

**F-35 Lightning II Program Status and Fast Facts**  
3Q 2015

**Highlights of the Last Two Months**

- USMC declares F-35B Initial Operational Capability with 10 jets at MCAS Yuma. **(July 31)**
- F-35B completes Operational Readiness Inspection at MCAS Yuma. **(July 20)**
- Hill AFB reactivates the 34<sup>th</sup> Fighter Squadron in preparation of receiving their first F-35A. **(July 17)**
- MCAS Yuma F-35 squadron conducts the first operational ordnance expenditures releasing a total of 30 weapons both live and inert. **(June 22-26)**
- F-35 performs Close Air Support mission unscathed while taking part in Green Flag exercise. **(June 22)**
- F-35 participates in an ongoing air combat training exercise over the Army Combat Training Center at Fort Irwin, California. **(June 3)**
- The F-35B completes OT-1 aboard the USS Wasp including 100 sorties, 4 night takeoff/landings and 30 maintenance demonstrations. **(May 29)**
- The first F-35A wing-set produced by Italy's Finmeccanica-Alenia Aermacchi enters the F-35 production line in Fort Worth. **(May 26)**
- Luke Air Force Base's 56th Fighter Wing officially changes its mission to include the F-35. **(May 21)**
- F-35s have flown more than **36,000 cumulative flight hours** since December 2006.

**F-35 Delivery Status**

148 F-35s have been delivered to the Department of Defense as of July 20:

- 128 Low Rate Initial Production (LRIP) Aircraft
  - 69 F-35As (including four international aircraft)
  - 41 F-35Bs (including three international aircraft)
  - 18 F-35Cs
- 20 System Development and Demonstration (SDD) aircraft complete the test and development fleet:
  - Edwards AFB, Calif. - four F-35As.
  - PAX River NAS, Md. - five F-35Bs and four F-35Cs.
  - This count includes six static aircraft and AA-1 stationed around the world.

**Program Status**

- 2015 SDD flight test activity totals through July 27:
  - F-35A Flight Science aircraft have flown 120 times
  - F-35B Flight Science aircraft have completed 177 flights
  - F-35C Flight Science aircraft have flown 136 times
  - The Mission Systems Test Aircraft have flown 277 times

**Planned Quantities**

USAF	1,763 F-35As
DoN (USN/USMC)	680 F-35B/Cs
U.K. RAF/RN	138 F-35Bs
Italy	60 F-35As/30 F-35Bs
Netherlands	37 F-35As
Turkey	100 F-35As
Australia	100 F-35As
Norway	52 F-35As
Denmark	30 F-35As
Canada	65 F-35As
Israel	33 F-35As

**Current as of July 22, 2015**

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S. Korea 40 F-35As  
Japan 42 F-35As

## **Funding**

- Long-lead funding LRIP lot 9 (57 aircraft)
- Full funding approved for LRIP lot 8 (43 aircraft)
- Full funding approved for LRIP lots 6&7 (71 aircraft)
- Full funding approved for LRIP lot 5 (32 aircraft)
- Full funding approved for LRIP lot 4 (32 aircraft)
- Full funding approved for LRIP lot 3 (17 aircraft)
- Full funding approved for LRIP lot 2 (12 aircraft)
- Full funding approved for LRIP lot 1 (2 aircraft)

## **Cost**

- The U.S. DOD announced an agreement aimed at reducing the price of an F-35 to the equivalent of today's 4th generation fighters by the end of the decade known as Blueprint for Affordability in 2014.
- The U.S. government has stated the projected cost of an F-35 purchased in 2018 will be \$85 million. That's the equivalent of \$75 million today.
- More than \$500 million reduction in concurrency costs over the first five production lot contracts.
- The LRIP 8 contract reflects an average airframe unit cost approximately 3.5 percent lower than the LRIP 7 contract signed in 2013 and a 57 percent reduction since LRIP 1.
- LRIP 6 Aircraft Costs (not including engine):
  - 23 F-35As CTOL - \$103 million/jet
  - 6 F-35B STOVL - \$109 million/jet
  - 7 F-35C CV - \$120 million/jet
- LRIP 7 Aircraft Costs (not including engine):
  - 24 F-35As CTOL - \$98 million/jet
  - 7 F-35B STOVL - \$104 million/jet
  - 4 F-35C CV - \$116 million/jet
- LRIP 8 Aircraft Costs (not including engine):
  - 19 F-35As CTOL-\$94.8 million/jet
  - 6 F-35B STOVL - \$102.0 million/jet
  - 4 F-35C CV - \$115.7 million/jet

