Civil Aviation Authority
United Kingdom

TYPE-CERTIFICATE DATA SHEET

UK.TC.R.00129

for

H160

Type Certificate Holder

Airbus Helicopters

Aéroport International Marseille – Provence

13725 Marignane CEDEX

France

Model(s):	H160-B
Issue:	1
Date of issue:	03 April 2025

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Note: In this TCDS, references to EU regulations are to those regulations as retained and amended in UK domestic law under the European Union (Withdrawal) Act 2018 and are referenced as “UK Regulation (EU) year/number or UK Regulation (EU) No. number/year”

Section 1 General

This Type-Certificate Data Sheet (TCDS) is the concise definition of the type-certificated product accepted and or approved by the CAA in the UK for the affected types and models.

This TCDS includes:

a) Details of the type design that affect the TCDS that have been approved or accepted by the CAA in the UK from 01 January 2021.

b) Details of the type design that affected the TCDS and were approved or accepted by EASA before 01 January 2021, and were incorporated into EASA TCDS EASA.R.516 at Issue 1 dated 1 July 2020, and are therefore accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement.

Section 2 H160-B

i. General

1. Type/ Model

a) Type: H160

b) Model: H160-B

2. Airworthiness Category

Large Rotorcraft, Category A and B

3. Type Certificate Holder

Airbus Helicopters

Aéroport International Marseille – Provence

13725 Marignane CEDEX, France

4. Manufacturer

See Section 3 Administration, Subsection ii.

5. Type Certification Application Date

16 November 2012

6. State of Design Authority

EASA

7. EASA Type Certification Date

1 July 2020

8. UK CAA Type Validation Application Date

Prior to 31 December 2020, application dates for type certification are covered by EASA type certification application dates, as per Para 5 above.

New applications for UK CAA type validation received after 01 January 2021 will be recorded in this section. At the current issue of this UK CAA TCDS, no new applications for type validation have been received since 01 January 2021.

9. UK CAA Type Validation Date

Prior to 31 December 2020, dates of type certification are covered by EASA type certification, as per Para 7 above.

UK CAA type validation dates after 01 January 2021 will be recorded in this section. At the current issue of this UK CAA TCDS, no UK CAA type validations have been completed since 01 January 2021.

UK CAA TCDS UK.TC.R.00129 Issue 1 issued 03 April 2025.

ii. Certification Basis

1. Reference Date for determining the applicable requirements

1 November 2016

2. Airworthiness Requirements

- Certification Specifications for Large Rotorcraft, CS-29 Amdt. 3, dated 11 December 2012 except for the following:

- 29.917, 29.927, and 29.1585 of CS-29 Amdt. 5, dated 14 June 2018.

3. Special Conditions

SC B-03 – Search and Rescue (SAR) modes certification

SC E-01 - Extended Take-Off Power Duration

SC E-32 - Continued Flight with Cargo/Baggage Compartment Fire Detected

SC F-01 - Protection from the effects of High Intensity Radiated Fields (HIRF)

SC F-13 - Non-rechargeable Lithium Battery Installations

SC F-35 - Equipment, Systems and Network Information Security

4. Deviations

DEV D-21 - 29.735 (c)(2) - Electric Brake Slope Landing

5. Equivalent Safety Findings

ESF D-15 - 29.807 (c) - Passenger emergency exits / other than side-of-fuselage

ESF D-16 - 29.807 (d)(2) and (d)(3) - Ditching emergency exit for passengers

ESF D-19 - 29.807 (a)(4) - Passenger emergency exits

ESF D-22 - 29.807 (c) - Use of flight crew emergency exits for passenger evacuation with the rotorcraft on its side. See Note 8.

ESF E-07 - 29.1203 (d) - Fire detection electrical circuit testability

ESF E-28 - 29.1145 - Ignition Switches

ESF E-29 - 29.1195 - Multipurpose Fire Extinguishing System

ESF E-35 - 29.1191 - Backside Fire Ignition – except for configurations where direct compliance with 29.1191 was demonstrated. See Note 9.

