

Defense, Space & Security
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P-8A Poseidon

Description and Purpose:

The P-8A Poseidon is a long-range anti-submarine warfare, anti-surface warfare, intelligence, surveillance and reconnaissance aircraft capable of broad-area, maritime and littoral operations.



A derivative of the Next-Generation 737-800, the P-8A combines superior performance and reliability with an advanced mission system that ensures maximum interoperability in the future battle space.

In November 2013 the U.S. Navy announced that the P-8A program had achieved initial operational capability. The first squadron was deployed for operational missions to Kadena, Japan, that same month before returning to Naval Air Station Jacksonville, Fla., in July 2014.

Customer(s):

The P-8A is being developed for the U.S. Navy by a Boeing-led industry team that consists of CFM International, Northrop Grumman, Raytheon, GE Aviation, BAE Systems and Spirit AeroSystems. The Navy plans to purchase 117 P-8As to replace its P-3 fleet.

In January 2011, Boeing received a contract for low-rate initial production (LRIP) of the first six aircraft, spares, logistics and training devices; in November 2011, Boeing received a contract for seven additional P-8As; in September 2012, Boeing received a contract for 11 aircraft; in July 2013 Boeing received a contract for 13 additional aircraft; and in February 2014 Boeing received its first full-rate production contract for 16 aircraft, bringing the total to 53 P-8As on contract.

On Jan. 1, 2009, Boeing signed a contract with the government of India to provide eight P-8I long-range maritime reconnaissance and anti-submarine warfare aircraft to the Indian navy. The P-8I is a derivative of the P-8A designed specifically for the Indian navy. Boeing delivered the first three P-8I aircraft in 2013; the fourth in May 2014; the fifth in September 2014; and the sixth in November 2014.

Australia signed an MOU with the U.S. Navy in 2009 to collaborate in Increment 2. In March 2012, a production, sustainment and follow-on development MOU was signed. In February 2014, the Australian government formally announced it has approved the acquisition of eight P-8As, with an option for four additional aircraft.

General Characteristics:

Propulsion:	Two CFM56-7 engines providing 27,300 pounds thrust each
Length:	129.5 feet (39.47 meters)
Wing Span:	123.6 feet (37.64 meters)
Height:	42.1 feet (12.83 meters)
Maximum Takeoff Gross Weight:	189,200 pounds (85,820 kilograms)
Speed:	490 knots (564 mi/h, 789 km/h)
Range:	1,200+ nautical miles, with 4 hours on station (1,381 miles, 2,222 kilometers)
Ceiling:	41,000 feet (12,496 meters)
Crew:	9

Boeing is using a first-in-industry production process and its existing Next-Generation 737 production system to efficiently design and build P-8 aircraft. The P-8's 737-800 fuselage is built in Wichita, Kan., and then sent to Boeing's final assembly facility in Renton, Wash., where all aircraft structural features unique to the P-8A are incorporated in sequence during fabrication and assembly. Aircraft quality and performance acceptance flight testing takes place at Renton Field and final installation and checkout of the mission system and special flight test instrumentation is conducted at Boeing Field.

The first test aircraft began U.S. Navy formal flight testing at Boeing Field in late 2009 and ferried to Naval Air Station Patuxent River, Md., on April 10, 2010, for completion of flight test. Five additional flight-test aircraft were later delivered to NAS Patuxent River. Boeing's first production P-8A made its initial flight July 7, 2011 and was officially delivered to the Navy March 4, 2012. Boeing completed the last of its LRIP-1 deliveries in January 2013 and delivered the final LRIP-2 aircraft in December 2013.

Background:

Boeing was awarded a \$3.89 billion contract for the system development and demonstration (SDD) phase of the program on June 14, 2004. SDD activities included developing and integrating all the necessary software and onboard mission systems and developing training systems. The P-8A will significantly transform how the Navy's maritime patrol and reconnaissance force will train, operate and deploy.

The initial SDD contract included building five test vehicles: three flight test aircraft (T1, T2 and T3), one full-scale static test airframe and one full-scale fatigue test airframe (S1 and S2). The contract included an option for two additional test vehicles (T4, T5), which was later exercised. One additional flight test aircraft (T6) also was added to the contract.

In November 2005 the Navy announced that the P-8A preliminary design review (PDR) was the best major weapons system PDR it had ever reviewed. A successful critical design review was completed in July 2007.

The team started production on the first test aircraft on Dec. 11, 2007, at Spirit's facility. Fuselage assemblies come together on Spirit's existing Next-Generation 737 production line. Spirit delivered the first fuselage to Boeing in late March 2008 and final assembly of the aircraft began the same day in Renton, Wash. The P-8A made its first flight on April 25, 2009. Full-scale static testing of the P-8A's airframe was completed in January 2011.

Industry Partners:

Boeing and its industry partners provide unrivaled expertise in both large-scale systems integration and network centric operations, plus unquestioned leadership in developing and customizing military and commercial products for maritime forces.

CFM International, a 50/50 joint company of Snecma Moteurs and General Electric Company, provides the CFM56-7 engines that power the P-8A. The two engines each provide 27,300 pounds of takeoff thrust. The CFM56-7 is one of the world's most reliable engines. This fleet of engines has logged more than 30 million flight hours while maintaining an industry-leading .002 percent in-flight shut down rate per 1,000 hours of flight.

Northrop Grumman's Electronic Systems sector provides the directional infrared countermeasures system, and the electronic support measures system. Northrop Grumman's Aerospace Systems sector develops data links for P-8A; the company's Integrated Systems sector supports the mission planning effort.

Raytheon provides the AN/APY-10 radar which delivers all weather, day/night multi-mission maritime, littoral and overland surveillance capabilities. Raytheon also provides the MK 54 lightweight torpedo.

GE Aviation supplies both the Flight Management and Stores Management systems on the P-8A. The Flight Management System provides an integrated open architecture that is CNS/ATM compatible along with an inherent growth path for upgrades. The Stores Management System provides a comprehensive system for the electronic control of integrated weapons management.

Spirit AeroSystems builds the 737 aircraft's fuselage and airframe tail sections and struts in Wichita, Kan. Spirit supplies large component parts and assemblies for a number of Boeing commercial aircraft.

BAE Systems provides the mission computing and display system (MCDS), flight deck panels and data diode.

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May 2015