## **F-35 Quantities by Variant and Country for LRIP 1 – 8**

### **LRIP 1 (2 Total) - 2 U.S. / 0 International**

#### United States

- 2 F-35A CTOL for the U.S. Air Force

### **LRIP 2 (12 Total) - 12 U.S. / 0 International**

#### United States

- 6 F-35A CTOL for the U.S. Air Force
- 6 F-35B STOVL for the U.S. Marine Corps

### **LRIP 3 (17 Total) - 14 U.S. / 3 International**

#### United States

- 7 F-35A CTOL for the U.S. Air Force
- 7 F-35B STOVL for the U.S. Marine Corps

#### International

- 1 F-35A CTOL for the Netherlands
- 2 F-35B STOVL for UK

### **LRIP 4 (32 Total) - 30 U.S. / 2 International**

#### United States

- 10 F-35A CTOL for the U.S. Air Force
- 16 F-35B STOVL for the U.S. Marine Corps

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- 4 F-35C CV for the U.S. Navy
- International
- 1 F-35A CTOL for the Netherlands
  - 1 F-35B STOVL for the UK

**LRIP 5 (32 Total) - 32 U.S. / 0 International**

- United States
- 22 F-35A CTOL for the U.S. Air Force
  - 3 F-35B STOVL for the U.S. Marine Corps
  - 7 F-35C CV for the U.S. Navy

**LRIP 6 (36 Total) - 31 U.S. / 5 International**

- United States
- 18 F-35A CTOL for the U.S. Air Force
  - 6 F-35B STOVL for the U.S. Marine Corps
  - 7 F-35C CV for the U.S. Navy
- International
- 3 F-35A CTOL for Italy
  - 2 F-35A CTOL for Australia

**LRIP 7 (35 Total) - 29 U.S. / 6 International**

- United States
- 19 F-35A CTOL for the U.S. Air Force
  - 6 F-35B STOVL for the U.S. Marine Corps
  - 4 F-35C CV for the U.S. Navy
- International
- 3 F-35A CTOL for Italy
  - 2 F-35A CTOL for Norway
  - 1 F-35B STOVL for the UK

**LRIP 8 (43 Total) - 29 U.S. / 14 International (4 UK, 2 Norway, 2 Italy, 4 Japan, 2 Israel)**

- United States
- 19 F-35A CTOL for the USAF
  - 6 F-35B for the U.S. Marine Corps
  - 4 F-35C for the U.S. Navy
- International
- 4 F-35B STOV for UK
  - 2 F-35A CTOL for Norway
  - 2 F-35A CTOL for Italy
  - 4 F-35A CTOL for Japan
  - 2 F-35A CTOL for Israel

**F-35 Specifications**

	<b>F-35A CTOL</b>	<b>F-35B STOVL</b>	<b>F-35C CV</b>
<b>Length</b>	51.4 ft / 15.7 m	51.2 ft / 15.6 m	51.5 ft / 15.7 m
<b>Height</b>	14.4 ft / 4.38 m	14.3 ft / 4.36 m	14.7 ft / 4.48 m
<b>Wingspan</b>	35 ft / 10.7 m	35 ft / 10.7 m	43 ft / 13.1 m
<b>Wing area</b>	460 ft <sup>2</sup> / 42.7 m <sup>2</sup>	460 ft <sup>2</sup> / 42.7 m <sup>2</sup>	668 ft <sup>2</sup> / 62.1 m <sup>2</sup>
<b>Horizontal tail span</b>	22.5 ft / 6.86 m	21.8 ft / 6.65 m	26.3 ft / 8.02 m
<b>Weight empty</b>	29,300 lb	32,300 lb	34,800 lb
<b>Internal fuel capacity</b>	18,250 lb / 8278 kg	13,500 lb / 6,125 kg	19,750 lb / 8,960kg
<b>Weapons payload</b>	18,000 lb / 8,160 kg	15,000 lb / 6,800kg	18,000 lb / 8,160 kg
<b>Standard internal weapons load</b>	<ul style="list-style-type: none"> <li>• 25 mm GAU-22/A cannon</li> <li>• Two AIM-120C air-to-air missiles</li> <li>• Two 2,000-pound GBU-31</li> </ul>	<ul style="list-style-type: none"> <li>• Two AIM-120C air-to-air missiles</li> <li>• Two 1,000-pound GBU-32 JDAM guided bombs</li> </ul>	<ul style="list-style-type: none"> <li>• Two AIM-120C air-to-air missiles</li> <li>• Two 2,000-pound GBU-31 JDAM guided bombs</li> </ul>

