

# 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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AW189

AW189

#### SECTION 1: AW189

#### I. General

- 1. Type/ Model/ Variant
  - 1.1 Type
  - 1.2 Model
- 2. Airworthiness Category
- 3. Type Certificate Holder
- 4. Manufacturer
- 5. Type Certification Application Date
- 6. State of Design Authority
- 7. EASA Type Certification Date

#### II. Certification Basis

- 1. Reference Date for determining the applicable requirements
- 2. Airworthiness Requirements

3. Special Conditions

Leonardo S.p.A. Helicopters Piazza Monte Grappa, 4 00195 Roma, Italy See Note 2 12 May 2011 EASA

Large Rotorcraft, Category A and B

7 February 2014

#### 12 May 2011

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.

AW189 with GE CT7-2E1 Engines

- Automatic Search Modes (ASM) certification (B-03)
- Extended Take-Off Power Duration (EP, 30 min AEO, E-07)
- Loss of Oil from Gearboxes Utilising a Pressurised Lubrication System (E-09)
- 'HIRF Protection' in accordance with JAA Interim Policy INT/POL/27&29/1, issue 3, dated 1 October 2003 (F-01)
- Essential APU Installation in Large Rotorcraft (J-01)
  For kit Limited Ice Protection System:
- Special Condition for Limited Icing Clearance (F-19)
- Non Rechargeable Lithium Battery Installations (F-24)

AW189 with Safran Aneto-1K Engines:

- Automatic Search Modes (ASM) certification (B-03)



Exemptions

Deviations

**Equivalent Safety Findings** 

4.

5.

6.

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

none

none

AW189 with GE CT7-2E1 Engines:

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

AW189 with Safran Aneto-1K Engines:

- Cat. A Procedures: 2.5' Rating Application for First and Second Segment Profile and Definition of V<sub>coss</sub> (B-04/K)
- Passenger access to each Emergency Exit (D-03)
- Passenger Emergency Exits other than Side-Of-Fuselage (D-04)
- Emergency Exit Signs (D-06)
- Ditching Emergency Exits for Passengers (D-07)
- Ferry Flight Configuration (D-08)
- Main Aisle Width (D-10)
- Hoist Installation (D-11)
- Ignition Switches (E-11/K)
- H-V Envelope and RFM Charts (F-16)
- Power Index Indicator (F-20/K)
- Airspeed Indicators Green Arcs (G-02)
- Never Exceed Speed Power Off (G-03/K)
- CS-36 Amdt. 3 (see A-01)

See TCDSN EASA.R.510

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

CS 29.1465 Vibration health monitoring, Amdt. 5

8. Environmental Protection Requirements

Requirements elected to comply

- 8.1 Noise Requirements
- 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)



7.

see SECTION 2 below

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# III. Technical Characteristics and Operational Limitations

| 1. | Type Design Definition | Doc. No. 189G0000P002/01 for AW189 with GE CT7-2E1<br>Engines<br>Doc. No. 189G0000P002/02 for AW189 with Safran<br>Aneto-1K Engines  |
|----|------------------------|--|
| 2. | Description            | Large twin-engine helicopter, conventional configuration,<br>5-blade fully articulated main rotor, 4-blade fully<br>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<br>Width hull: 3.02 m<br>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<br>2 x Model CT7-2E1  |
|    |                        | or,<br>Safran Helicopter Engines<br>2 x Model Aneto-1K   |
|    | 5.2 Type Certificate   | General Electric CT7-2E1:<br>FAA TC/TCDS: E8NE<br>EASA TC/TCDS: EASA IM.E.010  |
|    |                        | Safran Aneto-1K:<br>EASA TC/TCDS: EASA.E.009   |
|    | 5.3 Limitations        |  |

