

# Grumman F-11 Tiger

## F11F/F-11 Tiger



VF-21 F11F-1 Tigers in left echelon formation.

<b>Role</b>	Fighter aircraft
<b>Manufacturer</b>	Grumman
<b>First flight</b>	30 July 1954
<b>Introduction</b>	1956
<b>Retired</b>	1961 (Carrier) 1967 (Training) 1969 (Blue Angels)
<b>Status</b>	Phased out of service
<b>Primary user</b>	United States Navy
<b>Produced</b>	1954-1959
<b>Number built</b>	200
<b>Variants</b>	Grumman F11F Super Tiger

The **Grumman F11F/F-11 Tiger** was a single-seat carrier-based United States Navy fighter aircraft in operation during the 1950s and 1960s. Originally designated the **F11F Tiger** in April 1955 under the pre-1962 Navy designation system, it was redesignated as **F-11 Tiger** under the 1962 United States Tri-Service aircraft designation system.

The F11F/F-11 was used by the Blue Angels flight team from 1957 to 1969. Grumman Aircraft Corporation made about 200 Tigers, with last delivered 23 January 1959.

The F11F (F-11) Tiger origins can be traced back to a privately funded 1952 Grumman concept to modernize the F9F-6/7 Cougar by implementing the area rule and other advances. This Grumman company project was known as the **G-98**, and by the end had departed totally from the Cougar.



An early production "short nose" F11F and a later "long nose" from VT-23.

The design's potential for supersonic performance and reduced transonic drag stirred interest in the Navy. By 1953, redesigns led to a completely new aircraft bearing no more than a familial resemblance to the Cougar. The new wing had full-span leading edge slats and trailing edge flap with roll control achieved using spoilers rather than traditional ailerons. For storage on aircraft carriers, the F-11 Tiger's wings manually folded downwards. Anticipating supersonic performance, the tail plane was all-moving. The aircraft was designed for the Wright J65 turbojet, a license-built version of the Armstrong Siddeley Sapphire.

The Navy Bureau of Aeronautics was sufficiently impressed to order two prototypes, designated **XF9F-8** even though the new fighter was clearly a new design. To add to the confusion, the

prototypes were then redesignated **XF9F-9** with the XF9F-8 designation going to another more straightforward Cougar derivative. Since the afterburning version of the J65 was not ready, the first prototype flew on 30 July 1954 with a non-afterburning engine. In spite of this, the aircraft nearly reached Mach 1 in its maiden flight. The second prototype, equipped with the afterburning engine, became the second supersonic US Navy aircraft, the first being the Douglas F4D Skyray. In April 1955, the aircraft received the new designation F11F-1 (F-11A after adoption of the unified Tri-Service naming system in 1962). Carrier trials started on 4 April 1956 when an F11F-1 Tiger landed on and launched from USS *Forrestal*.

The F-11 Tiger is noted for being the first jet aircraft to shoot itself down. On 21 September 1956, during a test firing of its 20 mm (.79 in) cannons, pilot Tom Attridge fired two bursts mid-way through a shallow dive. As the velocity and trajectory of the cannon rounds decayed, they ultimately crossed paths with the Tiger as it continued its descent, disabling it and forcing Attridge to crash land the aircraft; he survived.

In addition to the F-11A (F11F-1) fighter, Grumman also proposed a more advanced version of the airframe known as the F11F-1F Super Tiger. This was the result of a 1955 study to fit the new General Electric J79 engine into the F11F-1 airframe.

Seven U.S. Navy squadrons flew the F11F-1: VF-21 and VF-33 in the Atlantic Fleet and VA-156 (redesignated VF-111 in January 1959), VF-24 (redesignated VF-211 in March 1959), VF-51, VF-121, and VF-191 in the Pacific Fleet. In service, the Tiger operated from the carriers USS *Ranger*, *Intrepid*, *Hancock*, *Bon Homme Richard*, *Forrestal*, and *Saratoga*. The F11F's career only lasted four years because its performance was inferior to the Vought F-8 Crusader and the J65 engine proved unreliable. Also, the range and endurance of the *Tiger* was found to be inadequate. Thus, the Navy cancelled all orders for the **F11F-1P** reconnaissance version and only 199 F11F-1 (F-11A) fighters were built. The aircraft was withdrawn from carrier

operations by 1961. It continued in service, however, in the training command in south Texas, Beeville and Kingsville, until the late 1960s. Students performed advanced jet training in the F-9 Cougar, and upon completing that syllabus, were given a brief taste of supersonic capability before transitioning to fleet fighters.

While the F-11's fighter career was short, the Blue Angels performed in the aircraft from 1957 until 1969, when the Tiger was replaced by the McDonnell Douglas F-4 Phantom II.



