TYPE CERTIFICATE DATA SHEET

No. EASA.R.510

for

AW189

Type Certificate Holder

Leonardo S.p.A.

Helicopters
Piazza Monte Grappa, 4
00195 Roma
Italy

For Model: AW189

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I. General

1.	Type/ Model/ Variant	
	1.1 Type	AW189
	1.2 Model	AW189
2.	Airworthiness Category	Large Rotorcraft, Category A and B
3.	Type Certificate Holder	Leonardo S.p.A. Helicopters Piazza Monte Grappa, 4 00195 Roma, Italy
4.	Manufacturer	See Note 2
5.	Type Certification Application Date	12 May 2011
6.	State of Design Authority	EASA
7.	EASA Type Certification Date	7 February 2014

II. Certification Basis

1.	Reference Date for determining the applicable requirements	12 May 2011
2.	Airworthiness Requirements	AW189 with GE CT7-2E1 Engines: CS-29 Amdt. 2, dated 17 November 2008 CS-29 Amdt. 3, dated 11 December 2012 for the following installations and affected areas only (see Note 10): - Kit Single Rescue Hoist p/n 8G2591F00111 - Kit Double Rescue Hoist p/n 8G2591F00311 - Kit Foldable Single Hoist p/n 8G2591F00211 Kit Limited Ice Protection System (LIPS) p/n 8G3000F00211 and 8G3000F00212 - Kit Full Ice Protection System (FIPS) p/n 8G3000F00111 and 8G3000F00311 AW189 with Safran Aneto-1K Engines: CS-29 Amdt. 2, dated 17 November 2008 CS-29 Amdt. 3, dated 11 December 2012 for the following installations and affected areas only (see Note 10): - Kit Single Rescue Hoist p/n 8G2591F00111 CS-29 Amdt. 4, dated 30 November 2016, for the Safran Aneto-1K Engine Installation and affected areas.
3.	Special Conditions	AW189 with GE CT7-2E1 Engines: SC B-03 Automatic Search Modes (ASM) certification SC E-07 Extended Take-Off Power Duration (EP, 30 min AEO) SC E-09 Loss of Oil from Gearboxes Utilising a Pressurised Lubrication System SC F-01 'HIRF Protection' in accordance with JAA Interim Policy INT/POL/27&29/1, Issue 3, dated 1 October 2003 SC J-01 Essential APU Installation in Large Rotorcraft SC F-19 For kit Limited Ice Protection System: Special Condition for Limited Icing Clearance SC F-24 Non Rechargeable Lithium Battery Installations AW189 with Safran Aneto-1K Engines: SC B-03 Automatic Search Modes (ASM) certification

SC 07/K Extended Take-Off Power Duration (EP, 30 min AEO)
SC E-09 Loss of Oil from Gearboxes Utilising a Pressurised Lubrication System
SC J-01 Essential APU Installation in Large Rotorcraft
SC F-24 Non-Rechargeable Lithium Battery Installations

4. Exemptions — none

5. Deviations — none

6. Equivalent Safety Findings

AW189 with GE CT7-2E1 Engines:
ESF D-03 Passenger access to each Emergency Exit
ESF D-04 Passenger Emergency Exits – other than Side-Of-Fuselage
ESF D-06 Emergency Exit Signs
ESF D-07 Ditching Emergency Exits for Passengers
ESF D-08 Ferry Flight Configuration
ESF D-10 Main Aisle Width
ESF D-11 Hoist Installation
ESF F-16 H-V Envelope and RFM Charts
ESF F-20 Power Index Indicator
ESF G-01 Engine Training Mode
ESF G-02 Airspeed Indicators Green Arcs
ESF G-03 Never Exceed Speed – Power Off

AW189 with Safran Aneto-1K Engines:
ESF B-04/K Cat. A Procedures: 2.5' Rating Application for First and Second Segment Profile and Definition of V_{COSS}
ESF D-03 Passenger access to each Emergency Exit
ESF D-04 Passenger Emergency Exits – other than Side-Of-Fuselage)
ESF D-06 Emergency Exit Signs
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ESF D-08 Ferry Flight Configuration
ESF D-10 Main Aisle Width
ESF D-11 Hoist Installation
ESF E-11/K Ignition Switches
ESF F-16 H-V Envelope and RFM Charts
ESF F-20/K Power Index Indicator
ESF G-02 Airspeed Indicators Green Arcs
ESF G-03/K Never Exceed Speed – Power Off

