Westland

The Petters brothers began a small engineering company in the early 1900s. They saw World War 1 (WWI) coming and offered the company services to the UK Government. It declined, but the Admiralty took up their offer and a long maritime tradition was born. By 1915, they were producing Short 184 seaplanes from a field near Yeovil and by 1916 a proper factory was being built. At the end of WWI, around 1100 aircraft of 10 types had been built.

The inter-war years saw Westland produce the fixed wing Woodpigeon, Widgeon, Wapiti and Wallace. Always innovative, the Pterodactyl tailless aircraft appeared and the first rotary wing designs, by Cierva, were built in 1936. The famous Lysander and Whirlwind were already in production before World War 2 (WWII) broke out.

During WWII, Westland also produced Spitfires and Seafires to assist Vickers-Supermarine, which had become a priority target for the Luftwaffe KG missions. It also produced the Wrekin high-altitude, pressured cockpit fighter.

Helicopter work had started as early as 1948, re-working and improving the Sikorsky S-51 design to produce the Dragonfly for the Royal Navy and the Royal Air Force, entering service in 1953. This same year saw the last fixed wing design (the Wyvern) and Westland had produced about 6000 aircraft before it decided to concentrate on excellence in rotary wing airframes.

A similar improvement approach produced the Whirlwind (from the S-55) and the Wessex (from the S-58), which was also re-engineered for gas turbine operations.

Major rationalisation of the UK aircraft industry occurred during the 1960s. Westland acquired Bristol Helicopters, Fairey Aviation and Saunders-Roe to transform itself into Westland Helicopters with plants at Yeovil, Weston-super-Mare, Eastleigh and Hayes.

Collaboration with Sikorsky (a major shareholder) continued with the Sea King and new arrangements were made with Aerospatiale for the Puma, Gazelle and Lynx and their derivatives.

The mid 1980s were a very difficult period. By the late 1980s an acrimonious political row, figure-headed by Michael Hesletine and Leon Brittain led Westland to adopt a more European focus and began collaboration with Agusta on the EH101 (to become the Merlin). By 1994, United Technologies (Sikorsky's parent company) sold its stock in Westland and this was snapped up by GKN as part of its take-over. GKN-Westland was born in 1995. The injection of capital helped secure the UK Apache production for the British Army.

In July 2000, GKN and Finnemeccanica (of Italy) concluded a joint venture agreement and AgustaWestland came into being in 2001.

The tradition of rotary wing excellence and supporting the Royal Navy continues.

Contribution by Dave Taskis

Westland
Timeline

1934: Cierva C-29

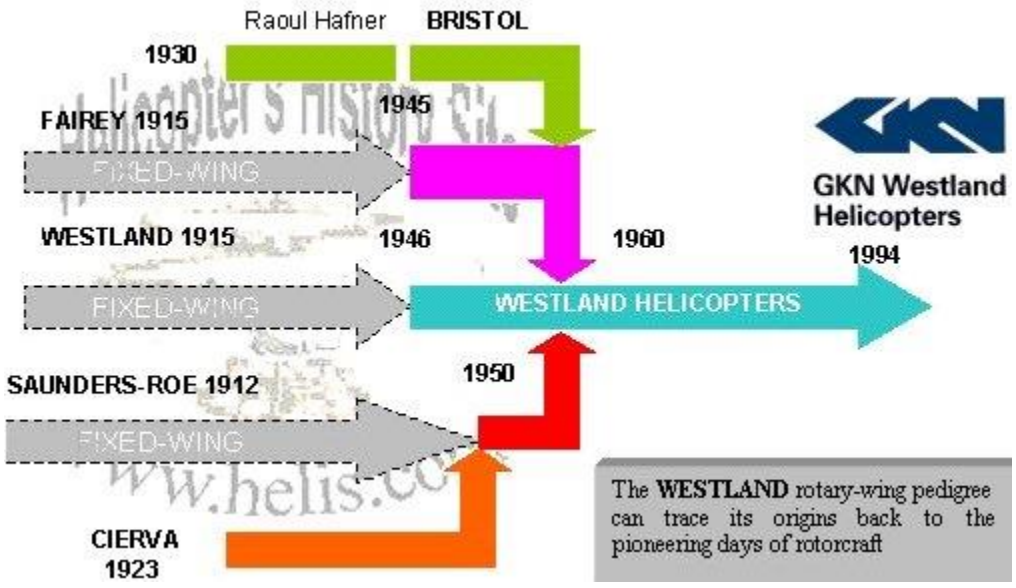
Five seat gyroplane produced for Cierva, a single prototype was built but never progressed beyond the ground running phase due to ground resonance for which no remedy could be found.

