DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

R00007RD
REVISION 1
Leonardo S.p.a.
AW169
8 February 2022

TYPE CERTIFICATE DATA SHEET NO. R00007RD

This data sheet which is a part of Type Certificate No. R00007RD prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder

Leonardo S.p.a.

Piazza Monte Grappa, 4

00195 – Roma, ITALY

I. Model AW169 (Transport Helicopter: Category A and Category B), Approved 2 February 2017

Engine		Two (2) Pratt&Whitney Canada PW210A FAA Engine Type Certificate Data Sheet No E00083EN For Limitations Ref. to PW210A Pratt&Whitney Canada installation Manual (Ref. to 30L2374)
Auxiliary Power Unit (APU)		N/A
Fuel		JET A, JET A1, JP8, JP8+100 (for code no. specification and more details refer to Rotorcraft Flight Manual)
Oil		
	Hydraulics	MIL-PRF-83282, MIL-PRF-87257 (as alternative)
	Transmissions	AEROSHELL TURBO OIL 555 (DoD-L-85734). No different specification or brand is allowed
	Engine	Refer to approved Rotorcraft Flight Manual
	APU	N/A
	Additives	Refer to approved Rotorcraft Flight Manual
	Coolant	R134a

Fluid capacities

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.

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)

Coolant system capacity **2.1kg**

Installed Engine Limits

RATING		**MAX TORQUE [% - Nm (lb ft)]**	**MAX ITT [°C]**	**MAX NG [% - RPM]**	**MAX NF [% - RPM]**
AEO	Continuous	118.6 – 395.9 (292)	868	96.5 – 49200	107 - 28120
	Take-off 5 min	125.9 – 420.3 (309.9)	930	98.2 - 50100	
OEI	Continuous	148.3% - 494.9 (365)	941	98.9 - 50430	107 - 28120
	2.5 min	174.7% - 583 (429.9)	1020	100.7 - 51360	

Transmission Limits

RATING		**MAX TORQUE [% - Nm (lb ft)]**	**INPUT SPEED [RPM]**	**INPUT POWER [Hp]**
AEO	Maximum Continuous	100 – 334 (246.3) (x2)	14400	1350 (675x2)
	30 min	111 – 371 (273.6) (x2)	14400	1500 (750x2)
OEI	Maximum Continuous	140 – 470 (346.6)	14400	950
	2.5 min	174 – 583 (429.9)	14400	1180

Rotor 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

or speed limitations

(*) 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 (±2% across the datum value).
See RFM for additional rotor speed limitations

Air Speed Limits

V_{NE} Power On AEO = 165 KIAS

VNE Power On OEI = 135 KIAS

VNE Power Off = 125 KIAS

V_{LE}/V_{LO} (gear extended/gear operating) = VNE -8 KIAS/80 KIAS

See approved Rotorcraft Flight Manual for variations with altitude, OAT and weight.

