



TYPE CERTIFICATE DATA SHEET

No. EASA.R.509

For

AW169

Type Certificate Holder

AGUSTAWESTLAND S.p.A.
Piazza Monte Grappa 4
00195 Roma - Italy

For Models: AW169

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SECTION 1: AW169

I. General

1. Type/ Variant or Model	
1.1 Type	AW169
1.2 Model	AW169
1.3 Variant	N/A
2. Airworthiness Category	Large Rotorcraft, Category A and B
3. Manufacturer	AGUSTAWESTLAND S.p.A. 00195 Piazza Monte Grappa 4, Roma - Italy
4. EASA Certification Application Date	February 9 th , 2011
5. EASA Type Certification Date	15 July 2015

II. Certification Basis

1. Reference Date for determining the applicable requirements	February 9 th , 2011
2. Airworthiness Requirements	CS-29 Amendment 2, dated 17 November 2008
3. Special Conditions	“Loss of Oil from Gearboxes Utilising a Pressurised Lubrication System” (see CRI E-12) “HIRF Protection” in accordance with JAA Interim Policy INT/POL/27&29/1, issue 3 dated 01-10- 2003 (see CRI F-01)
4. Exemptions	N/A
5. Deviations	N/A
6. Equivalent Safety Findings	CS29.813(c) -“Emergency Exit Access” (see CRI D-02) CS29.807(c)1 -“Passenger Emergency Exits other than Side-of-Fuselage” (see CRI D-03) CS29.811(d) “Emergency Exit Signs” (see CRI D-04) CS 29.1305, CS 29.1521, CS 29.1549, CS29.1309 (c) “Power Index Indicator” (see CRI F-16) CS 29.1305, CS 29.1521, CS 29.1549, CS29.1309 (c) “Standby Attitude Indicator Power Supply” (see CRI F-18) CS 29 Subpart B, CS 29.1305, CS 29.1309, CS 29.1549 “Engine Training Mode” (see CRI G-01) CS 29.1545(b)(4) “Airspeed indicators green arcs” (see CRI G-02)
7. Requirements elected to comply	CS-36 Amendment 3 (see CRI A-01 and associated CRI N-01)

8. Environmental Protection Standards

Noise Requirements

Chapter 1 of ICAO Annex 16, Volume I, amendment 10, Part II to the Chicago Convention (as per CS-36 Amdt 3 – see CRI A-01 and N-01).

Emission requirements

Chapter 2 of ICAO Annex 16 Volume II, amendment 6, Part II to the Chicago Convention (as per in CS-34 Initial Issue – see CRI A-01).

9. Operational Suitability Data (OSD) see SECTION 2 below

III. Technical Characteristics and Operational Limitations

1. Type Design Definition AW Doc. No. 169F0272N002
2. Description Large twin-engine helicopter having a five bladed fully articulated interblade Main Rotor, an antitorque three bladed fully articulated Tail Rotor and a tricycle retractable wheel landing gear.
3. Equipment As per compliance with certification basis and included in Type Design Definition standard
4. Dimensions
- 4.1 Fuselage Length 12190 mm
Width 2150 mm
Height 3880 mm
- 4.2 Main Rotor 5 blades Diameter 12120 mm
- 4.3 Tail Rotor 3 blades Diameter 2400 mm
5. Engine
- 5.1 Model 2 x Pratt&Whitney Canada PW210A
- 5.2 Type Certificate EASA IM.E.126
- 5.3 Limitations In accordance with PW210A Pratt&Whitney Canada Installation Manual (Ref. to 30L2374)

5.3.1 Installed Engine Limits

	RATING	MAX TORQUE [% - Nm]	MAX ITT [°C]	MAX NG [% - RPM]	MAX NF [% - RPM]
AEO	Continuous	118.6 – 395.9	868	96.5 – 49200	107 - 28120
	Take-off 5 min	125.9 – 420.3	930	98.2 - 50100	
OEI	Continuous	148.3% - 494.9	941	98.9 - 50430	107 - 28120
	2.5 min	174.7% - 583	1020	100.7 - 51360	

5.3.2 Transmission Torque Limits

	RATING	MAX TORQUE [% - Nm]	INPUT SPEED [RPM]	INPUT POWER [Hp]
AEO	Maximum Continuous	100 – 334 (x2)	14400	1350 (675x2)
	5 min	111 – 371 (x2)	14400	1500 (750x2)
OEI	Maximum Continuous	140 – 470	14400	950
	2.5 min	174 – 583	14400	1180