7. Requirements elected to comply

CS-36 Amdt. 3 (see A-01)

CS-29 Amdt. 4 (see A-01/K)

CS 29.1465 Vibration health monitoring, Amdt. 5

8. Environmental Protection Requirements

8.1 Noise Requirements — See TCDSN EASA.R.510

8.2 Emission Requirements

AW189 with GE CT7-2E1 Engines:
Chapter 2 of ICAO Annex 16 Volume II, Part II to Chicago Convention (as implemented in CS-34 Amdt. 1).

AW189 with Safran Aneto-1K Engines:
Chapter 2 of ICAO Annex 16 Volume II, Part II to Chicago Convention (as implemented in CS-34 Amdt. 2).

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

III. Technical Characteristics and Operational Limitations

1. Type Design Definition — Doc. No. 189G0000P002/01 for AW189 with GE CT7-2E1 Engines
Doc. No. 189G0000P002/02 for AW189 with Safran Aneto-1K Engines

2. Description — Large twin-engine helicopter, conventional configuration, 5-blade fully articulated main rotor, 4-blade fully articulated tail rotor, retractable tricycle landing gear.

3. Equipment — As per compliance with certification basis and included in Type Design Definition Document

4. Dimensions

4.1 Fuselage — Length: 14.60 m
Width hull: 3.02 m
Height: 4.04 m

4.2 Main Rotor — Diameter: 14.60 m

4.3 Tail Rotor — Diameter: 2.90 m

5. Engine

5.1 Model — General Electric
2 x Model CT7-2E1

or,
Safran Helicopter Engines
2 x Model Aneto-1K

5.2 Type Certificate — General Electric CT7-2E1:
FAA TC/TCDS: E8NE
EASA TC/TCDS: EASA IM.E.010

Safran Aneto-1K:
EASA TC/TCDS: EASA.E.009

5.3 Limitations

5.3.1 Installed Engine Limits

General Electric CT7-2E1 with EECU SW up to V5.0:

Rating		Max ITT [°C]	Max NG [% (rpm)]	Max NF [% (rpm)]
AEO	Continuous	942	102.7 (45 907)	104.7 (22 000)
	Take-off 5 min	968	102.7 (45 907)	- - -
OEI	Continuous	968	102.7 (45 907)	104.7 (22 000)
	2.5 min	1 078	105 (46 935)	- - -

General Electric CT7-2E1 with GE EECU SW 6.0 or later:

Rating		Max ITT [°C]	Max NG [% (rpm)]	Max NF [% (rpm)]
AEO	Continuous	957	102.7 (45 907)	104.7 (22 000)
	Take-off 5 min	983	102.7 (45 907)	- - -
OEI	Continuous	983	102.7 (45 907)	104.7 (22 000)
	2.5 min	1 101	105 (46 935)	- - -

Safran Aneto-1K:

Rating		Max ITT [°C]	Max NG [% (rpm)]	Max NP [% (rpm)]
AEO	Continuous	893	103.6 (37 628)	104.7 (21 987)
	Take-off 5 min	918	104.1 (37 807)	104.7 (21 987)
OEI	Continuous	918	104.6 (37 979)	104.7 (21 987)
	2.5 min	984	106.9 (38 817)	104.7 (21 987)

5.3.2 Transmission Torque Limits

AW189 with GE CT7-2E1 and Core Avionics Phase 3.0 SW Release

Rating		Max Torque [%]	Input speed [rpm]	Input Power [shp]
AEO	Max continuous	2 x 100	21 420	2 500
	30 min	2 x 116(*)		2 907
OEI	Max continuous	1 x 135	21 420	1 687
	2.5 min	1 x 164(**)		2 055

(*) For airspeeds less than 90 KIAS. For airspeeds greater than 90 KIAS refer to RFM.
(**) Between 155% and 164% allowed for 30 sec and once per 2.5 min event

AW189 with GE CT7-2E1 and Core Avionics Phase 4.0 SW Release (or later),
or AW189 with Safran Aneto-1K

