

Grumman F-9 Cougar



Grumman F9F-6 Cougar, 1952

Role	Fighter aircraft
National origin	United States
Manufacturer	Grumman
First flight	20 September 1951
Introduced	1 March 1952
Retired	14 June 1974
Produced	1951–1957
Primary users	United States Navy United States Marine Corps Argentine Navy
Number built	1,392
Developed from	Grumman F9F Panther

The **Grumman F9F/F-9 Cougar** was an aircraft carrier-based fighter aircraft for the United States Navy. Based on the earlier Grumman F9F Panther, the Cougar replaced the Panther's straight wing with a more modern swept wing. The Navy considered the Cougar an updated version of the Panther, despite having a different official name, and thus Cougars started off from F9F-6 upwards.

Design and development

Prototypes were quickly produced by modifying Panthers, and the first (XF9F-6) flew on 20 September 1951. The aircraft was still subsonic,

but the critical Mach number was increased from 0.79 to 0.86 at sea level and to 0.895 at 35,000 ft. (10,000 m), improving performance markedly over the Panther. The Cougar was too late for Korean War service, however, and thus combat effectiveness estimates of the Cougar against potential foes such as the (likewise subsonic, but not carrier-rated) Soviet Mikoyan-Gurevich MiG-15 necessarily remain in the sphere of conjecture.



A swept-wing F9F-6 Cougar (foreground) and a straight-wing F9F-5 Panther in flight



Launch of the last USN TF-9Js from USS *John F. Kennedy*, 1974.

Initial production (646 airframes) was the F9F-6, delivered from mid-1952 through July 1954. Armament was four 20 mm (.79 in) M2 cannons in the nose and provision for two 1,000 lb. (454 kg) bombs or 150 US gal (570 l) drop tanks under the wings. Most were fitted with a UHF homing antenna under the nose, and some were fitted with probes for inflight refueling. Later re-designated F-9F in 1962. Sixty were

built as F9F-6P reconnaissance aircraft with cameras instead of the nose cannon.

After withdrawal from active service, many F9F-6s were used as unmanned drones for combat training, designated F9F-6K, or as drone directors, designated F9F-6D. The F9F-6K and the F9F-6D were re-designated the QF-9F and DF-9F, respectively.

F9F-7 referred to the next batch of Cougars that were given the Allison J33 engine instead of the Pratt & Whitney J48. 168 were built, but the J33 proved both less powerful and less reliable than the J48. Almost all were converted to take J48s, and were thus indistinguishable from F9F-6s. These were re-designated F-9H in 1962.

The F9F-8 was the final fighter version. It featured an 8 in (20 cm) stretch in the fuselage and modified wings with greater chord and wing area, to improve low-speed, high angle of attack flying and to give more room for fuel tanks. 601 aircraft were delivered between April 1954 and March 1957; most were given inflight refueling probes, and late production was given the ability to carry four AIM-9 Sidewinder air-to-air missiles under the wings. Earlier aircraft were modified to this configuration. A number were given nuclear bombing equipment. These were re-designated F-9J in 1962.

The F9F-8B aircraft were F9F-8s converted into single-seat attack-fighters, later re-designated AF-9J.

A total of 110 F9F-8Ps were produced with an extensively modified nose carrying cameras. They were withdrawn after 1960 to reserve squadrons. In 1962, surviving F9F-6P and F9F-8P aircraft were re-designated RF-9F and RF-9J respectively.

Modifications of F9F-8 to convert to F9F-8P:

- The modification to eliminate the guns and related equipment and incorporate the photographic equipment and automatic pilot and their controls and instruments has resulted in the following changes:

- Rearrangement of electronics equipment installed in the area enclosed by the fuselage nose section, lengthening of this section by 12 inches, and shortening of the sliding nose section.
- Rearrangement of the left and right consoles and the main instrument panel to provide space for the controls associated with the additional equipment.
- Some minor changes of the fuselage structure and equipment installations to provide for the necessary ducting control for hot air from the engine compressor, which is used for defrosting the camera windows and heating the camera compartment.
- Removal of all armament and the Armament Control System, removal of AN/APG-30 system and installation of an additional armor plate bulkhead.

