

AgustaWestland AW159



 **LEONARDO**
HELICOPTERS



MARITIME OPERATIONS

Designed for operations in the harshest maritime environment , the AW159 extends the area of interest and operational effect of maritime commanders.

Primary Maritime roles include:

- Anti-Surface Warfare (ASuW)
- Anti Submarine Warfare (ASW)
- Surface Surveillance
- Maritime interdiction:
 - Counter Piracy/Narcotics
 - Maritime Counter Terrorism (MCT)
- Over the Horizon Targeting (OTHT)
- Search and Rescue (SAR) and Medical Evacuation (MEDEVAC)
- Utility Support



NAVAL FORCE MULTIPLIER

Building on the proven successful legacy of the Lynx family of helicopters, the AW159 is the next generation twin engine, multi-mission Maritime and Battlefield aircraft.

The AW159 has been designed and built to meet modern operational requirements for ease of maintenance and support. Systems such as the FADEC controlled turboshaft engines and the latest avionics provide excellent value for money in terms of improved reliability and life cycle costs.

Mission sensor options can include state-of-the-art Radar, Active Dipping Sonar, Electro-Optical Device, Electronic Surveillance Measures and Integrated Defensive Aids Suite.

Equipped with a comprehensive state of the art integrated avionics and mission system, the AW159 is an autonomous platform for rapid tactical assessment within any theatre of operation day or night. Capable of carrying a range of weapons, the AW159 has the ability to autonomously detect, identify and engage surface and subsurface targets.

Armament options include air to surface missiles, torpedoes, depth charges, air to ground rockets, cannon and heavy machine gun.

RECONNAISSANCE & SUPPORT

The AW159 also operates in the reconnaissance and support roles. Provision for a range of mission and role equipments for true multi-role capability in maritime, littoral and land environments.

The AW159 offers air mobility for command and control of specialist teams, counter-terrorism tasks, close air support, casualty evacuation and utility support.

Typical roles can include:

- Intelligence, Surveillance, Target Acquisition & Reconnaissance (ISTAR)
- Airborne Command and Control
- Close Air Support
- Troop Transport
- Medical Evacuation / Humanitarian Aid
- Freight Transfer & Vertical Replenishment



AIRCRAFT SPECIFICATION AND OPTIONS

2 x FADEC engines / heated intakes

Large cockpit and cabin doors for easy ingress / egress

Integrated Avionics and Mission systems

Digital cockpit

Electro-Optical Device

Wire Strike Protection

360° radar

Weapon carrier hard points

Active Dipping Sonar



OPERATIONAL ADVANTAGES

- Proven ability to take-off and land in extreme environments including hot and high conditions with excellent single engine performance
- Aircraft cleared to operate from -26°C to +50°C
- MAUM at 6,000 kg
- Superior situational and mission awareness for the crew using large Multi Functional Displays through a network enabled mission system
- Capable of carrying a range of armaments for a flexible response to tactical situations
- Marinised aircraft optimised for operating from limited spaces on vessels in high sea states
- State-of-the-art mission equipment including AESA Radar and Electro-Optical Device

MAIN FEATURES

Airframe

- 12,000 hours fatigue life fully marinised airframe of light alloy and composite construction and excellent corrosion protection
- Large cockpit doors for ease of ingress / egress
- Large easy access cabin doors

Engines & Fuel System

- Two 1,361 shp Turboshaft engines with FADEC
- 5 tank fuel system
- Single point pressure refuel / defuel system
- Gravity refuel capability

Crashworthiness

- Crashworthy airframe structure
- Crashworthy crew seats
- Crashworthy troop seats
- 4 bag emergency flotation system

