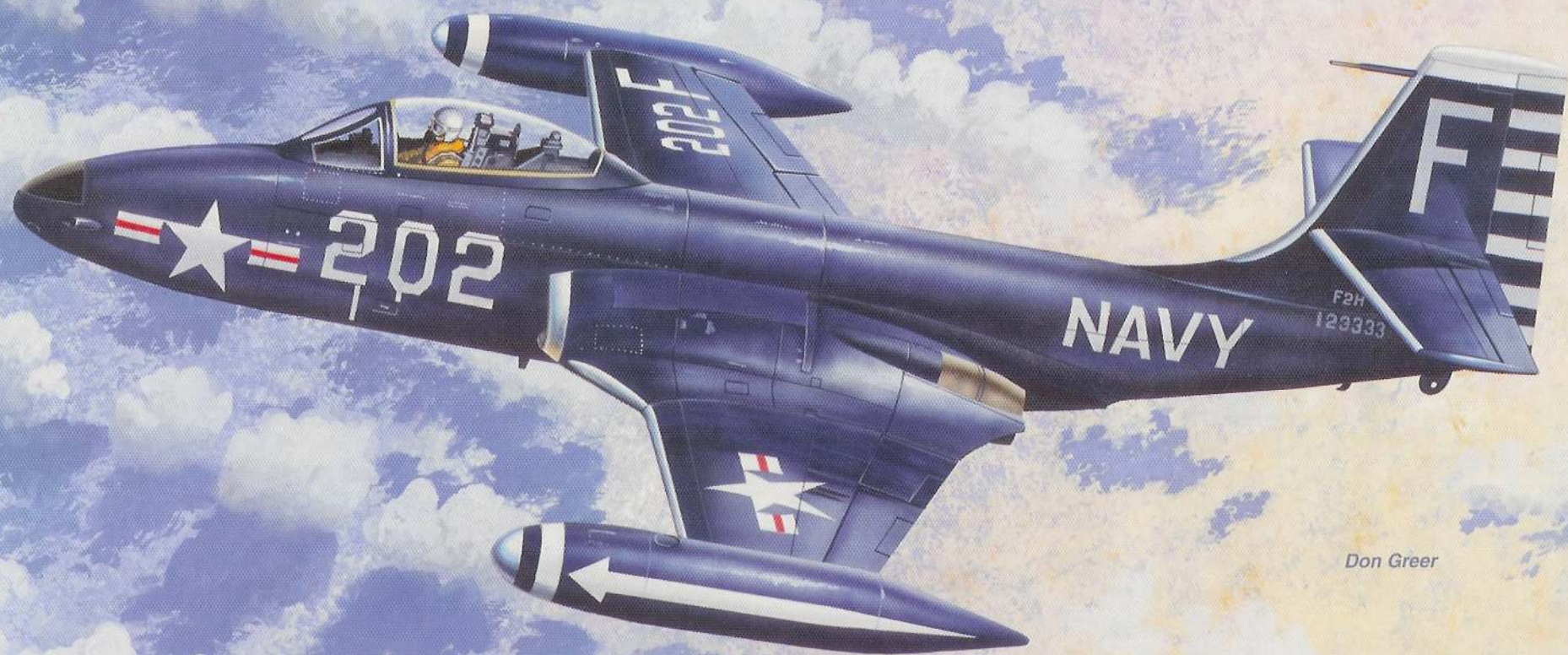


FH/F2H Banshee

in action



Don Greer



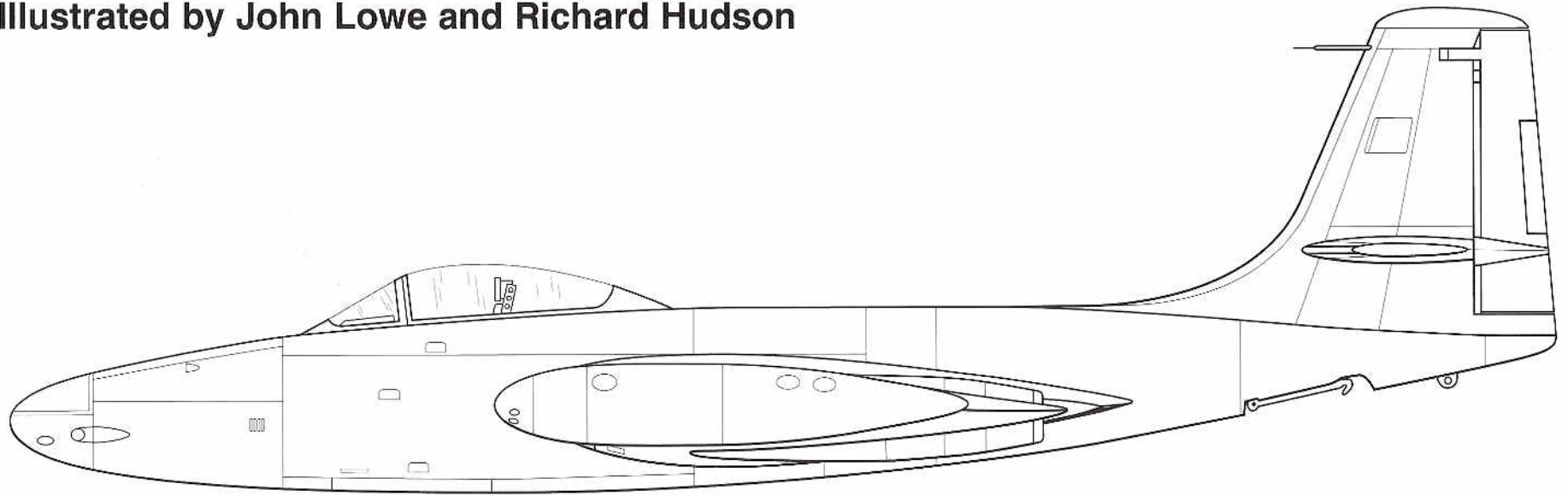
**Aircraft Number 182
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FH Phantom/F2H Banshee **in action**

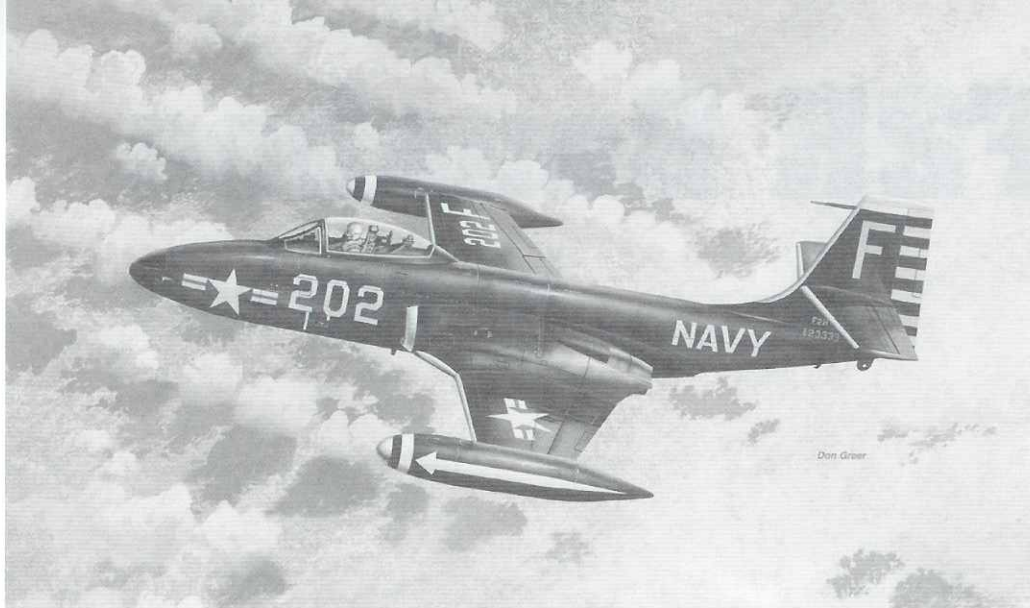
By Jim Mesko

Color by Don Greer

Illustrated by John Lowe and Richard Hudson



Aircraft Number 182
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An F2H-2 Banshee (F-202/BuNo 123333) assigned to Fighter Squadron Twenty Two (VF-22) flies over the Sea of Japan in the summer of 1953. The Squadron flew off the carrier USS LAKE CHAMPLAIN (CVA-39), which also embarked F2H-2P reconnaissance aircraft from Composite Squadron Sixty Two (VC-62). LAKE CHAMPLAIN was the only carrier to operate two Banshee squadrons at the same time during the Korean War.

Acknowledgements

This book could not have been written without the help of Larry Merritt who was in charge of McDonnell Douglas Community Relations. He gave freely of his time and the photos from the McDonnell Archives. Without his help this book would not have been possible. Also a special thanks to Duane Ward for his help with the Banshee photos from the National Museum of Naval Aviation in Pensacola, Florida and Kevin Coyne for helping with the ejection seat background.

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Dedication:

To the pilots of the US Navy and Marine Corps who provide the best close-air-ground support in the world – BAR NONE!

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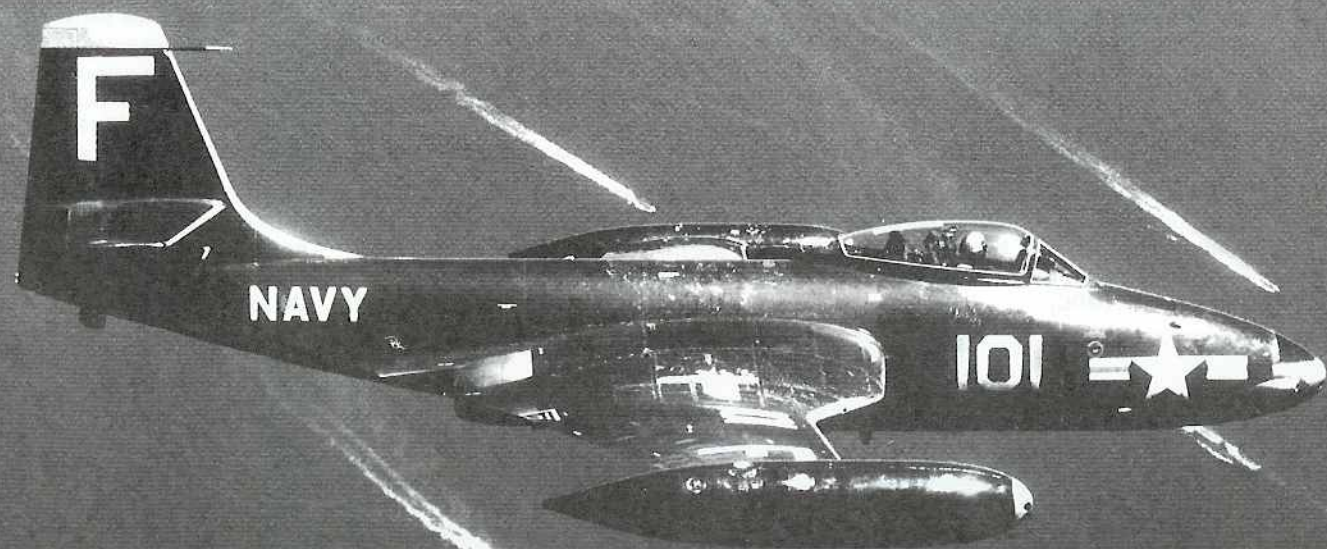
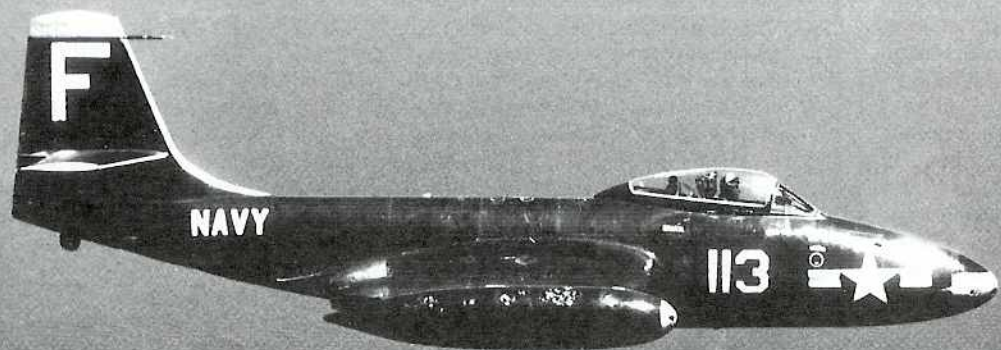
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These two F2H-2 Banshees from Fighter Squadron Twenty Two (VF-22) fly patrol over ships of Task Force 77 on 26 July 1953 – the day before the armistice ending the Korean War went into effect. Task Force 77 was the US Navy's aircraft carrier force in the Sea of Japan, whose aircraft supported United Nations troops fighting North Korean and Communist Chinese forces in Korea. VF-22 was embarked on the carrier USS LAKE CHAMPLAIN (CVA-39) during this period. The vertical tail tips of these aircraft (F-101 and F-113) appear to be Insignia Red (FS11136), the color assigned to aircraft of a Carrier Air Group's first squadron. (USN)



Introduction

During World War Two, a small number of aircraft companies were responsible for the design and production of the majority of the US aerial juggernaut that eventually defeated the Axis powers. Manufacturers such as Bell, Boeing, Lockheed, Republic, Douglas, Curtiss, North American, and Grumman accounted for the lion's share of American wartime aircraft production. Other, lesser known aircraft manufacturers and subcontractors also built the major manufacturers' aircraft under license. In addition to these companies, several other firms also tried to interest the military in a variety of types in an attempt to gain a share of the huge expenditures being allocated for military aircraft procurement.

One such firm was McDonnell of St. Louis, Missouri, which had received a number of contracts for sub-assembly work from the major manufacturers. While engaged in this work, McDonnell engineers began working on their own design for a twin-engine fighter with a decidedly unconventional configuration. Designated the **XP-67 Moonbat**, this design was actually the third one McDonnell had come up with in response to the Army Air Corps Request For Proposal R-40C, which had been issued in 1940. This proposal asked the manufacturers to come up with as innovative designs as possible in order to close the gap between the US and foreign designs. McDonnell's first two concepts, Models I and II, were never up for serious consideration, but resulted in Army 'seed money' that encouraged McDonnell to continue development. This resulted in a design, labeled Model IIA, which was submitted for Army consideration.

While the new design was intriguing, some Army officials were skeptical about letting a relatively new company become involved in aircraft manufacturing in a field already saturated with established firms. The Army felt there was more of a need for subcontractors to supply the major companies with components rather than add another firm to the pack.

James McDonnell, however, was a farsighted businessman. He knew that while subcontracting might pay the bills during the war, the only way his company would be able to survive after the approaching conflict was over would be through its own indigenous designs. With that

The first in a long line of McDonnell aircraft was the XP-67 Moonbat, an attempt by McDonnell engineers to come up with an advanced design to break into the highly competitive fighter aircraft manufacturers' ranks. The Moonbat was undoubtedly a startling departure from the classic fighter pattern of the time with its blended, sweeping lines and smooth skin. (MDC)

in mind, McDonnell lobbied intensively for his new designs in Washington and at the Army test facility at Wright Field near Dayton, Ohio. McDonnell's efforts were successful and he was able to convince Army officials of the potential in his designs and of the company's ability to come through once the new aircraft was accepted for production.

With official backing, McDonnell and his design team went to work with a vengeance. A number of changes, mainly regarding armament, were eventually made to the basic design following several conferences with Army officials during the latter part of 1941. In the spring of 1942, a wooden mockup was rolled out of the McDonnell hanger. Army and company officials were impressed with what they saw. The laminar-flow wing gave the new XP-67 a smooth, sleek appearance promising performance way beyond anything then in the air.

Work began on two prototypes, but McDonnell and his engineers faced one problem after another. While the XP-67 benefited from extensive wind tunnel tests, it showed that the design had little tolerance for error if performance was to be maintained at the claimed rate. Other design problems related to cooling and handling cropped up, causing further changes in the design. Difficulties in acquiring the new 1600 horsepower Continental X1-1430-17/19 engines and additional changes in the basic design due to new wind tunnel information led to a constant revision of the prototype's delivery date. This resulted in the Army nearly canceling the whole project; however, McDonnell was at his most persuasive self and convinced these officials to keep the project alive. In part, McDonnell's basis for the continuation of the XP-67 project was the advanced aerodynamic features incorporated into the design. These features had practical applications when mated with the new jet engines, which were just coming off the drawing boards.

The XP-67 Moonbat finally rolled out of the McDonnell facility on 1 December 1943 – over two years after the initial contract was signed. Ground tests were quickly initiated, but fires started in both engines during taxi tests a mere week after the rollout. The damage was fairly light and easily repaired. The aircraft was then transported to Scott Field, Illinois, where the first test flight took place on 6 January 1944. Engine overheating problems cut the first test flight short after only 15 minutes, but the XP-67 handled beautifully during the flight. After some rework, additional flights took place toward the end of the month, all of which confirmed

The XP-67 handled beautifully in the air, but was found to be underpowered. Additionally, there were cooling problems with the engines and during early taxi tests small fires broke out in each engine. These were quickly put out with little damage to the aircraft. The first test flight also had to be cut short due to overheating problems after only 15 minutes in the air. (MDC)



the initial appraisal of the aircraft's handling characteristics. Unfortunately, the flights also confirmed that the XP-67's Continental engines were underpowered, a factor which seriously hurt the fighter's overall performance. These tests resulted in some thought given to using a different power plant on the second XP-67, including a proposal for installing a jet engine in the nacelle's aft portion.

Disaster struck the program before any of this could come to pass. During a routine flight from Lambert Field, St. Louis on 6 September 1944, the XP-67 suffered a fire in its starboard engine. Test pilot E. E. Elliot made an excellent landing, having the presence of mind to bring the aircraft in so that the fire was blown away from the fuselage by the cross-field wind. The right brake failed on landing, causing the aircraft to pivot into the wind, which fanned the flame against the fuselage. Before the fire could be brought under control, major damage had been done to the fuselage, wing, right engine, and nacelle. An evaluation of the charred wreckage showed that repairs were impossible, and the decision was made to scrap the aircraft. Because the second prototype was only 15% complete and results of the XP-67's flight tests showed that it offered no significant advances over existing types such as North American's P-51 Mustang, the Army terminated all further work on the Moonbat project.

While the demise of the XP-67 program was a setback for McDonnell, it did have several redeeming factors. McDonnell's design work had been innovative and this favorably impressed Army officials. Additionally, the program data proved extremely valuable for a new design that McDonnell was working on, a new aircraft that would be powered by jet engines. Work on this aircraft had begun in January of 1943, when McDonnell was asked by Navy officials to come up with a proposal for a carrier based jet powered aircraft. After a review of his proposal, the Navy issued a letter of intent for two prototypes.

Several different power plant arrangements were considered while basic design work was underway. It was eventually decided to use two 1600 pound thrust Westinghouse 19XB-2B turbojet engines – then under development – to power the prototype. The prototype aircraft received the designation **XFD-1**. After much consideration, it was also decided to mount these engines in the fuselage wing root for aerodynamic efficiency, rather than in under wing pods (such as the Germans did with their Me 262) or in mid-wing nacelles (such as in the British

The XP-67's career came to an end on 6 September 1944, when the starboard engine caught fire. The pilot successfully landed the aircraft so that the flames were being blown away from the fuselage; however, the starboard brakes locked and the aircraft pivoted on this locked brake into the wind. The fire extensively damaged the fuselage and starboard wing, resulting in the XP-67's scrapping. (MDC)



Meteor series). It was here that the design data from the XP-67 program proved valuable. The obvious wing root fairing similarities between the Moonbat and the XFD-1 were not by coincidence. The engineers were able to use the Moonbat data throughout the basic XFD-1 design. The tail also showed this influence with its smooth, upswept lines. While McDonnell engineers gave some thought to a variety of unconventional designs, such as no tail, a prone pilot arrangement, and a front tail arrangement, it was decided early on to keep the overall design simple in order to minimize problems.

Once the general layout had been decided upon, the design team fleshed out the basic airframe. Since the engine position was in the wing root, the wing placement was relatively low on the fuselage, resulting in a rather short main undercarriage. The engines were also behind the center of gravity, so a long nose was required to balance the airframe. This allowed the pilot to be positioned forward, ahead of the wing, giving him a good field of vision. It also allowed adequate space for four .50 caliber (12.7MM) machine guns, and this nose-mounted armament gave a straight line of sight for zeroing in on a target – a definite plus for pilots during a dogfight. The long nose also allowed room for a nose gear, resulting in a tricycle landing gear layout that reduced the effect of hot jet exhausts on wooden carrier decks during take-offs and landings. It also made landings easier, since the pilots had a flatter approach and a better view of the carrier deck and Landing Signal Officer.

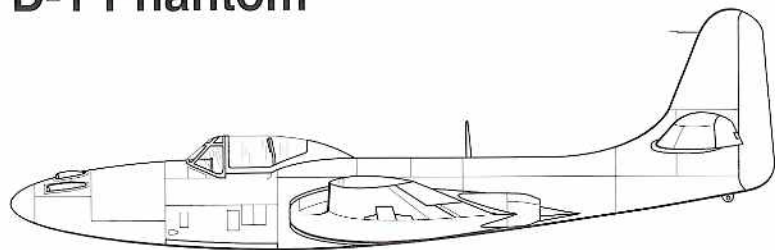
Unfortunately, Westinghouse was slow in delivering their new engines, which also did not produce their rated power. In order to speed up the program, the first XFD-1 was fitted with only one engine for taxing tests. The other engine bay was filled with ballast to balance the airframe. McDonnell test pilot Woodward Burke decided that there was enough power for a short lift-off, and he lifted the XFD-1 off the ground for its first flight on 26 January 1945. The new aircraft, named the **Phantom**, responded beautifully, and settled back on the runway after this short hop. The impromptu flight was followed a few days later by a complete flight after the installation of the second power plant. More flights followed, without any serious problems, and the Navy was pleased with what it saw. In March of 1945, the Navy placed a contract with McDonnell for 100 new fighters, now officially designated the **FD-1 Phantom**. The US Navy had its first operational jet aircraft.

The XFD-1 Phantom prototype is parked near McDonnell's headquarters at Lambert Field in St. Louis. This aircraft bore a surprising resemblance to the XP-67 since the design drew from the Moonbat. Little did anyone at the time realize that this new fighter from a relatively unknown company would be the great grandfather of one of the most successful jet fighters ever built. (MDC)

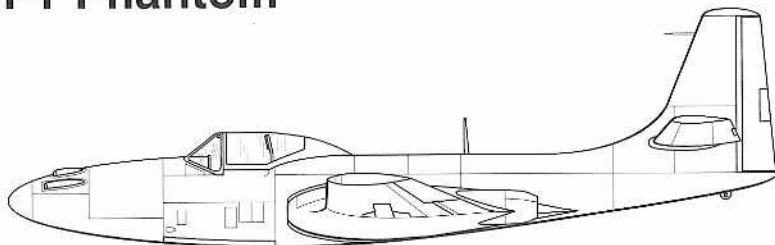


Development

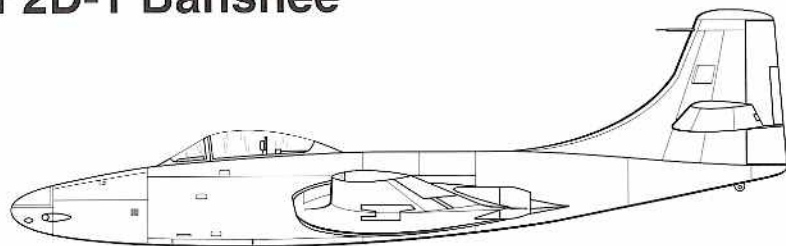
XFD-1 Phantom



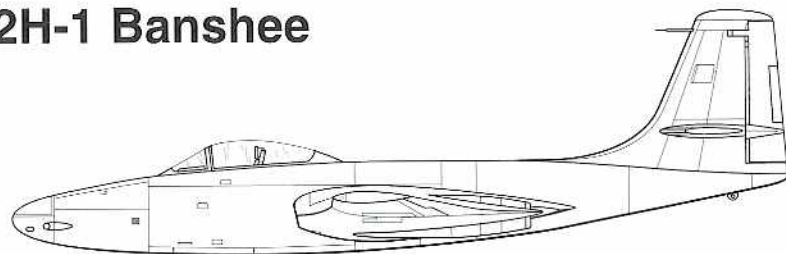
FH-1 Phantom



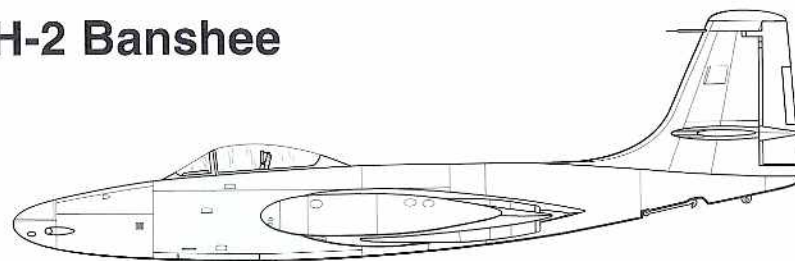
XF2D-1 Banshee



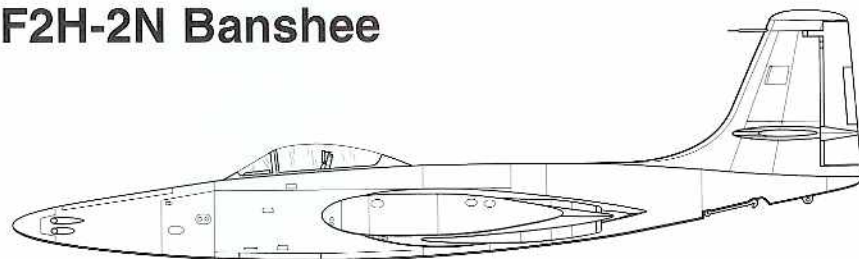
F2H-1 Banshee



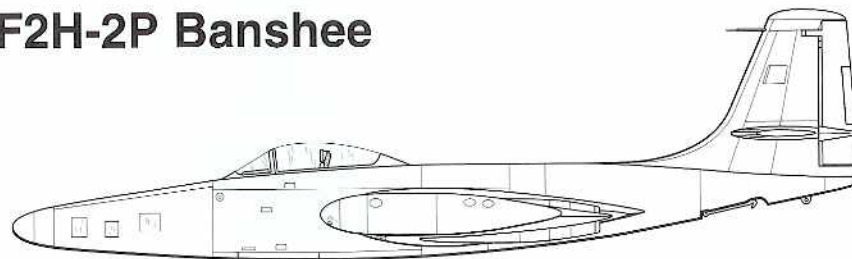
F2H-2 Banshee



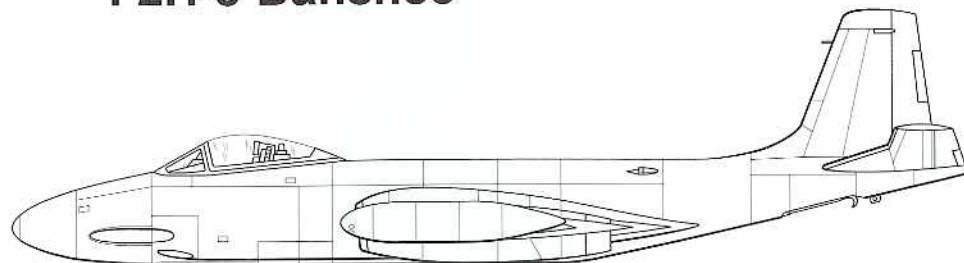
F2H-2N Banshee



F2H-2P Banshee



F2H-3 Banshee



FD-1/FH-1 Phantom

The differences between the prototype XFD-1 and the production FD-1 fighters were relatively minor; the most obvious change being the tail shape. Instead of being rounded, the FD-1's vertical fin was squared off. Additionally, the overall length of the FD-1 rudder was reduced, running from slightly below the top of the tail to a point just above the bottom of the fuselage. The FD-1's rudder was also reduced in chord.

The horizontal tail surfaces were also more squared-off and slightly shorter in length. This allowed the rudder full play without having to modify the elevators as had been done on the prototype due to their interference with the rudder. The only other changes between the two aircraft were a slightly different windshield with less framing on the FD-1 and a small (19 inch/48.3 cm) overall increase in length between the prototype and production models.

The aircraft also received a new designation. When Douglas Aircraft had stopped supplying fighters to the Navy, its letter designation D had been transferred to McDonnell. With Douglas returning to the naval aviation fold, the letter D was returned to Douglas and McDonnell was reassigned the letter H for its aircraft. As a result, the FD-1 Phantom was redesignated the **FH-1**.

The Phantom followed basic construction techniques that were standard for the time. Of all metal construction, the flush riveted aluminum skin covered the monocoque inner structure in a smooth, drag resistant surface. The FH-1 was 38 feet, 9 inches (11.8 m) long and had a wingspan of 40 feet, 9 inches (12.4 m). The wing fold was set just outboard of the main landing gear; when folded, the span decreased to 16 feet, 3 inches (5 m). The wing incorporated conventional ailerons and split flaps. The flaps were set into both the fixed and folding wing sections. Leading edge high lift devices were not used. Trim tabs were set into all of the control surfaces.

The large cockpit, just forward of the leading edge of the wing, was comfortable and pro-

vided excellent forward visibility. The cockpit was of a fairly conventional design for the period. The two-tier instrument panel had most of the flight instruments on the upper tier, while most of the engine instruments were mounted on the lower tier. The panel was topped by a Mk 23 gun sight. Engine, oxygen, trim, and fuel management controls were mounted on the port console. Electrical and radio controls were mounted on the starboard console. The rearward sliding bubble canopy provided unlimited visibility to the rear. Overall, the pilot had a superb field of vision. The canopy could be jettisoned in an emergency; however, the FH-1 was not fitted with an ejection seat.

Production FH-1 Phantoms were powered by two 1600 pound thrust Westinghouse J30-WE-20 turbojet engines. This was the production version of the J30-WE-19 engine used in the prototype XFD-1. The FH-1 could fly at 485 MPH (780.5 kmh) at 15,000 feet (4572 m) and had a service ceiling of 34,500 feet (10,515.6 m). To prevent exhaust gases from damaging the fuselage sides, the exhausts were angled slightly outward. Provisions were also made for the use of Jet-Assisted Take-Off (JATO) bottles for additional take-off power. The FH-1's range was 695 miles (1118.5 km) on 375 gallons (1419.5 L) of internal fuel. A flush fitting, teardrop-shaped 295 gallon (1116.7 L) external tank could be fitted beneath the fuselage to extend the Phantom's range to 980 miles (1577.1 km).

The internal armament consisted of four .50 caliber (12.7 mm) Colt-Browning M2 machine guns arrayed over the top of the nose. Each weapon was supplied with 325 rounds of ammunition. Both the guns and their ammunition bins were accessed via large clamshell doors hinged on the top of the nose. There were provisions for eight zero length rocket racks under the wings. The 5-inch (12.7 cm) rockets, identical to those used in World War Two, were designed for air-to-ground use, but were rarely used by FH-1s.

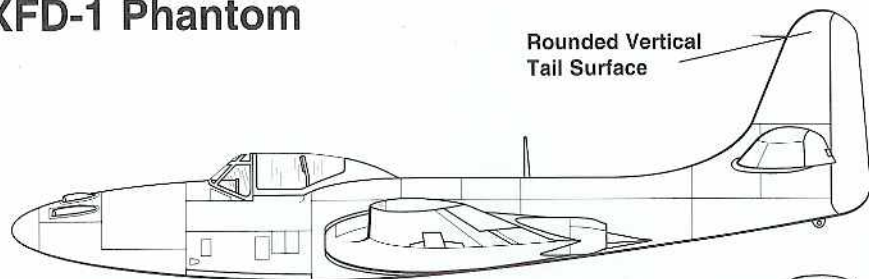
Early tests with the XFD-1 aboard the aircraft carrier USS FRANKLIN D. ROOSEVELT (CVB-42¹) in July of 1946 had shown that carrier jet operations were practical. Consequently, the Navy began preparing for the FH-1's service introduction even as the first fighters were rolling off the McDonnell assembly line. VF-17A, based at Naval Air Station (NAS) Quonset Point, Rhode Island, was chosen to initiate the Phantom into US Navy service. The unit received its first FH-1s in August of 1947. Working up on the new aircraft, the Squadron made brief deployments aboard the carriers SAIPAN (CVL-48), CORAL SEA (CVB-43), PHILIPPINE SEA (CV-47), and ROOSEVELT. VF-17A was redesignated VF-171 during this period. In early 1949, this Squadron flew its first night operations and participated in a joint Navy, Marine, and Canadian exercise, before transferring its FH-1s to VF-172 at NAS Cecil Field, Florida and transitioning to the new **F2H-1 Banshee**. VF-172 also transitioned to the new Banshee and the FH-1 Phantom was out of front line Navy service by mid-1949.

The only other squadron to operationally deploy the FH-1 was VMF-122, a Marine fighter squadron based at Marine Corps Air Station (MCAS) Beaufort, North Carolina. This unit participated in the joint exercises with VF-171 and even formed an aerobatic team, the 'Flying Leathernecks.' This was the first such jet aerobatic unit and it took part in air shows during 1948 and 1949. Like the Navy, the Marines also quickly transitioned to the new Banshee. By the end of 1949, the FH-1 was out of front-line Marine service.

