

## Northrop F-5 E/F, CF-5D



### Description

The F-5E is a single seat, twin-engine, tactical fighter and attack aircraft. providing simulated air-to-air combat training, close-air support training, tactics development and evaluation support, manufactured by Northrop Grumman Corporation. The F-5F is a dual-seat version, twin-engine, tactical fighter commonly used for training and adversary combat tactics. The aircraft can ably serve in an aggressor training role with simulation capability of current threat aircraft in fighter combat mode. The CF-FD is the dual-seat Canadian version of the F-5 modified to fit specific Canadian requirements.

### Fleet

TacAir owns and operates a fleet of 26 supersonic F-5 fighter aircraft, largely consisting of an improved, lower flight-time version of the current Adversary platform of the U.S. Navy (USN) and Marine Corps (USMC). TacAir has operated F-5 aircraft since 2013. The F-5 is a proven Adversary aircraft also formerly used by the USAF in this role and currently operational with 19 international air forces. While the baseline F-5 flown by USN/USMC is widely considered a 3rd Generation aircraft, TacAir's existing and planned upgrades economically evolve this aircraft into an advanced tactical aircraft with sensor/system capabilities on par with current DoD 4<sup>th</sup> Generation fighter aircraft. TacAir F-5s are upgraded with HUD/HOTAS, open architecture mission computers and tailored Operational Flight Programs that enable integration of advanced radar systems, IRSTS, EA, RWR, datalinks, and HOBBS simulated weapons employment. TheF-5's proven growth potential and twin engine reliability, paired with our uncompromising corporate safety culture, is the best insurance against hazards and mishaps, and lets us meet almost any potential performance requirements.

### Features

The design places particular emphasis on maneuverability rather than high speed, notably by the incorporation of maneuvering flaps which allow for an instantaneous turn-rate of 16 degrees per second and a sustained turn-rate of 9 degrees per second. The F-5 also has anti-skid brakes, inertial navigation system (INS), ALR-87 Radar Warning Receivers (RWR), AN/APQ-159 radar and ALE-40 chaff/flare capability. The aircraft are also capable of carrying several different types of Electronic Warfare (EW) pods.

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### General Characteristics

**Contractor:** Northrop Grumman.

**Propulsion:** (2) J85-GE-21C turbojet engines each producing 5,000 pounds (2,273 kg) of thrust.

**Length:** F-5E: 47 feet 4.7 inches (14.4 meters); F-5F: 51 feet 7 inches (15.7 meters).

**Height:** F-5E: 13 feet 4.25 inches (4.1 meters); F-5F: 13 feet 1.75 inches (4.0 meters).

**Wingspan:** F-5E/F: 26 feet 8 inches (8.1 meters).

**Weight:** F-5E/F5F: Maximum Design Takeoff Weight is 24,722 pounds (11,214 kg). Maximum Design Zero Fuel Weight is 9,723 pounds (4,410 kg).

**Airspeed:** 1.65 (M) in clean configuration level @ 35K', max thrust; 1.2 (M) level @ 35K', max thrust with CATM/TCTS; .98 (M) in clean configuration level @ 200', max thrust

**Ceiling:** 52,000 feet, 46,000 feet with one EW pod

### Armament

- **Guns:** 2× [20 mm \(0.787 in\) M39A2 Revolver cannons](#) in the nose, 280 rounds/gun
- **Hardpoints:** 7 total (only pylon stations 3, 4 and 5 are wet-plumbed): 2× wing-tip AAM launch rails, 4× under-wing & 1× under-fuselage pylon stations with a capacity of 7,000 [pounds](#) (3,200 [kg](#)) and provisions to carry combinations of:
  - **Rockets:**
    - 2× LAU-61/LAU-68 rocket pods (each with 19× /7× [Hydra 70](#) mm rockets, respectively); *or*
    - 2× LAU-5003 rocket pods (each with 19× [CRV7](#) 70 mm rockets); *or*
    - 2× LAU-10 rocket pods (each with 4× [Zuni](#) 127 mm rockets); *or*
    - 2× Matra rocket pods (each with 18× [SNEB](#) 68 mm rockets)
  - **Missiles:**
    - 4× [AIM-9 Sidewinders](#) *or* 4× [AIM-120 AMRAAM](#) air-to-air missile
    - 2× [AGM-65 Maverick air-to-surface missiles](#)
    - [AA-8 Aphid](#), [AA-10 Alamo](#), [AA-11 Archer](#) and other Russian/Chinese AAMs
  - **Bombs:** A variety of air-to-ground ordnance such as the [Mark 80 series](#) of [unguided bombs](#) (including 3 kg and 14 kg practice bombs), [CBU-24/49/52/58](#) cluster bomb munitions, [napalm](#) bomb canisters and M129 Leaflet bomb, and laser-guided bombs of [Paveway](#) family.
  - **External Tanks:**
    - up to 3× 150/275 [U.S. gallon](#) *Sargent Fletcher* [drop tanks](#) for ferry flight *or* extended range/loitering time.

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