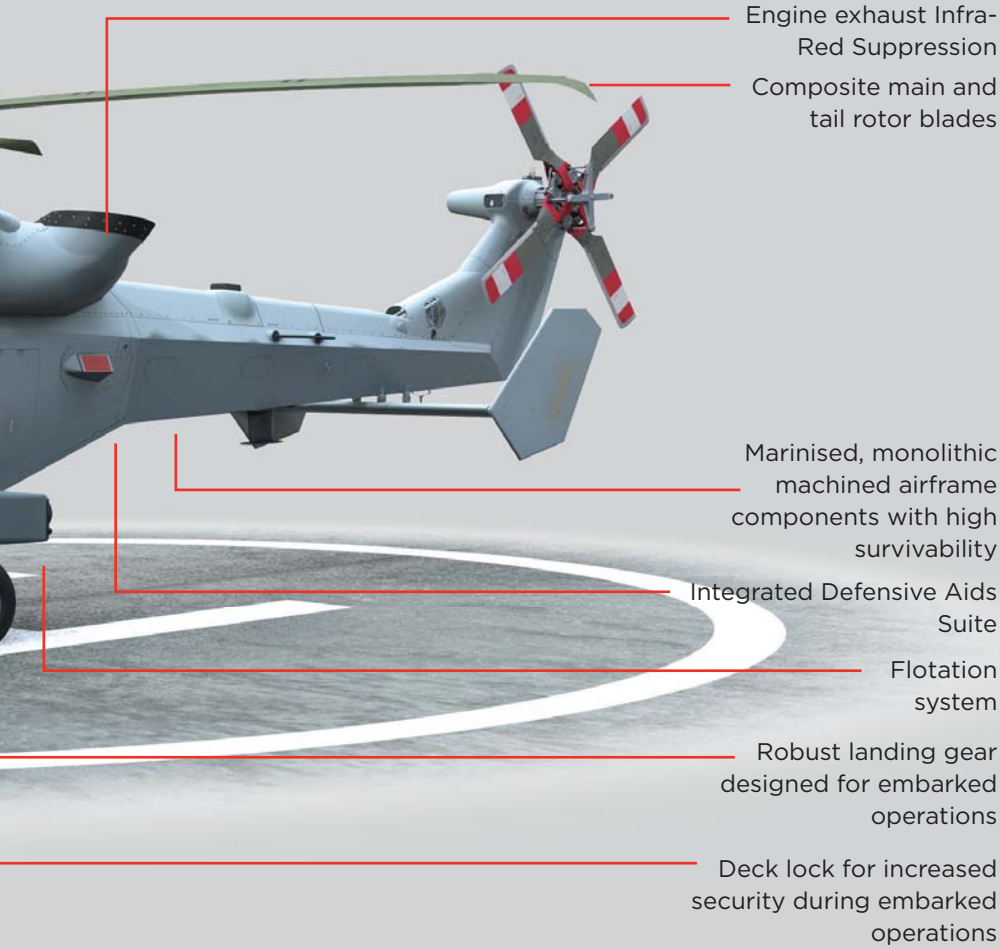
- Deployable Crash Position Indicator

Survivability

- Ballistic tolerance protection
- Infra-red suppressed engine exhausts
- Crew seat armour
- Wire Strike Protection

Mission Systems

- Tactical Processor with Mission Data Recorder & Digital Map
- Electro-Optical Device with colour TV, Thermal Imager & Laser Range Finder / Designator
- 360° surveillance radar
- Active Dipping Sonar system with console
- Sonobuoy dispensing / processing system
- Automatic Identification System
- I Band Transponder
- Military Identification Friend or Foe



- Tactical Data link
- Integrated Defensive Aids Suite

Avionics

- Integrated glass cockpit with four 10" x 8" Active Matrix Liquid Crystal Display screens
- Integrated central audio warning
- Avionic Management System with dual redundant control displays
- Integrated GPS and Inertial Navigation System
- Dual Attitude & Heading Reference Systems
- Air Data Systems
- Radar Altimeter
- Civil Instrument Flight Rules capable
- Integrated secure communications capability
- Dual Very / Ultra High Frequency radios including VHF tactical capability

- High Frequency Radio
- 4-Axis Digital Automatic Flight Control System
- Standby Flight Instruments
- Direction Finding / Homing systems
- Very High Frequency Omni directional Range, Instrument Landing System, Distance Measuring Equipment, Automatic Direction Finder, Tactical Air Navigation
- Traffic Collision Avoidance System

Armaments

- Integrated stores management system
- Torpedo
- Depth charge
- Air to Surface missiles
- Cabin door mounted 7.62 mm machine gun or 12.7 mm calibre machine gun
- Rockets / Gun pod

Utility

- Rescue hoist
- Cargo hook
- Searchlight
- Waterproof floor
- Stretcher installation
- Fast roping installation
- Abseiling installation

DIRECT OPERATING COSTS

AW159 has been designed and built to meet modern operational requirements for ease of maintenance and support. Modern turboshaft engines and core avionics provide excellent value for money in terms of operating and maintenance costs.

