggressive counter-reconnaissance battle. Air defense should provide area coverage to defend forces in the zone and provide point defense for key assets involved in conducting fires. It is essential that air defense assets assigned have mobility equal to those they are defending. Even the systems providing point defense must be highly mobile and capable of moving with units as they displace to hides or new firing positions or conduct survivability moves. Paramount to the success of air defense in the disruption zone is participation in the counter-reconnaissance effort. This effort must be both creative and aggressive. The extensive use of air defense ambushes located along likely routes of ingress and egress is essential. Early warning, tracking, and remote cueing are key. When necessary the OPFOR will move divisional assets normally located in the battle zone well into the disruption zone to accomplish this. This, in conjunction with the well-planned use of other arms to achieve what is traditionally thought of "counter-air or air defense" missions, allows the OPFOR to attack air platforms in the disruption zone and beyond.

Battle Zone

11-127. In the battle zone where the main defense force operates, emphasis is on protecting the fighting forces. This is accomplished through a combination of area and point defense. Priority for divisional assets is the protection of those forces where an enemy penetration is expected or those assigned to kill zones. Protection of long-range fire systems and reserves are the next priorities. Forces designated to stay behind in the disruption zone and move to hide positions are activated to conduct air defense ambushes from within enemy depth. The use of other arms to attack enemy rotary-wing aircraft at their firing positions is also part of the air defense effort.

11-128. Elements of the maneuver brigade's air defense unit deploy to cover its battalions. Their fires are integrated with those of the division. Where necessary divisional assets are assigned supporting missions to brigades. Brigade assets are pushed down to battalions when required. Shoulder-fired SAMs can augment the maneuver battalions, to close gaps in the coverage or establish ambushes.

Support Zone

11-129. In the support zone, the commander can assign less mobile air defense elements to protect assets. The use of point protection is increased relative to the other zones within the AOR. C^3D, particularly the use of deception positions, also take on special emphasis within the support zone.

AIR DEFENSE SUPPORT OF DEFENSIVE ACTIONS

11-130. Maneuver defense and area defense are the two basic types of defensive actions. Maneuver defenses are normally integrated defenses when they are part of a linear defense, while a decentralized maneuver defense normally occurs during transition operations when C^2D systems have been degraded to some degree. Area defense can be integrated or decentralized. Within the context of a larger operation, forces can conduct both maneuver and area defenses.

Maneuver Defense

11-131. The key to air defense support of the maneuver defense lies in mobility. Air defense units must be positioned to cover defending elements but capable of displacing with rapidly-moving ground maneuver forces. Ideally, most air defense assets can be positioned with the shielding force and provide adequate coverage for the contact force. Distances between the two forces are key in determining if systems can provide coverage to the depth required. In any case, it is essential that sufficient mobile assets be allocated to the contact force to cover its movement to the rear and to cover the flanks.

11-132. As the contact force initiates its movement to begin the hand-off to the shielding force, assets positioned with the shielding force to cover the contact force can begin movement by alternating bounds to the line where the the new shielding force position is located. In many situations, it may be possible to position longer-range systems behind the initial positions of both the contact and shielding forces. This increases the time and continuity of coverage and allows more time for displacement. Again, units could displace to positions behind the subsequent contact or shielding force positions. It is essential that planners allocate and position systems that are capable of responding to a highly fluid situation. Commanders should take advantage of range, mobility, and creative means of positioning to allow sufficient standoff to prevent their systems from being destroyed by enemy direct fire systems.

11-133. Air defense planners need to take into account the requirement to support rapidly executed ground counterattacks. Assets supporting and moving with counterattacking forces could be man-portable shoulder-fired SAMs. Longer-range systems are positioned with defending forces where they can cover the counterattacking force. In the maneuver defense, air defense units must displace more frequently than in the area defense. This displacement requires units or parts of units to move by bounds. One element continues cover while the other moves. This means reduced coverage for at least part of the time. Taking this into account, additional assets could be allocated to make up the difference. In any case, moves should be planned in detail and every effort made to reduce the number required. In the maneuver defense, the need for frequent displacement often mitigates the requirement for survivability moves.

Area Defense

11-134. The OPFOR conducts an area defense to deny key areas or when it is overmatched. The defense may be intended to preserve forces, force the enemy to withdraw, or inflict sufficient casualties to cause him to loose the ability to continue offensive operations. The main defense force occupies battle positions set in complex terrain. The disruption force conducts continuous combat actions to allow enemy forces no respite. Logistics are decentralized, often relying on caches that have been pre-positioned.

11-135. Air defense considerations in the disruption zone are similar to those found in the maneuver defense. Forces in the disrutption zone must be capable of rapidly attacking the enemy or shifting to a maneuver defense or a combination of the two. Frequent displacement is the rule. In many cases dispersed ambush forces and precision weapons systems will require point protection. Area coverage is desirable in trying to attack enemy aerial reconnaissance assets and preventing effective employment of ground-attack platforms. The disruption zone will require a relatively high density of shoulder-fired SAMs and a well thought out and executed air defense ambush plan.

11-136. The battle zone, set in complex terrain, presents a whole set of problems which the air defender must solve. Complex terrain limits the capabilities of line-of-sight systems. This includes acquisition, tracking, and firing systems. A detailed terrain analysis, which takes into account the masking features of the terrain, is essential. Although not desirable, some acquisition systems will have to be positioned on high ground to be effective. The use of C^3D is key to mitigating the vulnerabilities of systems so sited. No matter what techniques are used, there will be gaps in coverage. Some of these gaps may be areas in which the commander chooses to take risks. Others can be covered by shorter-range but more suitable systems. The use of ambushes from hides could be particularly effective as the enemy attempts to exploit these gaps.

Chapter 12

Engineer Support

The OPFOR realizes that engineer support is vital for the successful execution of combat. Due to the fluid nature of modern combat, effective engineer support is essential for ground forces to employ or preserve combat power, as the conditions dictate. Engineer support can give combat forces the ability to maneuver quickly to exploit windows of opportunity, and it can help change the nature of the conflict to something for which the enemy is not prepared.

ADAPTIVE ENGINEER SUPPORT

12-1. OPFOR engineers must be flexible enough to support two basic types of combat. The first is the fight against a regional enemy, in which the OPFOR expects to dominate what is generally a traditional, conventional fight. The second is the fight against the extraregional enemy, a fight in which the OPFOR expects to be overmatched in conventional capabilities. When the extraregional enemy builds up enough combat power to become the dominant force in the region, this will most likely compel the OPFOR to fight a defensive fight. In order to defeat this extraregional force, the OPFOR employs innovative, adaptive tactics to level the battlefield. An example of this innovativeness is the manner in which the OPFOR attempts to change the nature of the conflict. To accomplish this, the OPFOR attempts to place the enemy on the defense rather than offense, wherever possible. One means of accomplishing this is the constant and ubiquitous use of mine warfare. There is no sanctuary for the enemy—mines are everywhere. Two examples of this are—

- Emplacement of "toe-popper" mines on enemy foot traffic routes to produce wounds, not kills. This stresses the medical evacuation system and creates a tentativeness among enemy soldiers. This could be tied in with attacks on the enemy's medical evacuation system.
- Maximum use of antihelicopter mines against possible attack helicopter firing positions or landing zones.

Other examples of adaptive methods engineers are likely to employ against an extraregional enemy (in addition to methods used in a more conventional battle) are interspersed throughout the Defense section of this chapter.

MISSIONS AND TASKS

12-2. The primary engineer missions performed in combat are reconnaissance, mobility, countermobility, and survivability. Some example s of specific tasks are to—

- Reconnoiter the enemy and the terrain.
- Prepare fortifications.

- Prepare and maintain routes of movement and supply.
- Clear passages through obstacles and areas of destruction.
- Equip and maintain gap crossings.
- Establish engineer obstacles.
- Extract and purify water and establish water supply points.
- Carry out engineer measures to eliminate the aftereffects of nuclear, biological, and chemical (NBC) and precision weapons.
- Support information warfare and carry out engineer camouflage, concealment, cover, and deception (C^3D) measures.

12-3. The OPFOR plans the complete integration of civilian and military engineer resources. For example, maneuver commanders may use civilian earthmoving, road-building, and construction equipment and personnel in support zones. This allows constituent combat engineer equipment and personnel to accompany maneuver forces in battle. Civilian workers or maneuver units can perform many basic combat engineer tasks, with engineers providing guidance and technical expertise.

12-4. Engineer tasks are a shared responsibility throughout the OPFOR. For instance, combat troops, as well as engineers, perform mine warfare tasks such as minelaying, minefield recording, and mine removal or breaching. Engineer and combat arms personnel also perform survivability tasks such as constructing fortifications, clearing fields of fire, and camouflage. The same is true for water-obstacle crossings, where some units and equipment can ford, swim, or snorkel across with little or no engineer support. Although the highest level of engineer training and the greatest technical capabilities exist in the engineer troops, all military personnel and units train in fundamental engineer tasks.

12-5. The OPFOR's intent is to make the entire force as flexible and capable as possible while minimizing dependence on limited engineer support. This allows maneuver forces to autonomously execute rudimentary or basic engineer tasks. It also frees the engineer troops to—

- Perform engineer-specific or critical tasks supporting the maneuver commander's intent.
- Exploit and expand successful engineer effort begun by the combat troops.
- Support units that have little or no engineer capability.

COMMAND AND CONTROL

12-6. Engineer units allocated to a tactical group in constituent or dedicated relationships may be retained directly under the command of the tactical group commander. Rather than keeping all organic and allocated engineer assets under his direct command and control (C^2), the tactical group commander may suballocate some of his constituent or dedicated engineer units to his subordinate units. Additionally, tactical group commanders con-

trol—but do not command—other engineer assets that are allocated to them in a supporting relationship

12-7. In the case of a DTG, the commander can allocate engineer units to his integrated fires command (IFC) and/or integrated support command (ISC). Some engineer units may be grouped under the integrated support groups (ISGs) that perform combat support tasks for the IFC or the division.

STAFF RESPONSIBILITY

12-8. In maneuver divisions and brigades, engineer officers are permanent members of functional staff subsections under the chief of force protection and the chief of infrastructure management, who in turn advise the operations officer within their respective areas of expertise. Additionally, an engineer liaison team from each subordinate or supporting engineer unit supports the staff. It provides the operations officer with detailed expertise on engineer functions and direct communications to subordinate units executing such functions. The engineer liaison team also coordinates, as necessary, with other staff elements, including the chief of information warfare (IW). Liaison team leaders speak for the commanders of their respective units.

12-9. The maneuver commander specifies the tactical combat action(s) of his subordinate and supporting units, their start time and duration, and the area for these actions to take place. With this information, the engineer officers on his staff determine the required engineer missions to support the maneuver commander's plan. They prioritize engineer efforts to execute the technical tasks necessary to accomplish the overall mission. They can then determine the appropriate mix of troops, equipment, and materials necessary to perform the tasks under current conditions. They advise the commander and his staff on the best employment of available engineer assets to support the maneuver commander's mission, intent, and objectives.

12-10. The engineer liaison teams keep their respective engineer unit commanders informed of requirements for engineer support and pass on any guidance from the maneuver unit commander and staff on possible task organization. Then they monitor the execution of the directed missions. They provide input to the maneuver commander's combat orders and battle plans, the reconnaissance plan, the obstacle plan, and deception plans. They help organize the crossing of water obstacles and other barriers, and the preparation and maintenance of movement routes. They coordinate with the division or brigade chief of logistics regarding the preparation, improvement, and maintenance of supply and evacuation routes.

12-11. The main steps that the liaison teams perform in support of combat actions are—

- Helping the engineer unit commander decide the appropriate organization of engineer support and reporting it to the maneuver commander.
- Participating in the reconnaissance conducted by the maneuver commander.
- Monitoring the completion of tasks by engineer units during the preparation for, and conduct of, combat.
- Reporting the status of engineer support to the maneuver commander.

TASK ORGANIZATION

12-12. There are no doctrinal constraints on task organization for mission success. The ability to allocate assets downward and to task organize is restrained only by the availability of assets and the nature of the mission.

12-13. Although engineer assets generally are constituent at no lower than brigade level, the OPFOR prefers to task organize for mission success at even lower levels, when the assets are available. This may dictate that, instead of maintaining engineer units, the commander may choose to break them down and combine them into smaller (sometimes much, much smaller) multirole engineer support elements. These engineer elements range in size from companies down to multirole platoons and engineer squads.

12-14. Engineer assets deploy throughout the battlefield and perform numerous distinct missions simultaneously during the course of the battle. In this way, route-clearing assets perform one function, while others perform demolitions, lay mines, construct obstacles, prepare defensive fighting positions, or set up water purification sites. Occasionally, the combined arms commander can also attach to these groupings additional non-engineer assets, such as artillery, tank, or infantry troops. He can also augment maneuver elements with the engineer groups.

12-15. The following is a list of typical task-oriented engineer groupings:

- Obstacle detachment (OD, see Countermobility).
- Movement support detachment (MSD, see Mobility).
- Engineer reconnaissance patrol (ERP, see Engineer Reconnaissance).

SUPPORT TO INFORMATION WARFARE

12-16. The complete integration of engineer support of IW is critical at the tactical level, especially when fighting an extraregional enemy. Deception is one of the basic elements of IW. Engineer support of the deception plan is vital for the deception to succeed. (See the subsection on C^3D above.) Engineers' largest role in an integrated deception plan is that of constructing physical decoys (simulations in deception positions) enabling the enemy to see what he expects to see.

12-17. However, engineer support to IW is not limited to C^3D measures. For example, engineers may support the IW campaign with psychological warfare activities to lower morale and instill a sense of tentativeness among enemy soldiers, and to undermine confidence of "enemy-friendly" populations. This can be achieved simply by the ubiquitous use of booby traps and AP mines. See Chapter 7 for additional information on IW at the tactical level.

ENGINEER RECONNAISSANCE

12-18. Engineers conduct reconnaissance independently, or combined with chemical and reconnaissance elements. If the maneuver unit commander needs unique, specific engineer data for planning and preparation, he may order or request the use of engineer assets to form engineer reconnaissance

patrols, observation posts, and photographic reconnaissance posts. Engineer reconnaissance elements usually gather the following information:

- Enemy engineer preparation of fighting positions.
- Location, type, and composition of enemy obstacles.
- Conditions of roads, bridges, water obstacle-crossing sites, and routes.
- Presence of local building materials and water supplies.
- Protective and camouflaging properties of the terrain.
- Enemy obstacles and demolitions created both during the preparation for the attack and during the attack.
- Movement routes and trafficability of off-road terrain for the attacking combat units.
- Locations where the enemy established obstacles during his withdrawal.
- Water obstacles on the main axis of advance.
- Local materials available for engineer tasks.

12-19. Water obstacles place additional requirements on engineer reconnaissance missions. Depending on the situation, an engineer reconnaissance patrol, the reconnaissance element of an MSD, or engineers constituent to other forces can reconnoiter a water obstacle. The reconnaissance includes determining—

- The depth, width, and current velocity.
- The composition of the bottom.
- The presence of underwater obstructions or mines.
- Possible fording, ferrying, bridging, and snorkeling sites.
- The composition, height, and slope of the banks.
- Approach and exit routes.
- The camouflage potential of the area.
- The presence and nature of obstacles on the banks.
- Critical terrain features overlooking both banks.
- The composition and types of enemy equipment and obstacles.
- Information on the nature of enemy fortifications and defensive positions enemy defenses.

RECONNAISSANCE PATROLS

12-20. To provide engineer expertise, the OPFOR can attach engineer specialists to accompany a division, brigade, or even battalion tactical reconnaissance patrols. Additionally, reconnaissance elements of maneuver units can provide limited engineer-related information, although with less technical precision. However, under most conditions, the missions of all these reconnaissance elements preclude them from concentrating solely on engineer requirements. Therefore, the maneuver commander may order or request the engineer unit to form its own engineer reconnaissance elements to provide the specific data he needs for planning.

12-21. A brigade (or in some cases, a maneuver battalion) can include two or three engineer reconnaissance personnel in a regular reconnaissance patrol or security element. When engineer personnel augment other patrols in this manner, there is not likely to be a separate engineer reconnaissance patrol.

ENGINEER RECONNAISSANCE PATROLS

12-22. When the engineer mission is expected to be a complicated one, however, it is better to form one or two engineer reconnaissance patrols. Such patrols vary in strength from a squad to a platoon. The use of two patrols allows the conduct of engineer reconnaissance by the leapfrog method. Ideally, the engineer reconnaissance patrol(s) would begin their mission 1 to 2 hours before the main body of the brigade or battalion starts to move. They assess the routes chosen by the staff, checking the validity of plans made from a map and reporting on—

- Obstacles and the effort required to overcome them.
- Conditions of crossing sites on water obstacles.
- The general nature of the terrain.

Engineer advice is an important element in the selection of routes and crossing points.

12-23. Engineer reconnaissance patrols vary in strength from a squad to a platoon. A divisional brigade is more likely to form a squad-size patrol from its engineer company. The engineer reconnaissance patrol can also include one or two NBC reconnaissance specialists.

ROUTE RECONNAISSANCE

12-24. When engineers reconnoiter routes, one of their goals is to identify anything that could impede mobility. They report information on the condition of the roads, obstacles and bypasses, and bridge locations to the commanders of the engineer and/or maneuver units that sent them out. Taking into consideration any guidance from supported commanders and their staffs, the engineer unit commander can increase the size of his reconnaissance element and divide it into smaller teams in order to cover several points simultaneously. This allows him to assess a large number of features in the shortest amount of time.

12-25. When moving in areas where contact with enemy forces is unlikely, the engineer or maneuver commander can send an engineer reconnaissance patrol ahead to obtain the required data. When anticipating enemy contact, engineer reconnaissance and data collection may be limited to reports from troop reconnaissance elements reporting on the engineer aspects observed along the route.

12-26. When reconnoitering routes, engineers attempt to—

- Verify the condition of the route.
- Determine aspects of off-road terrain.
- Identify all obstacles and locate bypasses or recommended breach sites.
- Inspect bridges and dams.
- Identify suitable halt and assembly areas.

12-27. When the OPFOR route of advance encompasses potential water obstacles, engineer reconnaissance patrols try to find spots to set up ferry and bridge crossings, plus assembly or preparation areas. If bridges exist, engineers gather information on the support structure, load capacity, necessary repairs, and the presence of mines and demolitions on the approaches and on the bridge itself.

MOBILITY

12-28. Due the dominance of the OPFOR in the region when fighting a regional foe, the OPFOR generally has freedom to maneuver wherever it wants whenever it wants. If the enemy hinders the movement of the OPFOR the OPFOR has alternatives because it dominates the region. However when fighting an extraregional foe, it is especially critical that the OPFOR maintain the ability to move unimpeded. This ability allows the OPFOR to control the access and tempo of enemy forces. As long as the OPFOR has complete access to the battlefield, it will allow no sanctuary to the enemy and determine the nature of the conflict. Engineer support can create opportunities for infiltration of small forces into unexpected locations, to inflict damage or to support IW.

12-29. Engineers are responsible for accomplishing tasks permitting the unimpeded movement of forces along the movement route, plus activities at assembly and halt areas. They also support the crossing of water obstacles. Figure 12-1 lists the specific engineer technical tasks that provide the required support for tactical missions prior to and during tactical movement.

Tactical Missions Requiring Engineer Support	Engineer Technical Tasks
• Preparation of assembly and halt areas. • Tactical movement. • Crossing water obstacles.	• Conduct engineer reconnaissance of enemy and terrain. • Clear passages in obstacles and perform demolition work. • Establish and maintain water obstacle-crossing sites. • Extract/purify water and establish water supply points. • Carry out engineer camouflage measures. • Prepare and maintain movement routes. • Prepare fortifications at assembly and halt areas. • Eliminate aftereffects of NBC attacks.

Figure 12-1. Engineer Support for Preparation and Conduct of Tactical Movement

MOVEMENT ROUTES

12-30. A maneuver commander determines the movement route. It can follow any line and may include existing roads, cross-country roads, and off-road areas. After careful consideration of reconnaissance data and consultation with engineer officers on his staff, he specifies the particular movement route(s)

his force will use. The engineer units and their liaison teams in the maneuver unit's staff are then responsible for planning and coordinating engineer support to prepare and maintain the specified movement routes. They provide input to the engineer support plan for the commander, who then issues orders, missions, and requirements to the constituent and dedicated engineer unit commanders for execution.

MOVEMENT SUPPORT DETACHMENT

12-31. The MSD is a task-oriented, temporary grouping of engineer assets to support route clearance and movement of the force in preparation for, and during tactical movement.

12-32. The composition of an MSD is not fixed and varies depending upon the—

- Condition of the terrain.
- Character of enemy actions.
- Amount of work necessary.
- Assigned rate of movement for the columns.
- Availability of engineer troops and equipment.

12-33. Since its different technical tasks involve different types of equipment, the MSD frequently task organizes into elements to allow concurrent actions along the movement route. Typical groups are a reconnaissance and obstacle-clearing element, plus one or two road and bridge construction and repair elements.

12-34. **Reconnaissance and Obstacle-Clearing Element.** Responsibilities of the reconnaissance and obstacle-clearing element include—

- Marking the movement route.
- Making immediate assessments of the terrain and obstacles.
- Identifying bypasses.
- Creating and marking passages through obstacles.
- Determining the character of destruction along the route.
- Locating building materials.

12-35. Reinforcing assets from the division engineer battalion can use explosive charges or mechanical equipment to overcome rubble, rock barriers, and dragon's teeth (concrete pillars or iron posts). Engineers can breach wire obstacles after examining them for boobytraps and electrification. Tree barriers may require the use of dozer blades or explosives.

12-36. The reconnaissance and obstacle-clearing element typically includes—

- An engineer unit base.
- Hand-held or vehicle-mounted mine-detection equipment.
- Explosives.
- Mineclearing vehicles such a tank with roller and plows.

- Route- or obstacle-clearing vehicles.

12-37. **Road and Bridge Construction and Repair Element.** The road and bridge construction and repair element usually has tank- or truck-launched bridges, route-clearing vehicles, and one or more engineer squads, plus cranes and road graders. The equipment varies depending on mission requirements and what was passed down from higher levels of command.

12-38. To support movement preparation, the engineer commander creates an MSD before the tactical movement. Their mission includes—

- Route reconnaissance.
- Mineclearing and obstacle clearing along the route.
- Reinforcement of bridges and repairs to roads.
- Construction of bypasses.
- Builds and reinforces bridges.
- Establishes fords and bypasses.
- Strengthens the route in swampy sections.
- Removes rubble.
- Repairs damage.

Position During Tactical Movement

12-39. While moving, the MSD travels in advance of the main body preparing the route so the main body can continue its advance unimpeded. Elements of the MSD are often performing tasks in proximity to elements of the security detachment (SD). The location of the MSD in relation to the SD depends upon the possibility of enemy contact. When enemy contact is likely, the MSD may follow the SD. If enemy contact is unlikely, the MSD may be well ahead of the SD.

OFFENSE

12-40. In support of the offense, engineers are responsible for providing the troops, equipment, and materials required to satisfy the tactical missions specified in Figure 12-2. This figure also identifies technical tasks that the engineers must perform in support of the offense.

12-41. During preparation for the offense, the engineers focus on four major activities:

- Preparing routes for the advance and employment of combat forces.
- Providing survivability support to units in assembly areas.
- Establishing passages in obstacles and minefields.
- Equipping crossings over water obstacles.

12-42. During the offense, the engineers' primary mission is to support the attack and assist in maintaining a high tempo of combat. Once the attack has started, engineer troops continue to perform tasks contributing to high rates of advance. Occasionally, they create obstacles to protect flanks, disrupt counterattacks, and block enemy reinforcements. Ongoing engineer reconnais-

sance is performed independently or in conjunction with other reconnaissance elements.

12-43. The OPFOR views commitment of exploitation forces or reserves as one of the most critical and vulnerable periods of combat. Engineer troops play a vital part in ensuring its success. They ensure the force's timely arrival on the line of commitment and provide support for its deployment and protection against flank attacks.

Tactical Missions Requiring Engineer Support	Engineer Technical Tasks
• Movement forward, deployment, and transition to the offense. • Preparation of assembly areas. • Crossing water obstacles. • Supporting disruption and battle zones. • Repelling counterattacks. • Penetration of enemy defenses. • Conduct of the battle. • Commitment of exploitation force or reserve. • Reinforcing captured positions.	• Conduct engineer reconnaissance of enemy and terrain. • Prepare fortifications in assembly areas. • Clear passages in obstacles and perform demolition work. • Establish and maintain water obstacle-crossing sites. • Establish obstacles. • Extract/purify water and establish water supply points. • Carry out engineer camouflage measures. • Prepare and maintain movement routes. • Eliminate aftereffects of NBC strikes.

Figure 12-2. Engineer Support for Preparation and Conduct of the Offense

OBSTACLE BREACHING

12-44. The OPFOR is prepared to overcome obstacles during all phases of combat. In the offense, the OPFOR expects to cross obstacles on movement routes, and throughout the enemy defense. Creating passages for the advance of the force in the face of enemy resistance is a combined arms task.

Explosive Obstacle Breaching

12-45. Explosive devices are the most significant obstacles the OPFOR expects to encounter. The OPFOR expects the enemy to use explosive obstacles and other obstructions for defensive purposes to impede the OPFOR's advance. In order for the OPFOR to conduct (or continue) an attack, maneuver units must breach these obstacles under direct and/or indirect fire. Units engaged in breaching these obstacles are extremely vulnerable to all enemy fires. Whenever possible, the OPFOR attempts breach a minefield from tactical movement, with minimum delay, and press the attack without first halting to consolidate on the far side of the obstacle.

12-46. The OPFOR may be required to breach enemy minefields when fighting an extraregional enemy. Although it may breach them in the more conventional manner described here, the OPFOR can also devise innovative

methods to cross minefields. One such method might be to manually clear a path through the minefield through covert action. Several lanes could be cleared in this fashion. Then, at a time of the OPFOR's own choosing, dismounted troops could infiltrate through the minefield and rendezvous at a designated location on the other side, undetected by the enemy.

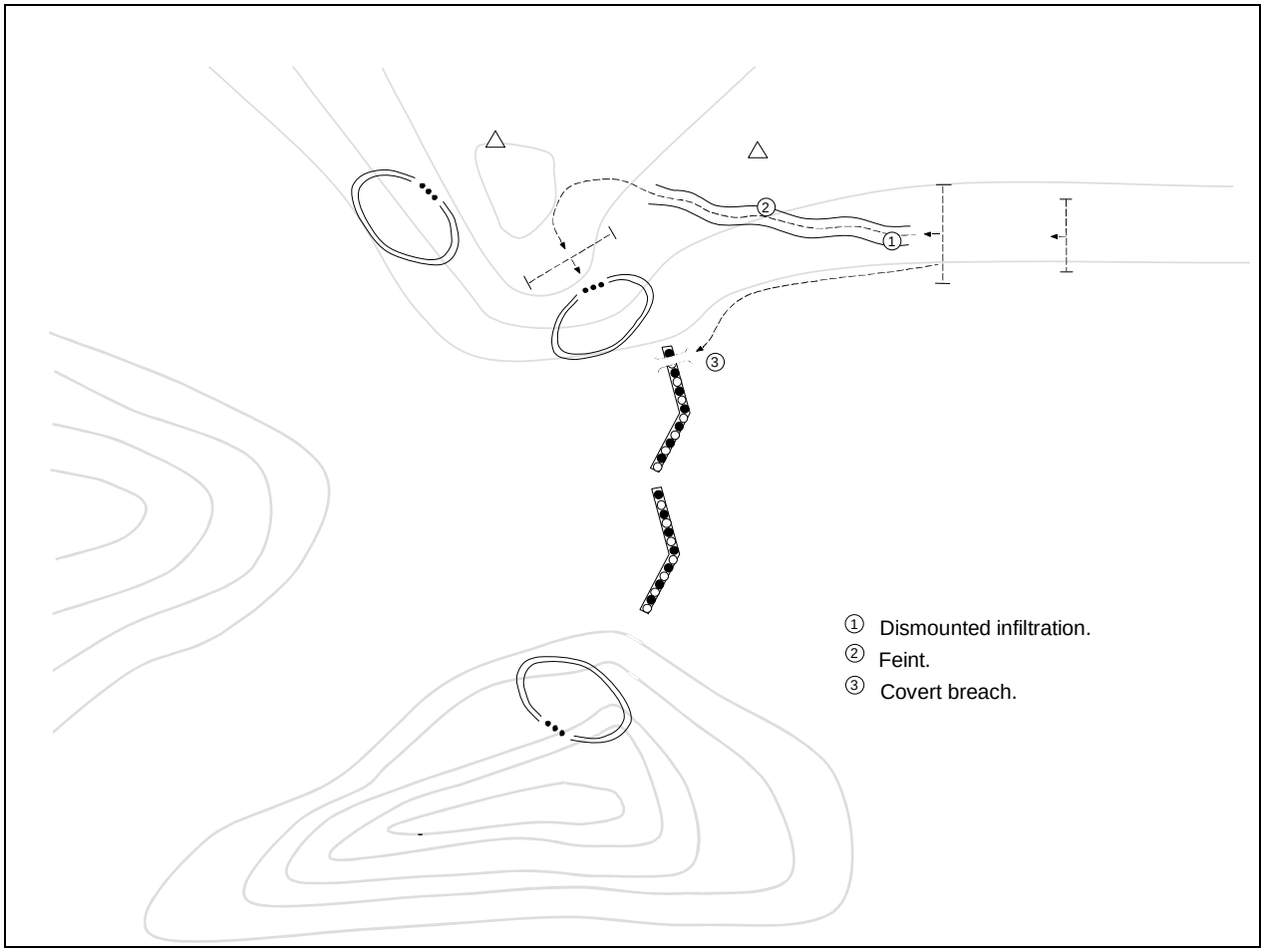


Fig. 12-3 Covert Breach

Organizing Forces for Explosive Obstacle Breaching

12-47. There are three fundamental methods by which the OPFOR organizes for breach operations. First, and most preferable, is to make no special alterations to task organization for breach operations. A detachment is expected to breach as part of its battle drill (see Chapter 5) and its higher commander will make every attempt to include in its task organization the means necessary to breach any anticipated obstacles without the need to deviate from the basic structure of action, support and security elements or the need for outside assistance.

12-48. Should any anticipated obstacles require significant allocation of specialist assets or more articulation in the detachment's maneuver, the de-

tachment commander may form a clearing element. A clearing element is a type of specialist element that penetrates obstacles permitting the action element to accomplish the detachment's tactical task.

12-49. Complex or extensive obstacles may require the formation of a Maneuver Support Detachment (MSD). The MSD is a task-oriented, temporary grouping of engineer assets to support route clearance and movement of the force in preparation for, and during tactical movement. MSDs are typically formed by tactical groups to support the movement of multiple detachments through a given zone of obstacles or to support their movement across a major water obstacle.

Planning Explosive Obstacle Breaching

12-50. Planning and preparation for the breaching of an explosive obstacle includes:

- Reconnaissance of the obstacle, including attempts to locate a bypass, and marking optimal breach locations
- Infiltration of stealth breach teams, if possible.

Explosive Obstacle Breaching Methods

12-51. The OPFOR has three basic means to breach a minefield: explosive, mechanical and manual.

12-52. Explosive means such as line charges, bangalore torpedoes and volumteric explosives all work by detonating mines through explosive pressures.

12-53. Mechanical mine-clearing plows or plow and roller combinations mounted on combat vehicles provide the main countermine capability to conventional forces. These systems detonate mines by striking them in advance of coming into contact with a vehicle or by physically moving the mines out of a defined path.

12-54. Manual breaching requires personnel to physically displace or defuse explosive devices.

Mechanized Breaching

12-55. Mechanized units make use of all three breaching methods to rapidly create lanes through obstacles with minimal delay. All OPFOR mechanized units are trained, equipped and expected to breach explosive obstacles without resorting to requests for help to higher levels of command.

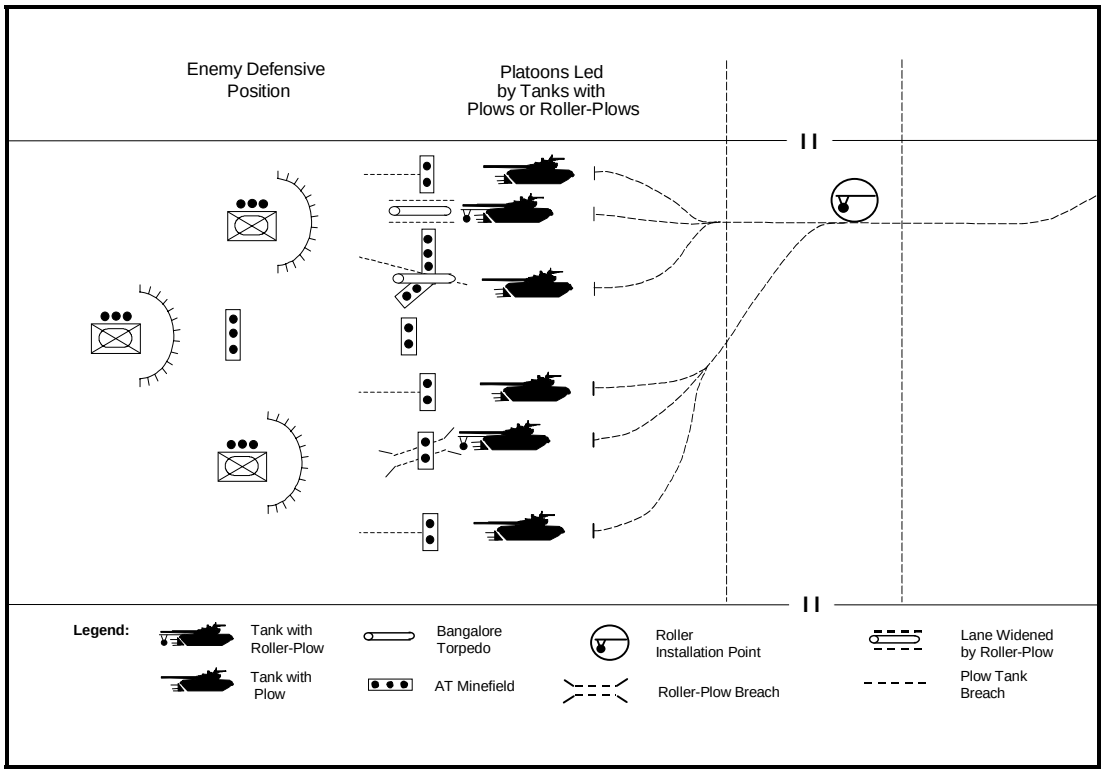


Figure 12-4. Mechanized Breach (Example)

12-56. Despite the advantages of mechanical means attached or integral to combat and combat engineer vehicles, it is still preferred that explosive breach means, whether mechanized or employed by infantry or engineer forces, be the primary method for executing a mechanized breach. This is because mechanical means place the combat vehicles at more risk. Mechanized explosive means are also the least vulnerable to booby traps placed in and around obstacles to make their breaching more difficult.

12-57. If at all possible, non-mechanized and/or affiliated forces, typically employing C3D to prevent detection while creating the breach, will breach anticipated obstacles in advance.

Nonexplosive Obstacle Breaching

12-58. The breaching of non-explosive obstacles is essentially the same as breaching explosive ones with these salient differences:

- Mechanical and manual breach methods will typically take precedence.
- Significant non-explosive obstacles (large AT ditches, rivers, rubble from a collapsed multi-story building) will not be rapidly breachable by manual means, if at all.

12-59. During the offense, an MSD also creates lanes through nonexplosive obstacles. In this case, the MSD may group require additional engineer aug-

mentation beyond just countermine equipment. For example, it may employ obstacle-clearing vehicles to knock down berms. It may also use truck-launched bridges to cross AT ditches.

WATER OBSTACLE CROSSING

12-60. The enemy is expected to use rivers and other water obstacles for defensive purposes. In order to conduct (or continue) an attack, OPFOR maneuver units must often cross water obstacles whose opposite banks may or may not be occupied by the enemy. Crossing is a generic term identifying the site of a water obstacle crossing or the act of crossing.[1] Crossing involves using bridges, ferries, fords, or amphibious combat equipment. The OPFOR identifies two methods of overcoming water obstacles—opposed crossing (when expecting enemy contact) and unopposed crossing (when not expecting enemy contact). However, it expects most crossings to be opposed by air and ground defense and made without the advantage of an existing bridge or convenient fording site.