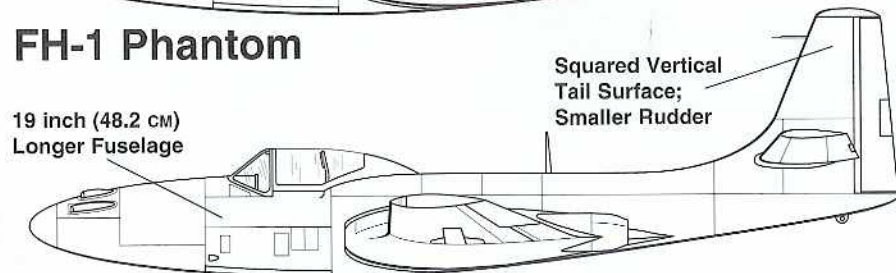
This was not to be the end of the FH-1 in service, since it was assigned to the Reserves to help upgrade Navy and Marine Reserve pilots to the new world of jets. The first Reserve units to receive the Phantom were based at Willow Grove, Pennsylvania; New York City; and Norfolk, Virginia. These Reserve squadrons were followed by units at Birmingham, Alabama; Columbus, Ohio; Dallas, Texas; Glenview, Illinois; Grosse Isle, Michigan; Miami, Florida; Minneapolis, Minnesota; and St. Louis, Missouri. The FH-1 remained in Reserve service until

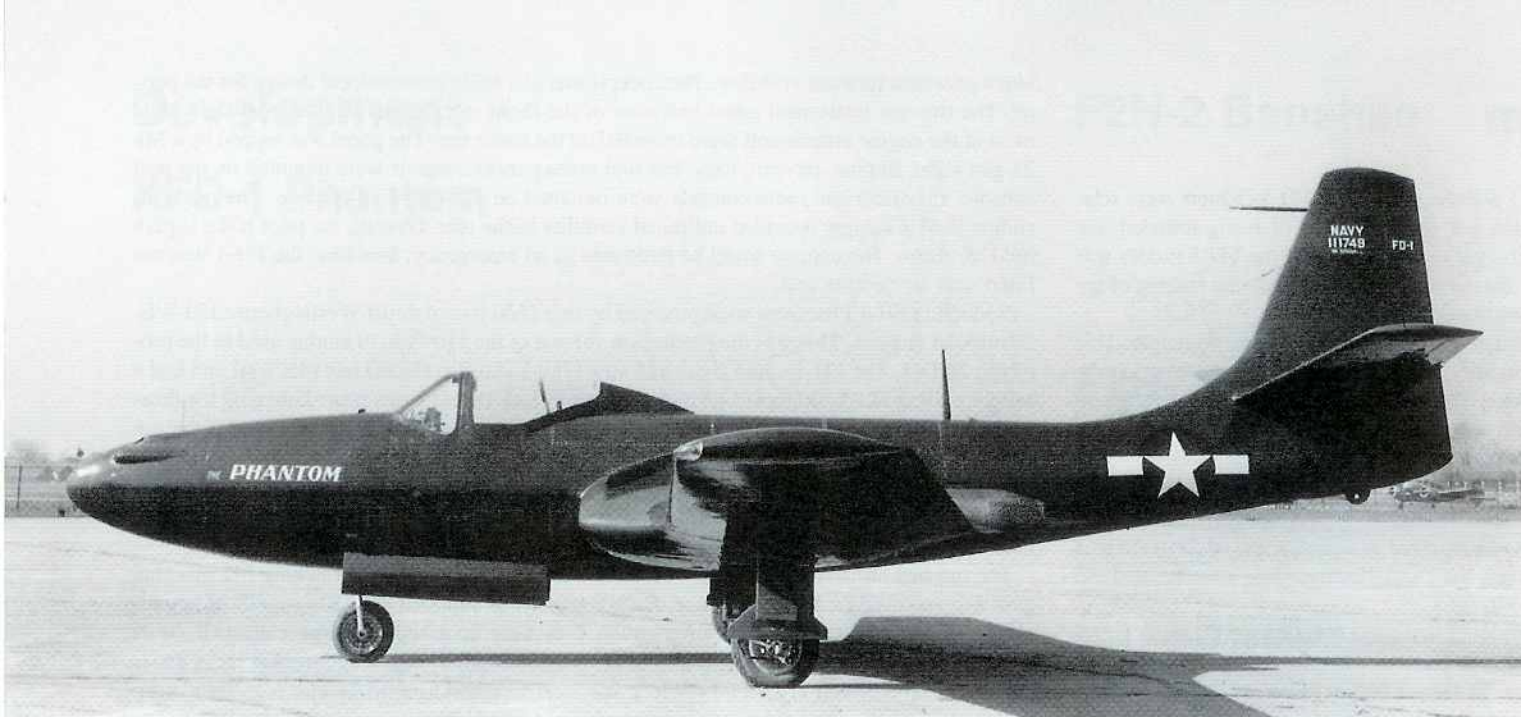
¹Large Aircraft Carriers (CVBs) were redesignated Attack Aircraft Carriers (CVAs) in 1952.

XFD-1 Phantom



FH-1 Phantom





(Left) The most notable difference between the XFD-1 and the production FD-1 (later FH-1) was the tail shape. Unlike the prototype, the production model featured a squared-off tail and a slightly smaller rudder. The windshield was also slightly different, with less framing than on the earlier XFD-1. The rear-opening bubble canopy provided Phantom pilots with excellent all-around visibility. The first production FD-1 (BuNo 111749) was overall Glossy Sea Blue (FS15042), with the national insignia in Insignia Blue (FS15044) and Insignia White (FS17875). The Navy authorized painting the white (and red from 14 January 1947) national insignia sections directly on the Sea Blue finish in June of 1946. (MDC)

(Below) The first production FD-1 (BuNo 111749) is parked outside McDonnell's St. Louis plant in late 1946. The production FD-1 featured a 19 inch (48.2 cm) overall increase in length and a reduction in the size of the horizontal tail surfaces, which allowed the rudder to fully travel without modifying the elevators. The FD-1 was redesignated the FH-1 in 1947, when the Navy assigned H to McDonnell aircraft. All markings on the tail and forward fuselage were Insignia White. (MDC)



1954. These units provided a valuable transition experience for a whole new generation of Navy and Marine Corps jet fighter pilots.

While the Marines formed the first jet aerobatic team, early in the Phantom's career a unique demonstration team also flew the aircraft in public. This team, dubbed the 'Gray Angels', was made up of three admirals: Daniel V. Gallery², Apollo Soucek, and Edgar Cruise. The three Admirals made a number of appearances at East Coast air shows, capping their short career at the 1948 National Air Races in Cleveland, Ohio. The aircraft were then transferred from NAS Patuxent River, Maryland to NAS Atlantic City, New Jersey, thus ending this rather unique team's career.

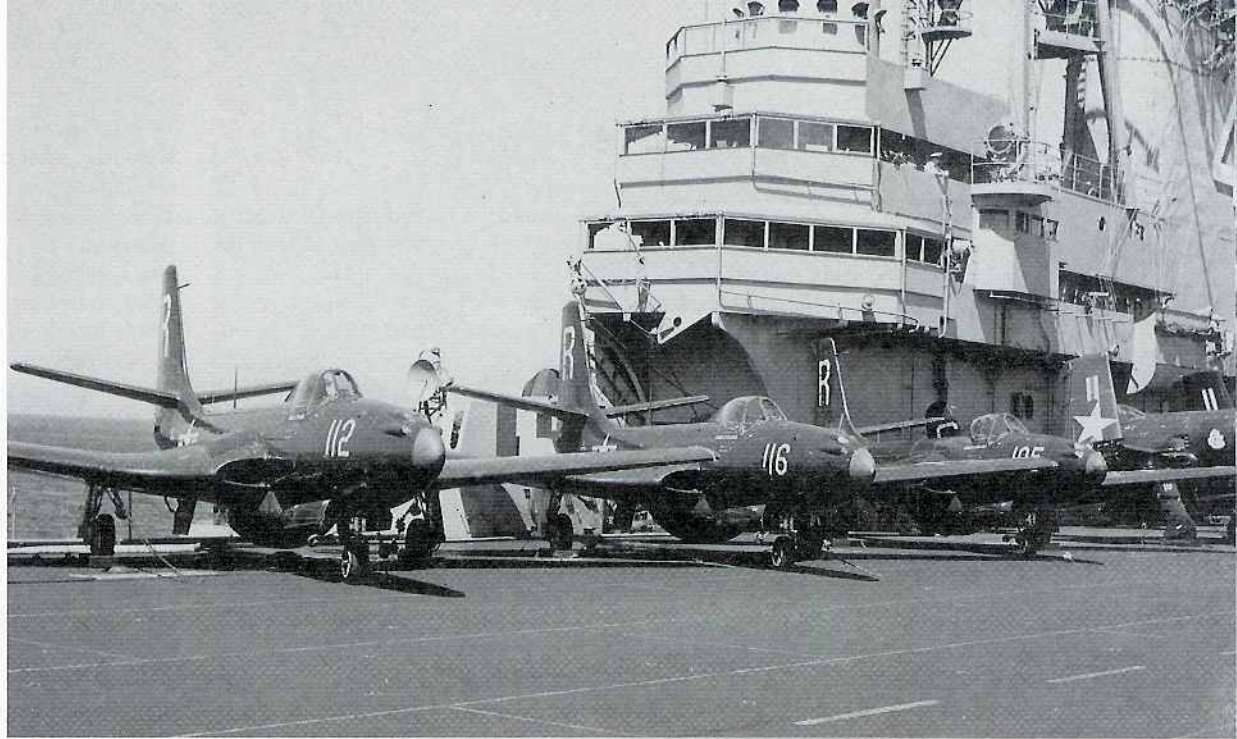
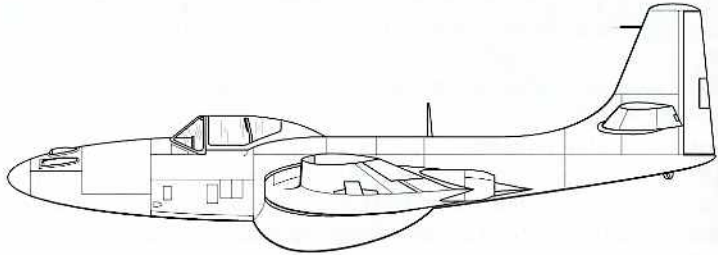
In 1964, the FH-1 made one last appearance – in civilian guise – with Progressive Aero, Incorporated, at Fort Lauderdale, Florida. The company bought three surplus Phantoms, restoring two of them to flying condition. Stripped of military equipment and their folding wing mechanism, the ex-Navy fighters were used to upgrade both airline and corporate pilots with piston engine ratings to jet standards. The venture failed after a short run and the company went out of business.

At least two FH-1s, and possibly a third, still exist today. A beautifully restored FH-1 Phantom is maintained by the US National Air and Space Museum in Washington, while the Marine Corps Museum at Quantico, Virginia has one of the aircraft used by Progressive Aero. Another ex-Progressive aircraft is believed to be in storage at Fort Lauderdale, Florida, but its current status is unknown.

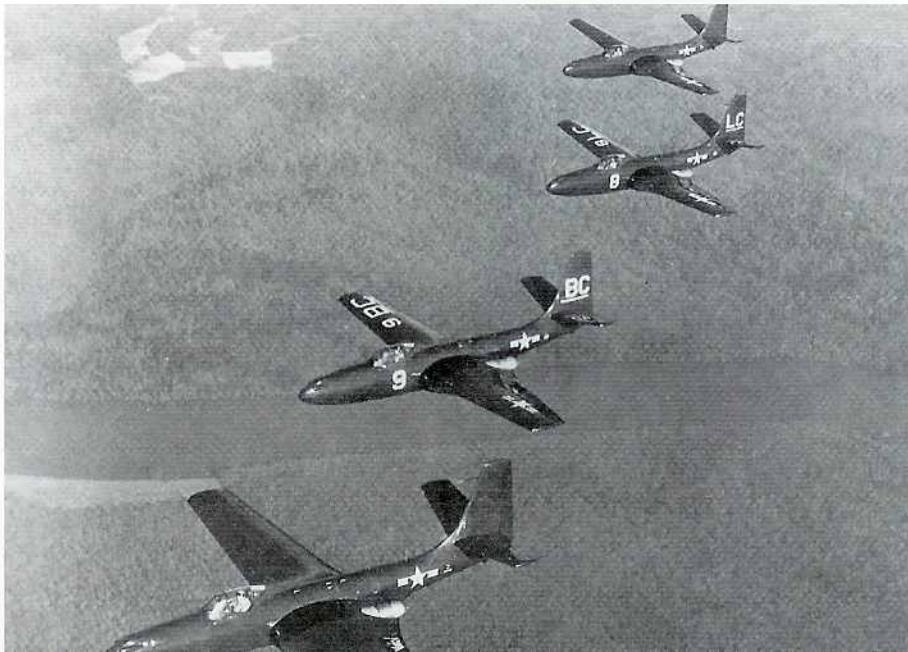
²Admiral Gallery commanded the US Navy hunter-killer task force that captured the German submarine U-505 in the eastern Atlantic on 4 June 1944. U-505 is now on display at the Museum of Science and Industry in Chicago, Illinois.

FH-1s assigned to VF-171 sit alongside Grumman F8F Bearcats on the flight deck of USS FRANKLIN D. ROOSEVELT (CVB-42) in the spring of 1949. The large round object under the fuselage is a flush-fitting teardrop-shaped external fuel tank, which could be attached as the need arose. This tank had a capacity of 295 gallons (1116.7 L), which increased the Phantom's total fuel load to 670 gallons (2536.2 L). VF-17A, the first Navy squadron to fly the Phantom, was redesignated VF-171 in August of 1948. (USN)

FH-1 with Centerline Fuel Tank



A four-ship formation of VMF-122 FH-1s flies near its home of MCAS Beaufort, North Carolina in mid-1948. This Marine Squadron's original tail code changed from BC to LC in August of that year. The line under the LC – indicating a Marine unit – was deleted at the same time. The tail codes and fuselage tactical numbers were repeated on the upper starboard wing. The near and far FH-1s in the formation lack tail codes and tactical numbers. (USMC)



An FH-1 (C-108) lands at Naval Air Station (NAS) Columbus, Ohio in June of 1953. The International Orange (FS12197) aft fuselage band which designated a Reserve aircraft flanked the white titles NAVY and COLUMBUS. After the Phantom left front-line service in 1949, FH-1s flew with various Navy and Marine Reserve units into the early 1950s. Many Navy and Marine Reserve pilots transitioned from piston-engined to jet-propelled aircraft by flying the Phantom. (USN)

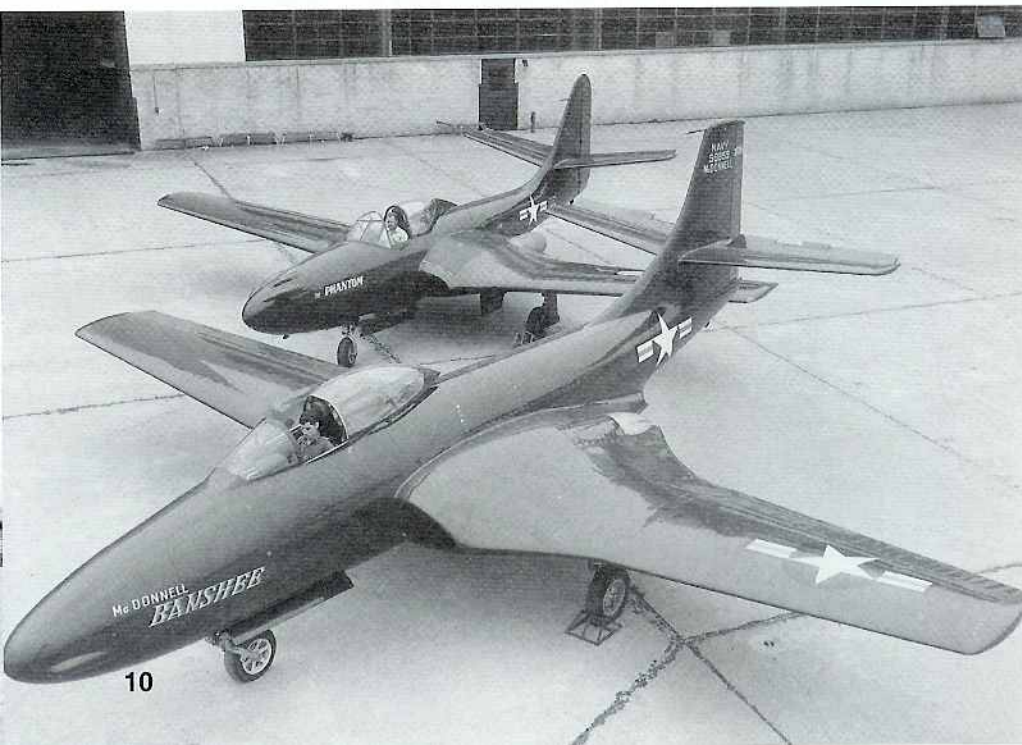


XF2D-1/XF2H-1 Banshee

Even as the new Phantom was in the process of being readied for its first flight, both Navy and McDonnell officials were looking to the future. They were generally pleased with the XFD-1's first flight, but quickly realized that the fighter's range and speed could be improved. On 2 March 1945 – a little over one month after the Phantom's maiden flight – the Navy ordered a new prototype based on the XFD-1 under the designation **XF2D-1**. The Navy wanted an aircraft with a range, speed, altitude, and armament equal to or greater than those of US Air Force fighters then in existence.

McDonnell's initial response was to scale up the XFD-1 with two Westinghouse J34-WE-22 jet engines, each producing 3000 pounds of thrust – almost twice the power of the Phantom's 1600 pound thrust J30-WE-20s. The armament was also increased from four .50 caliber (12.7mm) machine guns to four 20mm M3 cannon. The weapons were moved from the upper nose to the lower nose to reduce the blinding effect of muzzle flashes on the pilot. A small ranging radar was fitted to the nose, just above the cannon muzzles. The plan to simply scale up the basic XFD-1 design was quickly found to be unfeasible. While the engineers retained the basic wing root engine position, the remainder of the airframe became a totally new design. The larger engines required a new wing, whose span was increased from the Phantom's 40 feet 9 inches (12.4 M) to 41 feet 6 inches (12.65 M). Both the intake arrangement and the fuselage

The connection between the XFD-1 in the background and the new XF2D-1 is obvious in this side-by-side comparison, although the XF2D-1 is a much larger aircraft. The Banshee prototype featured a squared-off tail, like the one fitted to the production FD-1 (FH-1) Phantom. (MDC)

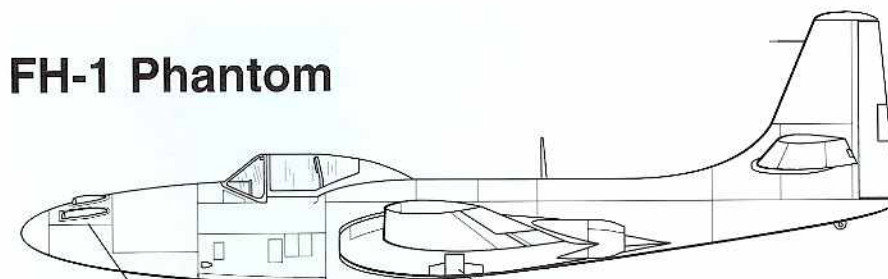


were strengthened and deepened. A larger tail was added and the overall length of the aircraft was increased from 38 feet 9 inches (11.8 M) to 39 feet (11.9 M). The main landing gear retracted outward rather than inward as on the XFD-1 and a kneeling nose gear was incorporated to allow the nose to be lowered to improve carrier storage. This feature was also found on North American's FJ-1 Fury and allowed the tail to rise up and let aircraft be parked closer together. The kneeling gear soon proved impractical in service and was discontinued.

On 11 January 1947, nearly two years after the initial Navy contract, the first XF2D-1 prototype flew from the McDonnell facility at Lambert Field, St. Louis under the watchful eyes of both Navy and company officials. McDonnell test pilot Robert Edholm, sitting in a new McDonnell designed ejection seat, taxied the XF2D-1 past the waiting crowd and pushed the throttle forward as he headed down the runway. The aircraft leaped into the air and Edholm pointed it skyward. The XF2D-1 rose almost effortlessly, climbing at nearly 9000 feet (2743.2 M) per minute – almost twice that of any other aircraft then in existence. On his return to the field, Edholm was full of praise for the new fighter and the watching crowd mirrored his enthusiasm. Additional flight tests soon followed with few problems arising, the main difficulty being a slight control problem with the tailplane. Removing the tailplane dihedral and reducing the dorsal spine area solved this problem.

By the spring of 1947, the Navy was satisfied and decided to order the new fighter into production. In May, the Navy placed an order with McDonnell for 56 aircraft nicknamed the Banshee, with the new designation F2H-1. This designation kept with the reassignment of letters by the Navy to the various manufacturers. Unfortunately, budgetary restrictions forced the Navy to split this order. Thirty fighters were procured under the fiscal 1947 budget, while the remaining 26 were reallocated to the fiscal 1948 budget. This minor problem did little to dim the excitement at McDonnell; the firm now had a solid contract with the Navy for a dependable, high performance fighter that offered much in the way of growth potential. The future was looking bright for the new company.

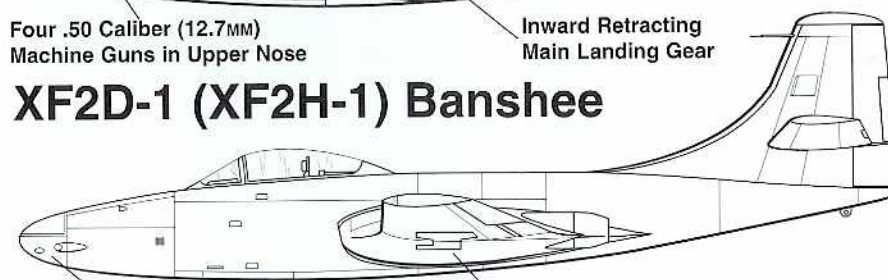
FH-1 Phantom



Four .50 Caliber (12.7mm)
Machine Guns in Upper Nose

Inward Retracting
Main Landing Gear

XF2D-1 (XF2H-1) Banshee

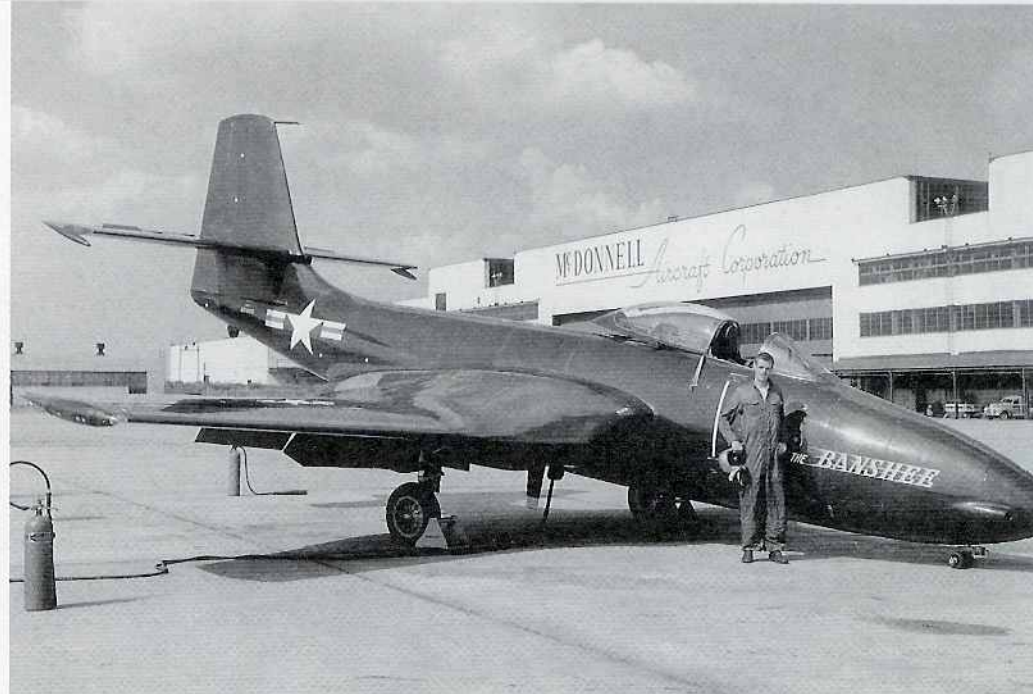


Four 20mm Cannon in
Lower Nose

Outward Retracting
Main Landing Gear

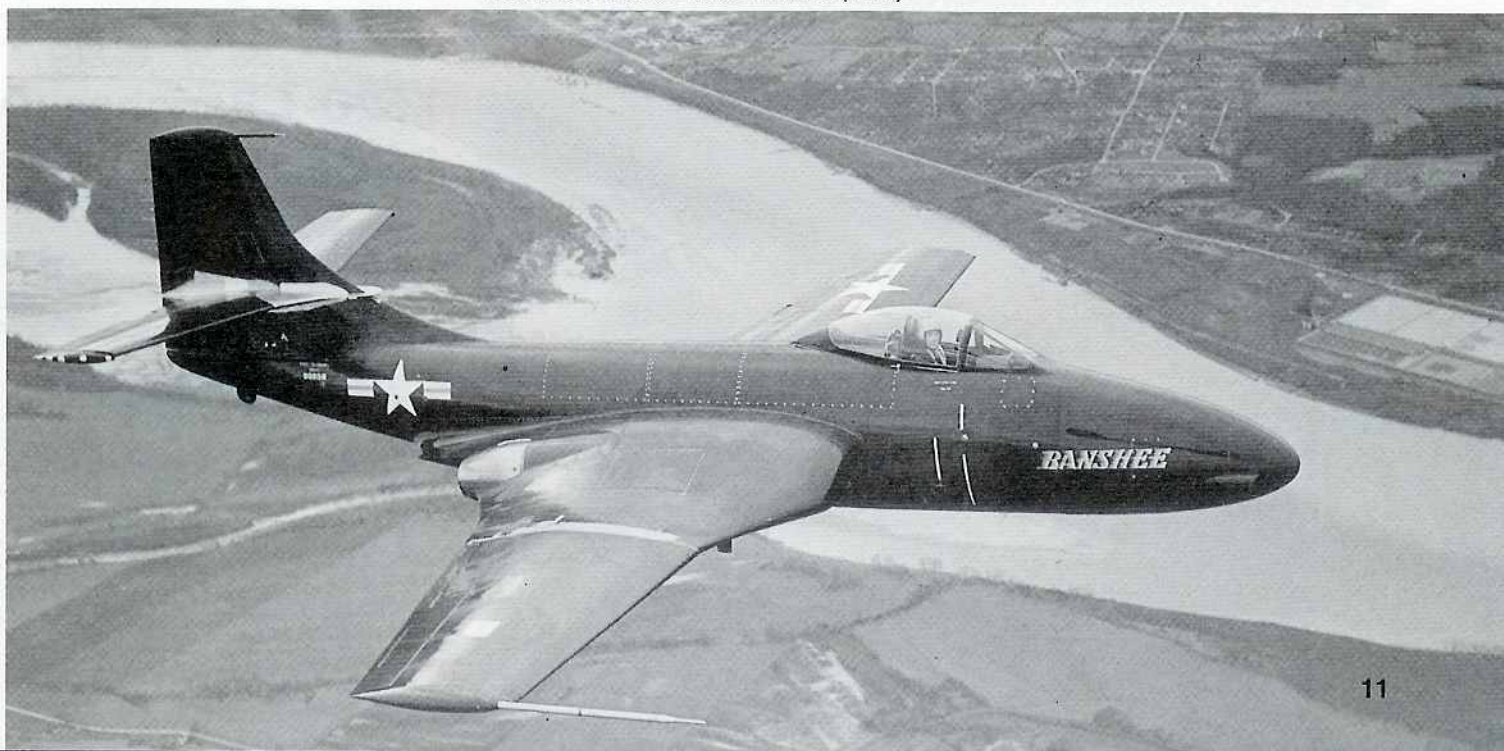


The new XF2D-1 was much larger and more streamlined than the Phantom. The long tail fairing was eventually reduced in size on the production Banshee. The FD-1's recessed canopy arrangement gave way to a straight, bubble type on the XF2D-1. The Aircraft's Bureau Number, or BuNo (99859), is white on the vertical tail, between NAVY and McDonnell. (MDC)



A unique feature on the XF2D-1 and early production F2H-1s was a kneeling nose gear, which allowed the tail to be elevated for closer storage onboard carriers. It could also be used in taxiing to help direct the exhaust gases away from the deck, plane handlers, and other aircraft. This gear consisted of two small wheels in the nose, which extended while the regular nose gear was retracted. Although a novel idea, it saw little actual usage and was discontinued on later models. (MDC)

The XF2D-1 flies over a river during a test flight from Lambert Field in St. Louis. This aircraft was testing the leading edge tailplane fairings fitted to the later F2H-3. XF2D-1 flight tests uncovered few problems with the Banshee, the most significant one being a slight problem with the horizontal tail surfaces. This was easily solved by removing their dihedral. The XF2D-1 was redesignated the XF2H-1 in 1947 when the Navy reassigned letters to the various manufactures. (MDC)



F2H-1 Banshee

The first production F2H-1 Banshee rolled off the McDonnell assembly line in August of 1948. The fighter differed from the prototypes in having a slightly longer fuselage, no dihedral in the horizontal tail surfaces, and a smaller ventral spine. The F2H-1 was 39 feet (11.9 m) long, with a wingspan of 41 feet 6 inches (12.6 m) and a height of 14 feet 5 inches (4.4 m). The aircraft weighed 9794 pounds (4442.6 kg) empty and 18,940 pounds (8591.2 kg) fully loaded.

The Banshee had a maximum speed of 587 MPH (944.7 kmh) at sea level and 563 MPH (906 kmh) at 20,000 feet (6096 m). Its service ceiling was 48,500 feet (14,782.8 m). The Banshee was armed with four 20MM M3 cannon mounted in the lower nose, with 150 rounds of ammunition per gun.

Full-scale flight-testing and carrier qualifications began soon after the first production aircraft were completed. The F2H-1 carrier trials took place aboard USS FRANKLIN D. ROOSEVELT (CVB-42), the same carrier used for the FD-1 (FH-1) Phantom's carrier qualifications in 1946. Following these trials, the Navy deemed the Banshee suitable for squadron deployment. VF-171 and VF-172 — both based at NAS Cecil Field, Florida — turned in their FH-1 Phantoms for the new fighter in 1948. The F2H-1 was also assigned to VX-3 (a flight testing squadron) at NAS Atlantic City, New Jersey and the Naval Air Test Center (NATC) at NAS Patuxent River, Maryland.

The F2H-1 was a significant step forward for US Naval Aviation when it entered operational

The eighth production F2H-1 Banshee (BuNo 122537) flies over the Missouri countryside in the fall of 1948. The first F2H-1s began to come off the McDonnell production line in the late summer of that year. Aside from the revised tail area, the production aircraft were similar to the XF2H-1 prototype. Pilot vision was excellent with the bubble canopy. White diagonal lines on the lower nose aided Landing Signal Officers (LSOs) aboard carriers in guiding the Banshee onto the ship. (MDC)

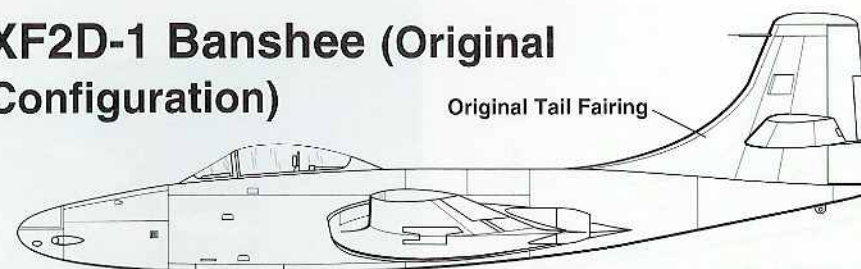


service. The Banshee — nicknamed the 'Banjo' by its pilots and maintenance crews — had a fuel capacity of 877 gallons (3319.8 L). This was an increase over the 526 gallons (1991.1 L) carried by the XF2D-1 prototype. The F2H-1 had the greatest fuel capacity of any US Navy jet aircraft of the time. It had a range of over 700 miles (1126.5 km) at high speed, but if throttled back could cruise nearly 2000 miles (3218.6 km) at approximately 350 knots (403 MPH/648.6 kmh). Its combat radius was 600 miles (965.6 km), with 20 minutes of combat time over the target. To further enhance its range, procedures were developed for cruising on a single engine, which cut fuel consumption while having little effect on the aircraft's handling qualities.

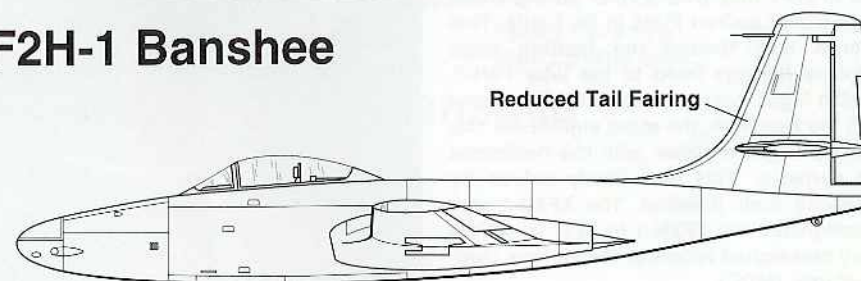
The F2H-1 retained the prototype's kneeling nose gear, which allowed the nose to be lowered and the tail raised to facilitate closer parking aboard carriers. A small nose wheel underneath the cannons allowed the aircraft to be moved around if the nose gear was fully retracted. Additionally, lowering the nose gear raised the jet exhaust, which it was hoped would make operating jet engines on the close confines of a carrier deck and hanger somewhat easier. Although this was considered a good design feature, it was little used operationally. The kneeling nose gear was discontinued on later F2H variants.

The F2H-1 had a relatively short career, being replaced in the early 1950s by the next version, the F2H-2. The 56 F2H-1s built were initially powered by two 3000 pound thrust Westinghouse J34-WE-22 turbojet engines, but were later upgraded with the 3150 pound thrust J34-WE-30. VF-171 was the first unit to give up its F2H-1 Banshees when it transitioned to the new F2H-2 in 1950. During its short service life, the F2H-1 set an unofficial jet altitude record of 52,000 feet (15,849.6 m) in August of 1949. More was to come from the basic Banshee design, since McDonnell engineers were making new improvements to give the Navy an even better fighter for fleet service.