AW159 benefits from an on-condition maintenance policy with scheduled (preventative) maintenance kept to a minimum to reduce operating costs and increase aircraft availability. The AW159 maintenance policy builds upon previous Lynx experience gained from customer feedback and logistics analysis from over 2 million flying hours.

The maintenance policy is such that the fuselage, engine and avionics are predominantly maintained "on condition". A limited range of dynamic components are currently subject to overhaul at fixed intervals. Times Between Overhaul for these components are subject to a continuous review and extension programme through the life of the aircraft, where possible, the output of which benefits all AW159 customers.

SERVICE PLANS

Leonardo Helicopters has established a global infrastructure to support its existing customers; new customers will be able to take full advantage of this infrastructure in the support of the AW159. The goal of Leonardo Helicopters is to have all elements of the support network working together in a cohesive and effective way to support all customers, whether they are commercial, government or military.

Leonardo Helicopters support solutions are designed to meet unique customer operational requirements and optimise availability. Leonardo Helicopters offer a range of support solutions from conventional spares purchase through extended warranty programs to fully integrated support contracts for most platforms. Leonardo Helicopters works with the customer to ensure the solution is tailored to best suite their operational requirements.



COMPREHENSIVE SERVICES AND TRAINING SOLUTIONS

Leonardo Helicopters training programmes are tailored to meet the individual needs and operational requirements of the customer using established analytical processes. Leonardo Helicopters operates primary training sites that cover the full range of products and customer training requirements. These currently include Training Academies in the UK, Italy and the USA.

A comprehensive range of training media is available to customers of the AW159 to meet their specific training needs. This will include the provision of simulators and training services that meet internationally recognised standards. Full Mission Simulators will include the simulation of military systems and sensors, features that produce run and manage complex synthetic scenarios. They can be employed throughout training to reduce the number of live flying hours and increase the value of those hours that are considered to be mandatory.

AW159 CHARACTERISTICS

Dimensions

Length overall	15.24 m	50 ft 0 in
Length overall (MRH folded)	13.49 m	42 ft 3 in
Overall height	3.73 m	12 ft 3 in
Rotor diameter	12.80 m	42 ft 0 in

Engine Ratings (2 x turbo shaft engines)

Take-off power (5 min)	2 x 1,014 kW	2 x 1,361 shp
Max continuous power	2 x 955 kW	2 x 1,280 shp
OEI 2 minute rating	1 x 1,108 kW	1 x 1,484 shp
OEI continuous rating	1 x 1,014 kW	1 x 1,361 shp

Transmission Ratings

Max continuous power	1,604 kW	2,151 shp
Intercontingency OEI	938 kW	1,258 shp
Max contingency OEI	1,016 kW	1,363 shp

Fuel Capacity

Standard internal fuel tanks	798 kg	262 USG
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A range of internal auxiliary fuel tanks are also available

Weights

Max Gross Weight	6,000 kg	13,227 lb
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Seating

Cockpit / cabin	2/6 crashworthy (9 non-crashworthy)	
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Performance (ISA, MGW)

VNE (SL)	270 kph	146 kt
Max Cruise Speed (SL - MCP)	261 kph	141 kt
Rate of climb (SL - MCP)	10.1 m/s	1,983 ft/min
Hovering IGE	2,347 m	7,700 ft
Hovering OGE	1,523 m	5,000 ft
Service Ceiling (density altitude)	4,570 m	15,000 ft
OEI max service ceiling	1,866 m	6,125 ft
Maximum range ⁽¹⁾	490 km	265 nm
Maximum endurance ⁽¹⁾	2 hours 40 min	

⁽¹⁾ No reserves - @ 6,000 ft



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