



TYPE CERTIFICATE DATA SHEET

No. EASA.R.150

for
EC 175

Type Certificate Holder
Airbus Helicopters

Aéroport International Marseille – Provence
13725 Marignane CEDEX
France

For Model: EC 175 B



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SECTION 1: EC 175 B

I. General

- | | |
|--|--|
| 1. Type/ Model | |
| 1.1 Type | EC 175 |
| 1.2 Model | EC 175 B |
| 2. Airworthiness Category | Large Rotorcraft, Category A and B |
| 3. Manufacturer | Airbus Helicopters
Aéroport International Marseille – Provence
13725 Marignane CEDEX, France |
| 4. Type Certification Application Date | 15 February 2007 |
| 5. State of Design Authority | EASA |
| 6. Type Certificate Date | 30 January 2014 |

II. Certification Basis

- | | |
|---|---|
| 1. Reference Date for determining the applicable requirements | For Airworthiness and Environmental Protection:
1 March 2009

for OSD elements:
13 February 2014, Ref. EC 175 ORI 4, Issue 2 |
| 2. Airworthiness Requirements | CS 29, Amdt. 2 – Large Rotorcraft (EASA Decision 2008/010/R);
CS 29.1309 (a), (b)(2), (c), (d) Amdt. 4 as interpreted by F-39
<ul style="list-style-type: none">- CS 29.610 Amdt. 4, limited to HELIONIX step 3.2 (MOD 99A05288-00 and 99A05289-00 and 99A05290-00), or later approved- CS 29.1316 Amdt. 4, limited to HELIONIX step 3.2 (MOD 99A05288-00 and 99A05289-00 and 99A05290-00), or later approved- CS 29.1317 Amdt 4, limited to HELIONIX step 3.2 (MOD 99A05288-00 and 99A05289-00 and 99A05290-00), or later approved- CS 29.1465 Amdt. 5, when configured with:
HUMS DMAU P/N: M313A10A1002 (or later approved),
MFD and AMC HELIONIX V5.1 Step 2+ SW (or later approved),
and/or,
DMAU P/N: M313A10A1003 (or later approved), MFD and AMC HELIONIX V6.0 Step 3 SW (or later approved).- Appendix E Amdt.4 limited to HELIONIX step 3.2 (MOD 99A05288-00 and 99A05289-00 and 99A05290-00), or later approved CS-ACNS, Initial Issue, dated 17 December 2013, Subpart A and D |
| 3. Special Conditions | <ul style="list-style-type: none">- Extended Take-Off Power Duration (E-01)- HIRF Protection (F-01), except for HELIONIX step 3.2 (MOD 99A05288-00 and 99A05289-00 and 99A05290-00), or later approved- SAR Modes Certification (B-02), see Note 8- Helicopter Limited Icing Approval (F-30), see Note 9- Non-rechargeable lithium battery installations (F-13) |



4. Deviations ADS-B Out Extended Squitter & EHS Installation with Transponder TDR-94D equipment (F-32), see Note 7
5. Equivalent Safety Findings
 - Fatigue evaluation of structure (C-02)
 - Fire in cargo and baggage compartments (D-04)
 - Main aisle width (D-05)
 - Passenger emergency exits other than side of fuselage (D-06)
 - Ditching emergency exits (D-07)
 - Passenger emergency exit access (D-10)
 - Emergency exit marking (D-12)
 - Fire detector electrical circuit testability in flight (E-07)
 - Cigalhe system: part time display of vehicle parameters (F-03)
 - Independent power source for stand-by attitude indicator (F-04), see Note 14
 - Airspeed and powerplant indicators green arc (G-01)
 - Powerplant instruments marking during Engine training mode (G-03)
 - Hoist Installation (D-14)
 - Green running man emergency exit pictogram (D-15)
 - Rotor drive system and control mechanism tests: Main gearbox endurance and additional test by closed loop test rig (E-09)
6. Environmental Protection Requirements
 - 6.1 Noise Requirements ICAO Annex 16, Volume I, Part II, Amdt. 10, Chapter 8 (EASA CS-36, Amdt. 3)
ICAO Annex 16, Volume I, Part II, Amdt. 11B, Chapter 8 (EASA CS-36, Amdt. 4)
For details see TCDSN EASA.R.150.
 - 6.2 Emission Requirements Fuel venting:
ICAO Annex 16, Volume II, Part II, Chapter 2 (CS-34)
7. Operational Suitability Data (OSD) (For OSD elements see SECTION 2 below)
 - 7.1 Master Minimum Equipment List (MMEL) CS-MMEL, Initial Issue
 - 7.2 Flight Crew Data (FCD) CS-FCD, Initial Issue
 - 7.3 Simulation Data (SIMD) *reserved*
 - 7.4 Maintenance Certifying Staff Data (MCSD) *reserved*

