TYPE CERTIFICATE DATA SHEET

No. EASA.R.145

for

Cabri G2

Type Certificate Holder

Hélicoptères Guimbal

1070, rue du Lieutenant Parayre
Aérodrome d'Aix-en-Provence
13290 Les Milles
France

For Model: Cabri G2

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SECTION 1 : Cabri G2

I. General

1.	Type/ Model/ Variant	
	1.1 Type	Cabri G2
	1.2 Model	Cabri G2
	1.3 Variant	- - -
2.	Airworthiness Category	Small Rotorcraft
3.	Manufacturer	Hélicoptères Guimbal 1070, rue du Lieutenant Parayre Aérodrome d'Aix en Provence 13 290 Les Milles, France
4.	Type Certification Application Date	21 December 2006
5.	State of Design Authority	EASA
6.	EASA Type Certification Date	14 December 2007

II. Certification Basis

1.	Reference Date for determining the applicable requirements	21 December 2006
2.	Airworthiness Requirements	CS-27 (CRI A-01)
3.	Special Conditions	- Protection against effects of High Intensity Radiated Fields (HIRF), CRI F-01 - Approval of flight in snow condition - Pilot visibility, CRI D-02
4.	Exemptions	none
5.	Deviations	none
6.	Equivalent Safety Findings	- Separation between fuel tank and firewall, CRI E-01 - Chip detectors test in flight, CRI F-03
7.	Requirements elected to comply	none
8.	Environmental Protection Requirements	
	8.1 Noise Requirements	See EASA Type Certificate Data Sheet for Noise TCDSN EASA.R.145
	8.2 Emission Requirements	n/a
9.	Operational Suitability Data (OSD)	see SECTION 2 below

III. Technical Characteristics and Operational Limitations

1.	Type Design Definition	G00-00-000
2.	Description	Main rotor: articulated, 3 blades Tail rotor: shrouded, 7 blades Fuselage: composite materials Landing gear: skids Powerplant: piston engine
3.	Equipment	Basic equipment must be installed and operational prior to registration of the helicopter.
4.	Dimensions	
	4.1 Fuselage	Length: 6.31 m (20 ft 8 in) Width hull: 1.24 m (4 ft 1 in)

		Height:	2.37 m (7 ft 9 in)
4.2	Main Rotor	Diameter:	7.20 m (23 ft 7 in)
4.3	Tail Rotor	Diameter:	0.60 m (24 in)

5. Engine

5.1 Model	Lycoming Engines 1 x Model O-360-J2A with Hélicoptères Guimbal modification N° J45-002 (STC EASA 10015311 Rev.3, initially EASA.E.S.01001)
5.2 Type Certificate	FAA TC/TCDS n°: E-286 EASA TC/TCDS n°: n/a
5.3 Limitations	<u>With Hélicoptères Guimbal modification n° MOD 16-001:</u> Maximum take-off power: 160 hp from 2 575 to 2 700 rpm Maximum continuous power: 145 hp from 2 575 to 2 700 rpm <u>Without Hélicoptères Guimbal modification n° MOD 16-001:</u> Maximum take-off power/continuous power: 145 hp from 2 575 to 2 700 rpm

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel	AVGAS 100 LL, AVGAS UL 91 (see oil additive for break-in in RFM Limitations) Automotive unleaded gasoline (refer to RFM Limitations)
6.2 Oil	<u>Engine</u>: Oil grade during break-in (50 hours): MIL-L-6082B or SAE J-1966 Oil grade after break-in: MIL-L-22851 or SAE J-1899 <u>Gearboxes</u>: HG30-85W140
6.3 Additives	Refer to approved RFM

7. Fluid capacities

7.1 Fuel	Fuel tank capacity: 170 litres (45 US gal) Usable fuel: not recorded
7.2 Oil	5.7 litres (1.5 US gal)
7.3 Coolant System Capacity	n/a

8.	Air Speed Limitations	$V_{NE\ power\text{-}on}$: 130 KIAS, - 2 kt / 1 000 ft Zp $V_{NE\ power\text{-}off}$: 110 KIAS, - 2 kt / 1 000 ft Zp
9.	Rotor Speed Limitations	Power-on: Maximum 540 rpm Nominal 530 rpm (100% Nr) Minimum 515 rpm Power-off: Maximum 610 rpm Minimum 450 rpm