AIRSPEED LIMITATION

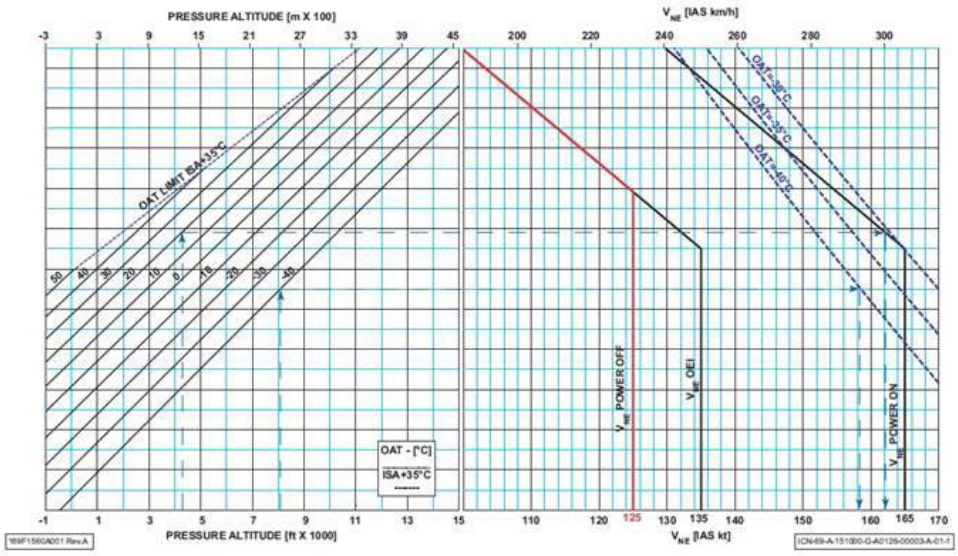
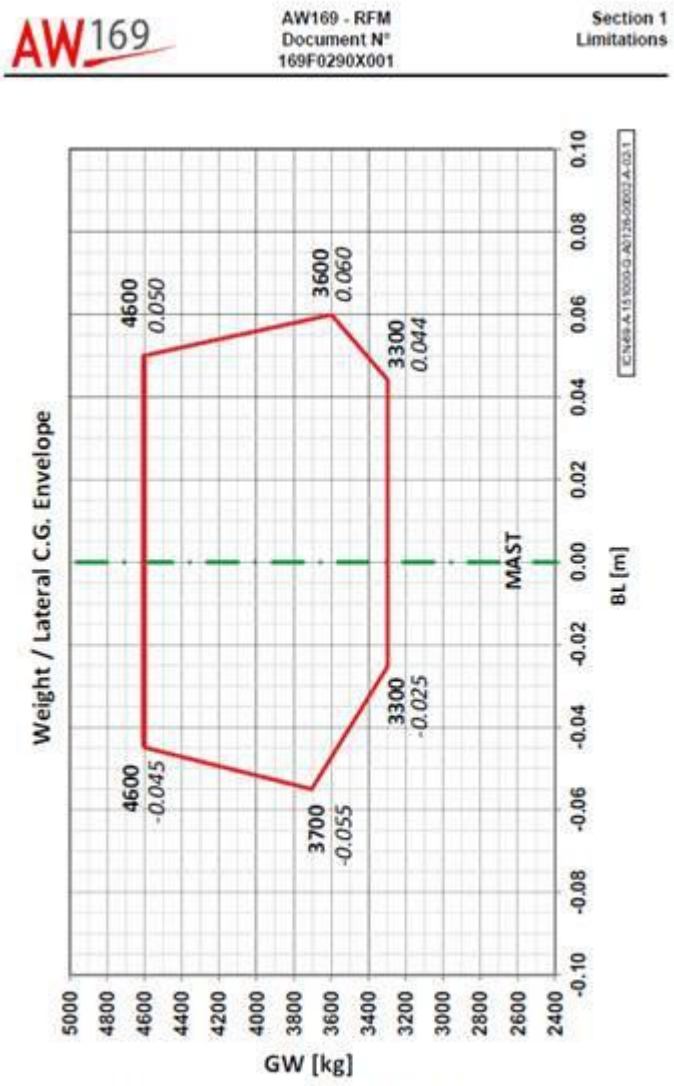


Figure 1-7 Airspeed Envelope (Vne - Power ON, OEI/Power OFF)

