

AW109 TrekkerM

HELICOPTERS DIVISION



AW109^M
TREKKER

**RUGGED AND
RELIABLE**





PERFORMING ANYWHERE

The AW109 TrekkerM is the new 3 tonne class multi-role twin-engine military helicopter designed to provide operators with outstanding mission flexibility, hot and high performance and speed for a wide range of operations in the most challenging environments day and night.

The spacious reconfigurable cabin enabling rapid role change, state-of-the-art NVG compatible VFR/IFR glass cockpit, wide range of mission, role equipment and weapons, plus high levels of safety and performance, combined with low operating costs, make the AW109 TrekkerM the superior choice in the light utility helicopter market.

Its small footprint, rugged airframe and skid landing gear make it ideally suited for demanding operations in austere and urban environments.

Fully articulated titanium rotor & composite main rotor blades

Powerful PW 207C turbo-shaft engines with FADEC

Aluminium alloy «Cocoon type» crash resistance airframe

Modular crash-resistant fuel system

AW109 TrekkerM KEY FEATURES

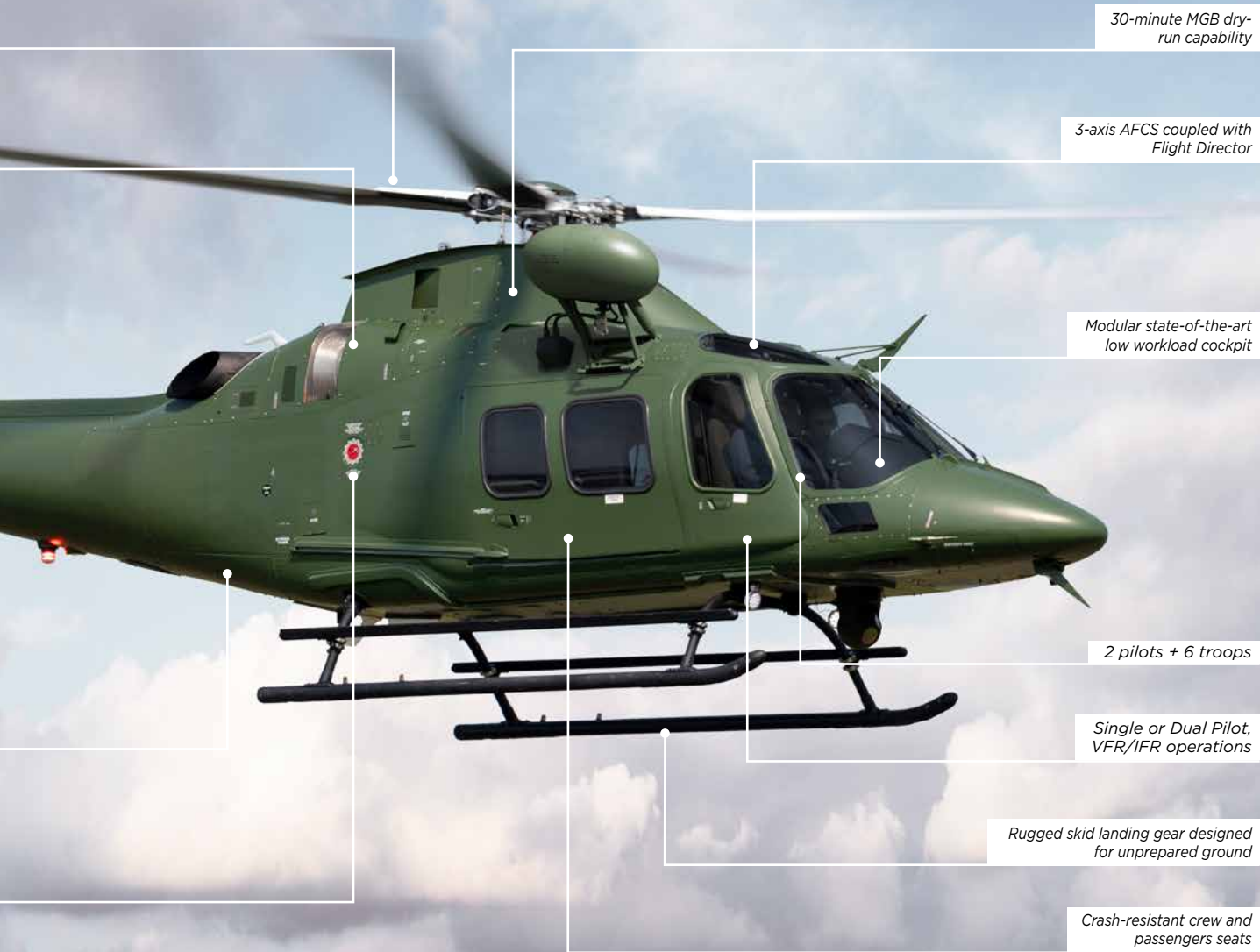
AIR VEHICLE

- › Small footprint for confined area operations (Length Rotor Turning 12.96m; Rotor Diameter 10.83 m)
- › Fully articulated Main Rotor provides agile handling at low level and in confined areas
- › Main gearbox with 30 minute run dry capability
- › Large sliding doors (1.4 m wide) on both side port and starboard
- › Rugged skid landing gear and high ground clearance for rough terrain operations
- › Dual electrical and hydraulic systems
- › Crashworthiness compliant to CS 27 / FAR 27

CORE AVIONICS

- › NVG Compatible Genesys Aerosystems™ Cockpit Display System customised to provide single or dual pilot, VFR or IFR, capability
- › Two large 6" x 8" EFIS displays providing Primary Flight Display (PFD) and Multi-Function Display (MFD) information for Single Pilot VFR and IFR operations
- › Additional 6" x 8" Co-Pilot Primary Flight Display (PFD) for Dual Pilot operations available upon request
- › Dual VHF/AM Communications
- › Dual VOR, GPS, Transponder (Mode-S) & ADS-B Out
- › Global Positioning System (GPS) augmented by Wide Area Augmentation System (WAAS)
- › Fully capable Digital Map