### **MAPS F-11F Tiger – Bureau Number 141783**



The airframe at the MAPS Air Museum is an F-11F version carrying the Bureau Number of 141783. It was manufactured at Grumman Aircraft Corporation in October of 1957 and delivered to the United States Navy on 27 November 1957.

In December of 1957, 141783 was assigned to Fighter Squadron (VF) 33 located at Naval Air Station (NAS) Oceana, Virginia. During this assignment, the F-11F was deployed to the Mediterranean aboard the U.S.S. Intrepid (February 1959 to August 1959) and again aboard the same ship from August 1960 to February 1961.

In March of 1961, the aircraft was placed in storage at NAS Litchfield Park, Arizona. It remained there until December

when it was moved for overall and repair at the Bureau of Naval Weapons (BuWeps) located at Cherry Point, North Carolina.

In July of 1962, the F-11F was again placed in storage at NAS Litchfield Park, Arizona. In November of that year, it was converted and re-designated F-11A on 30 November 1962.

In January of 1965, the aircraft was recovered for overhaul and repair at BuWeps, Cherry Point, North Carolina. In March of 1965 it was transferred to Training Squadron (VT) 26 based at NAS Chase Field in Beeville, Texas.

In November of 1968, 141783 was dropped from the active inventory. In June of 1991, the F-11 F was placed on display on the U.S.S. Intrepid Sea-Air-Space Museum in New York. It remained on display on the INTREPID until November of 2004. On 19 November 2004, F-11F, Bureau Number 141783 arrived at MAPS and was placed on display

## Variants

### YF9F-9

Original designation.

### F11F-1

Single-seat fighter version for the U.S. Navy, re-designated **F-11A** in 1962. 199 built and later production aircraft had a longer nose. One was used for static test and a further production of 231 aircraft cancelled.



F11F-1 of the National Museum of Naval Aviation at NAS Pensacola, Florida

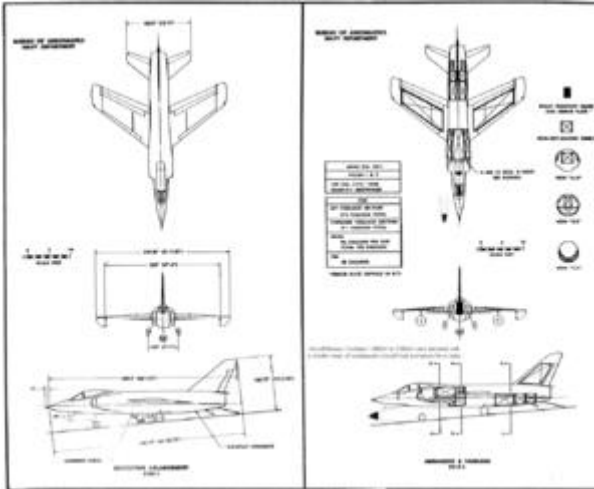
## F11F-1P

Designation of a Navy photo reconnaissance version, 85 were cancelled.

## F11F-1F Super Tiger (G-98J)

(F11F-1 fitted with the J79-GE-3A engine, two built.

## Specifications (F11F-1/F-11A)



## General characteristics F-11

- **Crew:** 1
- **Length:** 46 ft 11 in (14.3 m)
- **Wingspan:** 31 ft 7.5 in (9.6 m)
- **Height:** 13 ft 3 in (4.0 m)
- **Wing area:** 250 ft<sup>2</sup> (23 m<sup>2</sup>)
- **Empty weight:** 13,810 lb (6,277 kg)
- **Loaded weight:** 21,035 lb (9,561 kg)
- **Max takeoff weight:** 23,459 lb (10,663 kg)
- **Power plant:** 1 × Wright J65-W-18 turbojet
  - **Dry thrust:** 7,400 lbf (32.9 kN)
  - **Thrust with afterburner:** 10,500 lbf (46.7 kN)

## Performance

- **Maximum speed:** Mach 1.1 (727 mph, 1,170 km/h) at 35,000 ft (11,000 m)
- **Cruise speed:** 577 mph (929 km/h)
- **Range:** 1,275 mi (1,110 nmi, 2,050 km)
- **Service ceiling:** 49,000 ft (14,900 m)
- **Rate of climb:** 16,300 ft/min (83 m/s)
- **Wing loading:** 84 lb/ft<sup>2</sup> (411 kg/m<sup>2</sup>)
- **Thrust/weight:** 0.50

## Armament

- **Guns:** 4 × 20 mm (.79 in) Colt Mk 12 cannon, 125 rounds per gun
- **Hard points:** 4 with a capacity of - and provisions to carry combinations of:
  - **Rockets:** Aero 6A or Aero 7A "Rocket Package"
  - **Missiles:** AIM-9 Sidewinder
  - **Other:** 150 gal drop tank