12-61. Rarely would the OPFOR attempt the classic opposed water crossing (described below under Opposed Crossing) when fighting an extraregional foe. However, there may be times when the OPFOR must cross rivers in territory occupied by the enemy. Even then, it would typically only attempt the opposed crossing if convinced of success and if the enemy did not believe the OPFOR would attempt the crossing. This crossing would be integrated into the overall operation plan and the IW plan.

12-62. More likely however, when opposing an extraregional enemy, the OPFOR would attempt to cross the river covertly at night or during inclement weather. This would allow the OPFOR to infiltrate units—a few vehicles at a time—across the river. The units would regroup at a designated area and continue operations in enemy territory. Engineer support for this may only be engineer reconnaissance of the river and routes. It may also call for the engineers to build (undetected) an underwater bridge out of sandbags, or to make rafts rigged to transport vehicles.

12-63. *Crossing* is a generic term identifying the site of a water obstacle crossing or the act of crossing.[2] Crossing involves using bridges, ferries, fords, or amphibious combat equipment. The OPFOR identifies two methods of overcoming water obstacles—*opposed crossing* (when expecting enemy contact) and *unopposed crossing* (when not expecting enemy contact). However, it expects that most crossings will be opposed.

12-64. The OPFOR also expects to make most crossings without the advantage of an existing bridge or convenient fording site. Therefore, engineers must provide specialized bridging and amphibious transport (tracked amphibians and ferries) to facilitate a timely crossing. Crossing of water obstacles always requires some measure of engineer preparation, even if it is only

[1] Aside from water obstacles, crossings can involve other kinds of gaps, such as ravines. These other kinds of *gap crossing* can employ some of the same engineer assets and methods used to overcome water obstacles.

[2] Aside from water obstacles, crossings can involve other kinds of gaps, such as ravines. These other kinds of *gap crossing* can employ some of the same engineer assets and methods used to overcome water obstacles.

limited to engineer reconnaissance at the crossing site. Therefore, constituent and dedicated engineer units deploy well forward.

Organizing Forces for Water Obstacle Crossing

12-65. There are no doctrinal constraints on task organization for mission success. The ability to allocate assets downward and to task organize is restrained only by the availability of assets and the nature of the mission.

12-66. Crossing force. The crossing force is essentially the exploitation force for the obstacle crossing. It is the force whose movement the operation is designed to facilitate.

12-67. Crossing site force. The crossing site force is the assault force of the crossing. Its mission is to enable the crossing force to move rapidly through or over the obstacle and continue its mission.

12-68. Security force. The security force has the same function as that in any offensive course of action. Security forces for obstacle crossings will typically have a strong air defense capability.

Crossing Zones and Sites

12-69. A crossing zone is a specialized form of AOR. It is the AOR of the crossing force and is commanded by the crossing commander. Its size and orientation depend on the nature of the obstacle, the number of crossing sites, the size force that needs to cross and the ability to neutralize the enemy. Under favorable conditions, the sector of opposed crossing may be identical with the unit's attack zone.

12-70. At tactical group level, the CELT advises the commander on selection of crossing sites within the crossing zone based on reconnaissance of the obstacle and approaches to it. The number of crossing sites within a zone depends on the tactical situation, nature of the water obstacle and surrounding terrain, and types of crossing equipment available. There are usually separate sites for each type of crossing means: swimming, fording, snorkeling, tracked amphibian, ferry, and bridge. Especially for opposed crossings, preference is given to those sites where there are—

- Relatively weak enemy defenses.
- Concealed movement routes to the water obstacle and a bend toward the attackers.

12-71. Crossing site force commanders have responsibility for the conduct of the crossing and the tactical arrangement and security of the crossing zone. Crossing force units are placed in a supporting relationship to the crossing site commander while within the crossing zone.

Categories

12-72. The width of the water obstacle affects the method of crossing, the type of crossing, the need for reinforcement, and the length of time to conduct the crossing. In terms of width, obstacle categories are narrow (less than 100 m), medium (100 to 250 m), wide (250 to 600 m), and large (greater than 600 m). In terms of depth, shallow water obstacles are up to 1.5 m in depth, deep obstacles are 1.5 to 5 m in depth, and very deep obstacles are over 5 m deep.

12-73. Although canals are narrow obstacles, engineers place them in a special category because their deep water and steep banks make it difficult to use tracked amphibians, ferries, and standard bridging equipment. It is often necessary to erect piers and special constructions to negotiate them.

Reconnaissance

12-74. Depending on the situation, an engineer reconnaissance patrol, the reconnaissance element of an MSD, or engineers attached to other division and brigade reconnaissance elements can reconnoiter a water obstacle. The reconnaissance includes determining—

- The depth, width, and current velocity.
- The composition of the bottom.
- The presence of underwater obstructions or mines.
- Possible fording, ferrying, bridging, and snorkeling sites.
- The composition, height, and slope of the banks.
- Approach and exit routes.
- The camouflage potential of the area.
- The presence and nature of obstacles on the banks.
- Critical terrain features overlooking both banks.
- Information on enemy defenses.

The engineers transmit this information to the CELT for planning purposes. They mark recommended crossing sites, bypasses, routes, and critical areas for the follow-on engineer elements responsible for establishing the crossing.

12-75. The division's engineer battalion has qualified divers with scuba gear; specialized vehicles and equipment to analyze soil data, stream velocities and depth; and mine-detection equipment. Commanders can also use maps, aerial photographs, engineer and combat patrols, radars, signals reconnaissance, and human intelligence to gather data on crossing sites.

12-76. The number of engineer reconnaissance patrols depends on the width of the water obstacle and the number of required crossing sites—patrols vary from squad to platoon size. The patrols can be equipped with tracked amphibians, scout cars, or APCs and sometimes with special engineer reconnaissance vehicles.

Planning and Preparation

12-77. Based on reconnaissance, the commander organizes his unit to ensure the most expedient crossing and continuation of the offense. When approaching a water obstacle, he selects his unit's formation based on the mission, enemy, and terrain. Constituent engineer assets deploy well forward. Mechanized infantry units lead, while fire support and direct air support elements deploy forward to overcome expected enemy resistance on the line of the obstacle. As in an ordinary attack, this involves lateral deployment of the formation as late as possible and immediately before assaulting the water obstacle. Direct air support is more critical during water obstacle crossings than during other types of ground combat action.

12-78. Units engaged in a water obstacle crossing are extremely vulnerable to enemy aviation. Therefore, there is a need for air defense at crossing sites before a crossing is attempted. In some tactical situations, air defense assets may move across first to maximize the range of their weapons to protect subsequent units making the crossing. Placement and movement sequence of air defense assets varies as the commander assesses each crossing individually. (See Air Defense below.)

12-79. Crossing of water obstacles always requires some measure of engineer preparation, even if it is only limited to engineer reconnaissance at the crossing site. Whenever possible, the OPFOR attempts to cross water obstacles with minimum delay and press the attack into the enemy's depth without first halting to consolidate on the far bank.

Means

12-80. The OPFOR places high priority on the fielding of water obstacle-crossing systems. Any obstacle that slows the tactical movement causes a concentration of forces and invites destruction. To ensure a rapid advance, many OPFOR APCs, IFVs, and reconnaissance vehicles are amphibious, as are some self-propelled artillery and tactical SAM carriers. Therefore, the OPFOR employs amphibious combat vehicles and specialized water obstacle-crossing systems at the brigade and division level whenever possible. If APCs and IFVs are amphibious, virtually all vehicles within mechanized infantry or tank battalions would have either an amphibious or snorkeling capability. During crossings, tracked amphibians are primarily used for carrying towed artillery pieces, trucks, small vehicles, and troops. When not engaged in a crossing, they may be used as tracked cargo carriers. The OPFOR recognizes the need for tactical water obstacle-crossing assets during all types of combat and ensures sufficient assets are readily available in engineer units at higher levels.

12-81. The OPFOR crosses some narrow water obstacles by fording, by swimming with amphibious combat vehicles, or by using tank- or truck-mounted and low-water bridges. Other narrow obstacles (up to 100 m) and medium obstacles require tracked amphibians, ferries, or pontoon bridges. Wide and large water obstacles require tracked amphibians, ferries, or pontoon bridges (sometimes configured as rafts or ferries). Crossing large water obstacles may necessitate the use of heavy floating bridges or girder bridges erected by special-category engineers of the strategic-level transportation services.

12-82. The characteristics of the water obstacle mainly determine the method chosen for the crossing, although the nature of enemy defenses, the mission, and the availability of engineer systems are also factors. Figure 12-3 lists the preferred crossing methods.

Water Obstacle Characteristics	Preferred Crossing Method
Depth <1.5 m	Ford
Depth >1.5 m	Ferry or bridge

Width <20 m	Tank- or truck-launched bridge
Width 20-100 m	Pontoon bridge
Width >100 m	Ferry or tracked amphibian

Figure 12-5. Preferred Water Obstacle-Crossing Methods

EXECUTING WATER CROSSINGS

12-83. C3D is the primary consideration in conducting a water crossing. The OPFOR is aware that even a crossing considered 'unopposed' is vulnerable to air and missile attack. The OPFOR will make every effort to conceal and protect crossing units, sites and means from detection and attack.

Opposed Crossing

12-84. Opposed water crossings are the least preferred method of overcoming an obstacle. This type of crossing requires secrecy, surprise, and high speed supported by C3D and direct and indirect fire. To preserve the secrecy of the intended crossing and its location, the OPFOR generally uses minimal preparation or construction prior to its execution. It emphasizes conducting the crossing while moving as swiftly as possible and then continuing the offense on the opposite bank.

12-85. In a mechanized crossing, the OPFOR maximizes the speed and maneuverability advantages of combat vehicles. In the initial wave of the lead elements, amphibious APCs or IFVs make a rapid amphibious crossing to seize a bridgehead on the far bank. The crossing is usually covered from the near bank by all available fires and usually takes place either at night or under a smokescreen. These fires include direct artillery and tank fires, as well as all available indirect fires. Direct air support, generally fixed-wing, is more critical during water obstacle crossings than during other types of ground combat action. See Chapter 11 for details on air defense support of the crossing. Heliborne (or, less probably, airborne) forces may seize and hold a bridgehead on the far bank.

12-86. In non-mechanized opposed crossings, C3D generally takes a greater role. Feints and demonstrations may be used to confuse the enemy as to the actual crossing zone. Low-visibility conditions are also ideal for conducting both opposed and unopposed crossings.

Tactical Group Crossings

12-87. Typically, a DTG crosses a major water obstacle with task organized crossing forces and BTGs operating in separate crossing zones. A DTG's combat elements can cross a significant water obstacle in approximately 5 or 6 hours.

12-88. A typical crossing zone is up to 10 km wide, with two to three detachments crossing first. A BTG's combat elements can cross a significant water obstacle in approximately 2 to 3 hours.

Unopposed Crossings

12-89. After an opposed crossing, the OPFOR can move company- or platoon-size pontoon bridge units to the crossing site. If preceding units (including the SD of a brigade) have eliminated enemy resistance at the water obstacle, battalions in the main body of a brigade can conduct an unopposed crossing. If the brigade(s) must conduct an opposed crossing and are successful, this allows the division's follow-on forces to conduct an unopposed crossing.

12-90. **Bridges.** Bridge crossings are a typical feature of unopposed crossings. Construction of bridges starts when the enemy is denied the ability to subject the crossing to direct or observed fire. Bridges have greater load-bearing and throughput capacities than other crossing means and are preferred in order to maintain high rates of advance.

12-91. The division commander may send out an independent mission detachment (IMD) ahead of the SDs of his lead brigades when there is an opportunity to seize a bridgehead over an undefended or poorly defended water obstacle or bridge. The brigade can possibly send out an IMD of its own. In either case, the IMD attempts to bypass enemy resistance forward of the water obstacle and infiltrates to the far side of the water obstacle to establish a bridgehead.

12-92. If the air situation is unfavorable, the OPFOR may only use bridges during periods of limited visibility. At other times, it would tuck the bridges into the bank and camouflage them.

12-93. The crossing commander designates TCPs, OPs, and work teams at the crossing site. A bridge team is assigned to inspect pontoon couplings and bank moorings, to evaluate and repair damage, and to monitor entry and exit of vehicles.

12-94. Low-water bridges can free pontoon bridges, ferries, and tracked amphibians for use in other crossings. Low-water bridging is relatively permanent, using piling to provide support.

12-95. **Ferries.** Ferry crossings are used to transport nonamphibious heavy equipment across medium to wide water obstacles. This usually requires three to four ferries per site. Ferries can be joined into a pontoon bridge or can be used as individual ferries. Individual folding pontoon bridge sections can also be used as ferries. Ferries are not usually employed in the initial wave of an opposed or unopposed crossing but rather in subsequent waves of tanks and other combat vehicles.

12-96. Ferry crossings begin can 15 to 20 minutes after the start of an opposed crossing. Ferries are launched from prepared ramps, and personnel from the ferry platoon create landing ramps on the far bank. Floating pontoon bridge rafts are maneuvered and positioned by powerboats.

12-97. Engineer missions in the unopposed crossing are the same as they are in the opposed crossing, but engineers are also assigned to prepare mooring and launching sites and to assemble the ferries. Based on engineer reconnaissance data, the crossing commander selects mooring sites, determines the number and disposition of ferries or pontoon bridges used as ferries, and

plans traffic control. An engineer squad or a traffic control squad directs movement to the sites.

12-98. Tank Snorkeling. Such crossings are attempted when fording, bridge, or ferry crossing sites are not available or when an opportunity for surprise exists. Snorkeling is attempted only at water obstacles that have—

- Depths of 5.5 m or less.
- Prepared entry and exit points.
- Entry slope of 47 percent (25°) or less.
- Exit slope of 27 percent (15°) or less.
- Stream velocities of 3 m/s or less.
- Hard, level bottoms with no boulders, craters, or soft spots.

12-99. **Fording.** In opposed and unopposed crossings, the OPFOR establishes fords at shallow water crossing sites. Since fordings are not as complicated as other crossings, the unit may remain in tactical movement formation. If possible, multiple units cross simultaneously on a wide frontage.

12-100. Deeper fords can be undertaken by tanks without the use of snorkels but may require partial sealing of the tanks up to the turret ring. When partially sealed, air for the engine and crew is drawn in through open turret hatches. Deep fording by tanks is limited to depths not exceeding 2.3 to 2.5 m, depending on currents.

12-101. **Assembly and Preparation Areas.** Engineers assist in the preparation of assembly areas and of boarding and preparation areas near crossing sites. As units leave assembly areas, they pass through an engineer regulating point (ERP). The ERP is a checkpoint to ensure that vehicles do not exceed the capacity of the crossing means. At the ERP, vehicle drivers receive final instructions on site-specific procedures and information, such as vehicle speed and interval. Near the ERP is the first of a series of TCPs to direct the unit to the appropriate crossing site and avoid bunching up at the crossing site or on the approach route.

12-102. Figure 12-4 shows an example of a mechanized infantry battalion crossing supported by tracked amphibians, ferries, and a pontoon bridge. In this example, two companies cross by amphibious means, while the third company and support elements are able to cross over a pontoon bridge in tactical movement formation. Normally, bridges are erected only after the far bank is secured to a depth precluding enemy direct fire on the crossing site. However, if the enemy defense has been neutralized by fire or the opposite bank has been seized by airborne or heliborne forces, bridge construction may begin along with the opposed crossing.

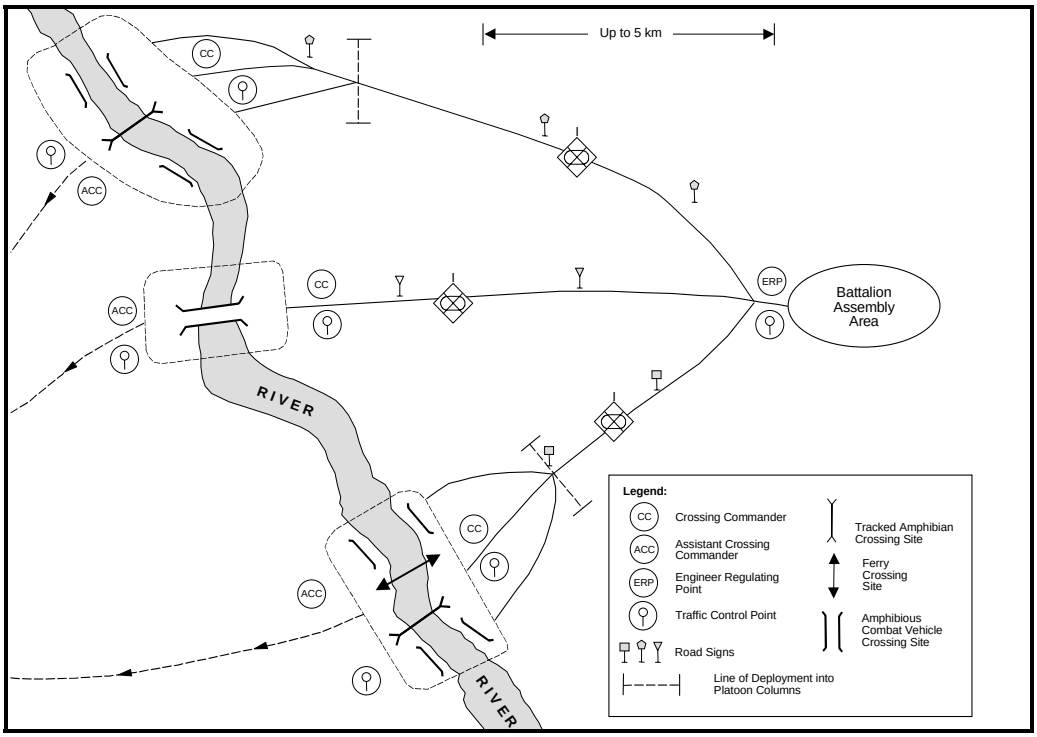


Figure 12-6. Engineer Support of a Mechanized Infantry Battalion Crossing (Example)

Air Defense

12-103. Forces conducting water obstacle crossings are high priority targets for enemy air strikes. Thus, the importance of air defense increases. The mission of air defense units is to protect the airspace above and around the crossing site. For more information on air defense, see Chapter 10.

12-104. The OPFOR expects that most water obstacle crossings will be opposed by enemy air and ground defense and made without the advantage of an existing bridge, convenient fording sites, or defensive air cover. Accordingly, doctrine calls for conducting such opposed crossings rapidly, without slowing the pace of the offense. The leading maneuver battalions and brigades may have to provide their own air defense while crossing and then cover the crossing of follow-on forces.

12-105. For unopposed crossings, the maneuver unit may cross a water obstacle without deploying from its movement formation. In this case, division- or brigade-level air defense units can establish firing positions on the near bank to cover the site for the time it takes the column to cross. The air defense units then move to the far bank and either establish firing positions or continue to move.

Smoke

12-106. Most opposed crossings are conducted under the cover of smoke or other obscurants, which can degrade the enemy's ability to locate and target the actual crossing sites. However, smoke can also degrade or prevent visual

acquisition of air threats by some OPFOR air defense systems. Therefore, wind and obscurant conditions must be accounted for in the deployment of air defense weapons for the crossing. For more information on smoke employment, see Chapter 12.

DEFENSE

12-107. The necessity for OPFOR engineers to support two basic battles, one against a regional enemy and one against an extraregional enemy, was discussed earlier in this chapter. Since the extraregional enemy is the dominant force in the region the OPFOR generally fights a defensive fight. In order to defeat this extraregional force the OPFOR employs innovative engineer methods to level the battlefield in addition to those employed in the more conventional battle. Some examples of these methods are found later in this section.

12-108. Engineer support for the defense focuses on reconnaissance, countermobility support, and survivability support. It places emphasis on fortifying battle positions and assembly areas, performing engineer C^3D measures, and adapting the terrain for defense. The defense is also conducive to the extensive use of various obstacles to interfere with the enemy's advance.

12-109. The general aims of engineer support the defense include—

- Control access and tempo by delaying, disaggregating, and canalizing enemy forces.
- Establishing conditions necessary for organizing the defense.
- Preparing and maintaining maneuver (and supply) routes.
- Building fortifications of lines, battle positions, and assembly areas.
- Ensure the integration of engineer support to IW and preparing deception positions.
- Protecting personnel and equipment from the effects of conventional direct and indirect fires, precision munitions, and NBC strikes.
- Creating or improving existing obstacles.
- Providing potable water to the force.

12-110. The type and scale of engineer support depends on the tactical situation, enemy forces, and the conditions under which the DTG assumes the defense. If the OPFOR does so during the course of the offense, support may have to begin with the protection of threatened axes by ODs and ATRs and the route work needed for regrouping. If the OPFOR assumes a defense when not in contact with the enemy, support can begin with the creation of defensive works and the improvement of routes necessary for the OPFOR units to deploy. In the disruption and battle zones, the goals of engineer support are to hold up the enemy advance. In the battle zones, engineer support facilitates organized withdrawal, maneuver, or counterattack by friendly forces.

12-111. Defensive planning measures ensure extensive use of obstacles, integrated with preplanned direct and indirect fires, to affect the enemy's advance and facilitate his destruction. Figure 12-5 identifies tactical missions

supported by engineer efforts. The performance of technical tasks satisfies the tactical requirements for engineers.

Tactical Missions Requiring Engineer Support	Engineer Technical Tasks
• Repelling enemy attacks in front of the battle line. • Preparation of defensive areas. • Troop movement. • Battle to hold positions. • Repelling enemy penetrations of defense. • Overcoming covering force zone. • Counterattack by exploitation forces or reserve. • Reinforcing lines taken in counterattack. • Transition to the offense.	• Conduct engineer reconnaissance of enemy and terrain. • Prepare fortifications in defensive positions. • Clear passages in obstacles and perform demolition work. • Establish and maintain water obstacle-crossing sites. • Establish and improve obstacles. • Extract/purify water and establish water supply points. • Carry out engineer camouflage measures. • Prepare and maintain movement routes. • Eliminate aftereffects of NBC strikes.

Figure 12-7. Engineer Support for Preparation and Conduct of the Defense

12-112. The CELT determines the extent of engineer preparation necessary after considering the conditions that caused the OPFOR to assume the defense. If it is during the course of the offense, support begins with the ODs and ATRs protecting threatened axes and the improving of the route(s) needed for regrouping. If it is a defense not in contact with the enemy, support begins with the creation of defense works and the improvement of routes for the unit to deploy. In both cases, engineer work supports development of the battle position by enhancing the effectiveness of OPFOR weapons and protecting personnel and equipment from the effects of conventional fire and weapons of mass destruction.

COUNTERMOBILITY

12-113. The OPFOR makes extensive use of countermobility operations to control access and tempo by delaying, disaggregating, and canalizing enemy forces. The obstacle plan is innovative and completely integrated with the maneuver, fire support, and IW plans.

12-114. OPFOR engineer obstacles include any actions taken to inflict losses and to delay and impede enemy movement. The creation of engineer obstacles and execution of demolition activities are critical engineer functions in all phases of the battle.

12-115. Countermobility support is extremely innovative, especially when the OPFOR fights an extraregional enemy. Minefields may be irregular-shaped and are thoroughly merged with the terrain. They also tend to be much smaller than those laid in regional operations (especially linear operations), which may easily be over a kilometer in length. Some example “adaptive” engineer countermobility methods likely to be employed against an extraregional enemy (in addition to methods used in a more conventional battle) are—

- The intermittent laying of mines along road or trails involves the enemy in prolonged, potentially dangerous and time-consuming detection and clearance operations, and requires a great deal of manpower.
- Enemy LOCs will be mined and re-mined. This requires the extraregional forces to constantly sweep for mines. Once a road is swept and left unsecured, the OPFOR re-mines it.
- Control access by denying the enemy key facilities. For example, destroying airfield runways in the APOD or docks in the SPOD.
- Deny LOCs from APOD/SPODs to enemy maneuver units, staging areas, or base camps. Contain (or trap) enemy forces in specific areas such as APOD/SPOD and built-up areas.
- Maximize the use of controlled minefields. This lets the OPFOR pass through the minefield and activate it prior to the arrival of enemy units. It can also be used to trap enemy units. This is used in conjunction with artillery as a kill zone.
- Use off-road and chemical mines whenever possible. Always use antihandling devices (AHD) to slow clearing efforts.
- Target vehicle mine plows/rollers as HPTs.
- Use plastic mines to defeat mine detection sweeps.
- Plant underwater mines at port or ford sites.

12-116. In the defense, engineer obstacles—

- Protect flanks.
- Disrupt attacks.
- Block enemy reinforcements, exploitation forces, or reserves.
- Strengthen the defense.
- Disrupt enemy activities.
- Canalize the enemy into kill zones.
- Cover gaps between defenders.

12-117. The OPFOR divides engineer obstacles into three categories:

- Explosive obstacles—minefields, groups of mines, and objects prepared for demolition.
- Nonexplosive obstacles—AT ditches, escarpments, abatis, wire barriers, and water obstacles.
- Combination obstacles—a combination of explosive and nonexplosive obstacles.

12-118. Of the three categories, explosive obstacles are the most common. Engineers and others can emplace minefields more easily and quickly when compared to the construction effort for nonexplosive obstacles. Additionally, the OPFOR plans for the self-destruct or self-neutralization capabilities frequently found in scatterable mines. It can also lay mines with remote-control devices to activate or deactivate the minefield at will. This minimizes the ad-

verse effect of friendly minefields on future actions and reduces the need for the OPFOR to breach its own obstacles.

12-119. However, this is not the case with nonexplosive obstacles, which are time- and resource-intensive to install and eliminate. For these reasons, the OPFOR usually emplaces mines and other explosive obstacles first, and eventually supplements them by constructing nonexplosive obstacles.

12-120. When this occurs, they create combination obstacles, which are the next most common after the explosive type. It is extremely rare for the OPFOR to use a nonexplosive obstacle in isolation without any mines, explosives, or booby traps.

OBSTACLE DETACHMENT

12-121. The OD is the basic building block of the OPFOR's countermobility effort. It is a task organization composed primarily of engineers. An OD can vary in size depending on the tactical situation and the needs of the commander.

12-122. ODs are temporary, task-organized groupings of engineer assets intended to create minefields and obstacles. Their basic equipment includes mechanical minelayers and trucks carrying mines, explosives, and other equipment. They are sometimes augmented with mechanized infantry troops for close protection and extra labor. The size and composition of the OD depend on the tactical situation and the needs of the maneuver commander..

12-123. In addition to minelayers, ODs may add other engineer resources to support critical obstacle development. The division may supplement the OD with engineers for demolition work, ditchers to create antitank (AT) ditches, and other engineer systems. This augmentation does not normally occur until the earthmoving equipment completes other tasks, such as preparing fortifications.

12-124. The OD uses its ability to rapidly lay minefields and construct obstacles to—

- Close gaps in the defense.
- Deny the enemy access to key terrain.
- Block the axis of an enemy armored advance.
- Block enemy penetrations.
- Channel the enemy into a kill zone and contain him there.
- Protect the flank of a counterattacking force.

12-125. In the defense, the OPFOR commander may hold the OD and other forces in reserve and can quickly employ them during an enemy attack, to mine potentially vulnerable gaps. Engineer tasks during the defense implement obstacle plans, particularly AT obstacles. Together with ATRs, ODs provide a quick-reaction AT force to block enemy penetrations.

12-126. Engineers create obstacles on possible enemy approaches to OPFOR battle positions or artillery and air defense firing positions, in the gaps be-

tween battle positions, and on flanks. They normally construct barrier systems in coordination with the overall fire support plan.

12-127. Engineers can lay mines and construct obstacles in the disruption zone and on likely enemy armored avenues of approach. They can also lay obstacles in the depth of friendly units in the battle zone, and at subsequent defensive lines throughout the AOR. However, simultaneous obstacle construction throughout the AOR can only occur when sufficient time, equipment, and personnel are available. In any part of the AOR, minefields and other obstacles require barriers, security, and marked maneuver passages.

12-128. In preparation for movement, the division or brigade creates one or more ODs to maximize mechanical minelaying and explosive obstacle support for maneuver forces. The OD provides countermobility support and denies key terrain to the enemy. Its mission is to alter the tactical situation by emplacing obstacles in response to enemy actions. During the tactical movement, the OPFOR commander's greatest concern is armor attacks against the flanks. Therefore, the OD emplaces AT obstacles in front of detected armor threats or along possible routes suitable for armored vehicles. For additional information on the employment and augmentation of the OD, see the discussion of Obstacle Detachment [WHERE?].

12-129. Although the OD can act independently, the division or brigade often assigns it to move and act in close coordination with the antitank reserve (ATR). Even in the latter case, the OD still reports directly to the engineer unit commander, who assigns its priorities, areas of concern, and task organization. This arrangement provides the maneuver commander with a combination of organizations capable of rapidly emplacing AT obstacles as well as covering the obstacles with AT fires. A minelaying squad of an engineer mine warfare platoon or minelayer platoon usually serves as the core of an OD.

12-130. While conducting tactical movement, the OD may travel behind the SD and in front of the main body. Sometimes, it may move on a threatened flank or forward within the main body, ready to deploy to either flank.

12-131. Following the maneuver commander's guidance, the engineer liaison team recommends positioning of the OD so it can quickly deploy in response to enemy actions. This may be to seal a critical area or to provide time to shift forces and fires. The maneuver commander, the engineer liaison team(s), and other staff elements monitor the progress of the tactical movement and plan for possible enemy courses of action. They then identify possible deployment lines for the ATR and obstacle-emplacement locations for the OD. If reconnaissance assets report enemy activity along a given axis that confirms a course of action, the commander dispatches an OD and an ATR to the appropriate deployment line to conduct their missions.

OBSTACLE PLANNING

12-132. Creating engineer obstacles and carrying out demolition activities are significant engineer functions in all phases of the battle. The obstacle plan is tailored and integrated into the overall operation plan with mutually supporting systems of fire, as exemplified by the habitual association between the OD and the ATR. Just as it develops a fire support plan, it also develops

an integrated obstacle plan tailored specifically to each unique tactical situation. Engineer obstacles include any actions taken to inflict losses and to delay and impede enemy movement. In the offense, obstacles protect flanks, disrupt counterattacks, and strengthen captured positions. In the defense, engineer obstacles may strengthen the defense, disrupt enemy operations, and cover gaps.

12-133. Engineers can lay mines and construct obstacles in the disruption zone and on likely enemy armored avenues of approach. They can also lay obstacles in the depth of friendly units in the battle zone, and at subsequent defensive lines throughout the AOR. However, simultaneous obstacle construction throughout the AOR can only occur when sufficient time, equipment, and personnel are available. In any part of the AOR, minefields and other obstacles require barriers, security, and marked maneuver passages.

12-134. To develop the obstacle plan, the CELT conducts an evaluation of the situation from an engineer perspective. He usually performs his analysis in the sequence outlined in Figure 12-6. Using this information, plus his commander's scheme of maneuver, he determines engineer allocations and priorities, and directs obstacle development and other engineer preparation.

Sequence	Determine and Evaluate
1. Enemy	Enemy engineer capabilities. Possible enemy engineer courses of action. Composition of enemy engineer units, with available equipment.
2. Terrain	Masking properties. Suitability for fortifications, sustainment, mobility, and countermobility measures. Fields of fire and avenues of approach. Target acquisition and weapon ranges. Natural obstacles and key terrain features. Impact on friendly and enemy forces and actions.
3. Weather	Impact on friendly and enemy forces and actions.
4. Time Available	Impact on friendly and enemy forces and actions.
5. Resources Available	Composition of engineer resources. Available equipment and types of mines. Capabilities of available resources to support the current battle. Resources required to support upcoming combat actions.

Figure 12-8. Sequence of Analysis of Tactical Situation in Obstacle Planning

Explosive Obstacles

12-135. The OPFOR emphasizes the use of explosive obstacles. These include mines and demolitions. The widespread use of landmines on today's battlefields results from a combination of mass production, plastic mines, improved battlefield delivery systems, and development of sophisticated fuzing. Remotely-delivered mines have expanded capability for changing the tempo of battle.

12-136. **Mines.** Mines are the most significant obstacles the OPFOR can employ and are usually emplaced in groups or in minefields. Therefore, minefields and minelaying are afforded separate sections below.

12-137. **Demolitions.** The OPFOR emphasizes the importance of roads as high-speed avenues of attack for both friendly and enemy forces. Therefore, it views the use of demolitions on roads as a significant way to disrupt enemy movement. Critical points at which the OPFOR might use demolitions include overpasses, bridges, ravines, intersections, bypasses, approaches to water obstacles, and roadways through urban or other complex terrain.

Nonexplosive Obstacles

12-138. Nonexplosive obstacles fall into three categories: AT, AP, and antilanding. Nonexplosive AT obstacles include ditches, dragon's teeth, and various other manmade and natural barriers. AP obstacles include concertina and barbed wire. Antilanding obstacles include dragon's teeth, AT ditches, and wire obstacles. The OPFOR uses these obstacles at potential drop or landing zones for amphibious, airborne, or heliborne assaults. The primary

responsibility for the construction of nonexplosive obstacles rests with the maneuver unit.

MINEFIELDS

12-139. The OPFOR frequently uses minefields during all phases of combat. There are five basic types of OPFOR minefield:

- Antitank (AT).
- Antipersonnel (AP).
- Mixed.
- Decoy.
- Antilanding.

12-140. The OPFOR stresses the importance of covering minefields with both direct and indirect fires, particularly with long-range AT weapons. Minefields inflict damage on attacking enemy forces and slow and canalize enemy forces into kill zones covered by massed fires. Whenever possible, the OPFOR contains enemy forces in a window of vulnerability for the longest time possible. This facilitates the destruction of the enemy.

12-141. Conventional OPFOR minefields generally conform to doctrinal standards. This standardization ensures that engineers and combat personnel follow consistent, uniform practices. Scatterable minefields, however, are much less predictable in pattern. Maneuver commanders use combat personnel to emplace protective minefields around fighting positions, while engineers shape the battlefield for the maneuver commander.

12-142. Commanders of battalions and companies emplacing mines prepare minefield records in three copies: one for the unit, one to the brigade, and one to the division. The CELT at division and brigade level then uses the records to prepare combined obstacle overlays for the maneuver commander. Minefields are a fundamental part of the total obstacle plan that incorporates barriers and terrain features.

Antitank

12-143. AT minefields are the primary type of OPFOR engineer obstacle and serve to destroy or disable armored vehicles. They are primarily established in belts consisting of multiple rows on avenues that are favorable for tanks in front of the battle line and on the flanks. Where difficult terrain is available, minefield belts will be tied into terrain obstacles to reduce the mine requirement. They are also placed at unit boundaries and in the depths to cover artillery firing positions, command posts (CPs), and other objectives.

12-144. The OPFOR usually emplaces AT minefields on a frontage of 200 to 300 m or more and to a depth of 60 to 120 m. The mines are laid in three or four rows with approximately 20 to 40 m separating each row. The normal spacing between AT mines in the rows is 4 to 5.5 m for pressure-activated mines, and 9 to 12 m for full-width-attack mines. The normal mine outlay for 1 km of frontage in AT minefields is usually 300 to 400 full-width-attack mines, or 550 to 750 pressure-activated mines. This mine outlay can reach 1,000 or more AT mines per km of frontage on major avenues of approach.

The OPFOR refers to this density of mines as a "minefield of increased effectiveness."

12-145. In urban environments, the OPFOR may place groups of AT mines on narrow streets and alleys. It calculates emplacement of AT mines at the rate of one mine per 100 m of street or alley. Figure 12-7 illustrates the general emplacement of an AT minefield with track-attack mines. Figure 12-8 shows an AT minefield with full-width-attack mines.