February 5,1935: Cierva CL-20

Two seat gyroplane built for Cierva and Le Pere. Development abandoned due to threat of WWII

Rotor diameter: 9.75 m
Length: 6.17 m
Weight: 636 kg
Power: 1 Pobjoy Niagra S (90 hp)

Note: The above two projects were undertaken at a time when the Company's main activity was concerned with fixed wing aircraft. It does however indicate an early interest in rotorcraft within the Westland organisation.



January 10,1947: Westland signed a licence agreement with United Aircraft Corporation to manufacture the Sikorsky S-51. This event signalled Westland's move into the helicopter business.

October 5,1948:WS-51 Dragonfly

Westland built version of the Sikorsky S-51

Rotor diameter: 14.63 m
Length: 17.54 m
Weight: 2004 kg - Max.2675
Power: 1 Alvis Leonides 50 (540 hp)
Range: 482 Km
Acommodation: Pilot plus 4
No.Built: 149

November 12,1952:WS-55 Whirlwind

Westland built version of the Sikorsky S-55, used for Search and Rescue, Transport and Anti-submarine duties.

Rotor diameter: 16.15 m
Length: 18.94 m
Weight: 2415 kg - Max.3265
Power: 1 Pratt & Whitney Wasp R-1340-40(600hp) or One Wright Cyclone R-1300-3 (700hp)
Range: 483 Km
Acommodation: 2 pilots plus 10
No.Built: 289

August 23,1955:Widgeon

A five seat general purpose helicopter involving major re-design of the WS-51, including cabin, metal rotor blades and re-engine.

Rotor diameter: 14.99 m
Length: 17.72 m
Weight: 1960 kg - Max.2676
Power: 1 Alvis Leonides 521/1 (520hp)
Range: 499 Km
Acommodation: Pilot plus 4
No.Built: 15

May 17,1957:WS-58 Wessex (HAS Mk1)

A general purpose and anti-submarine helicopter, using the Sikorsky S-58 airframe and transmission, modified to accept a turboshaft engine.

Rotor diameter: 17.07 m
Length: 20.04 m
Weight: 3446 kg - Max.5715
Speed : Max. 212 Km/h
Power: 1 Napier Gazelle 161 (1450 hp)
Range: 1038 Km
Acommodation: Pilot plus 3 (ASW)
No.Built: 167

June 15,1958: Westminster
A single rotor transport helicopter research vehicle, Wholly funded by Westland based on the Sikorsky S-56 rotor and transmission system.

Rotor diameter: 21.95 m
Length: 26.44 m
Weight: 9635 kg - Max.14965
Speed : 241 Km/h
Power: 2 Napier Eland E229A turboshaft engines (3,150hp)
Range: 241 Km
Acommodation: 2 pilots plus 45
No.Built: 2

February 28,1959:WS-55 Whirlwind **(Series 3, HAR 9 & HAR 10)**
The installation of a single Rolls-Royce Gnome turboshaft engine into the Whirlwind airframe represented a considerable improvement, used primarily in the SAR role.