XF2D-1 Banshee (Original Configuration)



F2H-1 Banshee





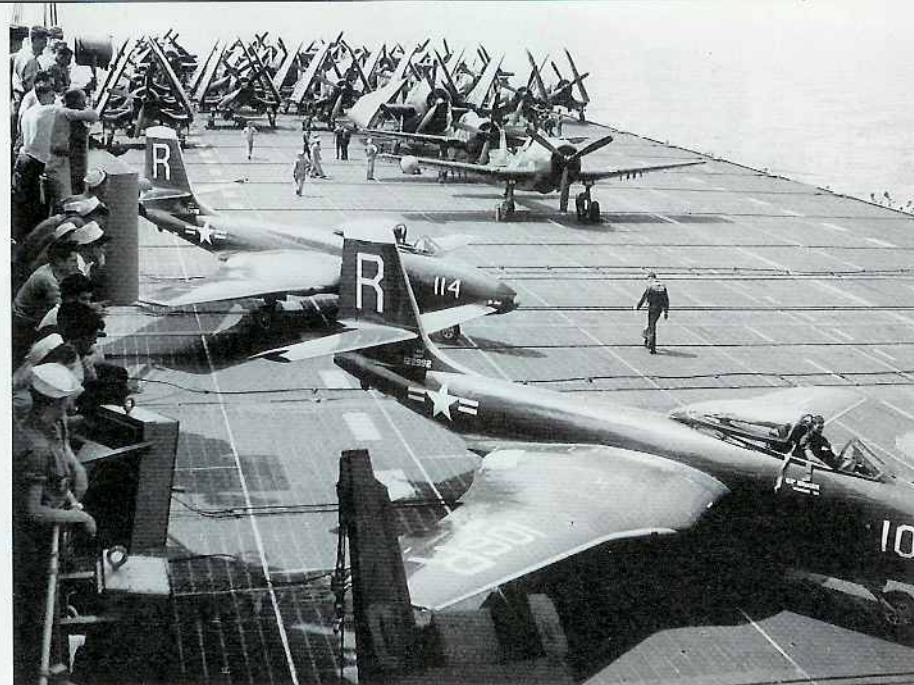
Ten new F2H-1s, the last of the initial production order, are parked in front of the McDonnell plant in St. Louis awaiting delivery to the Navy. The Banshees are overall Glossy Sea Blue (FS15042), with natural metal leading edges. Only basic markings –

national insignia, Bureau Number, and service stenciling – were painted on the aircraft at the factory. With its range and speed, the 'Banjo' was a tremendous leap forward for Naval jet aviation. (MDC)

F2H-1 Banshee

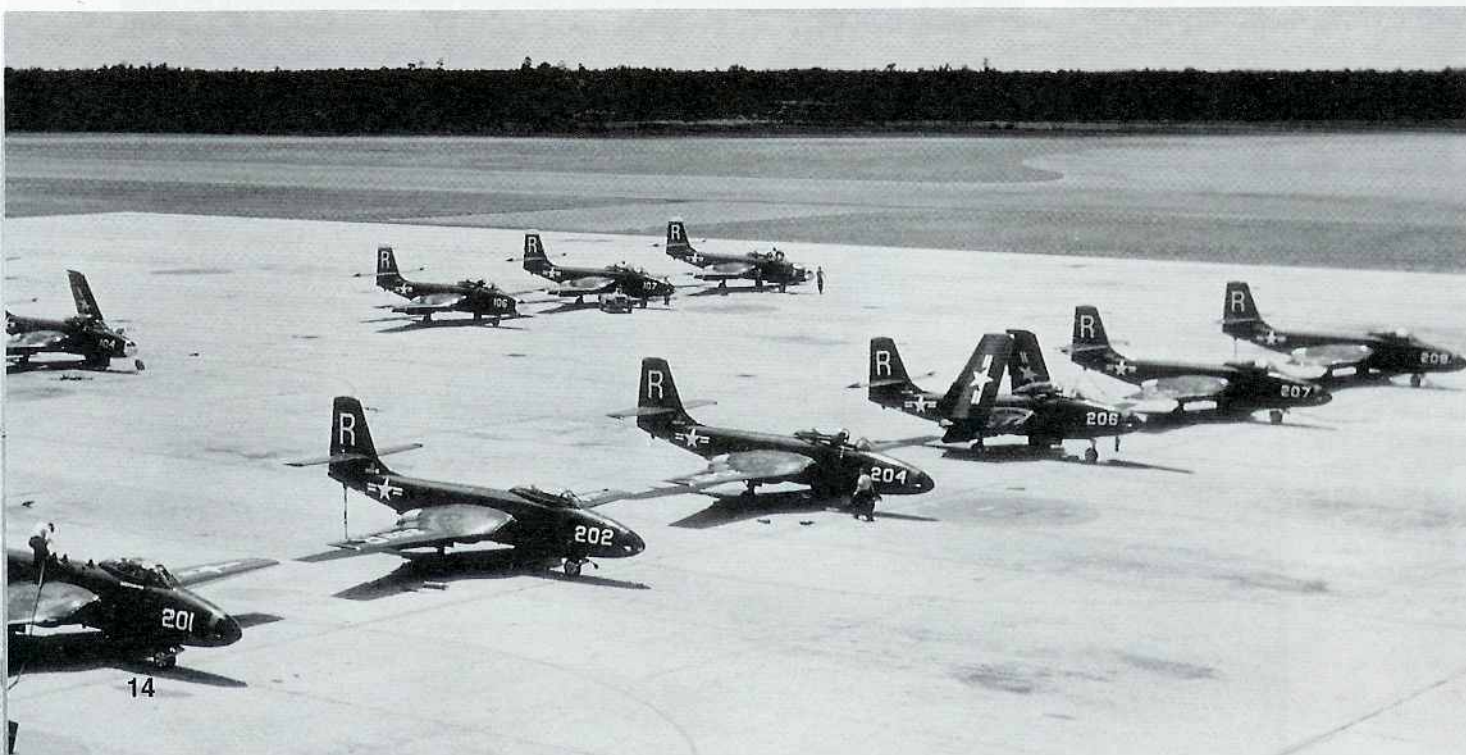
This F2H-1 Banshee has just been brought up the deck edge elevator of FRANKLIN D. ROOSEVELT for a catapult test in late 1948. The aircraft was one of several F2H-1s delivered to the Naval Air Test Center (NATC) at NAS Patuxent River for evaluation and testing. The use of jet aircraft aboard carriers was still a new field for the US Navy in the late 1940s. Deck crews had to learn to avoid the engine intakes, which could quickly pull a man into one with serious or fatal results. Another hazard on deck was the hot engine exhaust gases, which could burn a crewman who stood too close to the exhaust area. (USN)





Deck hands wait while an F2H-1 is prepared for a 'cat' shot off ROOSEVELT. The forward cockpit position and tricycle landing gear provided the pilot with excellent forward and downward visibility during all phases of landing and take-off. Older pilots, especially those who flew the F4U Corsair, readily appreciated this feature. The yellow World War Two jeep was used as a tow vehicle. (MDC)

Two VF-171 F2H-1s share deck space on ROOSEVELT with an assortment of World War Two era propeller driven aircraft. These include F4U Corsairs, a night-fighter version of the F6F Hellcat, a TBF Avenger, and an F8F Bearcat. The introduction of jets including the Banshee was a qualitative leap forward for Naval Aviation, but also necessitated the development of new techniques to handle the transition to jets. (USN)



The F2H-1 saw only limited service, being flown by VF-171 and VF-172 of Air Group 17. Aircraft from both units are being serviced on the ramp at NAS Cecil Field, Florida – home for both Squadrons. The Banshees in the front are from VF-172 and have a Light Blue (FS15102) vertical tail tip, while VF-171's aircraft in the back have white tail tips. (USN)

F2H-2 Banshee

McDonnell engineers began working to improve the basic F2H-1 design to provide better performance even as the aircraft was going into production. The engineers further increased the internal fuel capacity to 177 gallons (670 L) by stretching the fuselage 14 inches (35.6 cm) forward of the wing. This increased the Banshee's length from 39 feet (11.9 m) to 40 feet 2 inches (12.2 m). A pair of 200 gallon (757.1 L) fuel tanks were fitted to the wingtips. The additional fuel increased the F2H-2's range from the F2H-1's 1278 miles (2056.7 km) to a maximum of 1475 miles (2373.7 km). The added weight on the wingtips required a strengthened wing structure, which in turn increased the aircraft's overall empty weight from 9794 pounds (4442.6 kg) to 11,146 pounds (5055.8 kg). A slight increase in wingspan, combined with the tip tanks, brought the F2H-2's span up to 44 feet 10 inches (13.7 m). The height was increased by one inch (2.5 cm), to 14 feet 6 inches (4.4 m).

The more powerful 3150 pound thrust Westinghouse J34-WE-34 turbojet engine replaced the J34-WE-22-30 used in the F2H-1. The F2H-2 had a maximum speed of 575 MPH (925.3 kmh) at sea level and a cruising speed of 501 MPH (806.3 kmh). The F2H-2 had provisions for carrying two 500 pound (226.8 kg) bombs or six 5-inch (12.7 cm) rockets under the wings. The armament of four 20MM M3 cannon with 150 rounds per gun remained the same.

The Navy liked the new redesign and ordered 179 F2H-2 Banshees from McDonnell in August of 1948. An additional order for 279 more aircraft was placed in 1949. When F2H-2 production ended at 406 aircraft, it was the most numerous Banshee variant built.

There were only minor problems with the new F2H-2 and it quickly replaced the F2H-1 on the production line. The first aircraft were delivered to the Navy during the summer of 1949, with the new fighters going to VF-171, VF-172, and VF-11. Once again, both VF-171 and VF-172 relinquished their older fighters to bring in the new aircraft. Despite the increased engine power, there was a slight decrease in performance due to the Banshee's increased weight. This was compensated for by the ability to carry either bombs or rockets, which the F2H-1 did not have. This gave the F2H-2 a greater tactical flexibility – a flexibility that would soon be needed in the war-torn skies over Korea.

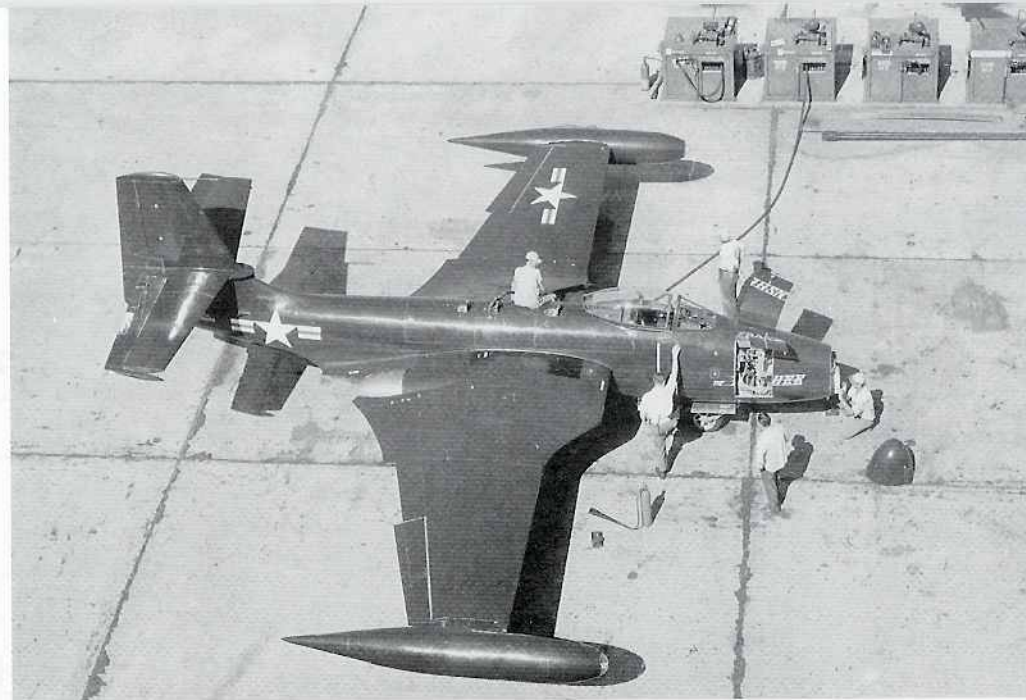
F2H-1 Banshee



F2H-2 Banshee



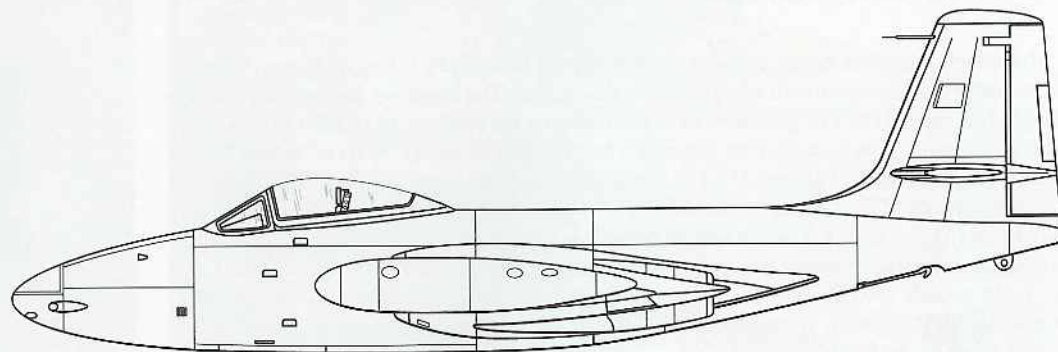
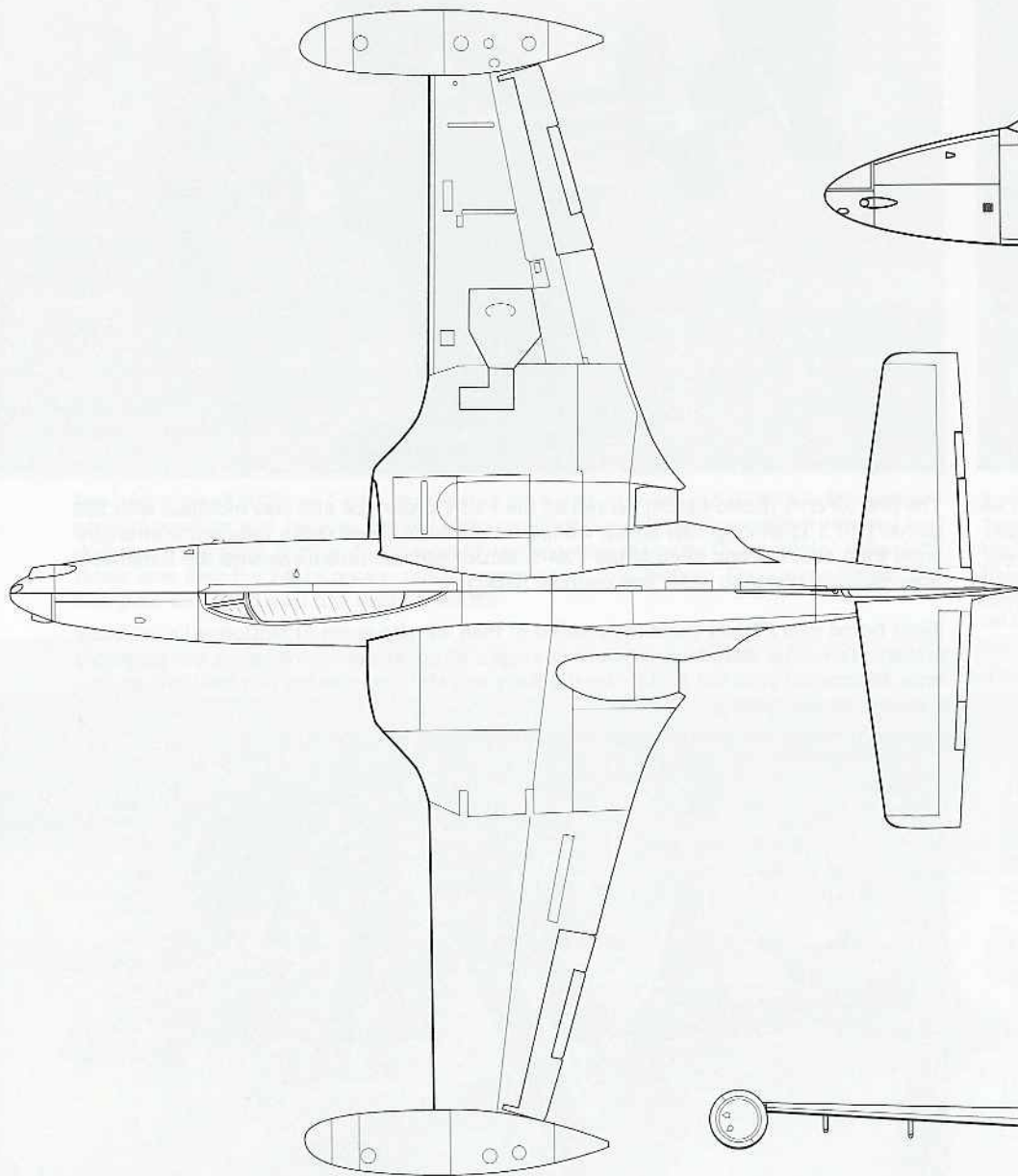
200 Gallon (757.1 L) Wingtip Fuel Tank



The first XF2H-1 (BuNo 99858) served as the F2H-2 prototype and was modified with 200 gallon (757.1 L) wingtip fuel tanks. Added weight from these tanks required a strengthened wing over the one fitted to the F2H-1. McDonnell technicians service the Banshee's nose-mounted ranging radar and cannon. (MDC)

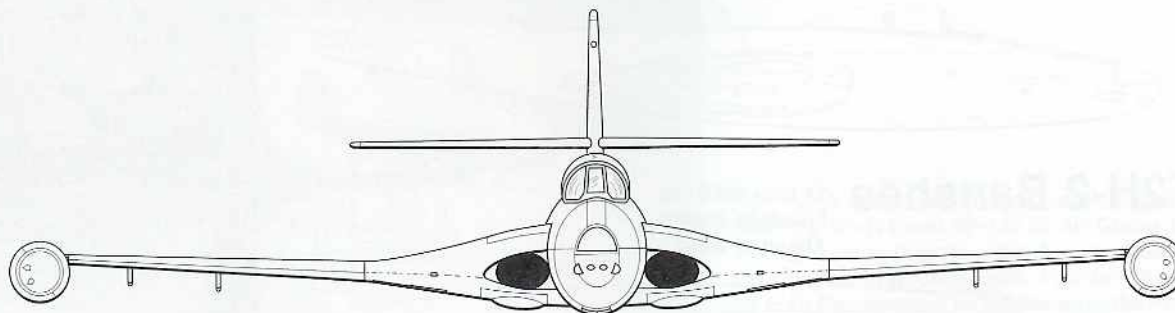
Eight brand new F2H-2s await installation of their wingtip tanks at McDonnell's St. Louis factory. Ten other Banshees in various stages of construction follow on the assembly area. McDonnell built 406 F2H-2s for the Navy and Marines, making this the most prolific Banshee variant. (MDC)





McDonnell F2H-2 Banshee Specifications

- Wingspan:**.....44 feet 10 inches (13.7 m)
Length:.....40 feet 2 inches (12.2 m)
Height:.....14 feet 6 inches (4.4 m)
Empty Weight:.....11,146 pounds (5055.8 kg)
Maximum Weight:..22,312 pounds (10,120.7 kg)
Powerplant:.....Two 3150 pound thrust Westinghouse J34-WE-34 turbojet engines
Armament:.....Four 20mm M3 cannon with 150 rounds per gun in the lower nose. Two 500 pound (226.8 kg) bombs or six 5 inch (12.7 cm) rockets under the wings.
Performance:
Maximum Speed:..575 MPH (925.3 kmh) at Sea Level
Service Ceiling:....44,800 feet (13,655 m)
Range:.....1475 miles (2373.7 km)
Crew:.....One



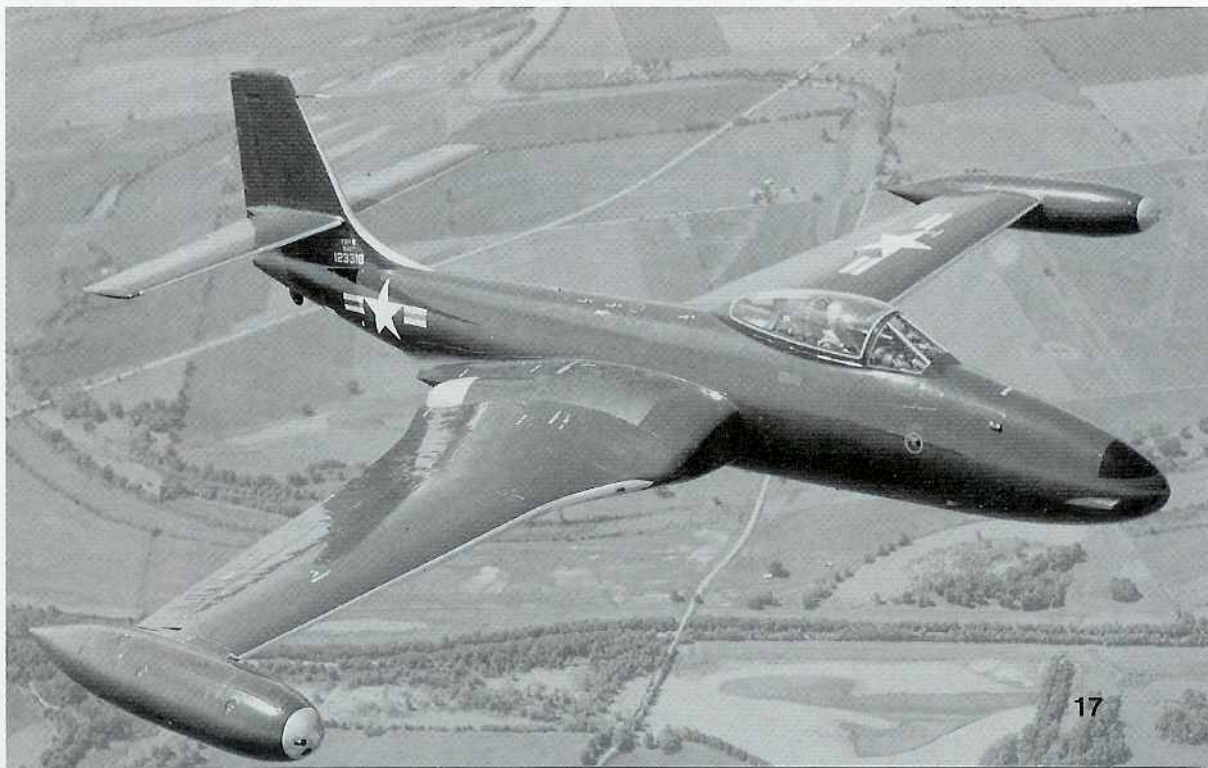


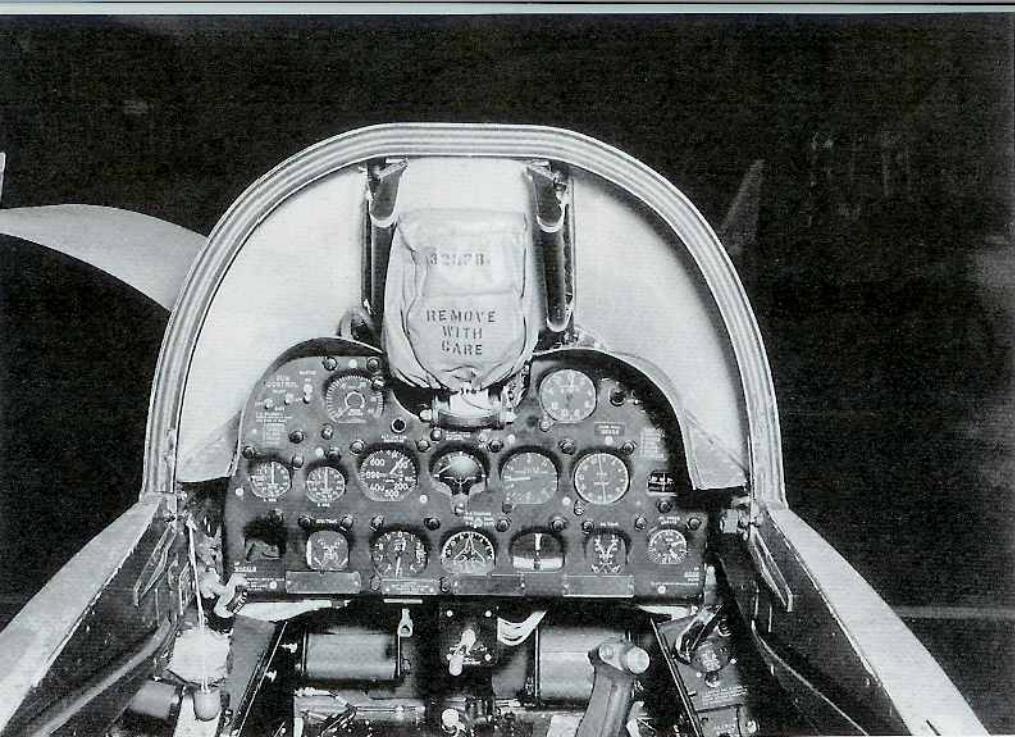
(Above) A factory fresh F2H-2 is parked outside the McDonnell factory with its wings folded. The hydraulically folded wings reduced the wingspan from 44 feet 10 inches (13.7 m) to 18 feet 6 inches (5.6 m). This feature reduced the space required for the aircraft aboard carrier flight and hangar decks. The folded wingspan remained the same for all Banshee variants. (MDC)



(Above Right) Several F2H-2s, including BuNo 123214, are parked outside the McDonnell final assembly building at Lambert Field (now Lambert-St. Louis International Airport) in St. Louis. The folded wings allowed these Banshees to be parked close together, reducing the amount of ramp space required. The longer noses of two F2H-2N night fighter variants are at the end of this line of standard F2H-2s. (MDC)

(Right) Besides the new tip tanks and strengthened wing, the F2H-2's fuselage was extended 14 inches (35.6 cm) ahead of the wing for additional fuel storage. This additional weight required an upgrade of the powerplant to the 3150 pound thrust J34-WE-34 engine, which replaced the F2H-1's 3000 pound thrust J34-WE-22. (MDC)



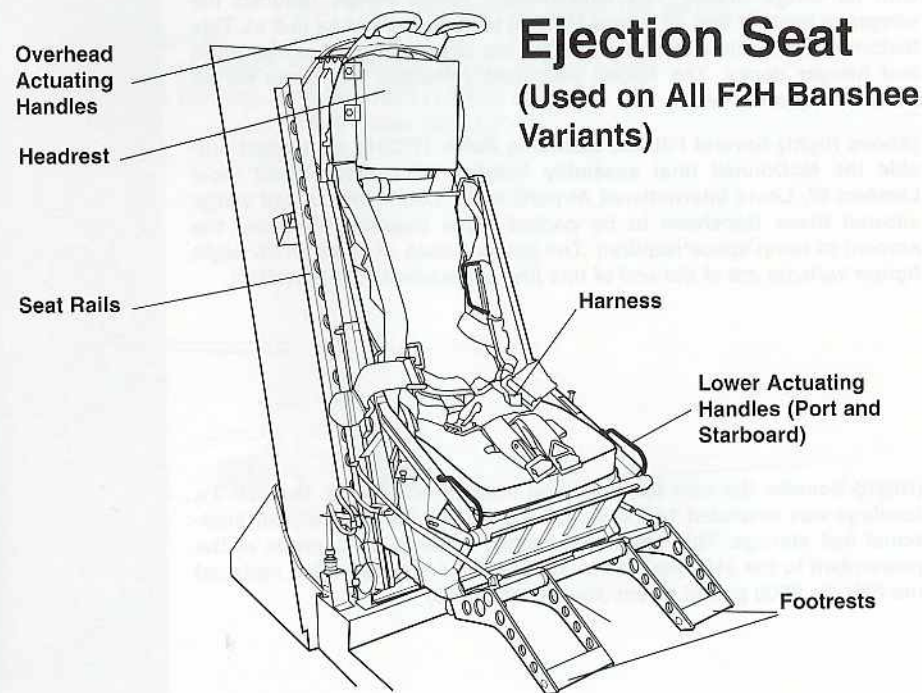


The F2H cockpit was roomy and well laid out for the pilot. The instrument panel was easy to read at a glance and the side consoles were just a short reach from the ejection seat. A cover is placed over the gun sight mounted atop the instrument panel. F2H cockpits were primarily Interior Green (FS34151), with black panels and instrument bezels. (MDC)

A plane captain sits in the McDonnell-developed ejection seat on this VF-172 F2H-2 aboard USS ESSEX (CV-9). A colleague stands on the port outer landing gear door while he cleans the lower wing surface. The Banshee had outward retracting landing gear, which replaced the FH-1 Phantom's inward retracting gear. (US Navy)



An F2H-2 (F-107/BuNo 123261) assigned to VF-22 is parked on the flight deck of USS LAKE CHAMPLAIN (CVA-39) during the Korean War. Metal bracing struts are placed between the folded upper wing surfaces and the fuselage. These struts reduce pressure on the wing fold mechanism when the Banshee's wings are folded for an extended period.



Overhead Actuating Handles

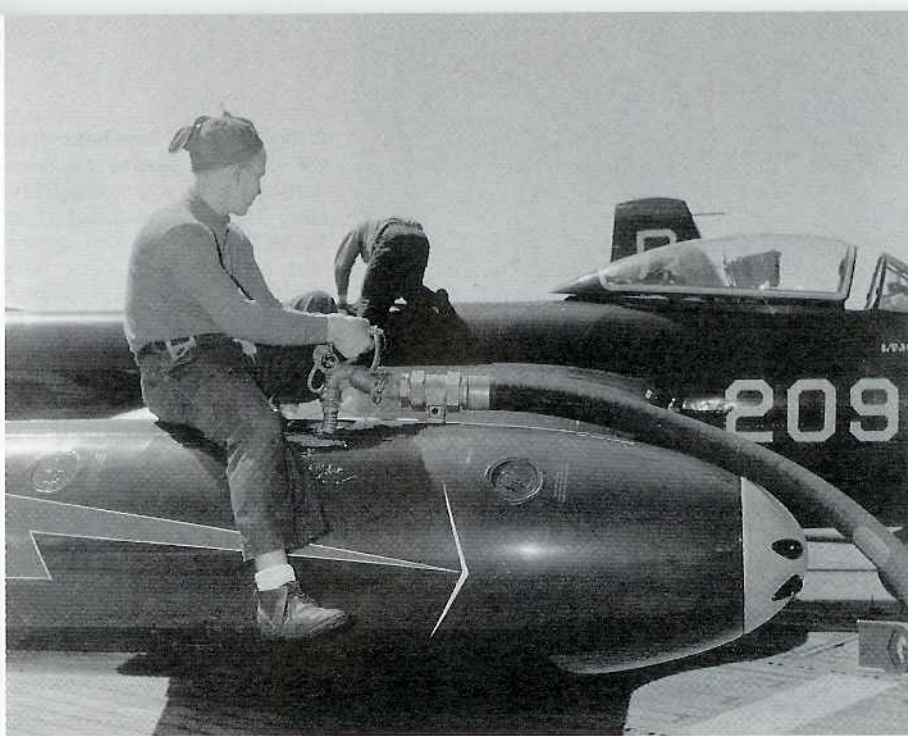
Headrest

Seat Rails

Harness

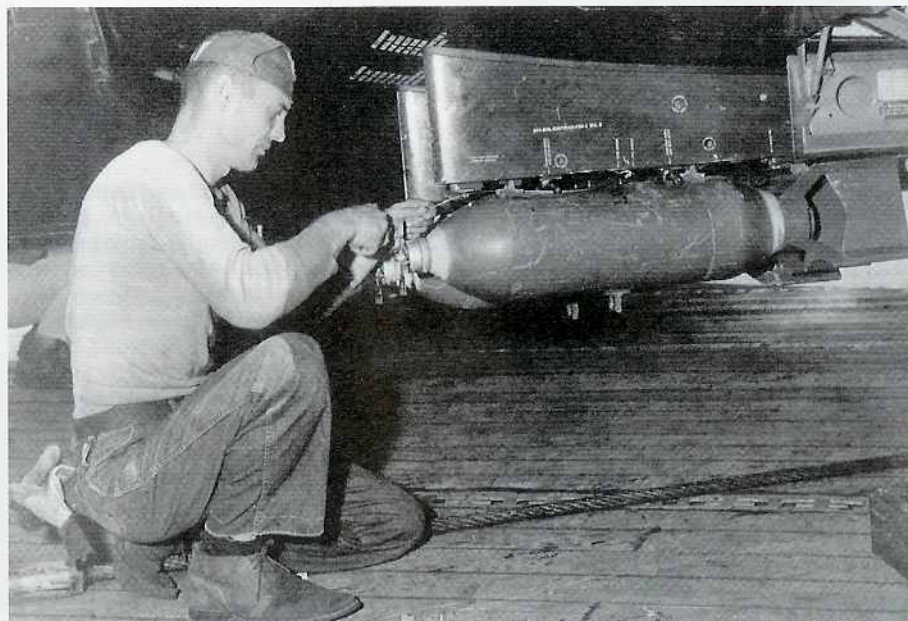
Lower Actuating Handles (Port and Starboard)

Footrests



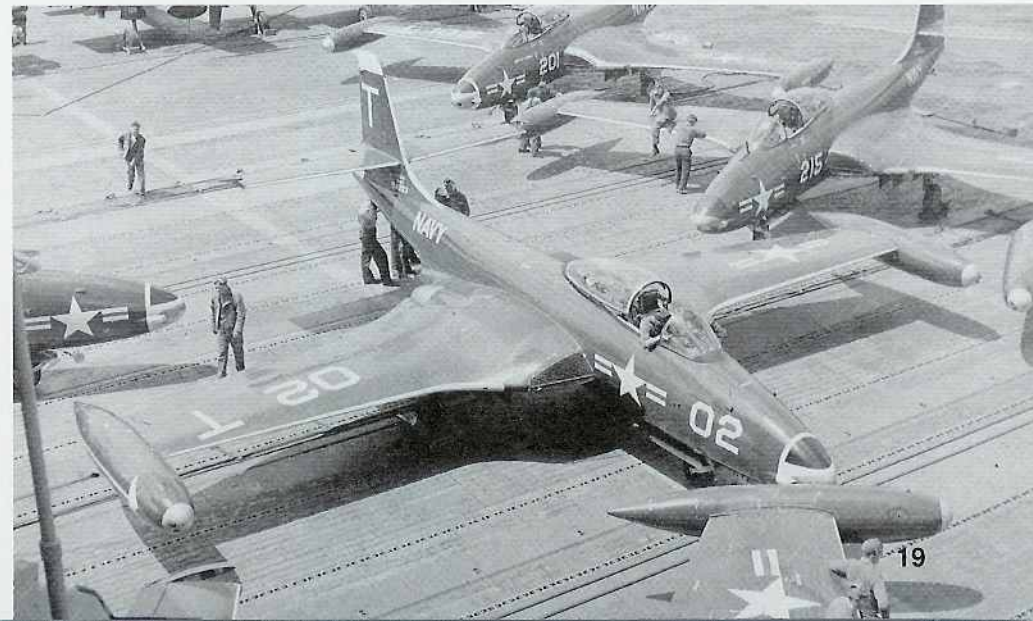
This VF-172 F2H-2 is being fueled for a strike against communist targets over North Korea in August of 1951. The 200 gallon wing tip tanks had a number of fueling points along the side and top. A weld line appeared just under the leg of the sailor fueling the tank. (USN)

An armorer fuses two 250 pound (113.4 kg) bombs under the port wing of an F2H-2. The bomb pylons fitted under the inboard wing surfaces held four 250 or 500 pound (226.8 kg) weapons. Zero length rocket launchers for 5 inch (12.7 cm) High Velocity Air Rockets (HVARs) were mounted on the outer wings. (MDC)