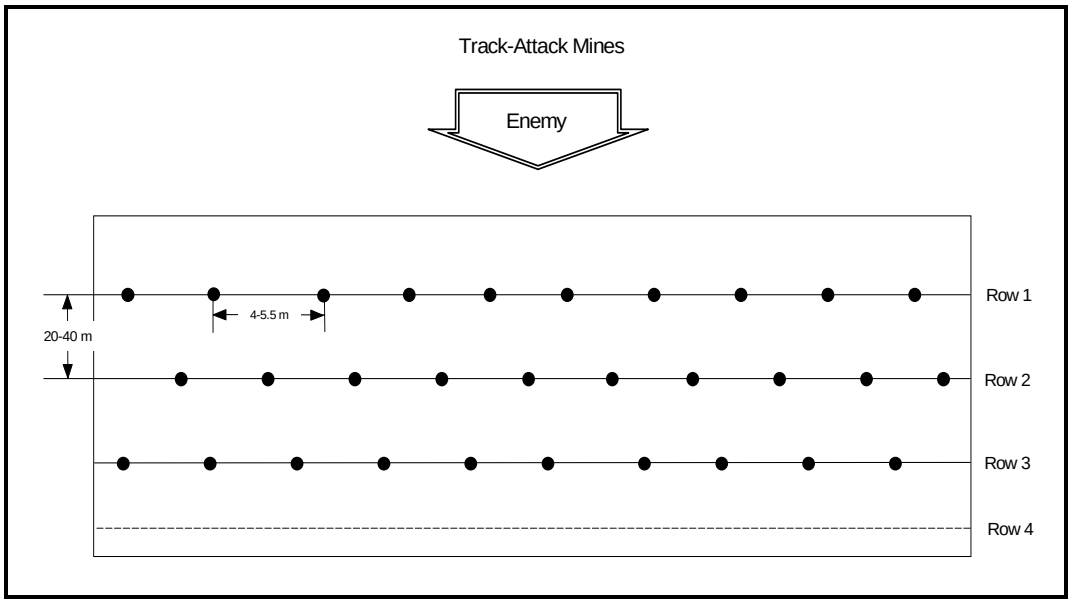


Figure 12-9. AT Minefield Configuration with Track-Attack Mines (Example)

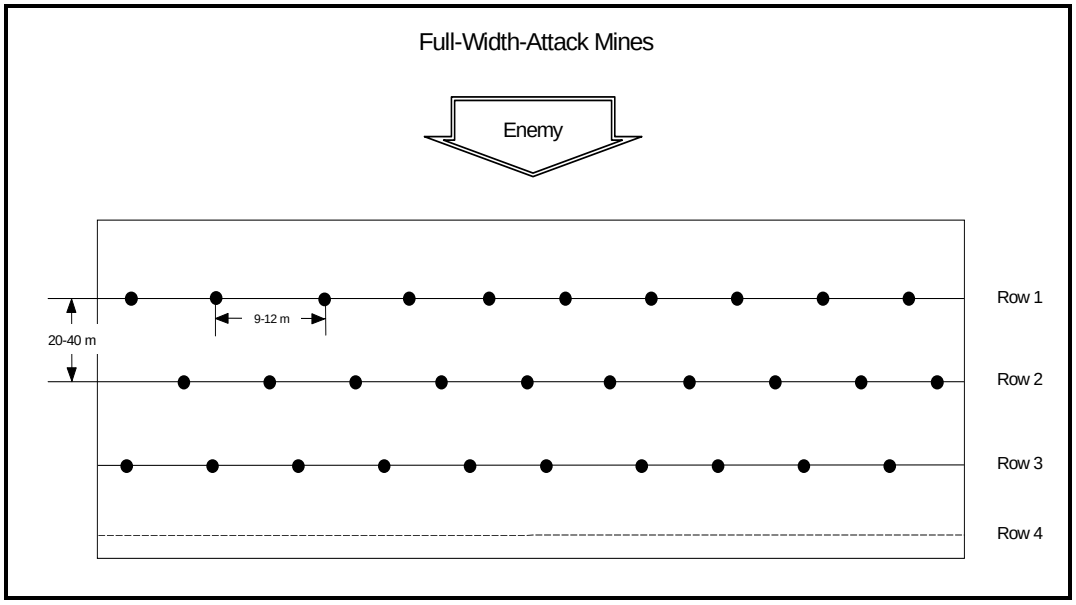


Figure 12-10. AT Minefield Configuration with Full-Width-Attack Mines (Example)

Antipersonnel

12-146. On the battlefield, the modern AP mine is used to—

- Inflict personnel casualties.
- Hinder soldiers in clearing AT minefields.
- Establish defensive positions.
- Deny access to terrain.

12-147. The OPFOR can set up conventional AP minefields on the forward edge of friendly defensive positions, in front of AT minefields, or along dismounted avenues of approach. These minefields can consist of blast mines, fragmentation mines, or a mixture of the two. The OPFOR emplaces AP minefields on a frontage of 30 to 300 m or more with a depth of 10 to 50 m or more. It usually lays AP mines in two to four rows with a distance of 5 m or more between rows.

12-148. The OPFOR may emplace 2,000 to 3,000 blast and 100 to 300 fragmentation mines per km of frontage. An AP minefield of increased effectiveness may have as much as three times the normal outlay of AP mines. Intervals between mines in a row are at least 1 m for blast mines and up to twice their destructive radius for fragmentation mines. Figure 12-9 shows variations of the employment of AP minefields.

12-149. Emplacement of minefields with increased effectiveness is more likely on dismounted avenues of approach. In urban environments, the OPFOR can emplace 2 to 3 fragmentation mines for every 50 to 100 m of street. It prefers to use blast mines and fragmentation mines within buildings.

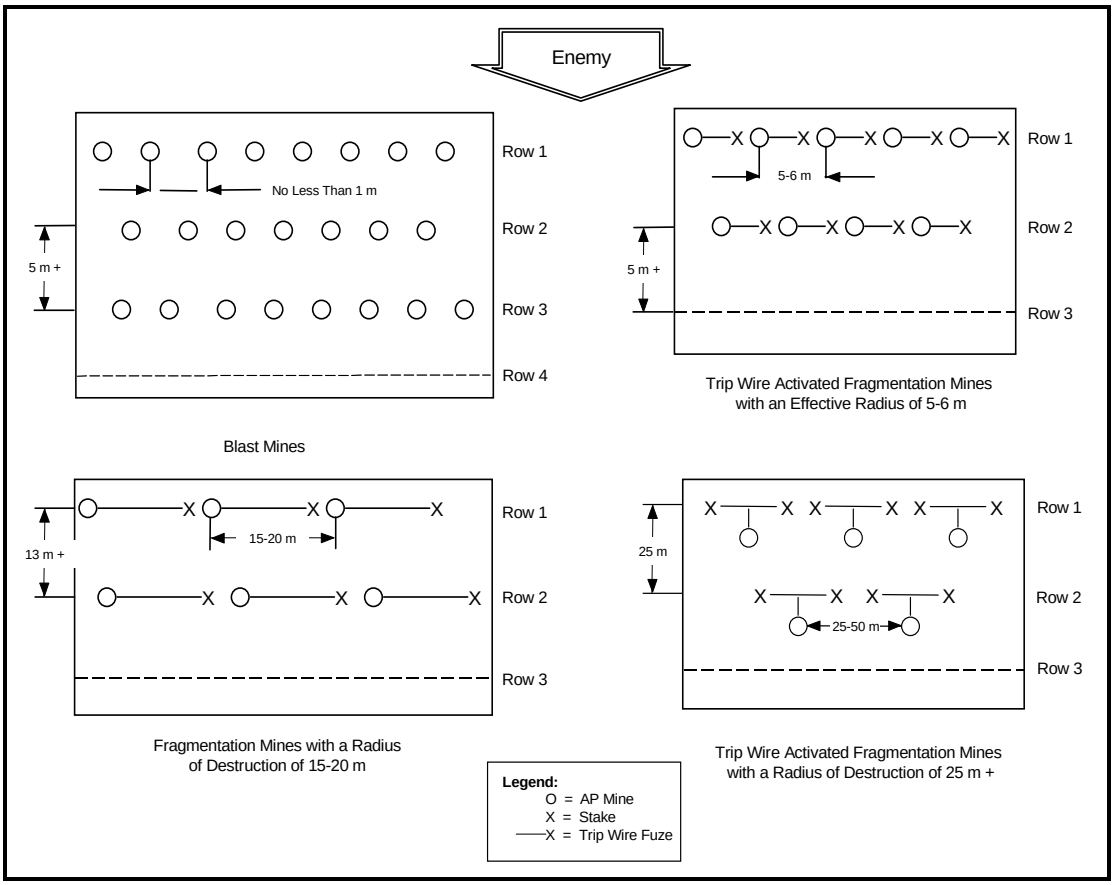


Figure 12-11. AP Minefield Configuration (Example)

Mixed

12-150. Mixed minefields contain both AT and AP mines. A mixed minefield is generally viewed as a minefield with pure homogenous rows of either AP or AT mines. This is mainly due to the physical constraints of mechanical minelayers. They cannot lay both AT and AP mines in the same row. This does not preclude mixed minefields from having a mixture of both AT and AP mines. They can be laid manually or remotely. It is easy to remotely "seed" an area with a combination of both. However, the AT mine requirements govern the mixed minefield's parameters, outlay, and density. In areas that are not suitable for armored vehicles, AP mines constitute the majority of mixed mine obstacles. Figure 12-10 shows an example of a mixed minefield with blast AP rows between AT rows.

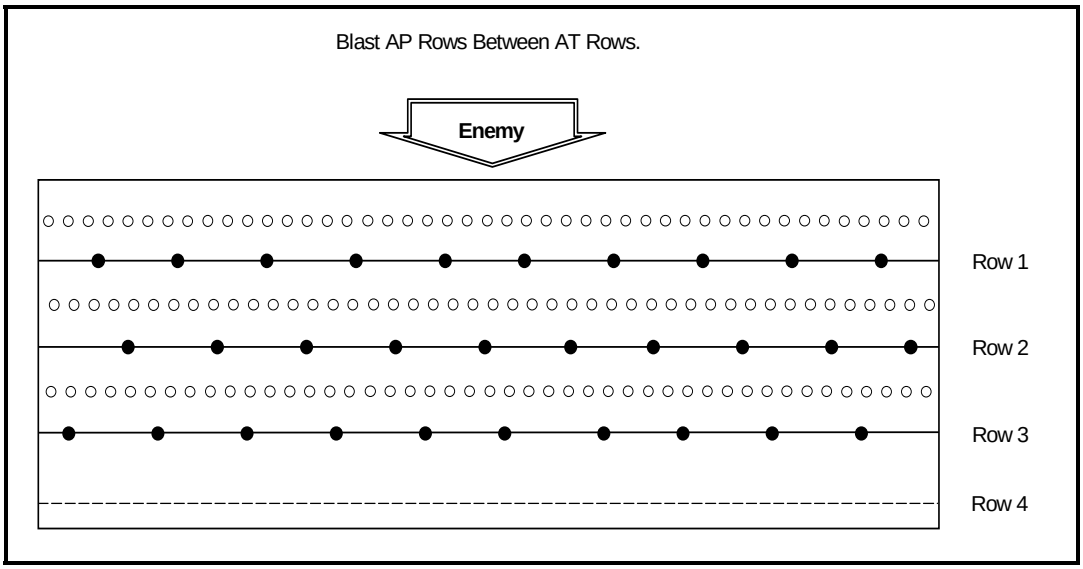


Figure 12-12. Mixed Minefield with Blast AP Rows between AT Rows (Example)

12-151. Combat arms personnel set up nonexplosive and mixed minefield obstacles to cover their defensive positions. Engineers lay mixed minefields in front of the battle line and on primary avenues into the defensive depth. Mixed minefields are usually established in front of unit positions that are transitioning to the defense. Figure 12-11 illustrates an example of a mixed minefield with an AP minefield leading to full width AT minefield.

Decoy

12-152. Decoy minefields are a significant form of deception to slow movement or deceive as to true unit locations. The OPFOR uses decoy, or false minefields to mislead the enemy as to the locations of actual minefields. As part of tactical deception, units typically give the impression of minelaying activity, usually scarification of the soil, minelaying debris, minefield fences and markers.

Antilanding

12-153. Antilanding minefields prevent landings by amphibious, airborne, or heliborne assault forces. The OPFOR uses antilanding mines at possible landing or drop zones (LZs or DZs) or when conducting combat along the seacoast or inland water features. It employs explosive, nonexplosive, and combination obstacles. Minefields established in the water consist of bottom and anchored mines and, at shallower depths, waterproof mines. The OPFOR uses all types of mines above the shoreline, emplacing them following normal minefield doctrine. At LZs and DZs it uses fragmentation and directional AP mines. It also emplaces antihelicopter mines in locations it believes will be used as firing (battle) positions for enemy attack helicopters or in possible LZs to be used by lift helicopters.

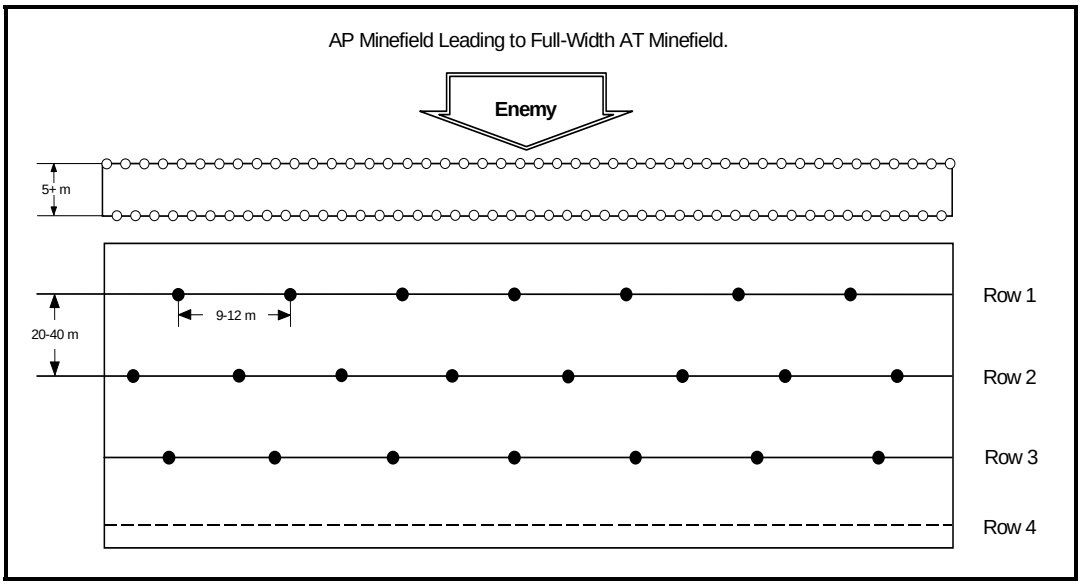


Figure 12-13. Mixed Minefield with an AP Minefield Leading to Full-Width AT Minefield (Example)

Controlled

12-154. Some OPFOR units have the capability to lay controlled minefields. These minefields consist of landmines with electronic switches (on/off) giving the operator control over the operational status of the minefield. The operator can change the status of an area of the battlefield and make it either hazardous for the enemy or render the area safe for friendly troops. This is done either by a direct hardwire link or by radio. An entire minefield can be emplaced and turned on or off, as necessary, to best support friendly operations.

12-155. On a smaller scale, select passages in a conventional minefield can contain controllable landmines, allowing for the option of clearing safe lanes for friendly use. The addition of selectable anti-removal and self-destruct features to controlled mines enhances flexibility and overall effectiveness. Controlled minefields can also be established in a maneuver defense to ensure unrestricted maneuver of units over mined areas and to cut off enemy units in pursuit.

MINELAYING

12-156. Mines are an essential element of both offensive and defensive combat. The means of emplacing minefields can be manual, mechanical, or remote. Since minelaying is a common task skill, manual emplacement is performed by anybody and is the method employed by maneuver units. However, manual minelaying is labor-intensive and requires the expenditure of more time than may be available during high-speed maneuver. Therefore, OPFOR engineers may have towed and/or tracked conventional mechanical minelaying vehicles that can quickly emplace both buried and surface-laid minefields. The engineers may also have vehicle-mounted scatterable minelaying systems. These mechanical systems to allow engineer forces to quickly

mine an area just prior to or during the battle. Engineer resources are supplemented by remote mine delivery from artillery and aircraft. Infantry units can also have man-portable remote mine dispensers.

12-157. The methods and extent of minelaying depend on—

- The OPFOR's intentions.
- The tactical situation.
- Terrain characteristics.
- The type of mine.
- Time available.
- Available engineer support.

12-158. With the high tempo of the modern mobile battlefield, the use of remotely-delivered mines is increasing. In volume, however, they do not exceed the use of conventional landmines. Conventional minefields are better suited to protecting defensive positions that the OPFOR intends to maintain for some time. In this case, it expends greater time and effort to bury and camouflage the mines and integrate the minefields into the total defensive scheme. Mine density in these types of fields is also greater. These minefields are more likely to have a mix of AT and AP mines. In setting up a fully prepared defense, troops of all units take part in preparing obstacles and laying mines.

Manual

12-159. The OPFOR manually emplaces minefields when—

- There is no contact with the enemy.
- Mechanical minelayers are unavailable.
- Use of mechanical minelayers is inadvisable because of terrain restrictions.

A mine warfare platoon can manually lay 200 to 300 AT mines in 1 to 2 hours. It can recover about 200 AT mines an hour, if the mines are not equipped with self-destruct or antihandling devices.

Mechanical

12-160. OPFOR engineers rely extensively on mechanical minelayers. These can bury or surface-lay AT mines. The layout of mechanically emplaced minefields is the same as those emplaced by hand.

12-161. The normal sequence for mechanically laying mines is to emplace the most forward minefield first and to work progressively back to friendly defensive positions. The engineers align the mechanical minelayers parallel to the battle line. The minelayers start at separate intervals. This staggers the minelayers in a 30- to 45-degree echelon formation as they travel along the battle line. This method ensures that mines in one row are not directly behind those in another when approached by the enemy. This increases the probability for a mine encounter by ensuring that if an attacker misses the first mine, he should still encounter one in subsequent rows. Mines can also be emplaced by helicopters or vehicles with the use of chutes (slides). Mine

chutes can also be used to assist manual burial emplacement or to surface-lay mines. Figure 12-12 illustrates the mechanical AT minelaying sequence.

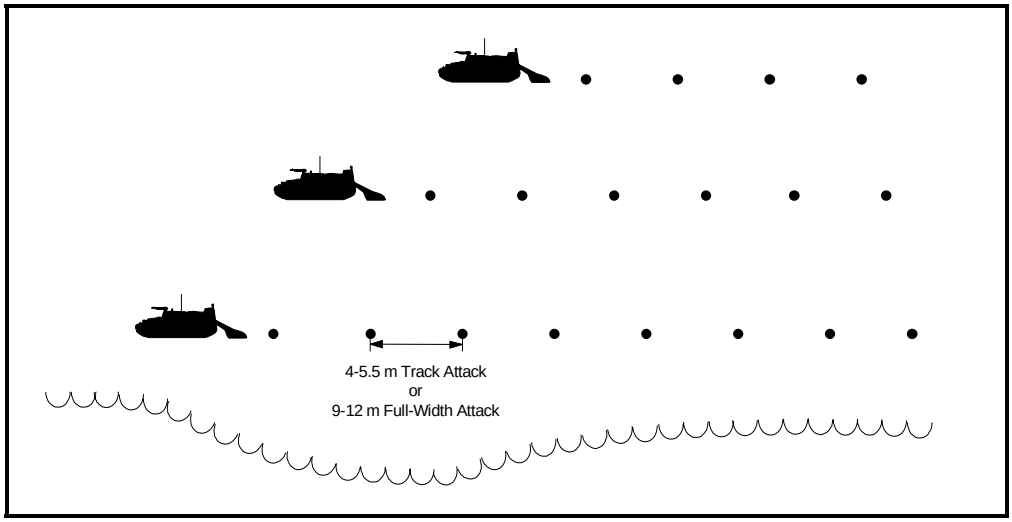


Figure 12-14. Mechanical AT Minelaying Sequence (Example)

Remote

12-162. Remote minelaying gives the OPFOR a capability to strike targets and rapidly project mines deep in enemy territory or anywhere in the AOR. It provides increased tactical responsiveness and flexibility and reduces the manpower requirement for minelaying, as well as minimizes exposure of the minelaying equipment to enemy fire. Once emplaced, these minefields can instantaneously affect the tactical situation and degrade the enemy's reaction time to the sudden appearance of the obstacle. Thus, they are ideally suited to the highly mobile, lethal battlefield of modern warfare. Since many scatterable landmines feature self-destruct and antidisturbance fuzing, they are well suited for missions that deny terrain for a specific period.

12-163. Remote delivery is useful against enemy reinforcing units, areas of troop concentration, CPs, firing positions, and other objectives. It can protect flanks or block enemy penetrations. The OPFOR prefers to trap a force inside a minefield rather than merely creating an obstacle that the enemy can bypass. Therefore, remote minelaying can create two types of minefields: covering and containing. A covering minefield can block the movement route of an advancing or withdrawing enemy. A containing minefield can prevent the enemy unit from moving out of a deployment area (or firing position) or within the area.

12-164. The OPFOR uses remotely-delivered or scatterable mines to reduce enemy mobility, inflict losses, and to create the conditions for the destruction of an enemy force. Scatterable mines also have a psychological effect on enemy morale. They can be laid close to friendly positions and covered by friendly fire or laid deep in enemy territory. Minefields created by scatterable mines lack precise boundaries or a definitive mine emplacement pattern, and generally remain on or near the surface of the ground.

12-165. Scatterable mines can be delivered from jet aircraft, helicopters, multiple rocket launchers (MRLs), trucks, and other ground vehicles, or by dismounted soldiers in the forward parapet of fighting positions. These mines are scattered randomly on the ground with no semblance to classical patterns. Frequently, these types of landmines also incorporate self-destruct or self-neutralization features to control and limit their active duration once emplaced. After the allotted time has expired, the terrain can again be used by friendly forces.

12-166. The OPFOR prefers to retain the element of surprise and therefore employs remotely-delivered, scatterable mines immediately before combat or during the course of the battle. When dispensed, these minefields are generally laid immediately in front of attacking, reinforcing, and withdrawing enemy troops, or may be emplaced directly on enemy formations. Possible uses of scatterable mines are to—

- Isolate enemy forces.
- Disrupt the attacking forces, causing them to deploy early and expend mineclearing assets.
- Disrupt and delay enemy exploitation forces, reserves, or counterattack forces.
- Prevent enemy artillery from displacing during counterbattery fire.
- Interdict lines of communication.
- Prevent the use of a logistics site.
- Obstruct a choke point.
- Protect flanks.
- Seal breaches in friendly obstacles or gaps between units.

12-167. **Artillery.** Some cannon artillery systems are capable of delivering both AP and AT mines. However, MRLs are the primary means of remote minelaying. The principal advantage of MRL mine delivery is its ability to quickly emplace large minefields in a single volley, while minimizing exposure to enemy targeting and weapon systems. For example, a single volley from a 220-mm MRL battery can deliver over 2,300 AT scatterable mines to a range of 10 to 35 km. With these mines, it can emplace a covering minefield approximately 3 km wide or a containing minefield about 1,200 m wide and 1,200 m deep.

12-168. **Infantry.** The OPFOR may also employ small, man-portable remote mine dispensers with its lower-level infantry units. These mine dispensers, weighing only a few pounds, can be either pulled like a handcart or carried by a soldier. Depending upon the design, infantry remote minelaying systems propel mine canisters out to approximately 100 m, while rocket-dispensed systems may go out as far as 3,000 m. The operator loads the mine-filled rockets (or a propelling charge and mine canister) into the launch tube, mounts the system on the edge of a trench or firing parapet, aims the tube, connects the wire to the tube, moves off to a safe distance, and connects the wire to the blasting mechanism. With a trained operator, it takes only a few minutes to set up the dispenser and create a minefield.

12-169. Infantry-fired ground dispensers are ideal for installing small, defensive, AP or AT minefields. They allow low-level units to remotely emplace minefields to protect their battle positions, flanks, and boundaries between units, or to cover firing lines and gaps in combat formations. They can quickly close breaches in existing protective minefields and increase the density of mines on armor avenues of approach.

12-170. **Ground Vehicles.** Within recent years, the trend has been to mount scatterable-mine dispensers on ground vehicles. Both AP and AT mines can be launched from ground vehicles. This also gives the engineers the ability to re-seed or reinforce an obstacle without entering the minefield itself.

12-171. **Aerial.** Other than the above-mentioned ground force systems for remote minelaying, aircraft and helicopters can remotely deliver mines. The following paragraphs describe aerial minelaying capabilities.

12-172. Bombers or ground-attack aircraft can lay remotely-delivered minefields throughout the AOR. Aircraft are only used to deliver mines beyond the battle line when they cannot be delivered (for whatever reasons) by indirect fire means. Delivering mines from low altitudes deep in enemy territory increases the risk of losing the aircraft to enemy ground fires or air defense. Therefore, fixed-wing aircraft are generally used to deliver ordnance such as scatterable mines beyond the range of OPFOR artillery systems (including MRLs). Ground-attack aircraft lay these minefields in the enemy's tactical depths.

12-173. High-performance aircraft can lay mines at a speed of 400 to 800 km/h from an elevation of 50 to 200 m. Aircraft-delivered scatterable mine canisters are dropped on parachutes. The canisters are set to burst open at a predetermined height to scatter the mines.

12-174. Helicopter minelaying systems are used to emplace large barrier minefields in the execution of OSC or division offensive or defensive maneuver plans. This type of aerial minelaying is normally conducted over friendly territory—along the flanks or in the rear areas. When supporting an airborne or heliborne landing, helicopters may lay mines on enemy territory.

12-175. Both AT and AP minefields can be laid using aerial minelaying systems. Some attack and medium-lift helicopters and a few light helicopters have the capability to perform minelaying missions. A light helicopter does not carry armament when accomplishing these missions. Medium-lift and attack helicopters are most commonly used for aerial minelaying.

12-176. Some helicopters can dispense conventional mines by the addition of an internal minelaying chute within their cargo area. Mines are contained on custom mine racks and then fed manually or automatically onto the chute. The mines are then armed as they are dispensed. These heliborne minelaying systems can be used in formations of two, three, or four and operate relatively similar to the ground mechanical minelaying systems. The speed of minelaying can vary from 20 to 300 km/h from an altitude of 30 to 100 m. While at a near hover above the ground, the helicopters operate 20 to 40 m apart, with each laying a straight-line row. The mines in each row can be staggered and the distance between mines depends on whether the mines are pressure-initiated or full-width attack mines.

12-177. One light helicopter can deliver 60 to 80 AT mines or 100 or 120 AP mines. A medium-lift helicopter equipped with a minelaying system delivers 100 to 140 AT mines or 200 to 220 AP mines on a single sortie. To lay a minefield 15 by 30 m with AT mines takes approximately six sorties of a single light helicopter or approximately four flights of a single medium-lift helicopter.

SURVIVABILITY

12-178. The construction of battle and fighting positions is a labor-intensive process and is therefore a shared responsibility of engineers and supported units. Maximum use of civilian engineer assets and personnel continues during adaptive operations. Full preparation of defensive positions involves—

- Fighting positions for individual and crew-served weapons.
- Fighting trenches and communication trenches.
- Firing positions for tanks, IFVs, APCs, air defense, and other weapon systems.
- Protection for CPs and logistics sites.

12-179. Survivability activities when fighting an extraregional enemy have several unique engineer requirements. Some examples are to—

- Take full advantage of the screening, protective, and C3D techniques, along with careful selection of terrain to passively deny the enemy the ability to acquire OPFOR positions for targeting.
- Make extensive use of local building materials, equipment, and work force.
- Protect CPs and logistics sites.
- Bury communications lines.
- Construct false positions, equipment, movement routes, and lines of communication.
- Assimilate minefields and obstacles to the terrain.
- Prepare caves, tunnels, and tunnel complexes in which troops can live and from which they can fight.

Fortification

12-180. Although engineers have the bulk of specialized equipment for constructing sophisticated survivability positions, engineer support at brigade level and lower is very limited. Therefore, maneuver units at battalion and below exert maximum effort to develop and improve their own positions. This process starts with infantry using shovels and armored vehicles using integral self-entrenching blades, if available. When building the positions, they must take advantage of the protective and camouflaging properties of the terrain, local building materials, engineer construction equipment, explosives, and prefabricated installations.

12-181. Meanwhile, engineers using specialized equipment dig positions for critical sites such as medical facilities and C^2 centers. As scarce engineer

equipment becomes available, it supports maneuver units by augmenting and improving on the work the units have already begun. Considering the projected time of stay, the conditions of the terrain, and the upcoming combat tasks, the maneuver commander determines the amount, sequence, and time for the fortification of an area.

12-182. **Levels of Fortification Protection.** Fortified positions increase OPFOR weapons effectiveness. They also protect personnel, weapons, and material from enemy targeting and reconnaissance assets, and from the effects of enemy attack. The OPFOR categorizes field fortifications according to purpose. It divides them into structures for—

- Firing and observation.
- Protection for personnel, equipment, and material.

12-183. **Fortification Priorities.** Commanders assign fortification priorities to tasks that provide the best level of protection at all times against a possible enemy attack. The normal priority is from front to rear, beginning with the primary fighting positions, then the temporary positions, alternate positions, and if possible deception positions. One of the greatest factors influencing the level and sequence of fortification preparation is whether the transition to the defense occurs in contact or out of contact with the enemy.

12-184. If forward maneuver units are in contact with the enemy, they prepare their own hasty positions as best as possible. The maneuver unit is responsible for the majority of defensive fortifications. This includes emplacing minefields and nonexplosive obstacles.

12-185. When not in direct contact with the enemy and when the situation permits, engineer excavating and bulldozer equipment may be used to—

- Dig communications and fighting trenches and tank and IFV or APC emplacements. (For the most effective use of the heavy equipment, the supported mechanized infantry or tank unit must lay out and mark the areas for ditching.)
- Fortify squad trenches and platoon battle positions.
- Provide engineer reconnaissance.
- Emplace engineer obstacles.
- Prepare alternate fighting positions.

Preferably, engineer preparations occur at night or under other conditions of reduced visibility.

12-186. **Shared Responsibilities for Field Fortifications.** Engineer tasks are a shared responsibility throughout the OPFOR. Engineer and combat personnel perform survivability tasks such as constructing fortifications, clearing fields of fire, and camouflage. Although the highest level of engineer training and the greatest technical capabilities exist in the engineer troops, all military personnel and units train somewhat in fundamental engineer tasks. The majority of defensive preparation is conducted at the maneuver unit level. The following are several examples of specific responsibilities:

- Soldiers: dig individual fighting positions and trenches.

- Combat vehicles: several hundred vehicles in a mechanized infantry division may have self-entrenching capability.
- Engineers: construct fortified positions and communications trenches; dig in critical equipment, C^2 sites, and logistics facilities.

Camouflage, Concealment, Cover, and Deception

12-187. The OPFOR uses various C^3D measures to mislead the enemy about size and location of forces and weapon systems and about the nature of defensive engineer preparations. Defensive measures include—

- Use of screening properties of terrain, darkness, and other conditions of limited visibility during engineer preparation of defensive positions and positioning of forces.
- Camouflage painting of material.
- Use of local materials and standard-issue camouflage screens.
- Strict camouflage, noise, and light discipline.
- Construction of false battle positions, decoy positions, and decoy equipment.
- False actions to draw attention.
- Assimilation of minefields and obstacles to the terrain.

12-188. **Artificial Camouflage.** The OPFOR employs artificial camouflage as a supplement when natural screens cannot provide the concealment of forces and combat material. It includes both natural and manufactured camouflage. The OPFOR uses camouflage nets and screens extensively. It improves multispectral screening by using camouflage nets, covers, and individual camouflage equipment.

12-189. **Decoys.** The OPFOR uses deception activities and equipment to counter enemy reconnaissance. All engineer units receive special training in constructing decoys from locally available materials. These decoys cover a wide spectrum of types and must be introduced or "discovered" in the same priority a "real or existing" unit would emplace them. The general priority of engineer construction is from front to rear, beginning with the primary fighting positions, then the temporary and alternate positions. The time sequence in which these "appear" gives credibility to the deception. The engineers may use obsolete or derelict equipment for deceptive purposes. The emphasis is on tactical systems and measures that provide effective concealment and deception.

12-190. To aid in water obstacle crossings, engineers can construct deception crossing sites, before or at the same time they are establishing actual ones. They try to draw the enemy's attention to simulated crossing sites while real ones remain carefully camouflaged. They give authenticity to simulated crossings by using corner reflectors, by deploying vehicles on roads and other approaches to them, by moving simulated vehicles across them, and by positioning construction and bridging equipment near simulated sites.

12-191. The OPFOR plans to employ mock-ups and decoys as an integral part of battles. Simulations can obscure OPFOR intentions and cause the enemy to waste effort by destroying decoys. The engineers bear a major responsibil-

ity for constructing simulations. The OPFOR places emphasis on those engineer camouflage measures that it can transport easily and construct rapidly.

12-192. The following conditions must exist in order for decoy equipment to be successful:

- Placement must be in areas where the enemy would reasonably expect to find that type of actual equipment in use.
- Dimensions of simulated equipment must approximate those of actual equipment.

12-193. The simulations that engineers construct can represent any type equipment in the OPFOR inventory. Actual equipment that is not functional due to combat damage or mechanical malfunction can be made to appear operational by repainting it to conceal damage or by constructing components to simulate destroyed parts.

12-194. Engineers can create false excavations to simulate revetments, hull-defilade vehicle trenches, or individual fighting positions. These false excavations may be only half the depth of actual excavations, although the engineers may create the appearance of greater depth by adding dark materials such as branches, grass, or soil to the bottoms. Troops can temporarily occupy these deception positions and fire from them to aid deception.

12-195. In preparation for offensive action, the primary use of field fortification is in the preparation of assembly areas. Even there, the tasks of preparation typically exceed the capability of engineers constituent to the brigade and even that of those likely attached as reinforcements. Maneuver commanders realize that fortification of battle positions is a shared responsibility. Consequently, the preparation of assembly area positions becomes a shared responsibility involving all available personnel and equipment.

12-196. This process is performed simultaneously throughout the force, with infantry using shovels and armored vehicles using integral self-entrenching blades, if available. Meanwhile, specialized engineer equipment digs positions for critical sites such as medical facilities and command and control (C^2) centers. As scarce engineer equipment becomes available, it is then tasked to support maneuver units by augmenting and improving on the work the units have already begun.

12-197. The goal is to prepare a separate assembly area for each battalion-size unit, using engineer equipment to construct positions for vehicles shortly after they arrive at their assigned location. Within 1 to 2 hours, engineers dig assembly area fighting positions for all personnel. The engineers may prepare prefabricated structures for battalion command posts and carefully camouflage all structures.

12-198. During the offense, the goals of C^3D are essentially the same as during tactical movement. Offensive measures include—

- Selection of terrain for its screening effect.
- Use of obscurants (smokescreens).

- Use of artificial and natural camouflage screens.
- Simulation of characteristic defensive measures—to "mine" the terrain in view of the enemy with decoy minefields or to give the appearance of reinforced defensive positions.
- Use of concealed routes for movement of supplies and reserves.

Chapter 13

NBC and Smoke

The use of nuclear, biological, and chemical (NBC) weapons can have an enormous impact on all combat actions.[1] Not only does the sheer killing and destructive power of these weapons affect the tactical battlefield, but the strategic, operational, psychological, environmental, economic, and political consequences of their use affect strategic campaign plans and operational design.

In response to foreign developments, the OPFOR maintains a capability to conduct chemical, nuclear, and possibly biological warfare. However, it would prefer to avoid the use of NBC weapons by either side—especially nuclear and biological weapons. Both nuclear and biological weapons characteristically have lethal effects over much larger areas than do chemical weapons. The effects of biological weapons can be difficult to localize and to employ in combat without affecting friendly forces; their effects on the enemy can be difficult to predict. Unlike nuclear or biological weapons, chemical agents can be used to affect limited areas of the battlefield. The consequences of chemical weapons use are more predictable and thus more readily integrated into battle plans.

Because chemical employment is more likely than nuclear or biological, this chapter begins by focusing on OPFOR chemical capabilities. Because the OPFOR may also have some nuclear and biological capabilities, these also deserve discussion, despite of the lower probability of their employment. The chapter concludes with discussions of NBC protection and employment of smoke.

