

Lynx HMA.8 - 2006

United Kingdom

Type: Anti-Submarine Warfare (ASW)

Min Speed: 60 kt

Max Speed: 150 kt

Commissioned: 2006

Length: 11.9 m

Wingspan: 3.0 m

Height: 3.6 m

Crew: 2

Empty Weight: 3345 kg

Max Weight: 5330 kg

Max Payload: 1480 kg

Propulsion: 2x Gem 42-200



Sensors / EW: - Sea Owl - Infrared, Infrared, Surveillance FLIR, Max range: 55.6 km

- ARI.23363 Yellow Veil - (AN/ALQ-167) ECM, DECM, Defensive ECM, Max range: 0 km

- Sea Spray 3000 - (AN/ALQ-167) Radar, Radar, FCR, Air-to-Surface, Medium-Range, Max range: 185.2 km

- MIR-2 Orange Crop - (AN/ALQ-167) ESM, ELINT, Max range: 926 km

- CA/ASQ-504(V) AIMS - (AN/ALQ-167) MAD, MAD, Max range: 1.9 km

Weapons / Loadouts:

- Stingray Mod 1 - (2006) Torpedo. Subsurface Max: 7.4 km.

- SSQ-963D CAMBS VI - (2004?, A-Size, 99 Chn, 1-4hr) Sonobuoy.

- Sea Skua - (1982, ASM, CL 834) Guided Weapon. Surface Max: 14.8 km.

- 685 liter Ferry Tank - Ferry Tank.

OVERVIEW: The Westland Lynx is a British multi-purpose military helicopter designed and built by Westland Helicopters at its factory in Yeovil. Originally intended as a utility craft for both civil and naval usage, military interest led to the development of both battlefield and naval variants. The Lynx went into operational usage in 1977 and was later adopted by the armed forces of over a dozen nations, primarily serving in the battlefield utility, anti-armour, search and rescue and anti-submarine warfare roles.

The Lynx has the distinction of being the world's first fully aerobatic helicopter. In 1986, a specially modified Lynx set the current Federation Aeronautique Internationale's official airspeed record for helicopters. As of 2014, this record remains unbroken.

In addition to a wide number of land and naval-orientated variants of the Lynx, several major derivatives have been produced. The Westland 30 was produced as a civil utility helicopter, it did not become a commercial success, only a

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small number were built during the 1980s. In the 21st century, a modernised variant of the Lynx designed as a multirole combat helicopter, designated as the AgustaWestland AW159 Wildcat; the Wildcat is intended to replace existing Lynx helicopters. The Lynx remains in production under AgustaWestland, the successor to Westland Helicopters.

DETAILS: The Lynx is a multi-purpose twin-engine battlefield helicopter, of which specialized versions have been developed for both sea and land-based warfare. A distinguishing feature between early and later aircraft is the undercarriage: early on the Lynx was equipped with skids, while later models have been outfitted with wheels. Early versions of the Lynx were powered by a pair of Rolls-Royce Gem 2 turboshaft engines, which powered a four-blade semi-rigid main rotor. The rotors were of a completely new design, the blades being composed of a honeycomb sandwich structure and made out of composite material. For shipboard stowage, both the rotor blades and tail can be folded. In flight, the main rotor is kept at a constant speed, simplifying aircraft control; the rotor also features a vibration absorption system.

The Lynx is an agile helicopter, capable of performing loops and rolls, and of attaining high speeds. The agility of the type led to its use as an aerial display aircraft, having been operated with by the Blue Eagles and Black Cats helicopter display teams. The efficiency of the main rotor, as well as the overall top speed of the Lynx, was substantially improved with the adoption of BERP rotor blade technology. During the 1990s, the hot-and-high performance of the type was considerably boosted in the later Super Lynx 200 series, at which point the type's Gem engines were replaced with the newer LHTEC T800 turboshaft engine with associated FADEC system; the Lynx can also maintain a good level of performance under moderate icing conditions. The FADEC controls eliminated the requirement for a throttle or manual speed selection switches, further simplifying flight control. Later aircraft feature automatic stabilization equipment; functions such as auto-hover are optionally installed upon some Lynx.

