First Full 'Glass' Cockpit-Equipped U.S. Customs Service P-3 Airborne Early Warning (AEW) Aircraft Makes Successful First Flight

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The seventh production P-3 Airborne Early Warning (AEW) aircraft for the U.S. Customs Service (USCS) -- and the first to be equipped with a next-generation full "glass" cockpit -- successfully conducted its first flight recently from Lockheed Martin's Aircraft Logistics Center in Greenville, S.C.

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"This flight marks a new chapter in the Customs Service's P-3 AEW aircraft story," Tom Wetherall, Lockheed Martin's USCS P-3 Program Manager, said. "This aircraft's upgraded configuration, with the improved cockpit displays, Digital Autopilot and state of the art Flight Management Display System makes this the most advanced P-3 Cockpit in the world. These improvements make the aircraft easier to fly, easier to maintain, and provides the flight crew with a heightened awareness of the aircraft's tactical situation."

The U.S. Customs Service P-3 AEW #7 is a modified former U.S. Navy P-3B Orion retrieved from Government storage for use by the Customs Service for drug interdiction. The P-3B is augmented with an advanced Airborne Surveillance Radar, computer and communications equipment to support detection and surveillance of suspected drug traffickers. Its modernized cockpit and avionics equipment allow for reliable flight across all areas monitored by the Customs Service.

P-3 AEW #7's new glass cockpit incorporates a new Flight Management Display System (FMDS), which consists of four new 6x8 inch "glass" displays to support primary flight and navigation displays and color weather radar. The displays interface with a commercial Flight Management System that supports flight plan entry and operation. The analog engine instruments have been replaced with two electronic engine instruments displays. A new digital autopilot and flight director system has been added that interfaces with the FMDS. The cockpit instruments and autopilot are served by added modern commercial navigation equipment. A separate contemporary stand by instrument has also been provided.

P-3 AEW #7 has also been outfitted with the APS-145 radar and TPX-54 IFF sensors, capable of 360 degree detection and tracking of legitimate and suspect airborne and surface traffic. Three operator stations in the center of the aircraft and a tactical display in the cockpit provide the necessary displays and controls for the USCS crew to operate the sensors for the interdiction effort. A data transfer system has been added to support receipt and transmit of video images via satellite communications with other USCS aircraft and ground stations.

P-3 AEW #7 has also been equipped with an extensive communication system consisting of 10 radios and a sophisticated communications control system has been added to support coordination with all potential interdiction partners. The communications system includes conventional military VHF/UHF, Satcom, and encryption equipment as well as U.S. Customs Service specific and law enforcement radios. The sophisticated communications control system allows individual crew stations on the aircraft to select specific radios and specific transmit and receive modes for radios selected for that crew station. It also provides for relay and simulcast functions for particular radios.

As part of its modification program, P-3 AEW #7 has had its interior overhauled to include facilities to support extended flight and additional crew required to man extended flights (12+ hours). Extensive modifications have been made to the Environmental Control System to support cooling of the added avionics and sensors and retain adequate crew comfort.

The exterior of the aircraft has been modified, most notably by the addition of the APS-145 radar rotodome and its support structure, but also by the many antennae required for the communications system.

For more information regarding Lockheed Martin's P-3 aircraft, please visit http://www.lmasc.com/p-3.

For more information about Lockheed Martin's other products and services, please visit http://www.lockheedmartin.com/.

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