PREPAREDNESS

13-1. Due to the proliferation of NBC weapons, the OPFOR must anticipate their use, particularly the employment of chemical weapons. OPFOR plan-

[1] NBC weapons are a subset of *weapons of mass destruction (WMD)*, although the latter exclude the delivery means where such means is a separable and divisible part of the weapon. WMD are weapons or devices intended for or capable of causing a high order of physical destruction or mass casualties (death or serious bodily injury to a significant number of people). The casualty-producing elements of WMD can continue inflicting casualties on the enemy and exert powerful psychological effects on the enemy's morale for some time after delivery. Existing types of WMD include chemical, biological, and nuclear weapons. However, technological advances are making it possible to develop WMD based on qualitatively new principles, such as infrasonic (acoustic), radiological (enhanced-radiation), or particle-beam weapons. In addition, conventional weapons, such as precision weapons or volumetric explosives, can also take on the properties of WMD.

ners believe that the best solution is to locate and destroy enemy NBC weapons and their supporting infrastructure before the enemy can use them against OPFOR troops or the State. In case this fails and it is necessary to continue combat actions despite the presence of contaminants, the OPFOR has developed and fielded a wide range of NBC detection and warning devices, individual and collective protection equipment, and decontamination equipment.

MULTIPLE OPTIONS

13-2. Force modernization has introduced a degree of flexibility previously unavailable to combined arms commanders. It creates multiple options for the employment of forces at strategic, operational, and tactical levels with or without the use of NBC weapons. Many of the same delivery means available for NBC weapons can also be used to deliver precision weapons that can often achieve desired effects without the stigma associated with NBC weapons.

13-3. The OPFOR might use NBC weapons either to deter aggression or as a response to an enemy attack on the State. It has surface-to-surface missiles (SSMs) capable of carrying nuclear, chemical, or biological warheads. Most OPFOR artillery is capable of delivering chemical munitions, and most systems 152-mm and larger are capable of firing nuclear rounds. Additionally, the OPFOR could use aircraft systems and cruise missiles to deliver an NBC attack. The State has also trained special-purpose forces (SPF) as alternate means of delivering NBC munitions packages.

13-4. The threat of using these systems to deliver NBC weapons is also an intimidating factor. Should any regional opponent use its own NBC capability against the State, the State is prepared to retaliate in kind. It is also possible that the State could use NBC against a regional neighbor as a warning to any potential extraregional enemy that it is willing to use such weapons. The fact that NBC weapons may also place noncombatants at risk is also a positive factor from the State's perspective. Thus, it may use or threaten to use NBC weapons as a way of applying political, economic, or psychological pressure by allowing the enemy no sanctuary.

TARGETING

13-5. The OPFOR considers the following targets to be suitable for the employment of NBC weapons:

- NBC delivery means and their supply structure.
- Precision weapons.
- Prepared defensive positions.
- Reserves and troop concentrations.
- Command and control (C^2); reconnaissance, intelligence, surveillance, and target acquisition (RISTA); and communications centers.
- Key air defense sites.
- Logistics installations, especially port facilities.
- Airfields the OPFOR does not intend to use immediately.

Enemy NBC delivery means (aircraft, artillery, missiles, and rockets) normally receive the highest priority. The suitability of other targets depends on the OPFOR's missions, the current military and political situation, and the NBC weapons available for use.[2]

STAFF RESPONSIBILITY

13-6. On the functional staff of a division- or brigade-level headquarters (such as an OSC), the chief of WMD is responsible for planning the offensive use of WMD, including NBC weapons. (See the subsections on Release under Chemical Warfare, Nuclear Warfare, and Biological Warfare below.) The WMD staff element advises the command group and the primary and secondary staff on issues pertaining to NBC employment. The WMD element receives liaison teams from any subordinate or supporting units that contain WMD delivery means.

13-7. NBC defense comes under the chief of force protection. The force protection element of the functional staff may receive liaison teams from any subordinate or supporting chemical defense units. However, those units can also send liaison teams to other parts of the staff, as necessary (including, for example, the chief of reconnaissance).

CHEMICAL WARFARE

13-8. The OPFOR is equipped, structured, and trained to conduct both offensive and defensive chemical warfare. It is continually striving to improve its chemical warfare capabilities. It believes that an army using chemical weapons must be prepared to fight in the environment it creates. Therefore, it views chemical defense as part of a viable offensive chemical warfare capability. It maintains a large inventory of individual and collective chemical protection and decontamination equipment. (See the NBC Protection portion of this chapter.)

WEAPONS AND AGENTS

13-9. Virtually all OPFOR indirect fire weapons can deliver chemical agents. These delivery means include aircraft, multiple rocket launchers (MRLs), artillery, mines, rockets, and missiles. Other possible delivery means could include SPF, affiliated insurgent or terrorist organizations, or civilian sympathizers.

13-10. One way of classifying chemical agents according to the effect they have on persons. Thus, there are two major types, each with subcategories. *Lethal* agents, categorized by how they attack and kill personnel, include nerve, blood, blister, and choking agents. *Nonlethal* agents include incapacitants and irritants.

Nerve Agents

13-11. Nerve agents are fast-acting. Practically odorless and colorless, they attack the body's nervous system, causing convulsions and eventually death. Nerve agents are further classified as either G- or V-agents. At low concen-

[2] The same list of targets would apply for enemy use of NBC weapons against the OPFOR.

trations, the GB series incapacitates; it kills if inhaled or absorbed through the skin. The rate of action is very rapid if inhaled, but slower if absorbed through the skin. V-agents produce similar effects, but are quicker-acting and more persistent than G-agents.

Blood Agents

13-12. Blood agents block the body's oxygen transferal mechanisms, leading to death by suffocation. A common blood agent is hydrogen cyanide (AC). It kills quickly and dissipates rapidly.

Blister Agents

13-13. Blister agents, such as mustard (H) or lewisite (L) and combinations of these two compounds, can disable or kill after contact with the skin, being inhaled into the lungs, or being ingested. Contact with the skin can cause painful blisters, and eye contact can cause blindness. These agents are especially lethal when inhaled.

Choking Agents

13-14. Choking agents, such as phosgene (CG) and diphosgene (DP), block respiration by damaging the breathing mechanism, which can be fatal. As with blood agents, this type is nonpersistent, and poisoning comes through inhalation. Signs and symptoms of toxicity may be delayed up to 24 hours.

Incapacitants

13-15. Incapacitants include psychochemical agents and paralyzants. These agents can disrupt a victim's mental and physical capabilities. The victim may not lose consciousness, and the effects usually wear off without leaving permanent physical injuries.

Irritants

13-16. Irritants, also known as riot-control agents, cause a strong burning sensation in the eyes, mouth, skin, and respiratory tract. The best known of these agents is tear gas (CS). Their effects are also temporary. Victims recover completely without having any serious aftereffects.

AGENT PERSISTENCY

13-17. Chemical agents are also categorized according to their persistency. Generally, the OPFOR would use persistent agents on areas it does not plan to enter and nonpersistent agents where it does.

Persistent Agents

13-18. Persistent agents can retain their disabling or lethal characteristics from days to weeks, depending on environmental conditions. Aside from producing mass casualties initially, persistent agents can produce a steady rate of attrition and have a devastating effect on morale. They can seriously degrade the performance of personnel in protective clothing or impose delays for decontamination.

Nonpersistent Agents

13-19. Nonpersistent agents generally last a shorter period of time than persistent agents, depending on weather conditions. The use of a nonpersistent agent at a critical moment in battle can produce casualties or force enemy troops into a higher level of individual protective measures. With proper timing and distance, the OPFOR can employ nonpersistent agents and then have its maneuver units advance into or occupy an enemy position without having to decontaminate the area or don protective gear.

OTHER TOXIC CHEMICALS

13-20. In addition to traditional chemical warfare agents, the OPFOR may find creative and adaptive ways to cause chemical hazards using chemicals commonly present in industry or in everyday households. In the right combination, or in and of themselves, the large-scale release of such chemicals can present a health risk, whether caused by military operations, intentional use, or accidental release.

Toxic Industrial Chemicals

13-21. Toxic industrial chemicals (TICs) are chemical substances with acute toxicity that are produced in large quantities for industrial purposes. Exposure to some industrial chemicals can have a lethal or debilitating effect on humans. The near-universal availability of large quantities of highly toxic stored materials, their proximity to urban areas, their low cost, and the low security associated with storage facilities, make them a potentially attractive option for use as weapons of opportunity or weapons of mass destruction. Employing a TIC against an opponent by means of a weapon delivery system, whether conventional or unconventional, is considered a chemical warfare attack, with the TIC used as a chemical agent. The target may be the enemy's military forces or his civilian population.

13-22. In addition to the threat from intentional use as weapons, catastrophic accidental releases of stored industrial chemicals may result from collateral damage associated with military operations, electrical power interruption, or improper facility maintenance or shutdown procedures. These events are common in armed conflict and post-conflict urban environments.

13-23. The most important factors to consider when assessing the potential for adverse human health impacts from a chemical release are acute toxicity, physical properties (volatility, reactivity, flammability), and the likelihood that large quantities will be accidentally released or available for exploitation. Foremost among these factors is acute toxicity.

13-24. The following are examples of high- and moderate-risk TICs, based on acute toxicity by inhalation, worldwide availability (number of producers and number of countries where the substance is available), and physical state (gas, liquid, or solid) at standard temperature and pressure:

- **High-Risk.** Ammonia, chlorine, fluorine, formaldehyde, hydrogen chloride, phosgene, sulfuric acid.
- **Moderate-Risk.** Carbon monoxide, methyl bromide, nitrogen dioxide, phosphine.

13-25. This list does not include all chemicals with high toxicity and availability. Specifically, chemicals with low volatility are not included. Low-vapor pressure chemicals include some of the most highly toxic chemicals widely available, including most pesticides.

13-26. Some of the high-risk TICs are frequently present in an operational environment. Chlorine (water treatment and cleaning materials), phosgene (insecticides and fertilizers), and hydrogen cyanide are traditional chemical warfare agents that are also considered TICs. Cyanide salts may be used to contaminate food or water supplies. Hydrogen chloride is used in the production of hydrochloric acid. Formaldehyde is a disinfectant and preservative. Fluorine is a base element that is used to produce fluorocarbons. Fluorocarbons are any of various chemically inert compounds that contain both carbon and fluorine. Fluorocarbons are present in common products are refrigerants, lubricants, and nonstick coatings, and are used in the production of resins and plastics.

Household Chemicals

13-27. The OPFOR understands that some everyday household chemicals have incompatible properties that result in undesired chemical reaction when mixed with other chemicals. This includes substances that will react to cause an imminent threat to health and safety, such as explosion, fire, and/or the formation of toxic materials. For example, chlorine bleach, when mixed with ammonia, will generate the toxic gases chloramine and hydrazine that can cause serious injury or death. Another example of such incompatibilities is the reaction of alkali metals, such as sodium or potassium, with water. Sodium is commonly used in the commercial manufacture of cyanide, azide, and peroxide, and in photoelectric cells and sodium lamps. It has a very large latent heat capacity and is used in molten form as a coolant in nuclear breeder reactors. The mixture of sodium with water produces sodium hydroxide, which can cause severe burns upon skin contact.

CHEMICAL RELEASE

13-28. Among NBC weapons, the State is most likely to use chemical weapons against even an extraregional enemy, particularly if the enemy does not have the capability to respond in kind. Since the State does not believe that first use of chemical agents against units in the field would provoke a nuclear response, it is less rigid than other nations in the control of chemical release.

13-29. Initially, the use of chemical weapons is subject to the same level of decision as nuclear and biological weapons. At all levels of command, a chemical weapons plan is part of the fire support plan. Once the National Command Authority (NCA) has released initial authorization for the use of chemical weapons, commanders can employ them freely, as the situation demands. Then each commander at the operational-strategic command (OSC) and lower levels who has systems capable of chemical delivery can implement the chemical portions of his fire support plan, as necessary.

13-30. After a decision for nuclear use, the OPFOR can employ chemical weapons to complement nuclear weapons. However, the OPFOR perceives that chemical weapons have a unique role, and their use does not depend on initiation of nuclear warfare. It is possible that the OPFOR would use chemi-

cal weapons early in an operation or strategic campaign or from its outset. It would prefer not to use chemical weapons within the boundaries of the State. However, it would contaminate its own soil if necessary in order to preserve the regime or the State's sovereignty.

OFFENSIVE CHEMICAL EMPLOYMENT

13-31. The basic principle of chemical warfare is to achieve surprise. It is common to mix chemical rounds with high-explosive (HE) rounds in order to achieve chemical surprise. Chemical casualties inflicted and the necessity of chemical protective gear degrade enemy defensive actions. The OPFOR also may use chemical agents to restrict the use of terrain. For example, contamination of key points along the enemy's lines of communication can seriously disrupt his resupply and reinforcement, while simultaneously keeping those points intact for subsequent use by the attacking OPFOR.

13-32. Nonpersistent agents are suitable for use against targets on axes the OPFOR intends to exploit. While possibly used against deep targets, their most likely role is to prepare the way for an assault by maneuver units, especially when enemy positions are not known in detail. The OPFOR may also use nonpersistent agents against civilian population centers in order to create panic and a flood of refugees.

13-33.Persistent agents are suitable against targets the OPFOR cannot destroy by conventional or precision weapons. This can be because a target is too large or located with insufficient accuracy for attack by other than an area weapon. Persistent agents can neutralize such targets without a pinpoint attack.

13-34. In the offense, likely chemical targets include—

- Troops occupying defensive positions, using nonpersistent agents delivered by MRLs to neutralize these troops just before launching a ground attack. Ideally, these nonpersistent agents would be dissipating just as the attacking OPFOR units enter area where the chemical attack occurred.
- NBC delivery systems, troop concentration areas, headquarters, and artillery positions, using all types of chemical agents delivered by tube artillery, MRLs, missiles, and aircraft.
- Bypassed pockets of resistance (especially that pose a threat to the attacking forces), using persistent agents.
- Possible assembly areas for enemy counterattack forces, using persistent agents.

13-35. The OPFOR could use chemical attacks against such targets simultaneously throughout the enemy defenses. These chemical attacks combine with other forms of conventional attack to neutralize enemy nuclear capability, C^2 systems, and aviation. Subsequent chemical attacks may target logistics facilities. The OPFOR would use persistent agents deep within the enemy's rear and along troop flanks to protect advancing units.

DEFENSIVE CHEMICAL EMPLOYMENT

13-36. When the enemy is preparing to attack, the OPFOR can use chemical attacks to disrupt activity in his assembly areas, limit his ability to maneuver into axes favorable to the attack, or deny routes of advance for his reserves. Once the enemy attack begins, the use of chemical agents can impede an attacking force, destroying the momentum of the attack by causing casualties or causing attacking troops to adopt protective measures. Persistent chemical agents can deny the enemy certain terrain and canalize attacking forces into kill zones.

NUCLEAR WARFARE

13-37. The OPFOR believes a war is most likely to begin with a phase of nonnuclear combat that may include the use of chemical weapons. The OPFOR emphasizes the destruction of as much as possible of enemy nuclear capability during this nonnuclear phase. To do so, it would use air and missile attacks; airborne, heliborne, and special-purpose forces; and rapid, deep penetrations by ground forces. The OPFOR hopes these attacks can deny the enemy a credible nuclear option.

DELIVERY MEANS

13-38. Nuclear delivery systems may include aircraft from both national- and theater-level aviation, and SSMs. Most artillery 152-mm or larger is capable of firing nuclear rounds, if such rounds are available. Other possible delivery means could include SPF. The OPFOR is unlikely to use affiliated forces for nuclear delivery.

TRANSITION TO NUCLEAR

13-39. Even when nuclear weapons are not used at the outset of a conflict, OPFOR commanders deploy troops based on the assumption that a nuclear-capable enemy might attack with nuclear weapons at any moment. The OPFOR continuously updates its own plans for nuclear employment, although it prefers to avoid nuclear warfare. As long as it achieves its objectives, and there are no indications that the enemy is going to use nuclear weapons, the OPFOR would likely not use them either. However, it could attempt to preempt enemy nuclear use by conducting an initial nuclear attack. Otherwise, any OPFOR decision to go nuclear would have to be made early in the conflict, so that sufficient nonnuclear power would remain to follow up and to exploit the gains of nuclear employment.

13-40. If any opponent were to use nuclear weapons against the State, the State would respond in kind, as long as it is still capable. The same would be true of any nuclear-capable opponent, if the State were the first to use nuclear means. While the State recognizes the advantage of its own first use, it may risk first use only when the payoff appears to outweigh the potential costs. Therefore, it will probably avoid the use of nuclear weapons against an extraregional power unless survival of the regime or the nation is at stake.

13-41. The OPFOR is probably more likely to use its nuclear capability against a regional opponent. The likelihood increases if that opponent uses or threatens to use its own nuclear weapons against the State or does not have the means to retaliate in kind. This could account for a nuclear or nuclear-

threatened environment existing at the time an outside force might choose to intervene in the region.

TYPES OF NUCLEAR ATTACK

13-42. The OPFOR categorizes nuclear attacks as either massed or individual attacks. The category depends on the number of targets hit and the number of nuclear munitions used.

13-43. A *massed* nuclear attack employs multiple nuclear munitions simultaneously or over a short time interval. The goal is to destroy a single large enemy formation, or several formations, as well as other important enemy targets. A massed attack can involve a single service of the State's Armed Forces, as in a nuclear missile attack by the Strategic Forces, or the combined forces of different services.

13-44. An *individual* nuclear attack may hit a single target or group of targets. The attack consists of a single nuclear munition, such as a missile or bomb.

NUCLEAR RELEASE

13-45. At all stages of a conflict, the OPFOR keeps nuclear forces ready to make an attack. The decision to initiate nuclear warfare occurs at the highest level of the State government. National-level planners develop the fire plan for the initial nuclear attack for approval by the NCA.

13-46. After the initial nuclear release, the NCA may delegate employment authority for subsequent nuclear attacks to an OSC commander. The commander of the OSC's integrated fires command (IFC) submits to the OSC commander, for approval and integration into OSC fire support plans, recommendations for the subsequent employment of nuclear and chemical weapons.

OFFENSIVE NUCLEAR EMPLOYMENT

13-47. Once the NCA releases nuclear weapons, two principles govern their use: mass and surprise. The OPFOR plans to conduct the initial nuclear attack suddenly and in coordination with nonnuclear fires. Initial nuclear attack objectives are to destroy the enemy's main combat formations, C^2 systems, and nuclear and precision weapons, thereby isolating the battlefield.

13-48. Nuclear attacks target and destroy the enemy's defenses and set the conditions for the exploitation force. Other fire support means support the assault and fixing forces. The OPFOR may plan high-speed air and ground offensive actions to exploit the nuclear attack.

13-49. If the enemy continues to offer organized resistance, the OPFOR might employ subsequent nuclear attacks to reinitiate the offense. Nuclear attacks can eliminate the threat of a counterattack or clear resistance from the opposite bank in a water obstacle crossing. If the enemy begins to withdraw, the OPFOR plans nuclear attacks on choke points where retreating enemy forces present lucrative targets.

Planning

13-50. Although the opening stages of an offensive action are likely to be conventional, OPFOR planning focuses on the necessity of—

- Countering enemy employment of nuclear weapons.
- Maintaining the initiative and momentum.
- Maintaining fire superiority over the enemy (preempting his nuclear attack, if necessary).

13-51. In deliberately planned offensive actions, the OPFOR plans nuclear fires in detail. An exploitation force would probably receive the highest percentage of weapons; however, the OPFOR may also reserve weapons for other large, important targets. In more fluid situations, such as during exploitation, the commander may keep some nuclear weapon systems at high readiness to fire on targets of opportunity. Nuclear allocations vary with the strength of the enemy defense and the scheme of maneuver.

13-52. Since the enemy too is under nuclear threat, he also must disperse his formations, which can make him more vulnerable to penetration by an attacking force. However, the OPFOR realizes that enemy troops are also highly mobile and capable of rapidly concentrating to protect a threatened area. Therefore, it considers surprise and timing of offensive actions to be extremely critical in order to complicate enemy targeting and deny him the time to use his mobility.

Execution

13-53. Upon securing a nuclear release, the OPFOR would direct nuclear attacks against the strongest points of the enemy's formations and throughout his tactical and operational depth. This would create gaps through which maneuver units, in "nuclear-dispersed" formations, would attack as an exploitation force. As closely as safety and circumstances permit, maneuver forces follow up on attacks near the battle line. Airborne troops may exploit deep attacks.

13-54. An exploitation force would probably attack to take full advantage of the speed of advance it could expect to achieve. The aim of these maneuver units would be to seize or neutralize remaining enemy nuclear weapons, delivery systems, and C^2 systems. By attacking from different directions, the maneuver units would try to split and isolate the enemy.

13-55. Commanders would ensure a rapid tempo of advance by assigning tank and mechanized infantry units to the exploitation force. Such units are quite effective in this role, because they have maneuverability, firepower, lower vulnerability to enemy nuclear attacks, and the capability to achieve penetrations of great depth.

DEFENSIVE NUCLEAR EMPLOYMENT

13-56. Primary uses of nuclear weapons in the defense are to—

- Destroy enemy nuclear and precision weapons and delivery means.
- Destroy main attacking groups.
- Conduct counterpreparations.

- Eliminate penetrations.
- Support counterattacks.
- Deny areas to the enemy.

If nuclear weapons degrade an enemy attack, the OPFOR could gain the opportunity to switch quickly to an offensive role.

BIOLOGICAL WARFARE

13-57. The State closely controls information about the status of its biological warfare capabilities. This creates uncertainty among its regional neighbors and potential extraregional opponents as to what types of biological agents the State might possess and how it might employ them.

13-58. Biological weapons can provide a great equalizer in the face of a numerically and/or technologically superior adversary that the OPFOR cannot defeat in a conventional confrontation. However, their effects on the enemy can be difficult to predict, and the OPFOR must also be concerned about the possibility that the effects could spread to friendly forces.

WEAPONS AND AGENTS

13-59. Biological weapons consist of pathogenic microbes, micro-organism toxins, and bioregulating compounds. Depending on the specific type, these weapons can incapacitate or kill people or animals and destroy plants, food supplies, or materiel. The type of target being attacked determines the choice of agent and dissemination system.

Pathogens

13-60. Pathogens cause diseases such as anthrax, cholera, plague, smallpox, tularemia, or various types of fever. These weapons would be used against targets such as food supplies, port facilities, and population centers to create panic and disrupt mobilization plans.

Toxins

13-61. Toxins are produced by pathogens and also by snakes, spiders, sea creatures, and plants. Toxins are faster acting and more stable than live pathogens. Most toxins are easily produced through genetic engineering. Toxins produce casualties rapidly and can be used against tactical and operational targets.

Bioregulators

13-62. Bioregulators are chemical compounds that are essential for the normal psychological and physiological functions. A wide variety of bioregulators are normally present in the human body in extremely minute concentrations. These low-molecular-weight compounds, usually peptides (made up of amino acids), include neurotransmitters, hormones, and enzymes. Examples of bioregulators are insulin (a pancreatic protein hormone that is essential for the metabolism of carbohydrates) and enkephalin (either of two pentapeptides with opiate and analgesic activity that occur naturally in the brain and have a marked affinity for opiate receptors).

13-63. These compounds can produce a wide range of harmful effects if introduced into the body at higher than normal concentrations or if they have been altered. Psychological effects could include exaggerated fear and pain. In addition, bioregulators can cause severe physiological effects such as rapid unconsciousness and, depending on such factors as dose and route of administration, can also be lethal. Unlike pathogens, which take hours or days to act, bioregulators could act in only minutes. The small peptides, having fewer than 12 amino-acid groups, are most amenable to military application.

AGENT EFFECTS

13-64. Biological weapons are extremely potent and provide wide-area coverage. Some biological agents are extremely persistent, retaining their capabilities to infect for days, weeks, or longer. Biological weapons can take some time (depending on the agent) to achieve their full effect. To allow these agents sufficient time to take effect, the OPFOR may use clandestine means, such as SPF or civilian sympathizers, to deliver biological agents in advance of a planned attack or even before the war begins.

DELIVERY MEANS

13-65. It is possible to disseminate biological agents in a number of ways. Generally, the objective is to expose enemy forces to an agent in the form of a suspended cloud of very fine biological agent particles. Dissemination through aerosols, either as droplets from liquid suspensions or by small particles from dry powders, is by far the most efficient method.

13-66. There are two basic types of biological munitions: point-source bomblets delivered directly on targets and line-source tanks that release the agent upwind from the target. Within each category, there can be multiple shapes and configurations.

13-67. Military systems, as well as unconventional means, can deliver biological agents. Potential delivery means include rockets, artillery shells, aircraft sprayers, saboteurs, and infected rodents. Aside from SPF and civilian sympathizers, the OPFOR might use affiliated insurgent or terrorist organizations to deliver biological agents within the region, outside the immediate region (to divert enemy attention and resources), or even in the homeland of an extraregional opponent.

TARGETS

13-68. Probable targets for biological warfare pathogen attack are nuclear delivery units, airfields, logistics facilities, and C^2 centers. The OPFOR may target biological weapons against objectives such as food supplies, water sources, troop concentrations, convoys, and urban and rural population centers rather than against frontline forces. The use of biological agents against rear area targets can disrupt and degrade enemy mobilization plans as well as the subsequent conduct of war. This type of targeting can also reduce the likelihood that friendly forces would become infected.

BIOLOGICAL RELEASE

13-69. The decision to employ biological agents is a political decision made at the national level—by the NCA. Besides the political ramifications, the State recognizes a degree of danger inherent in the use of biological agents, due to the difficulty or controlling an epidemic caused by them.

13-70. The prolonged incubation period makes it difficult to track down the initial location and circumstances of contamination. Thus, there is the possibility of plausible deniability. Even if an extraregional opponent might be able to trace a biological attack back to the State, it may not be able to respond in kind.

NBC PROTECTION

13-71. The OPFOR's ability to protect itself against NBC weapons and to operate in contaminated environments is at least the equal of any force in the world, including extraregional forces. OPFOR planners readily admit that casualties would be considerable in any future war involving the use of NBC weapons. However, they believe that the timely use of active and passive measures can significantly reduce a combat unit's vulnerability. These measures include but are not limited to protective equipment, correct employment of reconnaissance assets, and expeditious decontamination procedures. The OPFOR conducts rigorous training for chemical defense.

13-72. The OPFOR believes the best way to protect against NBC weapons is to destroy delivery systems, which are always high-priority targets. Other operational-tactical responses to the threat include—

- Dispersion: Concentrations must last for as short a time as possible.
- Speed of advance: If the advance generates enough momentum, this can make enemy targeting difficult and keep enemy systems on the move.
- Camouflage, concealment, cover, and deception (C^3D): C^3D measures complicate enemy targeting.
- Continuous contact: The enemy cannot attack with NBC weapons as long as there is intermingling of friendly and enemy forces.

ORGANIZATION

13-73. Chemical defense units are responsible for nuclear and biological, as well as chemical, protection and reconnaissance measures. In the administrative force structure, such units are organic to all maneuver units brigade and above. During task organization, tactical-level commands may also receive additional chemical defense units allocated from the OSC or higher-level tactical command. However, those higher headquarters typically retain some chemical defense assets at their respective levels to deal with the threat to the support zone and provide chemical defense reserves.

13-74. Chemical troops are a vital element of combat support. They provide trained specialists for chemical defense units and for units of other arms. Basic tasks chemical troops can accomplish in support of combat troops include—

- Reconnoitering known or likely areas of NBC contamination.
- Warning troops of the presence of NBC contamination.

- Monitoring changes in the degree of contamination.
- Monitoring the NBC contamination of personnel, weapons, and equipment.
- Performing decontamination activities.
- Providing trained troops to handle chemical munitions.

They perform specialized NBC reconnaissance in addition to supporting regular ground reconnaissance efforts described in Chapter 7.

13-75. NBC protection functions are not limited to maneuver units. Artillery and air defense brigades have their own chemical defense units. Medical and SSM units have some decontamination equipment. Engineer troops also are important, performing functions such as decontaminating roads, building bypasses, and purifying water supplies. Of course, all arms have a responsibility for chemical reconnaissance and at least partial decontamination without specialist support. However, they can continue combat actions for only a limited time without complete decontamination by chemical troops.

EQUIPMENT

13-76. OPFOR troops have protective clothing. Most combat vehicles and many noncombat vehicles have excellent overpressure and filtration systems. Items of equipment for individual or collective protection are adequate to protect soldiers from contamination for hours, days, or longer, depending on the nature and concentration of the contaminant. Antidotes provide protection from the effects of agents. Agent detector kits and automatic alarms are available in adequate quantities and are capable of detecting all standard agents.

13-77. Chemical troops have a wide variety of dependable equipment that, for the most part, is in good supply and allows them to accomplish a number of tasks in support of combat troops. They have specialized equipment for detecting and monitoring NBC contamination. They have some specialized NBC reconnaissance vehicles, and they may use helicopters for NBC reconnaissance. Decontamination equipment is also widely available.

RECONNAISSANCE

13-78. Chemical defense personnel assigned to reconnaissance elements of chemical defense units perform NBC reconnaissance. This involves two general types of activity: NBC observation posts and NBC reconnaissance patrols. Such posts and patrols may augment any maneuver unit down to company level.

13-79. Under the guidance of the brigade chief of force protection, NBC instructors in maneuver battalions and other units subordinate to the brigade train additional combat, combat support, and combat service support troops for NBC observation and reconnaissance missions. Medical personnel also have instruments to check casualties for NBC contamination.

NBC Observation Posts

13-80. A maneuver battalion or higher commander normally designates an NBC observation post to locate near his forward command post (CP). Al-

though specially trained combat troops can man an NBC observation post, it normally is manned by a chemical reconnaissance squad of two to four chemical defense specialists. In some cases, it might comprise an entire chemical reconnaissance platoon. More likely, a brigade commander would keep one squad from that platoon to man the NBC observation post near his forward CP. The functions of NBC observation posts are to—

- Detect NBC contamination.
- Determine radiation levels and types of toxic substances.
- Monitor the drift of radioactive clouds.
- Report NBC information and meteorological data to higher headquarters.
- Give a general alarm to threatened troops.

13-81. When stationary, an NBC observation post is normally in a camouflaged trench or a dug-in NBC reconnaissance vehicle. During movement, it moves in its own vehicle close to the combat unit commander. The observers immediately activate NBC detection devices after an enemy overflight, missile burst, or artillery shelling.

13-82. When chemical troops are not available, virtually every company- or battery-size combat, combat support, and combat service support unit can establish its own NBC observation post using its own troops trained as observers. This post is normally near the unit's CP or COP. Particularly in the defense, a brigade could have over 40 such observers and observation posts deployed.

NBC Reconnaissance Patrols

13-83. An NBC reconnaissance patrol attached to a maneuver, reconnaissance, or security element receives instructions from that unit's commander. That commander tells the NBC reconnaissance patrol leader of any specific areas to reconnoiter, the time for doing so, and the procedures for reporting the results. A patrol may also receive reconnaissance assignments from the brigade or division chief of the chemical laison team.

13-84. When operating in NBC reconnaissance patrols, chemical defense personnel travel in reconnaissance vehicles specially equipped with NBC detection and warning devices. Before a patrol begins its mission, its personnel check their individual NBC protection equipment and detection instruments. They also examine the NBC and communications equipment located on their reconnaissance vehicle.

13-85. As a patrol performs its mission, a designated crewman observes the readings of the onboard NBC survey meters. Upon discovering radioactive or chemical contamination, the patrol determines the size and boundaries of the contaminated area and the radiation level or type of toxic substance present. The patrol leader then plots contaminated areas on his map, reports by radio to his commander, and orders his patrol to mark the contaminated area. The patrol designates bypass routes around contaminated areas or finds routes (with the lowest levels of contamination) through the area.

13-86. The OPFOR can also use helicopters to perform NBC reconnaissance. Helicopters equipped with chemical and radiological area survey instruments are particularly useful for performing reconnaissance of areas with extremely high contamination levels.

Augmentation to Other Reconnaissance and Security Elements

13-87. NBC reconnaissance elements are often attached to maneuver units, sometimes becoming part of a security element or various types of reconnaissance patrol. A maneuver battalion (particularly one acting independently) may receive chemical troops attached from the brigade-level chemical defense company. The battalion would typically use these chemical augmentees as part of a platoon-size fighting patrol.

NBC DETECTION AND WARNING REPORTS

13-88. The OPFOR transmits NBC warning information over communications channels in a parallel form using both the command net and the air defense and NBC warning communications net. Depending of what type of unit initially detected the contamination, detection reports leading to such warnings may go either through chemical defense and force protection channels or through the maneuver unit or ground reconnaissance reporting chain.

Detection Reports

13-89. When chemical defense units establish NBC observation posts or NBC reconnaissance patrols, these reconnaissance elements report through the chemical defense and force protection chain. Upon detection of contamination, an NBC observer or NBC reconnaissance patrol normally transmits an *NBC detection report* to the commander of the parent chemical defense unit that dispatched it and (if capable and directed to do so) possibly to the chief of force protection (or chief of staff) on the staff of the commander to whom the chemical defense unit is subordinate or supporting. In any case, the chemical defense unit commander transmits the report to the chief of force protection of the maneuver division or brigade.

13-90. When NBC observers (whether from the chemical troops or another branch) are attached to regular ground reconnaissance elements, security elements, or maneuver units, the NBC element that detects contamination would initially pass the detection report through reconnaissance or maneuver unit reporting channels.[3] Of course, they would report the detection to the commander of the unit to which they are attached, and a ground reconnaissance or security element would pass the detection report to the unit that dispatched it.

13-91. For example, a reconnaissance patrol leader would transmit the detection information via reconnaissance reporting channels to his parent reconnaissance unit commander and possibly by skip-echelon communications to the chief of reconnaissance at brigade or division level. The reconnaissance unit commander or chief of reconnaissance would then ensure that the chief

[3] If the NBC augmentees have their own special NBC reconnaissance vehicles and associated radios, they can also send NBC detection reports back to their parent chemical defense unit or the chief of force protection.

of staff and/or chief of force protection at his level receives the NBC detection report and takes appropriate action. When a maneuver unit chief of staff or chief of reconnaissance receives an NBC detection report through his own channels, he immediately passes it to the chief of force protection at that level (or to the next-higher level that has one).

13-92. Similarly, upon detection of contamination, an NBC observer in a fighting patrol (FP) would transmit an NBC detection report to the FP leader. The FP leader would use the battalion command net to transmit the report to the maneuver battalion commander who sent out the FP. Using the brigade command net, the maneuver battalion commander would inform the maneuver brigade commander (or chief of staff) of the NBC detection report. The brigade commander (or chief of staff) would consult with his chief of force protection. Based on the finding of the chief of force protection, both he and the brigade commander (or chief of staff) could then disseminate the NBC warning report using their respective communications nets.

Warning Reports

13-93. The chief of force protection and his staff evaluate the NBC detection report and determine whether it warrants the issuing of a warning. If it does, they inform the maneuver commander (or his chief of staff). At this point, the NBC detection report changes to an *NBC warning report*. Then, for example, the maneuver brigade commander (or chief of staff) disseminates an NBC warning report via the brigade command net to all subordinate unit commanders, and via the division command net to the division commander and commanders of other brigades and other division subordinates. Simultaneously, the brigade chief of force protection disseminates the same NBC warning report to all the brigade's units over the air defense and NBC warning communications net. He would also inform the division chief of force protection. The desired goal is to rapidly disseminate NBC warning reports as soon as possible to all affected units.

13-94. The division or brigade chief of force protection (and/or the chief of staff) may issue an advance NBC warning based on the predicted development of an NBC situation. NBC protective measures would change or be rescinded based on subsequent NBC detection reports or on warning reports from higher, lower, or adjacent units. Changes in the NBC protective measures are disseminated by the maneuver division or brigade commander or chief of staff and the chief force protection using their respective communications nets.

DECONTAMINATION

13-95. The OPFOR distinguishes between two types of decontamination of personnel and equipment: partial and complete. It tries to perform one or both as soon after exposure as possible. It also conducts decontamination of terrain and movement routes.