Center of Gravity (C. G.) Range



Weight And Lateral Cg Envelope

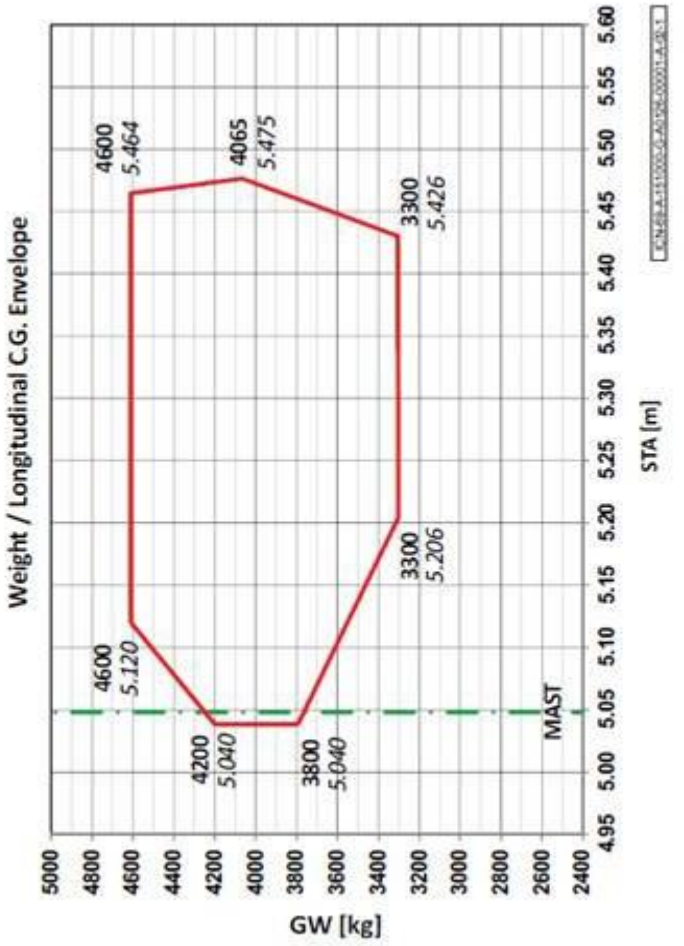


Figure 1-3 Weight and Longitudinal CG Limitations

Weight And Longitudinal Cg Envelope

Ambient Temperature Limitations

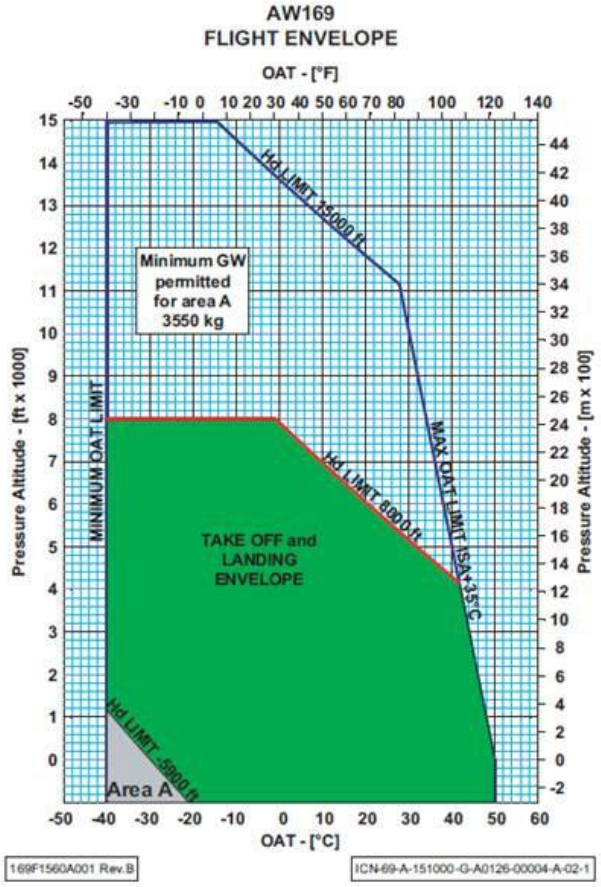


Figure 1-8 Altitude and OAT Limitations

Maximum Operating Altitude and Temperature

Altitude

Maximum operating altitude 15000 ft (pressure/density altitude whichever occurs first)
Maximum Take-off and Landing altitude 8000 ft (pressure/density altitude whichever occurs first)

Temperature

-40°C ÷ +50°C (ISA+35°C)
-15°C ÷ +50°C (ISA+35°C) for Cat. A operations
For variation of Temperature limitations with altitude, see the Rotorcraft Flight Manual and applicable supplement

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

Levelling Means

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

Maximum weights

- Taxi and Towing 4650 kg

- Take-off and Landing 4600 kg

Minimum Crew

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

For Cat. A operations, two (2) pilots are required if take-off and landing is to be carried out from the left seat.

