

## F8F Bearcat

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F8F Bearcat aboard the [USS Valley Forge](#).

**Type** [Fighter aircraft](#)

**Manufacturer** [Grumman](#)

**Designed by** William Schwendler

**Maiden flight** [21 August 1944](#)

**Introduction** [1945](#)

**Retired** 1955 (United States Navy), 1960 (Royal Thai Air Force)

**Status** Retired

**Primary users** [United States Navy](#)  
[United States Marine Corps](#)  
[Royal Thai Air Force](#)  
[French Air Force](#)

**Number built** 1,266

The [Grumman F8F Bearcat](#) (affectionately called "Bear") was an [American](#) single-engine naval [fighter aircraft](#) of the 1940s. It went on to serve into the mid-20th Century in the [United States Navy](#) and other air forces, and would be the company's final [piston engined](#) fighter aircraft.

### Design and development



Grumman F8F-1 (BuNo 95318) of VA-20A banking over San Francisco on [2 June 1947](#). Photo by W.T. Larkins

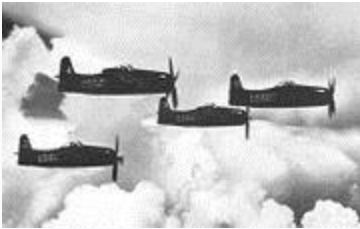
Designed for the [interceptor fighter](#) role, the design team's aim was to create the smallest, lightest fighter that could fit around the [Pratt & Whitney R2800](#) engine (carried over from the [F6F Hellcat](#)). Compared to its predecessor, the Bearcat was 20% lighter, had a 30% better rate of climb and was 50 mph (80 km/h) faster. In comparison with the Vought [F4U Corsair](#), the initial Bearcat (F8F-1) was marginally slower but was more maneuverable and climbed faster. Its huge 12' 4" Aero Products four-bladed prop required a long landing gear, giving the Bearcat an easily-recognized, "nose-up" profile. For the first time in a production [Navy](#) fighter, an all-[bubble canopy](#) offered 360-degree visibility.

The Bearcat's design was influenced by an evaluation in early 1943 by Grumman test pilots and engineering staff of a captured [Focke-Wulf Fw 190](#) fighter in England.<sup>[1]</sup> After flying the Fw 190, Grumman test pilot Bob Hall wrote a report he directed to President Leroy Grumman who personally laid out the specifications for Design 58, the successor to the Hellcat, closely emulating the design philosophy that had spawned the German lightweight fighter. The F8F Bearcat would emanate from Design 58<sup>[2]</sup> with the primary missions of outperforming highly maneuverable late-model Japanese fighter aircraft such as the [A6M-5 Zero](#)<sup>[3]</sup>, and defending the fleet against incoming airborne suicide ([kamikaze](#)) attacks.<sup>[4]</sup>

Unfortunately the target weight was essentially impossible to achieve as the aircraft had to be made stronger for aircraft carrier landings, unlike the Focke. As a weight saving concept the designers came up with detachable wings- if the *g*-force exceeded 7.5*g* then the tips would snap off, leaving a perfectly flyable aircraft still capable of carrier landing. Unfortunately while this worked very well under carefully controlled conditions in flight and on the ground, in the field, where aircraft were repetitively stressed by landing on carriers and since the wings were slightly less carefully made in the factories, wings tended to break off while the vehicle bombed targets, and the aircraft would then crash. This was replaced with an explosives system to blow the wings off together, which also worked well, however this ended when a ground technician died due to accidental triggering. In the end the wings were reinforced and the aircraft limited to 4.5*g*. However crashes still continued, as this limit would sometimes be exceeded, and the wing would tend to break off at the root.<sup>[5]</sup>

Grumman's project pilot for the Bearcat series was legendary test pilot [Corky Meyers](#), who also had this role on the [F6F Hellcat](#), [F7F Tigercat](#), [F9F Panther](#), [XF10F-1 Jaguar](#), and the [F11F Tiger](#) series. Meyers was head of Grumman Flight Operations at [Edwards Air Force Base](#) from 1952–56.<sup>[6][7]</sup> Besides the test pilot, "Corky" Meyers, another famous name is associated with the type; when asked his favorite aircraft to fly, [Neil Armstrong](#)'s immediate and unequivocal answer was, "Bearcat."

## Operational history



On [25 August 1946](#), the [Blue Angels](#) transitioned to the Grumman F8F-1 Bearcat and introduced the famous "diamond" formation.