ESF F-03 - 29.1305, 29.1351, 29.1435 - Part time display of vehicle parameters

ESF F-04 - 29.1303 (g)(2), CS 29 App B VIII (a)(2) - Independent Power Source for Standby Attitude Instrument

ESF F-05 - CS-29, Appendix B VIII c – Thunderstorm Lights

ESF G-03 - 29.1305, 29.1309, 29.1525, 29.1549 - Engine Training Mode

ESF G-05 - 29.1545, 29.1549 - Airspeed and Powerplant indicators green arcs

ESF G-06 - 29.1555 (c)(1) - Usable fuel capacity marking

ESF FCD-01 – CS-FCD.425(g) T3 evaluation process

6. Environmental Protection Requirements

6.1 Noise Requirements

See TCDSN No. UK.TC.R.00129

6.2 Emission Requirements

Chapter 2 of Part II of Volume II, Third Edition (Amdt. 8) of ICAO Annex 16 to the Chicago Convention (as implemented in CS-34, Amdt. 2, dated 12 January 2016)

7. Operational Suitability Data (OSD)

7.1 Master Minimum Equipment List

Certification Specifications and Guidance Material for Master Minimum Equipment List, CS-MMEL, initial issue dated 31 January 2014

7.2 Flight Crew Data (FCD)

Certification Specifications for Operational Suitability Data (OSD) Flight Crew Data, CS-FCD, initial issue dated 31 January 2014

7.3 Simulation Data

Certification Specifications and Guidance Material for Simulator Data, CS-SIMD, initial issue, dated 2 December 2014

iii. Technical Characteristics and Operational Limitations

1. Type Design Definition

• U000A0257E01_DDD H160-B Type Design Definition - Issue H, and subsequent issues

• U000A0318E01_DDD H160-B Optionals Type Design Definition - Issue G, and subsequent issues

2. Description

Medium twin-engine passenger transport helicopter, conventional configuration

Main rotor: Spheriflex, 5 blades

Tail rotor: Fenestron ducted tail rotor, 10 blades

Fuselage: Composite structure

Landing gear: Tricycle, retractable

Control system: Mechanical with hydraulic actuation

Powerplant: 2 independent freewheel 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: 13.96 m

Width: 3.54 m

Height: 4.91 m

4.2 Main Rotor

Diameter: 13.40 m

4.3 Tail Rotor

Diameter: 1.20 m

5. Engine

5.1 Model

Safran Helicopter Engines

ARRANO 1 Series / ARRANO 1A

Number: 2

5.2 Type Certificate

CAA TC/TCDS No.: EASA.E.095

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits (see Note 7.)

	Torque limits [%] at MBG input	Gas generator rpm [%]	Temperature TOT [°C]
AEO 20 sec transient	108%	46 550 (105.5%)	934
Take-off / 30-min AEO	100% up to Vy+10 KIAS 93.7% above Vy+ 30 kts	45 910 (104.0%)	912
AEO-MCP	93.6%	45 470 (103.0%)	886
OEI (30 sec)	145% (72.5% at output level)	47 590 (107.8%)	991
OEI (2 min)	127.5% (63.8% at output level)	46 620 (105.6%)	957
OEI CT	112.1% (56.0% at output level)	46 130 (104.5%)	914

5.3.2 Other Engine and Transmission Torque Limits

Refer to accepted / approved RFM

6. Fluids

6.1 Fuel

JET A, JET A-1, JP-8, JP8+100, JP-5, No.3 Jet Fuel, TS-1 (TC-1) / RT(PT)

For code No., specifications and more details refer to accepted / approved RFM

For alternative authorised fuels refer to accepted / approved RFM

6.2 Additives

Refer to accepted / approved RFM

6.3 Oil

Refer to accepted / approved RFM

6.3.1 Engine lubricants

Type of oil	NATO code	Specifications				Class	Approved oil brands
		France	USA		UK		
			Military	Civil			
RECOMMENDED USE							
Synthetic 5 cSt	O-154	-	MIL-PRF-23699	SAE AS 5780	-	HTS	- Turbonycoil 640
NORMAL USE							
Synthetic 5 cSt	O-156	DCSEA 299	MIL-PRF-23699	SAE AS 5780	DEF STAN 91-101	STD	- Aero Shell Turbine Oil 500 - Castrol 5000 - Mobil Jet Oil II - Total Aeroturbine 535 - Total Preslia SE Jet - Turbonycoil 600
	O-154	-		SAE AS 5780	-	HTS	- BP Turbo Oil 2197 - Mobil Jet Oil 254
	O-152	-		-	-	CI	Castrol Aero J5

For replacement oil, cold weather oil and further details refer to accepted / approved RFM