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 10).

Number of Seats

10 (2 crew – 8 passengers maximum)

Maximum Baggage

250 kg (550 lb) located in the Baggage compartment

Baggage compartment max pressure load	550 kg/m^2 (92 lb/sq. ft)
Baggage compartment max load height	600 mm (2 ft)

Rotor Blades and Control Movements

For rigging information, refer to the AW169 Maintenance Manual.

Import Requirements

To be considered eligible for operation in the United States, eachaircraft manufactured under this Type Certificate must be accompanied by a Certificate of Airworthiness for Export or certifying statement endorsed by the exporting foreign civil airworthiness authority which states the following (in the Englishlanguage):

Refer to the applicable bilateral agreement to verify eligibility for import into the United States of both new and used aircraft based on the scope of the agreement, to identify any required statements by the exporting authority on the export certificate of airworthiness (or equivalent document), and for procedures for coordinating exceptions to conformity statements on these documents. Refer to FAA Order 8130.2, *Airworthiness Certification of Aircraft*, for requirements for issuance of an *airworthiness certificate* for imported aircraft.

"The rotorcraft covered by this certificate has been examined, tested and found to conform to the type design approved under FAA Type Certificate No. R00007RD and to be in condition for safe operation."

The only aircraft eligible for import into the United States are those aircraft with the configuration defined in AW Report No. 169F0272N003, "AW169 - FAA Type Design Definition," dated 23 January 2017 or latest issue.

Certification Basis	(1) 14 CFR Part 21.29. (2) 14 CFR Part 29 Amendment 29-1 through 29-52, dated 30 March 2010. (3) 14 CFR Part 36 Appendix H, Amendment 36-1 through 36-28 dated 11 March 2013. (4) 14 CFR Part 29 Amendment 29-1 through 29-55 only for Hoist Installation (5) Equivalent Level of Safety Findings issued against: • 14 CFR § 29.807(c) Emergency Exits Access (documented in ELOS Memo TC4266RD-R-C-01). • 14 CFR § 29.813(c) Passenger access to each emergency exit (documented in ELOS Memo TC4266RD-R-C-02). • CFR § 29.811(c) Emergency exit marking (documented in ELOS Memo TC4266RD-R-C-03) • 14 CFR § 29 Subpart B, § 29.1305, § 29.1549 "Engine Training Mode" (documented in ELOS Memo TC4266RD-R-F-01) • 14 CFR § 29.1545(b)4 Airspeed indicator green arcs(documented in ELOS Memo TC4266RD-R-F-02). • 14CFR §29.1305 and §29.1549 Power Index (documented in ELOS Memo TC4266RD-R-F-06)
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. 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 document 169F3360E001 « AW169 Helicopter NVG Policy »
Service information	Lenonardo S.p.a. service bulletins, structural repair manuals, vendor manuals, aircraft flight manuals, and overhaul and maintenance manuals, which contain a statement that the document is EASA approved, are accepted by the FAA and are considered FAA approved. These approvals pertain to the approved type design only.
Flight Manual	EASA approved on behalf of FAA Rotorcraft Flight Manual, 169F0290X001, Issue 1 Revision 3 or later approved revision (See NOTE 5).
Maintenance Manual	Maintenance Planning Information 69-A-AMPI-00-P Maintenance Publication 69-A-AMP-00-X.

NOTES

NOTE 1 A current weight and balance report, including a list of equipment included in the certificated empty weight, must be provided for each helicopter at the time of original airworthiness certification in accordance with 14 CFR 29.25, 29.27 and 29.29.

NOTE 2 All placards required by either FAA Approved Rotorcraft Flight Manual, the applicable operating rules, or the Certification Basis must be installed in the helicopter.

NOTE 3 Information essential to the proper maintenance of the helicopter is contained in the Manufacturer's Maintenance Manual provided with each helicopter. Life limited components and associated retirement times are presented in Chapter 4 and must be replaced accordingly.