10. Maximum Operating Altitude and Temperature

10.1 Altitude	13 000 ft (3 963 m)
10.2 Temperature	-20°C to ISA +30°C limited to + 45°C (Minimum for storage: -30°C)

11. Operating Limitations

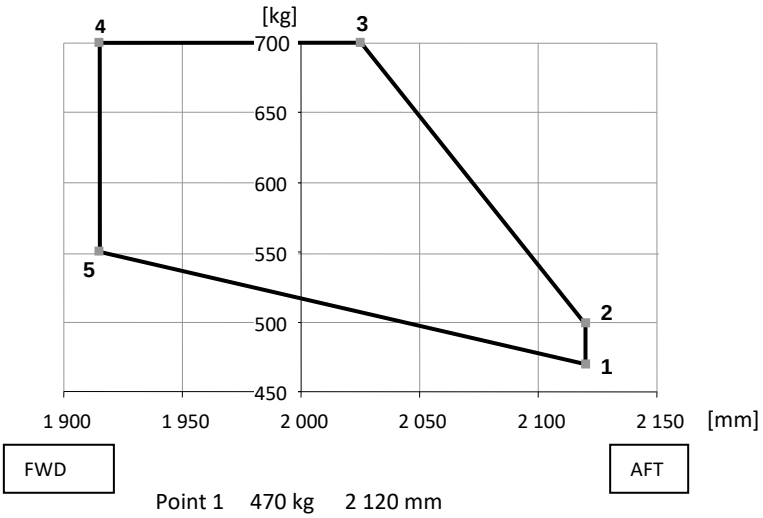
Day and Night VFR (see Note 2),
No flight under known icing condition,
Aerobatic manoeuvres prohibited.
Additional limitations for TO/LDG refer to approved RFM.

12. Maximum Mass

700 kg (1 543 lb)

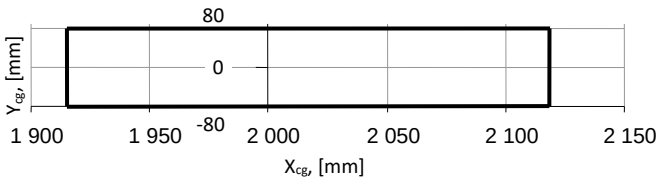
13. Centre of Gravity Range

Longitudinal Weight and Balance diagram



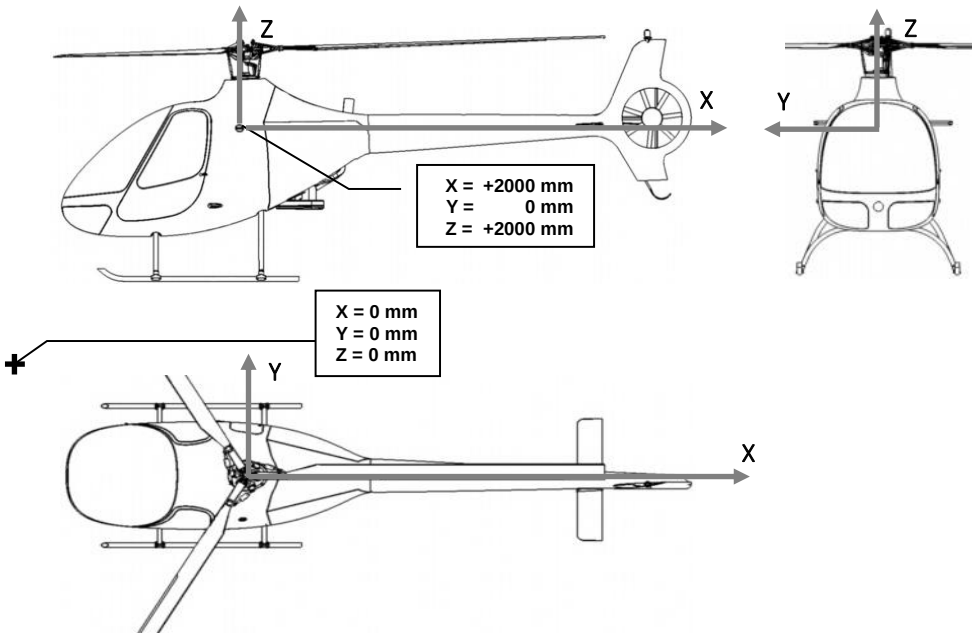
Point 1	470 kg	2 120 mm
Point 2	500 kg	2 120 mm
Point 3	700 kg	2 025 mm
Point 4	700 kg	1 915 mm
Point 5	550 kg	1 915 mm

Lateral Balance diagram

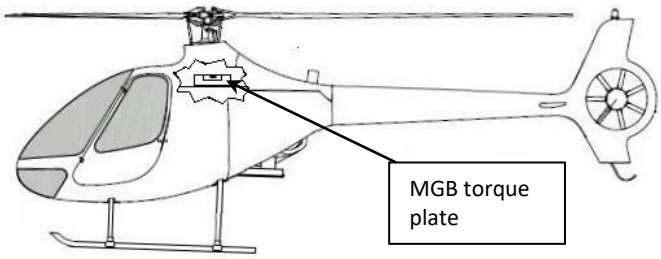


14. Datum

Main gearbox centre coordinates: X = +2 000 mm
Y = 0 mm
Z = +2 000 mm



15. Levelling Means



16.	Minimum Flight Crew	1 pilot (right seat)
17.	Maximum Passenger Seating Capacity	1 passenger or co-pilot (left seat)
18.	Passenger Emergency Exit	1 on left side of the cabin
19.	Maximum Baggage/ Cargo Loads	Baggage compartment: 40 kg; 2 kg/cm^2 Cabin compartment: 5 kg
20.	Rotor Blade Control Movement	For rigging information refer to Cabri G2 Maintenance Manual n° J70-002
21.	Auxiliary Power Unit (APU)	n/a
22.	Life-limited Parts	See approved ALS Section in Cabri G2 Maintenance Manual n° J70-002