Rating		Max Torque [%]	Input speed [rpm]	Input Power [shp]
AEO	Max continuous	2 x 100	21 420	2 500
	30 min	2 x 116(*)		2 907
OEI	Max continuous	1 x 142	21 420	1 775
	2.5 min	1 x 172(**)		2 150

(*) For airspeeds less than 90 KIAS. For airspeeds greater than 90 KIAS refer to RFM.
(**) Between 164% and 172% allowed for 30 sec and once per 2.5 min event

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel — JET A, JET A1, JP5, JP8, JP8+100, No. 3 Jet Fuel
(for code no. specification and more details refer to approved RFM)

6.2 Oil — Transmissions: AeroShell Turbo Oil 555 (DoD-L-85734). No different specification or brand allowed.
Engine: Ref. to GE Operating Instructions No. GEK112766 for CT7-2E1 Engines
Ref. to Safran Operating Instructions No. X0461K0012 for Aneto-1K Engines
APU: MIL-PRF-23699, MIL-PRF-7808
Hydraulics: MIL-PRF-83282, MIL-PRF-5606 (as alternative)

6.3 Additives — MIL-DTL-27686, MIL-DTL-85470, MIL-I-25017, Biobor JF

6.4 Coolant — R134a

7. Fluid capacities

7.1 Fuel

AW189 with GE CT7-2E1 Engines and Core Avionics SW Release up to 6.0:	Total usable [litres (kg(*))]	Unusable [litres (kg(*))]
Two main fuel tanks (LH and RH)	1 320 (1 056)	24 (19)
Two main fuel tanks (LH and RH) plus Auxiliary Central Tank	1 830 (1 464)	24 (19)
Two main fuel tanks (LH and RH) plus Forward Tanks plus Auxiliary Central Tank	2 100 (1 680)	24 (19)
Extended Range (see Note 5) Two main fuel tanks (LH and RH) plus under-belly tanks	2 569 (2 055)	9 (7)

(*) Considering a medium density between different fuels of 0.8 kg/litre

AW189 with GE CT7-2E1 Engines and Core Avionics SW Release 7.0 or later:	Total usable [litres (kg(*))]	Unusable [litres (kg(*))]
Two main fuel tanks (LH and RH)	1 335 (1 068)	9 (7)
Two main fuel tanks (LH and RH) plus Auxiliary Central Tank	1 845 (1 476)	9 (7)
Two main fuel tanks (LH and RH) plus Forward Tanks plus Auxiliary Central Tank	2 115 (1 692)	9 (7)
Extended Range (see Note 5) Two main fuel tanks (LH and RH) plus under-belly tanks	2 569 (2 055)	9 (7)

(*) Considering a medium density between different fuels of 0.8 kg/litre

AW189 with Safran Aneto-1K Engines:	Total usable [litres (kg(*))]	Unusable [litres (kg(*))]
Two main fuel tanks (LH and RH)	1 335 (1 068)	9 (7)
Two main fuel tanks (LH and RH) plus Auxiliary Central Tank	1 845 (1 476)	9 (7)
Two main fuel tanks (LH and RH) plus Forward Tanks plus Auxiliary Central Tank	2 115 (1 692)	9 (7)

(*) Considering a medium density between different fuels of 0.8 kg/litre

7.2 Oil

	Quantity [litres (kg)]
GE CT7-2E1 Engine (each)	min 3.6 (3.59) to max 5.5 (5.49)
Safran Aneto-1K Engine (each)	Min 4 (3.99) to max 6.4 (6.39)
Main gearbox (min/max)	min 21.5 (21.46) to max 27 (26.95) (24.5 + 2.5 for oil cooler, oil ducts and filter)
Intermediate gearbox	1.22 (1.22)
Tail gearbox	1.87 (1.87)
Hydraulic (per each Power Control Module)	3.20 (2.72)

7.3 Coolant System Capacity 2.9 kg

8. Air Speed Limitations

$V_{NE\ Power\ On\ AEO}$: 169 KIAS
$V_{NE\ Power\ On\ OEI}$: 139 KIAS
$V_{NE\ Power\ Off}$: 120 KIAS

For reduction of the V_{NE} with altitude, OAT and weight, refer to approved RFM.