The Navy acquired 377 two-seat F9F-8T trainers between 1956 and 1960. They were used for advanced training, weapons training and carrier training, and served until 1974. They were armed with twin 20 mm (.79 in) cannon and could carry a full bombs or missiles load. In the 1962 re-designation, these were called TF-9J.

Operational history



An F9F-6 of VF-24 on the USS *Essex* in 1955

F9F-8s were withdrawn from front-line service in 1958-59, replaced by Grumman F11F Tigers and Vought F8U Crusaders. Reserves used them until the mid-1960s, but none of the single-seat versions saw Vietnam War service.

The only version of the Cougar to see combat was the TF-9J trainer (until 1962, F9F-8T). Four Cougars of H&MS-13 were used in the airborne command role, directing airstrikes against enemy positions in South Vietnam during 1966 and 1967. The TF-9J had a long service with US Navy, but the Cougar evolution (with J52 engine) was defeated when US Navy selected TA-4F instead. The last was phased out when VT-4 was re-equipped on February 1974. A F9F-8T, BuNo 14276, is displayed at the National Museum of Naval Aviation, Pensacola.



MAPS F9F-8P Serial Number 144402



The F9F-8P is one of only four of this version of photo-reconnaissance airframes on display in the world.

The F9F-8P that is on display at the MAPS Air Museum was constructed at the Grumman Corporation facility in Bethpage, New York and accepted by the United States Navy on February 8, 1957. It was assigned to the Bureau of Aeronautics (BuAer) at Norfolk on February 13, 1957. (NOTE: Congress established BuAer in 1921 in order to create a single organizational home for Naval Aviation. Prior to 1921, cognizance for aviation had been divided among various Navy bureaus and other organizations.) After a short return to Grumman's Bethpage facility, 144402 was assigned to Photographic Reconnaissance Squadron (VFP) 62 based in Jacksonville, Florida. VFP-62 was an aviation unit of the United States Navy in service from

1949 to 1968. The squadron provided a detachment of reconnaissance planes for each of the Carrier Air Wings of the U.S. Atlantic Fleet.



F9F-8P Serial Number 144402 over the U.S.S. Randolph

June 6, 1957 saw the aircraft assigned to Detachment (Det) 36 of VFP 62 aboard the U.S.S. Randolph. After a few months operating off the East Coast, Randolph deployed to the Mediterranean on 1 July 1957. Between August and December, as political turmoil in Syria threatened to further disturb the already turbulent Mideast, she patrolled the eastern Mediterranean. Back in the United States on 24 February 1958, the flattop made her 5th Mediterranean deployment, again with 144402 aboard, from 2 September 1958 – 12 March 1959.

Returned to Jacksonville in March of 1959, the aircraft was re-assigned to O&R BuAer M&S (Overhaul & Repair Facility, Bureau of Aeronautics, Maintenance and Support Division) at the Naval Air Station at Norfolk, Virginia on August 9, 1959. After a short return to VFP 62 in Jacksonville (September 9 – November 9, 1959), the aircraft was returned to the Maintenance and Support unit at Norfolk. On February 29, 1960, 144402 was assigned to the Bureau of Weapons (BuWeps) Detachment at Norfolk. The Bureau of Naval Weapons (BuWeps) was part of the United States Navy's material organization between 1959 and 1966, with responsibility for procurement and support of naval aircraft and aerial weapons.

F9F-8P, serial number 144402 was stricken (removed) from the Navy's aircraft inventory in May of 1960.

This airframe came to MAPS from a private donor in Magnolia, Ohio who flew an F9F-8P over Lebanon during the crisis there in 1958 while

assigned to the U.S.S. Essex (CVA-9). The airframe was sold to this individual in December 2005 by the Wings of Eagles Museum in Horsehead, New York. Restoration of the airframe was started at the Waynesburg Carriage Factory. When it was found that some of the restoration required was beyond the capability of the factory, the airframe was placed in storage at that location until moved to MAPS in October of 2012.

Variants

XF9F-6

First three prototypes of the F9F Cougar

F9F-6

646 built; re-designated **F-9F** in 1962.