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	JDAM guided bombs		
<b>Maximum weight</b>	70,000 lb class	60,000 lb class	70,000 lb class
<b>Propulsion*</b> (uninstalled thrust ratings)	F135-PW-100 40,000 lbs Max. 25,000 lbs Mil. Vertical N/A	F135-PW-600 40,000 lbs Max. 25,000 lbs Mil. 40,500 lbs Vertical	F135-PW-100 40,000 lbs Max. 25,000 lbs Mil. Vertical N/A
<b>Speed (full internal weapons load)</b>	Mach 1.6 (~1,200 mph)	Mach 1.6 (~1,200 mph)	Mach 1.6 (~1,200 mph)
<b>Combat radius (internal fuel)</b>	>590 nm / 1,093 km	>450 nm / 833 km	>600 n.mi / 1,100 km
<b>Range (internal fuel)</b>	>1,200 nm / 2,200 km	>900 nm / 1,667 km	>1,200 n.mi / 2,200 km
<b>Max g-rating</b>	9.0	7.0	7.5

\*Maximum Power (Max) = with afterburner; Military Power (Mil) = without afterburner; Vertical = without afterburner

### Program Highlights by Year

- **2001** – The Pentagon announced an international team led by Lockheed Martin won the competition to build the Joint Strike Fighter (JSF). The X-35B takes off and lands vertically for the first time.
- **2002** – Canada, Denmark, Norway, Italy, Turkey, Australia and the Netherlands join F-35 partnership.
- **2003** – Production of first F-35 major airframe components begins. Lockheed Martin completes the first F-35 hardware delivery with the installation of LM-STAR™.
- **2004** – Assembly begins on the first F-35 in Fort Worth. Engineers remove more than 2,700 pounds of unwanted estimated weight from the short-takeoff/vertical-landing (STOVL) variant.
- **2005** – Lockheed Martin and Pratt & Whitney successfully perform the first start of an F-35 aircraft test engine. The first F-35 completes assembly of major structural components in Fort Worth.
- **2006** – The U.S. Navy dedicated a \$24 million facility at NAS Patuxent River, Md., for testing of the Navy and Marine Corps’ jets. The first F-35 is completed on schedule and moves from the factory for ground testing. The F-35 is officially named Lightning II. The Netherlands becomes the first partner nation to extend its participation into the production and support phase of the program. AA-1 completes its inaugural flight.
- **2007** – Electrical power is applied to the F-35B for the first time. The F-35B makes its debut amid customers from the U.S. Marine Corps, the U.K.’s Royal Navy and Royal Air Force, and the Italian Air Force and Navy at a rollout ceremony in Fort Worth.
- **2008** – The shaft-driven lift fan propulsion system operates for the first time in the aircraft during ground testing. The F-35B flies for the first time. The first F-35 finishes all planned testing at Edwards AFB. The F-35 flies supersonic for the first time. Lockheed Martin rolls out the first weight-optimized CTOL variant.
- **2009** – The U.K. announces they will purchase three F-35B operational test aircraft. A ceremony in Fort Worth marks the rollout of the U.S. Navy’s first F-35C. The first F-35B arrives at NAS Patuxent River.
- **2010** – An F-35B completes a vertical landing for the first time. F-35A successfully completes full-scale static testing. The F-35B flies faster than the speed of sound for the first time. The Government of Canada announces plans to acquire the F-35. F-35 center wing production operations begin in Marietta. Israel becomes the first country to receive the F-35 through the U.S. government’s Foreign Military Sales process. “Block 1,” the first of three principal software-development blocks for the F-35’s mission systems, made its inaugural flight.
- **2011** – The U.S. Air Force accepts the first production-model F-35. F-35 successfully completes static structural testing. BF-2 successfully executed a vertical landing on the deck of the USS WASP. AF-1 achieves the maximum design limit Mach number for F-35, Mach 1.6. Japan announces that the F-35 has been selected as the country’s next generation fighter.
- **2012** – The first night flight in the history of the F-35 program was completed at Edwards AFB. An F-35A flew the first external weapons test mission in F-35 program history. The program completed in-flight refueling of an F-35B STOVL while configured with external weapons. Norway orders its first F-35. The first international F-35 was delivered to the U.K. Luke AFB selected for F-35A Pilot Training. Operational Utility Evaluation at Eglin Air Force Base successfully completed. F-35 completes more than 5,000 flight hours. AETC declares Eglin AFB ready for training.
- **2013** – F-35 completes first in-flight dual refueling. 100<sup>th</sup> F-35 completes production in Fort Worth. F-35A completes 3-year clean wing flutter testing. First F-35C production model delivered. The first four F-35s arrive at Nellis AFB for operational testing. Marine Corps’ conduct first operational F-35B vertical landing. U.K. announces RAF Marham in Norfolk as home for F-35. First international student flies F-35. U.S. services declare IOC dates. F-35A completed its first in-flight missile launch with AIM-120 C5 AAVI. Australia

