

# North American FJ-3 “Fury”

The Hickory Aviation Museum’s FJ-3M Bureau Number 141393 is on loan from the National Museum of Naval Aviation. It was delivered in Oct 1991. It is our museum’s 1<sup>st</sup> aircraft. Coordinated by Kyle and Kregg Kirby.



<b>Role</b>	Fighter aircraft
<b>National origin</b>	United States
<b>Manufacturer</b>	North American Aviation
<b>First flight</b>	27 December 1951
<b>Introduction</b>	1954
<b>Retired</b>	September 1962
<b>Status</b>	Phased out of service
<b>Primary users</b>	United States Navy United States Marine Corps
<b>Number built</b>	741
<b>Developed from</b>	North American F-86 Sabre
<b>Developed into</b>	North American FJ-4 Fury
<b>Propulsion (J-3)</b>	Wright J65-W-2/4 turbojet
<b>Unit Cost</b>	\$220K

## FJ-2 to FJ-3

By 1951, the Navy's existing straight-wing fighters were much inferior in performance to the swept-wing Soviet MiG-15 then operating in the Korean War; the swept-wing fighters in the Navy's development pipeline, including the Vought F7U Cutlass and F9F Cougar that were not yet ready for deployment. As an interim measure, the Navy's Bureau of Aeronautics ordered a direct development of the swept-wing F-86E Sabres as the FJ-2. As the F-86 had not been designed to be carrier-capable, this involved some risk, but Navy pilots had observed that the F-86A actually had a lower landing speed than the F9F Panther. Even while development of the FJ-2 was ongoing, the development was planned of a version powered by the Wright J65, a license-built version of the British Armstrong Siddeley Sapphire turbojet. The Sapphire promised to deliver 28% more thrust than the J47, for little gain in weight. The new version was designated FJ-3, and an order for 389 aircraft was placed in March 1952.

## General characteristics

**Crew:** 1  
**Length:** 37 ft 7 in (11.45 m)  
**Wingspan:** 37 ft 1.5 in (11.31 m)  
**Height:** 13 ft 7 in (4.14 m)  
**Wing area:** 288 ft<sup>2</sup> (26.7 m<sup>2</sup>)  
**Empty weight:** 11,802 lb (5,353 kg)  
**Max. takeoff weight:** 18,790 lb (8,523 kg)  
**Powerplant:** 1 × General Electric J47-GE-2 turbojet, 6,000 lbf (26.7 kN)

## Performance

**Maximum speed:** 587 kts / 675 mph (1,088 km/h) at sea level  
**Range:** 860 mi (1,593 km) (normal)  
**Service ceiling:** 46,800 ft (14,300 m)  
**Rate of climb:** 7,230 ft/min (2,204 m/min)  
**Armament**  
**Guns:** 4 × 20 mm (0.787 in) cannon  
**Hardpoints:** AIM-9 Sidewinders, Bombs, Refueling

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The J-2 engine was the General Electric J47-GE-2, a navalized version of the J47-GE-27 used in the F-86F. The naval modifications of the FJ-2 had increased weight by about 500 kg over the F-86F, but unfortunately had not succeeded in delivering a fully carrier-capable fighter. A decision had already been made to give it to land-based squadrons of the US Marine Corps.

Construction was slowed due to demand for the F-86 in Korea; the FJ-2 was not produced in large numbers until after that conflict had concluded. Only seven aircraft had been delivered by then end of 1953, and it was January 1954 before the first aircraft was delivered to a Marine squadron, VMF-122. The Navy preferred the lighter F9F Cougar due to its superior slow-speed performance for carrier operations, and the 200 FJ-2 models built were delivered to the United States Marine Corps. The Marines did make several cruises aboard carriers and tried to solve the type's carrier handling problems, but the FJ-2 was never really satisfactory. In 1956, the FJ-2 already disappeared from front-line service, and reserve units retired it in 1957.

## Operational history

To test the new engine a single FJ-2, BuNo 131931, was modified, but the first true production FJ-3 flew on 3 July 1953. The only externally visible change required by the new engine (Wright J65-W-2/4 turbojet) was a deeper intake to accommodate the larger mass flow. Early FJ-3s had the same wing as the FJ-2, but from 1955 onwards the FJ-3 was built with a so-called "6-3" wing, with a leading edge that was extended 6 inches at the root and 3 inches at the tip. This modification, first introduced on the F-86F, enhanced maneuverability at the price of a small increase in landing speed because the leading edge slats were deleted. The version introduced on the FJ-3 was different from that fitted to the F-86F, as camber was applied to the underside of the leading edge to improve low-speed handling. On the FJ-3, the new wing leading edges also held extra fuel. From the 345th aircraft onwards, the wings were provided with four stations for external loads, up to 1000 lb on the inboard stations and 500 lb on the outboard stations.

Deliveries began in September 1954, and the FJ-3 joined the fleet in May 1955. An FJ-3 was the first fighter to land aboard the new supercarrier USS *Forrestal* (CVA-59) in 1956. Problems were encountered with the J65 engine, including failures of its lubrication system under the acceleration of launch or during maneuvers, and failures of the turbine blades. Nevertheless the Navy was more satisfied with the FJ-3 than it had been with the FJ-2, and in March 1954 it ordered an additional 149 aircraft. Because of its more powerful engine, the FJ-3 was superior to most models of the F-86, except the F-86H. A total of 538 FJ-3s were built. Of these 194 were modified to FJ-3Ms with the ability to carry AIM-9 Sidewinder air-to-air missiles. Some FJ-3s were later modified to control Regulus missiles (KDU-1), and F9F-6K Cougar target drones. In 1956 the Navy retro-fitted all its FJ-3s with probe-and-drogue air refueling equipment, a long probe being fitted under the left wing.

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