6.3.2 MGB lubricants

Type of oil	Temperature limitations	Approved oil brands (other products are excluded)	Specifications			
			NATO	US	UK	FR
Mineral 8 cSt	For starting -25°C≤ OAT No limitation for flight	Total / Aerogear 823	O-155	MIL-PRF-6086 grade M	DTD 581 C OEP-70	AIR 3525
Mineral 12 cSt		Total / Aerogear 1032				
Synthetic 3 cSt	-40°C≤ OAT ≤+10°C For starting and flight	Nyco/ Tubonycoil 160	O-148	MIL-PRF-7808 grade 3	AIR 3514	Synthetic 3 cSt

For further details refer to accepted / approved RFM

6.3.3 TGB lubricants

Type of oil	Temperature limitations	Approved brands (other products are excluded)	Specifications			
			NATO	US	UK	FR
Synthetic 5 cSt	For starting and flight -40°C≤ OAT ≤+50°C	Nyco/ Tubonycoil 640	O-154	MIL-PRF-23699G		
Mineral 12 cSt	For starting -25°C≤ OAT For starting and flight OAT ≤+30°C	Total / aerogear 1032	O-155	MIL-PRF-6086 grade M	DTD 581 C OEP-70	AIR 3525

For further details refer to accepted / approved RFM

6.3.4 Hydraulic fluids

MIL-PRF-83282 or MIL-PRF-87257

7. Fluid capacities

7.1 Fuel

Max usable fuel capacity: 1 440 litres

Unusable fuel: 9.9 litres

7.2 Oil

Engine (each): 5.8 litres

MGB: 24 litres

TGB: 0.5 litres

Hydraulic system: Left circuit: 5.1 litres Right circuit: 5.3 litres

8. Air Speed Limitations

VNE PWR ON = 170 KIAS up to 5 000 ft PA

For reduction of VNE with altitude refer to accepted / approved RFM

VNE OEI = VNE PWR OFF = VNE PWR ON - 35 KIAS

For other speed limitations refer to accepted / approved RFM

9. Rotor Speed Limitations

Power on:		
NR regulated range	AEO 96.0 - 105.3 %	(308.7 – 338.6 rpm)
Reference	100.0 %	(321.6 rpm)
Maximum CT	107.8 %	(346.7 rpm)
Minimum CT AEO	92.0 %	(295.9 rpm)
Minimum CT OEI	95.5 %	(307.1 rpm)
Minimum transient	83.0 %	(266.9 rpm)
Power off:		
Maximum transient	117.0 %	(376.3 rpm)
Maximum CT	109.8 %	(353.1 rpm)
Minimum CT	92.0 %	(295.9 rpm)
Minimum transient	83.0 %	(266.9 rpm)

10. Maximum Operating Altitude and Temperature

10.1 Altitude

Flight altitude -1 500 ft to +20 000 ft PA

Take-off and landing altitude:

- Minimum: -1 500 ft PA and -4 600ft DA
- Maximum
  - Category B: 13 000 ft DA
  - Category A clear area: 12 500 ft DA

10.2 Temperature

-20°C to ISA+37°C limited to +50°C

11. Operating Limitations

VFR day and night and IFR in non-icing conditions

Flight in falling and blowing snow: Refer to rotorcraft flight manual.

12. Maximum Mass

- in-flight: 6 050 kg
- on-ground: 6 100 kg

13. Centre of Gravity Range

Longitudinal C.G. limits

maximum forward limit:
5 092 mm aft of DP at 5 300 kg
5 130 mm aft of DP at 6 050 kg

maximum rearward limit:
5 390 mm aft of DP at 4 500 kg
5 287 mm aft of DP at 6 050 kg

Lateral C.G Limits

maximum deviation on right / left:
65 mm at 5 500 kg
20 mm at 6 050 kg

For detailed data refer to accepted / approved RFM

14. Datum

Longitudinal: the datum plane (STA 0) is located at 5 217 mm forward of the main rotor head centre.

Lateral: fuselage symmetry plane

15. Levelling Means

Levelling reference marking on upper deck on LH side near to MGB between frames 3 and 4

16. Minimum Flight Crew

VFR - one pilot (right seat)

IFR - one pilot (right seat)

17. Maximum Number of People on Board

14 (including Flight Crew)

18. Passenger Emergency Exit

6 exits, of which are

- 1 exit on each side of the cockpit
- 2 exits on each side of the passenger cabin (see Note 4.)

