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# TYPE CERTIFICATE DATA SHEET

No. EASA.R.508

**for**

EC120

## **Type Certificate Holder**

Airbus Helicopters

Marseille Provence

13725 Marignane CEDEX

France

For Model: EC120 B



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**SECTION 1: EC120 B**I. General

1. Type/ Model/ Variant	
1.1 Type	EC120
1.2 Model	EC120 B
1.3 Variant	---
2. Airworthiness Category	Normal, Category B
3. Manufacturer	Airbus Helicopters Marseille Provence 13725 Marignane CEDEX, France
4. Type Certification Application Date	to DGAC FR: 6 May 1994
5. State of Design Authority	EASA
6. Type Certificate Date by NAA	DGAC FR: 19 June 1997
7. Type Certificate n°	EASA.R.508 (former DGAC FR: 189)
8. Type Certificate Data Sheet n°	EASA.R.508 (former DGAC FR: 189)
9. EASA Type Certification Date	28 September 2003, in accordance with CR (EU) 1702/2003, Article 2, 3., (a), (i), 2nd bullet, 1st indented bullet.

II. Certification Basis

1. Reference Date for determining the applicable requirements	6 May 1994
2. Airworthiness Requirements	JAR 27, Issue 1, dated 6 September 1993, as defined in CRI A-01
3. Special Conditions	HIRF (CRI E-09)
4. Exemptions	none
5. (Reserved) Deviations	none
6. Equivalent Safety Findings	- Main gear box oil filter bypass (CRI E-02) - Powerplant instrument marking (CRI E-08)
7. Requirements elected to comply	none
8. Environmental Protection Requirements	See EASA Type Certificate Data Sheet for Noise TCDSN EASA.R.508.
9. Operational Suitability Data (OSD)	see SECTION 2 below

III. Technical Characteristics and Operational Limitations

1. Type Design Definition	Basic EC120 B definition: Report DMD C 000A0761 E01, Issue B
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2. Description Single gas turbine engine; three-bladed 'Spheriflex' main rotor, eight-bladed 'Fenestron' tail rotor; helicopter with skid type landing gear; designed to carry up to 4 passengers and a pilot
3. Equipment As per compliance with JAR 27 requirements and referenced within approved RFM
4. Dimensions
- 4.1 Fuselage Length: 9.60 m  
Width hull/skids: 1.50 m/2.07 m  
Height: 3.40 m
- 4.2 Main Rotor Diameter: 10.00 m
- 4.3 Tail Rotor Diameter: 0.75 m
5. Engine
- 5.1 Model Turboméca  
1 x Model Arrius 2F
- 5.2 Type Certificate DGAC France TC/TCDS n°: M22  
EASA TC/TCDS n°: n/a
- 5.3 Limitations

## 5.3.1 Installed Engine Limitations

	Gas generator speed (N <sub>G</sub> ) <sup>(1)</sup> [%]	Exhaust gas temperature (T <sub>4</sub> ) [°C]
Max. TKOF (5 min)	101.0	870
Max. Continuous	99.5	830
Max. transient (5 sec)	103.6	900
Max. Continuous (starting)	---	800
Note: (1) 100%: 54 117 rpm		

## 5.3.2 Transmission Torque Limits

Max. transient	110%
Max. TKOF	103%
Max. Continuous	97%
Engine torque	100% = 477.5 Nm
Note: 100% = 300 kW at 406 rpm	

## 6. Fluids (Fuel/ Oil/ Additives)

- 6.1 Fuel Refer to approved RFM
- 6.2 Oil Refer to approved RFM
- 6.3 Additives Refer to approved RFM

## 7. Fluid capacities

- 7.1 Fuel Fuel tank capacity: 410.5 litres (108.5 US gal)  
Usable fuel: 406 litres (107.3 US gal)



- 7.2 Oil Engine: Min. 3.0 litres (0.79 US gal)  
Max. 4.9 litres (1.29 US gal)  
MGB: 4.0 litres (1.06 US gal)  
TGB: 0.2 litres (0.052 US gal)
- 7.3 Coolant System Capacity n/a
8. Air Speed Limitations  $V_{NE\ PWR\ ON}$ : 150 KIAS at MSL  
 $V_{NE\ PWR\ OFF}$ : 120 KIAS at MSL  
Reduce by 3 kt per 1 000 ft  
Refer to approved RFM for airspeed with doors open or removed.
9. Rotor Speed Limitations Power on: Normal range  
Maximum 415 rpm  
Minimum 390 rpm  
Power off:  
Maximum 447 rpm (aural warning  $\geq$  420 rpm)  
Minimum 340 rpm (aural warning  $\leq$  370 rpm)
10. Maximum Operating Altitude and Temperature
- 10.1 Altitude
- Enroute: 20 000 ft PA (6 096 m)  
Take-off and landing: 2 000 ft PA (610 m), or,  
20 000 ft PA (6 096 m), when change A00075 and SB 32.001 have been embodied to the aircraft (use RFM issue 2 plus ITR 3C, or subsequent issue)
- 10.2 Temperature -30°C to ISA+35°C, not to exceed +50°C
11. Operating Limitations VFR day  
VFR night, operation permitted only when SB 34.001 has been embodied to the aircraft (use RFM issue 2 plus ITR 3E, or subsequent RFM issues)  
Non-icing conditions  
No flight in freezing rain  
No aerobatics
12. Maximum Mass 1 715 kg (3 777 lb), TKOF and LDG
13. Centre of Gravity Range Refer to approved RFM
14. Datum Longitudinal:  
the datum line (STA 0) is located at 4 000 mm (13 ft 2 in) forward of main rotor head  
Lateral:  
aircraft symmetry plane
15. Levelling Means Mechanical floor
16. Minimum Flight Crew 1 pilot
17. Maximum Passenger Seating Capacity 1 cockpit, 3 cabin