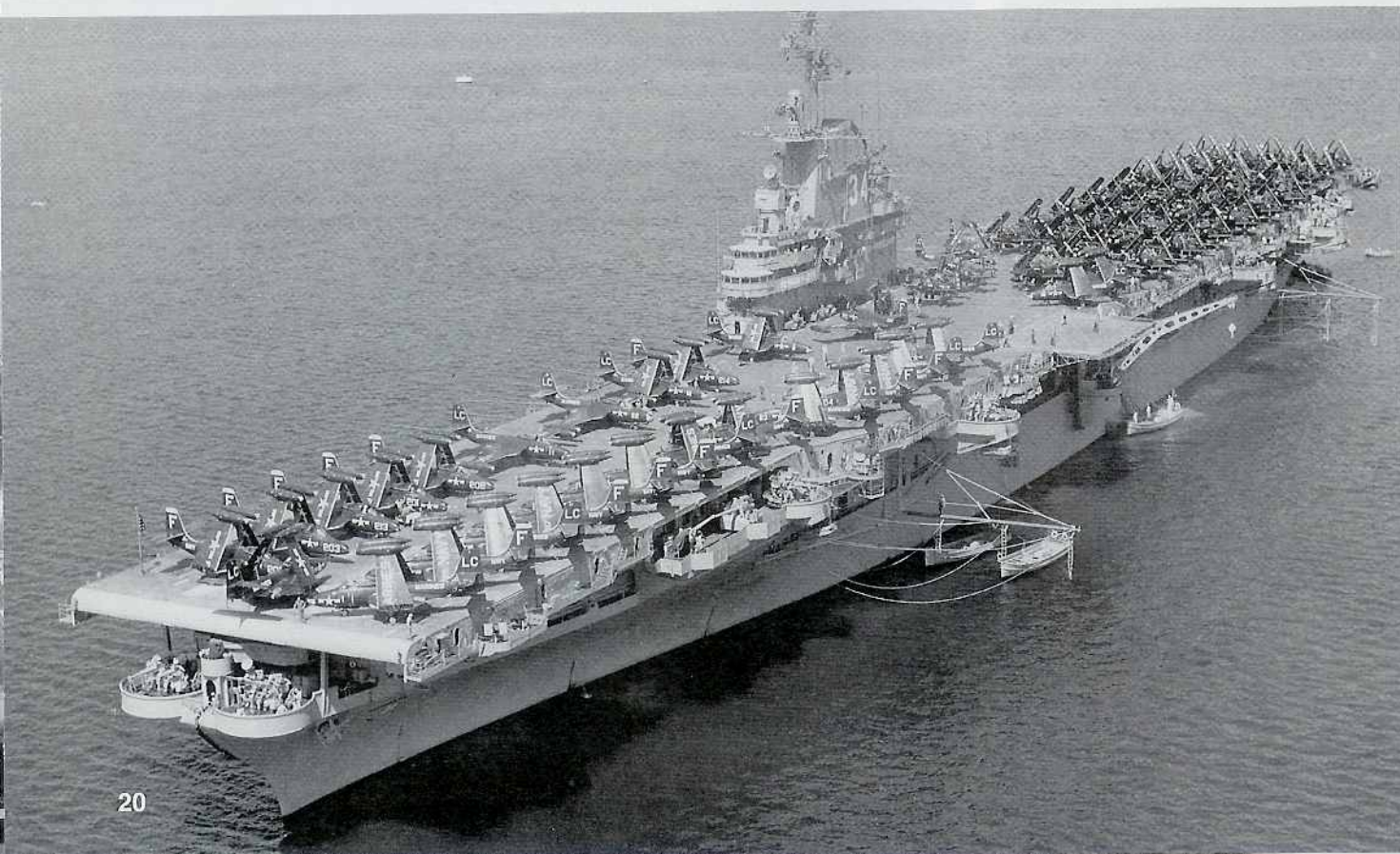
The F2H-2 tip tanks were not permanently attached to the wing tips, but could be removed as needed for maintenance or repair. This deck crew aboard FRANKLIN D. ROOSEVELT (CVB-42) replaces a tip tank during operations in the Mediterranean. The crew held the tank in position while it was fastened to the wing. (USN)

Deck hands await launch orders before spotting these F2H-2s. Red anti-Foreign Object Damage (FOD) screens placed on the intakes protect the engines prior to start. Aircraft 02's number was painted ahead of the national insignia, while other Banshees have their numbers aft of this marking. (USN)





A flight of four Banshees from VMF-122, 2nd Marine Air Wing participate in a training exercise. This unit was based at MCAS Beaufort, South Carolina and previously flew the Marine's first jet fighter, the FH-1 Phantom. The aft fuselage MARINES title was adopted for USMC aircraft on 27 February 1950. The NAVY title was adopted for Navy aircraft at the same time. (USMC)



Two squadrons of Navy and Marine Banshees are loaded on the forward deck of USS ORISKANY (CV-34) during a deployment to the Mediterranean Sea in the spring of 1951. The Marine F2H-2s (tail code LC) were from VMF-122, while the Navy Banshees (tail code F) were assigned to VF-22. ORISKANY is anchored at La Spezia, Italy while on this Mediterranean deployment. Whaleboats tied beside the carrier ferried sailors to and from shore on liberty. Besides the Banshees, the ship embarked AD Skyraiders, F4U Corsairs, and two F8F Bearcats. (USN)

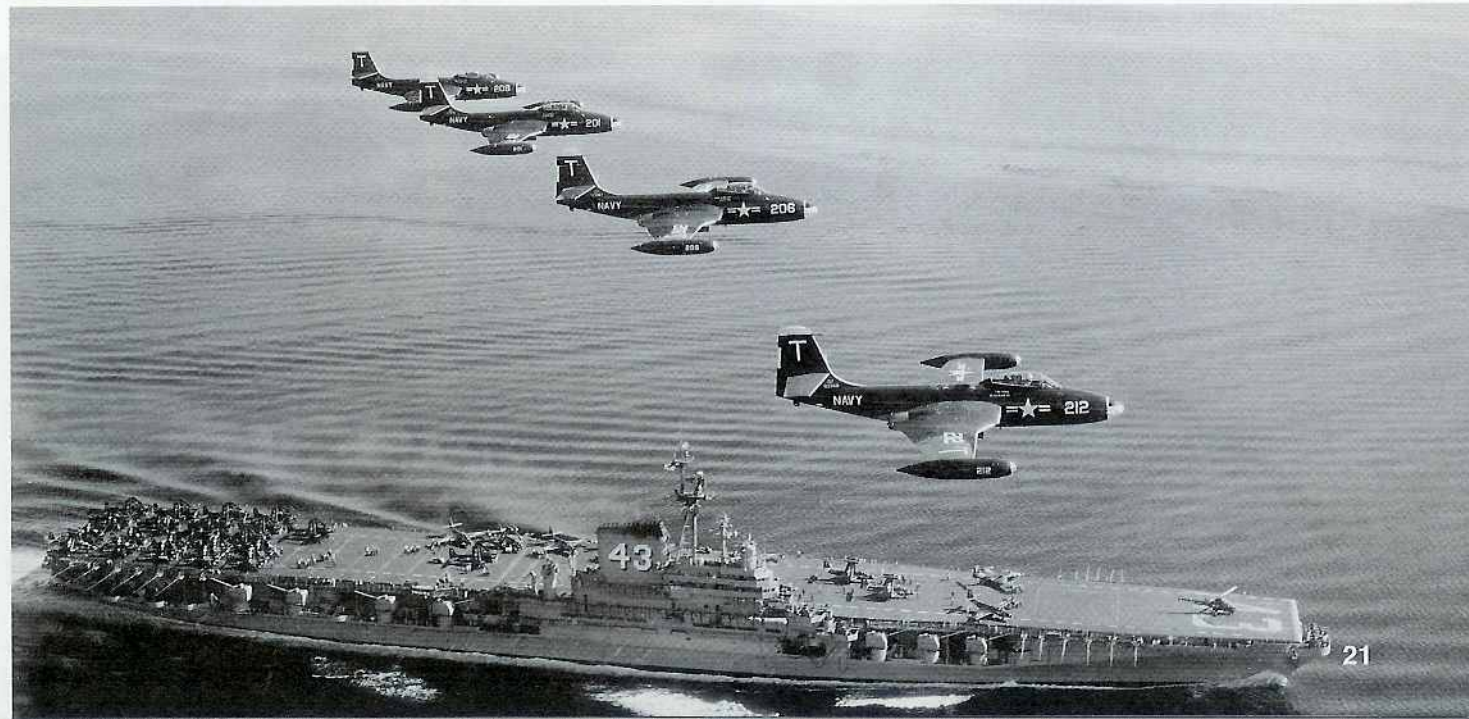


Ground crewmen prepare an F2H-2 for a training mission from MCAS Cherry Point, North Carolina during the early 1950s. The aircraft was assigned to VMF-224, the second Marine Banshee squadron. The Marines found the Banshee to be a stable bombing platform in close air-ground support, which is a Marine specialty. (Zylman)



All Banshees were equipped with a hydraulically activated arresting hook for carrier landings. This hook was lowered from the aft fuselage undersurface to catch one of the carrier's arresting cables. The tail hook appears to be painted in red and white bands, although US Navy regulations called for tail hooks to be painted in black and white bands for visibility by deck crews.

Four Banshees from VF-12 fly over USS CORAL SEA (CVB-43) during operations in the Mediterranean in June of 1951. CORAL SEA was the last of three MIDWAY class carriers, following MIDWAY (CVB-41) and FRANKLIN D. ROOSEVELT. (The MIDWAY class' designation was changed from CVB to CVA in 1952.) By this time, the Korean War had been going on for a year, but the F2H-2 had yet to make its combat debut. That changed in two months, with the arrival of VF-171's F2H-2s aboard USS ESSEX (CV-9). (USN)



F2H-2B Banshee

In an effort to increase the Banshee's versatility, McDonnell built 27 F2H-2s with strengthened wings. Designated **F2H-2B**, this variant could carry up to 3000 pounds (1360.8 kg) of conventional ordnance under the inboard wing surfaces. Much of this additional capacity was devoted to carrying either a 1650 pound (748.4 kg) Mk 7 or a 3230 pound (1465.1 kg) Mk 8 tactical nuclear weapon under the port wing. The F2H-2B specifications were unchanged from the standard F2H-2.

The modified Banshees were parceled out to various Composite Squadron (VC) and Test Squadron (VX) units on both the East and West Coasts. These squadrons detached F2H-2Bs for subsequent assignment to various carriers. The pilots then conducted a regular series of tests with the new ordnance, with the goal of developing new weapons delivery tactics. The F2H-2Bs were also used to determine the optimum fuel consumption, which would enable Banshee pilots to get the greatest possible range from their aircraft. A wide variety of techniques were used to increase the Banshee's radius of action. These techniques included flying or cruising at high altitudes, using the jet stream, and single engine use at high altitudes to achieve a glider or sailplane effect. The information gained from these F2H-2B tests provided the Navy with valuable data for future operations and aircraft design.

Two F2H-2Bs from VX-5 prepare to make a practice bomb run off the California coast in early 1953. Only 27 F2H-2Bs were built and they were assigned to a number of Composite (VC) and Test (VX) squadrons, which provided detachments as needed to the Fleet. The nose flash is white and the tip tanks are apparently the same color. These specially modified Banshees could carry up to 3000 pounds (1360.8 kg) of external ordnance, including a tactical nuclear weapon. (USN/NA)

F2H-2N Banshee

Early in the Banshee's development, both Navy and McDonnell engineers began looking into fitting the aircraft with radar to provide the fleet with a viable night fighter. Differing views by each party as to how to arrange the radar and armament slowed development. A compromise was eventually reached in which the F2H-2's nose was extended 33.6 inches (85.3 cm), which increased the fuselage length to 42 feet 11.6 inches (13.1 m). The stretched nose housed an AN/APS-19 radar unit looking through a small, rounded fiberglass radome. The four 20MM M3 cannon, originally arrayed across the nose, were rearranged to provide additional room. Two cannon were mounted on each side of the nose, their muzzle ports breaking the fuselage skin just behind the radome. The ammunition capacity of 150 rounds per gun remained the same as for the standard F2H-2. It is believed that the underwing bomb and rocket carrying capability were deleted from this variant. The new fighter suffered no degradation in performance as a result of the longer nose and radar unit. The new all-weather fighter received the designation **F2H-2N**.

The F2H-2N prototype aircraft (BuNo 123300) first flew on 3 February 1950, but production was limited to only 14 aircraft. One of these Banshees was lost after a crash during the test program, another was sent to the Naval Air Test Center (NATC), and the remaining 12 were assigned to VC-4. VC-4 was a shore-based Composite Squadron, whose aircraft were deployed to Atlantic Fleet carriers as the need arose. One F2H-2N (BuNo 123311) was eventually modified into the prototype for the **F2H-3**, which became the all-weather Fleet fighter during the early 1950s and succeeded the F2H-2N in squadron service.

F2H-2 Banshee

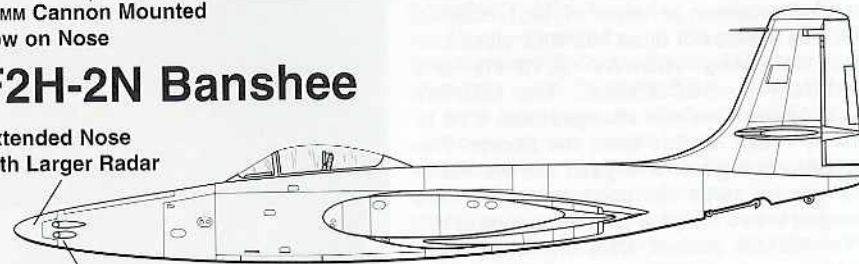
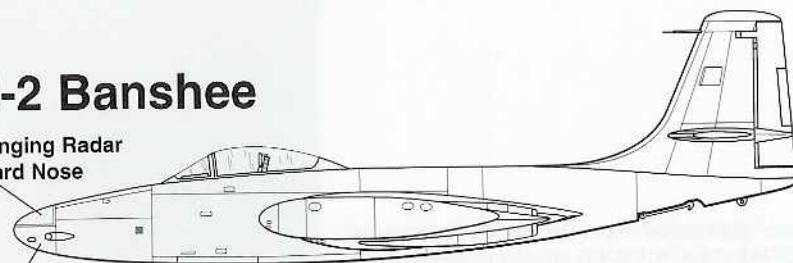
Small Ranging Radar
in Standard Nose

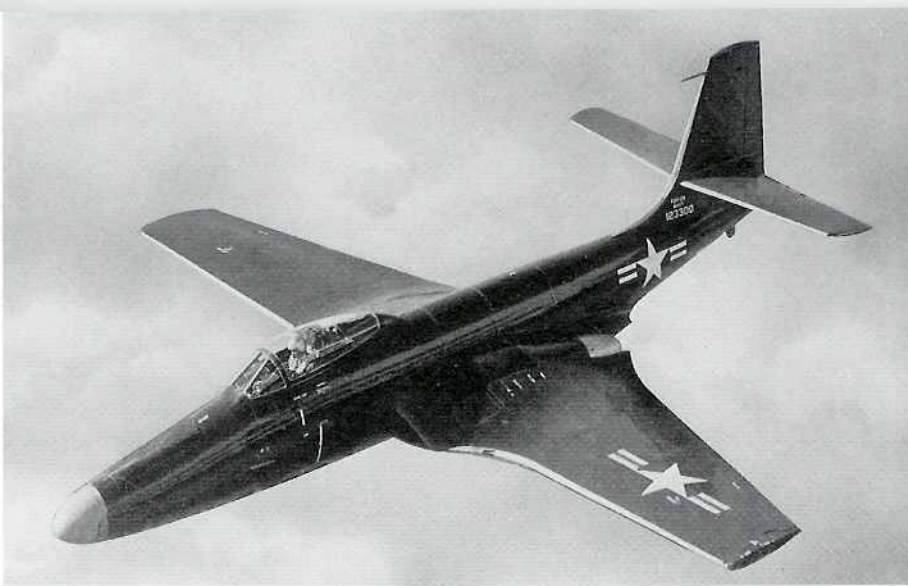
20MM Cannon Mounted
Low on Nose

F2H-2N Banshee

Extended Nose
with Larger Radar

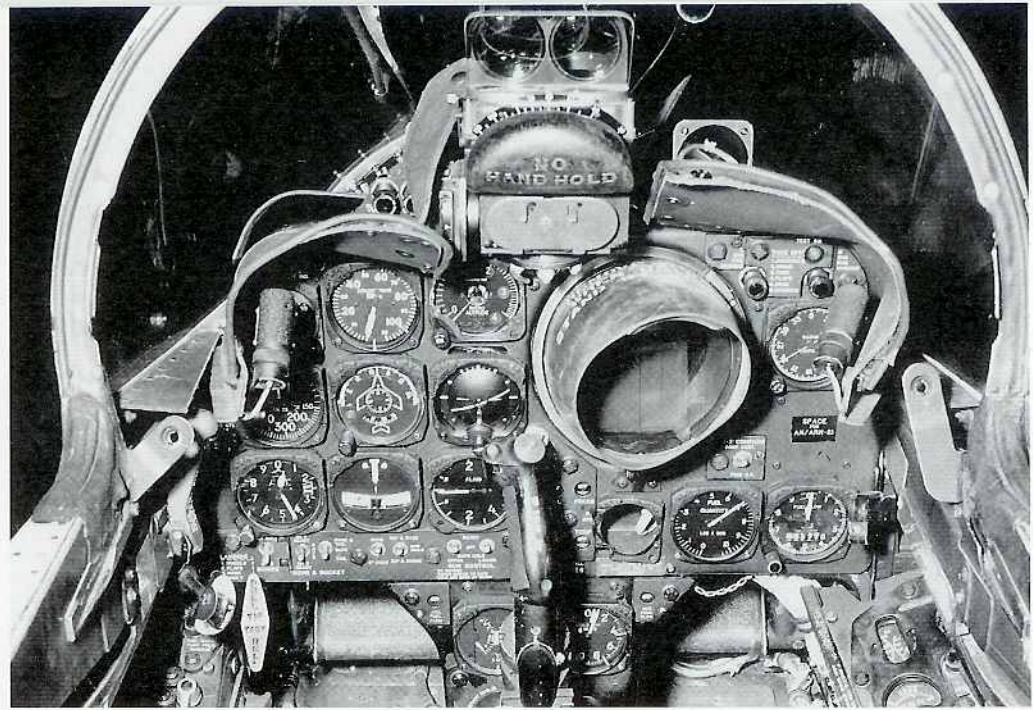
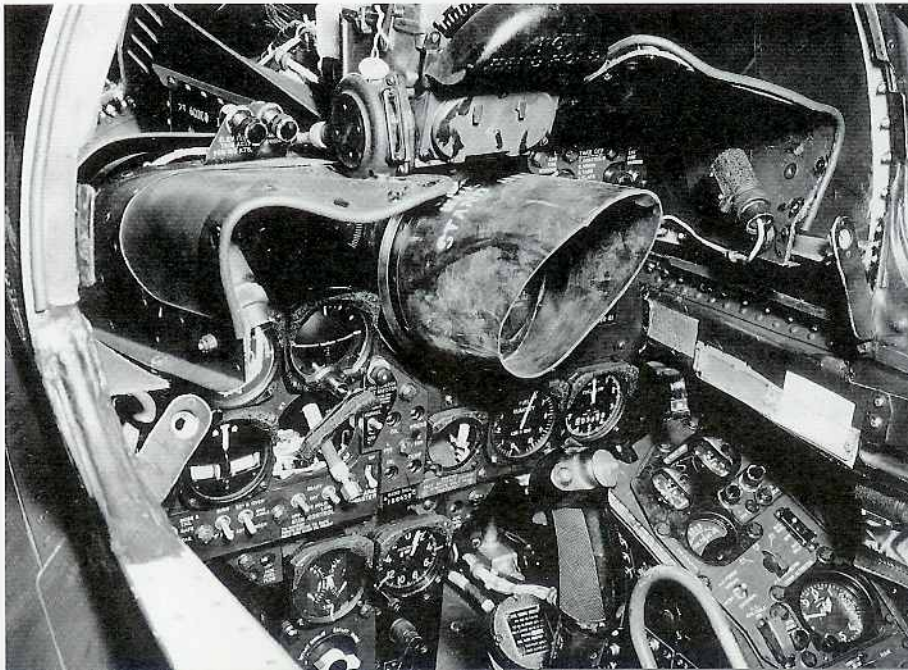
20MM Cannon Mounted
on Side of Nose





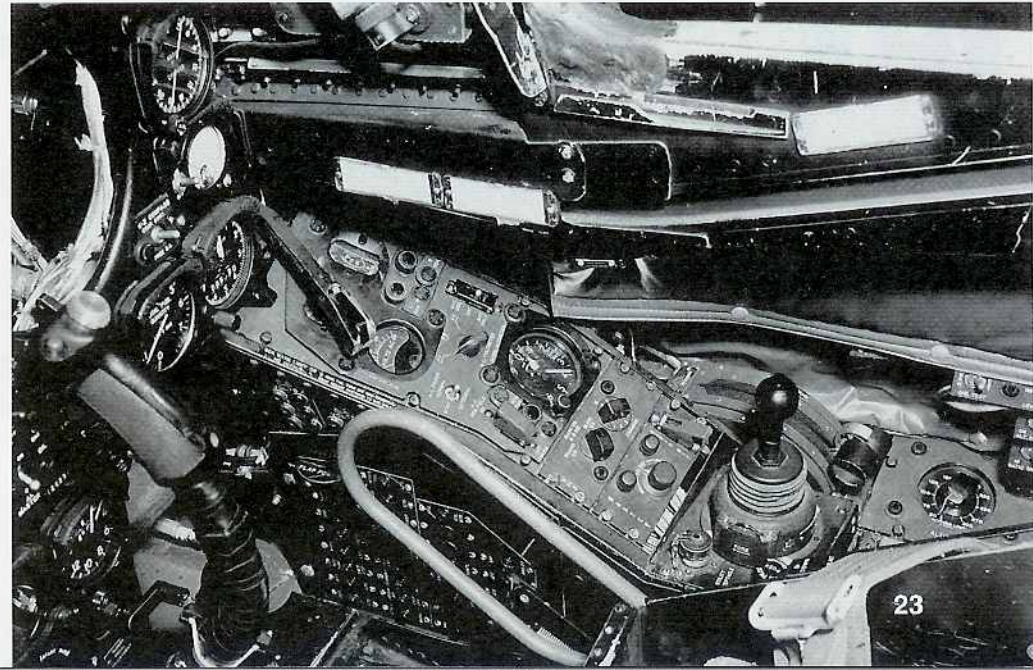
The prototype F2H-2N (BuNo 123300) made its first flight from St. Louis on 3 February 1950. It was not fitted with the 200 gallon wingtip fuel tanks, but these tanks were standard on production aircraft. The F2H-2N's nose was extended 33.6 inches (85.3 cm) to house the AN/APS-19 radar set. The Banshee's four 20mm cannon were rearranged to allow more room for the radar equipment. The guns were mounted above each other on both the port and starboard sides of the nose, rather than the F2H-2's staggered fitting. (MDC)

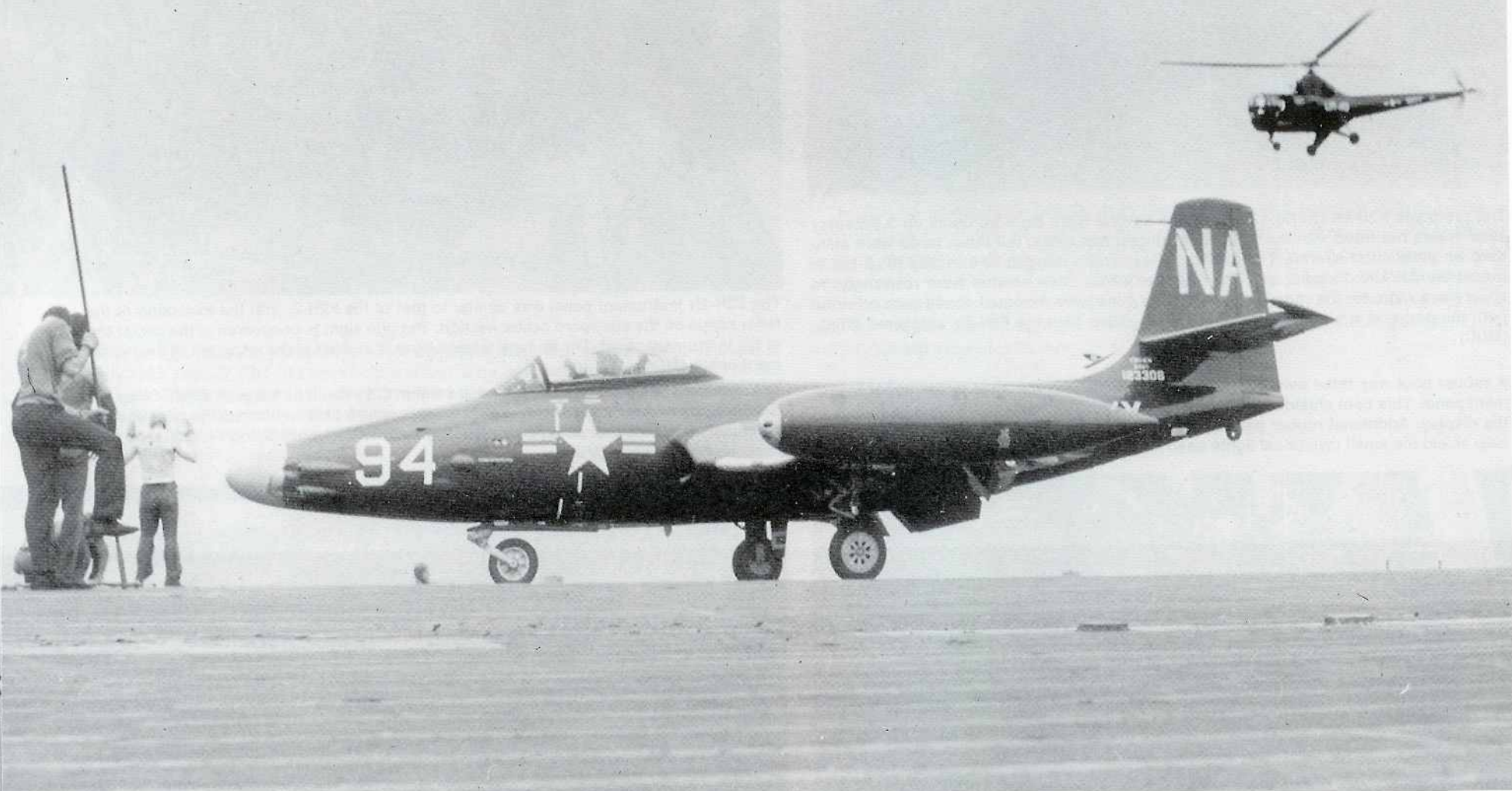
A rubber boot was fitted over the radar scope, which was mounted in the upper instrument panel. This boot shielded the scope from instrument lights while the pilot looked at the display. Additional rubber panels were also placed on the panel's upper section to help shield the small cylindrical lights used for illumination during night flying. (MDC)



The F2H-2N instrument panel was similar to that of the F2H-2, with the exception of the radar scope on the starboard center section. The gun sight is uncovered at the center top of the instrument panel. The tip tank release lever is located at the lower left of the instrument panel. (MDC)

The starboard console had circuit breakers within easy reach by the pilot's feet. Other circuit breakers were mounted to the port side. There was little to distract the pilot and the various panels were laid out in a neat, logical manner that made flying the Banshee relatively straightforward. (MDC)

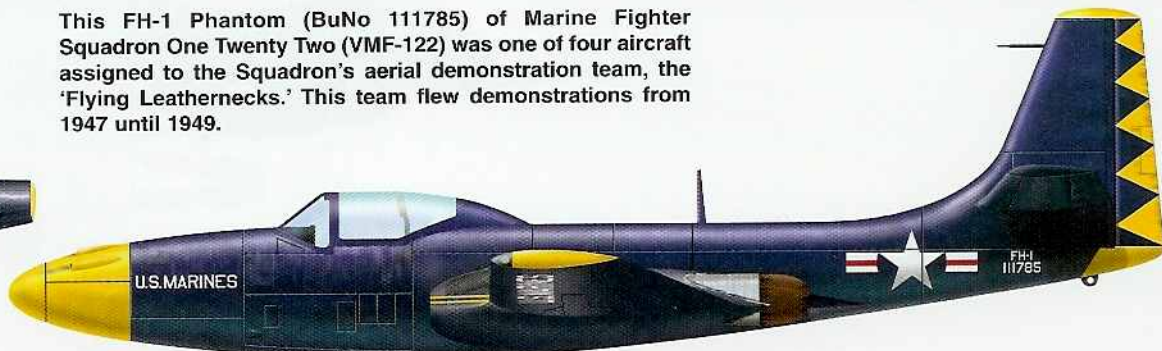




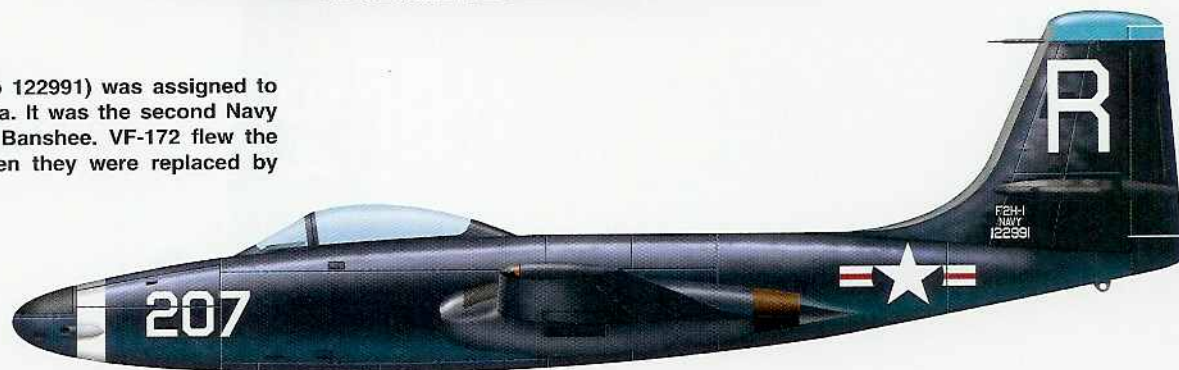
An F2H-2N (NA-94/BuNo 123308) of Composite Squadron Four (VC-4) taxis on ESSEX during flight operations. The Banshee is painted overall Glossy Sea Blue (FS15042), with natural metal leading edges and a tan (approximately FS33613) radome. One deck crewman holds the long tool used to help disengage the arresting cable from the aircraft's tail hook

after recovery aboard the ship. One of the 14 F2H-2Ns built was lost during testing and another was assigned to the NATC at NAS Patuxent River. The remaining 12 Banshees were assigned to VC-4, which supplied detachments to Atlantic Fleet carriers as the need arose. A Sikorsky HO3S 'plane guard' helicopter hovers near the carrier. (MDC)

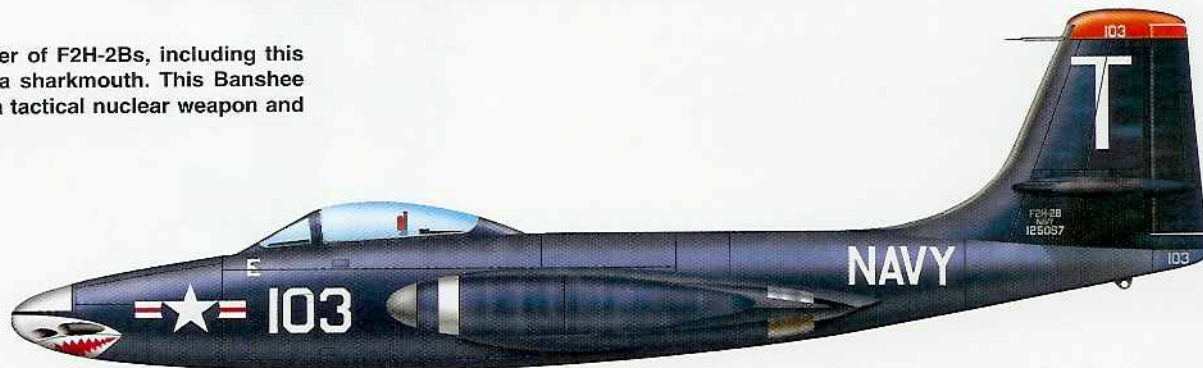
This FH-1 Phantom (BuNo 111785) of Marine Fighter Squadron One Twenty Two (VMF-122) was one of four aircraft assigned to the Squadron's aerial demonstration team, the 'Flying Leathernecks.' This team flew demonstrations from 1947 until 1949.



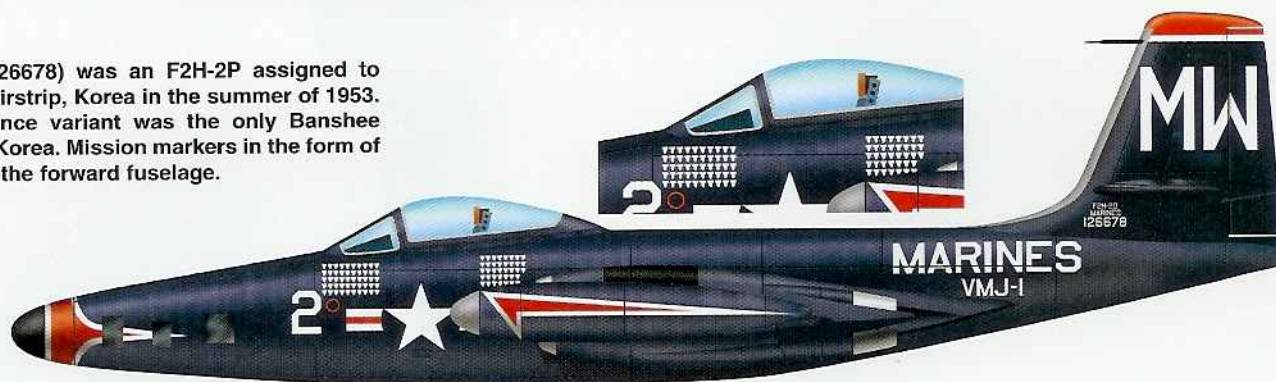
This F2H-1 Banshee (R-207/BuNo 122991) was assigned to VF-172 at NAS Cecil Field, Florida. It was the second Navy fighter squadron to operate the Banshee. VF-172 flew the F2H-1 from 1949 until 1950, when they were replaced by newer F2H-2s.