Rotor diameter: 16.15 m
Length: 18.94 m
Weight: 2486 kg - Max.3538
Speed : 175 Km/h
Power: 1 Rolls-Royce Gnome H-1000 turboshaft (1050 hp)
Range: 514 Km
Acommodation: 2

pilots plus 10
No.Built: 75

1959-1960: **Rationalisation of the British aircraft industry**

In 1959 the British aircraft industry underwent a major re-organisation. There were at the time over twenty aircraft manufacturers, all competing for a few orders. The government of the time made it clear that it could no longer support this situation.
The result was a period of re-organisation where many of the companies combined to form only two major aircraft manufacturing groups. Because of its success in the helicopter business, the Westland company was well placed to take the lead for rotary winged aircraft. There followed a period when Westland acquired Bristol Helicopters, Fairey Aviation and Saunders-Roe to become Westland Helicopters, Britain's sole helicopter company.

On August 1959, Westland acquired the helicopter and hovercraft interests of **Saunders-Roe**, situated at Eastleigh and Cowes, and which had previously taken over the **Cierva Autogyro Company** in 1951.
At the time of the Westland takeover, two helicopter projects were in progress, namely the Skeeter (First flight October 1948) and the P-531 (First flight Sept.30 1958) , which was subsequently developed to become the Scout and Wasp.

Skeeter

Rotor diameter: 9.76 m
Length: 8.66 m
Weight: 780 kg - Max.1040
Speed : 175 Km/h
Power: 1 Gypsy Major 215 (215 hp)
Range: 1038 Km
Acommodation: Pilot plus 1
No.Built: 88

Saunders-Roe P. 531-1
Saunders-Roe were fully engaged upon the development of the P-531 project at the time of the Westland take over. The work on deck landing was of special significance forming as it did the basis for future shipborne helicopter operations.

Rotor diameter: 9.9 m
Length: 8.8 m
Weight: Max.1542
Speed : Max.193 Km/h
Power: 1 Blackburn Turbomeca Turmo FF turboshaft (425 hp)
Acommodation: Pilot plus 3
No.Built: Six *(P-531 all versions)*

March,1960: Westland acquired the helicopter division of the **Bristol Aircraft Company**, which was based at Weston-super-Mare in Somerset. The helicopter division was led by the rotorcraft pioneer Raoul Hafner and since its foundation in 1944 had been responsible for the Sycamore (First flight 27th July 1947) and Belvedere (First flight 5th July 1958) helicopters. Having acquired Bristol, Westland became responsible for support of the Sycamore and completion of Belvedere development and production.

Bristol Type 171 Sycamore

A light general purpose helicopter.

Rotor diameter: 14.75 m
Length: 12.8 m
Weight: 1727 kg - Max.2540
Speed : Max.212 Km/h
Power: 1 Alvis Leonides (550 hp)
Range: 531 Km
Acommodation: Pilot plus 4
No.Built: 183

Bristol Type 173 / 192 Belvedere (HC Mk1)

The Belvedere was a large twin rotor transport helicopter, which entered service with the RAF in 1961.

Rotor diameter: 14.8 m
Length: 16.5 m
Weight: 5277 kg - Max.8618
Speed : Max.222 Km/h
Power: 2 Napier Gazelle N Ga2 turboshafts (1300 hp)
Range: 740 Km
Acommodation: 2 pilots plus 18
No.Built: 26

May,1960: The **Fairey Aviation Company** had extended its interest to include helicopters in 1946. Most of the work was centred upon tip jet drive and at the time of the take-over the company was actively working on the Rotodyne (First flight 6th Nov. 1957) project.

The Fairey Type Y Rotodyne

The Rotodyne was a large convertiplane research vehicle, aimed primarily at the civil transport market. Fairey achieved

considerable success with the prototype and plans were in hand for a larger (56-seat) production version.

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1960: Having absorbed all the major helicopter interests in the UK, Westland continued to manufacture their own and the other company products under the Westland name.