III. Technical Characteristics and Operational Limitations

1. Type Design Definition Basic Helicopter: TNM000A1517E99/D
Optional installations: TNM000A2544E99/D
2. Description Large twin-engine passenger transport helicopter category A and B
Main rotor: Spheriflex, 5 blades
Tail rotor: Spheriflex, 3 blades
Landing gear: tricycle retractable
Powerplant: 2 independent turbines
3. Equipment As required by compliance with the Certification Basis and listed in the Type Design Definition documents
4. Dimensions
 - 4.1 Fuselage Length: 15.68 m
Width: 3.35 m
Height: 4.84 m
 - 4.2 Main Rotor Diameter: 14.80 m
 - 4.3 Tail Rotor Diameter: 3.20 m



5. Engine

- 5.1 Model Pratt & Whitney Canada
2 x Model PT6C-67E
- 5.2 Type Certificate EASA TC/TCDS n°: EASA.IM.E.022
- 5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Limits

5.3.1.1 All Engines Operative (AEO) limits

	N1 [% (rpm)]	TOT [°C]	TQ [%]
Max Transient PWR (20 sec)	105.4 (39 500)	820	only allowed up to V _y 2 x 110
Max TOP (5 min)	104.6 (39 200)	815	only allowed up to V _y 2 x 100
MCP (unlimited)	102.7 (38 500)	775	2 x 93.2
Extended PWR (30 min continuous, 50 min cumulated/flight)	104.6 (39 200)	815	2 x 100

5.3.1.2 One Engine Inoperative (OEI) limits

	N1 [% (rpm)]	TOT [°C]	TQ [%]
Overshoot	---	---	165.7
OEI HI (30 sec)	111 (41 600)	915	153.4
OEI LO (2 min)	108 (40 500)	865	136.4
OEI CT (unlimited)	105.4 (39 500)	820	119.3

5.3.1.3 Other Engine limits: Refer to approved RFM

6. Fluids

6.1 Fuel

Types of fuel	NATO Code	Specifications			
		USA	UK	France	Other
Kerosene-50 (AVTUR FSII) JP-8 [-45°C < Tp < +55°C]	F34	MIL-DTL 83133	DEF.STAN. 91-87	DCSEA 134	STANAG 3747
Kerosene 50 (AVTUR) JET-A1 [-45°C < Tp < +55°C]	F35	ASTM-D-1655 MIL-DTL 83133	DEF.STAN. 91-91	DCSEA 134	STANAG 3747 / GOST R 52050-2006
High Flash Point (AVCAT FSII) JP-5 [-45°C < Tp < +55°C]	F44	MIL-DTL 5624	DEF.STAN. 91-86	DCSEA 144	---

Note: For alternative authorized fuel and authorised additives refer to approved RFM



6.2 Oil

6.2.1 Engine lubricants

Types of oil	NATO Code	Specifications
Synthetic 3 cSt oils (restricted use)	---	MIL-PRF-7808L Type I (3 cSt)
Average synthetic 5 cSt	0-156 Normal	MIL-PRF-23699F Type II (5 cSt)

Note: For further details refer to approved RFM

6.2.2 MGB, IGB and TGB lubricants

Types of oil	Conditions	Specifications		
		USA	UK	France
NATO O-155 mineral oil, 8 cSt	OAT > -20°C	MIL.L 6086.D	DTD 581 C OEP .70	AIR 3525
			Foaming index 20-0 ml max at 93°C	
NATO O-155 mineral oil, 8 cSt	OAT > -25°C	MIL.L 6086.D	DTD 581 C OEP .70	AIR 3525
			Foaming index 20-0 ml max at 93°C	

Note: For further details refer to approved RFM

6.2.3 Hydraulic fluids

MIL-H-83282C or MIL-PRF-83282D
(NATO code H-537) only

6.3 Additives

n/a

7. Fluid capacities

7.1 Fuel

Standard fuel tank
Fuel tank total capacity: 2 616 litres
Unusable fuel: 17.7 litres