NOTE 4 The model AW169 rotorcraft employs electronic engine controls, commonly named Full authority Digital Engine Controls (FADEC), that are recognized to be more susceptible to Electromagnetic Interference (EMI) than rotorcraft that have non-electronic controls. (EMI may be the result of radiated or conducted interference.) For this reason modifications that add or change systems that have the potential for EMI, must either be qualified to a standard acceptable to the FAA or tested at the time of installation for interference with the FADEC. This type of testing must employ the particular FADEC diagnostic techniques and external diagnostic techniques. The test procedure must be FAA approved.

NOTE 5 The FAA Rotorcraft Flight Manual (RFM) is identical to the EASA approved RFM; any exceptions unique for FAA are presented on yellow pages marked "EASA approved on behalf of FAA". They must be included in the FAA manual to reflect the differences noted below:

1. Section 1, LIMITATIONS, MINIMUM FLIGHT CREW:
   One pilot

2. Section 4, Performance Data, NOISE CHARACTERISTICS:

Model: AW169 PW210A Gross Weight 4600 kg			
Configuration	Level Flyover EPNL (EPNdB)	Take Off EPNL (EPNdB)	Approach EPNL (EPNdB)
Clean aircraft No external kits installed	103% NR	96% NR	96% NR
	89.3	88.8	94.4

NOTE 6 The AW Model AW169 incorporates an integrated avionics system using software-based line replaceable units (LRU) which share a digital signal transmission bus. The software configuration of the AW169, as delivered from production, is critical to the proper operation of the avionics and cockpit instrumentation system. Modification to the LRU software supplied with the AW169, replacement of an LRU with a different LRU, addition of new LRU, or alteration of an LRU interface could adversely affect the airworthiness of the certified software. No changes to the integrated avionics system should be made without coordination with the FAA Aircraft Certification Office (ACO) having jurisdiction over the modifier.

NOTE 7 The hydraulic fluids must conform to MIL-PRF-83282 or MIL-PRF-87257 n - see LIMITATIONS Section of the approved Rotorcraft Flight Manual.

NOTE 8 Any changes to the type design of this helicopter by means of an amended type certificate (TC), supplemental type certificate (STC), or amended STC, requiring instructions for continued airworthiness (ICA's) must be submitted thru the project aircraft certification office (ACO) for review and acceptance by the Fort Worth -Aircraft Evaluation Group (FTW-AEG) Flight Standards District Office (FSDO) prior to the aircraft delivery, or upon issuance of the first standard airworthiness certificate for the affected aircraft, whichever occurs later as prescribed by Title 14 CFR 21.50. Type design changes by means of a field approval that require ICA's must have those ICA's reviewed by the field approving FSDO.

NOTE 9 The AW169 name identifies production batches manufactured in conformity with the same Type Design. Applicable serial numbers:

- S/N 69005: and subsequent, manufactured by Leonardo S.p.a. in Italy.

NOTE 10 Night Vision Goggle operations may be granted by the local civil aviation authority if the rotorcraft is operated according to the limitations and procedures of RFM 169F0290X001Supplement 16. The rotorcraft configuration involving internal and external light emitting and reflecting equipment approved for use with NVGs is described in Report 169F3360A001 "AW169 NVG Compatibility Reference Handbook".

Acronyms and Abbreviations

AEO	All Engines Operative
AW	AgustaWestland
CS	Certification Specification
CFR	Code of Federal Regulations
Doc.	Document
EASA	European Aviation Safety Agency
FAA	Federal Aviation Administration
ICA	O International Civil Aviation Organisation
IFR	Instrument Flight Rules
ISA	International Standard Atmosphere
LH	Left Hand Leonardo Helicopter
min.	minute
No.	Number
NVG	Night Vision Goggle
OAT	Outside Air Temperature
OEI	One Engine Inoperative
RFM	Rotorcraft Flight Manual
RH	Right Hand
sec.	second
SL	Sea Level
STA	Station
VNE	Velocity Never Exceed
VFR	Visual Flight Rules

….END….