

NORTHROP GRUMMAN

FACTS

Contact: Rene' Freeland
(858) 618-7606
rene.freeland@ngc.com

MQ-8B Fire Scout

Northrop Grumman Corporation's Fire Scout unmanned aerial vehicle (UAV) system will provide unprecedented situational awareness and precision targeting support for the U.S. Navy and U.S. Army of the future.

The Fire Scout UAV, based on the Schweizer Model 333 manned helicopter, can autonomously take off and land on any aviation-capable warship and at unprepared landing zones in proximity to the forward edge of the battle area.

The vertical takeoff and landing tactical unmanned aerial vehicle (VTUAV) system includes advanced control segment facilities that encompass the Navy's tactical control system (TCS) software for control of the UAV from ship or land. A modular mission payload capable of continued growth and a highly reliable vertical takeoff UAV meet or exceed all performance criteria requested.

With vehicle endurance greater than eight hours, Fire Scout will be capable of continuous operations providing coverage 110 nautical miles from the launch site. A baseline payload that includes electro-optical/infrared sensors and a laser designator/laser rangefinder enables Fire Scout to find tactical targets, track and designate targets, accurately provide targeting data to strike platforms and perform battle damage assessment.

Acting as a communications node within the proposed network-centric warfare battlespace of the future, Fire Scout will increase the effectiveness and flexibility of other platforms.

Northrop Grumman won a competitively awarded engineering and manufacturing development contract to develop the RQ-8A variant of Fire Scout in February 2000 for the U S Navy under the VTUAV program. Flight testing begun in 2002 and formed the basis for the development of the MQ-8B enhanced endurance and capability variant.

In August 2003, the MQ-8B Fire Scout was selected as Class IV unmanned air system for the US Army's Future Combat System. The FCS Fire Scout will be a key element of the Army's tactical intelligence, surveillance, reconnaissance and targeting architecture, providing real-time imagery and data collection and dissemination at the brigade level. Under a 10-year contract from the Boeing Company and Science Applications International Corporation, the Army's FCS lead systems integrators, Northrop Grumman will develop the required UAS architecture, produce MQ-8B Fire

Scout air vehicles, perform system tests and evaluations, and help develop long lead future requirements.

On Dec. 17, 2003, the 100th anniversary of manned flight, Fire Scout made its own history by completing its 100th consecutive successful flight. This milestone flight took place at Webster Outlying Field (OLF) near Naval Air Station Patuxent River, Md. where Fire Scout flew a flawless mission in preparation for continuing flight operations onboard the USS Denver (LPD-9). The flight capped 18 months of successful Fire Scout system development, testing and flight demonstrations during which the UAV system accumulated approximately 75 flight hours.

In March 2004 the U S Navy contracted with Northrop Grumman to formally develop the MQ-8B Fire Scout variant for use on the Littoral Combat Ship (LCS). The MQ-8B air vehicles for both the Navy and the Army use a common airframe but equipped with communications and payloads specific to each service needs. The MQ-8B air vehicles feature a new, four-blade rotor system (versus the RQ-8A's three-blade design), improved airfoil blades and several performance enhancements that enable more than eight hours endurance with a standard payload.

In April 2004, Northrop Grumman broke ground on a new Unmanned Systems Center at Trent Lott International Airport in Moss Point, Miss. The company uses the new 100,000+ square foot facility to produce MQ-8B Fire Scouts for the U.S. Navy and the U.S. Army, as well as subassembly work for the U.S. Air Force RQ-4B Global Hawk unmanned reconnaissance system.

Start of aircraft production at the Moss Point facility began Jan. 3, 2006, when Northrop Grumman received the first MQ-8B Fire Scout airframe from its teammate, Schweizer Aircraft Corporation. This airframe is the first Fire Scout that will be assembled at the Moss Point facility. There are 15 MQ-8B Fire Scouts currently on order (both Army and Navy) for assembly in the Moss Point facility.

The U.S. Navy and Northrop Grumman wrote a new chapter in naval aviation history Jan. 16-17, 2006, when two RQ-8A Fire Scout UAVs completed nine autonomous shipboard landings on board USS Nashville (LPD 13) off the coast of Naval Air Station Patuxent River, Md. This test marked the first time a Navy UAV performed vertical landings on a moving ship without a pilot controlling the aircraft. After it was launched from the naval air station, the Fire Scout flew to the designated test area, where the USS Nashville was waiting for the air vehicle to land and take off under its own control. The flight was monitored from a ship-based control station called a tactical control system, and the air vehicle was guided onto the ship using an unmanned air vehicle common automatic recovery system.