Partial Decontamination

13-96. OPFOR doctrine dictates that a combat unit should conduct a partial decontamination with organic equipment no later than one hour after expo-

sure to contamination. This entails a halt while troops decontaminate themselves and their clothing, individual weapons, crew-served weapons, and vehicles. When forced to conduct partial decontamination in the contaminated area, personnel remain in NBC protective gear. Following the completion of partial decontamination, the unit resumes its mission.

Complete Decontamination

13-97. The commander of a maneuver unit directs complete decontamination when the unit has already completed its mission but is still tactically dispersed. This type of decontamination involves the decontamination of the entire surface of a contaminated piece of equipment. This usually requires special decontamination stations established by decontamination units. Under some circumstances, however, it may be accomplished by troops using individual decontamination kits.

13-98. Chemical defense troops usually perform complete decontamination of maneuver units. Decontamination units of chemical defense companies and battalions can operate either as a whole or in smaller elements. For example, the decontamination company of a chemical defense battalion may function independently. It may be separated from the rest of the battalion by as much as 20 km to decontaminate elements of a maneuver battalion or brigade-size force.

13-99. Decontamination units deploy to uncontaminated areas where contaminated units are located. They set up near movement routes or establish centrally located decontamination points to serve several troop units. Before deploying his equipment, the commander of a decontamination unit dispatches a reconnaissance element to select a favorable site, mark areas for setting up the equipment, and mark entry and exit routes.

13-100. Site selection depends on local features such as nearby roads, cross-country routes, and sources of uncontaminated water. Another selection criteria is the availability of camouflage, cover, and concealment. If natural concealment is insufficient, smokescreening of the site can provide camouflage. After decontamination stations are set up, the decontamination unit commander establishes security. The supported unit can also assign personnel to assist in providing security for the site.

Terrain and Route Decontamination

13-101. Decontamination of maneuver routes is necessary if OPFOR units cannot safely bypass or cross the contaminated routes. The first priorities for decontamination are routes (cross-country and roads) on the primary axes of advance. The OPFOR decontaminates terrain by either removing or covering the contaminated soil or by spraying liquid decontaminate with specially designed decontamination vehicles.

13-102. For radiological decontamination, engineer earthmoving equipment can remove the contaminated top layer of soil. An alternative is to cover the area with uncontaminated materials (soil, wood, or other surfacing materials). Similarly, one means of decontamination and disinfection of chemical and biological agents would be to remove a 3- to 4-cm layer of contaminated ground.

13-103. Another means of chemical or biological decontamination is the use of terrain decontamination vehicles. These truck-mounted systems can decontaminate or disinfect an area 5 m wide and 500 m long with a single load of decontamination solvent. After decontaminating a route or area, chemical defense troops must decontaminate or disinfect their own equipment.

13-104. For terrain sector decontamination, chemical defense units equipped with decontamination trucks assemble near the contaminated area. When decontaminating or disinfecting sectors of terrain, they divide the sector into strips. The vehicles move on parallel axes using an echelon-right or echelon-left formation with the lead vehicle downwind from the others. Individual vehicles move at a distance of 30 to 50 m behind one another, but to the left or right just far enough that the covered strips slightly overlap. See Figure 13-1.

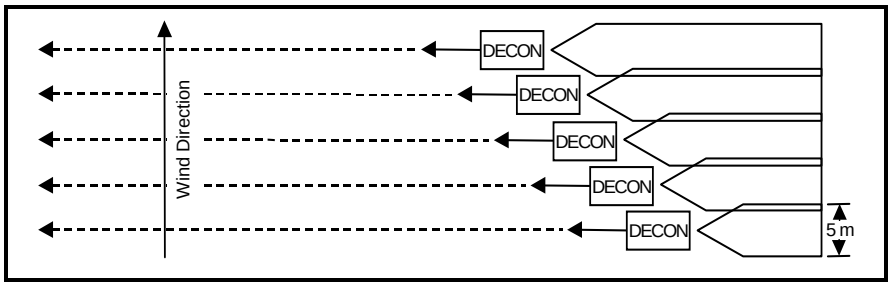


Figure 13-1. Decontamination Trucks Using Echelon-Left Formation

13-105. For road decontamination, the decontamination vehicles form a column, with each vehicle assigned a sector of road. If the road is more than 5 m wide, then two or three vehicles form an echelon-right or echelon-left formation (as used in terrain sector decontamination). Jet engine-type decontamination vehicles are useful for decontaminating hard-surface roads or runways.

RECOVERY ACTIVITIES

13-106. Commanders at all levels plan for restoring units that fall victim to NBC attacks. This plan includes—

- Restoring comand and control.
- Reconnoitering the target area.
- Locating and rescuing casualties.
- Decontaminating personnel and equipment.
- Evacuating casualties.
- Evacuating weapons and combat equipment.
- Repairing vehicles.
- Clearing obstructions.
- Extinguishing fires.

13-107. To perform these tasks, the maneuver unit commander forms a recovery detachment. Depending on the situation and availability of forces, recovery detachments either come from organic units or from the reserves of a higher headquarters. If formed from organic units, recovery detachments generally are formed from the maneuver unit's exploitation force or reserve. Regardless of origin, they include chemical reconnaissance and decontamination assets, engineers, medical and vehicle-repair personnel, and infantry troops (for labor and security).

13-108. NBC reconnaissance patrols normally reach the area of destruction first, to establish the nature and extent of contamination. Priority for decontamination and recovery help goes to personnel and equipment easily returned to combat.

13-109. The recovery detachment commander selects locations for setting up a medical point, NBC contamination station, damaged vehicle collection point, and an area for reconstituting units. He also designates routes to and from the area, for reinforcement and evacuation. He then reports to his next-higher commander on the situation and the measures taken. Meanwhile, engineers assigned to the detachment clear rubble, extinguish fires, rescue personnel, and build temporary roads.

13-110. The final step consists of reconstituting units and equipping them with weapons and combat vehicles. While the recovery detachment performs its mission, unaffected elements from a maneuver unit's exploitation force or reserve provide security against any further enemy activity.

SMOKE

13-111. The OPFOR plans to employ smoke extensively on the battlefield whenever the situation permits. Use of smoke can make it difficult for the enemy to conduct observation, determine the true disposition of OPFOR troops, and conduct fires (including precision weapon fires) or air attacks. The possible presence of toxic smokes may cause the enemy to use chemical protection systems, thus lowering his effectiveness, even if the OPFOR is using only neutral smoke.

ORGANIZATION

13-112. In the administrative force structure, army groups, armies, and corps typically have smoke companies in their chemical defense battalions and/or smoke battalions. In either case, the smoke companies each consist of nine smoke-generating trucks. These assets are often allocated to OSCs, which can then suballocate them to tactical-level subordinates.

AGENTS

13-113. Smoke agents may be either neutral or toxic. Neutral smoke agents are liquid agents, pyrotechnic mixtures, or phosphorus agents with no toxic characteristics. Toxic smokes (commonly referred to as combination smoke) degrade electro-optical (EO) devices in the visual and near-infrared (near-IR) wavebands; they also can debilitate an unmasked soldier by inducing watering of eyes, vomiting, or itching.

13-114. The OPFOR may use a number of different smoke agents or other obscurants together. For instance, obscurants such as fog oil block portions of the electromagnetic spectrum more fully when seeded with chaff. The vast quantities of white phosphorus (WP) on the battlefield also suggest that random mixtures of this agent with other obscurants (both manmade and natural) could occur, by chance or by design. The OPFOR recognizes the need to counter target acquisition and guidance systems operating in the IR and microwave regions of the electromagnetic spectrum. It has fielded obscurants, including chaff, capable of attenuating such wavelengths.

DELIVERY SYSTEMS

13-115. The OPFOR has an ample variety of equipment for smoke dissemination. Its munitions and equipment include—

- Smoke grenades.
- Vehicle engine exhaust smoke systems (VEESS).
- Smoke barrels, drums, and pots.
- Mortar, artillery, and rocket smoke rounds.
- Spray tanks (ground and air).
- Smoke bombs.
- Large-area smoke generators (ground and air).

13-116. Although not designed for this purpose, some decontamination vehicles with chemical defense units can also generate smoke.

13-117. Smoke grenades include hand grenades, munitions for various grenade launchers, and smoke grenade-dispensing systems on armored vehicles. These grenades can provide quick smoke on the battlefield or fill gaps in smokescreens established by other means. Some armored fighting vehicles have forward-firing smoke grenade dispensers that can produce a bispectral screen up to 300 m ahead of vehicles.

13-118. All armored fighting vehicles can generate smoke through their exhaust systems. With these VEESS-equipped vehicles, a platoon can produce a screen that covers a battalion frontage for 4 to 6 minutes.

13-119. Smoke-filled artillery projectiles, smoke bombs, spray tanks, and generator systems are also common. Artillery can fire WP rounds (which have a moderate degrading effect on thermal imagers and a major one on lasers). The OPFOR makes considerable use of smoke pots emplaced by chemical troops, infantrymen, or other troops. The OPFOR still uses smoke bombs or pots dropped by fixed- or rotary-wing aircraft.

TYPES OF SMOKESCREENS

13-120. The OPFOR recognizes three types of smokescreens: blinding, camouflage, and decoy. Classification of each type as frontal, oblique, or flank depends on the screen's placement. Smokescreens are either stationary or mobile depending on prevailing winds and the dispensing means used. Each basic type can serve a different purpose. However, simultaneous use of all types is possible.

Blinding

13-121. Blinding smokescreens can mask friendly forces from enemy gunners, OPs, and target-acquisition systems. They can restrict the enemy's ability to engage the OPFOR effectively. Delivery of WP and plasticized white phosphorus (PWP) is possible using MRLs, artillery, mortars, fixed-wing aircraft, or helicopters. The OPFOR lays blinding smoke directly in front of enemy positions, particularly those of antitank weapons and observation posts. Blinding smoke can reduce a soldier's ability to acquire targets by a factor of 10, and its use can reduce casualties significantly.

13-122. Blinding smokescreens are part of the artillery preparation for an attack and the fires in support of the attack. Likely targets are enemy defensive positions, rear assembly areas, counterattacking forces, and fire support positions. The screening properties of a blinding smokescreen can couple with dust, HE combustion effects, and the incendiary effects of phosphorus. This can create an environment in which fear and confusion add to the measured effectiveness of the smoke.

Camouflage

13-123. The OPFOR uses camouflage smokescreens to support all kinds of C^3D measures. Such screens can cover maneuver, conceal the location of units, hide the nature and direction of attacks, or mislead the enemy regarding any of these. The camouflage smokescreen is useful on or ahead of friendly troops.

13-124. These screens are normally effective up to the point where forces deploy for combat. The number, size, and location of camouflage smokescreens vary depending on terrain, weather, and type of combat action. Camouflage also forces enemy attack helicopters to fly above or around a screen, thus exposing themselves to attack. Camouflage smoke can also cover assembly areas, approaches of exploitation forces, or withdrawals. Smokescreens can also cover a wide surface area around fixed installations or mobile units that do not move for extended periods.

13-125. Establishing camouflage smokescreens normally requires use of a combination of smoke grenades, smoke barrels, smoke pots, vehicles mounting smoke generating devices, and aircraft. Some decontamination vehicles also have the capability to generate smoke.

13-126. Two smoke-generator vehicles can lay a smokescreen of sufficient size to cover a battalion advancing to the attack. For larger smokescreens, the OPFOR divides the smokescreen line into segments and assigns two vehicles to each segment. Doctrinally, camouflage smokescreens should cover an area at least five times the width of the attacking unit's frontage.

13-127. The threat of enemy helicopter-mounted antitank systems concerns the OPFOR. Consequently, its doctrine calls for advancing forces to move as close behind the smokescreen as possible. The higher the smokescreen, the higher an enemy helicopter must go to observe troop movement behind the smokescreen, and the more vulnerable it is to ground-based air defense weapons. Depending on weather and terrain, some large-area smoke generators can produce screens up to several hundred meters high. There is

considerable observation-free maneuver space behind a screen of this height. Conversely, smoke pots provide a screen 5 to 10 m high. This screen masks against ground observation but leaves the force vulnerable to helicopters "hugging the deck" and popping up to shoot.

13-128. The protection produced by camouflage smoke also interacts as a *protective* smoke. Just as smokescreens can degrade enemy night-vision sights, the protective smoke can shield friendly EO devices from potentially harmful laser radiation. This protective effect is greater with a darker smoke cloud because of the better absorption capability of that cloud. Protective smokescreens are also a good means of reducing the effects of thermal radiation from nuclear explosions. A protective smokescreen is useful in front of, around, or on top of friendly positions.

Decoy

13-129. A decoy screen can deceive an enemy about the location of friendly forces and the probable direction of attack. If the enemy fires into the decoy smoke, the OPFOR can pinpoint the enemy firing systems and adjust its fire plan for the true attack. The site and location of decoy screens depend on the type of combat action, time available, terrain, and weather conditions. One use of decoy smoke is to screen simultaneously several possible crossing sites at a water obstacle. This makes it difficult for the enemy to determine which site(s) the OPFOR is actually using.

AREA SMOKESCREENS

13-130. Area smokescreens can cover wide surface areas occupied by fixed or semifixed facilities, or by mobile facilities or units that must remain in one location for extended periods. Screens set down on a broad frontage can also cover maneuver forces. The OPFOR uses area smokescreens to counter enemy precision weapons and deep attacks.

13-131. The means of generating area smokescreens can be either subordinate or supporting chemical units or the use of smoke pots, barrels, grenades, and VEESS. As the situation dictates, the objects screened by area smokescreens can include—

- Troop concentrations and assembly areas.
- Command posts (CPs).
- Radar sites.
- Bridges and water obstacle-crossing sites.

13-132. The OPFOR can also screen air avenues of approach to such locations. It tries to eliminate reference points that could aid enemy aviation in targeting a screened location. To create an effective smokescreen against air attacks, the OPFOR must establish an effective air defense and NBC warning communications network so that a smokescreen can be generated in time to degrade reconnaissance and targeting devices on incoming aircraft. Units using smoke must maintain reliable communications and continuous coordination with air defense early warning units and air defense firing positions.

13-133. The OPFOR follows the following basic principles for generating area smokescreens:

- Screening should include not only the protected object but also surrounding terrain or manmade features so as to deny the enemy reference points.
- The protected installation should not be in the center of the screen.
- The smoke release points must not disclose the outer contours of the screened object.
- Screening must be initiated early enough to allow the area to be blanketed by the time of the enemy attack.
- If possible, decoy smokescreens should be used.
- For larger objects (such as airfields and troop concentrations), the screen should be at least twice as large as the object.
- For smaller objects (such as depots, small crossing points, and radar sites), the screen should be at least 15 times as large as the object.

13-134. Depending on terrain, smoke release points are set up within a checkerboard pattern, in a ring (circle), or in a mix of the two patterns that covers the area to be screened.

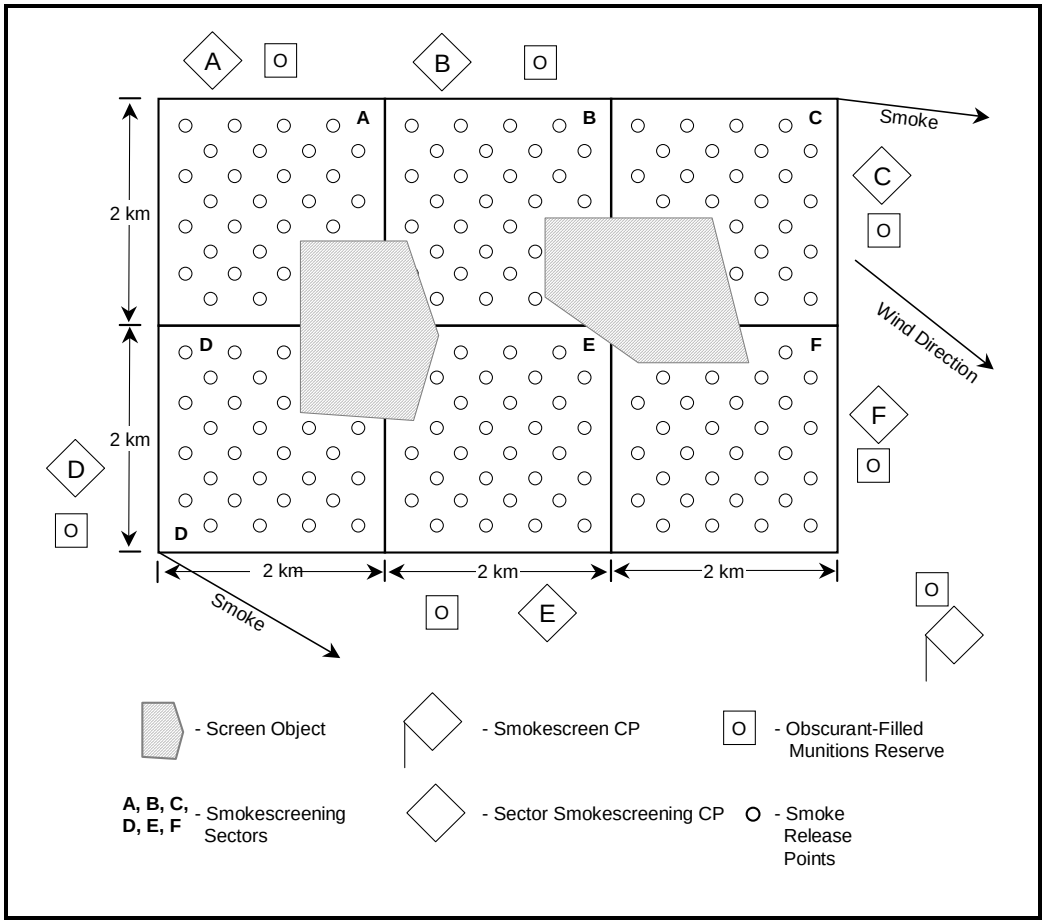


Figure 13-2. Checkerboard Area Smokescreen

Checkerboard Area Smokescreen

13-135. A checkerboard pattern is a rectangle that is divided into 4-km^2 squares with smoke release points distributed evenly within each square (Figure 13-2). This pattern is useful if the terrain is contoured or covered with buildings, trees, or other obstructions that prevent the precise distribution of smoke points.

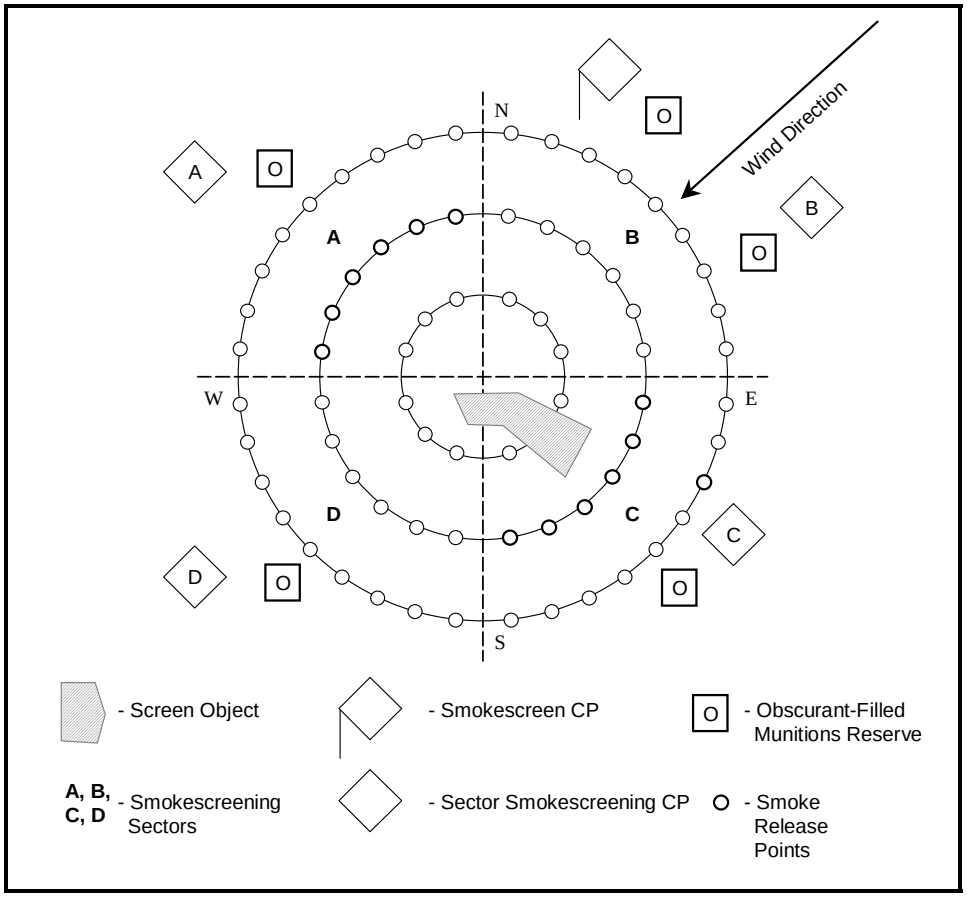


Figure 13-3. Ring Area Smokescreen

Ring Area Smokescreen

13-136. A circle or set of concentric rings of smoke release points works well on relatively flat, featureless terrain (Figure 13-3). Generally, the distance between the target and the first obscurant-generation ring is 100 to 250 m. The distance between smoke release points within each ring varies between 20 and 100 m, depending on the obscurant device being used and the meteorological conditions.

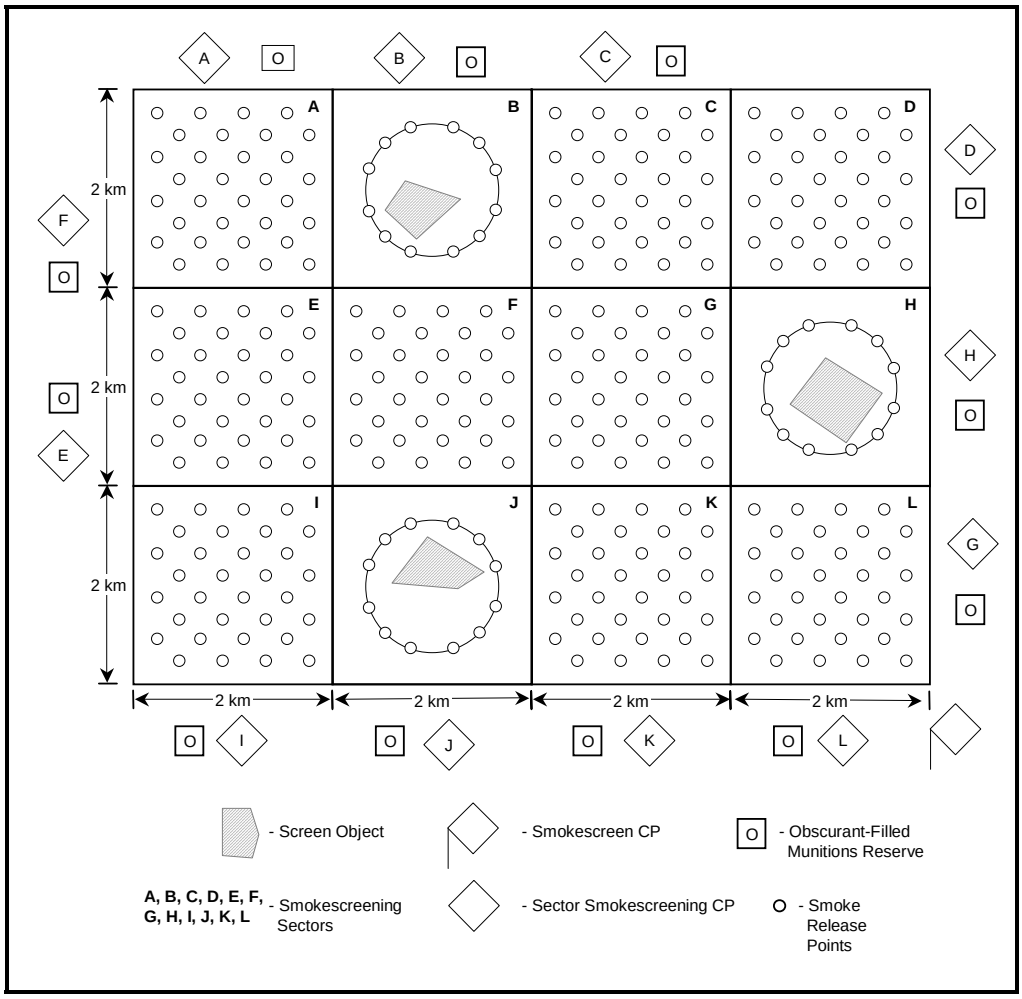


Figure 13-4. Mixed Area Smokescreen

Mixed Area Smokescreen

13-137. The OPFOR uses checkerboard area smokescreens and ring area smokescreens together when objects 3 to 4 km apart must be screened simultaneously. The rings of smoke-generation lines are placed around each object to be screened, and these rings are placed within the squares of a checkerboard. See Figure 12-4 for an example of a mixed area smokescreen.

TACTICAL SMOKESCREEN EMPLOYMENT

13-138. The use of smoke is an important part of tactical camouflage, concealment, and deception efforts. The OPFOR can use smokescreens to blind or deceive enemy forces and to conceal friendly forces from observation and targeting. Smoke can screen units near the battle lines, as well as those in suport zones, from direct fire, reconnaissance, and air attack. It has applications in tactical movement, offense, and defense. Smoke is very effective in screening water obstacle crossings. It also has specific applications at night.

Figure 13-5 shows tactical options for employing smoke and other obscurants.

Source	Placement			Uses			
	On Friendly	Between	On Enemy	Blinding	Camouflage	Decoy	Signaling
Smoke Grenade	X	X		X	X	X	X
Smoke Generator	X	X			X	X	
Smoke Pot	X	X			X	X	X
VEESS	X				X	X	
Vehicle Dust	X				X	X	
Helicopter	X	X	X		X	X	
Mortar/ Artillery Smoke		X	X	X	X	X	X
Rocket		X	X	X			
Aerial Bomb		X	X	X			
Aircraft Spray	X	X	X	X	X	X	
Mortar/ Artillery HE Dust		X	X	X			

Figure 13-5. Tactical Employment of Smoke and Other Obscurants from Various Sources

Offense

13-139. The OPFOR emphasizes the use of smoke during the offense to help reduce friendly battle losses. However, it understands that smoke may hinder its own C^2, battlefield observation, and target engagement capabilities. In addition, the enemy may take advantage of OPFOR smokescreens to shield his own maneuvers or to carry out a surprise attack or counterattack. Thus, a smokescreen is successful when the OPFOR attackers are able to maintain their assigned axis and retain sight of the objective. To prevent the smoke from interfering with friendly maneuver, OPFOR commanders coordinate the

planned location and duration of the smoke-generation lines or points with the scheme of maneuver.

13-140. Smoke pots, artillery, mortars, and aircraft are the primary means of smoke dissemination in the offense. Artillery and aircraft are used to spread screening smoke throughout the tactical depth of the enemy's defense. They are also useful in screening the flanks of attacking units.

13-141. The OPFOR uses camouflage, blinding, and decoy smokescreens to conceal the direction and time of attack. The OPFOR can place smoke on enemy firing positions and observation posts before and during an attack. Smoke has uses during any of the three basic types of offensive action: attack, limited-objective attack, or strike.

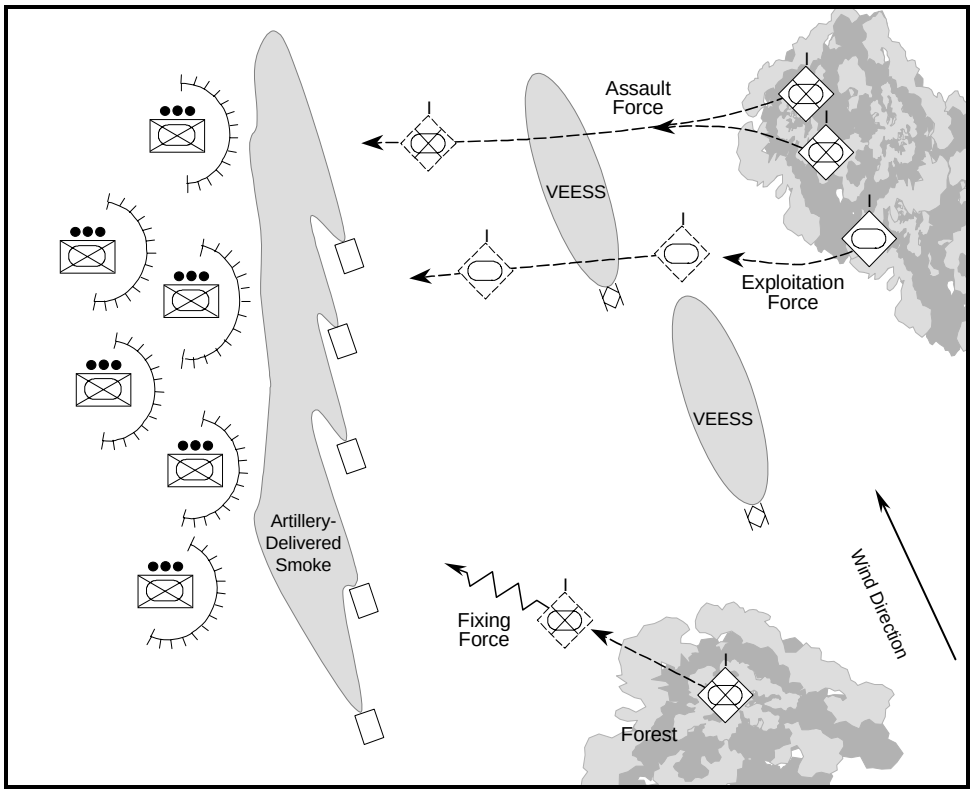


Figure 13-6. Smoke in a Situational (Hasty) Attack (Example)

Attack

13-142. During an *situational (hasty) attack*, a camouflage smokescreen is typically used to conceal combat formations that are advancing and maneuvering toward the enemy's defensive positions. With a tail wind, the assault and fixing forces can generate enough smoke to adequately screen their front and then advance behind the screen as it blows toward the enemy. The example in Figure 12-6 shows an independent mission detachment (IMD) based on a mechanized infantry battalion with an additional tank company. This IMD is advancing from a wooded area in platoon formations with a flanking

wind. In such conditions, the IMD may use its VEESS-equipped tanks and IFVs and smoke grenades. After turning on their VEESS, the tanks and IFVs advance toward the enemy's defensive positions while firing on visible targets. Dismounted infantrymen equipped with smoke grenades follow on foot behind the extended line of tanks and IFVs. As gaps develop in the smokescreen, the infantrymen approach and throw smoke grenades. Infantrymen can also fire incendiary smoke charges from a variant of the encapsulated flamethrower out to a range of up to 1 km.

13-143. During a *planned (deliberate) attack*, a commander usually has more opportunity to plan and prepare for a coordinated smokescreen than in a situational (hasty) attack. Just as with the situational (hasty) attack, a camouflage smokescreen is typically used to prevent observation of advancing asssault and fixing forces. As the advancing force nears the rear of friendly units already in contact with the enemy, the units in contact may set up a camouflage smokescreen using smoke pots and VEESS of forward-deployed armored vehicles. In addition, artillery can deliver blinding smoke on enemy defensive positions while the assault force negotiates minefields in front of them. Figure 13-7 shows an example of smoke employment during such an attack.

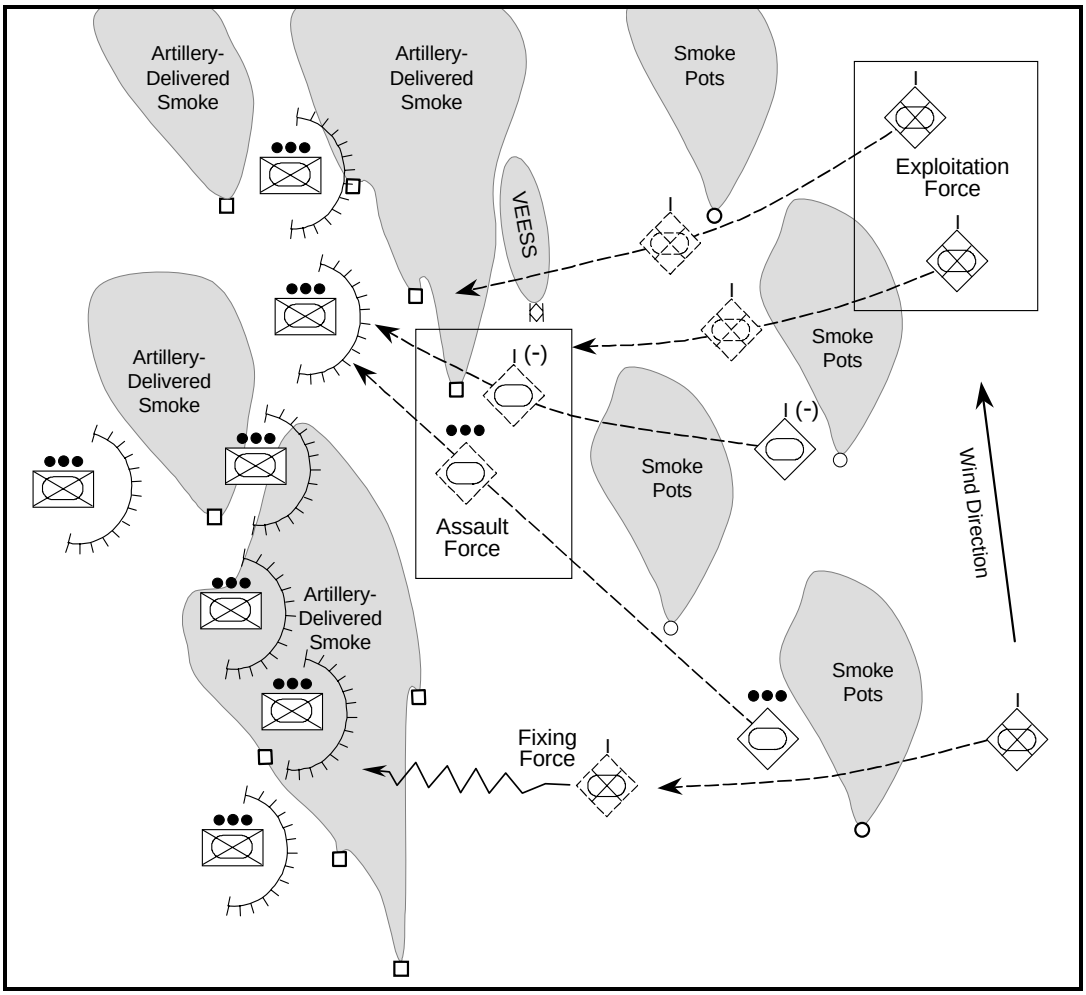


Figure 13-7. Smoke in an Attack (Example)

13-144. Because they are spontaneous and fluid, *integrated attacks* offer the OPFOR the least opportunity to carefully plan and execute the use of smoke. Because of the constantly changing conditions, the use of smoke is often planned and executed after the battle has begun.

13-145. A good example of the use of smoke during an integrated attack involves an IMD using two camouflage and one decoy smokescreen. (See Figure 12-8.) In this example, an IMD based on a mechanized infantry battalion with an additional tank company is attacking toward the enemy's left flank (as viewed by the OPFOR). It is camouflaging that attack with a smokescreen laid by VEESS of tanks from the tank company. The tanks move at 100-m intervals to create a continuous smoke cloud. The distance was calculated on the basis of meteorological conditions and the fact that a smokescreen can extend 300 to 400 m from a VEESS and still remain impenetrable to vision. Meanwhile, a mechanized infantry company facing the enemy's right flank lays a decoy smokescreen to divert the enemy's attention from the actual attack. The company on the left flank lays smoke pots along a 1,500-m line at in-

tervals of 20 to 25 m for a total burning time of 6 minutes. The company divides the work among its three mechanized infantry platoons, with each responsible for laying pots along 500 m of the line.