August 4, 1960: Scout (AH Mk 1)

A five seat general purpose helicopter

Rotor diameter: 9.83 m
Length: 12.29 m
Weight: 1230 kg - Max.2404
Speed : Max.211 Km/h
Power: 1 Rolls-Royce Nimbus 101 turboshaft (1050 hp)
Range: 505 Km
Acommodation: Pilot plus 4
No.Built: 149

October 28, 1962: Wasp (HAS Mk 1)

A five seat general purpose, shipborne helicopter

Rotor diameter: 9.83 m
Length: 12.29 m
Weight: 1566 kg - Max.2495
Speed : Max.211 Km/h
Power: 1 Rolls-Royce Nimbus 103 turboshaft (1050 hp)
Range: 488 Km
Acommodation: Pilot plus 4
No.Built: 98

March 9, 1965: Sioux (AH Mk 1, HT Mk 2)
A 3 seat general purpose helicopter and trainer, basically the Bell 47G-4 built under licence from Agusta (sub-licence of Bell) Timeline

Rotor diameter: 11.32 m

Length: 13.17 m
Weight: 806 kg - Max.1338
Speed : Max.169 Km/h
Power: 1 Avco Lycoming TVO-435-A1A turbo-charged piston engine (260 hp)
Range: 507 Km
Acommodation: Pilot plus 2
No.Built: 149

August, 1965:WS-58 Wessex. (HAS Mk3)
The Wessex Mk 3 represented a substantial rework of the basic aircraft. Although it utilised the basic airframe, the aircraft incorporated a sophisticated avionics system and Automatic Flight Control System for anti-submarine duties. Most aircraft were conversions from Mk1 standard.

Rotor diameter: 17.07 m
Length: 20.04 m
Weight: 4340 kg - Max.5715
Speed : Max.212 Km/h
Power: 1 Napier Gazelle 165 (1600 hp)
Range: 1038 Km
Acommodation: Pilot plus 3
No.Built: 3 plus 43 conversions

October 1st, 1966: Company re-named
Westland Helicopters Limited

Sept. 8, 1966: Sea King. (HAS Mk 1, 2, 5 & 6. HAR Mk 3)
Westland undertook to build the Sikorsky SH-3D under licence as the Sea King. The Westland version included several modifications to improve its use in the ASW role, and was subsequently adapted for SAR, Commando and AEW roles

Rotor diameter: 18.9 m
Length: 22.15 m
Weight: 7019 kg - Max. 9707

Speed : Max.209 Km/h
Power: 2 Rolls-Royce Gnome 1400 turboshafts (1500 hp)
Range: 1112 Km
Acommodation: Pilot plus 3 (ASW) or 2 plus 28
No.Built: 330

February 22, 1967: Anglo French Helicopter Agreement to produce Gazelle, Lynx and Puma signed with Aerospatiale.

July 30, 1968: Puma HC Mk 1
The First of the three designs which comprised the Package Deal, the Design Authority for the Puma medium transport helicopter remained with Aerospatiale, while Westland manufactured the aircraft for the UK.

Rotor diameter: 15 m
Length: 18.18 m
Weight: 3340 kg - Max. 6400
Speed : Max.280 Km/h
Power: 2 Turbomeca Turmo 3c turboshafts (1320 hp)
Range: 630 Km
Acommodation: 2 pilots plus 16
No.Built: 48

April 28, 1970:Gazelle (AH Mk1, HT Mk2 & HT Mk3)
The Aerospatiale Gazelle was included in the Package deal to provide a Unit Light Observation Helicopter for the British Army and a basic trainer for all services, all built by Westland. A small number of civil Gazelles were also built.

Rotor diameter: 10.5 m
Length: 11.97 m
Weight: 850 kg - Max.1800
Speed : Max.264 Km/h
Power: 1 Turbomeca Astazou 3A turboshaft (590 hp)

Range: 360 Km
Acommodation: 5
No.Built: 262

March 21, 1971:WG 13 Lynx (Army versions)
The Lynx was the third of the trio of helicopters involved in the collaborative deal, Westland holding the design authority for the aircraft. The semi rigid rotor was an important feature, intended to offer high manoeuvrability and good handling for shipborne operations.

The Utility Lynx has remained inservice with the British Army, subject to several upgrades like the AH Mk7 and the AH Mk9

Rotor diameter: 12.8 m
Length: 15.16 m
Weight: 2815 kg - Max.4536
Speed : Max.259 Km/h
Power: 2 Rolls Royce Gem 2 turboshafts (900 hp)
Range: 630 Km
*Acommodation:*2 pilots plus 10
No.Built: 149 (AH Army versions)

May 25, 1972:WG 13 Lynx (Naval versions)
The naval Lynx was designed from the outset to operate from small ships, the excellent handling available through the semi rigid rotor and the Westland deck lock and high energy absorbing landing gear have all resulted in worldwide success.