# 5.3.1 Installed Engine Limits

# General Electric CT7-2E1:

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

# Safran Aneto-1K:

| Rating |                | Max ITT<br>[°C] | Max NG<br>[% (rpm)] | Max NP<br>[% (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<br>[%]       | Input speed<br>[rpm] | Input Power<br>[shp] |
|--------|----------------|-------------------------|----------------------|----------------------|
| AEO    | Max continuous | 2 x 100                 | 21 420               | 2 500                |
| ALO    | 30 min         | 2 x 116 <sup>(*)</sup>  |                      | 2 907                |
|        | Max continuous | 1 x 135                 | 21 420               | 1 687                |
| OEI    | 2.5 min        | 1 x 164 <sup>(**)</sup> | 21 420               | 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<br>[%]       | Input speed<br>[rpm] | Input Power<br>[shp] |
|--------|----------------|-------------------------|----------------------|----------------------|
| AEO    | Max continuous | 2 x 100                 | 21 420               | 2 500                |
|        | 30 min         | 2 x 116 <sup>(*)</sup>  |                      | 2 907                |
| OEI    | Max continuous | 1 x 142                 | 21 420               | 1 775                |
|        | 2.5 min        | 1 x 172 <sup>(**)</sup> | 21 420               | 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<br>(for code no. specification and more details refer to<br>approved RFM) |  |  |
|---------------|--|--|--|
| 6.2 Oil       | Transmissions<br>Engine:   | : AeroShell Turbo Oil 555 (DoD-L-85734).<br>No different specification or brand allowed.<br>Ref. to GE Operating Instructions<br>No. GEK112766 for CT7-2E1 Engines |  |
|               |  | Ref. to Safran Operating Instructions No.<br>X0461K0012 for Aneto-1K Engines   |  |
|               | APU:<br>Hydraulics:  | MIL-PRF-23699, MIL-PRF-7808<br>MIL-PRF-83282,<br>MIL-PRF-5606 (as alternative)   |  |
| 6.3 Additives | Kathon FP 1.5, MIL-DTL-27686, MIL-DTL-85470,<br>MIL-I-25017, Biobor JF   |  |  |
| 6.4 Coolant   | R134a  |  |  |

# 7. Fluid capacities

7.1 Fuel

| AW189 with GE CT7-2E1 Engines:   | Total usable<br>[litres (kg <sup>(*)</sup> )] | Unusable<br>[litres (kg <sup>(*)</sup> )] |
|--|---|---|
| Two main fuel tanks (LH and RH)  | 1 320 (1 056)                                 | 24 (19)                                   |
| Two main fuel tanks (LH and RH) plus<br>Auxiliary Central Tank                           | 1 830 (1 464)                                 | 24 (19)                                   |
| Two main fuel tanks (LH and RH) plus<br>Forward Tanks plus Auxiliary Central Tank        | 2 100 (1 680)                                 | 24 (19)                                   |
| Extended Range (see Note 5)<br>Two main fuel tanks (LH and RH) plus<br>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<br>[litres (kg <sup>(*)</sup> )] | Unusable<br>[litres (kg <sup>(*)</sup> )] |
|---|---|---|
| Two main fuel tanks (LH and RH)   | 1 335 (1 068)                                 | 9 (7)                                     |
| Two main fuel tanks (LH and RH) plus<br>Auxiliary Central Tank                    | 1 845 (1 476)                                 | 9 (7)                                     |
| Two main fuel tanks (LH and RH) plus<br>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<br>[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)<br>(24.5 + 2.5 for oil cooler,<br>oil ducts and filter) |
| Intermediate gearbox                         | 1.22 (1.22)  |
| Tail gearbox                                 | 1.87 (1.87)  |
| Hydraulic<br>(per each Power Control Module) | 3.20 (2.72)  |

#### 7.3 Coolant System Capacity

#### 2.9 kg

#### 8. Air Speed Limitations

#### 2.9 кg

| <b>V</b> NE Power On AEO: | 169 KIAS |
|---------------------------|----------|
| VNE Power On OEI:         | 139 KIAS |
| VNE Power Off:            | 120 KIAS |