- › Integrated 3D Synthetic Vision with Highway-In-The-Sky (HITS) navigation
- › Integrated Helicopter Terrain Awareness Warning System (HTAWS) with worldwide terrain and obstacle database
- › NVG Lighting - Internal / External
- › Standby Information System





30-minute MGB dry-run capability

3-axis AFCS coupled with Flight Director

Modular state-of-the-art low workload cockpit

2 pilots + 6 troops

Single or Dual Pilot, VFR/IFR operations

Rugged skid landing gear designed for unprepared ground

Crash-resistant crew and passengers seats



CABIN SPACE AND ACCESSIBILITY

The AW109 TrekkerM unobstructed cabin provides space for the rapid transport of fully equipped troops and mission equipment in support of high-tempo operations. Large sliding doors on both sides of the helicopter, long foot-steps and low floor height enable rapid ingress and egress of troops, ease of loading and unloading of internal cargo, equipment or a stretcher on the ground. Fast roping and hoist operations through the large sliding doors enables troop insertion and extraction from the hover. Cabin door mounted crew served weapons provide wide area threat suppression.

The cabin can be rapidly reconfigured from Troop Transport and Cargo Re-Supply into more demanding configurations, including MEDEVAC, CASEVAC, SAR, SF/CSAR, Close Air Support and C2/ISR. An equipment stowage area, located in the rear fuselage, for equipment such as medical kits, keeps the cabin space free for cabin operations.

MISSION & ROLE EQUIPMENT

A wide range of mission and role equipment can be installed on the AW109 TrekkerM, further enhancing its operational effectiveness. This includes, but is not limited to the following:

Role Equipment

- › 177 or 213 US Gallon Modular Crash-Resistant Fuel System
- › Self-sealing Fuel Tanks
- › Engine Air Particle Separators
- › Engines Inlet Barrier Filters
- › Ballistic Protection
- › External Loudspeakers
- › Searchlight (NVG Compatible)
- › NVG Compatible Formation Lights
- › Overwater Kit (Emergency flotation and Life Rafts)
- › Snow Kit (Skid Mounted “Bear Paws”)

Utility Equipment

- › Rappelling hooks (2 LH + 2 RH)
- › Fast rope (RH & LH)
- › Cargo hook (1,250 kg)
- › Dual cargo hook (1,250 kg/500 kg)
- › External rescue hoist (272 kg)
- › Foldable stretcher