7.2 Oil

Engine (each): 8.0 litres
MGB: 21.0 litres
IGB: 1.0 litre
TGB: 1.5 litres
Hydraulic:
Main supply I: 5.0 litres
Main supply II: 9.0 litres

7.3 Coolant System Capacity

n/a

8. Air Speed Limitations

$V_{NE PWR ON}$:
from -1 500 ft Hp to 3 000 ft Hp: 175 KIAS
For reduction of V_{NE} with altitude, refer to approved RFM.
 $V_{NE PWR OFF}$: $V_{NE PWR ON} - 40$ KIAS
Refer to approved RFM for other speed limitations.

9. Rotor Speed Limitations

Power on [rpm (%]):
Maximum 298.5 (107)
Reference 279.0 (100)
Minimum continuous 265.2 (95)
Minimum transient AEO and OEI 231.7 (83)
Power off [rpm (%]):
Maximum transient (20 s) 326.7 (117)
Maximum continuous 307.1 (110)
Minimum continuous 244.3 (87.5)



	Minimum transient	231.7 (83)
10. Maximum Operating Altitude and Temperature		
10.1 Altitude	For TKOF/LDG: Category A: from -1 500 ft Hp up to +13 000 ft H _o Category B: from -1 500 ft Hp up to +13 000 ft H _o For flight: from -1 500 ft Hp to +15 000 ft H _o	
10.2 Temperature	From -40°C to ISA+40°C limited to OAT +50°C For variation of Temperature limitations with altitude, refer to approved RFM and applicable Supplements.	
11. Operating Limitations	VFR day and night IFR Falling and blowing snow (see Note 10) Limited icing conditions (see Note 11)	
12. Maximum Mass	Max gross mass in-flight: 7 500 kg Max gross mass on-ground: 7 550 kg Max gross mass in-flight: 7 800 kg, see Note 12 Max gross mass on-ground: 7 850 kg, see Note 12	
13. Centre of Gravity Range	Refer to approved RFM [Section 2.2] and applicable Supplements (as for Extended Aft Centre of Gravity Envelope and Hoist Installation).	
14. Datum	Longitudinal: the datum plane (STA 0) is located at 7 000 mm forward of main rotor centre line Lateral: fuselage symmetry plane	
15. Levelling Means	Levelling reference marking on upper deck on LH side near to frame 4 MGB	
16. Minimum Flight Crew	VFR: 1 pilot (right seat) IFR: 2 pilots, or, 1 pilot under conditions and limitations included in the Supplement 6 of the RFM (specific to aircraft equipped with MOD 99A05684-00)	
17. Maximum Passenger Seating Capacity	up to 18 See approved RFM for approved seating configuration	
18. Passenger Emergency Exit	Basic and Public Services (PS) internal arrangements: 10 exits, of which are: 4 exits on each side of the passenger cabin 1 exit on each side of the cockpit VIP internal arrangements as defined in the approved EC 175 RFM SUP.57: 6 exits, of which are: 2 exits on each side of the passenger cabin, 1 exit on each side of the cockpit.	
19. Maximum Baggage/ Cargo Loads	Cargo floor max load: 300 kg Cargo floor max unit load: 160 kg/m ² See approved RFM for complementary limitations and specific loading conditions.	
20. Rotor Blade Control Movement	For rigging information refer to Maintenance Manual	
21. Auxiliary Power Unit (APU)	n/a	
22. Life-limited Parts	See approved ALS Chapter 04 of the Maintenance Servicing Manual	