19. Maximum Baggage/ Cargo Loads

Cargo floor max. load: 300 kg

(330 kg with the optional cargo extension installed and with mandatory approved restraint nets),

Cargo floor max. unit load: 300 kg/m²

For complementary limitations and specific loading conditions refer to accepted / approved RFM

20. Rotor Blade Control Movement

For rigging information refer to Maintenance Manual

21. Auxiliary Power Unit (APU)

n/a

22. Life-limited Parts

Refer to accepted or approved ALS

23. Wheels and Tyres

	wheels	tyres
nose	C20727100	5.00-5 / 8 PR with P/N 021-310-0
main	C20781200	17,5x5,75-8 / 12 PR with P/N 178K23-5

iv. Operating and Service Instructions

The Operating and Service Instructions as listed below are approved by the European Union Aviation Safety Agency under the EASA Type Certificate EASA.R.516 in accordance with Commission Regulation (EU) 748/2012, as amended.

These instructions and any future revisions are either accepted under Article 13 of Annex 30 of the UK-EU Trade and Cooperation Agreement or subject to approval by Validation under Article 10 of Annex 30 of the UK-EU Trade and Cooperation Agreement, for use by UK operators.

The Type Certificate Holder should be contacted to verify the applicability of any Operational and Service Instructions within the UK.

1. Flight Manual

e-RFM:

- data file(s):

AIRCREW H160-000, dated 25 June 2020 (EASA-approved 1 July 2020, or later accepted or approved versions)

- software applications:
  - HCrew v1.0.0, EASA-approved 1 July 2020, or subsequent accepted or approved versions
  - H160 Flight Perfo v3.0.0, EASA-approved 1 July 2020, or subsequent accepted or approved versions

For authorised e-RFM host platforms and installation information refer to ‘H160 c-RFM Installation Guide’, Airbus Helicopters document ref. TN U000A1570E01 issue E, or later revisions.

The use of e-RFM software applications on other host platforms than those specified in the above document is not allowed.

Paper format RFM:

Rotorcraft Flight Manual H160-B, first issue, dated 25 June 2020, EASA-approved 1 July 2020, or later accepted or approved revisions

2. Maintenance Manual

- Airworthiness Limitations Section H160-B, issue dated 15 June 2020, Revision 000, EASA-approved 1 July 2020, or later accepted or approved revisions

- Maintenance Servicing Manual H160 and Aircraft Maintenance Manual H160.

3. Structural Repair Manual

Structural Repair Manual H160

4. Weight and Balance Manual

Section 6 of Complementary RFM

5. Illustrated Parts Catalogue

Illustrated Parts Catalogue H160

6. Miscellaneous Manuals

none

7. Service Letters and Service Bulletins

Safety Information Notices, Information Notices, Alert Service Bulletins, Service Bulletins, Repair Design Approval Sheets H160, as published by Airbus Helicopters

8. Required Equipment

As per compliance with Certification Basis and in accordance with Type Design Definition.

Refer to accepted / approved RFM.

v. Operational Suitability Data

The Operational Suitability Data elements as listed below are approved by the European Union Aviation Safety Agency under the EASA Type Certificate EASA.R.516 in accordance with Commission Regulation (EU) 748/2012, as amended.

These OSD elements and any future revisions are either accepted under Article 13 of Annex 30 of the UK-EU Trade and Cooperation Agreement or subject to approval by Validation under Article 10 of Annex 30 of the UK-EU Trade and Cooperation Agreement, for use by UK operators.

1. Master Minimum Equipment List

H160-B Master Minimum Equipment List, in paper and e-MMEL formats, package of data files ref. 1882_23062021, or later accepted or approved revisions.

The software application for e-MMEL is HCrew. For information on approved versions of HCrew and authorised host platforms refer to point IV.1. of SECTION 1.

The Type Certificate Holder should be contacted to verify the applicability of any MMEL revision within the UK.

2. Flight Crew Data (FCD)

H160 EASA Operational Suitability Data (OSD) - Flight Crew Data (FCD), Normal Revision 0, Date 20-26, or later accepted or approved revisions.

The Type Certificate Holder should be contacted to verify the applicability of any FCD revision within the UK.

3. Simulation Data

H160-B Simulation Data, doc. ref. U150A0025E01_TN issue A, or later accepted or approved revisions.

The Type Certificate Holder should be contacted to verify the applicability of any SIMD revision within the UK.

vi. Notes

1. Manufacturer's eligible serial numbers: s/n 1002, and subsequent.
2. The certified optional installations are each approved independently of the basic helicopter and are part of the relevant accepted / approved RFM.
3. The H160-B is certified for ditching with the optional installations and operating procedures as defined in accepted / approved RFM.

