

## [AgustaWestland formed](#)

The completion followed both the agreement drawn up by Finmeccanica SpA of Italy and GKN plc of the UK on July 26 2000 and the subsequent European regulatory approvals. The Joint Venture company is 50% each owned by Finmeccanica and GKN. AgustaWestland is a single European company trading as Agusta SpA in Italy and as Westland Helicopters Ltd in the UK.

**2002, Nov 21** : [Last delivery of EH101 for UK MoD](#) news

**Thursday November 21, 2002**

### **AgustaWestland commemorates final delivery and completion of Merlin helicopters for UK MoD**

Yeovil, UK ( [AgustaWestland Press Release](#) ) - In a VIP ceremony held at AgustaWestland's UK facility on November 19, an important milestone was achieved with **the delivery of the last of 22 EH101 Merlin HC Mk3 helicopters for the Royal Air Force and the build completion of the last of 44 EH101 Merlin HM Mk1s for the Royal Navy.**

Richard Case, Managing Director, AgustaWestland and Alan Johnston, Managing Director, Westland Helicopters Limited hosted a ceremony at which Sir Robert Walmsley, Chief of Defence Procurement, was the guest of honour. Richard Case handed over the logbook for the 22nd Mk3 together with a crystal trophy to the Chief of Defence Procurement. In turn, Sir Robert Walmsley presented the trophy to Wing Commander Dave Stubbs, RAF, Commanding Officer No.28 Squadron as the trophy will become an annual award within the Squadron, home of Merlin HC Mk3. The ceremony concluded with a fly past of four Merlin Mk3s from RAF Benson and four Merlin Mk1s from Royal Naval Air Station Culdrose.



GKN-Westland / Lockheed Martin UK

During his introductory speech, Richard Case emphasised the impact that EH101 has scored in the medium-lift market of helicopters: "Today marks the successful conclusion to one of the most important phases of the EH101 Merlin story to date. The world's most capable medium-lift helicopter fulfils AgustaWestland's commitment to supply 22 utility variants to the Royal Air Force and 44 shipborne anti-submarine and anti-surface warfare variants to the Royal Navy. The EH101 design concept was radical and ground breaking, a common design to be capable

of military and civil roles without too much compromise for the civil. From the outset, the design considered flexible role change, a challenge we have truly met.”

During the late 1970s, the British and Italian governments reached agreement on the joint development of a medium-lift helicopter to fulfil the roles of shipborne anti-submarine and anti-surface warfare, military utility and civilian transport. In September 1991, the UK Ministry of Defence confirmed an order for 44 maritime EH101 versions to be known as Merlin HM Mk1 with Lockheed Martin appointed as prime contractor. This was followed in March 1995 by a further order worth £500 million for 22 utility variants to be known as Merlin HC Mk3. The first milestone in the Merlin programme was reached in March 1996 when the first Royal Navy production aircraft, designated RN01, was officially rolled out. The maiden flight of the first production Mk3 took place in December 1998.

The EH101 is the only new generation medium-lift helicopter with proven capability and performance. It was originally designed as a modern successor to the H-3 Sea King and entered service in 1998 with the UK Royal Navy. In addition to the Royal Navy, it is now in service with the Royal Air Force, Italian Navy, Canadian Armed Forces and the Tokyo Metropolitan Police. The Governments of Denmark and Portugal have also ordered 14 and 12 aircraft respectively. The total fleet has over 27,000 flying hours of experience to date. 128 aircraft have been ordered and over 80 aircraft have now been delivered.



## **Merlin HM Mk1**

The Merlin HM Mk 1 is a replacement for the anti-submarine Sea King HAS Mk6. It is the first Royal Naval derivative of the EH101 helicopter, which is designed and produced by AgustaWestland. A highly complex and advanced aircraft, the ultimate manufacture of the Merlin Mk1 took place under the Prime Contractorship of Lockheed Martin ASIC.

Flown normally by a crew of three (1 x pilot, 1 x observer, 1 x aircrew), Merlin is designed to operate from both large and small ships' flight decks, in severe weather and high sea states, by day and night. A high level of reliability, serviceability and ease of maintenance are a prerequisite. The aircraft is therefore configured both structurally and in terms of mission system and cockpit design, to meet the demands of the harsh maritime environment. Powered by three Rolls-Royce Turbomeca gas turbines, the rugged, crashworthy airframe is of modular construction, mainly of aluminium lithium, aluminium and composites. The rotor system, which is fully folding, benefits from some of the most advanced helicopter aerodynamics in the world. With a maximum all-up mass of 14,600 kg, and a top speed of 167 kts, the Merlin can carry four homing torpedoes or depth charges, and has sufficient fuel for a radius of operation of over 200 nautical miles.