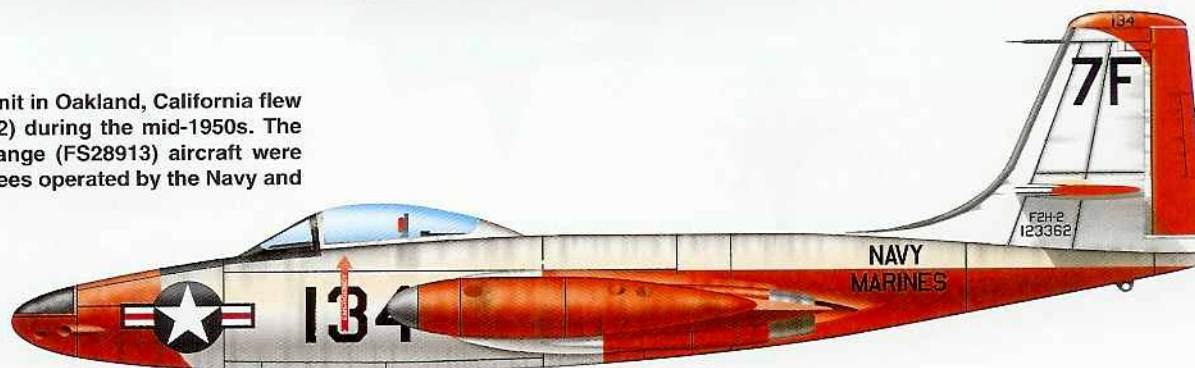
VF-101 operated a small number of F2H-2Bs, including this one (T-103/BuNo 125067) with a sharkmouth. This Banshee variant was designed to carry a tactical nuclear weapon and featured strengthened wings.



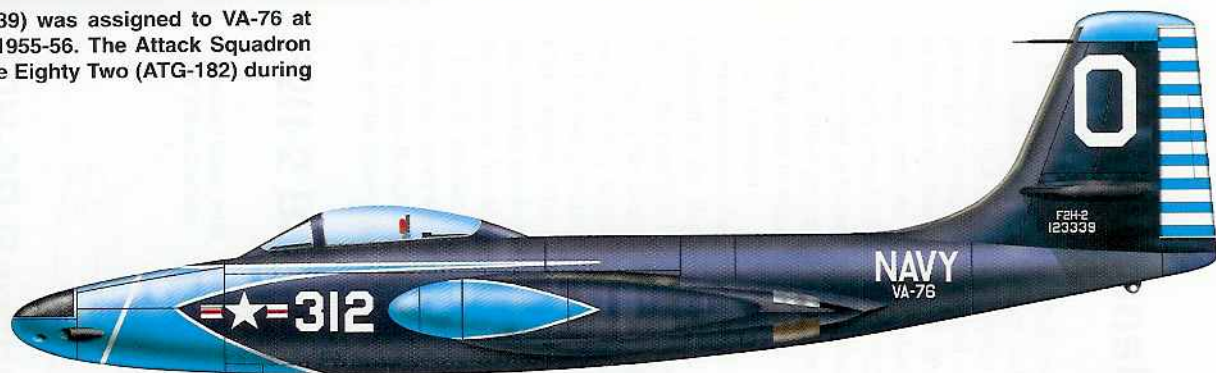
Aircraft MW-2 (BuNo 126678) was an F2H-2P assigned to VMJ-1 at Pohang (K-3) airstrip, Korea in the summer of 1953. The photo reconnaissance variant was the only Banshee flown by the Marines in Korea. Mission markers in the form of cameras are painted on the forward fuselage.



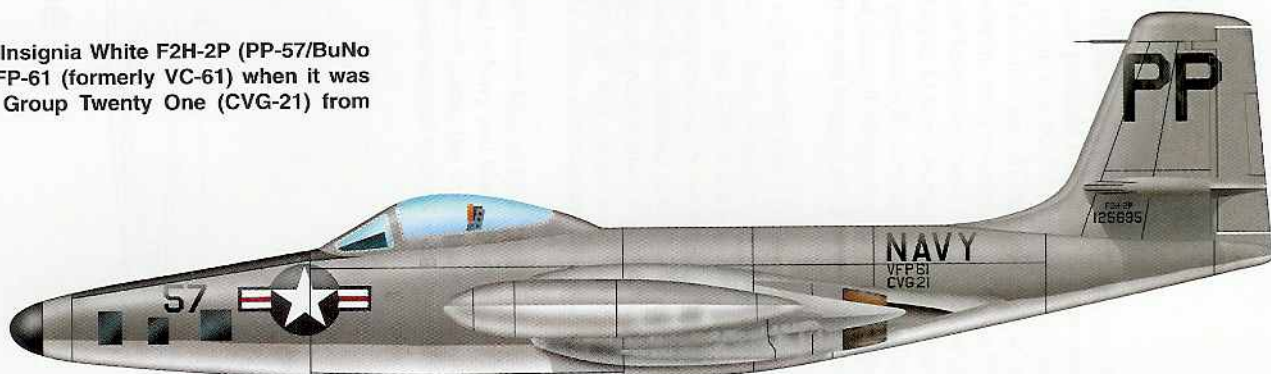
The Navy and Marine Reserve unit in Oakland, California flew this F2H-2 (7F-134/BuNo 123362) during the mid-1950s. The white and Fluorescent Red Orange (FS28913) aircraft were among the most colorful Banshees operated by the Navy and Marines.



This F2H-2 (O-312/BuNo 123339) was assigned to VA-76 at NAS Oceana, Virginia during 1955-56. The Attack Squadron was part of Air Task Group One Eighty Two (ATG-182) during this timeframe.



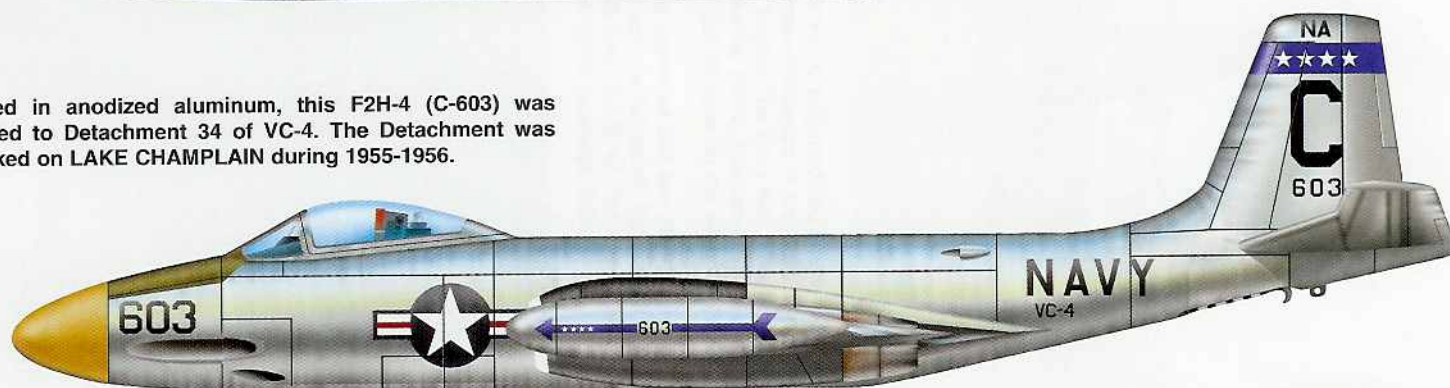
The Light Gull Gray and Insignia White F2H-2P (PP-57/BuNo 125695) was flown by VFP-61 (formerly VC-61) when it was detached to Carrier Air Group Twenty One (CVG-21) from 1955 until 1957.



This F2H-3 (I-109/BuNo 126382) was assigned to VF-41, ATG-181 aboard USS FORRESTAL (CVA-59) during early operations of the first 'super carrier' in 1956. It retains the earlier Glossy Sea Blue (FS15042) color scheme.



Finished in anodized aluminum, this F2H-4 (C-603) was assigned to Detachment 34 of VC-4. The Detachment was embarked on LAKE CHAMPLAIN during 1955-1956.



VF-870, Royal Canadian Navy flew this F2H-3 (112/126295) during 1958-59. Shore based at Shearwater NAS, Nova Scotia, the Banshees formed part of the air unit aboard HMCS BONAVENTURE (CVL-22) in the late 1950s and early 1960s.



F2H-2P Banshee

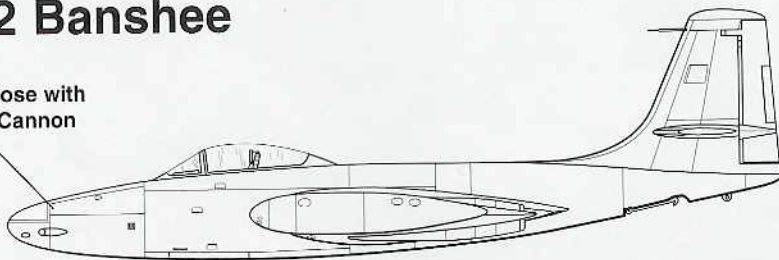
The F2H-2's excellent range and high altitude performance impressed US Navy officials, who decided that the Banshee had great potential for further development as a fleet photo-reconnaissance platform. A standard production F2H-2 (BuNo 123336) was modified into a prototype reconnaissance aircraft and first flew on 12 October 1950. The modifications made to this aircraft, designated **F2H-2P**, were the most extensive made to any F2H-2 airframe. The nose was completely redesigned both in length and shape. This increased the Banshee's overall length from 40 feet 2 inches (12.2 M) to 42 feet 5 inches (12.9 M). Up to six cameras could be mounted in the new nose. Remote controls in the cockpit allowed the pilot to rotate the cameras in either the vertical or horizontal plane. Additionally, the camera panels were fitted with heating units to reduce the effects of frost and fogging down to temperatures of -80° Fahrenheit (-62.2° Celsius).

Provisions were also included for night photography. Two pods, mounted under the wings outboard of the flaps, each contained 20 flash cartridges. The camera's shutter was tripped when the cartridge lit up over the target. The F2H-2P did not carry guns, with the pilot either relying on the Banshee's speed, altitude performance, or the accompanying fighter escort to escape enemy fighters. Its overall speed was reduced from 575 MPH (925.3 KMH) to 529 MPH (851.3 KMH), while its range and altitude performance was generally similar to that of the F2H-2 fighter. This was primarily due to the new, longer nose and the weight reduction resulting from the deletion of the four 20MM cannon and its ammunition. Other dimensions remained the same as for the F2H-2.

F2H-2P production ran from late 1950 until May of 1952. Apart from the prototype, 89 additional airframes were procured for use by Navy and Marine Corps reconnaissance squadrons. The photo Banshee saw extensive service during the Korean War and remained in service as one of the Navy's primary reconnaissance aircraft until its retirement in 1960.

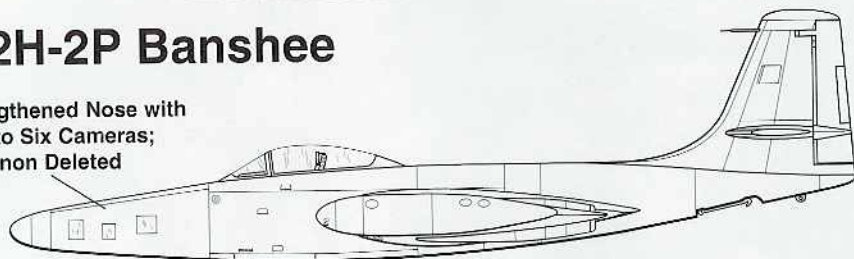
F2H-2 Banshee

Standard Nose with
Four 20MM Cannon



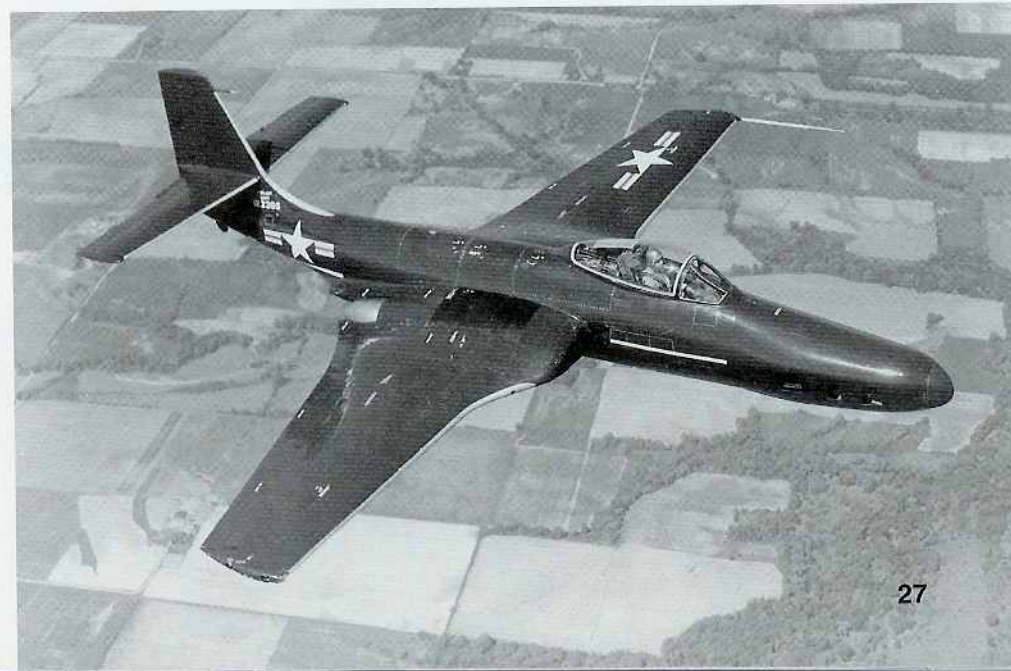
F2H-2P Banshee

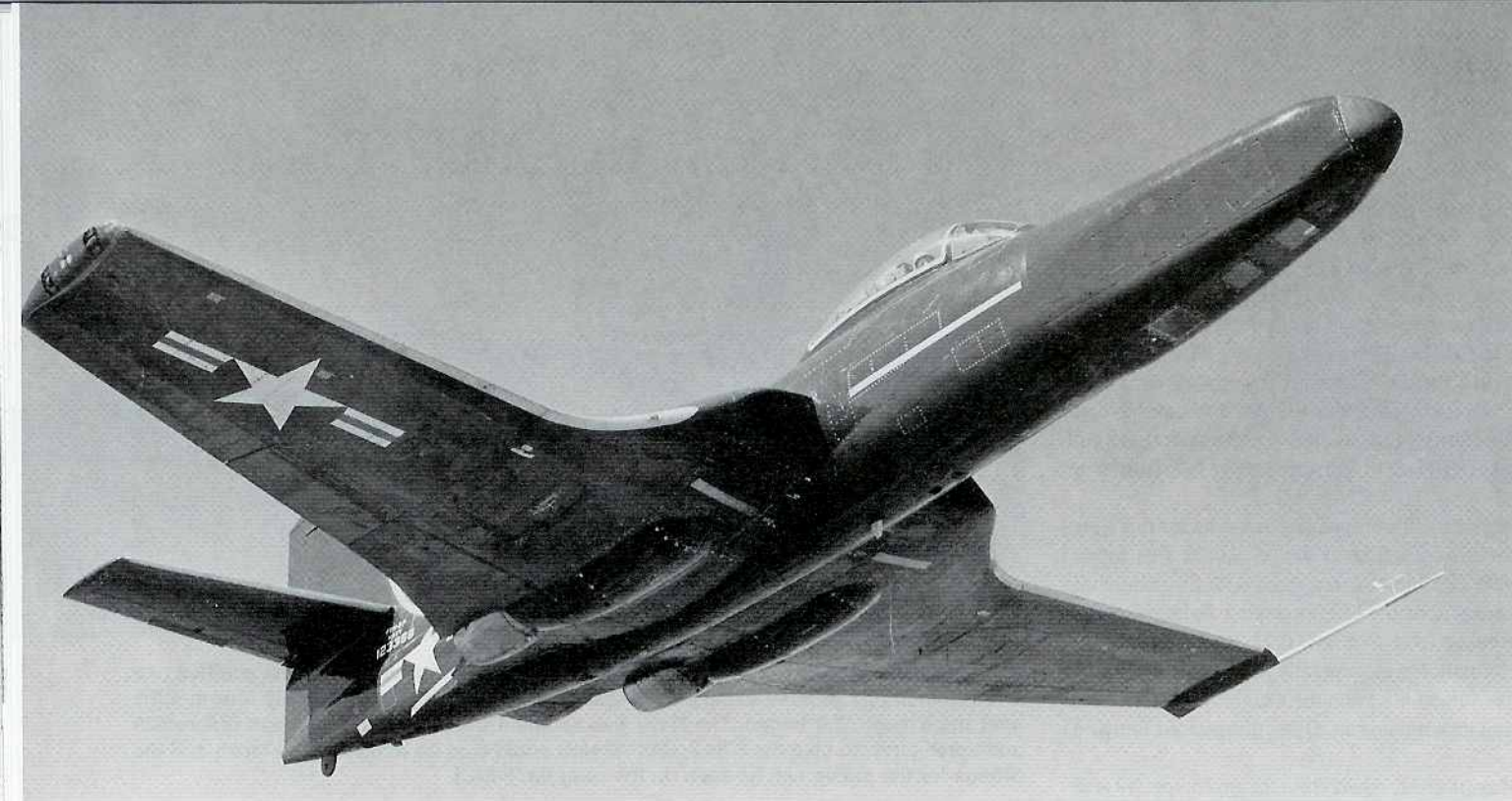
Lengthened Nose with
Up to Six Cameras;
Cannon Deleted



A standard production F2H-2 was modified into the F2H-2P prototype by the addition of a 2 foot 3 inch (0.7 M) nose extension. It first flew in October of 1950, nearly four months after the Korean War began. The Navy was satisfied with the new model and ordered 89 additional aircraft. Like the F2H-2, this version could also be fitted with tip tanks and the fittings for the piping can be seen on the wing tip. (MDC)

The F2H-2P had a top speed of 529 MPH (851.3 KMH) and excellent high altitude performance. No armament was carried which lightened it considerably and allowed it to reach altitudes above 50,000 feet (15,240 M). The nose was bulged to the sides, but was faired smoothly with the rest of the fuselage. (MDC)



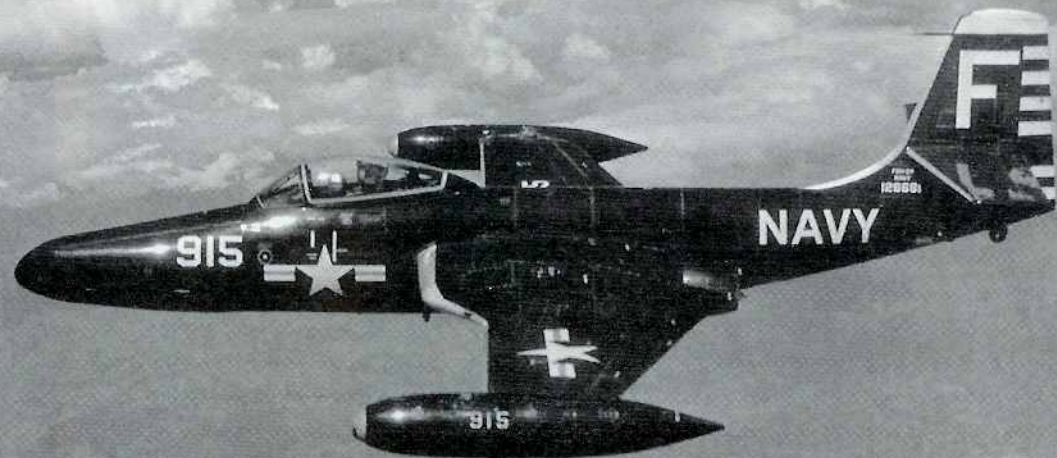


(Left) The F2H-2P carried six cameras in its elongated nose, which could be rotated in flight through either the vertical or horizontal axis. This allowed pilots to take oblique photographs of their targets. The nose glass was heated to eliminate the problem of frost or fogging up to -80° Fahrenheit (-62.2° Celsius). A test data boom was mounted on the port wing. This was not found on production F2H-2Ps. (MDC)

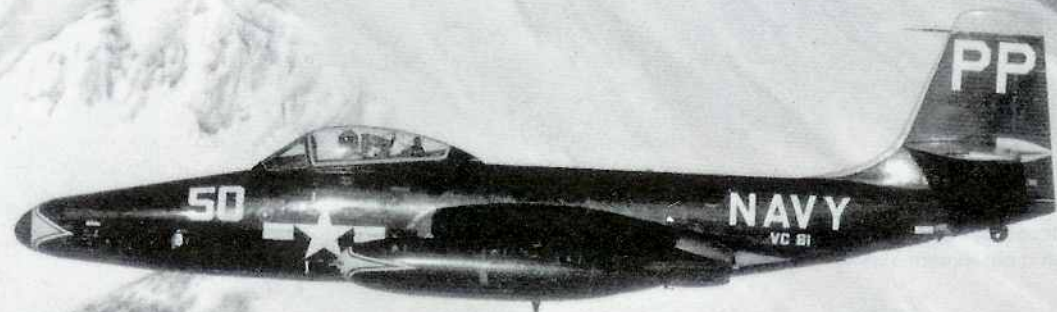
(Below) The F2H-2P was assigned to several composite squadrons that provided detachments to various carriers. A mixed formation of F2H-2s and photo Banshees fly over the Florida panhandle on a training exercise from NAS Jacksonville, Florida. Jacksonville-based VC-62 provided one detachment to USS ORISKANY (CV-34) during the Korean War, but mainly provided photo assets for the Atlantic Fleet. (USN)

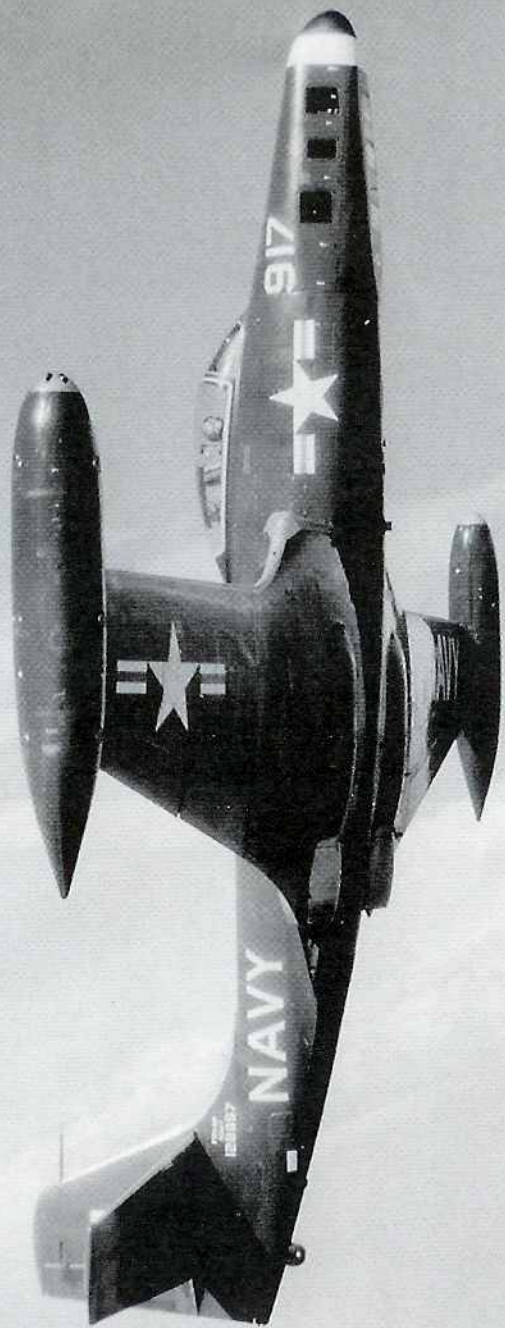


(Right) This F2H-2P (F-915/BuNo 126681) is marked with the tail colors and markings of VF-62 off USS LAKE CHAMPLAIN. It is believed to be one of the deployed aircraft from VC-62, which carried 900 series codes. The tail markings were white on the Glossy Sea Blue aircraft. Leading edges and tip tank noses were dull Aluminum (FS37178), which was designed to resist rain erosion. (USN)

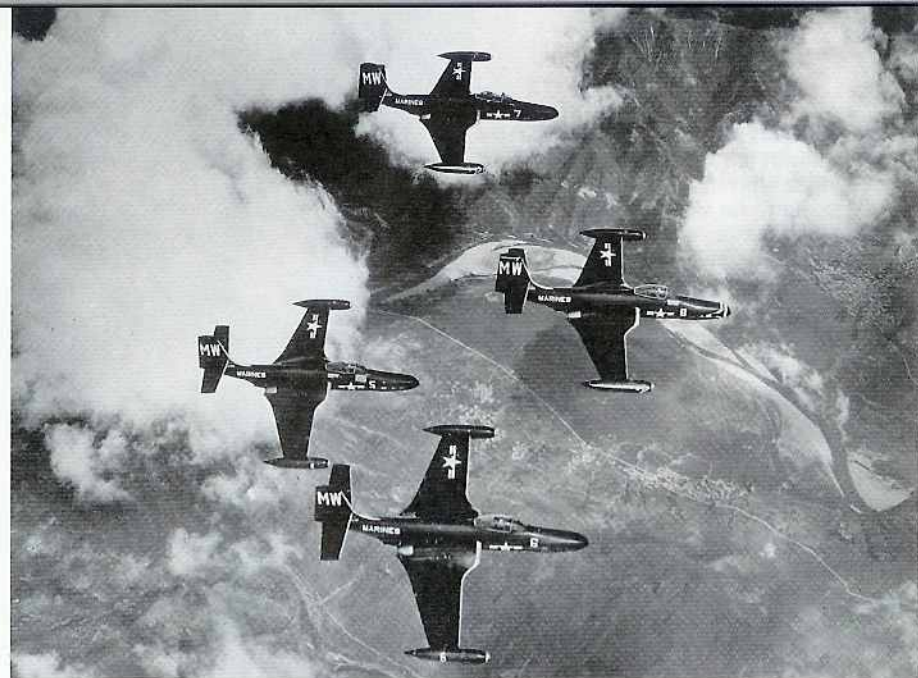


(Below) An F2H-2P (PP-50) of VC-61 flies past Japan's Mount Fuji. The aircraft was embarked on USS KEARSARGE (CVA-33) during this deployment. VC-61 provided detachments for seven carriers in Korea and was primarily responsible for Pacific Fleet deployments. This Squadron was based at NAS Miramar, California. The nose, tip tanks, and tail are trimmed in Insignia Red (FS11136). (USN)





This F2H-2P (BuNo 128857) demonstrates its climbing performance with a near vertical ascent over Jacksonville, Florida. The much-lightened F2H-2P had an outstanding altitude performance compared to the regular F2H-2, due to the deletion of all armament and its associated equipment. (USN)



A quartet of F2H-2Ps from VMJ-1 fly over Korea. This was one of two Marine photo Banshee units. VMJ-1 was formed in February of 1952 and saw extensive service in Korea, operating out of Pohang (K-3) airfield. The Squadron's tail code was MW and some aircraft featured red and white markings on the nose, tip tanks, and tail. (USMC)

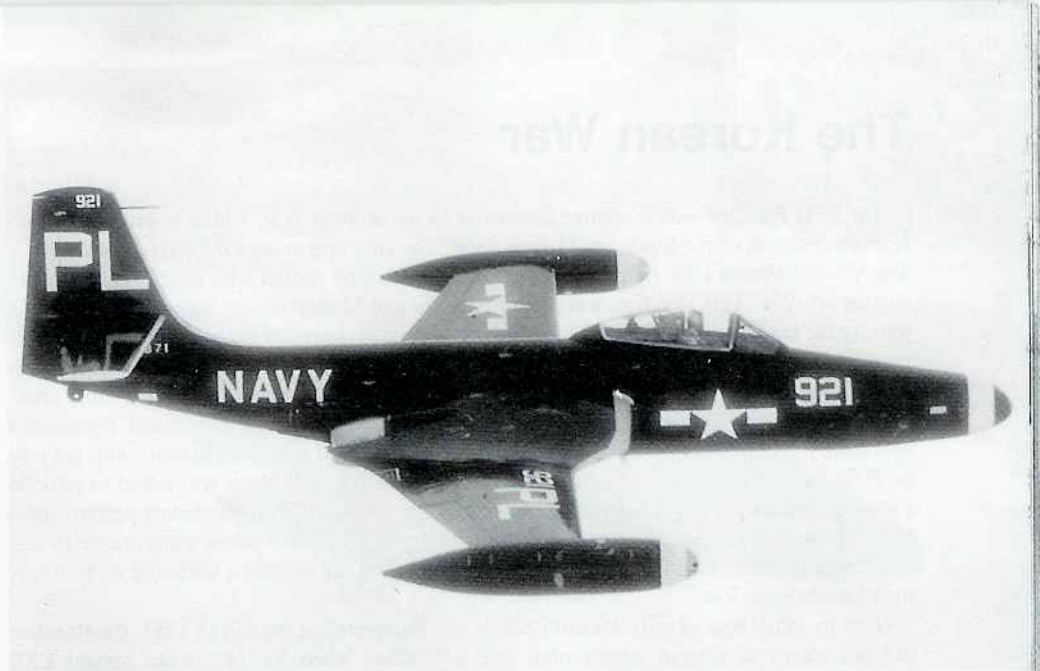
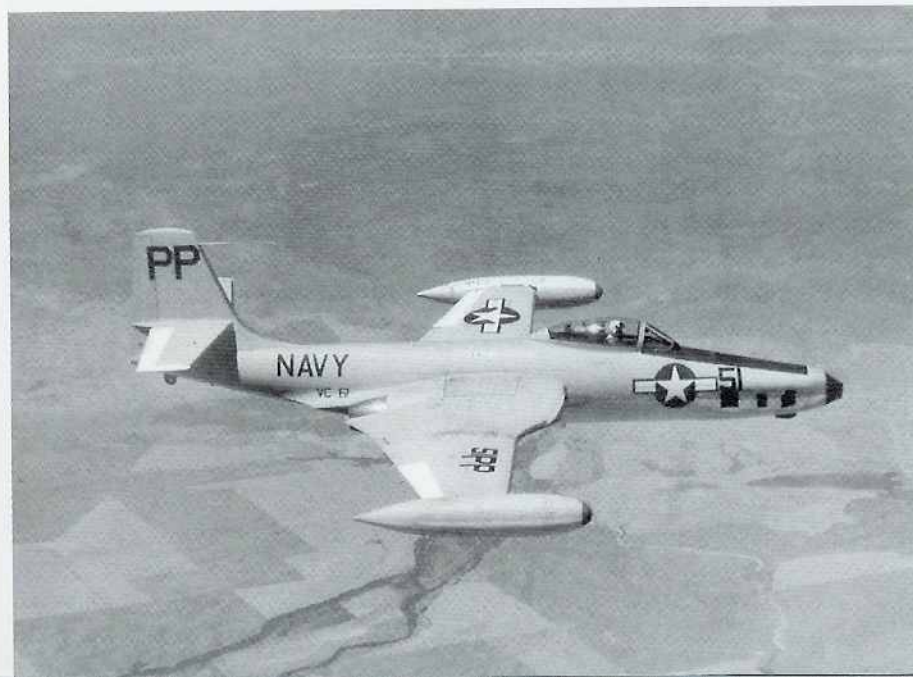
Two VMJ-2 F2H-2Ps (MT-11 and MT-12) fly in close formation. This Squadron was the second Marine reconnaissance unit to fly photo Banshees. Normal markings for both Navy and Marine Banshees included the nose number on the opposite wing from the national insignia along with the tail code. (USMC)





In December of 1952, two specially fitted F2H-2Ps were used to radio guide a Vought Regulus missile to land on San Nicolas Island off southern California. The missile and the two Banshees were launched from USS PRINCETON (CVA-37). One of the F2H-2Ps flies low as the Regulus lands along with an F2H-2 fighter and a TV-2 (T-33). (USN)

The US Navy adopted a Light Gull Gray (FS36440) over Insignia White (FS17875) scheme on 23 February 1955. It replaced the standard Glossy Sea Blue finish used since late in World War Two. This VC-61 photo Banshee (PP-51) displays the new scheme, which included white control surfaces. Other markings are in black. (USN/NA)



This VC-62 Banshee (PL-921) from Jacksonville flies towards Hurricane Connie in August of 1955. The F2H-2P was used to track and photograph hurricanes in the Atlantic Ocean for both the Navy and civilian authorities. This must have been interesting work, to say the least. (USN)

VC-62 (redesignated VFP-62 in 1956) sometimes teamed up with the WV-2 Constellations of VW-4, a unit specially tasked with tracking hurricanes. Two F2H-2Ps accompany a WV-2 in tracking a hurricane in the summer of 1956. The Squadron has not yet had time to paint the new unit designation on the aft fuselage. (USN)



The Korean War

The F2H Banshee was a relative latecomer to the Korean War, which began with North Korea's invasion of the South on 25 June 1950. The first unit to take the F2H-2 into combat was VF-172 aboard USS ESSEX (CV-9), which arrived on station with the Seventh Fleet in August of 1951. This situation was due to Atlantic and Mediterranean based carriers having priority for the new fighter. VF-172 carried out its first strike on 23 August and carried out an unusual mission two days later. The North Korean town of Rashin was near the North Korean/Soviet border and was an important supply and railroad terminal. Due to its close proximity to the Soviet Union, permission to bomb it had to come from Washington. Permission was finally given, but the US Air Force (USAF) B-29s tasked with the mission could not rely on F-86 Sabre fighter escort because of the extreme range. The Navy was asked to provide escort and the Banshee was assigned to provide top cover, due to its high altitude performance. Unfortunately, no intercepting MiG-15s showed up and the Navy pilots were unable to test their mettle against the enemy fighters. The mission went off without a hitch and no B-29s or their escorts were lost.

Once its initial tour of duty aboard ESSEX was completed in the fall of 1951, the Banshee did not return to Korean waters until one year later, when VF-11 arrived aboard USS KEARSARGE (CVA-33)¹. The Banshee's lack of participation highlighted the fact that the

¹ The US Navy redesignated aircraft carriers assigned to the Attack Carrier role as CVAs in 1952.

Two F2H-2 Banshees (R-210 and R-218) of VF-172 fly past USS ESSEX (CV-9) prior to recovering aboard the carrier. These aircraft were returning from the Banshee's first combat mission on 23 August 1951. One aircraft at a time would make an attempt to recover

Atlantic and Mediterranean carriers still had top priority for the new fighters, although there was a shooting war going on in Korea. The last F2H squadrons to see service in Korea arrived aboard USS LAKE CHAMPLAIN (CVA-39) in the spring of 1953. These units were VF-22 and VF-62 and this was the only time during the Korean War that two Banshee fighter squadrons operated in the theater at the same time.

Although the fighter version of the F2H saw only limited employment in Korea, the F2H-2P saw widespread use in the photo reconnaissance role. Eight carriers operated detachments from Composite Squadrons (VC). These detachments were mainly supplied by VC-61, based at NAS Miramar, California. VC-62 at NAS Jacksonville, Florida also provided a detachment late in the war. The photo Banshees saw widespread use in locating targets and assessing post strike bomb damage. Both operations were quite hazardous. The F2H-2P Banshees were normally accompanied by a single fighter for protection, but during missions up around 'MiG Alley' in northwest North Korea², it was sometimes necessary to provide a large number of USAF F-86 Sabres to make sure the reconnaissance aircraft got through.

