

Republic F-105 “Thunderchief”

The Hickory Aviation Museum’s F-105 Tail Number 54-0107 is on loan from the National Museum of the Air Force. There’s a retired AF BGen working at the museum that flew the “Thud.”
Coordinated by Kyle & Kraig Kirby.



Role	Fighter-Bomber
National origin	United States of America
Manufacturer	Republic Aviation
First flight	22 October 1955
Introduction	27 May 1958
Retired	25 February 1984
Status	Retired
Primary users	United States Air Force
Produced	1955–1964
Number built	833
Propulsion	1 × Pratt & Whitney J75-P-19W afterburning turbojet; Dry thrust: 14,300 lbf Thrust with afterburner: 24,500 lbf (109 kN)
Unit cost	US\$2.14 million (F-105D, in 1960 dollars)

The Republic F-105 Thunderchief was a supersonic fighter-bomber used by the United States Air Force. The Mach 2 capable F-105 conducted the majority of strike bombing missions during the early years of the Vietnam War; it was the only U.S. aircraft to have been removed from combat due to high loss rates. Originally designed as a single-seat, nuclear-attack aircraft, a two-seat Wild Weasel version was later developed for the specialized Suppression of Enemy Air Defenses (SEAD) role against surface-to-air missile sites. The F-105 was commonly known as the "Thud" by its crews.

<p>General characteristics</p> <p>Crew: 1 (2 for F-105C/E/F/G variants)</p> <p>Payload: 14,000 lb (6,700 kg) of weapons</p> <p>Length: 64 ft 4.75 in (19.63 m)</p> <p>Wingspan: 34 ft 11.25 in (10.65 m)</p> <p>Height: 19 ft 8 in (5.99 m)</p> <p>Wing area: 385 ft² (35.76 m²)</p> <p>Airfoil: NACA 65A005.5 root, NACA 65A003.7 tip</p> <p>Empty weight: 27,500 lb (12,470 kg)</p> <p>Loaded weight: 35,637 lb (16,165 kg)</p> <p>Max. takeoff weight: 52,546 lb (23,834 kg)</p> <p>Thrust/weight: 0.74</p> <p>Lift-to-drag ratio: 10.4</p>	<p>Performance</p> <p>Maximum speed: Mach 2.08 (1,372 mph, 2,208 km/h) at 36,000 ft (11,000 m)</p> <p>Combat radius: 780 mi (680 nmi, 1,250 km)</p> <p>Ferry range: 2,210 mi (1,920 nmi, 3,550 km)</p> <p>Service ceiling: 48,500 ft (14,800 m)</p> <p>Rate of climb: 38,500 ft/min (195 m/s)</p> <p>Wing loading: 93 lb/ft² (452 kg/m²)</p> <p>Guns: 1× 20 mm (0.787 in) M61A1 Vulcan 6-barreled Gatling cannon, 1,028 rounds</p> <p>Hardpoints: 5 total: 4× under-wing, 1× centerline stations; internal bomb bay with a capacity of 14,000 lb of ordnance, including conventional and nuclear bombs, and AIM-9 Sidewinder and AGM-12 Bullpup missiles.</p>
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Operational history

U.S. Air Force

The F-105B entered USAF service with the Tactical Air Command's 335th Tactical Fighter Squadron of the 4th Tactical Fighter Wing in August 1958, although the squadron did not become fully operational until 1959. On 11 December 1959, an F-105B piloted by Brig Gen Joseph Moore (commander of the 4th Tactical Fighter Wing) set a world record of 1,216.48 miles per hour (1,958 km/h) over a 62 miles (100 km) circuit. Difficulties with its avionics and the MA-8 fire-control system were experienced early on; typically the F-105 required 150 hours of maintenance for each flying hour. Most of these problems were addressed under *Project Optimize*. The lack of spares resulted in the entire F-105B fleet being briefly grounded in 1960. In 1964, modified F-105Bs with ballast replacing the cannon, fuselage and wing reinforcement for aerobatics, and the addition of a smoke generator, briefly flew with the United States Air Force Thunderbirds demonstration team. After only six shows, a fatal accident from overstressing the airframe led to the reintroduction of the F-100 Super Sabre.

By 1964, the F-105B was relegated to USAF Air National Guard (ANG) squadrons. It was replaced in frontline service by the definitive F-105D whose advanced NASARR R-14A radar and AN/ASG-19 Thunderstick fire-control system gave it all-weather capability. The R-14A radar also added a terrain-avoidance radar capability, while a completely new instrument panel was fitted, replacing dial-type instrument with vertical tape instruments which were easier to read in combat. In order to accommodate the new radar, with a much larger radar dish, the forward fuselage was redesigned, increasing overall length by 16 inches (41 cm).

The F-105D entered service with the 335th TFS in September 1960, although it was not fully operational on the F-105D until early 1961. The first overseas F-105 units formed in West Germany in 1961, with the 36th Tactical Fighter Wing at Bitburg Air Base in May and the 49th Tactical Fighter Wing at Spangdahlem Air Base in October. Both wings had a primary tactical nuclear strike role for NATO. The F-105D was also deployed to the Pacific, with the 18th Tactical Fighter Wing at Kadena in Okinawa converting in 1962 and the 8th Tactical Fighter Wing converting from 1963.

Like the F-105B, the F-105D's early career was plagued with maintenance problems and in-flight failures. The origins of the nickname "*Thud*" were obscure; some claim that it stood for the sound of an F-105 crashing into the ground. The entire F-105D fleet was grounded in December 1961 and then again in June 1962. Many of the issues were worked out during the production run and by 1964, early F-105Ds were upgraded with these fixes under Project *Look Alike*, although engine failures and fuel system problems persisted until 1967.

In spite of a troubled early service life, the F-105 became the dominant attack aircraft early in the Vietnam War. The F-105 could carry more than twice the bomb load farther and faster than the F-100, which was used mostly in South Vietnam.

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