F9F-6P

60 were built for reconnaissance

F9F-6D

Drone directors, converted from F9F-6s; re-designated **DF-9F** in 1962.

F9F-6K

Unmanned drones for combat training converted from F9F-6s; re-designated **QF-9F** in 1962.



An F9F-6K drone in 1959.

F9F-6PD

Drone directors, converted from F9F-6Ps; re-designated **DF-9F** in 1962.

F9F-6K2

An improved version of the F9F-6K target drone, converted from F9F-6s; re-designated **QF-9G** in 1962.

F9F-7

168 were built with the Allison J33 engine; most were converted to take J48s; re-designated **F-9H** in 1962.

F9F-8

601 aircraft; re-designated **F-9J** in 1962; they had up to 4 AIM-9 Sidewinder missiles



The F9F-8 was fitted with an inflight refueling probe and Sidewinder missiles.

YF9F-8B

Prototype for a single-seat attack-fighter aircraft converted from a F9F-8; later re-designated **YAF-9J**.

F9F-8B

F9F-8s converted into single-seat attack-fighters; later re-designated **AF-9J**.

F9F-8P

110 photo-reconnaissance versions.



Two F9F-8P from VFP-62 over Malta in 1958.

YF9F-8T

One F9F-8 aircraft converted into a prototype for the F9F-8T training aircraft; later re-designated **YTF-9J**.



An F9F-8T on the USS *Saratoga*

F9F-8T

377 two-seat trainers acquired; re-designated **TF-9J** in 1962.

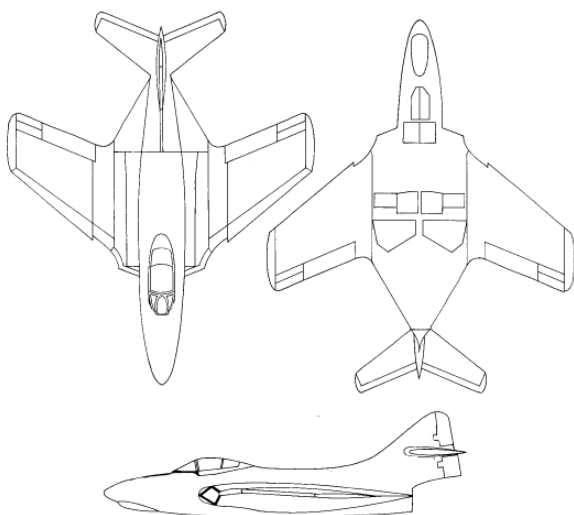
NTF-9J

Two TF-9Js used for special test duties.

YF9F-9

Original designation of the YF11F-1 Tiger prototypes. First flight was on 30 July 1954; re-designated in April 1955.

Specifications (F9F-8/F-9J)



Grumman F-9 Cougar

General characteristics

- **Crew:** 1
- **Length:** 42 ft. 1½ in (12.85 m)
- **Wingspan:** 34 ft. 6 in (10.51 m)
- **Height:** 12 ft. 3 in (3.73 m)
- **Wing area:** 337 ft² (31.3 m²)
- **Empty weight:** 11,866 lb. (5,382 kg)
- **Loaded weight:** 20,098 lb. (9,116 kg)
- **Max. takeoff weight:** 24,763 lb. (11,232 kg)
- **Power plant:** 1 × Pratt & Whitney J48-P-8A turbojet, 8,500 lbf (38 kN) with water injection

Performance

- **Maximum speed:** 647 mph (562 knots, 1,041 km/h) at 2,000 ft. (610 m)
- **Range:** 1,050 mi (913 nmi, 1,690 km)
- **Service ceiling:** 42,000 ft. (12,800 m)
- **Rate of climb:** 5,750 ft/min (29.2 m/s)

Armament

- **Guns:** 4 × 20 mm (0.79 in) M2 cannon, 190 rounds per gun
- **Rockets:** 6 × 5 in (127 mm) rockets
- **Missiles:** 4× AIM-9 Sidewinder air-to-air missiles
- **Bombs:** 2 × 1,000 lb. (454 kg) bombs