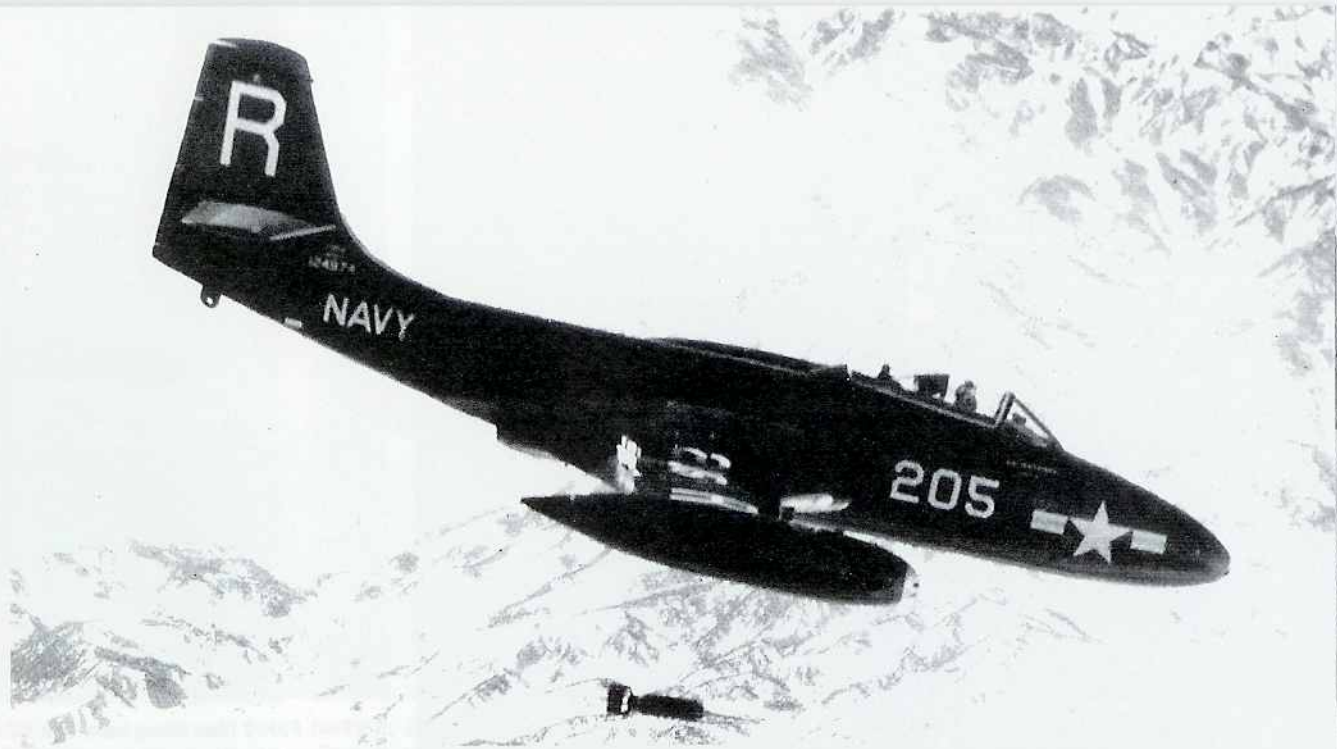
In addition to flying off carriers, the F2H-2P also saw service with the US Marines. The photo Banshees provided a great amount of the reconnaissance photos used by Marine commanders from early 1952 until the war ended on 27 July 1953. Flown by VMJ-1, Marine F2H-2Ps were in continuous use and provided much needed battlefield coverage during this period. VMJ-1 was the only Marine Banshee squadron to see service in Korea.

² For a more detailed account of the war, see "Air War Over Korea" by the author and published by squadron/signal publications, #6082.

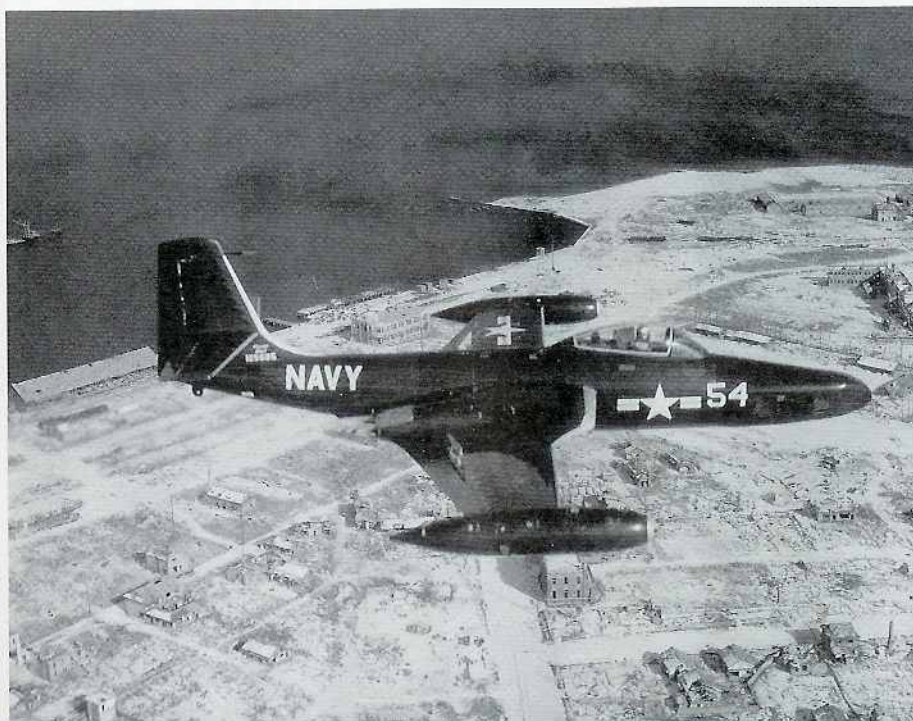
aboard the ship. Deck crews spotted previously recovered aircraft on the forward flight deck, clearing landing room on the aft deck. Aircraft assigned to a carrier air wing's second squadron were assigned code numbers in the 200 series. (USN)



A VF-172 Banshee (R-205/BuNo 124974) releases a 500 pound (226.8 kg) bomb in a shallow dive at communist positions over snow-clad North Korean mountains. The F2H was an extremely stable bombing platform, which allowed Navy and Marine pilots to make highly accurate bomb runs. This capability was especially appreciated while making attacks in Korea's mountainous terrain. (USN)

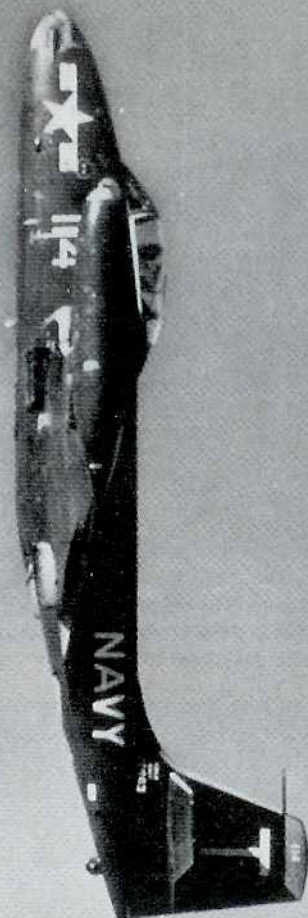


An F2H-2P (54/BuNo 125685) of a VC-61 detachment aboard ESSEX flies over a devastated North Korean coastal town. Both VC-61 and VC-62 supplied F2H-2P detachments to carriers for reconnaissance duties throughout the war. Eventually, eight carriers would embark detachments of these units between 1951 and 1953. (USN)



A four aircraft section of VF-172 flies along the North Korean coast in search of targets. Early in the conflict, most worthwhile targets in North Korea were destroyed by air strikes. This resulted in many missions flown in the war's latter stages against supply lines, troop concentrations, and targets of opportunity. (USN)





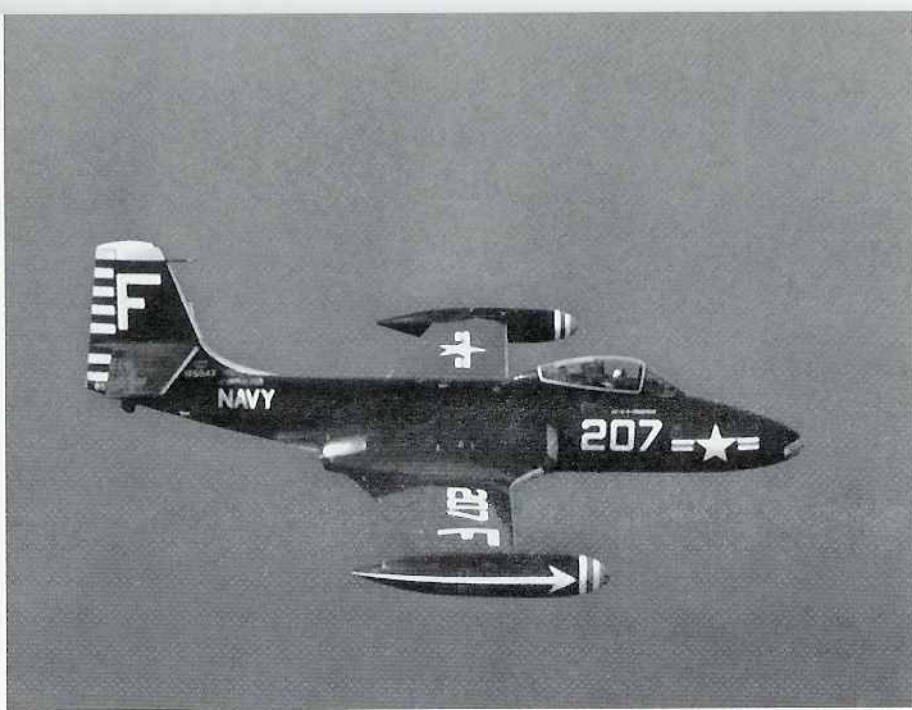
This F2H-2 (T-114) from VF-11 pulls up after dive bombing a target over North Korea. The aircraft is in a vertical climb, which made it extremely difficult for enemy gunners to target the Banshee. The nose and tail trim was Insignia Red (FS11136). VF-11 was embarked on USS KEARSARGE (CVA-33) from August of 1952 until March of 1953. (USN)



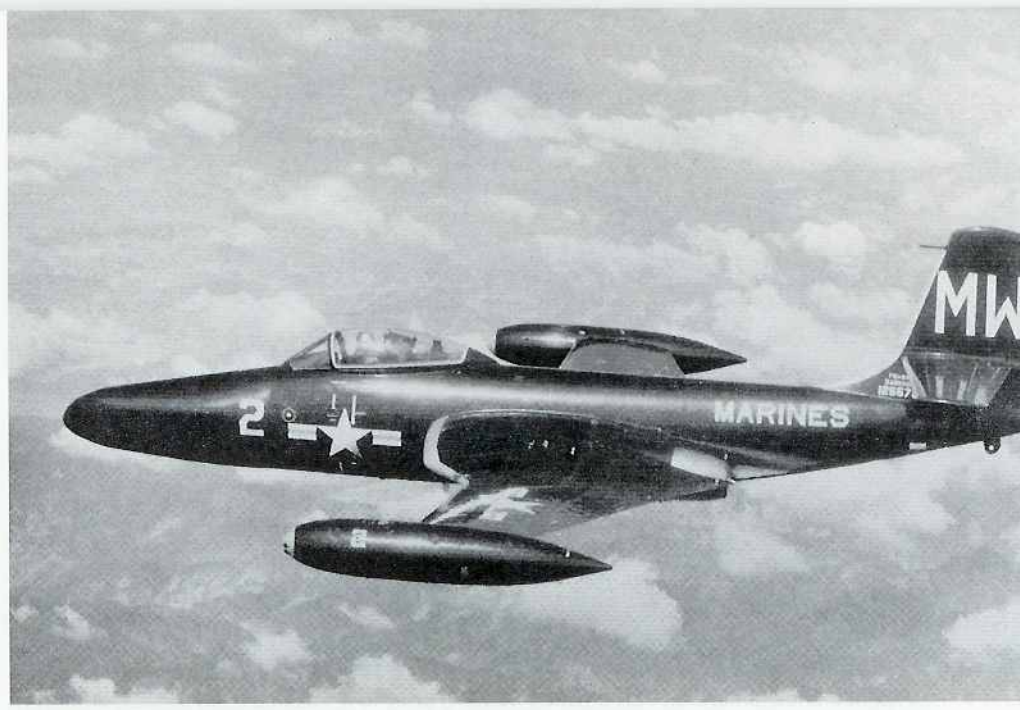
A VF-11 F2H-2 flies close behind a VC-61 F2H-2P (PP-33) over North Korea. MiG-15s were a constant threat over North Korea, especially for reconnaissance aircraft. Normal procedure was to have a fighter accompany an F2H-2P on a mission to provide cover. Over 'MiG Alley,' F-86 Sabre jets were often needed to ensure the safety of the Banshees, due to the high concentration of MiGs. (USN)

A VC-61 F2H-2P and its VF-11 F2H-2 escort return to KEARSARGE in early 1953. At this time of the year, the Sea of Japan was so cold that a pilot's survival time after a ditching was measured in a matter of minutes. Mission markers on the fuselage sides indicated a large number of missions flown by both 'Banjos.' (USN)



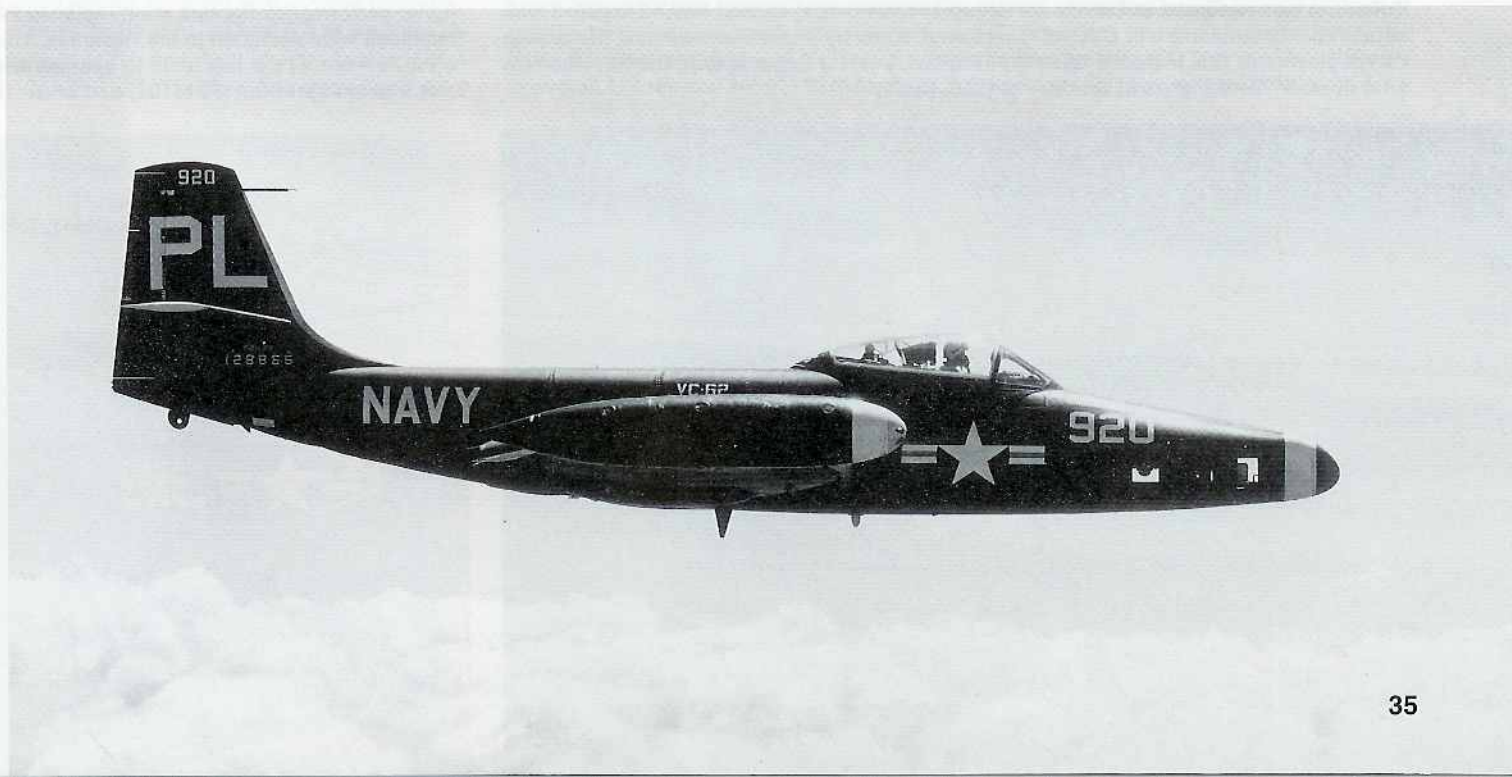


LAKE CHAMPLAIN was the only carrier in Korea to operate two Banshee squadrons: VF-22 and VF-62. This VF-62 F2H-2 (F-207/BuNo 125047) is painted with a white arrow and bands on its tip tanks. The tail is finished with white rudder stripes and upper fin tip. (USN)



An F2H-2P (MW-2) of VMJ-1 flies a reconnaissance mission over North Korea. The Squadron was formed in early 1952 and operated from Pohang (K-3), South Korea under the control of the Fifth Air Force. The 12-aircraft Marine unit often provided between 30 and 40 percent of the reconnaissance flights over North Korea. (USMC)

VC-62 F2H-2P (PL-920/BuNo 128865) flies high over Korea during a reconnaissance mission. This was the Jacksonville-based Squadron's sole detachment to see action in the conflict, flying off USS LAKE CHAMPLAIN (CVA-39). The other seven photo Banshee detachments were drawn from VC-61 at NAS Miramar. (USN)



A VC-62 F2H-2P (PL-920/BuNo 128865) flies high over Korea during a reconnaissance mission. This was the Jacksonville-based Squadron's sole detachment to see action in the conflict, flying off USS LAKE CHAMPLAIN (CVA-39). The other seven photo Banshee detachments were drawn from VC-61 at NAS Miramar. (USN)



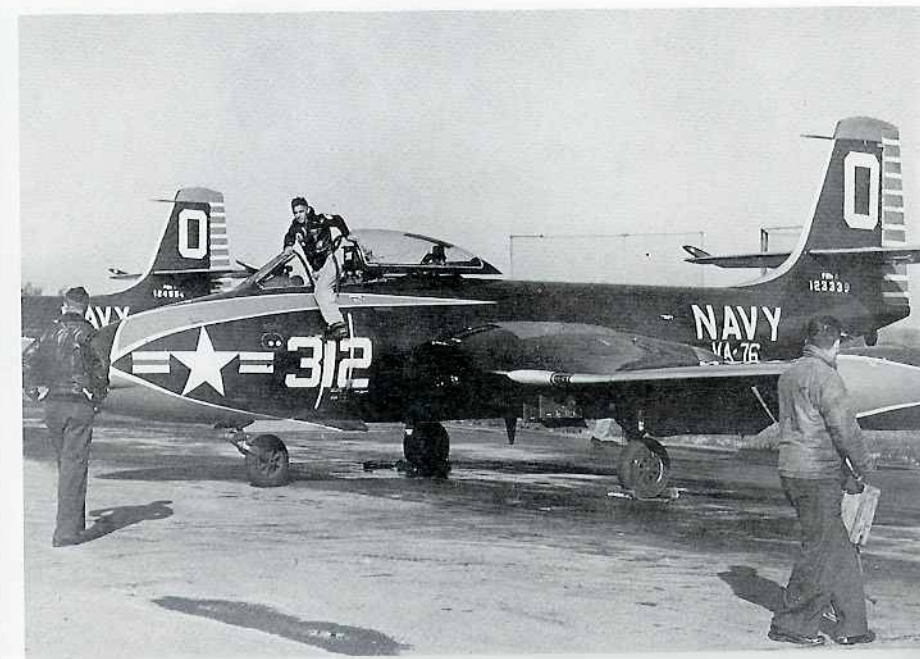
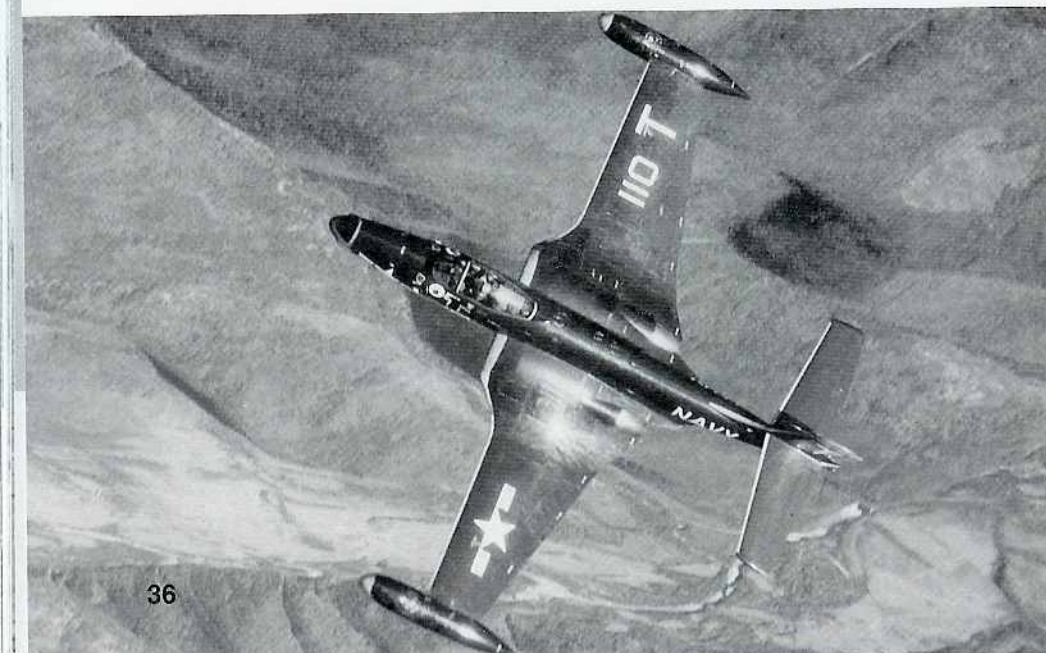
A pilot climbs aboard an F2H-2 (BuNo 124974) prior to a mission from ESSEX. Armors check the ammunition feeds for the nose-mounted 20MM cannon, which were each supplied with 150 rounds. Other deck crewman make last minute checks on the Banshee prior to launch. (USN)

A VF-11 F2H-2 (T-110) rolls in on a target over North Korea in November of 1952. This Squadron was assigned to Carrier Air Group 101 (CVG-101) aboard KEARSARGE. Three squadrons' commanders in CVG-101 were shot down by intense anti-aircraft fire during this deployment. This included Cmdr D.P. Phillips, VF-11's Commanding Officer, who was shot down in his Banshee in January of 1953. (USN)



Deck crews service a VF-22 F2H-2 (F-114) aboard LAKE CHAMPLAIN prior to a mission over North Korea. Just under the canopy rear is a large number of mission markers, indicative of the numerous sorties flown by the Banshees. Spotted nearby is an AD-4N Skyraider from VC-33, with toned down markings for night operations. (USN)

Higher performance fighters soon replaced F2H-2s after the Korean War ended and many Banshees were assigned to the Reserves. This F2H-2 (O-312/BuNo 123339) was assigned to VA-76 – one of the last units to operate this variant – at NAS Oceana, Virginia. The aircraft trim is Light Blue (FS15102) and white. (USN)



F2H-3 Banshee

The radar-equipped F2H-2N Banshee was only produced in limited quantity, but it served as the forerunner for the next major variant of the Banshee family - the F2H-3. The eleventh F2H-2N (BuNo 123311) was modified to a prototype for the F2H-3 series. This was the only prototype produced before the start of production. The new aircraft was a major redesign of the basic F2H model and was based in part on the F2H-2N and combat experience gained from the Korean War. Additionally, the F2H-3 was designed from the outset as an all-weather fighter. The fuselage was lengthened eight feet (2.4 m) to house a new Hughes AN/APG-41 radar, two Westinghouse J34-WE-36 turbojets rated at 3250 pounds of thrust, and provide a 50% increase in the internal fuel capacity. The four 20MM cannons from the F2H-2 were retained, but newer versions of the weapons - Mk 12s or Mk 16s - were employed and the ammunition capacity was increased to 220 rounds in the upper guns and 250 rounds in the lower guns. Due to the larger radar, the guns were moved further back along the fuselage to alleviate the crowded conditions that existed in the nose of the F2H-2N. The tail surfaces were also redesigned and the control surfaces were relocated from the tail to the fuselage and moved further aft.

The new F2H-3 carried a slightly heavier and more varied ordnance load - including a nuclear weapons capability - than the earlier F2H-2. During the late 1950s, the F2H-3 was modified to carry the new AIM-9 'Sidewinder' air-to-air missile, which provided increased offensive capability. To further increase the Banshee's range, a bolt-on refueling kit was designed for missions requiring additional range. When installed, the refueling probe replaced the upper 20MM cannon on the port side. Fuel was transferred from the probe to a pipe that ran under the fuselage in a special housing to the center fuselage fuel tanks. The aerial refueling probe could be removed and the missing cannon replaced, when not needed. The F2H-3 could also be fitted with 170 gallon (643.5 l.) wingtip tanks, but these were not often used.

The Navy requested the new F2H-3 in early 1950 and the modified F2H-2N was extensively tested prior to the start-up of production in late 1951. By then, an analysis of the F2H-2N and the lessons of the Korean War had been completed. The first flight of a production F2H-3 took place from Lambert Field, Missouri on 29 March 1952. The Navy knew the new fighter

F2H-2 Banshee



F2H-3 Banshee



would be a winner from the start.

While some two tons heavier than the F2H-2 when fully loaded, the F2H-3 did not suffer an overall decline in performance. Maximum speed at sea level was slightly increased, but there was a 40 mph decrease in cruising speed. The service ceiling rose by 1,800 feet and the maximum range was increased by almost 250 miles. Coupled with the all-weather capability of the new model, the F2H-3 gave the Navy a potent weapons system for its carrier fleet.

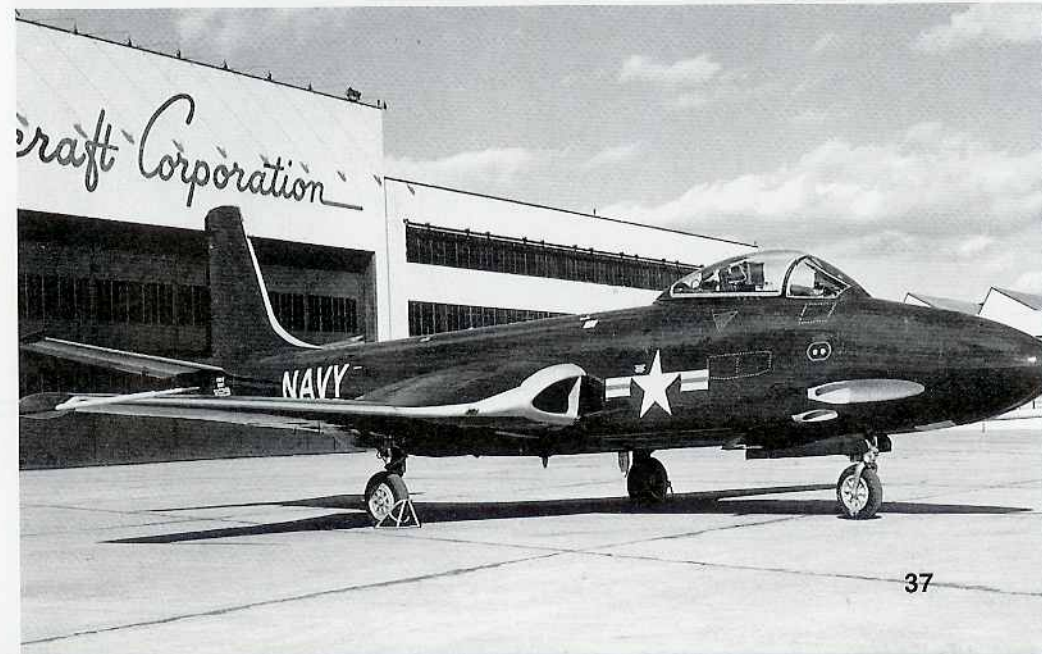
The F2H-3 was not without its developmental problems; probably the most serious of which was tail flutter. After a series of tests using the XF2D-1 prototype, the engineers found a relatively simple solution to the problem. A 45-degree brace was run back from the fuselage to a point midway on the leading edge of the tailplane. The brace was faired over with sheet aluminum to smooth the airflow and eliminate the flutter. While this solution was being applied, production began in earnest at the McDonnell plant during the spring of 1952. McDonnell produced 250 F2H-3s by the time the line closed down on 30 October 1953.

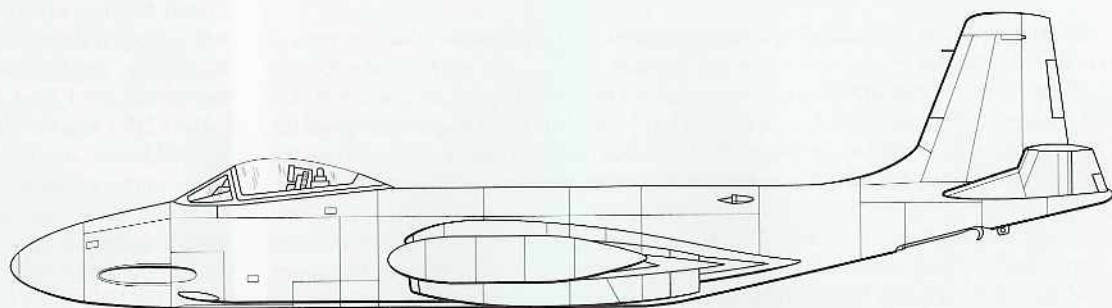
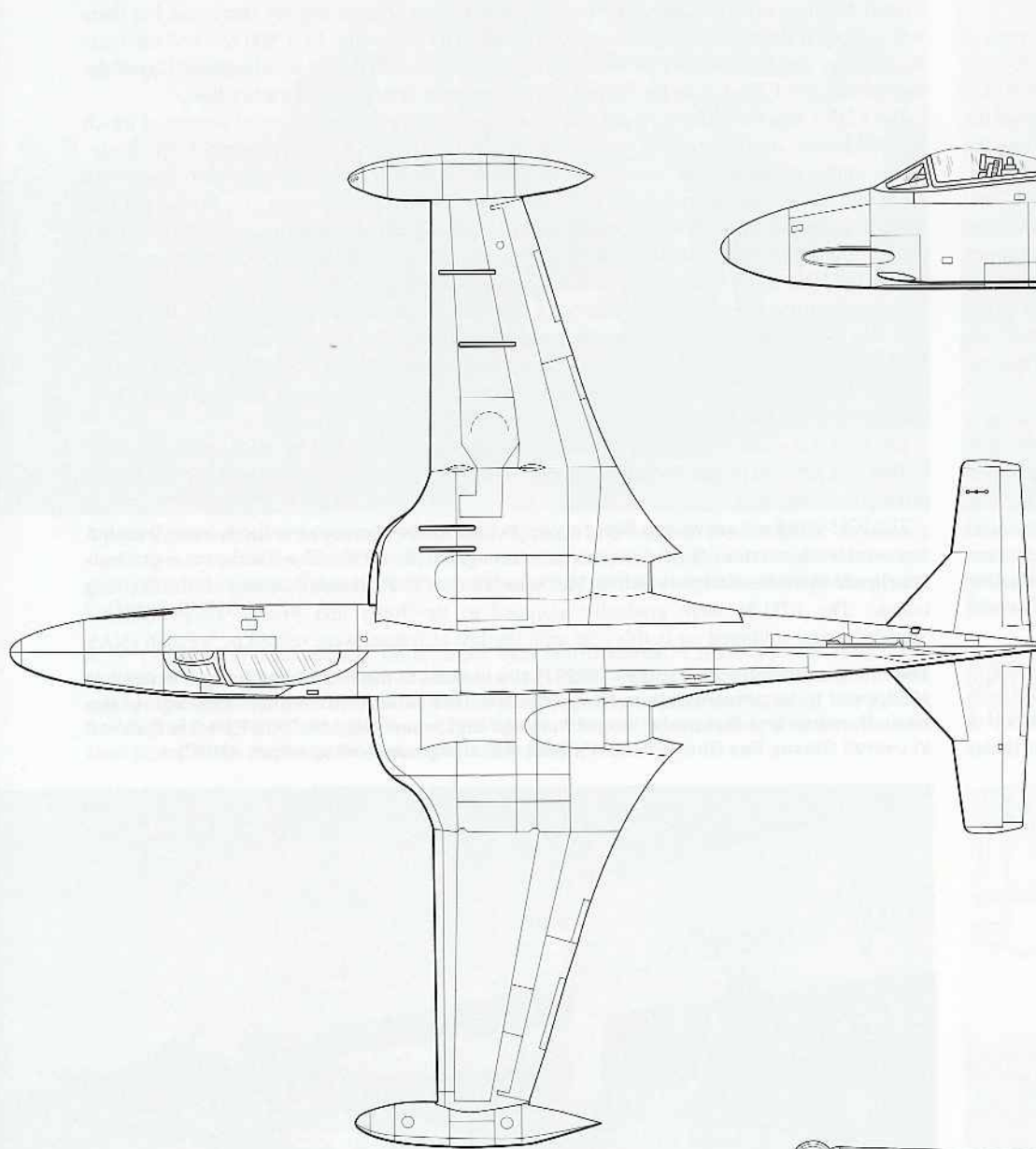
Aside from its role as the first true Navy and Marine Corps all-weather fighter, the F2H-3 was also the first and only jet fighter to be deployed by the Royal Canadian Navy (RCN). The RCN procured 39 F2H-3s for use on their new aircraft carrier, HMCS BONAVENTURE, in the late 1950s. The F2H-3 Banshee was also the first McDonnell aircraft to be purchased by a foreign government. These aircraft were not modified for aerial refueling.

The F2H-3 was also the last version of the Banshee to be produced by McDonnell. The later F2H-4 was put into production after the F2H-3, but its production run ended while the F2H-3 production continued.

