

McDonnell Aircraft/Douglas F-4B “Phantom II”

The Hickory Aviation Museum’s F-4B Bureau Number 148400 came from Naval Surface Warfare Center, Dahlgren in Virginia. She is on loan from the National Museum of Naval Aviation. Coordinated by Kyle and Kregg Kirby.



Role	Interceptor fighter, fighter-bomber
National origin	United States
Manufacturer	McDonnell Aircraft / McDonnell Douglas
First flight	27 May 1958
Introduction	30 December 1960
Retired	1996 (US combat use) 2004 (Israel Air Force) June 2013 (German Air Force)
Status	In service
Primary users	United States Air Force (drone) United States Navy U. S. Marine Corps Republic of Iran Air Force
Produced	1958–81
Number built	5,195
Propulsion	2 × General Electric J79-GE-17A axial compressor turbojets
Unit cost	US\$2.4 million (FY1965, F-4E)

The McDonnell Douglas F-4 Phantom II is a tandem two-seat, twin-engine, all-weather, long-range supersonic jet interceptor aircraft/fighter-bomber originally developed for the United States Navy by McDonnell Aircraft.^[1] It first entered service in 1960 with the U.S. Navy. Proving highly adaptable, it was also adopted by the U.S. Marine Corps and the U.S. Air Force, and by the mid-1960s had become a major part of their respective air wings. The Phantom is a large fighter with a top speed of over Mach 2.2. It can carry more than 18,000 pounds (8,400 kg) of weapons on nine external hardpoints, including air-to-air missiles, air-to-ground missiles, and various bombs. The F-4, like other interceptors of its time, was designed without an internal cannon. Later models incorporated an M61 Vulcan rotary cannon. Beginning in 1959, it set 15 world records for in-flight performance, including an absolute speed record, and an absolute altitude record.

<p>General characteristics</p> <p>Crew: 2 (Pilot and Radar Intercept Officer)</p> <p>Length: 63 ft 0 in (19.2 m)</p> <p>Wingspan: 38 ft 4.5 in (11.7 m)</p> <p>Height: 16 ft 6 in (5.0 m)</p> <p>Wing area: 530.0 ft² (49.2 m²)</p> <p>Empty weight: 30,328 lb (13,757 kg)</p> <p>Loaded weight: 41,500 lb (18,825 kg)</p> <p>Max. takeoff weight: 61,795 lb (28,030 kg)</p> <p>Fuel capacity: 1,994 U.S. gal internal, 3,335 U.S. gal with three external tanks (370 U.S. gal) tanks on the outer wing hardpoints and either a 600 or 610 U.S. gal tank for the centerline station).</p> <p>Maximum landing weight: 36,831 lb (16,706 kg)</p>	<p>Performance</p> <p>Maximum speed: Mach 2.23 (1,472 mph) at 40,000 ft</p> <p>Cruise speed: 506 kn (585 mph, 940 km/h)</p> <p>Combat radius: 367 nmi (422 mi, 680 km)</p> <p>Ferry range: 1,403 nmi (1,615 mi) with 3 external tanks</p> <p>Service ceiling: 60,000 ft (18,300 m)</p> <p>Rate of climb: 41,300 ft/min (210 m/s)</p> <p>Takeoff roll: 4,490 ft (1,370 m) at 53,814 lb (24,410 kg)</p> <p>Landing roll: 3,680 ft (1,120 m) at 36,831 lb (16,706 kg)</p> <p>Hardpoints: 7 total: Missiles/Bombs/Other: Air-to-air missiles:, AIM-7 Sparrow, AIM-9 Sidewinder, AMRAAM, MK80, Rockets, Shrike, Walleye, Maverick, Reconnaissance and Targeting Pods, Fuel</p>
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Operational history