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel		JET A, JET A1, JP8, JP8+100 (for code number specification and more details refer to Rotorcraft Flight Manual)
6.2 Oil	Transmission	AEROSHELL TURBO OIL 555 (DoD-L-85734). No different specification or brand is allowed
	Engine	Refer to approved Rotorcraft Flight Manual
	Hydraulics	MIL-PRF-83282, MIL-PRF-87257 (as alternative)
6.3 Fuel Additives		Refer to approved Rotorcraft Flight Manual
6.4 Coolant		R134a

7. Fluid capacities

7.1 Fuel

	Total A/C capacity litres (Kg (*))	Unusable litres (Kg (*))
Two main fuel tanks (LH and RH)	1130 (904)	20 (16)

(*) Above fuel mass has been defined assuming a standard fuel density of 0,8 kg/l.

7.2 Oil

	Quantity litres (kg) (*)
ENGINE (each)	min 5.25 (4.948) - max 5.78 (5.448)
MAIN GEARBOX (min/max)	min 17 (16.968) - max 19 (18.964) (16.8 + 2.2 for oil cooler, oil ducts and filter)
INTERMEDIATE GEARBOX	0.77(0.768)
TAIL GEARBOX	1.10 (1.098)
HYDRAULIC (per each Power Control Module)	1.3 (1.1)

(*) litres (kg at 80°C)

7.3 Coolant system capacity 2.1 kg

8. Air Speeds Limits

$VNE_{Power\ On\ AEO}$	165 kts
$VNE_{Power\ On\ OEI}$	135 kts
$VNE_{Power\ Off}$	125 kts

For reduction of the VNE with Density Altitude (HP/OAT), see RFM.

9. Rotor Speed Limits

Power On AEO (*)		
Condition	(RPM)	(%)
Minimum Continuous	317.56	96.0
Maximum Continuous	354.72	103.0
Power On OEI		
Condition	(RPM)	(%)
Minimum Cautionary	304.05	90.0
Minimum Continuous	341.21	101.0
Maximum Continuous	354.72	105.0
Power Off		
Condition	(RPM)	(%)
Minimum Continuous	304.05	90.0
Maximum Continuous	371.61	110.0

(*) Maximum and minimum continuous values of the flight envelope. AVSR provides a governing of the rotor speed at different values depending on airspeed (TAS) and density altitude. As the NR datum is variable, NR green band is variable as well ($\pm 2\%$ across the datum value).

See RFM for additional rotor speed limitations

10. Maximum Operating Altitude and Temperature

10.1 Altitude

Maximum operating altitude 15.000ft
(pressure/density altitude whichever occurs first)

Maximum Take-off and Landing altitude 8.000ft
(pressure/density altitude whichever occurs first)

10.2 Temperature

-40°C ÷ +50°C (ISA + 35°C)

-40°C ÷ +50°C (ISA + 35°C) for Cat. A operations

For variation of Temperature limitations with altitude, see the RFM and applicable supplement

11. Operating Limitations

VFR/IFR day and night operations in non-icing conditions

12. Maximum Weight

12.1 Take-off and Landing

4600 kg

12.2 Taxi and Towing

4650 kg

13. Centre of Gravity Range

Refer to the approved RFM

14. Datum

Longitudinal Datum (STA 0) is located at 3528 mm forward to the front jack point

Lateral Datum (BL 0) is located at +/- 225 mm inboard of LH/RH front jack points

15. Levelling Means

Plumb line from ceiling reference point to index plate on floor of baggage compartment.

16. Minimum Flight Crew

One (1) for VFR day and One (1) for VFR night and IFR.

For NVG operations, two (2) pilots or one (1) pilot and one (1) crew member are required. Both pilot and crew member must be equipped with NVGs (see Note 2).

