

News

From MCDONNELL DOUGLAS



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NAVY-DOUGLAS A-4 SKYHAWK SERIES

Background Information

United States Navy pilots are flying a new, advanced version of the small but powerful Skyhawk attack bomber, built by the Douglas Aircraft Company component of the McDonnell Douglas Corporation.

It is the A-4F, providing increased capability in speed, maneuverability, rate of climb, operating ceiling and armament flexibility over preceding Skyhawk bombers.

The single-engine jet is the sixth in a series of Douglas Skyhawk designs, including a two-place trainer version.

The 2000th Skyhawk was accepted by the Navy on July 10, 1967, at the Douglas facility at Palmdale, Calif. With this program milestone, the Skyhawk became one of only a handful of U.S. military aircraft to reach that level of production since World War II.

Skyhawks are designed for carrier operations and, because they are less than half the size of many current jet fighters, can be housed comfortably in carriers without folding the wings, unlike other Navy jets.

Versatility and handling characteristics of the bantamweight bomber also permit its use as a tactical aircraft. Marine Corps pilots fly Skyhawks in close support of ground forces, flying out of short landing strips on expeditionary airfields. Carrier-type arresting gear and catapults are used for some A-4 operations from forward landing fields.

The first A-4F was completed and rolled out of the Palmdale facility on Aug. 3, 1966. It flew for the first time Aug. 31, 1966, and deliveries to the fleet began June 20, 1967.

In appearance the A-4F is distinguished from its predecessors by the addition of an upper avionics compartment atop the fuselage, aft of the cockpit.

New equipment introduced in the F Series Skyhawk includes a more powerful engine, nose wheel steering, wing-lift spoilers and a zero-zero ejection system.

The wing-lift spoilers improve crosswind performance and reduce landing rollout while the new seat permits emergency ejection at zero altitude and zero speed. The earlier A-4E version is equipped with a zero altitude/90-knot seat.

The engine in both the A-4F and the TA-4F trainer is the Pratt & Whitney J52-P-8A, providing 9300 pounds thrust, 800 pounds more than that of the J52-P6 engine powering the A-4E version. The three earliest Skyhawk models were equipped with Wright J65 turbojet engines providing 7700 pounds of thrust.

Speed of the A-4F is in the high subsonic range -- between 650 and 700 m.p.h.

The A-4F delivers the same weight in armament payload as earlier Skyhawk models but, along with the A-4E, has a 27 per cent longer range.

It weighs only about 10,000 pounds empty but can take off fully loaded from a carrier at a gross weight of 24,500 pounds. This $2\frac{1}{2}$ to 1 ratio includes a combat load of up to 8200 pounds of missiles, bombs, rockets and machine guns, depending on the aircraft's mission.

Skyhawks have flown a major share of Navy and Marine Corps combat missions in Vietnam. Latest of the Skyhawks assigned to operations in Vietnam is the A-4F.

All models of the A-4 can be refueled in flight either by a tanker or another Skyhawk. A-4s flown by Marine pilots have spanned the Atlantic using the "buddy system" of in-flight refueling.

The TA-4F is an advanced two-place jet trainer which retains the performance and armament capabilities of the A-4F.

Essentially the TA-4F design is the same as that of the A-4F basic configuration with the exception of a 28-inch extension to the fuselage to accommodate the second seat and dual set of controls.

The TA-4F made its maiden flight June 30, 1965. Initial delivery to a Navy operational training squadron occurred May 19, 1966.

The U.S. government has authorized the export of the Skyhawk International, which can include any desired features of the U.S. Navy version. Overseas customers for various models include Australia and Argentina.

The first A-4 test flight was made June 22, 1954, at Edwards Air Force Base, Calif., only 18 months after design had begun.

A-4F and TA-4F production is located at Douglas facilities in Long Beach, Torrance and Palmdale, all in California, with final assembly and checkout at Palmdale.

Span of the earliest Skyhawk attack bombers, the A-4A and A-4B, is 27.5 feet; length, 38.4 feet, and height, 15 feet. The A-4C, third of the combat series, is nine inches longer.

A-4F SPECIFICATIONS
(same as A-4E except for weight, empty)

Wingspan	27.5 ft.
Length	40.26 ft.
Height	15 ft.
Weight, empty	10,000 lbs. (9300 lbs. for A-4E)
Weight, loaded	24,500 lbs.
Weapons weight	8200 lbs.

TA-4F SPECIFICATIONS

Wingspan	27.5 ft.
Length	42.6 ft.
Height	15.2 ft.
Weight, empty	10,602 lbs.
Weight, loaded	24,500 lbs.