Avionic Equipment

- › Military Communications including Secure Radios with TACSAT capability, Combat Tactical Radios, Blue Force Tracker, Personnel Locator System, Video Downlink
- › Mode 5 IFF transponder
- › Defensive Aid Suite including Laser Warning Receiver (LWR), Missile Warning System (MWS) and Countermeasure Dispensing System (CMDS),
- › Electro-Optic / Infra-Red (EO/IR) sensor with optional Laser Range Finder / Designator
- › Mission Console in cabin providing Tactical Awareness and C2/ISR

Weapon Systems

- › Internal: 2 x Pintle Mounted Sniper Rifle (Door)
- › Internal: 2 x 7.62mm Pintle Mounted Machine Guns (Door)
- › External Weapon Sighting System
- › External: 2 x 12.7mm Gun Pod (250 or 400 rounds)
- › External: 2 x Combined 12.7mm Gun Pod / 3 Tubes 70mm Rocket Launcher
- › External: 2 x 70mm Rocket Launchers (7 or 12 Tubes)





AW109 TrekkerM CHARACTERISTICS

WEIGHT (MGW)

Internal Loads	3,175 kg	(7,000 lb)
External Loads	3,350 kg	(7,385 lb)

PROPULSION

Powerplant 2 x Pratt & Whitney Canada PW207C engines with FADEC

ENGINE RATINGS

AEO Take-Off	2 x 548 kW	(2 x 735 shp)
Maximum Continuous Power	2 x 466 kW	(2 x 625 shp)

CAPACITY

Crew	1 to 2
Passengers	7 or 6 passengers

DIMENSIONS

Overall Length ⁽¹⁾	12.96 m	(42 ft 06 in)
Overall Height ⁽¹⁾	3.60 m	(11 ft 09 in)
Rotor Diameter	10.83 m	(35 ft 06 in)

PERFORMANCE (ISA MCP)

VNE (SL)	281 km/h	(152 kt)
Max Cruise Speed (SL, MCP)	281 km/h	(152 kt)
HIGE (TOP)	4,609 m	(15,120 ft)
HOGE (TOP)	2,926 m	(9,600 ft)
Maximum Range (5,000 ft) ⁽²⁾	833 km	(450 nm)
Maximum Endurance (5,000 ft) ⁽²⁾		4 hr 20 min

(1) Rotors turning

(2) With 634 kg usable fuel, No Reserve



MULTI-ROLE CAPABILITY

TROOP TRANSPORT

The rapidly reconfigurable cabin provides fore and aft facing crashworthy seating for up to 6 equipped troops. Ballistic protection as well as crew served weapons, such as 7.62 mm GPMG or Sniper Rifles, installed on pintles mounted in the cabin door, can be provided.

CARGO RE-SUPPLY / EXTERNAL LIFT

With the ability to carry internal cargo and coupled with a 1,250 kg single cargo hook or 1,250 kg / 500 kg dual cargo hook capability the helicopter has the capacity to conduct effective resupply and lift operations.

CASEVAC / MEDEVAC

The cabin can be easily reconfigured to enable CASEVAC / MEDEVAC operations with space for 3 ambulatory personnel and a non-ambulatory patient on a stretcher enabling full body access. Attachment points and power outlets are provided for medical equipment.

SEARCH & RESCUE

When fitted with 3 seats for hoist operator and para-med, the AW109 TrekkerM cabin enables hoist operations and personnel recovery through the large cabin door. An optional mission console enhances situational awareness and search capabilities to further enhance mission effectiveness.

SPECIAL FORCES OPERATIONS

Fore and aft bulkhead seating enables rapid egress and ingress of a Special Forces (SF) team through the large sliding doors. The fast roping system enables simultaneous egress of two troops per side. The rescue hoist can be used to recover SF teams when in the hover. Threat suppression is provided by crew served weapons in the cabin door.

COMMAND AND CONTROL (C2), INTELLIGENCE, SURVEILLANCE AND RECONNAISSANCE (ISR)

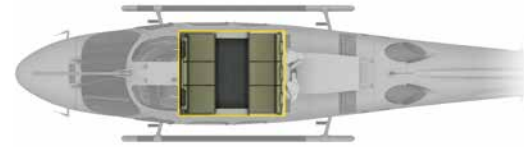
Battlefield C2 and enhanced ISR capabilities are provided by a mission console in the cabin that integrates mission systems and sensors. This enables the AW109 TrekkerM to collect, produce and disseminate time critical C2 and ISR information to the force.