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

9. Rotor Speed Limitations

| Power On AEO   |                            |                        |  |  |
|--|----------------------------|------------------------|--|--|
| Condition  | [rpm]                      | [%]                    |  |  |
| Minimum Continuous<br>Maximum Continuous                       | 284.75<br>296.14           | 100.0<br>104.0         |  |  |
| Pow  | ver On OEI                 |                        |  |  |
| Condition  | [rpm]                      | [%]                    |  |  |
| Minimum Cautionary<br>Minimum Continuous<br>Maximum Continuous | 256.28<br>284.75<br>296.14 | 90.0<br>100.0<br>104.0 |  |  |
| Power Off  |                            |                        |  |  |
| Condition  | [rpm]                      | [%]                    |  |  |
| Minimum Continuous<br>Maximum Continuous                       | 256.28<br>313.23           | 95.0<br>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:<br>Maximum operating altitude 10 000 ft PA/DA<br>(whichever occurs first). See Note 12.<br>Maximum Take-off and Landing altitude 8 000 ft PA/DA<br>(whichever occurs first).  |
|                                       | AW189 with Safran Aneto-1K Engines:<br>Maximum operating altitude 15 000 ft DA.<br>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)<br>For variation of temperature limitations with altitude<br>refer to approved RFM and applicable supplement  |
| Operating Limitations                 | <ul> <li>AW189 with GE CT7-2E1 Engines:</li> <li>VFR day and night and IFR operations in non-icing conditions.</li> <li>Flight in limited icing condition is permitted only when the kit Limited Ice Protection System p/n 8G3000F00211, or p/n 8G3000F00212 is installed.</li> <li>Flight into known icing condition is permitted only when the kit Full Ice Protection System p/n 8G3000F00111 or p/n°8G3000F00311 is installed.</li> </ul> |
|                                       | <ul> <li>AW189 with Safran Aneto-1K Engines:</li> <li>VFR day and night and IFR operations in non-icing conditions.</li> </ul>  |
| Maximum Mass                          | GE CT7-2E1:<br>Take-off and landing: 8 300 kg (see Note 4)<br>Taxi and Towing: 8 350 kg (see Note 4)  |
|                                       | Safran Aneto-1K:<br>Take-off and landing: 8 600 kg<br>Taxi and Towing: 8 650 kg   |
| Centre of Gravity Range               | Refer to approved RFM   |
| Datum                                 | Longitudinal:<br>The datum plane (STA 0) is located at 2 830 mm forward<br>to the front jack point<br>On the 'Extended Range' configuration (see Note 5) the<br>longitudinal datum line (STA 0) is located at 3 009 mm<br>forward to the front jack point.<br>Lateral:<br>The datum plane (B.L. 0) is located at ±275 mm inboard<br>of LH/RH front jack points.   |
| Levelling Means                       | Plumb line from ceiling reference point to index plate on floor of passenger cabin; digital clinometer.   |
| 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<br>under conditions and limitations included in the<br>Supplement 3 of the RFM.   |
|                                       | For Category A operations, two (2) pilots required if take-<br>off and landing is to be carried out from the left seat.   |
|                                       | 10.2 Temperature   Operating Limitations   Maximum Mass   Centre of Gravity Range   Datum   Levelling Means   |



|              |                                    | For NVIS operations, two (2) pilots or one (1) pilot and<br>one (1) crew member required. Both pilot and crew<br>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-<br>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,<br>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)<br>1 x Model e-APU60 model 342,<br>ETSO approval: EASA.210.10045083  |
| 22.          | Life-limited Parts                 | Refer to the Airworthiness Limitation Section (ALS) of the<br>Maintenance Manual 89-A-AMPI-00-P:   |
|              |                                    | <ul> <li>89-A-AMPI-00-04-P for AW189 with GE CT7-2E1<br/>Engines, approved on 5 February 2014, or later<br/>approved revision</li> <li>89-E-AMPI-00-04-P for AW189 with Safran Aneto-1K<br/>Engines, approved on 20 05 2020, or later approved<br/>revision</li> </ul> |
| 23.          | Wheels and Tyres                   | MLG wheel assembly with 24x7.7 tubeless tyres NLG wheel assembly with 14.5x5.5 tubeless tyres  |
| <u>IV. (</u> | Operating and Service Instructions |  |
| 1.           | Flight Manual                      | Doc. No. 189G0290X002 for AW189 with GE CT7-2E1<br>Engines, approved 31 January 2014, or later approved<br>revision  |
|              |                                    | Doc. No. 189G0290X006 for AW189 with Safran Aneto-1K<br>Engines, approved 08 06 2020, or later approved revision   |
| 2.           | Maintenance Manual                 | "AW189 Maintenance Planning Information"<br>Doc. No. 89-A-AMPI-00-P (includes Chapter 4 ALS and<br>Chapter 5 with Scheduled Maintenance Requirements)  |
|              |                                    | "Maintenance Review Board Report for AW189<br>Helicopter"  |
|              |                                    | Doc. No. 189G0000M006  |
|              |                                    | "AW189 Maintenance Publication"<br>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"<br>Doc. No. 89-A-AFIP-00-X  |
|----|---------------------------------------|---|
|    |                                       | "AW189 Wiring Data Publication"<br>Doc. No. 89-A-AWDP-00-X  |
|    |                                       | Component Maintenance Manual as applicable  |
| 3. | Structural Repair Manual              | "AW189 Structural Repair Publication"<br>Doc. No. 89-A-ASRP-00-X  |
|    |                                       | "AW189 Component Repair and Overhaul Publication"<br>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"<br>Doc. No. 89-A-ITEP-00-X   |
|    |                                       | "AW189 Illustrated Part Data"<br>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<br>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.  |
|    |                                       | <ul> <li>Map/QRH holder p/n 8G2510F00211, or equivalent<br/>approved.</li> </ul>  |
|    |                                       | <ul> <li>Traffic Advisory System TCAS II (see RFM<br/>Supplement 8).</li> </ul>   |
|    |                                       | The installation of the following is mandatory for Ditching<br>Operations (see RFM Supplement 6):   |
|    |                                       | <ul> <li>Life rafts (life rafts p/n 8G2560F00511 have been<br/>approved for use. The use of other life raft installations<br/>must be in accordance with CS/FAR 29 and must be<br/>approved)</li> </ul>   |
|    |                                       | <ul> <li>Survival type Emergency Locator Transmitter</li> </ul>   |
|    |                                       | <ul> <li>Life preservers (the following life preservers<br/>installations have been approved: 8G2560F00611,<br/>8G2560F00711, 8G2560F00811. Different life preserver<br/>installations must be in accordance with CS/FAR 29 and<br/>must be approved).</li> </ul> |
|    |                                       | The installation of the following is mandatory for Night Vision Goggles Operations:   |
|    |                                       | <ul> <li>Aviator's Night Vision Goggles as specified in<br/>189G3360A001 "AW189 NVG Compatibility Reference<br/>Handbook"</li> </ul>  |
|    |                                       | <ul> <li>Helmet with NVG mount suitable for NVG Model being used.</li> </ul>  |
|    |                                       | <ul> <li>Cockpit/Cabin physical separation device as defined in<br/>189G3360A001 "AW189 NVG Compatibility Reference<br/>Handbook".</li> </ul>   |

