

# How the F-35A and the F-15EX compare



## Primary Functions

Stealthy, all-weather strike, close air support and air superiority; intelligence, surveillance, and reconnaissance; maritime strike; electronic warfare, and command and control.

## Procurement Costs

**\$89.2 million** **\$80 Million**

2018 (actual)

2025 (projected)

Lot 11 price. Contracts stipulate maximum cost of \$80 million per plane by 2020.

## Cost Per Flying Hour

**\$35,000** **\$24,000**

2019

2025 (projected)

## Prime Contractors

Lockheed Martin, Northrop Grumman

## Production Capacity

188 to 221 annually for all versions of the F-35 (including B and C models)

## Initial Operational Capability

**2016**

## Inventory

150+ (USAF only)

## Engine

**1** Pratt & Whitney F135

## Accommodation



## Primary Functions

Air superiority and strike in less- or uncontested airspace.

## Procurement Costs

**\$98.3 million** **\$80.3 Million**

2019 (proposed)

2025 (projected)

Estimate for the first 80 aircraft under a \$7.865 billion, five-year proposal, including nonrecurring engineering costs. Average price projected to be \$89.7 million per aircraft for the duration of the buy.

## Cost Per Flying Hour

**\$27,000** **<\$27,000**

2019

2025 (projected)

## Prime Contractor

Boeing

## Production Capacity

24 to 36 annually

## Initial Operational Capability

**1975**

F-15A

**2016**

F-15SA\*

\*F-15SA (Saudi Arabia) is similar to the F-15EX configuration with fly-by-wire controls

## Inventory

F-15C/D 235; F-15E 218

## Engines

**2** Pratt & Whitney F100-PW-229 or GE F110-GE-129 (USAF to decide)

## Accommodation



Two aviators, but all systems can be operated by the pilot in the front seat. USAF plans to operate with pilot only.

## Radar Cross Section

(Relative size of aircraft on radar)



3.8 mm



**42.8 ft**

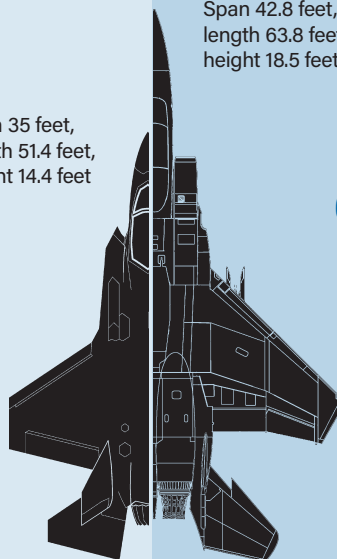
## Dimensions

Span 42.8 feet, length 63.8 feet, height 18.5 feet

Span 35 feet, length 51.4 feet, height 14.4 feet

51.4 ft

63.8 ft



## Performance



**COMBAT RADIUS 670 Miles**

**Mach 1.6**

**MAX G-LOADING 9Gs**

**CEILING 50,000**

## Fuel Capacity



- Internal: 18,250 pounds
- External: Two fuel tanks on wing hard points

## Weapons



All US and NATO air-to-air weapons; most US and NATO air-to-ground weapons.

- Internal Capacity (Stealth Mode): 5,700 pounds
- External Capacity ("Beast" Mode): 22,000 pounds
- 25 mm cannon

## Service Life

Design life 8,000 hours  
Tested to 24,000 + hours

## Major Differences From Earlier Versions

Multiple software and processor refreshes, including to weapons capabilities and electronic warfare systems. Current in-production version is the Block 3F Baseline; Block 4 development, now underway, will include software and weapon updates on a twice-annual pace through 2024.

## Allied Operators



Foreign Sales

## Congressional Support

Major constituencies for F-35 production: Texas, California, Georgia, Florida. Major bases and installations hosting or supporting the F-35A: Utah, Arizona, Florida, Nevada. Lockheed has placed F-35 subcontracts in all 50 states.

Sources: Data from Air Force Magazine's USAF Almanac, Aviation Week Analysis, Boeing, F-35 Joint Program Office, globalsecurity.org, Lockheed Martin, USAF

## Performance



**COMBAT RADIUS 1,100 Miles**

**Mach 2.5**

**MAX G-LOADING 9Gs**

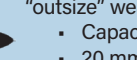
**CEILING 60,000**

## Fuel Capacity



- Internal: 13,550 pounds
- With conformal fuel tanks: 23,350 pounds
- External: Three underwing and centerline hard points can accommodate fuel tanks

## Weapons



All US air-to-air weapons; most US air-to-ground weapons; some "outsize" weapons, such as 5,000-pound GBU-28.

- Capacity: 29,500 pounds, all external, on nine stations
- 20 mm cannon

## Service Life

Design life 8,000 hours  
Tested to 30,000 + hours

## Major Differences From Earlier Versions

Major changes since the Air Force bought its last F-15Es in 2001 include a digital, fly-by-wire system; the Advanced Display Core Processor II (ADCPII); Suite 9 avionics which make the F-15C and E software compatible; new cockpit displays similar to those on the T-X trainer, and the Eagle Passive Active Warning Survivability System (EPAWSS).

## Allied Operators

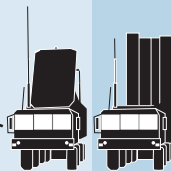


## Congressional Support

Major constituencies for F-15EX production: Illinois, Kansas, Missouri, Washington. Major institutions hosting F-15 activities: Georgia, North Carolina, and Oregon. Boeing's military and commercial entities do business in all 50 states.

## Detection Range vs. S-400 Missile System

F-35A  
**21 miles**



F-15EX  
**195 to 215 miles**