Two computers, linked by dual data buses manage the aircraft and its mission system. The glass cockpit is configured for single pilot operation, as is the dual redundant flight control system and autopilot. All crew stations can access the management computers and can operate the tactical displays, fed by the Blue Kestrel radar. Navigation is state of the art with ring laser gyros, inertial reference systems GPS, doppler and radar altimeters. The sonics suites are Passive, (AQS903), and Active Dunking Sonar (FLASH), both systems benefiting from some of the most advanced form of information processing. The new Orange Reaper

supplies Electronic Support Measures (ESM) and the mission system is completed by a comprehensive communications fit. The capability of the Merlin weapon system is such that it has been double-earmarked for the two Primary Roles of both anti-surface and anti-submarine operations.

Shipborne operations for Merlin Mk1 are now becoming second nature as the aircraft is progressively introduced to the RN fleet. For more than a year, Merlin has dominated the fighting capability of the Type 23 frigate, HMS Lancaster and 814 Squadron from RNAS Culdrose is currently flying from RFA Fort Victoria as an integral part of the Ark Royal Task Group. While Merlin is being set its challenges at sea, Culdrose is busy converting aircrew from other aircraft types to continue Merlin's introduction into five more Type 23 flights such as HMS Invincible.

The air training ship, RFA Argus, is a key player in Royal Navy training. This converted Ro-Ro, which entered service in 1988, has recently returned from intensive flying training off the West Coast of Scotland. The objective of training four Merlin crews as achieved in marginal weather conditions. RFA Argus was part of a tri-service exercise and Merlin, in the hands of trainee aircrew employing only a part of its true multi-role capability, dominated the situation underwater by denying hostile submarines the chance of attack on friendly surface ships.

### **Merlin HC Mk3**

The Merlin is the first of the next generation of medium support helicopters for the RAF. Early build aircraft entered service with No 28 Squadron at RAF Benson in January 2001 and the Squadron is currently working towards Initial Operating Capability (IOC) being declared in the first quarter of 2003.

Merlin Mk3 will greatly augment the capability of the RAF's existing helicopter fleet. Its modern and sophisticated navigation, optical and avionics systems will enable the aircraft to self-deploy over long distances and operate in all weathers, including darkness and known icing conditions, in demanding tactical scenarios. Merlin is the first UK helicopter to enter service equipped with an in-air refuelling capability and is the first European helicopter to have this feature designed in from the start. This facility will greatly increase the aircraft's range and reduce deployment times. Once cleared for service use, the in-flight refuelling boom will permit flights of over 10 hours. An active vibration damping system reduces the level of noise and vibration inside the cabin to a similar level to turboprop aircraft, reducing crew and passenger fatigue and increasing airframe life.

Merlin is corrosion proofed for operation from ships and the cockpit is compatible with the latest Night Vision Goggle (NVG) capability. No 28 Squadron currently undertake regular night sorties, which includes operations at very low altitude over featureless terrain. A Forward Looking InfraRed (FLIR) sensor can be fitted on the aircraft's nose with its imagery relayed on dedicated mission displays in the cockpit. The FLIR operates irrespective of light levels and can be used as a navigational and situational awareness aid to complement the NVG sensors, thus enhancing the night time capability of the aircraft.

To meet modern battlefield threats, helicopters must rely on tactics and Defensive Aids Suites (DAS). Merlin possesses one of the world's most advanced DAS, which features a combination of sensors that alert the crew to threats with countermeasures that protect the aircraft. Of particular significance is the introduction of Directed InfraRed Counter Measures (DIRCM) developed by Northrup Grumman under contract to the UK's Ministry of Defence. Trials have demonstrated that the system is highly effective at protecting Merlin from heat seeking missiles and a further layer of protection can be added with the dispensing of chaff and flares. Tough and rugged, Merlin Mk3 meets stringent vulnerability, detection and crashworthiness targets and the damage tolerant structure is matched with a high level of system redundancy.

□ **News:** [EH101 in Service and in Demand](#)

- ☐ [EH.101](#)
- ☐ [Westland timeline](#)
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