

F7U-1 Cutlass - Production

Based on initial flights of the XF7U-1 airplane in 1948, the U.S. Navy ordered fourteen of the production versions of the airplane, the F7U-1. Powered by two J34-WE-32 engines with Solar afterburners, the production model incorporated several improvements. The vertical fins were extended to provide more area to eliminate directional “hunting” in high-speed flight. Two wing pylons were added, which permitted the carrying of two 250-gallon external fuel tanks. The main gear extension system was designed to permit a further forward wheel position for takeoff than the position used for landing. The nose gear was designed so the “oleo” could be fully extended for takeoff, providing 3 degrees of increased wing angle-of-attack for takeoff while the main gear aft extended position provided 3 degrees of increased angle-of-attack for landing on the carrier deck



First flight on March 1, 1950 and delivery in June provided the Navy with the airplane for carrier suitability testing. This vigorous testing produced negative results which are as follows:

- Pilot visibility was unsatisfactory in final carrier approach.
- Wave-off characteristics for latter stage wave-offs were unsatisfactory.
- The arresting hook assembly was so complicated that its practicability for service use was doubtful.

XF7U-3 Cutlass - Engine Story

In 1948/49, Chance Vought proposed the F7U-3 to the U. S. Navy. To support this airplane, an engine contract was awarded to Westinghouse for a much more powerful jet engine (the J46-WE-8 engine). The early thrust projections for this engine were 6,000-pound dry thrust, 9,000 pounds with afterburner. The airplane design was for a larger, faster, more rugged version of the F7U configuration using these more powerful engines with integral afterburners.



As the engine-afterburner design progressed, the J46 engine thrust was established as 6,000 pounds at full military thrust with afterburner. As noted previously, the engine development was delayed to the extent that the first 16 F7U-3 airplanes were required to be a special design using the Allison J35-A-29 engines without afterburner.

When the Westinghouse J46-WE-8 engines with afterburner were available for installation in the Number 17 and subsequent F7U-3 airplanes, the military thrust had been downrated to 5,800 pounds with afterburner and 3960 pounds without afterburner to extend engine life. The resultant lowered thrust would plague the F7U-3 program throughout its service life by making the airplane somewhat sluggish to thrust changes in carrier landing conditions

The F7U-3 was equipped with the AN/APG-30 radar, and the Aero A-10D fire control system with automatic gun sight. The engines contained automatic trim nozzles. The cockpit was pressurized, and the pilot's seat had emergency ejection capability. Inboard wing trailing edge speed brakes were provided for combat maneuvering and for landing use. The airplane was designed with both an in-flight refueling probe and with provisions for pylon mounted external fuel tanks. A fuselage fuel pod was also available for use in place of the removable rocket pack. Ability to carry the 5-inch HVAR and AR rockets and the 2.75-inch FFAR and 2.25-inch SCAR air-to-ground rockets on wing pylons was added.



Production deliveries from Vought to the U.S. Navy were as follows: 10 in 1952, 82 in 1953, 68 in 1954, and 20 in 1955, for a total of 180 airplanes. Thirteen squadrons (10 fleet squadrons) received the F7U-3 between June 1954 and December 1956. The Cutlass flight performance was excellent with superior dogfight capability. The bomb-carrying capabilities led the U.S. Navy to change many of the squadron designations from VF to VA (attack) squadrons. The Cutlass, however, experienced excessive downtime due to lack of reliability of systems equipment and nose gear problems which plagued operations.

Missile development in conjunction with flight testing in the development squadrons (VX4) led to the capability for carrying Sidewinder missiles on the basic F7U-3, and for the Sparrow missile in later versions (F7U-3M).

The F7U-3 airplanes were phased off the carriers in late 1957 as they were replaced by new airplane models that were easier to maintain and operate.

The Last [Corsair](#) and the Last [Cutlass](#)

In February of 1953 the last F4U Corsair (the 12,571st) was delivered. This famous World War II fighter was still seeing heavy duty in the Korean War where it was used mostly for low-altitude ground support. Air-to-air fighting was done mainly by jet aircraft, but Corsair pilots shot down ten enemy aircraft including a MIG-15 jet. The last operational carrier landing of an F4U Corsair was made on the USS Valley Forge in 1956.



The F7U Cutlass was the first U.S. jet fighter designed from the outset with afterburners, and was the Navy's first supersonic and first swept-wing fighter. The F7U-1 was first demonstrated to the public in 1948 and went into production in 1953. It was a radical new design, but the development of the government-furnished engines did not meet schedule or expected performance levels and the aircraft had some control problems. The Navy cut back production in 1954. The last Cutlass rolled out the door in 1956. However, the experience and know-how acquired during the Cutlass program contributed greatly to the very successful F8U Crusader program which immediately followed.