Various avionics and onboard systems are integrated on the Lynx in order to perform differing mission profiles. Several operators have equipped their Lynx with BAE Systems' Sea Spray surveillance radar to provide for a surface search capability, which is used in maritime patrol, search and rescue, and other mission profiles. British Army models are equipped with a Marconi Elliot automatic flight control system capable of performing automatic three axes stabilisation. The integration of both avionics and weapons systems is customized upon each Lynx batch to customer specifications and requirements. Most of the installed sensors and avionics are typically integrated with the aircraft's avionics management system (AMS), from where they can be managed by either pilot; sensors such the optional nose-mounted FLIR can be setup to directly cue the weapon systems. Functions such as navigation and communications are also tied into the AMS, information from these systems are displayed directly to the pilots on interchangeable integrated display units in the cockpit. The Lynx is considerably easier to service and maintain than the AgustaWestland Apache.

The Lynx features a two-man cockpit for a pilot and observer sitting side by side; the British Army typically operates their fleet with a three-man crew, a door gunner being the third member. The cabin, located behind the cockpit, is accessed through a pair of large sliding doors on each side of the fuselage; it can accommodate up to ten equipped troops depending upon seating configuration. An alternative configuration houses radio equipment in the cabin area when the aircraft is being used in the airborne command post role; the cabin can also be used to house additional fuel tanks for conducting long distance missions and ferry trips. The Lynx can perform a wide variety of mission types, including anti-submarine and anti-surface warfare, vessel replenishment, search and rescue, airborne reconnaissance, armed attack, casualty evacuation and troop transport; according to AgustaWestland, a Lynx can be converted from one mission-type to another within the space of 40 minutes.

Typical combat equipment includes stabilised roof-mounted sensors, onboard countermeasures and door guns; when being used in the anti-tank role, the Lynx is typically armed with BGM-71 TOW missiles; missiles such as the Sea Skua have been used in the maritime anti-surface role. Additional armaments that have been interchangeably used include rockets, 20 mm cannons, torpedoes, and depth charges. Those Lynx built for export have typically outfitted with armaments and equipment customized for the end-user, such as the Mokopa air-to-surface missile used on Algeria's

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Lynx fleet; studies into equipping the AGM-114 Hellfire have been performed, air to air missiles could also reportedly be adopted if the capability is sought by operators. Equipped armaments can be managed and controlled inflight through the onboard stores management system. In order to counteract battlefield threats such as infrared-guided missiles, various defensive aid subsystems can be optionally installed, including warning receivers and countermeasures.

Many of the Lynx's components had been derived from earlier Westland helicopters such as the Scout and Wasp. The Lynx has been substantially upgraded since originally entering service in the 1970s; improvements made to in-service aircraft have typically included strengthened airframes, new avionics and engines, improved rotor blades, additional surveillance and communications systems. Various subsystems from overseas suppliers have been incorporated into some Lynx variants; during a South Korean procurement, hulls produced in the United Kingdom were equipped with Korean-built systems, such as ISTAR, electro-optical, electronic warfare, fire-control systems, flight control actuators, and undercarriages. A glass cockpit was adopted on the Super Lynx 300, featuring fully integrated flight and mission display systems, a variety of integrated display units including head-up displays, and dual controls; AgustaWestland has commented that the new cockpit reduces aircrew workload and increases aircraft effectiveness. The head-up display installed could be replaced by a helmet-mounted sight system on customer demand.

TYPE: Multi-purpose Twin-engine Anti-submarine/Anti-surface Warfare/Vessel Replenishment/Search and Rescue/Airborne Reconnaissance/Armed Attack/Casualty Evacuation/Troop Transport helicopter.

SPECIFICATIONS: Crew: (2-3) || Capacity: (8) troops || Payload: 1,480 kg || Length: 15.241 m (50 ft) || Rotor diameter: 12.80 m (42 ft) || Height: 3.734 m for mk7; 3.785 m for mk9 (12.25 ft for mk7; 12.41 ft for mk9) || Max. takeoff weight: 5,330 kg (11,750 lb) || Powerplant: (2) Rolls-Royce Gem turboshaft, 835 kW (1,120 shp) each.

PERFORMANCE: Max Speed: 324 km/h (201 mph) || Range: 528 km (328 miles) with standard tanks.

SENSORS: Sea Spray 3000 Search/Fire Control Radar || Sea Owl Infrared FLIR || MIR-2 Orange Crop ELINT || ARI-23363 Yellow Veil Defensive ECM || CA/ASQ-504 AIMS MAD.

ARMAMENT: Naval: (2) torpedoes or (4) Sea Skua missiles or (2) depth charges || Attack: (2) 20mm cannons, (2) 70mm rocket pods CRV7, (8) TOW ATGM || General: 7.62mm General Purpose Machine Guns (AH.7 and AH.9), Browning AN/M3M .50 calibre heavy machine gun (HAS.3 and HMA.8).

SOURCE: [SCO] Wikipedia <http://en.wikipedia.org>