

# MAP READING AND LAND NAVIGATION

## CONTENTS

	Page
PREFACE .....	v

### Part One MAP READING

<b>CHAPTER 1. TRAINING STRATEGY</b>	
1-1. Building-Block Approach .....	1-1
1-2. Armywide Implementation .....	1-2
1-3. Safety.....	1-2
 <b>CHAPTER 2. MAPS</b>	
2-1. Definition .....	2-1
2-2. Purpose .....	2-1
2-3. Procurement .....	2-2
2-4. Security .....	2-3
2-5. Care .....	2-3
2-6. Categories.....	2-3
2-7. Military Map Substitutes.....	2-7
2-8. Standards of Accuracy .....	2-8
 <b>CHAPTER 3. MARGINAL INFORMATION AND SYMBOLS</b>	
3-1. Marginal Information on a Military Map.....	3-1
3-2. Additional Notes .....	3-5
3-3. Topographic Map Symbols.....	3-5
3-4. Military Symbols.....	3-6
3-5. Colors Used on a Military Map.....	3-6
 <b>CHAPTER 4. GRIDS</b>	
4-1. Reference System.....	4-1
4-2. Geographic Coordinates.....	4-1
4-3. Military Grids.....	4-10

**DISTRIBUTION RESTRICTION:** Approved for public release; distribution is unlimited.

\*This publication FM 3-25.26 supersedes FM 21-26, 7 May 1993.

	<b>Page</b>
4-4. United States Army Military Grid Reference System .....	4-12
4-5. Locate a Point Using Grid Coordinates .....	4-17
4-6. Locate a Point Using the US Army Military Grid Reference System.....	4-21
4-7. Grid Reference Box.....	4-24
4-8. Other Grid Systems.....	4-25
4-9. Protection of Map Coordinates and Locations.....	4-27
<b>CHAPTER 5. SCALE AND DISTANCE</b>	
5-1. Representative Fraction.....	5-1
5-2. Graphic (Bar) Scales .....	5-3
5-3. Other Methods.....	5-11
<b>CHAPTER 6. DIRECTION</b>	
6-1. Methods of Expressing Direction .....	6-1
6-2. Base Lines .....	6-1
6-3. Azimuths .....	6-2
6-4. Grid Azimuths.....	6-4
6-5. Protractor.....	6-5
6-6. Declination Diagram .....	6-8
6-7. Intersection.....	6-14
6-8. Resection.....	6-16
6-9. Modified Resection .....	6-19
6-10. Polar Coordinates.....	6-20
<b>CHAPTER 7. OVERLAYS</b>	
7-1. Purpose.....	7-1
7-2. Map Overlay .....	7-1
7-3. Aerial Photograph Overlay .....	7-3
<b>CHAPTER 8. AERIAL PHOTOGRAPHS</b>	
8-1. Comparison With Maps .....	8-1
8-2. Types.....	8-1
8-3. Types of Film .....	8-7
8-4. Numbering and Titling Information.....	8-7
8-5. Scale Determination.....	8-8
8-6. Indexing .....	8-10
8-7. Orienting of Photograph.....	8-13
8-8. Point Designation Grid.....	8-14
8-9. Identification of Photograph Features.....	8-17
8-10. Stereovision.....	8-18

**Part Two**  
**LAND NAVIGATION**

**CHAPTER 9. NAVIGATION EQUIPMENT AND METHODS**

9-1. Types of Compasses.....	9-1
9-2. Lensatic Compass.....	9-1
9-3. Compass Handling.....	9-2
9-4. Using a Compass.....	9-3
9-5. Field-Expedient Methods.....	9-7
9-6. Global Positioning System.....	9-12

**CHAPTER 10. ELEVATION AND RELIEF**

10-1. Definitions.....	10-1
10-2. Methods of Depicting Relief.....	10-1
10-3. Contour Intervals.....	10-2
10-4. Types of Slopes.....	10-5
10-5. Percentage of Slope.....	10-8
10-6. Terrain Features.....	10-11
10-7. Interpretation of Terrain Features.....	10-17
10-8. Profiles.....	10-20

**CHAPTER 11. TERRAIN ASSOCIATION**

11-1. Orienting the Map.....	11-1
11-2. Locations.....	11-6
11-3. Terrain Association Usage.....	11-7
11-4. Tactical Considerations.....	11-9
11-5. Movement and Route Selection.....	11-12
11-6. Navigation Methods.....	11-14
11-7. Night Navigation.....	11-18

**CHAPTER 12. MOUNTED LAND NAVIGATION**

12-1. Principles.....	12-1
12-2. Navigator's Duties.....	12-1
12-3. Movement.....	12-1
12-4. Terrain Association Navigation.....	12-3
12-5. Dead Reckoning Navigation.....	12-6
12-6. Stabilized Turret Alignment Navigation.....	12-7
12-7. Combination Navigation.....	12-8

**CHAPTER 13. NAVIGATION IN DIFFERENT TYPES OF TERRAIN**

13-1. Desert Terrain.....	13-1
13-2. Mountain Terrain.....	13-4
13-3. Jungle Terrain.....	13-6
13-4. Arctic Terrain.....	13-9

	<b>Page</b>
13-5. Urban Areas .....	13-10
 <b>CHAPTER 14. UNIT SUSTAINMENT</b>	
14-1. Set Up a Sustainment Program .....	14-1
14-2. Set Up a Train-the-Trainer Program .....	14-2
14-3. Set Up a Land Navigation Course.....	14-2
APPENDIX A. FIELD SKETCHING .....	A-1
APPENDIX B. MAP FOLDING TECHNIQUES .....	B-1
APPENDIX C. UNITS OF MEASURE AND CONVERSION FACTORS .....	C-1
APPENDIX D. JOINT OPERATIONS GRAPHICS .....	D-1
APPENDIX E. EXPORTABLE TRAINING MATERIAL .....	E-1
APPENDIX F. ORIENTEERING.....	F-1
APPENDIX G. M2 COMPASS.....	G-1
APPENDIX H. ADDITIONAL AIDS.....	H-1
APPENDIX I. FOREIGN MAPS.....	I-1
APPENDIX J. GLOBAL POSITIONING SYSTEM .....	J-1
APPENDIX K. PRECISION LIGHTWEIGHT GLOBAL POSITIONING SYSTEM RECEIVER .....	K-1
GLOSSARY .....	Glossary-1
REFERENCES.....	References-1
INDEX .....	Index-1