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.<sup>(\*)</sup> 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
- Extended Range Configuration for AW189 with GE CT7-2E1 Engines: According to RFM 189G0290X002 Supplement 22, as per Drawing 8G0000X00831 and Drawing 8G0000X00931.
- 6. deleted
- 7. deleted
- 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:
    - Engines, CS-29 Amdt. 3, dated 11 December 2012 is applicable for the following require
    - 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).

\* \* \*



#### 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
- 1.5 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 <sub>coss</sub> | Climb Out Safety Speed          |
| LH    | Left Hand                            | VNE               | Velocity Never Exceed           |

II. Type Certificate Holder Record.

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

## III. Change Record

| Issue   | Date        | Changes   | TC issue                          |
|---------|-------------|---|-----------------------------------|
| Issue 1 | 7 Feb 2014  | Initial issue of EASA TCDS  | Initial Issue,<br>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.   |                              |
| lssue 4  | 15 Oct 2015 | Kit Rescue hoist, Core Avionics Phase 2.1 SW release and kit<br>LIPS introduced; temporary Revision CRI F-17 removed due<br>to embodiment of BT AW189-013 on the whole fleet.  |                              |
| lssue 5  | 18 Dec 2015 | OSD grandfathered elements added in Section 2;<br>"Engine Training Mode" (CRI G-01) added in Section 1   |                              |
| lssue 6  | 13 Jan 2016 | TCH company ownership transferred to Finmeccanica S.p.A  | Re-issued<br>13 January 2016 |
| lssue 7  | 4 Aug 2016  | TCH company name changed from Finmeccanica S.p.A. into<br>Leonardo S.p.A; kit FIPS and kit LIPS p/n 8G3000F00212<br>introduced; temperature limitation updated.  | Re-issued<br>4 August 2016   |
| Issue 8  | 2 Aug 2017  | <ul> <li>CRI F-15 and CRI F-18 removed from the Equivalent Safety</li> <li>Findings list due to embodiment of BT AW189-022 on the whole fleet.</li> <li>No. 3 Jet Fuel added to the admissible fuels (point 6.1).</li> <li>Digital Clinometer added to admissible Levelling Means (point 15).</li> <li>Note 6 and Note 7 modified to explain the reason of deletion of the related ESF.</li> <li>Note 9 updated with new Baggage Compartment weight limitations when Heavy Duty Baggage Compartment Kits are installed.</li> <li>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.</li> <li>Other minor corrections are included.</li> </ul> |                              |
| Issue 9  | 19 Feb 2019 | <ul> <li>II. Certification Basis: references to CRI removed.</li> <li>II.2: Applicability to affected areas amended</li> <li>II.3: Special Condition for Non Rechargeable Lithium<br/>Battery Installations added.</li> <li>II.7: Elect to comply to CS 29.1465 Amdt. 5 added.</li> <li>III.8: Units and single pilot limitation amended.</li> <li>III.11:Limitation amended.</li> <li>IV.7: Icing equipment data amended and reference to<br/>PED Compatibility Handbook introduced.</li> <li>V.: Note 6 and 7 deleted;<br/>Note 11, typo in footnote corrected.</li> <li>OSD-FCD Certification Basis updated to introduce CS-FCD.</li> <li>Minor editorial corrections.</li> </ul>   |                              |
| Issue 10 | 8 Jun 2020  | <ul> <li>General revision for:</li> <li>Introduction of Service Ceiling extension for AW189 with<br/>GE CT7-2E1 engines;</li> <li>Introduction of the Safran Aneto-1K motorisation</li> <li>Minor editorial corrections.</li> </ul>  |                              |

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