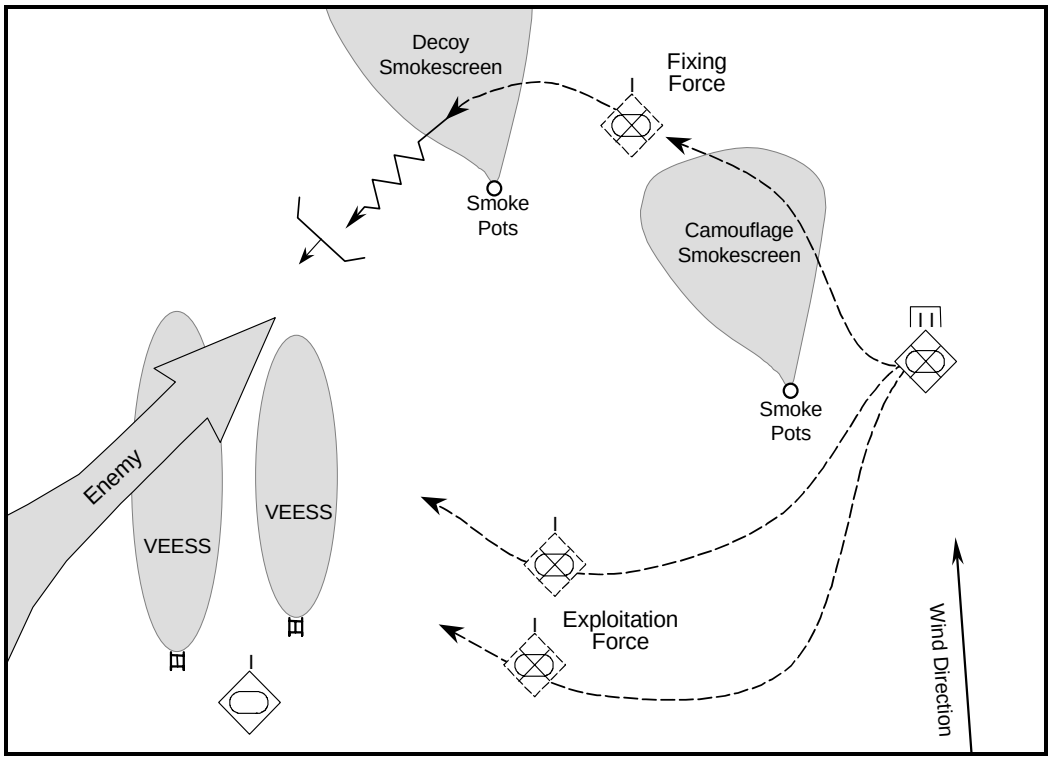


Figure 13-8. Smoke in an Integrated Attack (Example)

13-146. Another example of smoke employment in a meeting battle could be the simultaneous use of frontal camouflage and blinding smokescreens during an enemy counterattack. Following an artillery attack against the enemy advancing for a counterattack, artillery would deliver blinding smoke directly in front of the advancing enemy and camouflage smoke in front of the advancing MIBN. As soon as the blinding smokescreen on the enemy dissipates, the battalion's ATGMs and attached tanks would open fire on the enemy.

13-147. The OPFOR may use both blinding and camouflaging smokescreens during the exploitation of a retreating enemy. To protect against possible enemy counterattacks on the flanks, OPFOR artillery may fire camouflage screens there, as well as in front of the exploitation force. Helicopters are also extremely useful for this purpose.

Defense

13-148. In the defense, the OPFOR may use of smokescreens for—

- Camouflaging the maneuver of friendly units.
- Concealing engineer activities from enemy observation.

- Screening replacements of units under conditions of good visibility.
- Camouflaging the approach of friendly units for a counterattack.
- Screening the movements of defending units between battle positions.
- Providing flank and maneuver security.
- Misleading the enemy on the disposition of reserves and planned counterattack axes.

13-149. Because a completely obscured environment tends to aid the attacker more than the defender, an OPFOR defense uses smoke to minimize the enemy's vision while allowing the defenders a fairly clear view of the enemy's location. Smoke from artillery and mortar shells is the most effective means of blinding an advancing enemy while keeping friendly forces out of the obscured area. The OPFOR would use VEESS, smoke pots, and smoke grenades only to assume the defense while in contact with the enemy, to change positions, or to begin a withdrawal from contact.

13-150. Figure 13-9 shows an example of an IMD using smoke devices in the defense to disrupt and subsequently defeat the attacking enemy. In this example, one of the IMD's mechanized infantry companies disperses its platoons and sends one of those platoons out to lay smoke along three successive smoke-generation lines. As the enemy force approaches, it first encounters smoke from two lines using smoke pots emplaced by the infantrymen and then a final line created by the platoon's IFVs using VEESS. The smoke from those lines disrupts the enemy advance and creates a favorable situation for the defending IMD to launch a counterattack with its tank company from the flank.

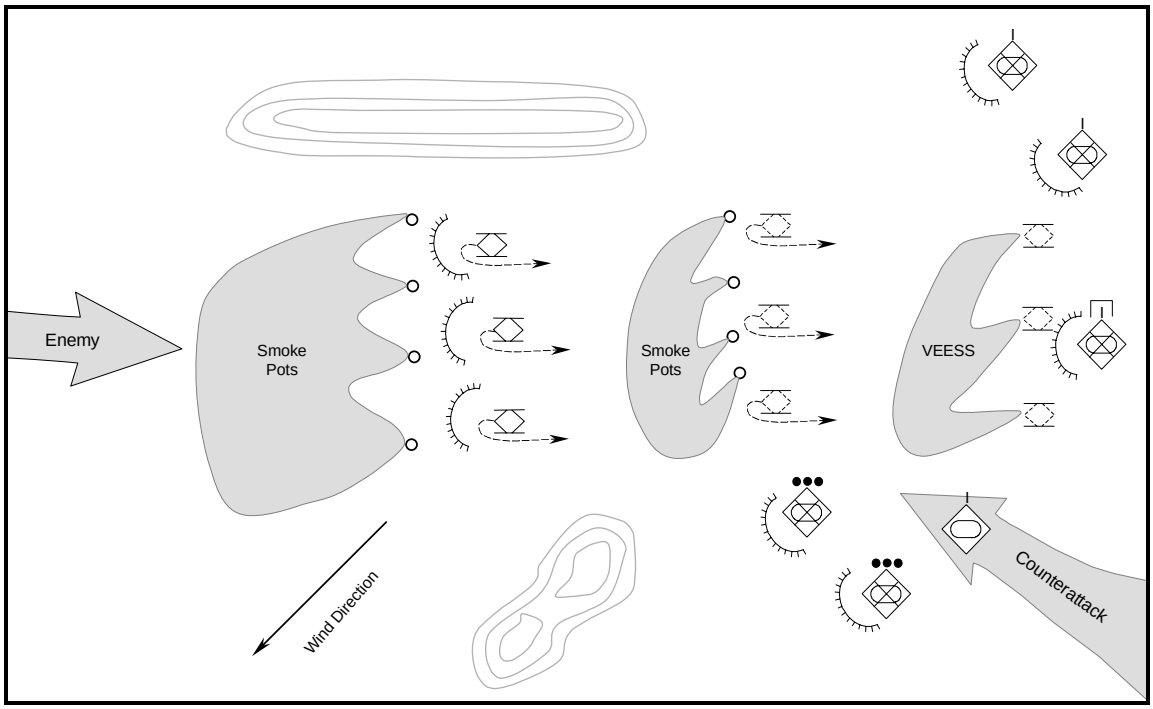


Figure 13-9. Smoke in the Defense (Example)

Water Obstacle Crossing

13-151. Because of their vulnerability to air attack and direct fires, successful water obstacle crossings require smokescreens for concealment. The OPFOR can place 2 to 3 hours' worth of screening smoke along a wide frontage to cover units conducting water obstacle crossings. It may also place floating pots and barrels in the water. It distinguishes between opposed and unopposed crossings (see Chapters 5 and 11, respectively).

13-152. For *opposed* crossings, OPFOR doctrine emphasizes using all three types of smokescreens (blinding, camouflage, and decoy). An opposed crossing requires greater planning and preparation than an unopposed crossing, because it anticipates contact with the enemy. First, unfavorable meteorological conditions are more difficult to overcome. Friendly forces must have a tail wind or at least a flanking wind in order for smoke generators and smoke pots on the near bank to screen the crossing sites. If the OPFOR faces a head wind, only artillery or aircraft can deliver a blinding smokescreen against enemy positions on the opposite bank. Whenever possible, the OPFOR prefers to lay smoke on both sides of the river. The use of decoy smoke at one or more other likely crossing sites can deceive the enemy as to the actual crossing location. Figure 12-10 shows an example of an IMD based on a mechanized infantry battalion with attached tanks using smoke delivered by several means to cover friendly forces and deceive and blind enemy forces.

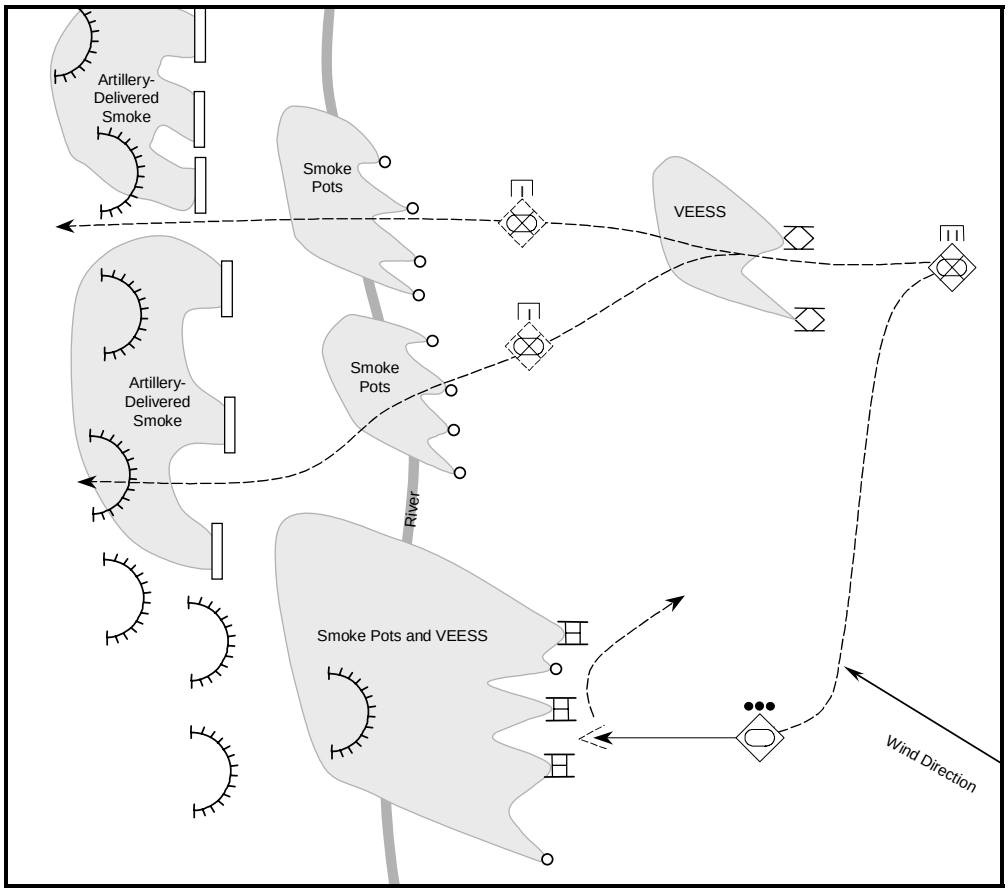


Figure 13-10. Smoke in an Opposed Water Obstable Crossing (Example)

13-153. *Unopposed* water obstacle crossings far from the battle line may be crucial for supporting tactical and operational missions. Therefore, they also require the use of smokescreens for concealment whenever feasible. As with smoke use near the battle line, it is important to establish at least one or two decoy smokescreens for every actual crossing site, because a smoke cloud in the rear attracts the attention of enemy reconnaissance. Area smokescreens are best for covering crossing sites and surrounding terrain.

Combat at Night

13-154. At night, the OPFOR can conceal its forces from enemy active and passive night-vision and thermal imaging devices by using smoke and other obscurants that are effective in the visible through far-IR portions of the electromagnetic spectrum. The OPFOR uses smoke in three ways to counter various types of enemy EO sensors:

- For active night-vision devices, blind with smoke.
- For passive night-vision devices, blind with illumination or combined use of illuminating and smoke projectiles.

- For thermal imaging devices, camouflage friendly troops with smoke and illuminate enemy targets (to benefit friendly night-vision devices) at the same time.

13-155. In essence, the OPFOR uses smoke when it cannot quickly destroy or neutralize the enemy EO devices, or when the enemy has created high levels of illumination within his defense. However, it can also use smoke in conjunction with its own illumination.

13-156. In night combat, the OPFOR can use smoke to help illuminate enemy vehicles and other targets. The most effective method is to use smoke in conjunction with illuminating rounds to silhouette enemy vehicles and other targets. A mechanized infantry battalion can use this method by firing mortar smoke rounds to burst 50 to 100 m beyond the targets, interspersed with illuminating rounds aimed just beyond the screen. This creates a broad, bright background.

13-157. A more elaborate version of the latter method involves the use of artillery-delivered smoke and illuminating rounds. The OPFOR can use smoke and other obscurants to blind the enemy's night-vision equipment. Image intensifiers can be blinded by obscurants and forced to shut down by flares or the flash of artillery shells. In the defense, therefore, OPFOR artillery could use close support fire on advancing enemy forces, alternating blinding smoke with illuminating rounds to blind enemy forces while simultaneously illuminating them for targeting. See Figure 12-11 for an example of this technique.

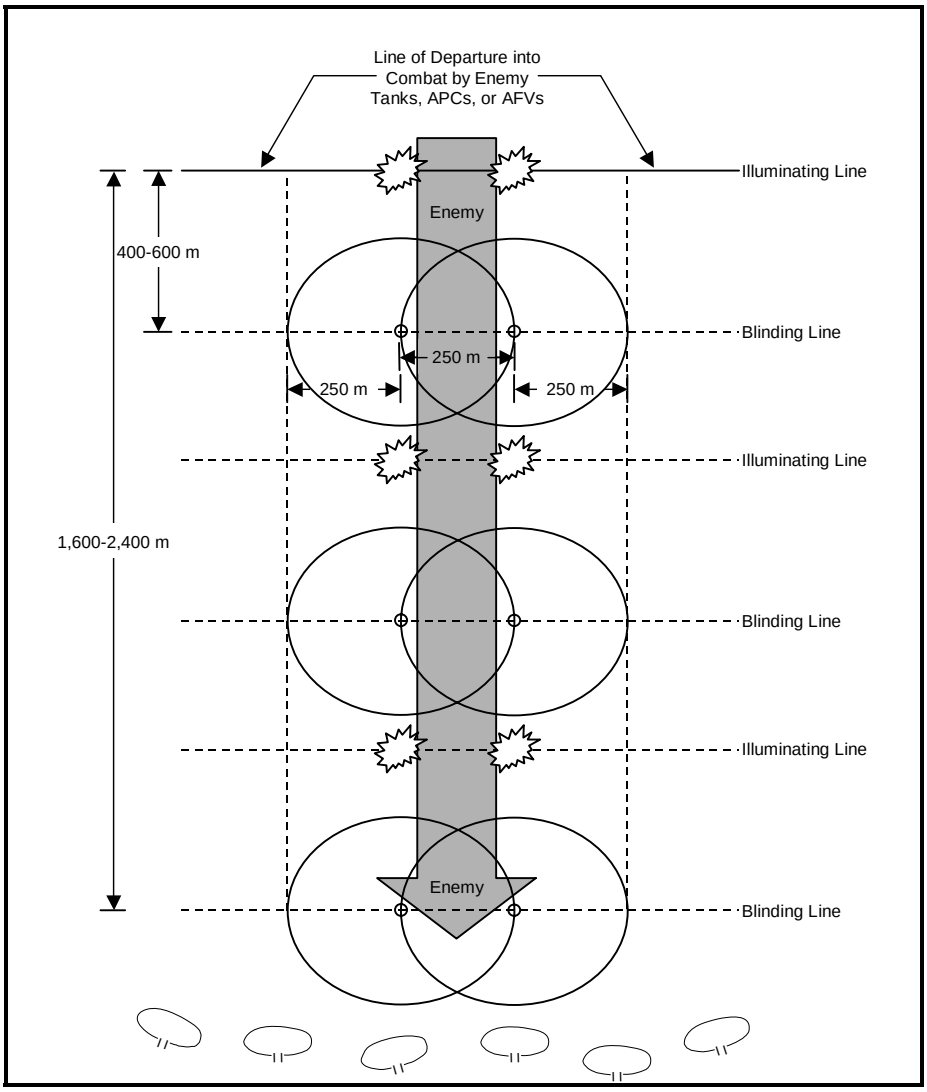


Figure 13-11. Example of Alternating Blinding Smoke and Illuminating Lines against the Enemy at Night

SIGNALING SMOKE

13-158. Aside from smokescreens, the OPFOR also uses colored smoke for signal purposes. Smoke can mark enemy positions or, occasionally, friendly positions or movement routes for the information of supporting aircraft or artillery. By prearrangement, colored smoke may—

- Identify friendly units.
- Identify targets.
- Control the commencing and lifting of fire.
- Coordinate fire and maneuver of combat units.

Chapter 14

TACTICAL LOGISTICS

Logistics is the process of planning and executing the sustainment of forces in support of military actions. In its larger sense, it includes the development, acquisition, storage, movement, distribution, and evacuation of equipment and other materiel. At the tactical level, it focuses on the traditional combat service support functions of materiel support (supply), maintenance, transportation, personnel support, and medical support.

Logistics support is an integral factor in maintaining overall combat capability. Maneuver and fire support assets are combat-capable only as long as they receive the necessary ammunition, fuel, and other combat materiel required to sustain combat activity and only as long as their weapons and equipment are kept in operating condition.

These tasks present a challenge in modern combat, where there is not always a clearly defined frontline or a relatively secure rear area. Combat can spread over a deep and wide area. Within such an area, combat actions and attrition may not occur evenly or predictably. There may be areas of intense battles and local destruction, while other secondary or defensive sectors have much lighter logistics demands. This requires a flexible logistics system designed to continue to sustain forces throughout conflict, adapting as conditions change.

OPERATIONAL LOGISTICS SUPPORT

14-1. Operational logistics links strategic-level logistics resources with the tactical level of logistics, thus creating the conditions for effective sustainment of a combat force. It covers the support activities required to sustain campaigns and major operations. A dependable logistics system helps commanders seize and maintain the initiative. Conversely, attacking the enemy's support system can often threaten or weaken his center of gravity. Operational maneuver and the exploitation of operational or tactical success often hinge on the adequacy of logistics and the ability of the force to safeguard its critical lines of communication (LOCs), materiel, and infrastructure.

14-2. Operational logistics normally supports campaigns and provides theater-wide logistics support, generally over a period of months. Operational logisticians coordinate the allocation and distribution of resources within the area of responsibility (AOR). They interface with tactical-level logisticians in order to determine shortfalls and communicate these shortfalls back to the strategic logistics complex to support operational priorities. Operational logisticians coordinate the flow of strategic capabilities within the theater

based on the commander's priorities. The State logistics system is designed to provide continuous support to the civilian populace while simultaneously supporting military forces from the strategic level to the individual fighting unit. The State's national security strategy requires that the OPFOR and the entire population be constantly prepared for the sudden outbreak of war or natural disasters. The State continues to make major improvements in all aspects of its logistics system. This includes an increased emphasis on support zone security and plans for stockpiling war materiel throughout the country.

TACTICAL STAFF RESPONSIBILITIES

14-3. At all levels of command, including division and brigade, the resources section of the primary staff is the principal office for the logistics integration of supply, maintenance, transportation, and services.[1] The resources officer heads this section, with two subsections headed by secondary staff officers who support him: the chief of logistics and the chief of administration.

RESOURCES OFFICER

14-4. The resources officer is responsible for the requisition, acquisition, distribution, and care of all of the command's resources, both human and materiel. He ensures the commander's logistics and administrative requirements are met and executes staff supervision over the command's logistics and administrative procedures. One additional major task of the resources officer is to free the commander from the need to bring his influence to bear on priority logistics and administrative operations. He is also the officer in charge of the sustainment command post.

CHIEF OF LOGISTICS

14-5. The chief of logistics is responsible for managing the order, receipt, and distribution of supplies to sustain the command. He is responsible for the condition and combat readiness of armaments and related combat equipment and instruments. He is also responsible for their supply, proper utilization, repair, and evacuation. He oversees the supply and maintenance of the command's combat and technical equipment. These responsibilities encompass the essential wartime tasks of organizing and controlling the command's recovery, repair, and replacement system. During combat, he keeps the commander informed on the status of the command's equipment.

CHIEF OF ADMINISTRATION

14-6. The chief of administration supervises all personnel actions and transactions in the command. His subsection maintains daily strength reports; records changes in table of organization and equipment of units in the administrative force structure; assigns personnel; requests replacements; records losses; administers awards and decorations; and collects, records, and disposes of war booty.

[1] Throughout this chapter, references to division- and brigade-level logistics support may also apply to a division tactical group (DTG) and brigade tactical group (BTG), unless specifically stated otherwise.

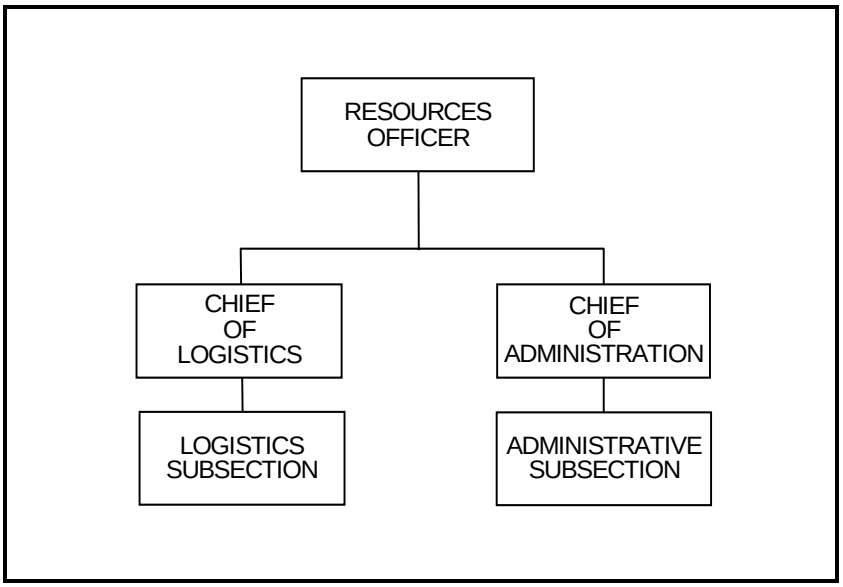


Figure 14-1. Resources Section

TACTICAL LOGISTICS CONCEPTS

14-7. Logistics support must complement the force structure and sustain combat actions. The logistics elements must be ready to provide full support at the start of combat and be capable of rapid movement to keep pace with maneuver forces. A greater quantity of logistics support is concentrated on the combat force assigned the principal mission in a given operation or battle. The OPFOR relies on the following three concepts: centralized planning and decentralized execution, support forward, and sustainment from other sources.

Tactical Logistics Concepts

The OPFOR relies on the following logistics concepts:

- Centralized planning and decentralized execution.
- Support forward.
- Sustainment from other sources.

14-8. To ensure both priority of effort and efficiency in the logistics process, OPFOR logistics is characterized by the concept of centralized planning and decentralized execution. Logistics plans are developed at higher levels and executed by units and organizations at lower levels. At division and brigade level, the resources officer has overall responsibility for logistics planning. Centralized planning requires a focal point for logistics planning and resource allocation at all levels. Regardless of whether the focal point is an individual (the resources officer or his secondary staff) or a unit, it must be constantly aware of requirements and capabilities. Decentralized execution enhances the flexibility of lower-level commanders to meet local requirements and to rapidly reprioritize support.

14-9. A careful study of the missions of the total force allows planners to program and measure logistics requirements. This requires concurrent operational, tactical, and logistics planning. Each level of command is responsible for the timely and complete provision of logistics support to subordinate units from available assets. The commander allocates these assets to support the mission of his units, shifts resources according to the combat situation, and retains some emergency reserves to meet unexpected contingencies. The bulk of supplies and transport resources are concentrated at the strategic and operational levels. This centralization of logistics resources contributes to operational and tactical flexibility. It enables operational-level commanders to concentrate support where it is needed most, if necessary switching axes rapidly to take advantage of unexpected opportunities. They can quickly strip resources from stalled divisions or brigades and reallocate them to units making better progress. Centralization of resources at the operational level frees divisions or brigades and their subordinates of an unnecessarily large logistics tail, making it easier for them to engage in high-speed maneuver battles.

14-10. Logistics units are organized and deployed to support forward. The guiding principle is that a combat force should retain its organic support resources (such as trucks, recovery equipment, and ambulances) to support its subordinate units. It should not have to use its own resources to go to support areas to pick up supplies or to evacuate resources that can no longer contribute to combat power.

14-11. Finally, the logistics system may have to rely on sustainment from other than military sources. Supplies may be procured or obtained from social groups, consumer cooperatives, government farms, or individual citizens, and by coercion or foraging in the AOR. Captured enemy supplies and equipment are another source of outside sustainment.

LOGISTICS MISSIONS

14-12. In operational and tactical logistics, three terms are used to describe how the OPFOR provides support to the field. These terms are primary support, area support, and depot support.

14-13. *Primary support* is a mission given to supply, services, transportation, and maintenance units that normally provide support directly to other units. This allows the primary support unit to respond directly to the supported unit's request for assistance or supplies.

14-14. *Area support* is a mission given to supply, services, transportation, and maintenance units that normally provide support to primary support units and other area support units. Lower-priority units may have to rely on area support, rather than receiving supplies and services directly from the next-higher echelon.

14-15. *Depot support* is a mission given to national-level or strategic units that normally provide support to area support units. Depot support missions include the receipt, storage, and issue of war stocks and domestically produced armaments and materiel, and the overhaul and rebuilding of major end items.

TAILORED LOGISTICS UNITS

14-16. The OPFOR concentrates the bulk of logistics units at two levels—theater and operational-strategic command (OSC). This concentration supports the OPFOR philosophy of streamlined, highly mobile combat elements at the tactical level. These higher levels maintain the responsibility and the primary means for logistics support.

14-17. Tailoring allows allocation of logistics resources to the combat elements most essential to mission success. It also allows the OPFOR to assign priorities for logistics support. Subordinate units receive assets according to the importance of their mission, the nature of the terrain, and the level of fighting anticipated. Commanders can not only reallocate their own resources in line with changes in the situation, but can take away a subordinate's organic resources and assign them to another subordinate if the situation warrants.

ADMINISTRATIVE FORCE STRUCTURE

14-18. The administrative force structure is the aggregate of every military headquarters, facilities, and installations that are designed to man, train, and equip the OPFOR. Especially at the operational level, and often at the higher tactical levels, these peacetime groupings differ from the OPFOR's go-to-war structure. In wartime, the normal role of the operational-level administrative headquarters is to serve as force providers during the creation of fighting headquarters, such as OSCs. After transferring control of its major fighting forces to one or more fighting headquarters, an administrative headquarters, facility, or installation continues to provide depot and area support-level administrative, supply, and maintenance functions. Divisions and brigades in the administrative force structure often become DTGs or BTGs in the wartime force structure and thus have increased requirements for logistics support.

14-19. The administrative force structure is a flexible organization. The OPFOR tailors the administrative force structure to meet specific objectives based on forces available, mission requirements, enemy forces, and the geography of the AOR. Tailoring affects both the number and type of subordinate combat elements and the number and type of assigned logistics units. The logistics function of the administrative force structure at the operational level is extensive and complex, serving as the major connecting link between the industrial base of the State and forces engaged in combat.

INTEGRATED SUPPORT COMMAND

14-20. The integrated support command (ISC) is the aggregate of combat service support units (and perhaps some combat support units) organic to a division and additional assets allocated from the administrative force structure to a DTG. It contains such units that the division or DTG does not suballocate to lower levels of command in a constituent or dedicated relationship.

14-21. The division (or DTG) further allocates part of its ISC units as an integrated support group (ISG) to support its integrated fires command (IFC), and the remainder supports the rest of the division, as a second ISG. For or-

ganizational efficiency, other combat service support units may be grouped in this ISC and its ISGs, although they may support only one of the major units of the division or IFC. Sometimes, an ISC or ISG might also include units performing combat support tasks (such as chemical warfare, information warfare (IW), or law enforcement) that support the division and its IFC. (See Chapters 2 and 8 for more detail on the IFC.)

14-22. The ISC's mission is to provide command and control (C^2), administrative, operations, and support personnel and equipment required for forming the nucleus of the two ISGs. The division resources officer (in consultation with his chiefs of logistics and administration and the ISC commander) task organizes the ISGs based upon support mission requirements.

14-23. The ISC commander and his staff are the division logisticians. The ISC commander advises the division commander, resources officer, and the rest of the division staff on those logistics matters pertaining to ISG functions. The ISC commander normally receives guidance and direction from the division commander. The overall responsibility for logistics planning belongs to the division resources officer. The division commander tasks the ISC commander to evaluate the logistics supportability of future operation plans or courses of action. The ISC commander tasks and provides guidance to the ISC staff. The ISC staff gives the alternatives and preferred solutions to the commander for a decision.

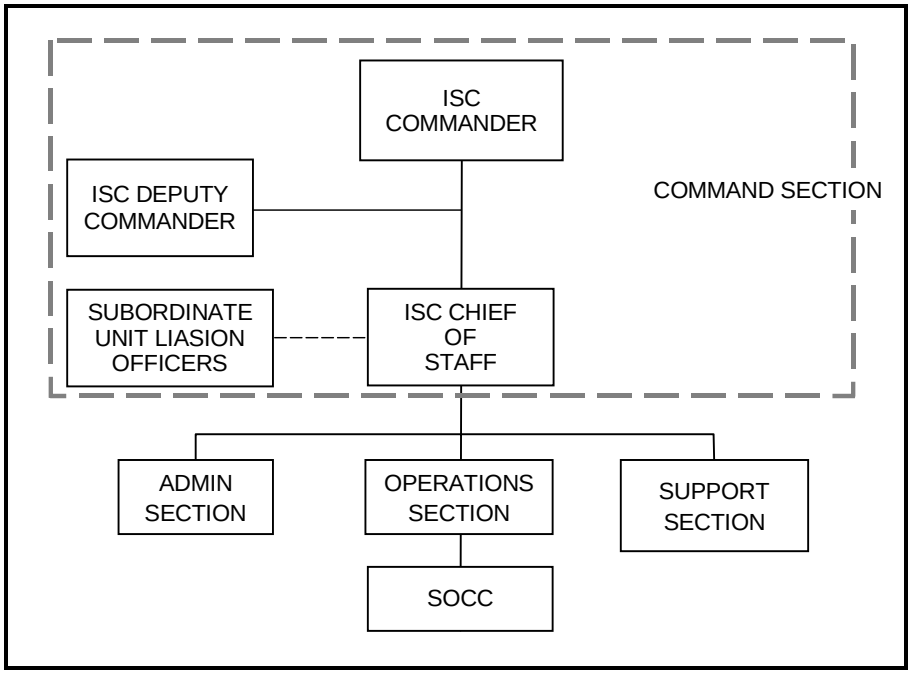


Figure 14-2. Integrated Support Command Headquarters

14-24. The ISC headquarters is composed of the ISC commander and his command section, an administrative section, an operations section, and a support section. (See figure 14-2.) The administrative and support sections provide personnel and logistics support for the ISC staff. The operations sec-

tion provides the control, coordination, and communication for the headquarters. Additionally, the operations staff provides IW support for the headquarters component. Located within the operations section is the support operations coordination center (SOCC). The SOCC is the staff element responsible for the planning and coordination of support for the division and the IFC. The SOCC relies principally on direct liaison among all the ISC subordinate units to ensure the necessary coordination of logistics support for combat actions.

INTEGRATED SUPPORT GROUP

14-25. The ISG is a compilation of units performing various support tasks such as logistics, chemical, law enforcement, or IW that support the division and its IFC. Normally, separate ISGs are organized to support the division and the IFC. The ISG has six major functions:

- Supply.
- Maintenance.
- Transportation.
- Medical support.
- Personnel services.
- Field services.

14-26. There is no standard ISG organizational structure. The number, type, and mix of subordinate elements vary based on the tactical support situation. For example, an ISG supporting a division composed mainly of tank and mechanized infantry units will differ from an ISG supporting a division composed mainly of infantry or motorized infantry units. Even within a division that receives no augmentation, there can be variations as to which division subordinates may belong to either of the ISGs and which ones are in which ISG.

14-27. In essence, the ISG is tailored to the mission. In the case of a DTG, it is also tailored to the task organization of the DTG. (See Figure 14-3 for one example; the rather robust ISG in this example might be appropriate for a DTG not relying on extensive support from a parent OSC.) As the number and type of supported units change, the ISGs change the way in which subordinate units are organized to provide support. When the logistics units allocated from the operational level are no longer required for ISG functions, the primary or area support units will revert to control of their original parent units in the administrative force structure or will otherwise be assigned to other DTGs, as appropriate.

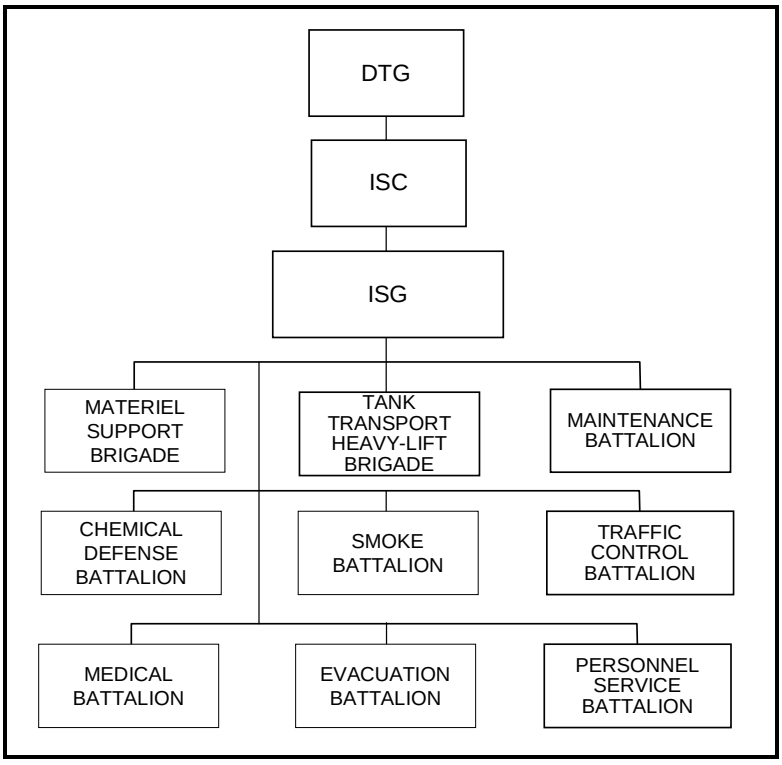


Figure 14-3. DTG ISG (Example)

MATERIEL SUPPORT

14-28. The OPFOR materiel support system comprises a mix of very modern and less modern capabilities that vary depending on the priority of the supported units. Generally, high-priority or elite units enjoy the benefits of a robust materiel support system that affords a higher degree of flexibility and responsiveness to rapid changes in plans. For such units, the system may be fully automated to track requirements and control the issue of supplies. Less capable units (including reserve and militia forces) typically have little or no automation support. Both types of materiel support system are based on allocating supplies and services to units in order to accomplish mission objectives. However, the aim of the OPFOR is to continue the upgrade of its less capable units to a robust supply system capable of sustaining the force in all environments.

14-29. *Supply* includes actions to acquire, manage, receive, store, and issue the materiel required to equip and sustain the force from deployment through combat operations and recovery into State territory. The allocation of supplies is based on the unit mission, supply reports, and the availability of supplies. During peacetime, the OPFOR operates under the "pull system" of supply. For example, units in the field may request materiel from a depot where they must pick it up and deliver it to the field.

14-30. The OPFOR concept of *services* includes all troops, installations, and duty positions that perform logistics support for combat arms units. Such ser-

vices are not specific to the ground forces, but support other Armed Forces components as well.

