

## F-35 Lightning II



In the 1990s, the US decided to build a stealthy, single-seat, single-engine, multirole fighter usable by the Air Force, Navy, and Marine Corps. The result was the F-35 Lightning II. This Lockheed Martin aircraft would provide the bulk of manned tactical airpower for all three services well into the 21st century. Many other nations signed on, too.

The F-35 was designed for strike and air combat. Plans called for three types—USAF's F-35A conventional takeoff and landing variant, USMC's F-35B short takeoff and vertical landing model, and the Navy's F-35C catapult-launched carrier-based system. Eighty percent of parts were common. Variations came in mission-specific systems. F-35 development was long, hard, and controversial. Its advanced sensor

package gathered, fused, and distributed more data than was seen in any fighter in history. Radar-absorbent materials were made to be highly durable. Initial operational capability came in 2015, in the Marine Corps B model.

Plans called for F-35 production to extend into 2037. Active development-production partners included Britain, Italy, Australia, Canada, Denmark, Netherlands, Norway, and Turkey. Several other nations ordered it, too. In the US, the jet was slated to replace the F-16, A-10, F/A-18, and AV-8B. Officials foresaw it operating in tandem with USAF's stealthy F-22 Raptor and orchestrating large-scale attacks in combination with armed manned and unmanned aircraft.

—Robert S. Dudley with Walter J. Boyne

**This aircraft:** USAF F-35A Lightning II—#09-5002—as it looked in October 2014 when assigned to the 33rd Fighter Wing, 58th Fighter Squadron, Eglin AFB, Fla.



USAF photo by SrA. R. Alex Durbin

*An F-35 Lightning II takes off at an air show in April 2016.*

### In Brief

Designed, built by Lockheed Martin ★ main purpose, strike ★ first flight Dec. 15, 2006 ★ number built 171 (to date) ★ number planned 3,140 (USAF 1,763; USN/USMC 680; foreign 697) ★ crew of one pilot ★ one Pratt & Whitney F135 turbofan engine. **Specific to F-35A:** defensive armament, one GAU-22/A 25 mm cannon; up to four AIM-9 Sidewinder, AIM-120 AMRAAM, other air-to-air missiles ★ total payload (external + internal) 18,000 lb of ordnance, including B61 mod 12 nuclear bomb ★ max speed 1,200+ mph ★ max range 1,381 mi (unrefueled) ★ combat radius: 719 mi ★ weight (max t/o) 70,000 lb ★ span 35 ft ★ length 51 ft 5 in ★ height 14 ft 5 in ★ service ceiling 50,000+ ft.

### Famous Fliers

**USAF Notables:** Eric Smith (first USAF F-35 pilot); Christine Mau (first woman F-35 pilot), Scott L. Pleus, Matthew Renbarger, Andrew Toth. **Other Notables:** Tony Wilson (Navy, first carrier trap), Joseph Bachmann (USMC, first Marine flight). Foreign: Andrew Jackson

(Australia), Jim Schofield, Frankie Buchler, Ian Tidball, Peter Wilson, Simon Hargreaves (Britain), Morten Hanche (Norway), Laurens Vijge (Netherlands). **Test Pilots:** Jon Beesley (first flight); Graham Tomlinson (first F-35B flight); Jeff Knowles (first F-35C flight).

### Interesting Facts

Awarded 2001 Collier Trophy (for X-35 prototype) ★ used composite materials for 35 percent of airframe ★ spontaneously named F-35 (out of typical sequence; should have been F-24 or, possibly, F-25) ★ lacked two-seat trainer versions ★ featured in movies "Live Free or Die Hard" (2007), "Green Lantern" (2011), "The Avengers" (2012), "Man of Steel" (2013) ★ named to honor both the American P-38 Lightning and English Electric Lightning ★ considered to be the biggest-ever US weapon program, in terms of planned total dollars spent.

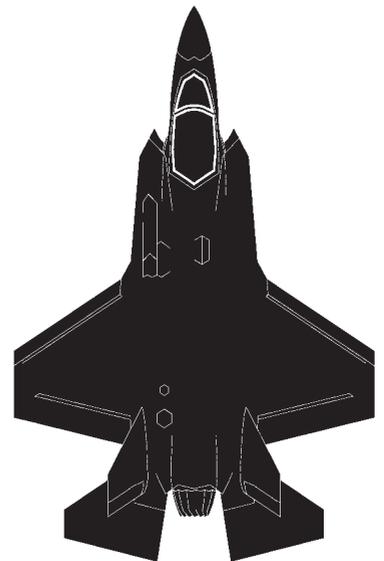


Illustration by Zaur Eylanbekov