On Feb.13-24, 2006, at the U.S. Army's Yuma Proving Ground in Arizona, Northrop Grumman, in conjunction with the Office of Naval Research, successfully demonstrated the ability to extend communications range and capability using the RQ-8A Fire Scout VTUAV. This event also marked Fire Scout's 200th flight, another milestone

toward development of the Navy's VTUAV, which is intended to support the Littoral Combat Ship program. Testing for the program, called Beyond Line-of-Sight Tactical UAV Communications Relay, successfully demonstrated that a tactical UAV can be used to enable over-the-horizon communications relay, allowing ground troops on the move and battlefield commanders to share uninterrupted voice, data and real-time video.

In August 2006, the U.S. Navy awarded Northrop Grumman a \$135.8 million modification to a previously awarded contract for the Fire Scout VTUAV program. The award definitizes the remaining portion of the work to complete the program's systems development and demonstration (SDD) phase through 2008. A total of nine MQ-8B Navy Fire Scouts are planned under the VTUAV SDD contract. First flight of the MQ-8B Fire Scout occurred in December 2006.

In May 2007, the U.S. Department of Defense has announced MQ-8B Fire Scout Vertical takeoff and landing Tactical Unmanned Air Vehicle (VTUAV) has reached Milestone C, signifying the beginning of its low-rate initial production phase. The Fire Scout is the first unmanned aircraft system (UAS) within the U.S. Navy and the third UAS of all U.S. military branches to meet Milestone C in the Defense Department acquisition process.

In May 2007, Northrop Grumman also successfully performed an engine run of the first U.S. Army MQ-8B Fire Scout Unmanned Aerial Vehicle (UAV), the Class IV Unmanned Aerial System (UAS) in the Army's Future Combat Systems (FCS), at the company's Unmanned Systems Center in Moss Point, Miss. The engine run was a significant milestone for the FCS program. It marked completion of final assembly of the initial manufacturing phase of the first Army Fire Scout.

In August 2007, in cooperative effort between the U.S. Navy, U. S. Army, U. S. Marine Corps and Northrop Grumman, a Navy MQ-8B Fire Scout VTUAV was transported in a Marine Corps KC-130T aircraft from Moss Point Miss to Patuxent River, Md. The Navy MQ-8B Fire Scout was first loaded onto the KC-130T followed by an Army MQ-8B Future Combat System (FCS) Class IV UAV. Only the Navy Fire Scout was airlifted, but loading both vehicles demonstrated that a KC-130T tandem loadout is possible. Because transportation requirements for the KC-130 are the most restrictive, this flight certification will be updated to include other aircraft such as the C-5 and C-17. The vehicles were loaded using 100% common procedures for both services, further demonstrating the versatility of the Fire Scout design. This activity allowed the Army to review and validate MQ-8B FCS Class IV UAV transport requirements early in the development process.

Fire Scout Industry Team

The Fire Scout industry team includes the following members and is managed by the Navy’s PMA-266 Unmanned Vehicles program office, Program Executive Office, Strike Warfare and Unmanned Aviation, at Patuxent River, Md.:

- Cubic Defense Applications – communications
- FLIR Systems, Inc. – Brite STAR II payload
- GE Fanuc – vehicle management computer
- Kearfott Inc. – guidance and navigation
- Lockheed Martin Corporation – ship integration
- Raytheon Company – tactical control system
- Rockwell Collins – avionics
- Rolls-Royce Corporation – engine
- Sierra Nevada Corporation – unmanned common automatic recovery system
- Schweizer Aircraft Corporation – airframe

Technical Specifications

Length Folded	22.87 ft (7.0 m)
Rotor Diameter.....	27.50 ft (8.4 m)
Height.....	9.42 ft (2.9 m)
Gross Weight	3,150 lbs (1,428.8 kg)
Engine	Rolls-Royce, Model 250-C20W
Speed.....	125+ knots
Ceiling.....	20,000 ft (6.1 km)
Total Flight Time with Baseline Payload	8+ hours
Total Flight Time with 500 lb Payload.....	5+ hours
Payloads	EO / IR / LD BRITE Star II
.....	UHF / VHF Comm Relay
.....	COBRA Mine Detector
.....	Airborne Comm Package

11/07