14-31. During wartime, however, the OPFOR operates under the forward distribution or "push system" principle, in which the higher echelon directly supplies and services the next-lower echelon. Supplies and services are delivered directly to subordinate elements using the organic transportation assets of the higher headquarters. Lower-priority units may have to rely on area support or even supply point distribution.

METHODS OF DISTRIBUTION

14-32. The three methods by which supplying units distribute supplies to using units are supply point distribution, unit distribution, and throughput. In *supply point distribution*, the supplying unit issues supplies from a supply point to a receiving unit. The receiving unit must go to the supply point and use its own transportation to move supplies to where they are needed.

14-33. In *unit distribution*, the supplying unit issue supplies and delivers supplies to the receiving unit's area in transportation assets the supplying unit has arranged. *Throughput* is a method of distribution in which shipments bypass intermediate supply points or logistics sites. Throughput eliminates the need for double handling, uses transportation assets more efficiently, and is more responsive to the user's needs.

SUPPLY PRIORITIES

14-34. The OPFOR places primary emphasis on maintaining the supply of ammunition, fuel, and weapons. Its logistics system typically operates on the following sequence of priorities:

- Ammunition of all types.
- Petroleum, oils, and lubricants (POL).
- Spare parts and technical supplies (for equipment maintenance and repair).
- Rations, clothing, and medical supplies.

14-35. These priorities can change with the combat situation. For example, during an attack, the principal demand is for ammunition. On the other hand, a unit conducting a pursuit or advancing rapidly with no opposition has a greater need for POL than for ammunition. Nonessential supplies may not be delivered if it reduces the ability to provide essential combat supplies. Ammunition and fuel resupply can comprise 80 percent or more of total transportation requirements. Rations may be considered nonessential, for instance, when units can obtain them by foraging.

PLANNING FACTORS

14-36. Essentially, all materiel support assets, from battalion level to the MOD, are part of one system. When planning and coordinating division or brigade logistics allocations, the division or brigade resources officer requisitions and allocates supplies according to guidance from the division or brigade commander and pre-established planning factors. Standard tables of lo-

gistics planning factors, based on experience and estimated expenditure rates, indicate the amount and type of supplies required by a division or brigade to perform a particular type of combat action. Like his counterparts at higher and lower levels, the division or brigade resources officer refers to these tables when planning for a combat action. Then he must ensure that centralized planning provides adequate amounts of supplies, properly distributed to support the action. Thus, resources officers at all levels coordinate requirements from a common point of reference.

STANDARD UNITS OF ISSUE

14-37. To simplify logistics planning and to standardize ordering and issuing procedures, the OPFOR divides the major classes of materiel supplies into specific quantities or distribution lots. These quantities are called *basic load* for ammunition, *refills* for fuel, *daily rations* for food, and *sets* for spare parts and accessories. Once a standardized planning factor has prescribed a specific quantity as the unit of issue, planners no longer need to refer the quantity itself, and all future references are given in multiples of the unit of issue.

14-38. Logistics calculations with these standard units of issue normally involve the weight of the unit of issue in metric tons, since this is a key parameter for transport planning. For certain computations, volume is also computed. These figures can then be used for planning transport and storage in connection with similar lots of weights and volumes of standardized units of issue of ammunition, POL, rations, and other lots of combat equipment.

MAINTENANCE

14-39. *Maintenance* includes actions taken to keep materiel and equipment in a serviceable condition, to return it to service, or to update and upgrade its capability. Since supplies are limited, the OPFOR stresses preventive maintenance, technical inspections, and proper operating methods to extend the life cycle of equipment. The maintenance system is designed to repair vehicles and equipment in the battle zone or as close to it as possible. Repair facilities and units move near the scene of combat rather than waiting for damaged equipment to be evacuated to them. Fixed and mobile repair units extend repair capabilities into the battle zone and provide service to the customer unit. During wartime, the types of repair performed at each level depend on the situation. Generally, they are of a lesser degree than in peacetime. The OPFOR classifies three categories of repair: routine, medium, or capital.

14-40. *Routine* repairs—such as replacements, adjustments, or repair of individual components—require a short time to fix. Generally, maintenance personnel do not disassemble major components as part of routine repair. *Medium* repairs include the minor overhaul of equipment and the repair of individual components requiring a short time to fix. *Capital* repairs are conducted at depot level and involve the major overhaul and/or assembly of equipment.

TRANSPORTATION

14-41. Transportation is a critical function that cannot be looked at in isolation; it is the one element that ties sustainment and all other battlefield activities together. The OPFOR envisions an environment characterized by a rapid tempo of nonlinear operations; wide dispersion of forces; the need to concentrate rapidly for battle and disperse quickly; and the need to conduct a wide range of actions simultaneously.

14-42. Military logistics planners base their estimates on the use of all movement resources available. These estimates include tactical combat vehicles as well as civilian transportation assets mobilized to move supplies, equipment, and personnel. For example, during mobilization, civilian trucking and bus companies may be organized as militia truck units to provide transportation of cargo and personnel within the State or occupied territory. The mobility of logistics units must match that of the supported force. If the logistics support units fail to achieve this, they may jeopardize the overall success of the combat action.

MOVEMENT PRINCIPLES

14-43. The principles of movement apply to all military transportation services and remain constant throughout peace and war. Additionally, they apply regardless of the planning level. During wartime, civilian personnel, transportation assets (including farm animals, vehicles, aircraft, and water vessels), and materiel-handling equipment are mobilized to support the war effort.

Centralized Planning and Decentralized Execution

14-44. Movement control is centralized at the highest level at which commanders charged with providing total logistics support and monitoring the transportation system and infrastructure can exercise it. This requires a focal point for transportation movement planning and resource allocation at all levels. That focal point, whether an individual (the resources officer or chief of logistics) or unit, must be constantly aware of requirements and capabilities. Decentralized execution enhances the flexibility of lower-level commanders to meet local requirements and to rapidly reprioritize support.

Regulated Movement

14-45. All movement is regulated according to command priorities. Movements are not validated, approved, or initiated if any part of the transportation system cannot meet the requirement. Regulating transportation assets and LOCs is required to prevent congestion, confusion, and conflict of movements. Unregulated use of the transportation system can severely hamper the movement of critical cargo and personnel supporting the battle or the overall operation or strategic campaign. Therefore, traffic in the AOR is programmed to provide fluid movement throughout the transportation network.

14-46. The OPFOR traffic control service employs a system of measures organized and executed for the purpose of ensuring convoy and traffic regulation as well as maintaining general order in areas where troops are deployed. A traffic control battalion is responsible for traffic control and law enforce-

ment at the tactical level. It is responsible for directing military traffic along convoy routes and ensuring that the proper convoy speed and spacing are maintained. A traffic control battalion or brigade performs the same functions at the operational level. The State's Internal Security Forces support movement control through protection of supply routes of movement in the State's homeland and of key transportation nodes and centers.

14-47. A *movement program* is a directive that allocates the available transport mode capability to satisfy the movement requirements in accordance with the commander's priorities. The program normally contains detailed information concerning origins, destinations, weights, and cube of cargo, and/or types and number of personnel to be moved.

Fluid and Flexible Movement

14-48. The transportation system is designed to provide an uninterrupted flow of traffic that adjusts rapidly to changing situations. It is flexible enough to meet the changing priorities of a fluid battlefield and reallocate resources as necessary. Adjustments must be made to meet the variations in combat intensity. For example, when units are in the offense, the transportation system expands to maintain the tempo of the battle. Conversely, when units are in the defense, the system is contracted, the mode changes, and differing cargo priorities may be necessary. Changes in the operational or tactical environment necessitate adjustments to operate in varying conditions and tactical situations that may dictate the types of convoys and controls established for movement.

14-49. The availability and use of road and rail networks, airfields, inland waterways, ports, and beaches not only allow the transportation system to respond to tactical changes, but also provide redundancy within the overall transportation network. For example, if a portion of a road network is destroyed or rendered unusable, the mode could change to rail or inland waterway.

Maximum Use of Carrying Capacity

14-50. The principle of making maximum use of carrying capacity involves more than just loading each transportation asset to its optimum carrying capacity. Transport capability that is not used in one day cannot be stored to provide an increase in capability for subsequent days. Similarly, a situation allowing fully-loaded transport to sit idle is just as much a loss of carrying capacity as is a partially-loaded vehicle moving through the system. While allowing for sufficient equipment, maintenance, and personnel rest, planners should keep transportation assets loaded and moving as much as the situation permits.

TRANSPORTATION MODES

14-51. Transportation operations may include motor vehicles, rail, aircraft, and waterway (coastal and inland) transport vessels. The OPFOR generally uses motor vehicles to move large quantities of general cargo, POL, and personnel throughout the AOR. However, waterway transport vessels may be

used to move large quantities of supplies and personnel along coastal or inland waterways to remote areas that are not accessible to motor vehicles.

14-52. As requirements for transportation fluctuate, each mode must be properly used to accomplish the commander's objective. For example, air transport is employed if reaction speed is the priority. Motor transport is considered the most flexible surface mode. It provides door-to-door delivery service and an interface with all other transportation modes.

14-53. Motor transport becomes essential as supplies are moved forward from railheads, field depots, or supply points to combat units. After the relocation of supplies from national-level supply bases, the OPFOR distributes them within OSCs and divisions primarily by truck. Within an OSC, the heaviest truck transport requirements are primarily above the division level.

14-54. Under the control of the resources officer at each level, motor transport resources are centralized for operational and tactical employment, especially in the pre-offensive buildup period and for resupply of advancing columns. This centralized control facilitates the diversion of motor transport assets of reserve forces to support those units engaged in the main effort when necessary.

SUPPLY AND EVACUATION ROUTES

14-55. Within their AORs, divisions and brigades establish and improve supply and evacuation routes, using the network of military roads. Routes are usually as follows:

- **Division routes:** from the ISG deployment area to the deployment areas of the brigades' materiel support units, IFC firing positions, and the brigades' medical points.
- **Brigade routes:** from the deployment area of the brigade's materiel support unit(s) to the deployment areas of battalion-level supply and service platoons, indirect fire support unit areas (or firing positions), and battalion medical points.

14-56. The division or brigade resources officer, together with the chief of infrastructure management at that level, is responsible for the improvement of supply and evacuation routes and their maintenance in passable condition. At division and brigade levels, subordinate engineer elements perform road maintenance. Engineer units at OSC or division level may form road and bridge construction and repair groups to prepare and maintain these and other movement routes. At national level, the Strategic Integration Directorate (SID) also organizes civil engineering and construction efforts required to sustain military actions. During wartime, civil engineering units from the Ministry of the Interior, as directed by the SID, may be employed at the national, OSC, and division levels. Employed on an area basis, these units are responsible for the upkeep of supply and evacuation routes and for repair of battle-damaged roads and bridges. The chief of infrastructure management at the OSC or division level must coordinate and prioritize the route construction and maintenance functions of both civil and combat engineers within his respective AOR.

PERSONNEL SUPPORT

14-57. The OPFOR considers people as one of the assets most critical to the success of any military action. Thorough planning and efficient personnel management directly influence mission readiness. During the course of battles and operations, timely personnel replacements are essential.

PERSONNEL MANAGEMENT

14-58. The division or brigade chief of administration is responsible for all personnel actions and transactions in the command. At DTG level, a personnel service company or battalion provides the personnel to operate the personnel operations center. That center's major functions include providing personnel and administrative support, finance support, and legal support.

REPLACEMENT

14-59. Units may maintain strength by piecemeal replacement of casualties during combat, particularly when lightly wounded personnel and damaged equipment can return to parent units quickly. Once casualties are sufficient to threaten total loss of combat effectiveness, the unit withdraws from contact and reconstitutes. Timely replacement of ineffective units is vital to maintaining momentum. The commander may choose to withdraw heavily attritted units and consolidate them to form a smaller number of combat-effective units.

14-60.Personnel replacement is based on unit strength reports and includes the coordinated support and delivery of replacements and soldiers returning from medical facilities. The unit strength report is used to assess a unit's combat power, plan for future battles, and assign replacements on the battlefield.

Individual Replacements

14-61. The OPFOR can use the system of individual replacements in both peacetime and wartime. The sources of replacement personnel are school graduates, reserve assignments, medical returnees, and normal assignments.

Incremental Replacements

14-62. The OPFOR may incrementally replace entire small units such as weapons crews, squads, and platoons. Replacements can be obtained from training units or reserve forces.

Composite Unit Formation

14-63. Composite units may be formed from other units reduced by combat operations. Composite units may be constituted up to division and even OSC level.

Whole-Unit Replacement

14-64. The OPFOR uses whole-unit replacement when massive losses occur as a result of a combat action. Company-level and above units are brought forward from reserve forces to replace combat forces rendered ineffective.

Replacement Training

14-65. OPFOR planners realize that personnel replacement requirements may necessitate any of the aforementioned procedures. Individual and unit replacement exercises are held semiannually to maintain established proficiency standards for personnel units. During these and other training exercises, troops are moved by various modes of transportation such as motor vehicles, waterway, aircraft, or rail.

MEDICAL SUPPORT

14-66. The basic principle of combat medical support is multistage evacuation with minimum treatment by medical personnel at each unit level. They treat the lightly wounded who can return to combat and those casualties who would not survive further evacuation without immediate medical attention.

14-67. The OPFOR divides the range of medical treatment into three categories. The first category of procedures includes only mandatory lifesaving measures. The second category includes procedures to prevent severe complications of wounds or injuries. The final category of treatment includes procedures accomplished only when there is a low casualty load and reduced enemy activity.

14-68. In anticipation of an overtaxed combat medical support system, OPFOR doctrine emphasizes the importance of self-help and mutual aid among individual soldiers. This concept extends beyond the battlefield to casualty collection points and unit aid stations. Self-help and mutual aid reduces the demands made on medical personnel, particularly when there is a sudden and massive influx of casualties. Each soldier is required to attend a first-aid training session.

MEDICAL LOGISTICS

14-69. The medical logistics system operates on a "pull system." Personnel in the field request medical materiel (including repair parts for medical equipment) from a medical depot where it must be picked up and delivered to the field. Normally, medical supplies are transported from the support zone to the battle zone on cargo-carrying transport vehicles, water vessels, or aircraft. However, ground ambulances returning to the battle zone may assist in transporting medical supplies. A medical equipment maintenance unit at the medical depot provides all medical equipment maintenance.

Level	Available Care
Platoon	Platoon medic (corpsman) provides basic first aid.
Company	Company medic (paramedic) provides advanced first aid, pain relief, intravenous fluids, treatment of most common illnesses.
Battalion	Medical assistant (physician's assistant) provides limited medical intervention, minor surgery, and treatment of most common illnesses; limited inpatient capability.
Brigade, BTG, and Division	Medical officers (physicians) provide trauma stabilization and minor surgical intervention.
DTG and Higher	A field hospital provides major surgery and extended care.
OSC or Theater Support Zone	The Central Military Hospital and major civilian hospitals provide definitive care in fixed facilities.

Figure 14-4. Levels of Medical Care

CASUALTY HANDLING

14-70. The OPFOR has shown success in handling combat casualties. This success stems from emphasis placed on trauma training and close coordination with the civilian medical sector. Evacuation is based on a higher-to-lower method. The next-higher echelon provides transportation for casualties. Each level has specific responsibilities for the care of the sick and wounded. (See Figure 13-4.) Besides treating the wounded, medical personnel handle virtually all of their own administration, especially at lower levels. As casualties move through the combat evacuation system, medical personnel at each level make effective use of medical facilities by repeated sorting of the wounded (triage). Helicopters are used for all military and civilian search and rescue missions, medical evacuations, and domestic disaster relief flights. During wartime situations, most casualties arrive at a hospital within 6 to 12 hours after being wounded. The evacuation time is reduced to 2 hours during peacetime.

MEDICAL FACILITIES

14-71. A field hospital is the first level in the evacuation system capable of conducting major surgery and giving extended care. It is mobile and capable of deployment near the battle zone. It constitutes the largest and most extensive military facility with this capability.

14-72. The best medical facility is the Central Army Hospital. During peacetime, military personnel receive treatment at this hospital, which also is designated as one of the emergency medical care facilities for foreign diplomats, their families, and tourists. The State also has designated some of its major university hospitals as such emergency medical care facilities. This ensures consistent high-quality medical staffing, care and treatment. A majority of medical facilities or clinics in the outlying areas has sufficient numbers of trained personnel, supplies, and reliable electric power and water. The facilities also contain high-quality, sophisticated, domestic and imported medical equipment. The pharmacies are stocked with high-quality, domestic, and foreign-produced pharmaceuticals. During wartime conditions, military personnel are treated at all of the major civilian hospitals in addition to field hospitals.

NBC TREATMENT

14-73. Treating nuclear, biological, and chemical (NBC) casualties is a standard OPFOR trauma protocol. The NBC medical plan is based on three assumptions:

- Mass casualties will occur.
- Casualties will be similar to those that medical personnel have been trained to treat.
- Medical personnel are able to treat the casualties in a decontaminated environment.

The Central Army Hospital can be converted into a chemical decontamination center within 2 to 6 hours. Most of the remaining major hospitals require up to 30 days to convert to a decontamination center.

BLOOD MANAGEMENT

14-74. The Ministry of Health maintains a Blood Management Office to oversee the collection, processing, storage, and distribution of blood (to include liquid blood and blood components) to alleviate the effects of a natural disaster or war. Blood management services are provided to support both civilian and military establishments. The main source of blood to support wartime casualty requirements comes from the collection and processing of blood from the civilian populace during peacetime. The blood is generally stored in prepositioned underground structures throughout the country.

SUPPORT OF COMBAT ACTIONS

14-75. During both offense and defense, OPFOR logistics units operate from locations that are protected, concealed, and serviced by good road networks. Commanders emphasize that logistics units make maximum use of urban areas to conduct logistics activities. The dispersion of logistics sites is consistent with support requirements, control, and local security.

14-76. Logisticians must be continuously informed of battle plans and probable changes to those plans. They coordinate logistics preparations with deception plans to avoid giving away the element of surprise. Commanders emphasize passive security measures during the sustainment of combat actions. Logistics unit commanders anticipate that at least 50 percent or more of their work will be done in darkness or under other limited visibility conditions. Therefore, noise and light discipline is a necessity when operating under these conditions.

OFFENSE

14-77. The logistics objective in supporting offensive actions is to maintain the momentum of the attack by supporting in the battle zone or as close to it as possible. Both the battle zone and the support zone can move as the offensive battle progresses.

14-78. Planners must consider the nature of the offensive action as it affects logistics activities. For example, high fuel consumption may dictate making provisions to position substantial quantities in or near the battle zone without signaling the OPFOR's intention to attack to the enemy. Responsive support is critical and is made more difficult by lengthening of supply lines and by critical requirements for user resupply vehicles to stay close to their respective units. Planning, coordination, communication, and above all flexibility are key elements to consider. Therefore, planners develop logistics plans flexible enough to meet the changing priorities of a fluid battlefield.

14-79. In considering the attack, materiel support units ensure that all support equipment is ready and that supplies are best located for support. They also ensure that sufficient transportation is available to support maneuver and logistics plans. Normally, ammunition and fuel are the most important supplies in the offense. However, consideration must be given to all supplies, as well as other support procedures, specifically medical and maintenance.

14-80. The following are examples of some specific considerations for planners to use during the development of logistics plans supporting offensive actions:

- Maintenance units should pre-plan maintenance collection points along movement routes, in order to reduce recovery requirements.
- Supply points consisting of fuel and ammunition are positioned in the battle zone or as close to it as possible.
- Arrangements are made in advance for aerial resupply of critical items in order to maintain the tempo of combat.
- Planners arrange to throughput obstacle-breaching and bridging material if required.
- Planners must consider potential bypassed enemy units; they must have the latest intelligence on the enemy situation.

DEFENSE

14-81. The logistics objective in supporting defensive actions is to sustain the attrition of enemy attacking forces through support from dispersed sites located in the support zone. A division support zone may be dispersed within the support zones of subordinate brigades, or the division may have a separate support zone site of its own.

14-82. During the defense, supply activity is greatest in the preparation stage. Supplies generally are stockpiled or pre-positioned in initial and subsequent defensive positions. Critical supplies such as ammunition and barrier material should be as mobile as possible to ensure continuous support as combat power is shifted in response to enemy attacks.

14-83. To support stay-behind forces, supply stockage levels may be two to three times higher than normal amounts. This ensures a redundancy of caches and needed equipment that cannot be readily resupplied. Stay-behind forces may require unique maintenance support arrangements to ensure that equipment remains operational.

14-84. Logistics units position themselves in relatively secure positions far enough from maneuver and fire support units to be out of the flow of the battle. However, they should not be so far removed as to render the logistics effort less effective.

14-85. The following are examples of some specific considerations for planners to use during the development of logistics plans supporting defensive actions:

- Maintenance units should position maintenance teams in the battle zone to return the maximum number of weapons systems to the battle as soon as possible.
- Emphasis is on keeping supply and evacuation routes open.
- Nonessential logistics units and operations move into the depth of the support zone as early as possible.
- In a maneuver defense, supply points consisting of fuel and ammunition are positioned as far forward as possible and in successive battle positions.

SUPPORT ZONE SECURITY

14-86. The OPFOR expects any enemy to make an effort to conduct reconnaissance, espionage, and diversionary action in its tactical and operational support zones. These enemy actions can be particularly effective in areas where the local population is not sympathetic to the OPFOR's cause. In addition to these threats, the OPFOR anticipates attacks on its support zone by airborne and heliborne forces as well as larger-scale attacks by enemy operational maneuver forces.

14-87. The OPFOR uses a security force to counter any threats in its support zone. Each division or DTG deploys a considerable counterintelligence effort. It can assign up to an entire BTG for security tasks. The security force is equipped and trained for conventional as well as unconventional warfare. As airborne and amphibious threats grow, there is increasing stress on deploying antilanding reserves, including, or even based on, heliborne units to provide a rapid reaction.

14-88. All logistics and communications units are capable of self-defense. The convalescent sick and wounded provide a reserve of manpower for elements near medical locations or reserve forces.

MISSION SUPPORT SITES

14-89. A mission support site (MSS) is a temporary base used by units that are operating at a considerable distance from their support zone, during an extended mission. The MSS may provide food, shelter, medical support, ammunition, or demolitions. The use of an MSS eliminates unnecessary movement of supplies and allows a force to move more rapidly to and from attack sites or objectives. When selecting an MSS, consideration is given to cover and concealment, proximity to the objective, proximity to supply routes, and the presence of enemy security forces in the area. Security dictates that drop zones or landing zones be a considerable distance from an MSS, cache, or support zone—although this may increase transportation problems.

POST-COMBAT SUPPORT

14-90. OPFOR logisticians are not only focused on supporting units in combat. They are also focused on other post-combat support requirements such as personnel replacement, weapon systems replacement, reconstitution, and receiving and preparing reinforcements. (For information on personnel replacement, see the Personnel Support section of this chapter.)

WEAPON SYSTEMS REPLACEMENT

14-91. Weapon systems replacement is simply a procedure for providing a weapon system to a combat unit. It involves processing the vehicle or equipment from a storage or transportation configuration to a ready-to-fight condition. It also involves the integration of a completely trained crew with the weapon system.

RECONSTITUTION

14-92. Reconstitution is performed in support of all combat actions. Although it is mainly a command and operations function, the actual refitting, supply, personnel fill, and medical actions are conducted by logistics units. There are two methods for conducting reconstitution: reorganization and regeneration.

Reorganization

14-93. Reorganization is action taken to shift resources internally within a degraded unit to increase its level of combat effectiveness. Reorganization is normally done at unit level and requires only limited external support such as supply replenishment, maintenance assistance, and limited personnel replacement. When continuity of the mission is of paramount importance, composite units may be formed from other units reduced by combat actions.

Regeneration

14-94. Regeneration is action taken to rebuild a unit through large-scale replacement of personnel, equipment, and supplies. Additionally, it is action taken to restore C^2 and conduct mission-essential training. Overall, the effort is directed at restoring the unit's cohesion, discipline, and fighting effectiveness.

PREPARING REINFORCEMENTS

14-95. OPFOR strategic and operational logisticians prepare contingency plans for the mobilization and reception of reserve forces. Once the unit personnel and equipment are mobilized, they are sustained, configured, and transported to their respective OSC. Normally, strategic-level logistics units provide this type of support. Once the units arrive at the OSC, the OSC assumes responsibility for their further sustainment and transport, and they are available for assignment to appropriate tactical-level missions.

Chapter 15

Special-Purpose Forces

The OPFOR maintains a broad array of special-purpose forces (SPF) as means to carry the battle to the enemy's depth. In its administrative force structure, these are national-level forces that the General Staff can use against strategic objectives or for regional power projection. However, it often task organizes these assets to perform designated missions for operational- or even tactical-level commands. It may also allocate such forces down to the operational and tactical levels to perform designated missions. These missions may support national-, theater-, operational-, or tactical-level objectives. However, the SPF always conduct these missions as small teams or detachments and would use the same types of tactical action regardless of the level of command for which they perform the missions.

This chapter describes nature of SPF and the roles they can play at various levels of command. Then it describes the basic forms of tactical action they perform at any level, although the purpose of the action may be different at different levels.

COMMAND AND CONTROL

15-1. One of the OPFOR's six service components, the SPF Command, provides the capability to attack both regional and extraregional enemies throughout their strategic depth. In addition to conducting direct action, this command fields strategic reconnaissance forces with which it is able to support national intelligence requirements. It also has a capability to support terrorist and irregular forces operations. The SPF Command includes both SPF units and commando units. Its assigned units provide a balanced capability including some tactical transport for use in inserting SPF or commando units. (Command and control for the SPF Command's commando units is discussed under the subsection on Commandos later in this chapter.)

15-2. In addition to the SPF Command, three of the other five service components have their own SPF. The Army, Naval, and Air Force SPF are intended primarily for use at the operational level and enable each service to conduct reconnaissance and direct action to the opponent's operational depth. All of these SPF organizations provide the OPFOR a flexible and capable means of support to regional, transition, and adaptive operations.

ADMINISTRATIVE FORCE STRUCTURE

15-3. The SPF Command is directly subordinate to the Supreme High Command (SHC) and is thus under the control of the General Staff. The General Staff normally reserves some SPF brigades under its own control for strate-

gic-level missions as directed by its Intelligence Directorate. Likewise, the Army, Navy, and Air Force could maintain some of their own SPF directly subordinate to the service headquarters, although most of them are intended for use at the operational level and thus can be subordinate to operational-level commands, even in the administrative force structure.

15-4. In peacetime and in garrisons within the State, SPF of both the SPF Command and other services are organized administratively into SPF companies, battalions, and brigades. These organizations facilitate peacetime administrative control and training. However, even these administrative organizations do not have a fixed structure. Each consists of a varying number of small SPF teams normally composed of 5 to 12 men each. The number of teams contained in each administrative organization depends on the team size required for specific missions that are envisioned for it. Every SPF mission is unique and unlike any other, and thus requires forces organized not in a standard fashion but rather adapted into a task organization based on the mission.

TASK ORGANIZATION

15-5. When the OPFOR establishes more than one theater headquarters, the General Staff may allocate some SPF units to each theater. From those SPF assets allocated to him in a constituent or dedicated relationship, the theater commander can suballocate some or all of them to a subordinate operational-strategic command (OSC).

15-6. The General Staff (or a theater commander with constituent or dedicated SPF) can allocate SPF units to an OSC in a constituent or dedicated relationship or place them in support of an OSC. These command and support relationships ensure that SPF objectives support the overall mission of the OSC to which the SPF units are allocated. Even in a supporting relationship, the commander of the OSC receiving the SPF unit(s) establishes those units' objectives, priorities, and time of deployment. The OSC commander may employ the SPF units allocated to him as constituent or dedicated as part of his integrated fires command (IFC), or he may suballocate them to his tactical-level subordinates.

15-7. The SPF units of the Army, Navy, and Air Force may remain under the control of the SHC or Theater commander or be allocated to an OSC. In the latter case, the OSC commander may choose to suballocate them to tactical-level subordinates.

15-8. SPF units from the SPF Command or other services can be allocated in a constituent or dedicated status to be task organized as part of a tactical group in order to perform specialized reconnaissance or direct action missions. In other cases, SPF units may be allocated in a supporting relationship, while remaining under the command of their parent SPF organization.

15-9. Regardless of the parent administrative organization, SPF normally infiltrate and operate as small teams. When deployed, these teams may operate individually, or they may be task organized into detachments. The terms *team* and *detachment* indicate the temporary nature of the groupings. In the course of an operation, teams can leave a detachment and join it again. Each team may in turn break up into smaller teams (of as few as two men) or, con-

versely, come together with other teams to form a larger team (of perhaps up to 30 men), depending on the mission. At a designated time, several teams can join up and form a detachment (for example, to conduct a raid), which can at any moment split up again. This whole process can be planned before the operation begins, or it can evolve during the course of the operation.

15-10. When deployed *outside the State*, each SPF team or detachment is in direct communication with a higher headquarters. The controlling headquarters may be an OSC, although in this case, typically SPF units receive orders directly from the General Staff or theater headquarters.

INTEGRATED FIRES COMMAND

15-11. An IFC may include an SPF unit as one of its many components (see Chapter 2). At OSC level, the SPF component provides the OPFOR the ability to attack both regional and extraregional enemies throughout the theater. They conduct operations to achieve strategic military, political, economic, and/or psychological objectives or to achieve tactical or operational goals in support of strategic objectives. Such operations may have either long-range or immediate impact on the enemy. If a DTG receives an SPF unit, this would supplement other long-range reconnaissance (LRR) assets as part of the IFC's LRR component.

SPECIAL RECONNAISSANCE

15-12. SPF are a major source of human intelligence (HUMINT), placing "eyes on target" in hostile, denied, or politically sensitive territory. They can operate in small teams beyond the battle lines of the area of responsibility (AOR), conducting long-range reconnaissance. Their priorities include—

- Precision weapons.
- Nuclear, biological, and chemical (NBC) delivery systems.
- Headquarters and other command and control (C^2) installations and centers.
- Reconnaissance, intelligence, surveillance, and target acquisition (RISTA) systems and centers.
- Rail, road, and air movement routes.
- Airfields and ports.
- Logistics facilities.
- Air defense systems.

Once SPF teams locate such targets, they may simply monitor and report on activity there, or they may conduct direct action or diversionary measures.

15-13. The SPF can train and employ affiliated forces and civilians to perform HUMINT activities. They may also operate in conjunction with HUMINT agents controlled by the Intelligence Directorate of the General Staff.

DIRECT ACTION

15-14. *Direct action* involves an overt, covert, or clandestine attack by armed individuals or groups to damage or destroy high-value targets or to kill or seize a person or persons. Examples of direct-action missions for SPF units are assassination, abduction, hostage taking, sabotage, capture, ambushes, raids, rescue of hostages (civilian and military), and rescue and recovery of downed pilots or aircrews. Implementation of direct-action missions depends on the size of the enemy's defenses, the element of surprise, and the assets available to the SPF unit commander.

15-15. The term *diversionary measures* refers to direct actions of groups or individuals operating in the enemy's rear area. These measures include the destruction or degradation of key military objectives and the disruption of C^2, communications, junctions, transport, and lines of communication (LOCs). They could include misdirecting military road movement by moving road markers and generating false communications. They also involve killing personnel, spreading disinformation, destroying military hardware, and other actions to weaken the morale and will of the enemy by creating confusion and panic. Diversionary measures may be part of a larger information warfare (IW) campaign.

MISSIONS

15-16. While SPF belonging to other service components are designed for use at the operational and tactical level, forces from the SPF Command provide a regional and global strategic capability. Collectively, all these SPF assets can engage the enemy simultaneously to his tactical, operational, and even strategic depth. They are prepared to attack enemy forces anywhere in the region, at overseas bases, at home stations, and even in military communities. They can attack his airfields, seaports, transportation infrastructures, and LOCs. Targets include not only enemy military forces and equipment, but also government agency heads, contractors, private firms, and nongovernmental organizations involved in transporting troops and materiel into the region or supporting enemy forces in any manner.

15-17. SPF are likely to be used against key political, economic, or population centers or tangible targets whose destruction affects intangible centers of gravity, rather than against military targets for purely military objectives. These efforts often place noncombatants at risk and aim to apply diplomatic-political, economic, and psychological pressure. The goal is to present the enemy with a nonlinear, simultaneous battlefield. Striking such targets will not only deny the enemy sanctuary, but also weaken his national will, particularly if the OPFOR can strike targets in the enemy's homeland.

15-18. SPF actions increase the depth of the battle area. The SPF's simultaneous attack of both front and rear areas to disrupt or destroy enemy forces includes the following basic missions:

- Neutralize weapons of mass destruction and precision weapons.
- Attack air defense facilities and airfields.
- Disrupt LOCs.
- Attack C^2 and RISTA facilities.

- Exploit surprise to disrupt defensive actions.
- Undermine morale and spread panic.
- Disrupt enemy power supplies and transportation networks (power utilities, POL transfer and storage sites, and internal transportation).
- Conduct reconnaissance for future ground force operations or for airborne and/or amphibious landings.
- Organize local guerrilla or partisan groups.
- Prevent efficient movement of enemy reserves.
- Assassinate important political and military figures.
- Provide terminal guidance for attacking aircraft, missiles, and precision weapons.

In addition to these basic missions, SPF may have specific missions in peacetime, transition to war, and wartime.

PEACETIME MISSIONS

15-19. During peacetime, the Intelligence Directorate of the General Staff carefully coordinates reconnaissance programs geared to meet the intelligence requirements of the State and of the OPFOR if war should break out. Aside from SPF troops, it maintains agent networks in the target country to support SPF operations. Some of these agents actively engage in subversion; others are "sleepers," prepared to act on call in time of war. The SPF Command trains agents to operate as political agitators, intelligence collectors, and saboteurs. The agents establish residence near military targets such as airports, missile bases, arsenals, communications centers, logistics centers and depots, and routes used for troop movements. Just before the beginning of hostilities, SPF teams link up with agents already operating in the target area.

15-20. Clandestine SPF sabotage agents do little intelligence collection. Their job is to blend into the local culture, establish residences near transport and power facilities, and when ordered, emplace explosive charges in preselected targets.

15-21. Another important task for clandestine SPF sabotage agents in peacetime is to acquire houses and plots of land to prepare safe areas where sabotage teams (civilian and military) can find refuge after landing behind enemy lines in times of hostilities. These places are usually in the countryside, in forested areas near the sea, or in the mountains.

15-22. Agents provide incoming sabotage and assassination teams with safe areas, motor transport, fuel, and supplies. They then guide the teams to their objective. Both intelligence and sabotage agents can come under the control of a theater or OSC chief of reconnaissance. The chief of reconnaissance can transfer agents from one category to the other at any time or order them to fulfill both roles.

TRANSITION TO WAR

15-23. Before hostilities begin, SPF conduct clandestine operations in the target area. This increases the probability of destroying key targets well be-

fore enemy force protection measures tighten. This is the most critical period because clandestine elements can efficiently use the enemy's lack of awareness as an opportunity to disorganize and disrupt troops and the local population. Since the SPF often use terror tactics, direct action during this transition period still allows plausible deniability. Missions generally include the following:

- Conduct strategic and operational reconnaissance.
- Train and assist insurgents operating in foreign countries.
- Organize local guerrilla or partisan groups.
- Weaken the target country's military capabilities or will to fight through either subversion or direct action.
- Assassinate key military and political figures.
- Sabotage enemy mobilization and deployment.

15-24. The General Staff directs the planning of SPF wartime missions, which form an integral part of combined arms combat. Intended to support theater- as well as OSC-level operations and sometimes tactical-level actions, SPF are capable of operating throughout enemy territory.

WARTIME MISSIONS

15-25. SPF play an important role in support of both the offense and defense. They may perform their missions separately, in support of strategic objectives, or in support of a theater-level campaign, an OSC-level operation, or DTG-level tactical action. Missions generally include some of the following:

- Conduct deep reconnaissance operations.
- Conduct direct action along tactical, operational, or strategic axes, including ambushes and raids.
- Destroy critical air defense systems and associated radars.
- Support follow-on conventional military actions.
- Assist local guerrillas (or insurgents in another country) to prepare for offensive actions.
- Provide communications, liaison, and support to stay-behind partisan activities in the defense.