9. Rotor Speed Limitations

Power On AEO		
Condition	[rpm]	[%]
Minimum Continuous	284.75	100.0
Maximum Continuous	296.14	104.0
Power On OEI		
Condition	[rpm]	[%]
Minimum Cautionary	256.28	90.0
Minimum Continuous	284.75	100.0
Maximum Continuous	296.14	104.0
Power Off		
Condition	[rpm]	[%]
Minimum Continuous	256.28	95.0
Maximum Continuous	313.23	110.0

Refer to approved RFM for additional rotor speed limitations

10. Maximum Operating Altitude and Temperature

10.1 Altitude

AW 189 with GE CT7-2E1 Engines:
Maximum operating altitude 10 000 ft PA/DA (whichever occurs first). See Note 12.
Maximum Take-off and Landing altitude 8 000 ft PA/DA (whichever occurs first).

AW189 with Safran Aneto-1K Engines:
Maximum operating altitude 15 000 ft DA.
Maximum Take-off and Landing altitude 14 000 ft DA.

Refer to approved RFM and applicable supplements for additional altitude limitations.

10.2 Temperature

-40°C to +55°C (ISA+40°C)
For variation of temperature limitations with altitude refer to approved RFM and applicable supplement

11. Operating Limitations

AW189 with GE CT7-2E1 Engines:
- VFR day and night and IFR operations in non-icing conditions.
- Flight in limited icing condition is permitted only when the kit Limited Ice Protection System p/n 8G3000F00211, or p/n 8G3000F00212 is installed.
- Flight into known icing condition is permitted only when the kit Full Ice Protection System p/n 8G3000F00111 or p/n°8G3000F00311 is installed.

AW189 with Safran Aneto-1K Engines:
- VFR day and night and IFR operations in non-icing conditions.

12.	Maximum Mass	GE CT7-2E1: Take-off and landing: 8 300 kg (see Note 4) Taxi and Towing: 8 350 kg (see Note 4) Safran Aneto-1K: Take-off and landing: 8 600 kg Taxi and Towing: 8 650 kg
13.	Centre of Gravity Range	Refer to approved RFM
14.	Datum	Longitudinal: The datum plane (STA 0) is located at 2 830 mm forward to the front jack point On the 'Extended Range' configuration (see Note 5) the longitudinal datum line (STA 0) is located at 3 009 mm forward to the front jack point. Lateral: The datum plane (B.L. 0) is located at ±275 mm inboard of LH/RH front jack points.
15.	Levelling Means	Plumb line from ceiling reference point to index plate on floor of passenger cabin; digital clinometer.
16.	Minimum Flight Crew	AW189 with GE CT7-2E1 Engines: One (1) for VFR day and two (2) for VFR night and IFR. Single pilot VFR night and IFR operations are allowed under conditions and limitations included in the Supplement 3 of the RFM. For Category A operations, two (2) pilots required if take-off and landing is to be carried out from the left seat. For NVIS operations, two (2) pilots or one (1) pilot and one (1) crew member required. Both pilot and crew member must be equipped with NVGs (see Note 3). For operations in limited icing conditions, two (2) pilots required. AW189 with Safran Aneto-1K Engines: One (1) for VFR day and one (1) for VFR night and IFR. For Category A operations, two (2) pilots required if take-off and landing is to be carried out from the left seat. For NVIS operations, two (2) pilots or one (1) pilot and one (1) crew member required. Both pilot and crew member must be equipped with NVGs (see Note 3).
17.	Maximum Passenger Seating Capacity	19
18.	Passenger Emergency Exit	10; 1 for pilot, 1 for co-pilot, 4 on each side of the passenger cabin
19.	Maximum Baggage/ Cargo Loads	300 kg located in the baggage/cargo compartment (see Note 9)
20.	Rotor Blade Control Movement	For rigging information, refer to Maintenance Manual
21.	Auxiliary Power Unit (APU)	Safran Power Units (former: Microturbo) 1 x Model e-APU60 model 342, ETSO approval: EASA.21O.10045083
22.	Life-limited Parts	Refer to the Airworthiness Limitation Section (ALS) Chapter 4 of the Maintenance Manual: - Doc. No. 89-A-AMPI-00-04-P for AW189 Helicopter with GE CT7-2E1 Engines, approved on 5 February

