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 - 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). - CS29.1555(d)(2) Amd. 11 and CS29.811 (h)(2) Amd. 11, when configured with 99A04098-00-M-ECP / 01, 99A04099-00-M-ECP / 00, 99A04100-00-M-ECP / 00, and 99A04314-00-M-ECP / 00 (or later approved) - CS29.1587(c) Amd. 11 - 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	- Extended Take-Off Power Duration (E-01)

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- 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

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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	- - -

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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)

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	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 Hσ Category B: from -1 500 ft Hp up to +13 000 ft Hσ For flight: from –1 500 ft Hp to +15 000 ft Hσ
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/m² 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

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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 Edition 2, date code 18-22, approved by EASA on 12 October 2018, or subsequent approved issues.
   - EC 175 B Flight Manual, Normal Revision 0 NGEN, date code 23-35, approved by EASA on 7 June 2024, 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.

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V. Notes

8. Special Condition (B-02) “System Search and Rescue (SAR) modes certification” (as per B-02) is only 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 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
AMC	Aircraft Management Computer
C.G.	Centre of Gravity
CG_x	Centre of Gravity on the x-axis
CG_y	Centre of Gravity on the y-axis
CS	Certification Specification
cSt	Centistoke
Dev	Deviation
DMAU	Digital Monitoring Acquisition Unit
ESF	Equivalent Safety Finding
Hp	Pressure altitude
Hσ	Density Altitude
HUMS	Health and Usage Monitoring System
FCD	Flight Crew Data
HIRF	High Intensity Radiated Field
IFR	Instrumental Flight Rules
ISA	Internat. Standard Atmosphere
KIAS	Knots Indicated Air Speed
LDG	Landing
LH	Left Hand
Max	Maximum
MCP	Maximum Continuous Power
MFD	Multi-Functional Display
min	Minute
MMEL	Master Minimum Equipment List
OAT	Outside ne Engine Inoperative
OEI	One Engine Inoperative
OSD	Operational Suitability Data
PS	Public Services
PWR	Power
RFM	Rotorcraft Flight Manual
s/n	Serial Number
SC	Special Condition
sec	Seconds
STA	Station
SW	Software
TKOF	Take-off
TOP	Take-off Power
VFR	Visual Flight Rules
V_{NE}	Never Exceed Speed
$V_{NE\ PWR\ On}$	Never Exceed Speed Power On

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	- - -

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Issue	Date	Changes	TC issue
Issue 5	12 Oct 2018	Added: - EC 175 B Flight Manual, NR0 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	25 Mar 2022	Added in section 1 II.3: Special condition for non rechargeable lithium battery installations.	- - -
Issue 11	11 June 2024	Deleted from section 1 IV.1: Obsolete editions of flight manuals Deleted from section 2, OSD elements 1: Obsolete editions of the MMEL Added in section 1: - II.2, CS29.1555(d)(2) and CS29.811 (h)(2),Amendment 11. II.2, CS29.1587(c), Amendment 11. IV.1, EC 175 B Flight Manual, NR0 NGEN.	

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