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recommitted to their program of record which includes purchasing 100 aircraft beginning in LRIP 10. \$4.5 billion reduction in acquisition, operating and support costs reflected in the SAR 12. Cameri, Italy, FACO operations commenced in July. Netherlands officially announces F-35 win in fighter replacement competition. Contract agreements for LRIP 6 and 7 were signed for 71 aircraft. F-35B completes successful ship suitability testing aboard USS Wasp. An F-35B successfully employed a GBU-32 Joint Direct Attack Munition (JDAM) weapon against a fixed ground test target. The first Netherlands F-35 pilot took to the skies. Lockheed Martin celebrated the inauguration of the 100<sup>th</sup> F-35

- **2014** – Royal Air Force Squadron Leader Hugh Nichols, an instructor pilot, completed the U.K.'s first F-35B vertical landing at Eglin AFB. The first F-35A with a Magellan-manufactured horizontal tail assembly successfully flew for the first time. The names of the first two Australian pilots selected to undergo training in the U.S. on the F-35A announced. The first Alenia Aermacchi-manufactured wing components installed flew on AF-44. Luke AFB received their first of 144 F-35s in March. Republic of Korea selected F-35A to replace its fighter fleet. Eglin AFB began night training program. Eglin surpassed 100 pilots and 1,000 maintainers trained. Australia announces additional procurement of 58 aircraft. The Turkish Ministry of Defence announced its intent to purchase the country's first two F-35As. An F-35B sequentially engaged two aerial targets with two AIM-120 AMRAAMs for the first time during a Weapon Delivery Accuracy mission. The final F-35A delivered to Eglin AFB, marking the 58th Fighter Squadron as the first complete Air Force F-35A squadron. U.S. DOD announced an agreement aimed at reducing the price of an F-35 to the equivalent of today's 4th generation fighters by the end of the decade known as Blueprint for Affordability. The first F-35B assigned to VMFAT-501 arrived at Marine Corps Air Station Beaufort. The F-35B completed required wet runway and crosswind testing at Edwards Air Force Base, California. First pipeline class of F-35 crew chiefs graduated from Eglin AFB training center. The Department of the Navy decided to base F-35C aircraft at NAS Lemoore, California. The F-35C completed its first phase of developmental test (DT) aboard an aircraft carrier Nov. 14, three days ahead of schedule.
- **2015:** Turkey announced its decision to order four more F-35s. Royal Air Force Lakenheath, United Kingdom, was selected as the first U.S. Air force base in Europe. Nellis AFB received its first F-35 as part of fleet for the USAF Weapons School. The first F-35C for the U.S. Marine Corps touched-down at Eglin AFB. Four F-35As from the 61st Fighter Squadron at Luke Air Force Base, Arizona, flew the first ceremonial flyover of F-35s at a public event. Squadron Leader Andrew Jackson, Australia's first F-35A pilot began training at Eglin AFB. Israel signed a contract to buy 14 additional F-35 fighter jets. The Dutch Parliament approved an order for the nation's first production batch of eight F-35's. The first internationally built F-35A rolled out of Italian FACO. Luke AFB officially began training pilots. Australia's first F-35A pilot, Squadron leader Andrew Jackson, flew his first flight at Eglin AFB. The Edwards ITF completed F-35 aerial refueling testing for the KC-135 SDD flight test program. The Netherlands officially signed for its first eight operational F-35s. F-35B completed Climatic Chamber testing. Marines complete Operational Test 1 (OT-I) with six F-35Bs aboard the USS Wasp. Luke AFB conducted a change of mission ceremony to formally include the F-35 as part of the wing's new mission statement. F-35B successfully released first UK Paveway IV bomb. F-35 unscathed by hostile fire in Green Flag exercise. Marines conducted the first F-35B operational ordnance expenditures at MCAS Yuma. F-35B completes Operational Readiness Inspection at MCAS Yuma ahead of UMSC IOC declaration. USMC declares F-35B Initial Operational Capability with 10 jets at MCAS Yuma.