		2014, or later approved revision - Doc. No. 89-E-AMPI-00-04-P for AW189 Helicopter with Safran Aneto-1K Engines, approved on 20 May 2020, or later approved revision
23.	Wheels and Tyres	MLG wheel assembly with 24x7.7 tubeless tyres NLG wheel assembly with 14.5x5.5 tubeless tyres

IV. Operating and Service Instructions

1.	Flight Manual	- Doc. No. 189G0290X002 for AW189 with GE CT7-2E1 Engines, approved 31 January 2014, or later approved revision - Doc. No. 189G0290X006 for AW189 with Safran Aneto-1K Engines, approved 8 June 2020, or later approved revision
2.	Maintenance Manual	'AW189 Maintenance Planning Information': - Doc. No. 89-A-AMPI-00-P (includes Chapter 4 ALS and Chapter 5 with Scheduled Maintenance Requirements) for AW189 Helicopter with GE CT7-2E1 Engines, approved on 5 February 2014, or later approved revision - Doc No. 89-E-AMPI-00-P (includes Chapter 4 ALS and Chapter 5 with Scheduled Maintenance Requirements) for AW189 Helicopter with Safran Aneto-1K Engines, approved on 20 May 2020, or later approved revision 'Maintenance Review Board Report for AW189 Helicopter': - Doc. No. 189G0000M006 'AW189 Maintenance Publication' - Doc. No. 89-A-AMP-00-X 'AW189 Material Data Information' - Doc. No. 89-A-AMDI-00-X 'AW189 Corrosion Control Publication' - Doc. No. 89-A-ACCP-00-X 'AW189 Fault Isolation Publication' - Doc. No. 89-A-AFIP-00-X 'AW189 Wiring Data Publication' Doc. No. 89-A-AWDP-00-X - Component Maintenance Manual as applicable
3.	Structural Repair Manual	'AW189 Structural Repair Publication': Doc. No. 89-A-ASRP-00-X 'AW189 Component Repair and Overhaul Publication' Doc. No. 89-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	'AW189 Illustrated Tool and Equipment Publication' Doc. No. 89-A-ITEP-00-X 'AW189 Illustrated Part Data' Doc. No. 89-A-IPD-00-X
6.	Service Letters and Service Bulletins	As published by AgustaWestland, Finmeccanica or Leonardo

7. Required equipment

The following is mandatory for IFR/VFR night Single Pilot Operations:

- Quick Reference Handbook (QRH):
  Doc. No. 189G0290X003, latest Issue, for AW189 with GE CT7-2E1 Engines, or,
  Doc. No. 189G0290X007, latest Issue, for AW189 with Safran Aneto-1K Engines.
- Map/QRH holder p/n 8G2510F00211, or equivalent approved.
- Traffic Advisory System TCAS II (see RFM Supplement 8).

The installation of the following is mandatory for Ditching Operations (see RFM Supplement 6):

- Life rafts (life rafts p/n 8G2560F00511 have been approved for use. The use of other life raft installations must be in accordance with CS/FAR 29 and must be approved)
- Survival type Emergency Locator Transmitter
- Life preservers (the following life preservers installations have been approved: 8G2560F00611, 8G2560F00711, 8G2560F00811. Different life preserver installations must be in accordance with CS/FAR 29 and must be approved).

The installation of the following is mandatory for Night Vision Goggles Operations:

- Aviator's Night Vision Goggles as specified in 189G3360A001 "AW189 NVG Compatibility Reference Handbook"
- Helmet with NVG mount suitable for NVG Model being used.
- Cockpit/Cabin physical separation device as defined in 189G3360A001 "AW189 NVG Compatibility Reference Handbook".

For AW189 with GE CT7-2E1 Engines, the installation of the following is mandatory for operations in limited icing condition:

- Kit Limited Ice Protection System p/n 8G3000F00211 (see RFM Supplement 38 or 48, according to the relevant aircraft configuration)
- Kit Limited Ice Protection System p/n 8G3000F00212 (see RFM Supplement 45 or 50, according to the relevant aircraft configuration)

For AW189 with GE CT7-2E1 Engines, the installation of the following is mandatory for operations in known icing condition:

- Kit Full Ice Protection System p/n 8G3000F00111 or p/n 8G3000F00311 (see RFM Supplement 44 or 49, according to the relevant aircraft configuration)

The aircraft configuration approved for use in limited or full known icing condition is described in the Report 189G3000A001 'AW189 Icing Compatibility Reference Handbook'.