4. Passenger Emergency Exits:

   The Sliding Door Jettisonable Window, which is one of the 2 separate exits on each side of the passenger cabin, has been demonstrated to be equivalent to two Type IV emergency exits as specified in 29.807(a)(4) (ESF D-19 refers).

5. Halon replacement applicability, in reference to Regulation EC No. 1005 / 2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete ozone layer referred as Ozone Regulation, is recorded in ‘CRI A-04’.

6. The H160-B has been demonstrated compliant with Certification Specifications for Airborne Communications Navigation and Surveillance, CS-ACNS sections A, B and D initial issue, dated 17 December 2013, taking into account Deviation DEV F-25 to CS ACNS.D.ELS.045 and CS ACNS.D.ADSB.105 ‘ADS-B Out Extended Squitter & ELS installation with T3CAS Multifunction Transponder’.

7. The APU mode approved at engine level is not approved at aircraft level.

8. ESF D-22 is applicable only to the following configurations:

   Cabin Configurations for Public Service Missions including the following: ECP_H160.S0473, ECP_H160.S04750, ECP_H160.S04751, ECP_H160.S04752, ECP_H160.S04878, ECP_H160.S04881, and ECP_H160.S05060.

9. For the following, direct compliance with CS 29.1191 was demonstrated without ESF E-35:

   Modification of torque-tube to improve fire protection, ECP_H160.S04920;
   Improvement of engine deck fire protection ECP_H160.S05062.

Section 3 Administration

i. Acronyms and Abbreviations

Acronym / Abbreviation	Definition
AEO	All Engines Operative
ALS	Airworthiness Limitations Section
APU	Auxiliary Power Unit
CT	Continuous
C.G.	Centre of Gravity
CRI	Certification Review Item
DA	Density Altitude
DEV	Deviation
DP	Datum Point
e-RFM	Electronic RFM
ESF	Equivalent Safety Finding
FCD	light Crew Data
HIRF	High Intensity Radiated Field
IFR	Instrument Flight Rules
KIAS	Knots Indicated Air Speed
Max	Maximum
MCP	Maximum Continuous Power
MGB	Main Gearbox
min	Minute
MMEL	Master Minimum Equipment List
No.	Number
OEI	One Engine Inoperative
OSD	Operational Suitability Data
P/N	Part Number
PA	Pressure Altitude
PWR	Power
ref.	Reference
RFM	Rotorcraft Flight Manual
s/n	Serial Number
SC	Special Condition
Sec	Seconds
STA	Station
TGB	Tail Gearbox
TC	Type Certificate
TCDS	Type Certificate Data Sheet
TCDSN	Type Certificate Data Sheet for Noise
TOT	Turbine Outlet Temperature
VFR	Visual Flight Rules
VNE	Never Exceed Speed

ii. Type Certificate Holder Record

Type Certificate Holder and Manufacturer	Period
Airbus Helicopters Aéroport International Marseille – Provence 13725 Marignane CEDEX, France	From 1 July 2020

iii. Amendment Record

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
1	03 Apr 2025	The content of the initial issue of this UK CAA TCDS was taken from EASA TCDS No. EASA.R.516 Issue 1 dated 1 July 2020 which was the current EASA version on 31 December 2020 and therefore the version accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement. Other changes introduced are as follows: All sections: editorial alignments with CAA TCDS Policy. SECTION 2: II. 4.: DEV E-34 'CS 29.965 (d) - Fuel Tank Test – Slosh and Vibration' removed II. 5.: ESF E-31 "CS 29.1193 (e) (3) - Flight and Ground Conditions for Cowlings Fire Testing" removed II.7.4: Empty section removed, II.: - ESF D-22 and reference to Note 8 added, - Reference to Note 9 added to ESF-E-35. III. 1.: Type Design Definition document references updated III.5.3.1: unit KIAS amended, III. 5.3.1.: reference to Note 7. added III, 6.1: text reduced to TCDSN reference. III.9.: NR range amended. V (Previously Section2) added - Flight Crew Data reference added - Information regarding OSD elements pending approval removed, introduction modified, Approved MMEL and SIM Data OSD elements added, - Empty sections for Maintenance Certifying Staff Data and Cabin Crew Data OSD elements removed. Vi.: Note 7. added - Relevant sections of CS-ACNS added to Note 6, - Notes 8 to 9 added. - Information regarding OSD elements pending approval updated and information on approved OSD elements added SECTION 3: - I.: APU acronym added	Issue 1 03 Apr 2025

– END –