CLOSE AIR SUPPORT/ARMED ESCORT

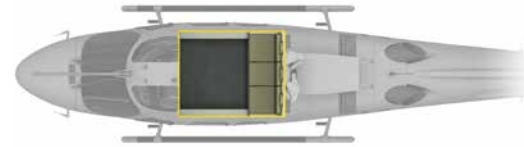
Close Air Support capabilities are provided by a sighting and targeting system combined with the external weapons. Heavy machine gun pods and guided and unguided rockets provide scalable threat suppression capabilities to enhance combat effectiveness.

MARITIME CAPABILITY

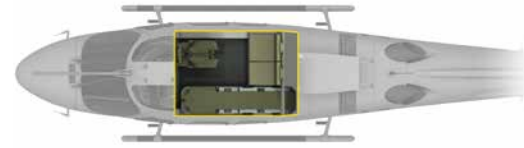
The AW109 TrekkerM provides light twin class helicopter maritime capability. Lashing points and folding main rotor blades enable the AW109 TrekkerM to be secured during adverse weather conditions and stowed in suitably sized hangars. Ground handling equipment attached to the skid landing gear enables helicopter movement using handling systems. AW109 TrekkerM has the capability to operate within the electro-magnetic environment associated with ship operations.



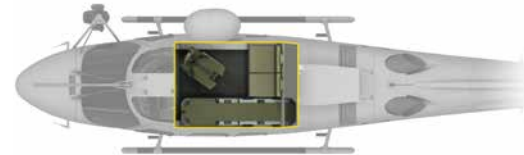
Typical Troop Transport Configuration



Typical Cargo Configuration



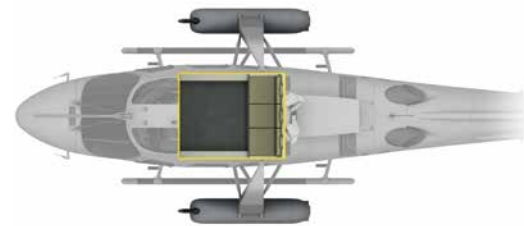
Typical CASEVAC/MEDEVAC Configuration



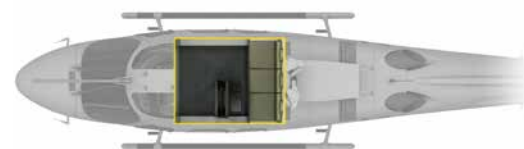
Typical SAR Configuration



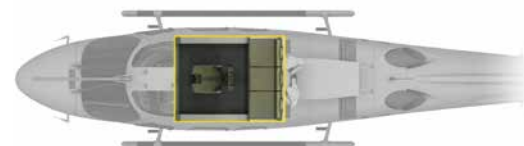
Typical Special Ops Configuration



Typical Close Air Support Configuration



Typical Reconnaissance Configuration



Typical Training Configuration

SURVIVABILITY & CRASHWORTHINESS

Leveraging the major contributions to battlefield survivability made by Doctrine and Training, and Intelligence, Mission-Planning and Re-Planning, the AW109 TrekkerM can operate effectively in the modern battlefield. Platform and mission systems are designed to enable the AW109 TrekkerM to avoid threats, avoid detection by threats, avoid acquisition by threats and avoid a hit.

AW109 TrekkerM PLATFORM & SYSTEM CAPABILITIES	Avoid Threat	Avoid Detection	Avoid Acquisition	Avoid Hit
PLATFORM CAPABILITIES				
> Range / Endurance (for routing / re-routing)	✓	✓	✓	
> Agility / Performance for NOE flight (terrain masking)	✓	✓	✓	✓
> Power margins for Hot & High / Performance	✓	✓	✓	✓
SYSTEM CAPABILITIES				
> Day Night All Environment Operations	✓	✓	✓	✓
> Off-Board Mission Planning	✓	✓	✓	
> Situational Awareness: Digital Map	✓	✓	✓	
> Threat warning and geo-location: Laser / EW	✓	✓	✓	
> Comprehensive Voice, Video and Data Comms	✓	✓	✓	
> On-Board Mission Re-Planning	✓	✓	✓	
> Synthetic Vision / Terrain Avoidance Systems	✓	✓	✓	
> Sensors / Weapons capability – stand off from threats		✓	✓	
> Counter threat (Chaff & Flare etc.)			✓	✓
> Threat Suppression			✓	✓