Operations in limited icing conditions and operations in known icing conditions are not allowed on AW189 with Safran Aneto-1K Engines.

Refer to EASA approved RFM and related supplements for other approved mandatory and optional equipment.

Refer to Kit Compatibility Handbook 189G0000A002 for incompatibilities and restrictions between optional equipment.

AW189 Software Configuration is managed within the Software Handbook 189G0000X007.

PED-sensitive equipment, which is under the responsibility of the TC Holder and is declared as NON-PED tolerant, or has PED tolerance limitations, is reported in the document 189G9850A005 “PED Compatibility Reference Handbook”.

V. Notes

1. Manufacturer's eligible serial numbers:
   AW189 with GE CT7-2E1 Engines:
   - 49007, and subsequent, except 49024, manufactured by AgustaWestland S.p.A. in Italy
   - 89001, and subsequent manufactured by AgustaWestland S.p.A. in Italy (see Note 5 – Extended Range Configuration)
   - 91001, and subsequent manufactured by AgustaWestland S.p.A. in UK
   - 92001 and 92003 manufactured by AgustaWestland Ltd in UK (see Note 5 – Extended Range Configuration)
   - 92002, 92004, and subsequent manufactured by AgustaWestland S.p.A. in UK (see Note 5)

   AW189 with Safran Aneto-1K Engines:
   - 93001, and subsequent manufactured by Leonardo S.p.A. in Italy

2. Manufacturers:
   AgustaWestland S.p.A.(*)
   Italy Plant – Vergiate (VA)
   UK Plant – Yeovil (Somerset)
   AgustaWestland Ltd (only for s/n 92001 and 92003)
   UK Plant – Yeovil (Somerset)
   (*) Effective on 1 January 2016, AgustaWestland S.p.A. ownership was transferred to Finmeccanica S.p.A.;
   Effective on 28 July 2016, Finmeccanica S.p.A. name was changed into Leonardo S.p.A.

3. NVIS Operations:
   - AW189 with GE CT7-2E1 Engines:
     Night Vision Imaging System Operations are permitted according to RFM 189G0290X002 Supplement No. 14.
   - AW189 with Safran Aneto-1K Engines:
     Night Vision Imaging System Operations are permitted according to RFM 189G0290X006 Supplement No. 14.

   The aircraft configuration involving internal/external emitting/reflecting equipment approved for use with NVG is described in the Report N. 189G3360A001 “AW189 NVG Compatibility Reference Handbook”. Subsequent modifications and deviations to the NVG helicopter configuration shall be managed in accordance with document 189G3360E001 “AW189 Helicopter NVG Policy”.

4. Maximum mass for AW189 with GE CT7-2E1 Engines:
   Installation of Drawing 8G0000F00111, according to RFM 189G0290X002 Supplement 21, permits operations at the following mass:
   - Take-off and Landing: 8 600 kg

- Taxi and Towing: 8 650 kg

5. Extended Range Configuration for AW189 with GE CT7-2E1 Engines:
According to RFM 189G0290X002 Supplement 22, as per Drawing 8G0000X00831 and Drawing 8G0000X00931.

6.-8. *deleted*

9. Maximum Baggage / Cargo Loads:
The installation of the kit Vertical Cargo Net p/n 8G2550F00311 and Cargo Net p/n 8G2550V00131 permits the maximum load in the baggage compartment to be increased to 360 kg.

The installation of the Heavy Duty Baggage Compartment Kit p/n 8G5010F00411, according to RFM Supplement 46, permits the maximum load in the baggage compartment to be increased to 460 kg.

The installation of the Heavy Duty Baggage Compartment Kit p/n 8G5010F00511, according to RFM Supplement 46, permits maximum load in the baggage compartment of 280 kg.