The F2H-3 did not arrive into fleet service in time to see operations in the Korean War, but saw worldwide service off US Navy carriers throughout the 1950s. The Banshee was gradually eclipsed by newer designs (such as McDonnell's own F3H Demon) coming off the drawing boards. The F2H-3s were gradually assigned to the Navy and Marine Corps Reserve Squadrons and soldiered on in this role until the last airframes were retired by VF-896 (NAS

The first production F2H-3 (BuNo 126291) sits in front of the McDonnell hangar in April of 1952, prior to its presentation to Navy officials. This variant was a major redesign of the basic Banshee and featured a longer fuselage and a new tail unit. This F2H-2 is finished in overall Glossy Sea Blue (FS15042), with dull aluminum leading edges. (MDC)



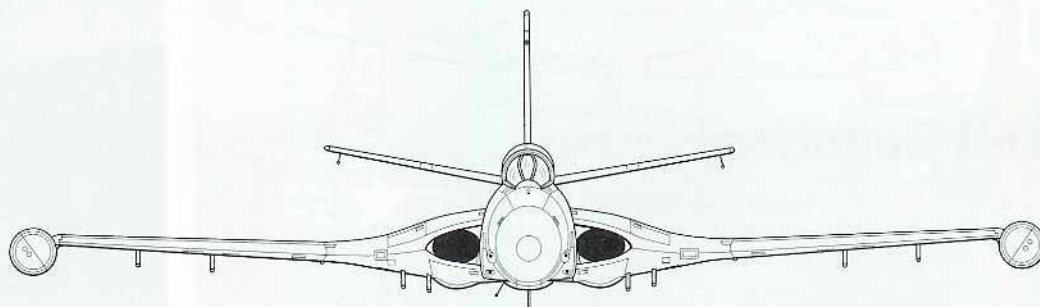


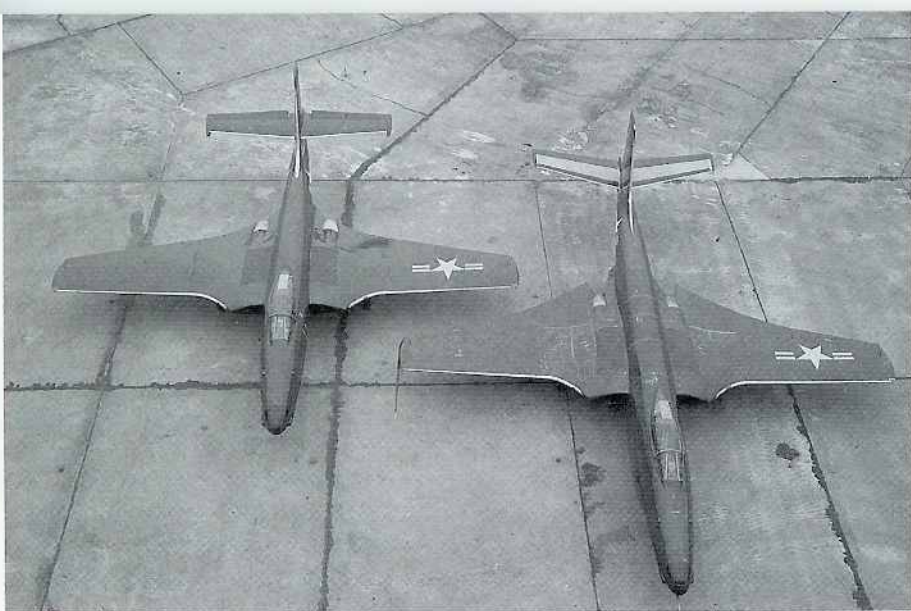
McDonnell F2H-3 Banshee Specifications

Wingspan:.....41 feet 9 inches (12.7 M)
Length:.....48 feet 2 inches (14.7 M)
Height:.....14 feet 6 inches (4.4 M)
Empty Weight:.....13,183 pounds (5979.8 KG)
Maximum Weight:...25,214 pounds (11,437.1 KG)
Powerplant:.....Two 3250 pound thrust Westinghouse J34-WE-36 turbojet engines

Armament:.....Four 20mm Mk 12 or Mk 16 cannon with 220 rounds per gun (upper) and 250 rounds per gun (lower) in the lower nose. Two 500 pound (226.8 KG) bombs, eight 250 pound (113.4 KG) bombs, or eight 5 inch (12.7 CM) rockets under the wings. Two AIM-9 Sidewinder air-to-air missiles under the wings of some aircraft in late service.

Performance:
Maximum Speed:..580 MPH (933.4 KM/H) at Sea Level
Service Ceiling:....46,600 feet (14,203.7 M)
Range:.....1716 miles (2761.6 KM)
Crew:.....One



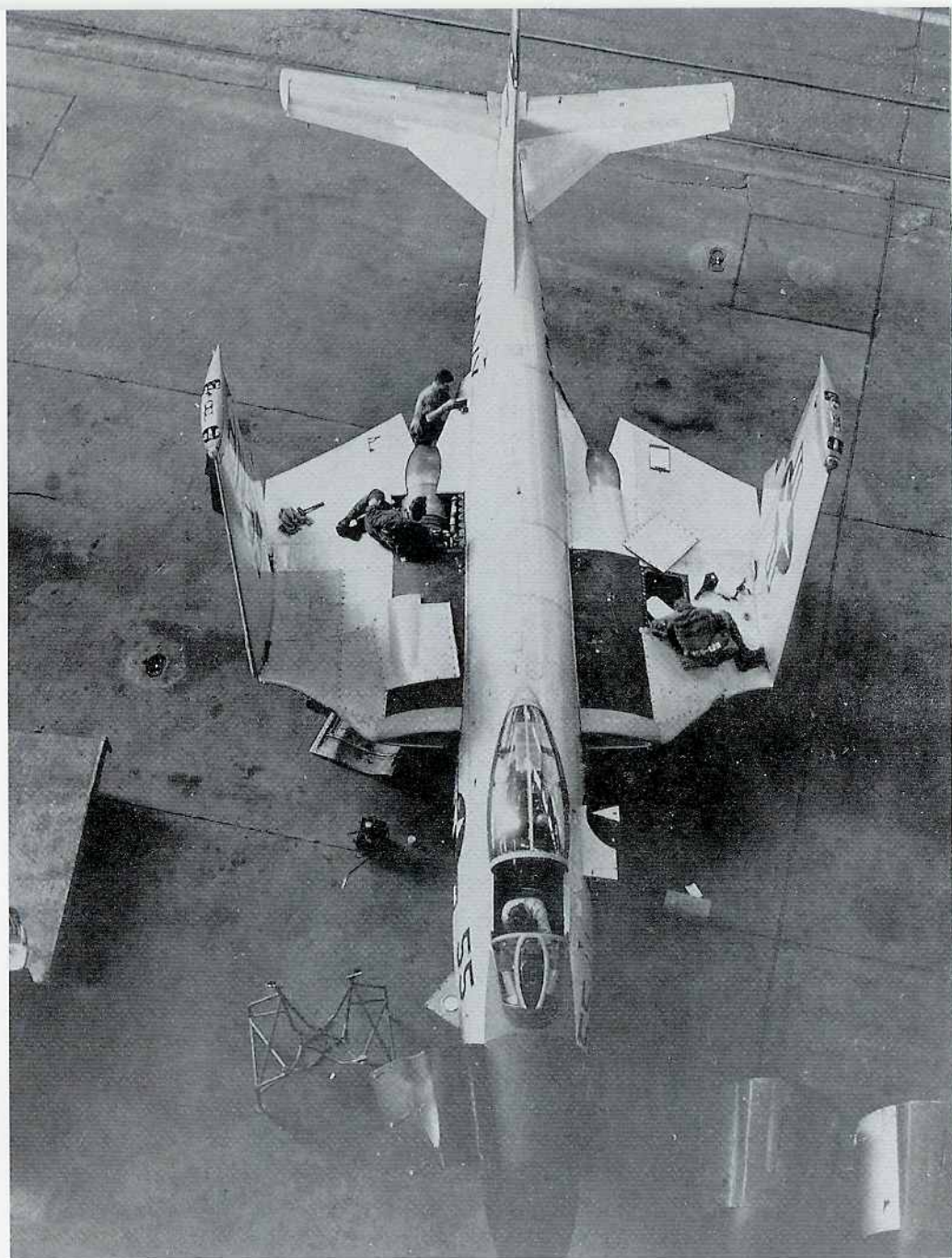


An early F2H-3 is parked to port of an older F2H-1. The F2H-3's fuselage was lengthened eight feet (2.4 m), which allowed it to carry 50% more fuel than earlier variants. It also allowed a Hughes AN/APQ-41 radar unit to be fitted in the nose, making the Banshee the Navy's first true all-weather jet fighter. (MDC)

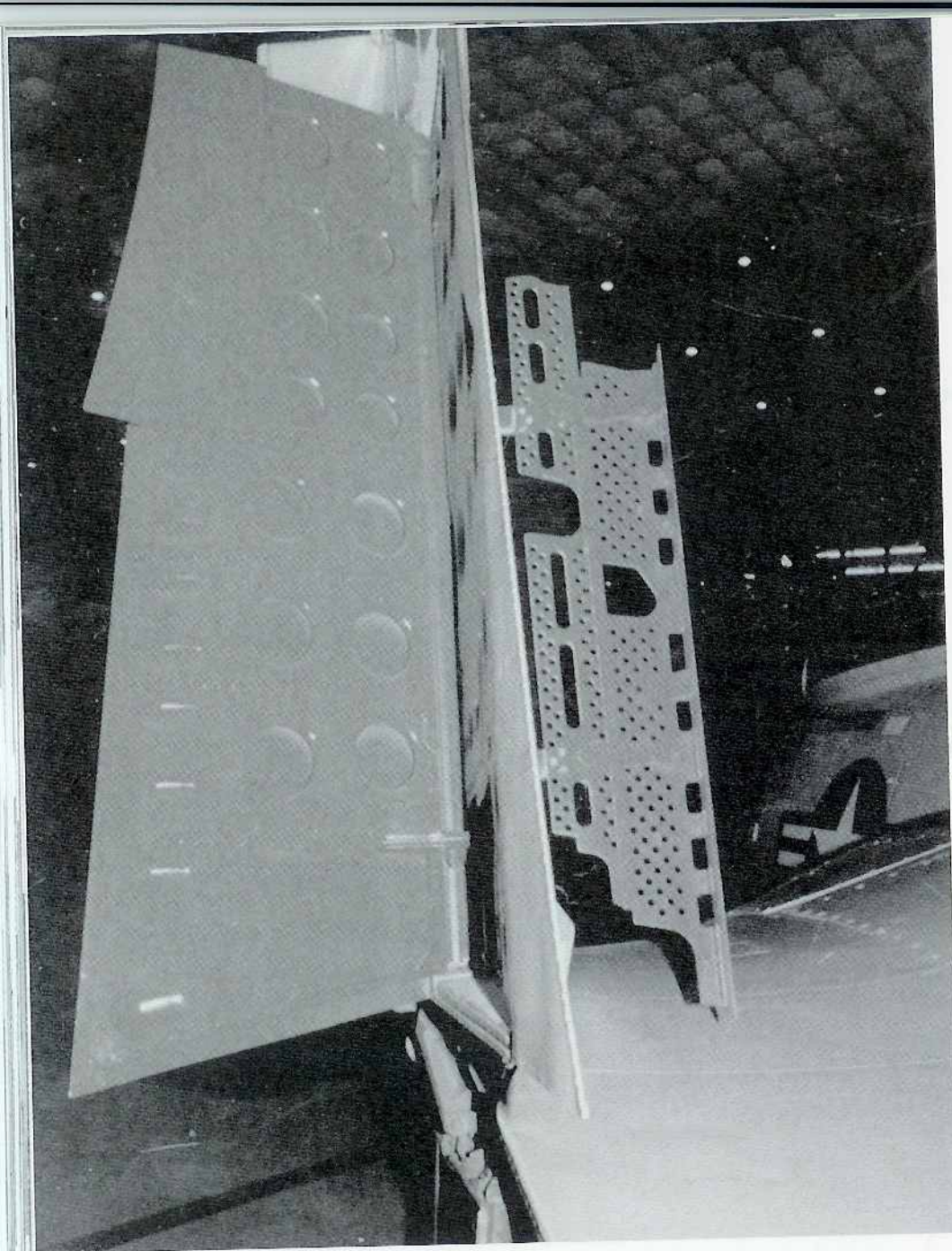
Oakland, California) in 1961. During the renumbering of U.S. aircraft in 1962, the few F2H-3 Banshees in storage were redesignated F2C.

There were no deployed sub-variants of the F2H-3, however, there had been a proposal to produce a reconnaissance version of the fighter, designated F2H-3P. The project never got beyond the discussion phase of its development.

An F2H-3 (BuNo 126344) banks away from the camera aircraft. The redesigned tail unit moved the control surfaces from the sides of the tail to the fuselage. The wing had more hard points to carry additional ordnance. Some F2H-3s were later fitted with a special nuclear weapon pylon between the fuselage and the engine. Some aircraft were also retrofitted to carry the new AIM-9 Sidewinder just coming into the inventory. (MDC)



During flight tests, it was discovered that there was a minor tail flutter problem. The relatively easy solution was to fit a brace from the fuselage to the vertical stabilizer's leading edge. The brace was faired over with sheet metal and it ended the problem. The triangular 'horsal' extension is easily distinguished by the different tones of the metal. (MDC)

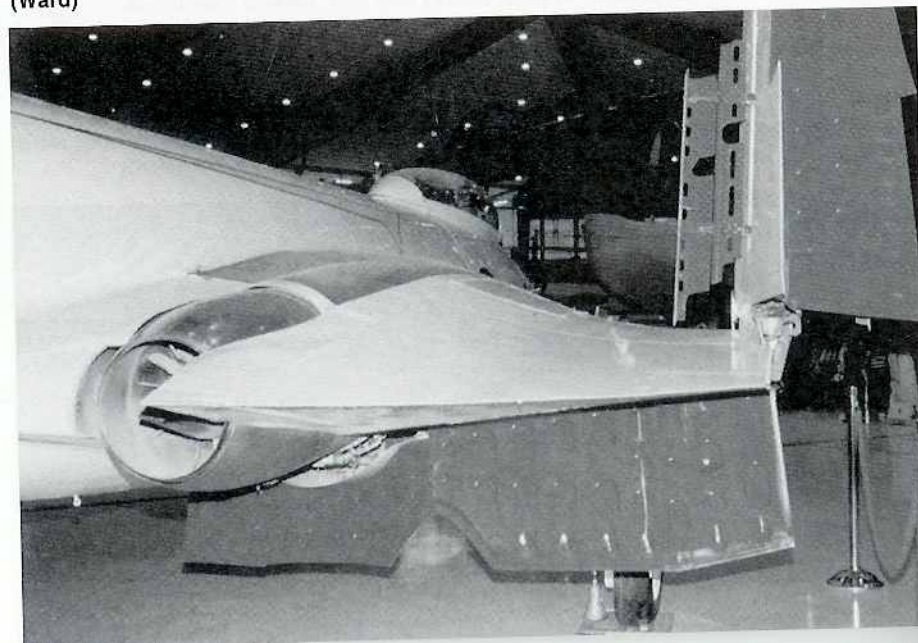


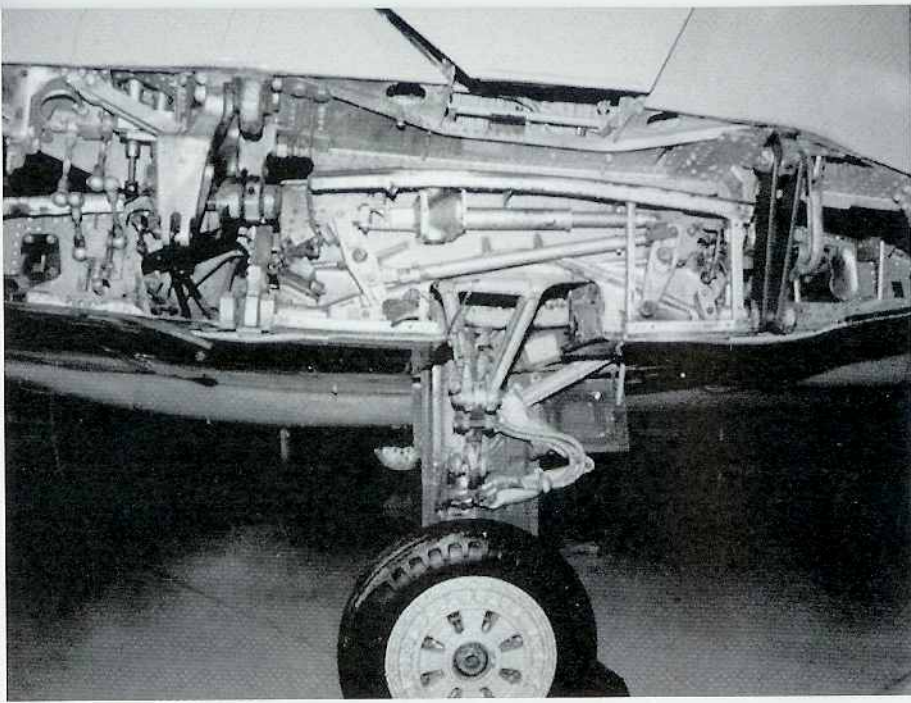
The perforated speed brakes allowed excellent control during bomb runs and made the Banshee an extremely stable bombing platform. The original FD-1 (FH-1) Phantom had solid speed brakes. Inner surfaces of speed brakes and flaps were painted Insignia Red (FS11136) to warn deck crews. (Ward)



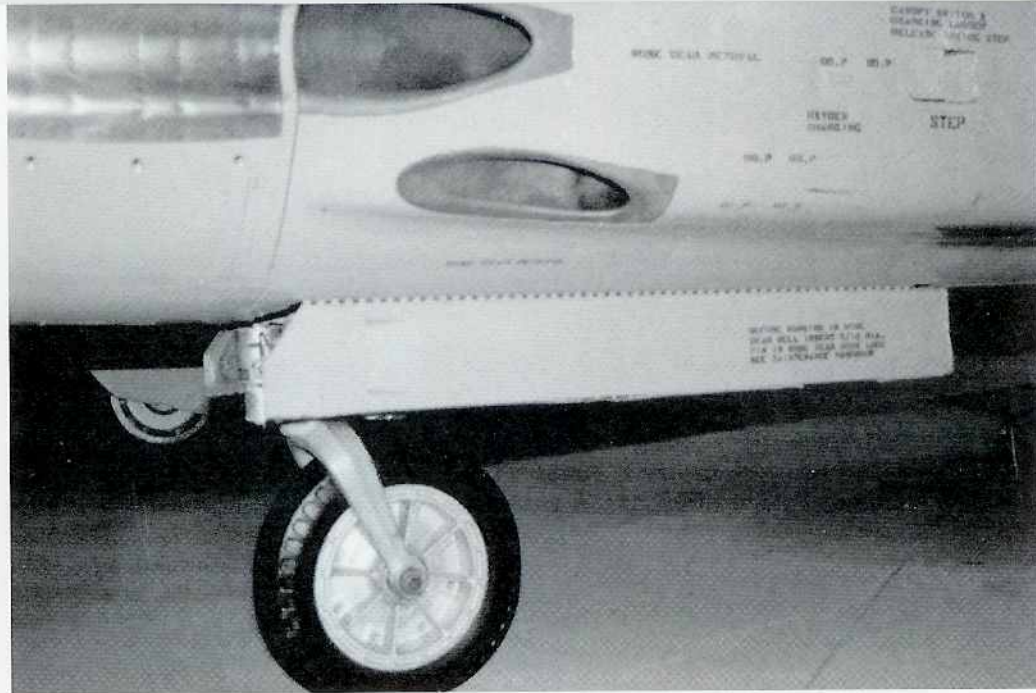
This beautifully restored F2H-3 Banshee (BuNo 126419) is on display at the National Museum of Naval Aviation in Pensacola, Florida. It has the 'horsal' extension fitted to the leading edge of the horizontal stabilizer (tailplane). F2H-3 tailplanes had a 10° dihedral. (Ward)

The general arrangement of the landing flaps and speed brake was similar on all versions of the F2H series. Inboard flaps are fully lowered in the landing position. The engine exhaust was located between the fuselage side and the wing's trailing edge. Wing folding reduced the F2H-3's wingspan from 41 feet 9 inches (12.7 m) to 18 feet 6 inches (5.6 m). (Ward)





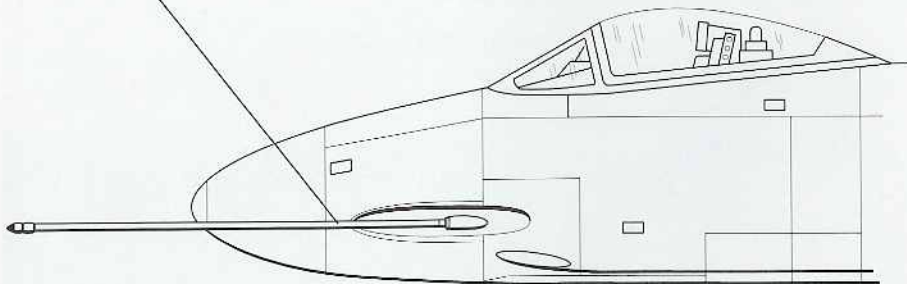
All F2H variants -- including the F2H-3 -- were equipped with hydraulically folding wings. These wing-folding mechanisms were little changed throughout Banshee production, which allowed McDonnell to reduce unit costs. The single-wheel main landing gear on all Banshees retracted outward, into the now-folded outer wing surface. (Ward)



The F2H-3 nose landing gear lacked the scissor link mounted on the forward strut area on previous Banshees. F2H-3s had strengthened landing gears to accept the heavier weights of this variant. Muzzle openings for the 20mm cannon were stainless steel to withstand the heat of gunfire. (Ward)

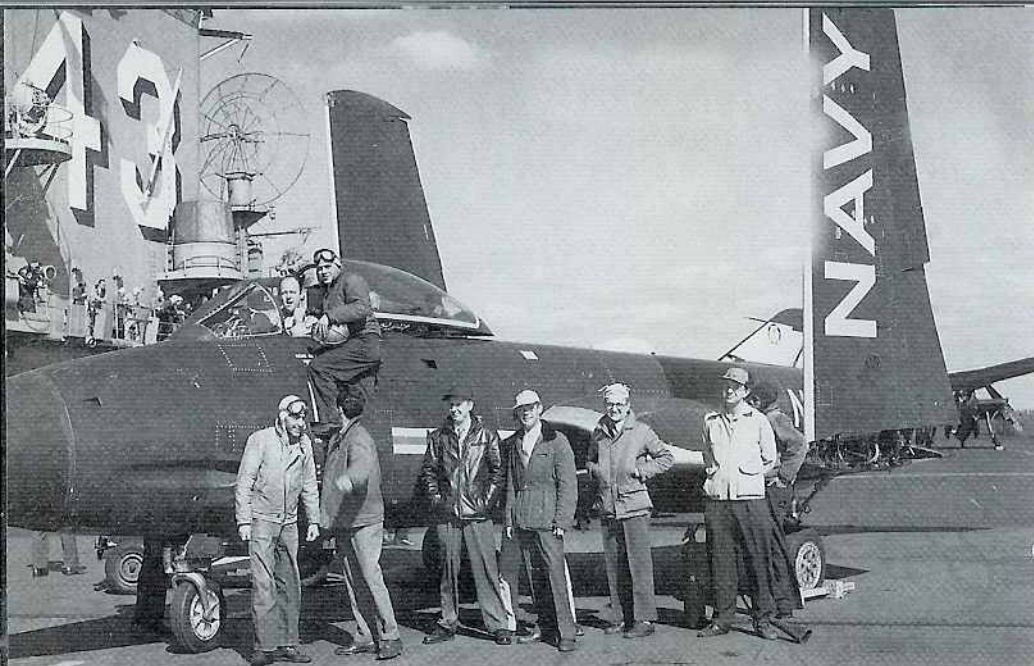
F2H-3 Refueling Probe Installation

Probe Fitted into Muzzle of Upper Port 20mm Cannon (Cannon and Ammunition Removed)



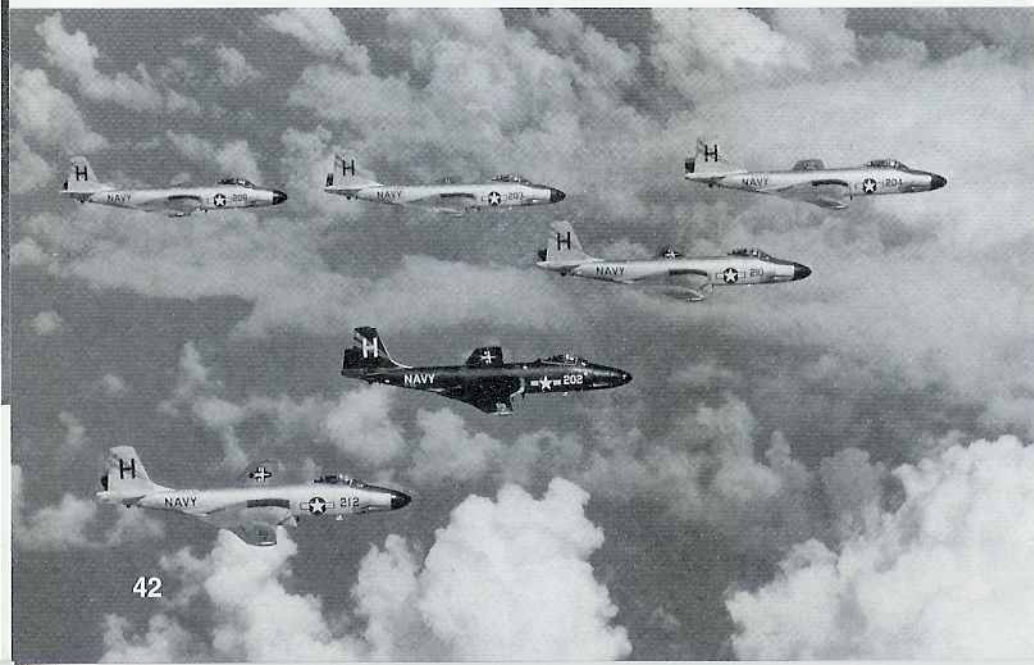
This F2H-3 assigned to the Naval Air Test Center (NATC) has its aerial refueling probe installed. The probe replaced the port upper 20mm cannon and a ventral fairing was placed over the refueling piping. This feature allowed Banshees to deploy over long distances during exercises and in times of crisis. (USN/NA)





McDonnell officials help supervise F2H-3 carrier qualifications onboard USS CORAL SEA (CVA-43, formerly CVB-43). It had few problems during flight testing, aside from the easily solved tail flutter. The Navy quickly approved the F2H-3 for squadron service and McDonnell eventually built 250 of this variant. (MDC)

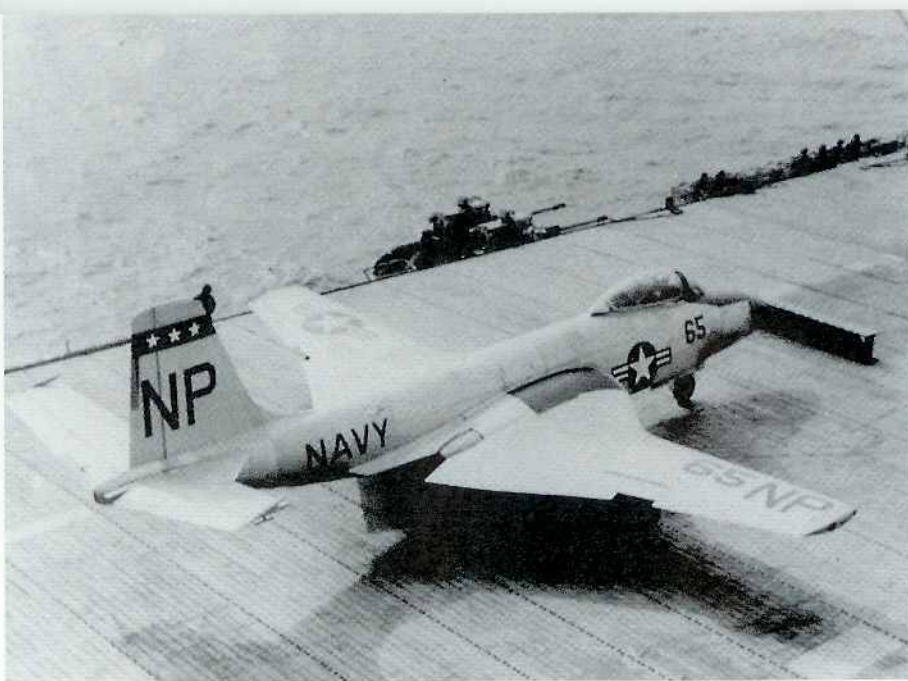
One Glossy Sea Blue (FS15042) F2H-3 (H-202) flies in formation with five other Banshees from VF-152 in the new anodized aluminum scheme. The Squadron flew off USS YORK-TOWN (CVA-10) in November of 1954. None of these F2H-3s are fitted with wing tip tanks, a common practice with both this version and the later F2H-4. The tail stripes are Orange Yellow (FS13538). (USN via Cressman)



The pilot of this F2H-3 (A-104) just missed the arresting cable while coming down to land on USS RANDOLPH (CVA-15) and started to climb away for another try. The forward position of the cockpit and the large bubble shaped canopy gave the pilot excellent visibility during a landing approach. This made the Banshee one of easier aircraft to land aboard a carrier, not withstanding this particular case. (USN/NA)

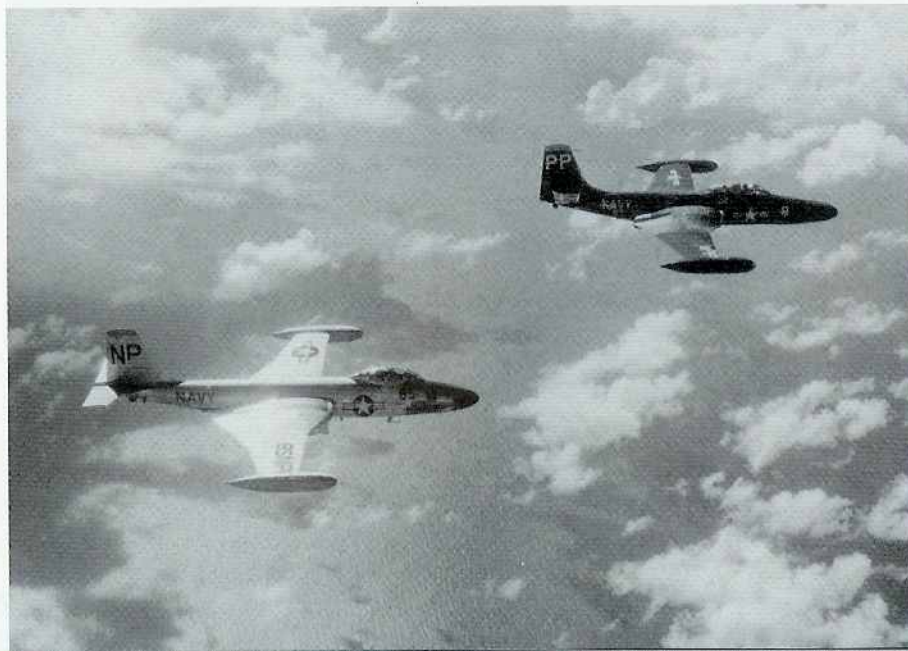
Four VF-31 F2H-3s in a mixture of the Sea Blue and anodized aluminum finishes fly over USS MIDWAY (CVA-41), the lead ship of the first large post-war carriers. The third aircraft (K-111) has a scalloped red design on the nose outlined in white. In 1954, Navy and Marine aircraft began testing the anodized aluminum finish. Corrosion problems from the salt water environment resulted in the cancellation of this scheme. (USN/NA)





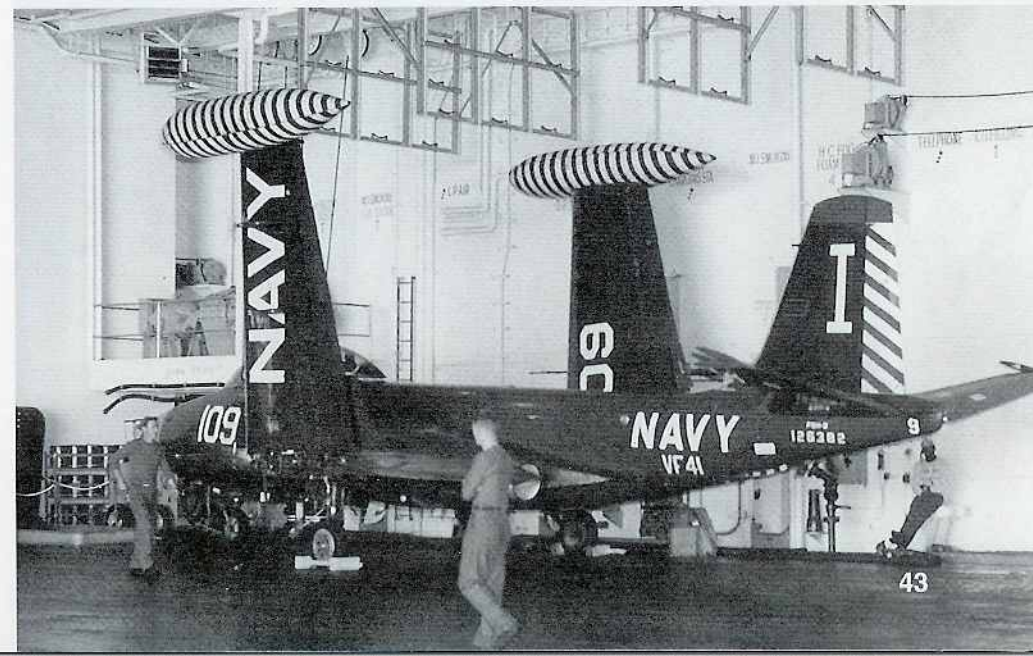
This F2H-3 (NP-65) of VC-3 is being directed into position for a launch from USS HANCOCK (CVA-19) in March of 1954. The ESSEX class ship HANCOCK was the first US carrier equipped with steam catapults, which supplied greater launch power than the earlier hydraulic catapults. This catapult type was soon retrofitted to other US carriers in service and made standard on all new carriers. (USN/NA)

An anodized aluminum F2H-3 (NP-85) from VC-3 flies with a Sea Blue F2H-2P (PP-8) of VC-61 off USS HORNET (CVA-12). This flight occurred during a Seventh Fleet training exercise in the Far East during the mid-1950s. Photo Banshees were usually escorted by F2H fighters during their reconnaissance missions, since the F2H-2Ps were unarmed. (USN)



Three VF-23 F2H-3s refuel in flight from a Convair R3Y-2 Tradewind flying boat, whose tail has obscured one of the Banshees. This 1956 exercise over the California mountains tested the Tradewind's ability in the aerial refueling role. The R3Y-2 was cleared for aerial refueling, but saw no tanker service due to engine problems and early retirement. (USN)