IV. Operating and Service Instructions

1.	Flight Manual	With Hélicoptères Guimbal modification n° MOD 16-001: J40-001 issue 10, dated 16 May 2017, or later approved revision. Without Hélicoptères Guimbal modification n° MOD 16-001: J40-001 issue 09.1, dated 13 May 2015, or later issue 09 approved revision
2.	Maintenance Manual	J70-002 issue 05.2, dated 25 January 2017, or later approved revision
3.	Structural Repair Manual	Refer to applicable Repair Service Bulletins
4.	Weight and Balance Manual	Refer to approved RFM and accepted RMM
5.	Illustrated Parts Catalogue	Cabri G2 Illustrated Parts Catalogue
6.	Service Letters and Service Bulletins	As published by Hélicoptères Guimbal

7. Required Equipment

- Refer to EASA-approved Rotorcraft Flight Manual and related supplements for other approved mandatory and optional equipment and Master Minimum Equipment List.
- EPM, BARC, RRM (engine governor), see also Note 2

V. Notes

1. Manufacturer's serial numbers s/n 1001, and subsequent, are eligible.
2. Equipment:
   EPM, BARC and RRM (engine governor) equipment are approved with the type Cabri G2.
3. Night VFR operation
   This kind of operation requires installation of the following:
   - Overhead quadrant with interior light – instrument and cabin –powered directly by the battery, before the master switch (p/n G34-10-20X)
   - Polarising filter for EPM display (p/n G72-13-10X)
   - dual attitude indicators

V. Notes

- other avionics instruments requested by operational rules

This equipment can be provided by Hélicoptères Guimbal either at aircraft delivery, or as options to be installed through SB.
Installation of alternative or additional instruments requires an airworthiness approval by EASA.

4. Fuel types: all authorised fuel types are mixable, in any proportion.

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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 CR (EU) n° 69/2014)

I.2 MMEL - Certification Basis

Special Condition CS-GEN-MMEL-H, initial issue (CRI A-MMEL)

I.3 Flight Crew Data - Certification Basis

CS-FCD, Initial Issue

II. OSD Elements

II.1 MMEL

Cabri G2 EASA MMEL n° J40-007, original issue, or subsequent approved revisions

II.2 Flight Crew Data

Cabri G2
EASA Operational Suitability Data (OSD)
Flight Crew
J40-008, dated 16 December 2015, or subsequent approved revisions

SECTION 3 : ADMINISTRATIVE

I. Acronyms and Abbreviations

BARC	Boitier d'Alarmes Rotor et Carburant (Rotor and fuel warning device)	MSL	Mean Sea Level
C.G.	Centre of Gravity	OSD	Operational Suitability Data
CR	(European) Commission Regulation	RFM	Rotorcraft Flight Manual
CRI	Certification Review Item	RMM	Rotorcraft Maintenance Manual
EPM	Electronic Pilot Monitor	RRM	Régulateur de Régime Moteur (engine governor)
FAA	Federal Aviation Administration	s/n	Serial Number
HIRF	High Intensity Radiated Field	SC	Special Condition
hp	Horse Power	VFR	Visual Flight Rules
IFR	Instrument Flight Rules	V_{NE}	Never Exceed Speed
MMEL	Master Minimum Equipment List	Zp	Pressure altitude

II. Type Certificate Holder Record

Type Certificate Holder	**Period**
Hélicoptères Guimbal 1070, rue du Lieutenant Parayre Aérodrome d'Aix en Provence 13 290 Les Milles, France	since 14 December 2007

III. Change Record

Issue	**Date**	**Changes**	**TC issue**
Issue 1	14 Dec 2007	Initial Issue	Initial Issue, 14 December 2007
Issue 2	25 May 2009	Addition of Night VFR	- - -
Issue 3	18 May 2011	New TCDS format, change in minimum operating temperature and minor corrections	- - -
Issue 4	18 Mar 2013	Authorization for use of unleaded fuel types	- - -
Issue 5	4 Jun 2014	Removal of CRI E-02 from type certification basis (ESF withdrawn) and correction of mistake in the referenced applicable environmental certification requirement	- - -
Issue 6	7 Jul 2014	Addition of CRI D-02 in type certification basis	- - -
Issue 7	16 Dec 2015	New TCDS template, addition of OSD data	- - -
Issue 8	1 Feb 2018	Addition of TO Power (MOD 16-001) VFR Night configuration updated Minor editorial changes and corrections	- - -

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