AW109 TrekkerM can survive small arms fire due to its inherent ballistic tolerance provided by damage tolerant / fail-safe rotor blades, airframe structure and components, run-dry main gearbox, twin engines with fire suppression systems, dual electrical and hydraulic systems, ballistic tolerant / self-sealing fuel system and ballistic protection of critical components. In the event of a crash, the AW109 TrekkerM provides the crew and personnel in the cabin with international levels of crash protection through energy absorbing skid landing gear and structure, crashworthy seating and restraints, crashworthy fuel tanks to minimize post-crash fire, flotation equipment for maritime operations, and rapid post-crash / post ditching egress.



CUSTOMER SERVICES SOLUTIONS

Leonardo's Helicopter Division Support mission is to assist Customers to perform their missions successfully. Fundamental to this mission is to ensure that operational safety is as high as possible. The Helicopters Division continues to develop its support services and advanced solutions in line with Customer's evolving requirements.

Today the Helicopters Division offers a full range of services to Customers. These can be contracted individually or organised under some form of integrated support scheme where the Helicopters Division is responsible for performance elements that vary from logistic support guarantee up to helicopter availability, moving the boundaries of traditional support. In the most comprehensive schemes the Customer specifies where and when he wants to fly and the Helicopters Division is accountable and responsible for the complete service.

The range of services includes:

- › **Spare & Repairs:** the Material Support Services Organisation is accountable for all material and logistics aspects of spares, repairs and overhauls, including a material AOG service. The organisation can also provide logistic modelling.
- › **Maintenance:** in support of customers worldwide, the Helicopters Division can provide line and base maintenance at Customers facilities, utilising an extensive network of maintenance centres, or through company-owned and third party organisations.
- › **Technical Services:** an extensive range of capabilities exist including the latest standards of integrated electronic technical publications, technical query resolution, repair design and modification assistance.
- › **Advanced Services:** including remote support to the technicians through augmented reality, HUMS analysis, flight planning tools, various logistics packages, electronic replacements for traditional paperwork systems and online portals for direct access to company data.
- › **Fleet Operations Centres:** located across the globe, available 24/7, to promptly help Customers resolve issues and get back to flight.



Repair Services

CUSTOMER TRAINING SOLUTIONS

Leonardo, through its Helicopters Division, is a world leading provider of professional training services, systems and solutions to a global customer base. The company is fully committed to a training policy that enables our customers to make the most effective safe use of their helicopters.

With over 300 professional training personnel, the Helicopters Division has delivered essential training to the world's helicopter operators for over 65 years. Our team includes flying and technical instructors with considerable military and civilian helicopter experience. The training capability for the AW109 TrekkerM, at the Training Academy in Sesto Calende in Italy, features the latest synthetic training devices combined with a comprehensive programme of training courses for air crew, rear crew, ground crew and maintainers. In addition, the Helicopters Division is developing a network of regional Training Centers to ensure

that customers can access world-class training at a time and place convenient to them.

The range of training solutions is evolving constantly. Services include type rating courses in conjunction with basic training, refresher training and complete turnkey solutions. Leonardo's Helicopter Division is also focusing on a variety of mission specific training so that customers can do more with their aircraft to deliver total crew operational capability.

To meet the demands of an ever changing operating environment our Simulation Learning & Support Services Systems (SL&SS) teams have leveraged Commercial-Off-The-Shelf technology combined with OEM software solutions to provide award-winning, cost effective training devices. These range from simple computer based training courses through to maintenance training devices and full flight simulators.

24/7 Fleet Operations



Leonardo - Società per azioni
Registered Head Office:
Piazza Monte Grappa, 4 - 00195 Rome - Italy
Tel. +39 06 324731 - Fax +39 06 3208621

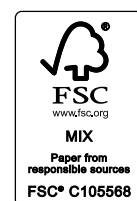
Leonardo Helicopters
Head Office:
Via Giovanni Agusta, 520 - 21017 Cascina Costa di Samarate - Italy
Tel. +39 0331 229111

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