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|----------------------------------|--|
| 18. Passenger Emergency Exit     | 2, one door on each side of the fuselage   |
| 19. Maximum Baggage/ Cargo Loads | Baggage compartment:<br>loading 300 kg/m <sup>2</sup> (62.5 lb/ft <sup>2</sup> )<br>Cabin compartment:<br>Cargo floor loading 300 kg/m <sup>2</sup> (62.5 lb/ft <sup>2</sup> ) |
| 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 of the MSM  |

#### IV. Operating and Service Instructions

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|--|---|
| 1. Flight Manual                         | Flight Manual EC120 B (original issue approved by DGAC France, 19 June 1997), Issue 2 (approved by DGAC France, 19 March 1998), or subsequent EASA-approved issues and revisions  |
| 2. Maintenance Manual                    | - EC120 B Aircraft Maintenance Manual - Chapter 04 (original issue approved by DGAC France, 19 June 1997) at issue 1 (approved by DGAC France, 30 March 1998)<br><br>- EC120 B Master Servicing Manual - Chapter 04, (original issue approved by DGAC France, 12 March 1999) or subsequent EASA-approved issues and revisions |
| 3. Structural Repair Manual              | n/a   |
| 4. Weight and Balance Manual             | See Flight Manual EC120 B, Section 6  |
| 5. Illustrated Parts Catalogue           | EC120 B Illustrated Parts Catalogue   |
| 6. Service Letters and Service Bulletins | As published by Aérospatiale, Eurocopter or Airbus Helicopters, and approved by DGAC France or EASA   |
| 7. Required Equipment                    | As per compliance with JAR 27 requirements and included in the original Type Design Standard.<br>The RFM must be on board.  |

#### V. Notes

1. Manufacturer's eligible serial numbers:  
s/n 1001, and subsequent.  
Except: s/n 1004
2. Designations:  
"H120" is used as marketing designation for EC120 B helicopters.  
The commercial designation "COLIBRI" is also used



## 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  
17 February 2014 (entry into force of Commission Regulation (EU) No 69/2014)
- I.2 MMEL - Certification Basis  
JAR-MMEL/MEL, Amdt. 1, Section 1, Subpart A&B, dated 5 August 2005
- I.3 Flight Crew Data - Certification Basis  
JAA/FAA/TCCA Common Procedures Document for Conducting Operational Evaluation Boards, dated 10 June 2004;  
see AH Document 120ABN0053 - Flight Crew Data for EC120, and,  
Explanatory Notes - Transition from Operational Evaluation Board (OEB) Reports to Operational Suitability Data (OSD) for Flight Crew Data, dated 27 March 2015

### II. OSD Elements

- II.1 MMEL  
Master Minimum Equipment List EC120 B, Normal Revision 0, Issue 2, Date-code 10-27, approved 14 February 2011, or later EASA-approved revisions
- II.2 Flight Crew Data  
AH Document 120ABN0053 - Flight Crew Data for EC120, including:  
Annex A: OSD Cover Sheet to Annex B – Division Mandatory Data – Non Mandatory Data  
Annex B: Operational Evaluation Board Report – Final Report - dated: 16 May 2012



**SECTION: ADMINISTRATIVE**I. Acronyms and Abbreviations

AH	Airbus Helicopters	MSM	Master Servicing Manual
ALS	Airworthiness Limitations Section	PA	Pressure Altitude
Amdt.	Amendment	PWR	Power
CR	(European) Commission Regulation	RFM	Rotorcraft Flight Manual
HIRF	High Intensity Radiated Field	s/n	Serial Number
JAA	Joint Aviation Authorities	sec	Seconds
JAR	Joint Aviation Requirements	STA	Station
LDG	Landing	TKOF	Take-Off
Max.	Maximum	VFR	Visual Flight Rules
Min.	Minimum	V <sub>NE</sub>	Never Exceed Speed
min	Minute		
MMEL	Master Minimum Equipment List		

II. Type Certificate Holder Record

Type Certificate Holder	Period
Eurocopter Aéroport International Marseille – Provence 13725 Marignane CEDEX, France	1 January 1992 - 6 January 2014
Airbus Helicopters Marseille Provence 13725 Marignane CEDEX, France	since 6 January 2014

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	15 Jun 2010	Initial EASA Issue, transfer of grandfathered DGAC France TCDS 189, issue 6, and JAA TCDS N°JAA/27/97/002, issue 6, dated October 2002 into EASA format	Initial EASA Issue 15 June 2010
Issue 02	7 Jan 2014	Change of TC holder name from Eurocopter to Airbus Helicopters	Re-issued 7 January 2014
Issue 03	14Dec 2015	OSD added; editorial changes to EASA format; new model commercial designation EC120 B / H120 added.	---

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