23. Wheels and Tyres

	Wheels	Tyres
nose	C 20525 000	15x6.00-6
main	C 20147 200	615 x 225-10

IV. Operating and Service Instructions

1. Flight Manual
 - EC 175 B Flight Manual, Normal Revision 0, date code 14-03, approved by EASA on 30 January 2014, or subsequent approved issues;
 - EC 175 B Flight Manual for aircraft equipped with the modification 99A03550-00-M-ECP or 99A04155-00-M-ECP ("STP2" variant), Normal Revision 0, date code 15-43 approved by EASA on 18 December 2015, or subsequent approved issues;
 - EC 175 B Flight Manual, Normal Revision 0 Edition 2, date code 18-22, approved by EASA on 12 October 2018, or subsequent approved issues.
2. Maintenance Manual
 - Airworthiness Limitations as EC 175 Maintenance Servicing Manual, Chapter 04, edition 2014.01.08, Rev. 000, approved by EASA on 30 January 2014, or subsequent approved issues;
 - Maintenance Servicing Manual EC 175 and Aircraft Maintenance Manual EC 175 as published by Airbus Helicopters.
3. Structural Repair Manual
 - Structural Repair Manual EC 175, as published by Airbus Helicopters
4. Weight and Balance Manual
 - Section 6 of Complementary Flight Manual EC 175, as published by Airbus Helicopters
5. Illustrated Parts Catalogue
 - Illustrated Parts Catalogue EC 175, as published by Airbus Helicopters
6. Service Letters and Service Bulletins
 - Service Letters and Service Bulletins EC 175, as published by Airbus Helicopters
7. Required Equipment
 - As per compliance with Certification Basis and in accordance with the Type Design Definition. Refer to approved Flight Manual and MMEL.

V. Notes

1. Manufacturer's eligible serial numbers: s/n 5002, and subsequent.
2. Cabin interior and seating configurations must be approved, if differing from the Type Design Definition.
3. The certified "optional" installations are each approved independently of the basic helicopter and an approved RFM Supplement is associated to each optional installation if necessary.
4. The EC 175 B is certified as Category A rotorcraft with operating limitations as defined in the relevant approved RFM Supplement.
5. The EC 175 B is certified for Ditching with the optional installations and operating procedures as defined in the relevant approved Flight Manual Supplement.
6. Designation: "H175" is the trade name for helicopters of Type Certificate "EC 175 B"
7. Deviation (F-32) "ADS-B Out Extended Squitter & EHS Installation with Transponder TDR-94D equipment" (as per F-32) is only applicable to EC 175 B aircraft equipped with Modifications No. 99A03906-00-M-ECP and 99A03907-00-M-ECP.
8. Special Condition (B-02) "System Search and Rescue (SAR) modes certification" (as per B-02) is only



V. Notes

applicable to EC 175 B aircraft featured with Automatic Flight Control System SAR modes as defined in the approved RFM SUP.5.

9. Special Condition F-30 "Helicopter Limited Icing Approval" (as per F-30) is only applicable to EC 175 B aircraft configured as defined in the approved EC 175 RFM SUP.4.
10. The EC 175 B is certified for flight in falling and blowing snow according to the limitations and conditions as defined in the approved RFM SUP.80.
11. The EC 175 B is certified for flight in limited icing conditions according to the limitations and conditions as defined in the approved EC 175 RFM SUP.4.
12. Max gross mass in-flight 7 800 kg, and max gross mass on-ground 7 850 kg are only applicable to EC 175 B rotorcraft equipped with Helionix Step 2+ (Mod. 99A04792-00-M-ECP, or 99A04793-00-M-ECP), or later EASA-approved versions and Avionics Primary Configuration File (PCF) set to 7 850 kg. Operations in Cold Weather conditions (from -15 °C down to -40 °C), Category A operations from Ground Helipads (as per RFM SUP. 1) and in the Extended Aft CG Flight Envelope (as per RFM SUP. 2) are limited to 7 500 kg.
Category A operations from Elevated Helipads (as per RFM SUP. 1) are limited to 7 600 kg.
13. *removed*
14. Equivalent Safety Finding on "Independent power source for stand-by attitude indicator" superseded by EC 175 B Flight Manual, Normal Revision 10 date code 16-30 and EC 175 B Flight Manual for aircraft equipped with the modification 99A03550-00-M-ECP or 99A04155-00-M-ECP ("STP2" variant), Normal Revision 4 date code 16-30.
15. *removed*

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SECTION 2: OPERATIONAL SUITABILITY DATA (OSD)

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

OSD Elements

1. MMEL

Master Minimum Equipment List EC 175 B, Normal Revision 0, Date-code 14-30,
or later EASA-approved revisions

Master Minimum Equipment List EC 175 B for aircraft equipped with the modification 99A03550-00-M-ECP or 99A04155-00-M-ECP ("STP2" variant), Normal Revision 0, Date-code 16-04,
or later EASA-approved revisions

Master Minimum Equipment List EC 175 B , Normal Revision 0 Issue 2, Date-code 18-22,
or later EASA-approved revisions

Specific Master Minimum Equipment List EC 175 B for aircraft equipped with the modification 99R06102-00-M-ECP, Normal Revision 0, Date-code 21-39,
or later EASA-approved revisions.