17. Maximum Passenger Seating Capacity	8
18. Passenger Emergency Exit	2 on each side of the passenger cabin
19. Maximum Baggage / Cargo Loads	250Kg located in the Baggage/Cargo compartment
20. Rotor Blade control movement	For rigging info ref to RFM
21. Auxiliary Power Unit (APU)	N/A
22. Life-limited parts	refer to the Airworthiness Limitation Section (ALS) of the Maintenance Manual
23. Wheels and Tyres	MLG wheel assembly with 18 x 5.5 tubeless tyres NLG wheel assembly with 5x5.5 tubeless tyres

IV. Operating and Service Instructions

1. Flight Manual	Rotorcraft Flight Manual, Doc. No. 169F0290X001, initial issue dated 08-07-2015, EASA approved on 15 July 2015 or later approved revisions
2. Maintenance Manual	“AW169 Maintenance Planning Information” Doc. No. 69-A-AMPI-00-P, including: <ul style="list-style-type: none">- Chapter 4 ALS, initial issue dated 15-07-2015, EASA approved on 15 July 2015 or later approved revisions;- Chapter 5 with Scheduled Maintenance Requirements “Maintenance Review Board Report for AW169 Helicopter” Doc. No. 169F0000M005 “AW169 Maintenance Publication” Doc. No. 69-A-AMP-00-X “AW169 Material Data Information” Doc. No. 69-A-AMDI-00-X “AW169 Corrosion Control Publication” Doc. No. 69-A-ACCP-00-X “AW169 Fault Isolation Publication” Doc. No. 69-A-AFIP-00-X “AW169 Wiring Data Publication” Doc. No. 69-A-AWDP-00-X
3. Structural Repair Manual	“AW169 Structural Repair Publication” Doc. No. 69-A-ASRP-00-X “AW169 Component Repair and Overhaul Publication” Doc. No. 69-A-CR&OP-00-X
4. Weight and Balance Manual	refer to the Section 6 of the RFM and applicable supplements
5. Illustrated Parts Catalogue	“AW169 Illustrated Tool and Equipment Publication” Doc. No. 69-A-ITEP-00-X “AW169 Illustrated Part Data” Doc. No. 69-A-IPD-00-X
6. Service Letters and Service Bulletins	As published by AgustaWestland and approved by AW DOA.

7. Required Equipment

As per compliance with certification basis and included in Type Design Definition standard.

Refer to approved Rotorcraft Flight Manual and MMEL

Refer to EASA Approved Rotorcraft Flight Manual and related supplements for other approved mandatory and optional equipment.

V. Notes

1. Serial Numbers

69005 and subsequent

2. NVG operations

Night Vision Goggle Operations are permitted according to RFM 169F0290X001 Supplement No. 16. The aircraft configuration involving internal/external emitting/reflecting equipment approved for use with NVG is described in the Report N. 169F3360A001 «AW169 NVG Compatibility Reference Handbook». Subsequent modifications and deviations to the NVG helicopter configuration shall be managed in accordance with AgustaWestland document 169F3360E001 « AW169 Helicopter NVG Policy »

SECTION 2: OPERATIONAL SUITABILITY DATA (OSD)

The OSD elements listed below are approved by the European Aviation Safety Agency as per Commission Regulation (EU) 748/2012, as amended by Commission Regulation (EU) No 69/2014.

I. OSD Certification Basis

1. Reference Date for determining the applicable OSD requirements
Reserved
2. MMEL - Certification Basis
reserved
3. Flight Crew Data - Certification Basis
reserved
4. SIM Data - Certification Basis
reserved
5. Maintenance Certifying Staff Data - Certification Basis
reserved
6. Cabin Crew Data - Certification Basis
N/A

II. OSD Elements

1. MMEL - Certification Basis
Reserved

TE.TC.0066-001

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2. Flight Crew Data - Certification Basis
reserved
3. SIM Data - Certification Basis
reserved
4. Maintenance Certifying Staff Data - Certification Basis
reserved
5. Cabin Crew Data - Certification Basis
N/A

SECTION 3: ADMINISTRATIVE

I. Acronyms and Abbreviations

AEO	All Engines Operative
AW	AgustaWestland S.p.A.
BL	Buttock Line
CS	Certification Specification
CRI	Certification Review Item
Doc.	Document
EASA	European Aviation Safety Agency
HIRF	High Intensity Radiated Fields
ICAO	International Civil Aviation Organisation
IFR	Instrument Flight Rules
ISA	International Standard Atmosphere
JAA	Joint Aviation Authorities
LH	Left Hand
MLG	Main Landing Gear
NLG	Nose Landing Gear
No.	Number
NVG	Night Vision Goggle
OAT	Outside Air Temperature
OEI	One Engine Inoperative
RFM	Rotorcraft Flight Manual
RH	Right Hand
STA	Station
VNE	Velocity Never Exceed
VFR	Visual Flight Rules

II. Type Certificate Holder Record

AGUSTAWESTLAND S.p.A.
00195 Piazza Monte Grappa 4, Roma - Italy

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	15 July 2015	-	Initial Issue

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