Several upgrades includes the HAS Mk3 and the HAS Mk8

Rotor diameter: 12.8 m
Length: 15.16 m
Weight: 2761 kg - Max.5126
*Speed :*232 Km/h
Power: 2 Rolls Royce Gem 42-1 turboshafts (1120 hp)
Range: 630 Km
*Acommodation:*2 (ASW)
No.Built: >250 (HAS Navy versions)

June 1975: Westland WG 25 Mote A private venture project, was an experimental remotely piloted helicopter

December 1976: Westland Wisp A larger version of the Mute for airborne surveillance.3 prototypes.

1977: Westland Wideeye A larger and more sophisticated version of the Wisp

1977: Westland WG 33 Was intend to be a 2-seat light reconnaissance helicopter but due to a lack of interest or funding the project was abandoned. Only 1 mock-up built.

April 10, 1979: Westland 30 Srs 100 & 100-60

A medium general purpose helicopter aimed at the civil market with military applications, based on Lynx dynamic components with a large volume fuselage

Rotor diameter: 12.8 m
Length: 15.9 m
Weight: 2914 kg - Max.5330
*Speed :*Max.241 Km/h
Power: 2 Rolls Royce Gem 42-1 turboshafts (1120 hp) or Gem 60 (1260hp)
*Acommodation:*2 plus 17
No.Built: 40

Westland 30 Srs 200: General Electric CT7-2B engines.
Westland 30 Srs 300: General Electric CT7-2B engines and five bladed BERP Rotor.

June 1980: Westland and Agusta form European Helicopter Industries to manage the design, development and production of a new helicopter. (EH-101)

June 14, 1984: Lynx 3 A Utility helicopter, basically a Lynx with an extended cabin, revised rear fuselage and wheeled landing gear. One prototype/demonstrator was built and flown as a private venture powered with 2 Rolls-Royce Gem 60-1 turboshafts (1,260 hp)

August 9, 1985: First flight of **BERP** (British Experimental Rotor Programme) composite rotor blades.

August 11, 1986: Lynx with BERP blades achieves the
Absolute World Speed Record for helicopters:
400.87 km/h

October 9, 1987: EH-101 PAGE
First flight of Pre-production aircraft PP-1.
The EH-101 was designed from the outset to be capable of Civil and Military roles without compromise. The aircraft to be designed, developed and marketed jointly by Agusta and Westland working through EHI.
Variants includes the SAR and civil and the Merlin HC Mk3

Rotor diameter: 18.59 m
Length: 22.81 m
Weight: Max.14500
*Speed :*Max.309 Km/h
Power: 3 RTM 322 turboshafts (2,100 hp) or 3 GE CT7-6 turboshafts (2,000 hp)
Range: 1130 Km
*Acommodation:*3 (ASW), 30 (civil) 24 (Mk3)
No.Built: in production

The EH.101 was acquired by Canada as the CH-149 Cormorant
news:
- Canada firm to make EH-101 Cormorant parts
- 22nd EH-101 Merlin for the Royal Navy
- Portugal Announces the procurement of 12 EH101
- Denmark to buy 14 EH101
- Delivery of Last Merlin for UK MoD

WS-60 Westland assembled only one as a kit from Sikorsky.

April, 1994: Westland was acquired by GKN to become GKN Westland Helicopters

Sept. 25, 1998:WAH-64 Apache
Attack helicopter for the British Army, completed under licence from Boeing. news

Rotor diameter: 14.6 m
Length: 17.7 m
Weight: 5060 Kg - Max.8000
*Speed :*Max.283 Km/h

Power: 2 RTM 322 turboshafts (2,100 hp)
Range: 1450 Km (ferry)
Acommodation: Pilot & co-pilot/gunner
No.Built: in production

February 12, 2001: