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MQ-9 Reaper

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Mission

The MQ-9 Reaper is a medium-to-high altitude, long endurance unmanned aircraft system. The Reaper's primary missions are close air support, air interdiction, and intelligence, surveillance and reconnaissance, or ISR. It acts as a Joint Forces Air Component Commander-owned theater asset for reconnaissance, surveillance and target acquisition in support of the Joint Forces Commander.

Features

The MQ-9 is a system, not just an aircraft. A fully operational system consists of several air vehicles (with sensors and weapons), a ground control station, or GCS, a Predator Primary Satellite Link, or PPSL, and spare equipment along with operations and maintenance crews for deployed locations.

The basic crew consists of a rated pilot to control the aircraft and command the mission and an enlisted aircrew member to operate sensors and weapons plus a mission coordinator, when required. To meet combatant commanders' requirements, the Reaper delivers tailored capabilities using mission kits that may contain various weapons and sensor payload combinations.

The MQ-9 baseline system carries the Multi-spectral Targeting System, or MTS-B, which has a robust suite of sensors for targeting. The MTS-B integrates an infrared sensor, a color/ monochrome daylight TV camera, an image-intensified TV camera, a laser designator and a laser illuminator into a single package. The full motion video from each of the imaging sensors can be viewed as separate video streams or fused together.

The unit also incorporates a laser rangefinder/designator which provides the capability to precisely designate targets for laser-guided munitions; such as the GBU-12 Paveway II. The Reaper is also equipped with a synthetic aperture radar to enable GBU-38 Joint Direct Attack Munitions targeting. The MQ-9B can also employ four laser-guided AGM-114 Hellfire missiles which possess a highly accurate, low collateral damage, anti-armor and anti-personnel engagement capability.

Each MQ-9 aircraft system can be disassembled and loaded into a single container for deployment worldwide. The entire system can be transported in the C-130 Hercules or larger aircraft. The MQ-9 aircraft operates from standard U.S. airfields with clear line-of-sight to the ground data terminal antenna which provides line-of-sight communications for takeoff and landing. The PPSL provides over-the-horizon communications for the aircraft and sensors.

An alternate method of employment, Remote Split Operations, employs a GCS for takeoff and landing operations at the forward operating location, while the CONUS-based crew executes the mission via beyond-line-of-sight links.

Background

The U.S. Air Force proposed the MQ-9 system in response to the Department of Defense request for Global War on Terrorism initiatives. It is larger and more powerful than the MQ-1 Predator and is designed to go after time-sensitive targets with persistence and precision, and destroy or disable those targets. The "M" is the Department of Defense designation for multi-role and "Q" means unmanned aircraft system. The "9" indicates it is the ninth in the series of remotely piloted aircraft systems.

The MQ-9 is operated by the 17th Reconnaissance Squadron and the 42nd Attack Squadron, both at Creech Air Force Base, Nev., and the 29th Attack Squadron at Holloman AFB, N.M.

General Characteristics

Primary Function: Unmanned hunter/killer weapon system

Contractor: General Atomics Aeronautical Systems, Inc.

Power Plant: Honeywell TPE331-10GD turboprop engine

Thrust: 900 shaft horsepower maximum

Wingspan: 66 feet (20.1 meters)

Length: 36 feet (11 meters)

Height: 12.5 feet (3.8 meters)

Weight: 4,900 pounds (2,223 kilograms) empty

Maximum takeoff weight: 10,500 pounds (4,760 kilograms)

Fuel Capacity: 4,000 pounds (602 gallons)

Payload: 3,750 pounds (1,701 kilograms)

Speed: Cruise speed around 230 miles per hour (200 knots)

Range: 1,150 miles (1,000 nautical miles)

Ceiling: Up to 50,000 feet (15,240 meters)

Armament: Combination of AGM-114 Hellfire missiles, GBU-12 Paveway II and GBU-38 Joint Direct Attack Munitions

Crew (remote): Two (pilot and sensor operator)

Unit Cost: \$53.5 million (includes four aircraft with sensors) (fiscal 2006 dollars)

Initial operating capability: October 2007

Inventory: Active force, 47; ANG, 1; Reserve, 0

Point of Contact

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Photos

1 of 5



The Reaper has been chosen as the name for the MQ-9 unmanned aircraft system. (Courtesy photo)

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