2. Flight Crew Data

Flight Crew Data for EC 175, Normal Revision 0, dated 24 September 2015,
or later EASA-approved revisions

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SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

AEO	All Engines Operative	MCP	Maximum Continuous Power
AMC	Aircraft Management Computer	MFD	Multi-Functional Display
C.G.	Centre of Gravity	min	Minute
CG _x	Centre of Gravity on the x-axis	MMEL	Master Minimum Equipment List
CG _y	Centre of Gravity on the y-axis	OAT	Outside ne Engine Inoperative
CS	Certification Specification	OEI	One Engine Inoperative
cSt	Centistoke	OSD	Operational Suitability Data
Dev	Deviation	PS	Public Services
DMAU	Digital Monitoring Acquisition Unit	PWR	Power
ESF	Equivalent Safety Finding	RFM	Rotorcraft Flight Manual
Hp	Pressure altitude	s/n	Serial Number
Hσ	Density Altitude	SC	Special Condition
HUMS	Health and Usage Monitoring System	sec	Seconds
FCD	Flight Crew Data	STA	Station
HIRF	High Intensity Radiated Field	SW	Software
IFR	Instrumental Flight Rules	TKOF	Take-off
ISA	Internat. Standard Atmosphere	TOP	Take-off Power
KIAS	Knots Indicated Air Speed	VFR	Visual Flight Rules
LDG	Landing	V _{NE}	Never Exceed Speed
LH	Left Hand	V _{NE PWR On}	Never Exceed Speed Power On
Max	Maximum		

II. Type Certificate Holder Record

Type Certificate Holder	Period
Airbus Helicopters Aéroport International Marseille – Provence 13725 Marignane CEDEX, France	since 30 January 2014

III. Change Record

Issue	Date	Changes	TC issue
Issue 1	5 Feb 2014	Initial issue	Initial Issue, 30 January 2014
Issue 2	18 Dec 2015	Operating Temperature and Altitude extension; aft longitudinal C.G. limits extension; RFM for Helionix Step 2/2R configurations; Operational Suitability Data added; Trade name added.	---
Issue 3	30 Jan 2017	SAR Modes; Limited Icing; Falling and blowing snow; Extended MTOW 7.8 t; ADS-B Out Extended Squitter & EHS Installation with Transponder TDR-94D equipment; Hoist Installation; VIP internal arrangements; Operational Suitability Data update.	---
Issue 4	23 Apr 2018	Dev: E-08: new ESF: F-04: superseded, D-15: new Noise requirements: Elect to comply with latest requirements New PS cabin configurations affecting: Max Passenger Seating Capacity, Passenger Emergency Exit, and, Max Baggage/Cargo Loads. Notes: Note 12: update, Notes 13 to 15: new	---



Issue	Date	Changes	TC issue
Issue 5	12 Oct 2018	Added: - EC 175 B Flight Manual, NRO Edition 2 - EC 175 B MMEL, NR 0 Issue 2	---
Issue 6	23 Jan 2019	- II.7.: CS 29.1465 Amdt. 5 added; - II. Certification Basis: references to SC/ESF/dev updated; Environmental Protection Requirements condensed, direct reference to TCDSN	---
Issue 7	16 May 2019	Removal of temporary deviation on fuel system crash resistance with optional cargo sling and its associated Note 13.	---
Issue 8	14 Feb 2020	- II.7.: CS 29.610, 29.1309 (a), (b)(2), (c), (d), 29.1316, 29.1317 and Appendix E at Amdt. 4 added. - II.16.: Introduction of the 'Single Pilot IFR' type of operations. References to SC/ESF/Dev updated.	---
Issue 9	20 Jan 2022	Section 1: - II.6.1, V.15: Reference to, and Note 15 itself removed. - II.16: References to SC/ESF/Dev updated. - II.2-II.7: adapted to TCDS format policy. Section 2: - II.1: Reference to MMEL updated. - OSD I.1-I.5: moved to SECTION 1, II.7.	---
Issue 10	1 Apr 2022	Section 1, II.3: SC 'Non-rechargeable lithium battery installations' added.	---

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