15-26. The OPFOR conducts SPF actions in the enemy's tactical, operational, and strategic depth to undermine his morale and to spread panic among the civilian population and the political leadership. SPF actions can lead to a flow of refugees, which can hamper enemy deployment, defensive maneuver, and logistics.

15-27. The OPFOR has trained SPF as alternate means of delivering nuclear, biological, or chemical (NBC) munitions packages it may develop for them. This provides a worldwide strategic means of NBC delivery that is not limited to the range of the missiles of the Strategic Forces.

15-28. SPF allocated to an OSC or DTG often become part of the disruption force, frequently operating in enemy-held territory before the beginning of an operation or battle. At OSC level and sometimes at DTG level, they may be-

come part of an IFC, to assist in locating and destroying key enemy formations or systems (see Chapter 2).

LOGISTICS

15-29. The secrecy during movement or delivery complicates resupply of the deployed SPF team or detachment. A team leader or detachment commander requesting extensive logistics support from the outside should limit his request to essential items not readily obtainable in the AOR. This could include major items such as weapons, ammunition, demolitions, communications equipment, medical supplies, or other items that are normally denied to the local population by the enemy. The team leader or detachment commander has several techniques available that will give him the supplies required when he needs them.

ACCOMPANYING SUPPLIES

15-30. Accompanying supplies are items taken into the AOR by the SPF team during insertion or infiltration. These supplies are issued at the staging base in the final briefing stages and rigged by the team for delivery. When he plans his accompanying supplies, the team leader or detachment commander considers automatic resupply of survival and mission-essential items that he will receive. The accompanying supplies, plus the automatic resupply, will constitute the supply level of items required for the mission.

AUTOMATIC RESUPPLY

15-31. Automatic resupply is prearranged for time, location, and content during the team's or detachment's final preparation stage at the staging base. The automatic resupply gives the team or detachment flexibility by allowing it to include backup communications equipment, weapons, ammunition, demolitions, medical supplies, and other items to support small-scale tactical actions and/or training of local insurgent, guerrilla or partisan groups that may be affiliated with the OPFOR.

15-32. The supplies designated for the automatic resupply are selected on the basis of available intelligence, indicating items essential to complete or continue the mission, conduct exfiltration, or support affiliated forces. Once they are issued and received, they are rigged and prepared and stored for delivery in accordance with the predetermined schedule.

ON-CALL SUPPLIES

15-33. After commitment into an AOR, and once it has established communications with its higher headquarters, the team or detachment is ready to begin requesting supplies based on mission needs and the capability to receive and store them.

15-34. In order to expedite supply requests, ensure accurate identification of needs, and minimize communication transmission time, the team leader or detachment commander uses a logistics brevity code system. The code includes the general category, unit designation, unit weight, total bundle weight, and number of individual man-loads per package. The logistics brevity code system is used to request three categories of supplies:

- Survival items (medical supplies, blankets, clothing, and food).
- Mission-essential items (weapons, ammunition, and communications equipment).
- Bulk items (the aforementioned items in bulk quantities to support extended missions, or the rapid expansion of affiliated forces).

Each load is self-contained. For example, a weapon will be packaged with ammunition, tools, cleaning equipment, and spare parts. Unused weight or space will be used for additional survival items.

EMERGENCY RESUPPLY

15-35. The emergency resupply procedure is used to restore the combat capability of a team or detachment. This procedure is initiated when requested or after sustaining losses from enemy actions, missing a scheduled radio contact, discovering faulty equipment, or other incidents. Items delivered normally consist of communications equipment and other mission-essential equipment.

RECONSTITUTION AND REORGANIZATION

15-36. Restoring combat effectiveness of subordinates is one of the most important duties of SPF commanders. It includes—

- Determining the degree of combat effectiveness of subordinates.
- Assigning missions to subordinates that are still combat-effective.
- Withdrawing units from areas of destruction or contamination.
- Providing units with replacement personnel, weapons, ammunition, fuel, and other supplies.
- Restoring disrupted command and control.

15-37. The OPFOR makes an effort to keep some units at full strength rather than all units at an equally reduced level. Usually, the unit with the fewest losses is the first to receive replacement personnel and equipment. However, once the casualties or equipment losses are sufficient to threaten the total loss of combat effectiveness, the commander may apply the concept of composite unit replacement. The composite unit concept involves a unit formed from other units reduced by combat action.

MISSION SUPPORT SITES

15-38. A mission support site (MSS) is a temporary base used by units and personnel who are away from their base camp, during an extended mission. The MSS may provide food, shelter, medical support, ammunition, or demolitions. The use of an MSS eliminates unnecessary movement of supplies and allows a force to move more rapidly to and from objectives. When selecting an MSS, consideration is given to cover and concealment, proximity to the objective, proximity to supply routes, and the presence of enemy security forces in the area. Security dictates that drop zones (DZs) or landing zones be a considerable distance from an MSS, cache, or base camp—although this may increase transportation problems.

INFILTRATION

15-39. The success of SPF air and amphibious operations in support of military operations is primarily dependent upon detailed planning and preparation. Infiltration techniques include—

- Air infiltration.
- Water infiltration.
- Land infiltration.
- Stay-behind forces.

AIR INFILTRATION

15-40. Air delivery by parachute is one of the principal means available for the infiltration of SPF personnel. In preparing a team for infiltration by parachute, the team leader or detachment commander considers the following:

- Aircraft capabilities.
- Reception personnel in the DZ.
- Equipment and supplies.
- Command and control.
- Ground assembly.
- Emergency plans.

The Air Force fields light transport aircraft for insertion of its own SPF or those belonging to other service components, within the region. The SPF Command also has some tactical transport for use in inserting SPF units. Commercial aircraft may also be used to support high-altitude air drops.

HALO or HAHO Air Drop

15-41. When enemy air defense discourages normal infiltration by air, parachute entry from very high altitudes may be necessary. This may involve either high-altitude low-opening (HALO) or high-altitude high-opening (HAHO) techniques. Whenever this type of drop is planned in denied areas protected by enemy radar and other detection devices, a system of jamming or disruption of these systems should be established.

15-42. An important consideration is the availability of aircrews trained in operating under arduous conditions in depressurized aircraft at high jump altitudes. The team leader or detachment commander must devise a system for freefall assembly of personnel after they have exited the aircraft, but before opening the parachutes. This is particularly important at night or when conditions preclude visual contact with DZ markings. Assembly aids include special marking devices and materials, visible at night, applied to pack trays, backpacks, and other designated equipment.

Blind Drop

15-43. Selected SPF personnel may be air dropped during the initial infiltration phase on DZs devoid of reception personnel. This technique is referred to as a "blind drop" and may be employed when an area is known to contain a local insurgent element of sufficient size and nature to warrant cultivating as

an affiliated force. In all probability, the insurgent force will be small, passive in nature, and untrained, but receptive to outside support. Other interested State agencies were either unable or did not have time and means to train the insurgent element as DZ reception personnel. Additionally, the enemy situation might preclude normal DZ markings and recognition signals.

15-44. Once on the ground, SPF personnel move to the selected assembly area and establish security. The SPF team or detachment attempts to make contact with the local insurgent element.

WATER INFILTRATION

15-45. Water offers another practical means for infiltration into areas having exposed coastlines and riverbanks. Water infiltration normally terminates in a land movement phase. Considerations for water infiltration include the following:

- Watercraft capabilities.
- Reception personnel.
- Equipment and supplies.
- Command and control.
- Ship-to-shore movement.
- Land assembly and movement.
- Emergency plans.

15-46. Infiltration by means of amphibious aircraft (to include mini-submarine and semi-submersible insertion craft) landing on large lakes, rivers, or coastal waters may be possible. In such a case, infiltration planning by the team or detachment considers the ship-to-shore and subsequent land movement characteristics of water infiltration.

LAND INFILTRATION

15-47. Land infiltration involves the use of different modes of transportation or techniques such as commercial vehicles, railway trains, or infiltration on foot, possibly along with refugees. It is conducted in a manner similar to that of a long-range reconnaissance patrol infiltrating into enemy territory. Generally, guides are required. If guides are not available, the SPF team or detachment must have detailed intelligence of the route, particularly if it is to cross borders. Routes are selected to take maximum advantage of cover and concealment and to avoid enemy outposts, patrols, and installations.

15-48. Before the mission, the team or detachment is briefed on the known locations of selected individuals who will furnish assistance and on the established means of contacting them. These individuals may be used as local guides and sources of information, food, and shelter. Since there are local sources for survival items, the SPF team or detachment can restrict the equipment and supplies to be carried to mission-essential items (individual arms, equipment, and communications equipment).

STAY-BEHIND

15-49. SPF teams may be pre-positioned in proposed AORs before the enemy occupies these areas, thus providing the opportunity to organize the nucleus of a guerilla or partisan force, conduct surveillance, or conduct direct action. Stringent precautions are taken to preserve security, particularly that of the refuge areas or other safe sites to be used during the initial period of enemy occupation. Information concerning locations and identities within the indigenous organization is kept on a need-to-know basis. Contacts among various elements use clandestine communications.

15-50. Dispersed caches, to include radio equipment, are pre-positioned when possible. SPF personnel have a better chance of survival in small towns, villages, and rural areas. However, when stay-behind operations are attempted in heavy populated urban areas, the SPF team or detachment is completely dependent upon the indigenous organization for security, the contacts required for expansion, and the build-up effort.

RAID

15-51. A raid is a surprise attack of an enemy force, installation, or site. Such attacks are characterized by secret movement to the objective area; brief, violent action; rapid disengagement from action; and swift, deceptive withdrawal. Raids are conducted to destroy or damage supplies, equipment, or installations such as command posts, communication facilities, supply depots, or radar sites; to capture supplies, equipment, or key personnel; or to cause casualties among the enemy and his supporters. Raids also serve to distract attention from other OPFOR actions, to keep the enemy off balance, and to cause the enemy to deploy additional units to protect critical sites.

15-52. The raid is one of the basic tactical techniques employed by SPF in both unconventional and counterinsurgency operations. The keys to the successful accomplishment of any raid are flexibility and responsiveness to orders and direction. In preparation for raids, the SPF team leader or detachment commander should have plans (ready for implementation if necessary) for the use of fire support, reinforcements, and immediate evacuation.

ORGANIZATION OF THE RAIDING FORCE

15-53. The size of the raiding force depends upon the mission, nature, and location of the target, and the enemy situation. The raiding force may vary from an SPF team attacking a checkpoint or a portion of unprotected railroad track to a detachment attacking a large supply depot. Regardless of size, the raiding force consists of two basic elements—assault and security.

Assault Element

15-54. The assault element is organized and trained to accomplish the objectives of the raid. It consists of a main action group to execute the raid mission and may include personnel detailed to execute special tasks that aid the main group.

15-55. The main action group executes the major task ensuring the success of the raid. For example, if the raid mission is to destroy a critical installation

such as a railroad bridge or tunnel, the main action group emplaces and detonates the demolition charges. If the target, such as enemy personnel, is to be neutralized by fire, the main action group conducts its attack with a high proportion of automatic weapons. In some instances, the main action group moves physically onto or into the target; in other instances, it is able to accomplish its task from a distance. The other elements of the raid are designed to allow the main action group access to the target for the time required to accomplish the raid mission.

15-56. If required, special-task elements assist the main action group to reach the target. They execute such complementary tasks as eliminating guards, breaching and removing obstacles to the objective, conducting diversionary or holding actions, and providing fire support. The special-task elements may precede, follow, or act concurrently with the main action group.

Security Element

15-57. The security element supports the raid by preventing the enemy's either reinforcing or escaping the objective area. The security element also covers the withdrawal of the assault element and act as a rear guard for the raiding force. The size of the security element depends upon the size of the enemy's capability to intervene and disrupt the raid.

PLANNING CONSIDERATIONS

15-58. The first step is the selection of the target, based upon its criticality, vulnerability, and accessibility, and the recoverability of the raiding force. Other important considerations are the nature of the terrain and the combat effectiveness of the raiding force.

15-59. Secondly, the SPF and affiliated force commanders must consider any possible adverse effects on their units and the civilian populace as a result of the raid. The objective is to diminish the enemy's military capability. However, an improperly timed raid may provoke an enemy counteraction for which the OPFOR, the affiliated force, and/or the local populace are unprepared. Also, an unsuccessful raid often has disastrous effects on morale. Successful raids, on the other hand, raise morale and increase the prestige of the SPF and affiliated units in the eyes of the local populace and make the populace more willing to provide needed support.

15-60. Thirdly, every precaution is taken to ensure that civilians are not needlessly subjected to harsh reprisals because of the raid. The impact of successful raids can be exploited in IW campaigns. However, it is important that, before such action is taken, any possible unfavorable repercussions from the population and the enemy military forces be considered. If a raid is unsuccessful, IW activities will be required to lessen any adverse effects on the SPF or affiliated force.

15-61. Fourthly, although detailed, the plan for a raid must be simple, and its success should not depend upon too many contingencies. Activities in the objective area are planned so as not to alert the target to be attacked. This means that activities of the local populace and affiliated forces should conform to normal patterns. Time and space factors are carefully considered—time is allowed for assembly and movement, particularly during dark-

ness. All factors are considered to determine whether movement and attack should be made during daylight or darkness. Darkness naturally favors surprise and normally is the best time, especially when the raid is simple and the physical layout of the objective is well known. Early dawn or dusk is favored when adequate knowledge of the objective or other factors necessitates tight control of the raid. A withdrawal late in the day or at night makes close pursuit by the enemy more difficult.

RECONNAISSANCE AND INTELLIGENCE

15-62. The raiding force commander must conduct a thorough reconnaissance or have good intelligence of the objective, enemy forces capable of intervening, the civilian populace's attitude and support, and the terrain to be traversed en route to and from the objective area. An intensive intelligence effort precedes the raid. Affiliated intelligence and reconnaissance elements conduct reconnaissance of the route to the objective and of the objective itself. During guerilla or partisan operations, an SPF raiding force can exploit local sympathizers, who may act as guides. Surveillance of the objective begins early and remains continuous up to the time of the raid. The raiding force commander exercises extreme caution to ensure the secrecy of the impending raid by careful assignment of missions to the affiliated reconnaissance elements so that the local population will not become alerted and alarmed.

REHEARSAL OF PARTICIPANTS

15-63. Realistic rehearsals by all participants are conducted for the raid. During the rehearsal, the following actions are accomplished:

- Terrain similar to that found in the objective area is used when available.
- Sand tables, sketches, photographs, and objective mockups are used to assist in the mission briefings.
- Contingency actions are practiced.
- Final rehearsals are conducted under conditions of visibility expected in the objective area.

FINAL INSPECTION

15-64. The raiding force commander conducts a final inspection of personnel and equipment before moving to the objective area. If possible, weapons are test-fired, faulty equipment replaced, and the condition of the personnel checked. During this inspection, a counterintelligence check is made of personal belongings to ensure no incriminating documents are carried on the raid. This inspection assures the raiding force commander that his unit is equipped and ready for the raid.

MOVEMENT

15-65. Movement to the objective area is planned and conducted to allow the raiding force to approach undetected. Movement may be over single or multiple routes. The pre-selected route or routes terminate in or near one or more MSSs. Every effort is made to avoid contact with the enemy during movement. Upon reaching the designated rendezvous and MSS, security elements

are deployed, and final coordination takes place prior to the assault element's moving to the objective area.

ACTION IN THE OBJECTIVE AREA

15-66. Special-task elements move to their positions and eliminate sentries, breach or remove obstacles, and execute other assigned tasks. The main action group quickly follows the special-task elements into the objective area.

WITHDRAWAL

15-67. Once the objective of the raid has been accomplished, the main action group withdraws, covered by pre-selected fire support elements or part of the security element. If the raid is unsuccessful, it is terminated to prevent undue loss, and the special-task elements withdraw according to plan. The main action group assembles at one or more rallying points while the security elements remain in position to cover the withdraw according to plan. The main action group withdraws on a prearranged signal or time.

15-68. Withdrawal is designed to achieve maximum deception of the enemy and facilitate further action by the raiding force. The various elements of the raiding force withdraw on order, over predetermined routes through a series of rallying points. If the enemy organizes a close pursuit of the main action group, the security element assists by fire and movement, distracting the enemy and slowing him down. Elements of the raiding force that are closely pursued by the enemy do not attempt to reach the initial rallying point. Rather, they lead the enemy away from the remainder of the force and attempt to break contact with him by evasive action in difficult or complex terrain. If the situation permits, an attempt is made either to reestablish contact with the rest of the raiding force at other rallying points, to continue to the base area as a separate group, or to reach an area for evacuation.

15-69. The raiding force, or elements of it, may separate and proceed

15-70. Frequently, the raiding force disperses as small groups or individuals to evade close pursuit. These smaller elements withdraw in different directions and reassemble at a later time at a predetermined place to conduct further missions. During the withdrawal, elements of the raiding force can conduct other actions, such as an ambush of the pursuing enemy force.

LARGE RAIDS

15-71. When an objective is large, important to the enemy, and well guarded, a larger raiding force is required to ensure a successful attack. Large raids may involve the use of a relatively large SPF detachment, often in conjunction with affiliated forces. Although such actions are conducted similarly to small raids, additional factors must be considered:

- Movement to the objective area.
- Command and control.
- Training.
- Fire support.
- Timing.

- Withdrawal.

Movement to the Objective Area

15-72. Surprise is just as desirable as in a smaller raid, but it is usually harder to achieve. The number of troops to be deployed and a longer move to the objective area require additional MSSs at a greater distance from the objective to preserve secrecy. A large raiding force usually moves by small components over multiple routes to the objective area. In some instances, larger raids are conducted by regular infantry troops using heliborne landings supported by SPF personnel.

Command and Control

15-73. Another problem inherent in a large raid is that of command and control. Units without extensive radio communications equipment may find coordination of dispersed elements difficult to achieve. Pyrotechnics, audible signals, runners, or predesignated times may be used to coordinate actions.

Training

15-74. A high degree of training and discipline is required to execute a large raid. Extensive rehearsals assist in preparing the force for the mission. In particular, commanders and staffs must learn to use large numbers of small units as a cohesive fighting force.

Fire Support

15-75. Additional fire support usually is a requirement for large raids. This may mean secretly caching ammunition in MSSs over a period of time before the raid. Individual members of affiliated forces and the SPF detachment may carry a mortar, antiarmor weapon, single-shot rocket launcher, or a box of machinegun ammunition and leave it at an MSS or firing position for a fire support unit. Sufficient firepower is moved into areas within range of the selected objective area and is on call to support the raid.

Timing

15-76. Timing is usually more difficult for a large raid. More time is required to move units, and the main action group needs more time to perform its mission. This requires stronger security elements to isolate the objective for longer periods. The timing of the raid takes on increased importance because of the large numbers of personnel involved. Movement to the objective is usually accomplished during periods of limited visibility. However, because of fire support coordination requirements and larger numbers of personnel, the raid may take place during daylight hours.

Withdrawal

15-77. Smaller groups usually accomplish withdrawal from a large raid over multiple routes in order to deceive the enemy and disperse his pursuit force. Dispersed withdrawal has the added advantage of denying a lucrative target to enemy air and fire support elements. However, the raiding force commander must consider the possibility of an alert and aggressive enemy de-

feating the dispersed elements of the raiding force. All factors must be carefully weighed before deciding on how to conduct the withdrawal.

AMBUSH

15-78. An ambush is a surprise attack from a concealed position, used against moving or temporarily halted targets such as truck convoys, railway trains, boats, individual vehicles, and dismounted troops. In an ambush, enemy action determines the time, and the OPFOR sets the place. Ambushes are conducted to destroy or capture personnel and supplies, harass and demoralize the enemy, delay or block movement of personnel and supplies, and canalize enemy movement by making certain routes useless for traffic. They usually result in concentrating the majority of movements to principal roads, railroads, or waterways where targets are more vulnerable to attack by other forces.

ORGANIZATION OF THE AMBUSH FORCE

15-79. The ambush force is organized into an assault element and security elements. The assault element conducts the main attack against the ambush target that includes halting the column, killing or capturing personnel, recovering supplies and equipment, and destroying unwanted vehicles or supplies that cannot be moved.

15-80. Security elements are placed on roads and trails leading to the ambush site to warn the assault element of the enemy approach. These elements isolate the ambush site using roadblocks, other ambushes, and outposts. They also assist in covering the withdrawal of the assault element from the ambush site. The distance between the security element and the assault element is dictated by terrain. In many instances, it may be necessary to organize secondary ambushes and roadblocks to intercept and delay enemy reinforcements.

PLANNING CONSIDERATIONS

15-81. The planning and preparation of an ambush is similar that for a raid, except that selecting an ambush site is an additional consideration. The mission may be a single ambush against one target or a series of ambushes against targets on one or more LOCs. The probable size, strength, and composition of the enemy force that is to be ambushed, formations the enemy is likely to use, and enemy reinforcement capabilities are considered. Favorable terrain for an ambush, providing unobserved routes for approach and withdrawal, must be selected.

15-82. The time of the ambush should coincide with periods of limited visibility, offering a wider choice of positions and better opportunities to surprise and confuse the enemy. However, movement and control are more difficult during a night ambush. Night ambushes are more suitable when the mission can be accomplished during, or immediately following, the initial burst of fire. They require a maximum number of automatic weapons to be used at close range. Night ambushes can hinder the enemy's use of LOCs at night, while friendly aircraft can attack the same routes during the day (if the enemy does not have air superiority). Daylight ambushes facilitate control and

permit offensive action for a longer period of time. Daylight ambushes also provide an opportunity for more effective fire from such weapons as rocket launchers and antiarmor weapons.

SITE SELECTION

15-83. In selecting the ambush site, the basic consideration is favorable terrain, although limitations such as deficiencies in firepower and lack of resupply during actions may govern the choice of the ambush site. The site should have firing positions offering concealment and favorable fields of fire. Whenever possible, firing should be conducted from the screen of foliage. The terrain at the site should serve to canalize the enemy into a kill zone. The entire killing zone is covered by fire so that there is no dead space that would allow the enemy to organize resistance. The ambush force should take advantage of natural obstacles such as defiles, swamps, and cliffs to restrict enemy maneuvers against the force. When natural obstacles do not exist, mines, demolitions, camouflage barbed or concertina wire, and other concealed obstacles are employed to canalize the enemy.

MOVEMENT

15-84. The ambush force moves over a pre-selected route or routes to the ambush site. One or more MSSs or rendezvous points usually are necessary along the route to the ambush site. Last-minute intelligence is provided by reconnaissance elements, and final coordination for the ambush is made at the MSS or the assembly area.

ACTION AT THE AMBUSH SITE

15-85. The ambush force moves to an assembly area near the ambush site. Security elements take up their positions first and then the assault elements move into place. As the approaching enemy force is detected, or at a predesignated time, the ambush force commander decides whether or not to execute the ambush. This decision is based on the size of the enemy force, enemy guard and security measures, and the estimated value of the target in light of the probable cost to the ambush force.

15-86. If the decision is made to execute the ambush, enemy security elements or advance guards are allowed to pass through the main ambush position. When the head of the enemy main force reaches a predetermined point, fire, demolitions, or obstacles halt it. At this signal, the entire assault element opens fire. Designated security elements engage the enemy's advance and rear security elements to prevent reinforcement of the main force. The volume of fire is violent, rapid, directed at enemy personnel exiting from vehicles, and concentrated on vehicles mounting automatic weapons. Antiarmor weapons (such as recoilless rifles and rocket launchers) are used against armored vehicles. Machineguns lay bands of fixed fire across escape routes, as well as in the kill zone. Mortar projectiles, hand grenades, and rifle grenades (end-of-barrel and under-barrel), and directional antipersonnel mines are fired into the kill zone.

15-87. If the commander decides to assault the kill zone, the assault is launched under a prearranged signal. After the enemy resistance has been

nullified, designated assault element personnel move into the kill zone to recover supplies, equipment, and ammunition.

15-88. If the purpose of the ambush is to harass and demoralize the enemy, a different tactic may be adopted. The enemy security element is selected as the target of the ambush and the fire of the assault element is directed against it. Repeated attacks against the enemy security element can—

- Cause the use of disproportionately strong forces in the enemy security element. This may leave other portions of the enemy main force vulnerable or require the diversion of additional troops to convoy duty.
- Create an adverse psychological effect upon enemy troops, and the continued casualties suffered by the enemy security force may make such duty unpopular.

TERMINATION AND WITHDRAWAL

15-89. The ambush force commander decides when to terminate the action and withdraw. He may do so either because the mission has been accomplished or because superior enemy reinforcements are arriving.

15-90. Withdrawal from the ambush site is similar to withdrawal from a raid in that the security elements cover the assault elements. Before deciding on how to conduct the withdrawal, the ambush force commander must consider or weigh factors such as the possibility of an alert and aggressive enemy defeating the ambush force. If enemy forces in or near the ambush site are still capable of returning fire when he terminates the ambush, he withdraws the assault element first and then the security elements that cover the withdrawal of the assault element.

AMBUSH OF FORCES PROTECTED BY ARMOR

15-91. Attacks against enemy forces protected by armored vehicles depend upon the type and location of armored vehicles in the enemy force and the weapons of the ambush force. If possible, armored vehicles are destroyed or disabled by the fire of antiarmor weapons or mines and laser-guided artillery or mortar projectiles. An effort is made to immobilize armored vehicles at a point where they are unable to give protection to the rest of the force and where they will block the route of other supporting vehicles.

AMBUSH OF RAILWAY TRAINS

15-92. Moving trains may be subjected to harassing fire, but the most effective ambush is derailment. The locomotive should be derailed on a downgrade, at a sharp curve, or on a high bridge. This causes most of the cars to overturn and results in extensive casualties among the passengers. It is desirable to derail trains so that the wreckage remains on the tracks to delay traffic for long periods of time. Fire is directed on the exits of overturned coaches; and designated groups, armed with automatic weapons, rush forward to assault coaches or railcars still standing. Other groups take supplies from the freight cars and then set fire to the train.

15-93. Rails are removed from the track at some distance from the ambush site in each direction to delay the arrival of reinforcements by train. In planning the ambush of a train, the ambush force commander considers the fact

that the enemy may include armored rail cars in the train for its protection. Security or advance guard locomotives or inspection cars may precede important trains to check the track.

AMBUSH OF WATERWAY TRAFFIC

15-94. Waterway traffic, such as barges, patrol boats, or ships may be ambushed similar to a vehicular column. The ambush force may be able to mine the waterway and thus stop traffic. If mining is not feasible, fire delivered by antiarmor weapons (such as recoilless rifles and rocket launchers) can damage or sink the watercraft. Fire should be directed at the engine room, the waterline, and the bridge. Recovery of supplies may be possible if the craft is beached on the banks of the waterway or grounded in shallow water.

OTHER INTERDICTION TECHNIQUES

15-95. Raids and ambushes are not the only interdiction techniques available to SPF teams or detachments. They can also use other actions such as mining, sniping, and expedient interdiction techniques against enemy forces.

MINING

15-96. Mining affords SPF and affiliated force commanders a means of interdicting enemy LOCs and key areas with little expenditure of manpower. Mines can be used alone or in conjunction with other actions. When they are used alone, they are emplaced along LOCs or known enemy approaches when traffic is light. This allows personnel emplacing the mines to complete the task in secrecy without undue interference. The use of mines to cover the withdrawal of a raiding or ambush force slows enemy pursuit, and their use in the roadbeds of highways and railroads interferes with movement. Mines can be emplaced around enemy installations or bases to cause casualties to sentinels and patrols; limit movement; and cause low morale among enemy troops.

SNIPING

15-97. Sniping is an interdiction technique that is economical in the use of personnel and has a demoralizing effect on the enemy. Snipers can cause casualties among enemy personnel, deny or hinder his use of certain routes, and require him to employ a disproportionate number of troops to rid the area of snipers. Snipers may cover an area that has been mined, act as part of a raiding or ambush force, or act independently. Snipers operate best in teams of two, alternating the duties of observer or spotter and sniper. Snipers may be used effectively in access-control operations, firing from positions in field fortifications and lookout towers.

EXPEDIENT INTERDICTION TECHNIQUES

15-98. Expedient interdiction techniques against enemy personnel can be used to the fullest extent for security or access control against the enemy. Some of these devices are barbed or concertina wire, sharpened stakes, impaling poles, man traps, and various types of boobytraps.

COMMANDOS

15-99. The SPF Command also includes elite commando units. Like SPF units, commandos normally operate in enemy-controlled territory. In addition to proficiency in various infantry-type tactics, these elite units receive training for more specialized commando missions.

COMMAND AND CONTROL

15-100. In the administrative force structure, commando battalions are subordinate to the SPF Command. For administrative purposes, these battalions may be grouped under a commando brigade headquarters. However, commandos are employed as battalions, companies, platoons, and squads or as small teams, depending on the type of mission. Commandos are elite units, specially trained for missions in enemy territory. When assigned such missions, the commando units may disperse into small teams (typically 5 to 12 men). These small teams are harder to detect during infiltration and provide the ability to strike many targets simultaneously to achieve maximum effect. However, based on factors such as the enemy situation and the size of the target, the individual teams may come together temporarily to form commando detachments. If necessary, they can re-form into platoon- to company-size units to perform attacks against critical military and civilian targets.

15-101. Commando units can be allocated in a constituent or dedicated status to be task organized as part of an OSC or tactical group based on a regular ground forces organization. Even is such cases, however, the reason for incorporating a commando unit into such an organization normally would be to perform specialized commando missions that contribute to the overall mission for which that task organization was created. In other cases, commando units may be allocated in a supporting relationship, while remaining under the command of their parent commando unit or the SPF Command.

INFANTRY-TYPE MISSIONS

15-102. Sometimes, particularly in defensive situations, commandos may be called on to perform regular infantry missions, filling gaps between dispersed regular forces. In this case, commandos would typically fight as companies or battalions, using tactics similar to those of regular infantry units.

COMMANDO MISSIONS

15-103. Commando units generally conduct various types of reconnaissance and combat missions in the disruption zone or deep in enemy territory, during larger operations or tactical actions that are either offensive or defensive. The reconnaissance missions include actions such as surveillance, monitoring, and searches. Commando units are expected to conduct reconnaissance within the context of any combat mission. Conversely, when employed as a reconnaissance element, the commando units' activities are not limited to reconnaissance. They are also tasked with assaulting and destroying military or civilian targets.

15-104. Commandos provide the OPFOR with flexible, lethal forces capable of employment in a variety of roles. Typical missions that are assigned to the commandos include but are not limited to—

- Collecting information on deployment of enemy forces and reserve unit movement.
- Collecting information on logistics facilities and seaports.
- Collecting information on enemy aircraft operating from forward airfields.
- Conducting reconnaissance of terrain and enemy forces, in support of the offense.
- Locating and destroying enemy weapons of mass destruction.
- Conducting team- or platoon-size raids and ambushes and destroy critical military or civilian targets in enemy territory.
- Conducing larger-scale (company- or battalion-size) raids and ambushes in the disruption zone or in enemy territory.
- Clearing LOCs for use by supported units during the offense or defense.
- Clearing or emplacing obstacles.
- Acting as an antilanding reserve.

INFILTRATION

15-105. Commandos generally conduct infiltration at night or under the cover of reduced visibility. The method used depends on the mission, situation, terrain, time available, and available transportation means.

Overland (Foot)

15-106. For commando units, the most common method of infiltration is by foot. The infiltrating units are dispersed to one or more areas, depending on the size of the infiltrating force. Infiltration is accomplished as a unit or as teams, using different routes. After careful consideration, routes are selected in—

- Difficult or complex terrain the enemy may consider impassable.
- Areas having sufficient camouflage to cover offensive operations.
- Areas where streams or mountains form natural corridors.
- Areas where the enemy is not using night observation or surveillance equipment.
- Gaps between enemy units.

Airborne

15-107. When time is limited and air transport is available, commandos may be airdropped or air-landed from helicopters or fixed-wing transport aircraft for deeper penetration. The enemy situation and terrain features in the area selected as the DZ or LZ are carefully studied before airborne or heliborne infiltration. DZs are generally mountainous valleys, hills, and clear areas in or adjacent to a forest.

Seaborne (Waterborne)

15-108. Commando units may use naval vessels (to include minisubmarine and semi-submersible insertion craft) for seaborne infiltration. The landing sites are selected in coastal areas far from any hostile naval bases, fishing villages, and coastal defense units. The landing time is deter-

mined by considering the time required to arrive at the landing site, maritime and coastal security measures employed by the enemy forces, tidal conditions, hours of moonrise and moonset, and weather conditions. Commandos can also infiltrate using watercraft on inland waterways.

OFFENSE

15-109. Commandos are employed as infiltration units during the offense. Following overland, airborne, seaborne, or waterborne infiltration, commandos—operating independently—may perform various reconnaissance and combat missions described above. However, they may also act in conjunction with regular ground forces. In the latter role, commandos can conduct the following missions to ensure the success of the overall offensive action:

15-110. **Disruption Force.** In addition to reconnaissance missions, commandos can be tasked with missions as part of the disruption force to—

- Remove or emplace obstacles.
- Raid headquarters, LOCs, and tactical missile firing locations.
- Occupy key terrain features (in advance of other forces).
- Occupy ambush positions on enemy withdrawal routes.

15-111. **Fixing Force.** Commandos can set up ambushes or emplace obstacles to prevent further enemy forces from coming to the aid of the target the regular forces' attack. They can occupy key terrain features that control choke points that hinder enemy reserve unit movements. Such choke points may be valleys, bridges, and crossroads that are critical for the enemy movement.

15-112. **Assault Force.** Commandos conduct raids and ambushes against C^2 sites, logistics elements, fire support units (to include attack helicopter units), and other high-priority civilian and military targets. They also conduct attacks against other objectives or seize terrain that hinders enemy reserve unit movements or hampers his withdrawal.

15-113. **Exploitation Force.** As part of an exploitation force, commandos may attack a withdrawing enemy force from his flank and rear. Commando units can be air-inserted ahead of the withdrawing enemy force to establish ambush positions along the enemy's withdrawal route.

DEFENSE

15-114. During a defensive action conducted by a tactical group, commando units allocated to it can support the action primarily in reconnaissance and tactical security roles. Commando units can conduct reconnaissance in the tactical group disruption zone. They may also act as a security force. When acting as a security force, commandos are normally employed as companies or battalions. The commando unit can be augmented with vehicles and/or additional forces (such as tank or mechanized units, fire support, or aviation) to act as an assault force in limited-objective attacks against enemy airborne, air assault, or special operations forces units.

15-115. A commando battalion or company is seldom used as a combat force in the battle zone because of organization, equipment, and limited fire-

power. However, if the defensive mission is more important than reconnaissance or security, it may act as a combat force, using regular infantry tactics. Commando units may fill gaps between the battle positions of regular forces. When performing such infantry-type missions, commandos are normally employed as companies or battalions.

15-116. When maneuver forces are forced to withdraw from an area, commando units can remain deployed in the disruption zone and battle zone to perform reconnaissance, raids, and ambushes. The stay-behind commandos attempt to maneuver in small teams to conduct reconnaissance and limited-objective attacks against enemy targets such as C^2 sites, isolated combat units, LOCs, and logistics units.

TRAINING AND EDUCATION

15-117. Normally, personnel selected for commando units come from soldiers who have served 3 to 7 years in infantry units. The training of selected personnel is conducted over a period of 2 to 6 months, depending on the skill level and educational background of the trainees. The training is designed to familiarize trainees with advanced tactics and to prepare them to perform regular infantry-type missions and more specialized commando missions, with emphasis on infiltrating and fighting in complex terrain and at night. Commando personnel receive training in areas such as—

- Infiltration.
- Mountaineering.
- Parachuting.
- Swimming and waterborne infiltration.
- Martial arts.
- Reconnaissance and intelligence collection.
- Marksmanship and sniper tactics.
- Combat engineering and demolitions.
- Fire support observation.

Additionally, all trainees are given thorough political training. Practical exercises and hands-on training are the principal training methods.

15-118. Commandos conduct extensive field exercises in areas where no formal garrison or military facilities exist. The training of individual teams is also enhanced by conducting raids against other commando and SPF units in training areas or in remote areas.