10. Kit Rescue Hoist, LIPS and FIPS:
- For Rescue Hoist installation on AW189 with GE CT7-2E1 Engines and AW189 with Safran Aneto-1K Engines, CS-29 Amdt. 3, dated 11 December 2012 is applicable for the following requirements:
  - CS 29.571 Fatigue tolerance evaluation of metallic structures,
  - CS 29.573 Damage tolerance and fatigue evaluation of composite rotorcraft structures,
  - Appendix A, A 29.4 Airworthiness Limitation Section.
- For LIPS and FIPS installation on AW189 with GE CT7-2E1 Engines, CS-29 Amdt. 3, dated 11 December 2012 is applicable for the following requirements:
  - CS 29.571 Fatigue tolerance evaluation of metallic structures,
  - CS 29.573 Damage tolerance and fatigue evaluation of composite rotorcraft structures,
  - Appendix A, A 29.4 Airworthiness Limitation Section.

11. *deleted*

12 Service Ceiling Extension for AW189 with GE CT7-2E1 Engines:
For aircraft equipped with Core Avionics Phase 5.0 SW release (or later) and Altitude Extension Kit P/N 8G0000F00511 the Maximum Operating Altitude is extended to 15 000 ft PA/DA (whichever comes first).

13 Core Avionics SW Releases summary:
- AW189 with GE CT7-2E1 Engines:
  - Core Avionics Phase 1.0 SW Release – retired from service;
  - Core Avionics Phase 2.0 SW Release – retired from service;
  - Core Avionics Phase 2.1 SW Release – retired from service;
  - Core Avionics Phase 3.0 SW Release, in service, with GE EECU SW V4.0 only;
  - Core Avionics Phase 4.0 SW Release, in service, with GE EECU SW V5.0 only;
  - Core Avionics Phase 5.0 SW Release, in service, with GE EECU SW V5.0 only;
  - Core Avionics Phase 6.0 SW Release, in service, with GE EECU SW V5.0 only;
  - Core Avionics Phase 7.0 SW Release, in service, with GE EECU SW V6.0 only.
- AW189 with Safran Aneto-1K Engines:
  - Core Avionics Phase 7.0 SW Release, in service, with Safran EECU SW A110.

Refer to LHD AW189 Software Compatibility Handbook 189G0000X007 for subsequent approved SW releases. This note will be updated at the first occasion.

* * *

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

I.1 Reference Date for determining the applicable OSD requirements

Grandfathering date: 17 February 2014

I.2 MMEL - Certification Basis

JAR-MMEL/MEL Amendment 1, dated 1 August 2005

I.3 Flight Crew Data - Certification Basis

CS-FCD Initial Issue, dated 31 January 2014

I.4 SIM Data - Certification Basis

reserved

I.5 Maintenance Certifying Staff Data - Certification Basis

reserved

II. OSD Elements

II.1 MMEL

189G0270Q001 Rev. A dated 12 May 2014, or later EASA approved revisions.

II.2 Flight Crew Data

189G0000N017 Issue B, dated 16 November 2016, EASA approved on 30 November 2018, or later approved revisions.

II.3 SIM Data

reserved

II.4 Maintenance Certifying Staff Data

reserved

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

AEO	All Engines Operative	MLG	Main Landing Gear
Amdt.	Amendment	NLG	Nose Landing Gear
AW	AgustaWestland	No.	Number
B.L.	Butt Line	NVG	Night Vision Goggle
C.G.	Centre of Gravity	OAT	Outside Air Temperature
CRI	Certification Review Item	OEB	Operational Evaluation Board
CS	Certification Specification	OEI	One Engine Inoperative
DA	Density altitude	OSD	Operational Suitability Data
Doc.	Document	p/n	Part number
EP	Extended Take-Off Power Duration	PA	Pressure altitude
FAA	Federal Aviation Administration	RFM	Rotorcraft Flight Manual
GE	General Electric	RH	Right Hand
HIRF	High Intensity Radiated Fields	SL	Sea Level
HP	Horsepower	s/n	Serial number
IFR	Instrument Flight Rules	STA	Station
IMC	Instrument Meteorological Conditions	TCCA	Transport Canada Civil Aviation
ISA	International Standard Atmosphere	VFR	Visual Flight Rules
JAA	Joint Aviation Authorities	V_{coss}	Climb Out Safety Speed
LH	Left Hand	V_{NE}	Velocity Never Exceed