The F8F prototypes were ordered in November [1943](#) and first flew on [21 August 1944](#), a mere nine months later. The first production aircraft was delivered in February [1945](#) and the first squadron was operational by [21 May](#), but [World War II](#) was over before the aircraft saw combat service.

Postwar, the F8F became a major US Navy fighter, equipping 24 fighter squadrons. Often mentioned as one of the best (if not the best) handling piston-engine fighters ever built, their performance was such that they even outperformed many early jets. Its capability for [aerobatic](#) performance is borne out by the choice of the Bearcat for the Navy's elite [Blue Angels](#) in 1946, who flew it until the team was temporarily disbanded in 1950 (during the [Korean War](#)). The Grumman [F9F Panther](#) and [McDonnell F2H Banshee](#) largely replaced the Bearcat in USN service, as their performance and other advantages eclipsed piston-engine fighters.

An unmodified production F8F-1 set a 1946 time-to-climb record (after a run of 115 feet) of 10,000 feet in 94 seconds. The Bearcat held this record for ten years until it was broken by a modern jet fighter (which could still not match the Bearcat's short takeoff distance).

Other nations that flew the Bearcat included the [French](#) and [Thai](#) air forces. French aircraft saw combat service in the [First Indochina War](#) as fighter-bombers in the early [1950s](#).

## Air racing



Record-breaking [Rare Bear](#) racer

Bearcats have long been popular in [air racing](#). A stock Bearcat sponsored by Bill Stead won the first [Reno Air Race](#) in 1964. [Rare Bear](#), a highly-modified F8F owned by [Lyle Shelton](#), went on to dominate the event for decades, often competing with [Daryl Greenamyre](#), another famous racer with his own Bearcat victories and a Bearcat world speed record. *Rare Bear* also set many performance records, including the 3Km World Speed Record for piston-driven aircraft (528.33 mph (850.26 km/h), set in [1989](#)), and a new time-to-climb record (3,000 meters in 91.9 seconds, set in [1972](#), breaking the [1946](#) record cited above).<sup>[8][9][10]</sup>

## Operators

## [France](#)

- [French Air Force](#)

## [Thailand](#)

- [Royal Thai Air Force](#)

## [United States](#)

- [United States Navy](#)
- [United States Marine Corps](#)

## [South Vietnam](#)

- [Vietnam Air Force](#)

## Survivors

A small number of Bearcats survive: approximately 11 are airworthy, eight are restored for static display and approximately a dozen more are wrecks or restoration projects.

## Specifications (F8F-1 Bearcat)



F8F-2 Bearcat N5555H, flown by [N.R. Hanson](#) (1924–1967), Yale's "Flying Professor", in the 1960s  
*Data from Jane's Fighting Aircraft of World War II*<sup>[11]</sup>,<sup>[3]</sup>

## General characteristics

- **Crew:** 1 pilot
- **Length:** 28 ft 3 in (8.6 m)
- **Wingspan:** 35 ft 10 in (10.9 m)
- **Height:** 13 ft 10 in (4.2 m)
- **Wing area:** ft<sup>2</sup> (m<sup>2</sup>)
- **Empty weight:** 7,070 lb (3,210 kg)
- **Loaded weight:** 9,600 lb (4,400 kg)
- **Max takeoff weight:** 12,947 lb (5,870 kg)
- **Powerplant:** 1× [Pratt & Whitney R-2800-34W](#) "Double Wasp" two-row [radial engine](#), 2,100 hp (1,600 kW)

## Performance

- **Maximum speed:** 421 mph (366 knots, 680 km/h)
- **Range:** 1,105 mi (1,780 km)
- **Service ceiling:** 38,700 ft (11,800 m)

- **Rate of climb**: 4,570 ft/min (23.2 m/s)
- **Power/mass**: 0.22 hp/lb (360 W/kg)

## Armament

- **Guns**: 4× 0.50 in (12.7 mm) [machine guns](#) in F8F-1
- **Rockets**: 4× 5 in (127 mm) unguided rockets
- **Bombs**: 1,000 lb (450 kg) bombs .

## [\[edit\]](#) External links

- [Aircraft.co.za - The Complete Aviation Reference](#)
- [Warbird Alley: Bearcat page - Information about Bearcats still flying today](#)

## Related development

- [F6F Hellcat](#)

## Designation sequence

- [XF5F](#) - [F6F](#) - [F7F](#) - **F8F** - [F9F](#) - [XF10F](#) - [F11F](#)

## Related lists

- [List of fighter aircraft](#)