This VF-41 'Banjo' (I-109/BuNo 126382) has just been brought down to the hangar deck of USS FORRESTAL (CVA-59) in March of 1956. The wingtip and rudder stripes are Orange Yellow (FS13538) and Insignia Red (FS11136), while the upper vertical tail is Insignia Red. The F2H's ability to fold its wings made it easier to store or spot on the flight or hanger deck – even on FORRESTAL and the subsequent super carriers. Drop tanks were stored in the overhead square racks. (USN)



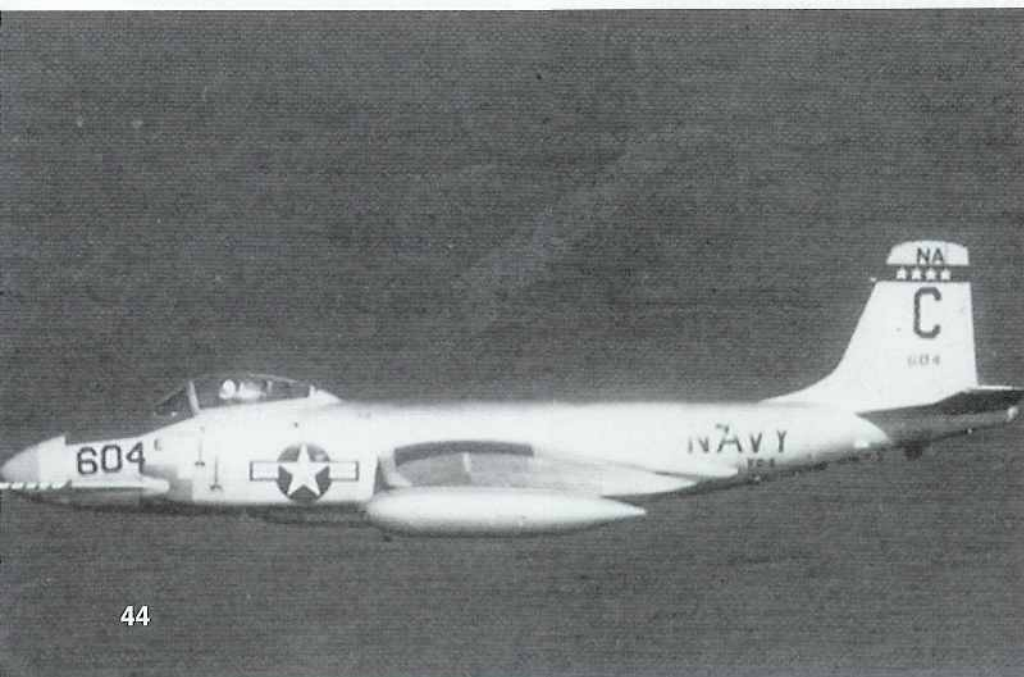


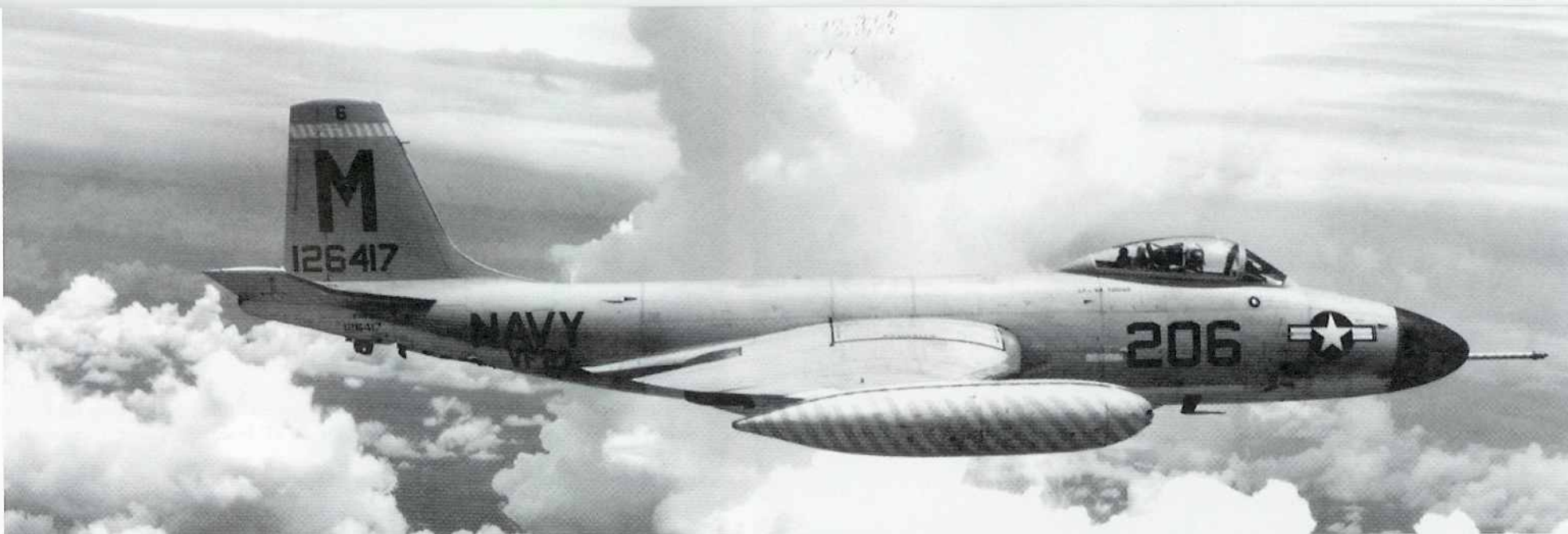
Two VF-114 F2H-3s (V-401/BuNo 126419 and V-405/BuNo 126437) from USS ESSEX (CV-9) fly a patrol mission in the Far East in 1957. Tension was still high in the region despite the end of the Korean War four years earlier and there were several encounters between communist and US aircraft. A number of US patrol and reconnaissance aircraft were downed

and indications show that several communist fighters were downed in retaliation. The Banshees are painted in the Light Gull Gray (FS36440) over Insignia White (FS17875) scheme adopted in 1955. (USN via Cressman)

A VC-4 F2H-3 (C-604) flies off the California coast in December of 1955. The in-flight refueling probe is installed in the muzzle of the upper port 20mm cannon, which was removed to allow fuel flow into the fuel tanks. The Banshee is finished in the short-lived anodized aluminum scheme. (USN)

Two F2H-3s (B-303 and B-308) from VF-193 aboard YORKTOWN fly in formation over the Pacific during one of the ship's periodic Far East deployments in the late 1950s. Fuselage and tail markings are Light Blue (FS15102) and the aircraft are finished in the new Light Gull Gray and Insignia White scheme. (USN/NA)





A colorfully marked Banshee (M-206/BuNo 126417) from VF-23 flies in mid-1956, just before the Squadron re-equipped with the new F4D-1 Skyray. The F2H-3 was the Fleet's standard all-weather fighter until replaced by newer aircraft such as the Douglas Skyray

and its successor from McDonnell, the F3H Demon. Stripes on the tip tanks and tail are Orange Yellow and Insignia White. (USN)

A four-ship flight of VF-141 'Banjos' flies by Mount Fuji, Japan on 10 February 1955. The Squadron was embarked on KEARSARGE for a cruise to the Western Pacific. This type of photo seemed to be a typical pose for squadrons flying over the area to take because of the impressive scope of the volcano. (USN)



Company founder, James McDonnell, with a book in his hands, prepares to hand over the last F2H-3 (BuNo 127546) to Navy Commander C.H.S. Murphy at St. Louis on 30 October 1953. Although this version preceded the F2H-4, the F2H-3's larger production run outlasted the shorter run of the F2H-4. (MDC)



F2H-4 Banshee

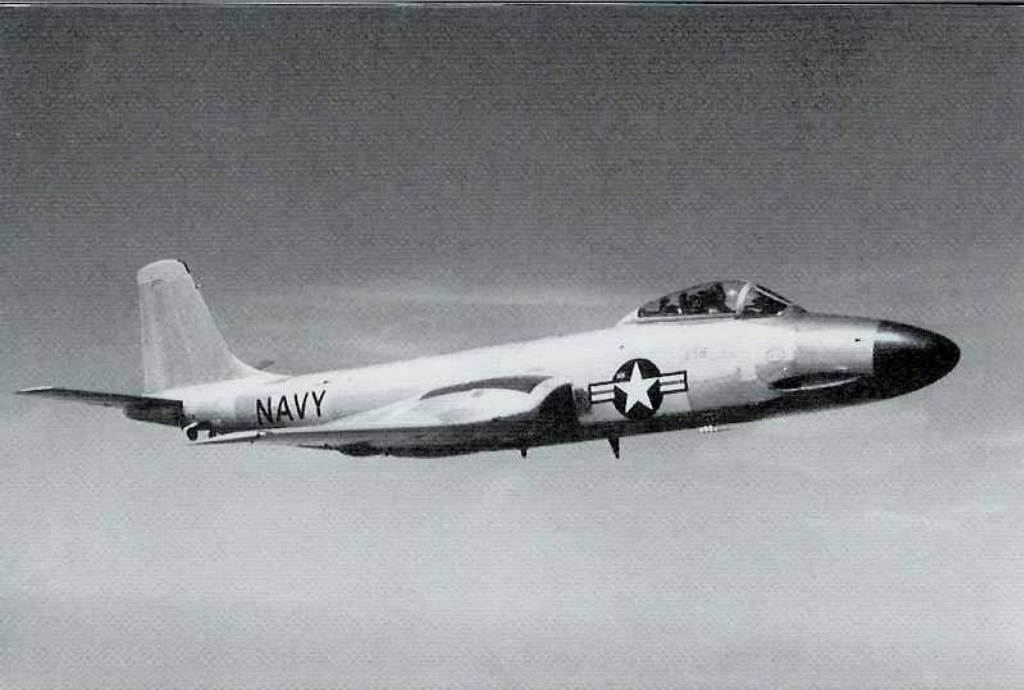
The final Banshee variant was the **F2H-4**, which was externally identical to the previous F2H-3. The major internal changes included uprated 3600 pound thrust Westinghouse J34-WE-38 turbojet engines and a new Westinghouse AN/APG-37 radar. The more powerful engines gave the F2H-4 a maximum speed of 610 MPH (981.7 KMH) – 30 MPH (48.3 KMH) faster at sea level than the F2H-3. The new variant had a service ceiling of 56,000 feet (17,068.8 M) – nearly two miles (3.2 KM) higher than the previous Banshee. The F2H-4's maximum range was also increased to 2000 miles (3218.6 KM), approximately 300 miles (482.8 KM) greater than the F2H-3's range, while the combat radius slightly increased.

The AN/APG-37 radar differed from the F2H-3's Hughes AN/APG-41 in that it used the older British style double dot system used during World War Two. The AN/APG-41 used a steering circle and dot screen. Most pilots seemed to prefer the AN/APG-41, since it was easier to acquire and follow a target. Like the F2H-3, the F2H-4 also suffered from a tail flutter problem; the same procedure was used to correct it – a 45° brace faired with sheet metal to form a 'horsal' extension.

The US Navy and Marine Corps eventually took delivery of 151 F2H-4s from McDonnell. F2H-4 production was actually completed in September of 1953, prior to the delivery of the last F2H-3. This was due to the greater number of F2H-3s under construction.

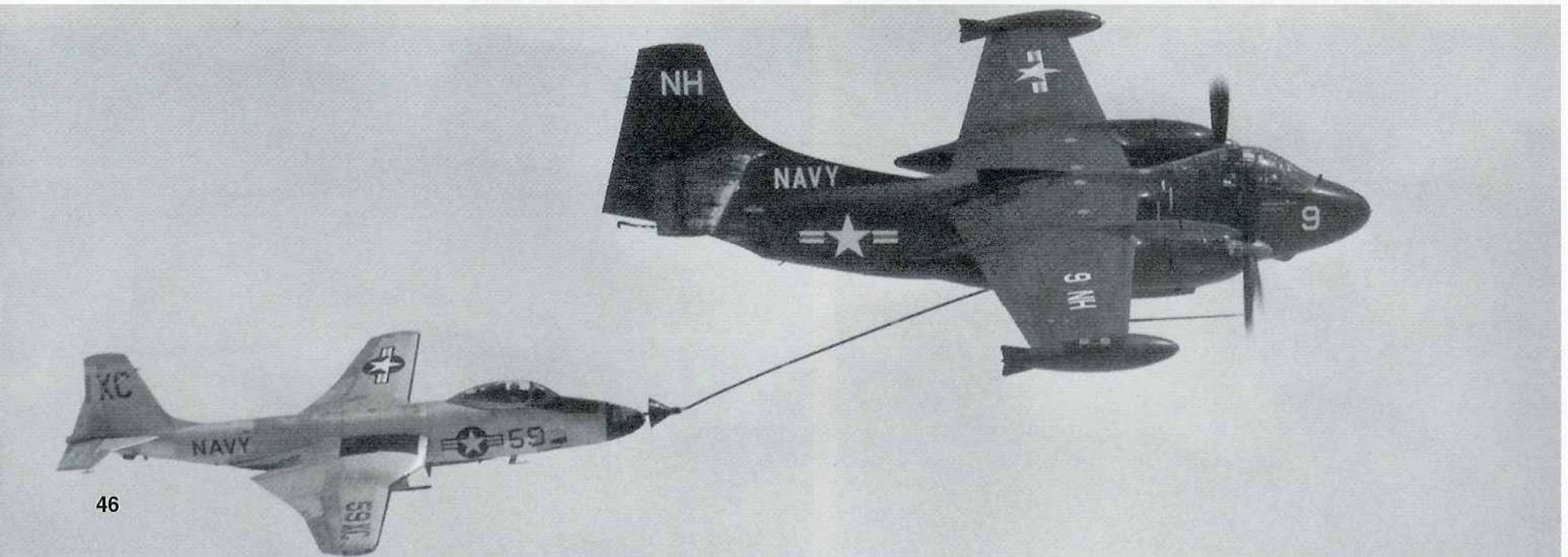
The F2H-4 Banshee provided the Navy and Marines with an all-weather fighter that served into the early 1960s. It was the only all-weather version flown by the Marines, although some Marine pilots did train on the F2H-3 in the Reserves. Three Marine squadrons eventually flew the F2H-4 before they were retired in 1961. Those airframes still in storage in September of 1962 received the new designation **F-2D**.

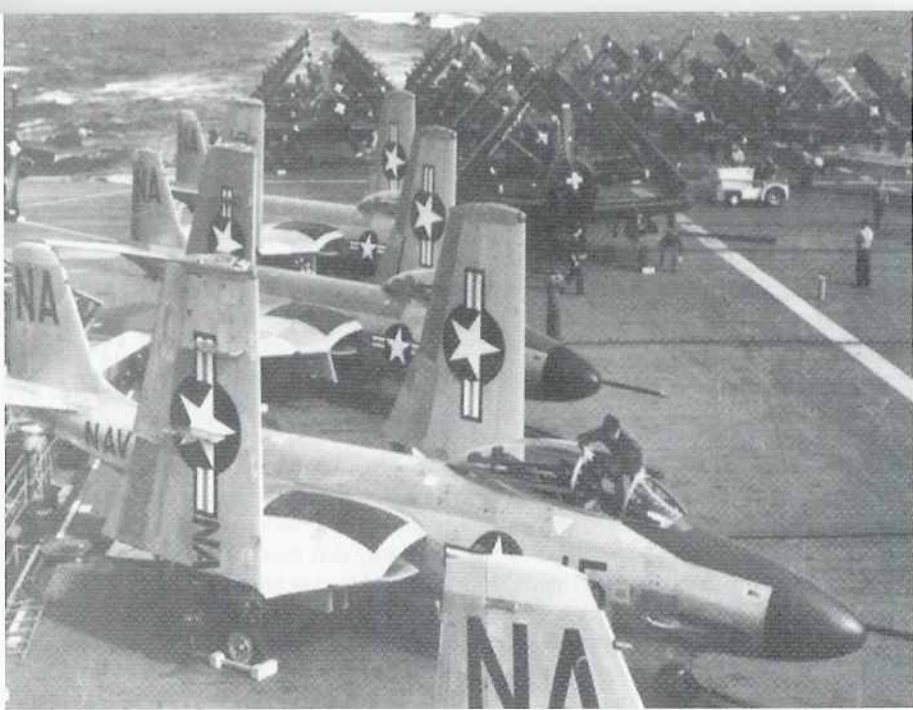
F2H-4s were also retrofitted with 'horsal' horizontal stabilizer extensions to correct a tail flutter problem. (USN)



An F2H-4 Banshee (BuNo 127624) makes a test flight from McDonnell's St. Louis plant. The F2H-4 was externally identical to the F2H-3, but differed in using more powerful J34-WE-38 engines and a AN/APG-37 radar. The new variant's uprated powerplant increased the aircraft's maximum speed, altitude, and range over the F2H-3. (MDC)

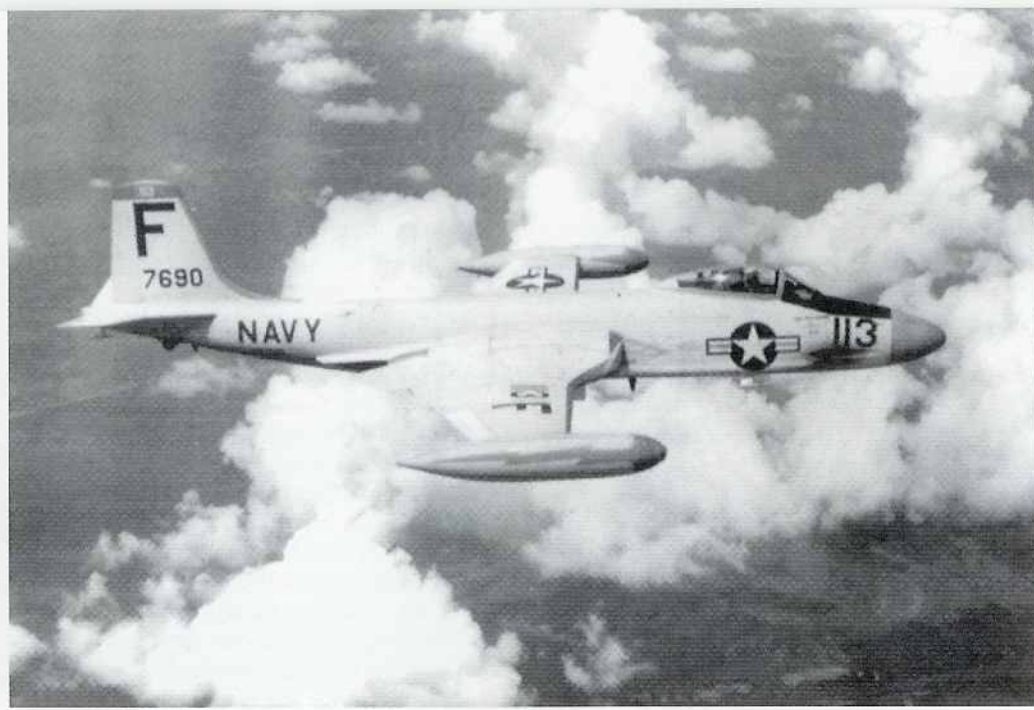
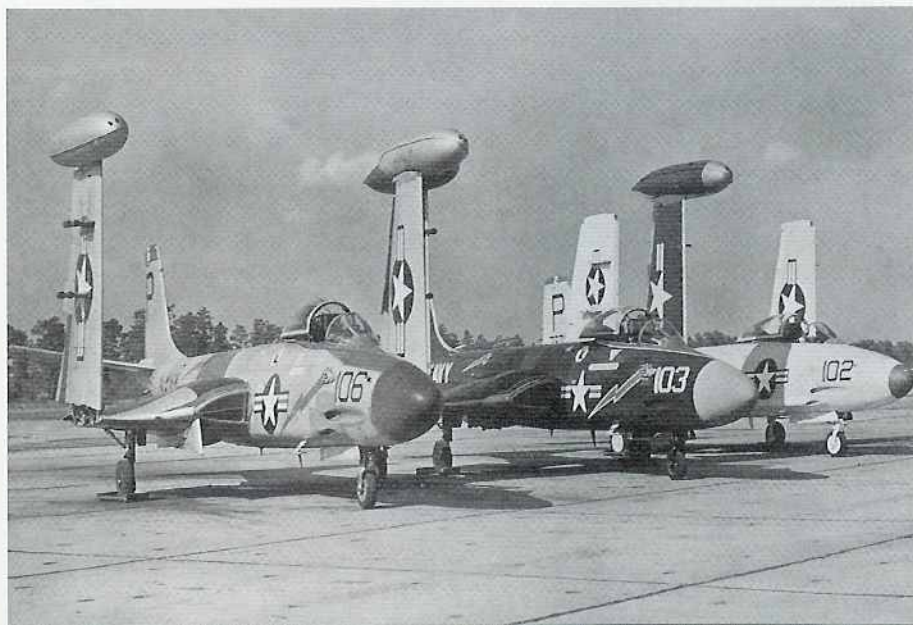
An F2H-4 (XC-59) from VX-3 at NAS Atlantic City takes on fuel from a North American AJ-1 Savage aerial tanker. The refueling probe was identical to that on the earlier F2H-3.





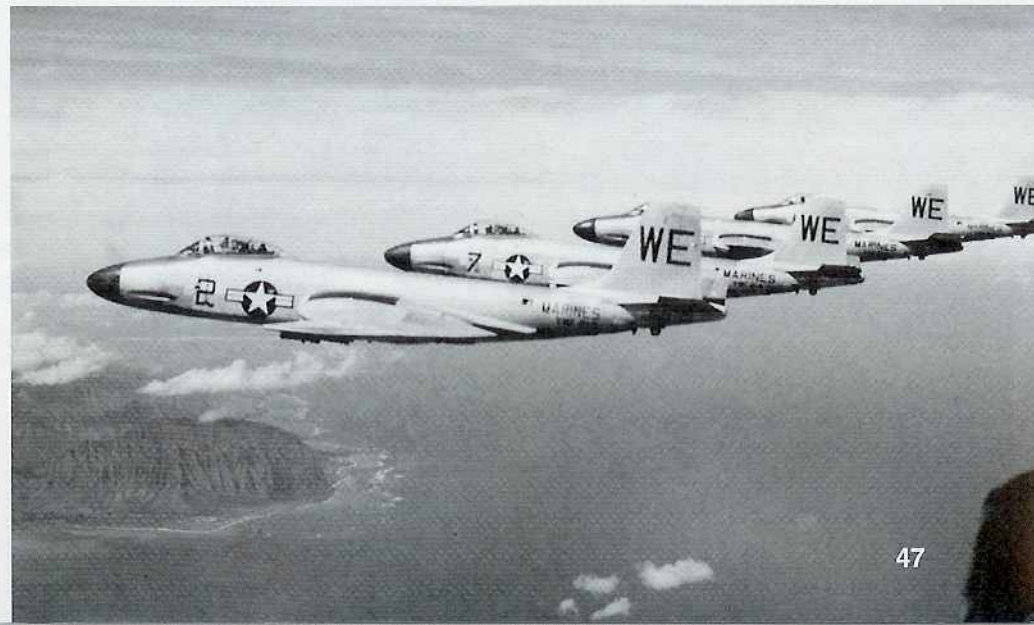
A group of VC-5 Banshees are spotted on the flight deck of USS INTREPID (CVA-11), with a mixed group of AD Skyraiders further aft. The use of the anodized aluminum finish did not last long in service, due to corrosion problems. It was replaced by the Light Gull Gray and Insignia White scheme in 1955, which lasted over two decades. (USN/NA)

These three F2H-4 Banshees from VF-11 'Red Rippers' display examples of the three color schemes – aluminum, Sea Blue, and Light Gull Gray and White – used on Navy aircraft during the mid-1950s. The Squadron was embarked aboard USS CORAL SEA (CVA-43) during this period. The lightning bolts on the noses and the tail tips are red, with the blue aircraft having the bolts outlined in white. (USN)



A VF-22 F2H-4 (F-113/BuNo 127690) from USS RANDOLPH (CVA-15) flies along the Atlantic coast in 1957. It is finished in the new gray and white scheme, with tip tank flashes and tail trim in Orange Yellow. The radar dome is a tan or buff color (approximately FS33613), while the anti-glare panel is flat black. (USN/NA)

Four VMF-214 Banshees fly off Hawaii during the mid-1950s. The other two Marine F2H-4 squadrons were VMF-114 (tail code LK) and VMF-533 (tail code A1). The Marines did not operate the F2H-3 in squadron service, although several examples were used in Reserve units for training F2H-4 pilots. (USMC)



Canadian Banshees

In the early 1950s, the Canadian government considered purchasing the F2H Banshee as a replacement for its aging Hawker Sea Fury fighters. The piston-engine Sea Furies were assigned to two fighter squadrons: VF-870 and VF-871. Budgetary constraints put the project on hold until the mid-1950s. By that time, McDonnell was no longer producing the F2H series. Instead, 39 F2H-3s were pulled from US Navy storage and flown to NAS Quonset Point, Rhode Island. Royal Canadian Navy (RCN) pilots picked up the Banshees at Quonset Point and flew them to Shearwater Naval Air Station, Dartmouth, Nova Scotia in late November of 1955. The last Banshees were not acquired until June of 1958. In-flight refueling kits were not supplied; consequently, Canadian Banshees lacked this capability.

Once on station in Canada, the fighters were assigned to VF-870, VF-871, and VX-10, a test squadron. All three units were based at Shearwater. After a period of working up, the two fighter squadrons began operating from the aircraft carrier HMCS BONAVENTURE (RRSM-22, later CVL-22). This British MAJESTIC class carrier – built as HMS POWERFUL in 1945 – was commissioned into the RCN in January of 1957 and was Canada's only carrier in service during this period. Although the F2H-3 was no longer an up-to-date naval fighter, it was still a viable fleet defense aircraft when introduced into Canadian service. The F2H-3's all-weather capability was much needed in the cold North Atlantic waters off Canada's east coast and its radar system allowed interception under a variety of conditions and controls.

The Banshees were equipped with two Philco AIM-9 Sidewinder infra-red Air-to-Air Missiles (AAMs) under the wings in 1958. Their addition greatly improved the Banshee's capabilities and gave the airframe a new lease on life, since the Sidewinder missile was state-

of-the-art technology at the time. The aircraft retained their standard armament of four 20MM cannon in the nose. Four pylons under the wings were used to carry 500 pound bombs, 5 inch rockets, or AIM-9 Sidewinders.

Unfortunately, the Canadians suffered a high attrition rate and the Banshee was briefly grounded after two aircraft were lost due to in-flight structural failures. The failure was traced back to metal fatigue in the wing fold and the problem was quickly rectified. VF-871 was disbanded and its remaining aircraft were amalgamated into VF-870 in 1958. By the early 1960s, the end was near for the Canadian F2H-3 – the fighter was decidedly obsolete. VF-870 was disbanded on 12 September 1962 and its remaining F2H-3s were stored for either scrapping, burning for firefighting training, or preservation in museums. When the Banshees were removed from service, there were no suitable replacement aircraft capable of operating off BONAVENTURE – now relegated to the Anti-Submarine Warfare (ASW) role. The lack of a modern carrier fighter – and perhaps politics and a lack of funding – eventually led to the carrier's decommissioning in 1970, which ended the RCN's aircraft carrier program. The Canadian Banshee program was the only time in history that the RCN operated jet fighters. Additionally, this was the first time that a McDonnell fighter was purchased by a foreign country.

The F2H-3s in RCN service were painted in Canadian colors. The upper surfaces were Dark Sea Grey (FS36118), while the sides and undersurfaces were Light Sea Grey (FS36270). Radomes, anti-glare panels, and markings were black. Canadian roundels were painted on the forward fuselage and on the port and starboard wings, while fin flashes were painted on the vertical stabilizer.

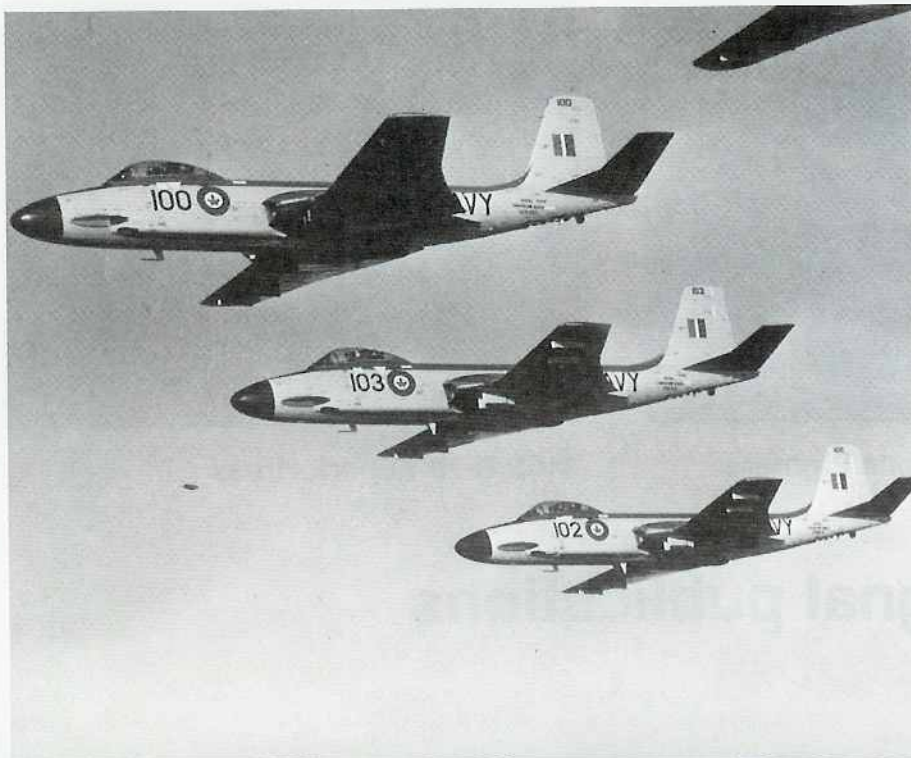


Eight F2H-3s repainted in Canadian markings sit with their wings folded outside the McDonnell plant in St. Louis in the fall of 1955. The Royal Canadian Navy's Banshees – all former US Navy aircraft – were painted Dark Sea Grey on the upper surfaces and Light Sea Grey on the sides and undersurface with lettering in black. The first five aircraft in line (100, 101, 103, 104, and 102) served at one time with VF-870, the first RCN fighter squadron. Three RF-101A Voodoo reconnaissance aircraft are parked behind the Banshees, while several new F3H Demon fighters await delivery to the US Navy. (MDC)

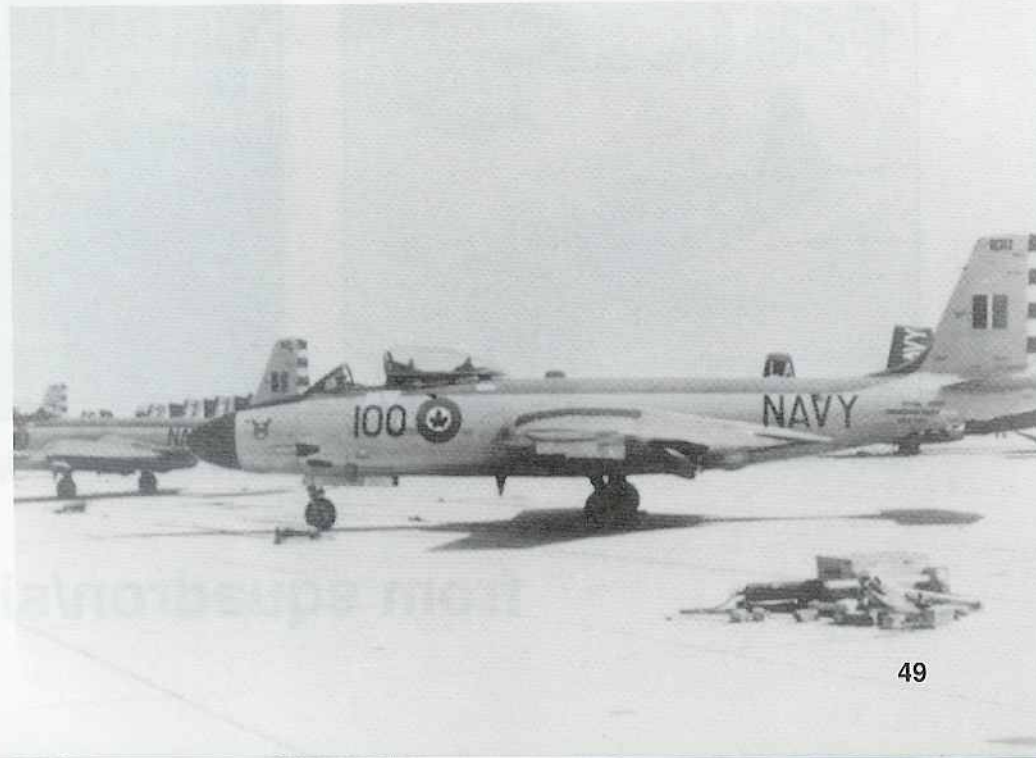
The first Banshee in the previous photograph (100/126392) flies over the Angus McDonnell Bridge spanning Halifax harbor, Nova Scotia in February of 1956. This was an obvious publicity shot related to the manufacturer and name of the bridge being one and the same. The Canadian carrier HMCS BONAVENTURE lies at anchor on the Halifax side of the harbor, under the bridge's far span. The F2H-3s were shore based at Shearwater NAS in nearby Dartmouth. The Canadian Banshees retained their US Navy Bureau Numbers (BuNos) as their RCN serial numbers. (MDC)



Three Banshees (100/126392, 103/126306, and 102/126414) fly formation during their delivery to Shearwater NAS in 1955. Two Canadian fighter squadrons, VF-870 and VF-871, and Experimental Squadron 10 (VX-10) flew the F2H-3. In 1957, the fighter units began operating from BONAVENTURE. Although VF-871 was decommissioned in 1959, VF-870 continued to operate their Banshees until they were retired in 1962. (MDC)



These VF-870 Banshees are parked at NAS Key West, Florida while on a joint training exercise with Navy and Marine Corps squadrons in the spring of 1957. The Squadron's rudder markings were four blue and three white bars, but this was later changed to eight blue saw-teeth on a white rudder. These F2H-3s are not carrying the 170 gallon (643.5 L) wingtip tanks, which were occasionally used by the Canadians. (USN/NA)



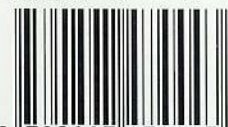


(Above) VF-193 flew this F2H-3 (B-303/BuNo 127521) from USS YORKTOWN (CVA-10) during the mid-1950s. It is painted in the Light Gull Gray over White scheme adopted by the Navy and Marine Corps after studying a variety of finishes, which included Sea Blue and anodized aluminum schemes.

(Below) This F2H-4 (WE-14/BuNo 127614) was assigned to VMF-214, one of the three Marine squadrons to operate this Banshee variant. These aircraft were eventually turned over to the Reserve unit at NAS Niagara Falls, New York.



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