II. Type Certificate Holder Record.

Type Certificate Holder	**Period**
AgustaWestland S.p.A Via Giovanni Agusta, 520 21017 Cascina Costa di Samarate (VA), Italy	From 7 February 2014 until 30 July 2014
AgustaWestland S.p.A Piazza Monte Grappa, 4, 00195 Roma, Italy	from 31 July 2014 until 31 December 2015
Finmeccanica S.p.A. Helicopter Division, Piazza Monte Grappa, 4, 00195 Roma, Italy	From 1 January 2016 until 14 July 2016
Leonardo S.p.A. Helicopters, Piazza Monte Grappa, 4, 00195 Roma, Italy	since 15 July 2016

III. Change Record

Issue	**Date**	**Changes**	**TC issue**
Issue 1	7 Feb 2014	Initial issue of EASA TCDS	Initial Issue, 7 February 2014
Issue 2	23 Jan 2015	AW legal office moved to Rome; 'Extended Range' kit and new MTOM included; new manufacturer AW Ltd. added.	- - -
Issue 3	8 Jul 2015	Production Organisation in Yeovil (UK) and relevant eligible serial numbers updated; possibility to Increase of the cargo	- - -

Issue	Date	Changes	TC issue
		load in the baggage compartment.	
Issue 4	15 Oct 2015	Kit Rescue hoist, Core Avionics Phase 2.1 SW release and kit LIPS introduced; temporary Revision CRI F-17 removed due to embodiment of BT AW189-013 on the whole fleet.	- - -
Issue 5	18 Dec 2015	OSD grandfathered elements added in Section 2; "Engine Training Mode" (CRI G-01) added in Section 1	- - -
Issue 6	13 Jan 2016	TCH company ownership transferred to Finmeccanica S.p.A	Re-issued 13 January 2016
Issue 7	4 Aug 2016	TCH company name changed from Finmeccanica S.p.A. into Leonardo S.p.A; kit FIPS and kit LIPS p/n 8G3000F00212 introduced; temperature limitation updated.	Re-issued 4 August 2016
Issue 8	2 Aug 2017	CRI F-15 and CRI F-18 removed from the Equivalent Safety Findings list due to embodiment of BT AW189-022 on the whole fleet. No. 3 Jet Fuel added to the admissible fuels (point 6.1). Digital Clinometer added to admissible Levelling Means (point 15). Note 6 and Note 7 modified to explain the reason of deletion of the related ESF. Note 9 updated with new Baggage Compartment weight limitations when Heavy Duty Baggage Compartment Kits are installed. Note 11 added and recalled to point 5.3.2 "Transmission Torque Limits" to specify the MGB OEI Ratings applicable when SB 189-149 is embodied. Other minor corrections are included.	- - -
Issue 9	19 Feb 2019	- II. Certification Basis: references to CRI removed. - II.2: Applicability to affected areas amended - II.3: Special Condition for Non Rechargeable Lithium Battery Installations added. - II.7: Elect to comply to CS 29.1465 Amdt. 5 added. - III.8: Units and single pilot limitation amended. - III.11: Limitation amended. - IV.7: Icing equipment data amended and reference to PED Compatibility Handbook introduced. - V.: Note 6 and 7 deleted; Note 11, typo in footnote corrected. - OSD-FCD Certification Basis updated to introduce CS-FCD. - Minor editorial corrections.	- - -
Issue 10	8 Jun 2020	General revision for: - Introduction of Service Ceiling extension for AW189 with GE CT7-2E1 engines; - Introduction of the Safran Aneto-1K motorisation with Core Avionics SW 7.0. - Minor editorial corrections.	- - -
Issue 11	21 Apr 2021	- II.3: SC references adapted (not marked) - II.6: ESF references adapted (not marked) - III.5.3: SW 6.0 and increased ITT added - III.6.3: Kathon FP 1.5 removed - III.7.1: Fuel Capacity for Core Avionics Phase 7 updated - III.22: Approval dates added - IV.2: AMPI references corrected	- - -

Issue	Date	Changes	TC issue
		- V.: Note 13 added to trace Core Avionics SW versions. Issue 11 modifies data (e.g. fuel quantities) because of Core Avionics Phase 7.0 SW optimisations. Previous Core Avionics releases improved the AW189 operational capabilities without impact to TCDS data.	

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