United States Navy and Marine Corps

On 30 December 1960, the VF-121 "Pacemakers" at NAS Miramar became the first Phantom operator with its F4H-1Fs (F-4As). The VF-74 "Be-devilers" at NAS Oceana became the first deployable Phantom squadron when it received its F4H-1s (F-4Bs) on 8 July 1961. The squadron completed carrier qualifications in October 1961 and Phantom's first full carrier deployment between August 1962 and March 1963 aboard *Forrestal*. The second deployable U.S. Atlantic Fleet squadron to receive F-4Bs was the VF-102 "Diamondbacks", who promptly took their new aircraft on the shakedown cruise of *Enterprise*. The first deployable U.S. Pacific Fleet squadron to receive the F-4B was the VF-114 "Aardvarks", which participated in the September 1962 cruise aboard USS *Kitty Hawk*.

By the time of the Tonkin Gulf incident, 13 of 31 deployable navy squadrons were armed with the type. F-4Bs from *Constellation* made the first Phantom combat sortie of the Vietnam War on 5 August 1964, flying bomber escort in Operation Pierce Arrow. The first Phantom air-to-air victory of the war took place on 9 April 1965 when an F-4B from shot down a Chinese MiG-17 "Fresco." The Phantom was then shot down, probably by an AIM-7 Sparrow from one of its wingmen. There continues to be controversy over whether the Phantom was shot down by MiG guns or, as enemy reports later indicated, an AIM-7 Sparrow III from one of Murphy's and Fegan's wingmen. On 17 June 1965, an F-4B from VF-21 "Freelancers" piloted by CMDR Louis Page and LT John C. Smith shot down the first North Vietnamese MiG of the war. On 10 May 1972, LT Randy "Duke" Cunningham and LTJG William P. Driscoll flying an F-4J, shot down three MiG-17s to become the first American flying aces of the war. Their fifth victory was believed at the time to be over a mysterious North Vietnamese ace, Col Nguyen Toon, considered mythical. On the return flight, the Phantom was damaged by an enemy surface-to-air missile. To avoid being captured, Cunningham and Driscoll flew their burning aircraft using only the rudder and afterburner until they could eject over water.

The Marine Corps received its first F-4Bs in June 1962, with the "Black Knights" of VMFA-314 at Marine Corps Air Station El Toro, California becoming the first operational squadron. Marine Phantoms from VMFA-531 'Gray Ghosts' were assigned to Da Nang airbase on South Vietnam's northeast coast on 10 May 1965 and were initially assigned to provide air defense for the USMC. They soon began close air support missions (CAS) and VMFA-314 'Black Knights', VMFA-323 'Death Rattlers', and VMFA-542 'Bengals' soon arrived at the primitive airfield. Marine F-4 pilots claimed three enemy MiGs (two while on exchange duty with the USAF) at the cost of 75 aircraft lost in combat, mostly to ground fire, and four in accidents. VMCJ-1 Golden Hawks (now VMAQ-1 and VMAQ-4 which has the old RM tailcode) flew the first RF-4B photo recon mission on 3 November 1966 from Da Nang and remained there until 1970 with no RF-4B losses and one damaged by AAA. VMCJ-2 and VMCJ-3 (now VMAQ-3) provided aircraft for VMCJ-1 in Da Nang and VMFP-3 was formed in 1975 at MCAS El Toro, CA consolidating all USMC RF-4-Bs in one unit that became known as "The Eyes of the Corps." VMFP-3 disestablished in August 1990 after the Advanced Tactical Airborne Reconnaissance System was introduced for the F/A-18 Hornet.

Air Force

In USAF service, the F-4 was initially designated the F-110 Spectre prior to the introduction of the 1962 United States Tri-Service aircraft designation system. The USAF quickly embraced the design and became the largest Phantom user. The first USAF Phantoms in Vietnam were F-4Cs from the 555th Tactical Fighter Squadron "Triple Nickel", which arrived in December 1964. Unlike the U.S. Navy and U.S. Marine Corps, which flew the Phantom with a Naval Aviator (pilot) in the front seat and a Naval Flight Officer as a radar intercept officer (RIO) in the back seat, the USAF initially flew its Phantoms with a rated Air Force Pilot in front and back seats.

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