TYPE-CERTIFICATE DATA SHEET

No. E.091

For
ARTOUSTE III SERIES ENGINES

Type Certificate Holder

Safran Helicopter Engines

64510 Bordes
France

For Models:

Models
ARTOUSTE III B
ARTOUSTE III B1

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I. General

1. Type/Models:

ARTOUSTE III B, ARTOUSTE III B1. These Models are approved for use on single-engine civil rotorcraft at the ratings and within the operating limitations specified below, subject to compliance with the powerplant installation requirements appropriate to approved installations.

Except where otherwise noted, data applies to all models.

2. Type Certificate Holder:

Safran Helicopter Engines
64510 Bordes
France
DOA-ref: EASA.21J.070

Until 18 July 2016 Turbomeca
After 18 July 2016 Safran Helicopter Engines

3. Manufacturer:

Until 18 July 2016 Turbomeca
After 18 July 2016 Safran Helicopter Engines

4. DGAC/EASA Certification Application Date:

Not identified (before 19 August 1957)

5. DGAC/EASA Certification Reference Date:

ARTOUSTE III B	19 August 1957
ARTOUSTE III B1	19 August 1957

6. DGAC/EASA Certification Date:

ARTOUSTE III B	15 December 1961
ARTOUSTE III B1	25 May 1982

Note: The present data sheet cancels and replaces the data sheet “Fiche de caractéristiques moteur N° M12” issued by the French Direction Générale de l’Aviation Civile (DGAC).

II. Certification Basis

1. Certification Specifications:

ARTOUSTE III B	Air 2051, dated 19 August 1957
ARTOUSTE III B1	Air 2051, dated 19 August 1957

Note: Air 2051 was issued by the Direction Technique et Industrielle of the French Ministry of Defence and was based on Part 13 of the Civil Air Regulations of the USA.

2. Special Conditions:

None.

3. Deviations:

None.

4. Equivalent Safety Findings:

None.

5. Environmental Protection Requirements:

Fuel Venting per ICAO Annex 16, Volume II, Amendment 6, dated 20 November 2008, Part 2, Chapter 2.

III. Technical Characteristics

1. Type Design Definition:

The Type Design Definition is in accordance with the following Safran Helicopter Engines Drawings.

	Bare Engine Parts List	Fuel Control Equipment List	Engine Equipment list
ARTOUSTE III B	0 218 00 000 0	0 218 00 000 0	0 202 12 000 0
ARTOUSTE III B1	0 218 04 000 0	0 218 04 000 0	0 202 12 000 0

2. Description:

The ARTOUSTE III B and ARTOUSTE III B1 are turboshaft engines with one single-stage axial compressor, one single-stage centrifugal compressor, an annular combustion chamber with a centrifugal fuel injection wheel and a three-stage axial turbine. A co-axial reduction gearbox provides a drive for a splined transmission shaft to the helicopter main gear box.

3. Equipment:

All equipment required for engine operation is included in the engine Type Design Definition. For additional details, refer to the applicable Installation and Operation Manuals.

4. Dimensions:

	Length (mm)	Height (mm)	Width (mm)
ARTOUSTE III B	1 815	667	520
ARTOUSTE III B1	1 815	667	520

5. Dry Weight:

Dry weight (completely equipped): 178 kg (± 3 kg)

6. Ratings:

Rated shaft power in kW(1)

	Take Off	Maximum Continuous
ARTOUSTE III B	420	405
ARTOUSTE III B1	440	405

(1) Values defined under the following conditions:

- static, sea level standard day conditions (15 °C, 1 013 mbar);
- on the engine test bed with “Froude” brake system;
- with the air bleed ports closed;
- with no accessory power extraction;
- with calibrated SAFRAN HELICOPTER ENGINES air intake duct P/N 6 201 63 702;
- with straight short SAFRAN HELICOPTER ENGINES exhaust pipe, having an outlet diameter of 348 mm.

Performance curves are available in the applicable Operation Manual.

7. Control System:

The ARTOUSTE III engines have a hydromechanical control system.

8. Fluids (Fuel/Oil/Additives):

8.1 Fuel

For a list of fuels and fuel additives approved for use in each variant, consult the applicable Operation Manual.

8.2 Oil

For a list of oils approved for use in each variant, consult the applicable Operation Manual.

9. Aircraft Accessory Drives:

None.

10. Bleed Extraction:

Limitations on the use of air bleed are defined in the applicable Operation Manual.

Maximum bleed air temperature: 280 °C
Maximum bleed air pressure: 520 kPa
Maximum bleed air flow rate: 170 g/s

IV. Operational Limitations

1. Temperature Limits:

1.1 Exhaust Temperature (T4) Limits

Starting:	630 °C
Take-off (stabilised):	550 °C
Maximum Continuous:	500 °C
Maximum residual before starting:	150 °C

1.2 Fuel Temperature

Refer to the applicable Operation Manual for details.

1.3 Oil Temperature

Minimum for starting:	Refer to the applicable Operation Manual for details
Minimum for engine loading:	+ 0°C
Maximum in operation:	+ 85°C

2. Maximum/Minimum Speeds:

	Steady state, normal operating conditions rpm	Transient rpm	Maximum permissible over-speed (limited to 10 s) rpm	Nominal output shaft speed rpm
ARTOUSTE III B	33 500 ± 200	33 500 ± 1 000	35 500	5 773
ARTOUSTE III B1	33 500 ± 200	33 500 ± 1 000	35 500	5 773

3. Pressure Limits:

3.1 Fuel Pressure

Pressure (gauge) at engine inlet for starting: +30 to +80 kPa
Pressure (gauge) at engine inlet in operation: -30 to +120 kPa

3.2 Oil Pressure

Operating range (gauge): 110 to 500 kPa

4. Installation Assumptions:

Refer to the applicable Installation Manual.

5. Time Limited Dispatch:

Not applicable to engines with hydromechanical controls.

V. Operational and Service Instructions

Installation Manual	Operation Manual	Maintenance Manual	Overhaul Manual
218 01 933	218 00 940	218 00 935	218 00 936

For Service Letters and Service Bulletins, refer to the SL and SB directory.

VI. Notes

1. Life-limited engine components are listed in Chapter 5 of the applicable Maintenance and Overhaul Manuals.

2. Conversion from non-civil use:

This note is applicable to the following cases:

Case 1: ARTOUSTE III B and ARTOUSTE III B1 engines originally assembled by Safran Helicopter Engines may have been in service with military, customs, police or other operators not under the jurisdiction of a civil Authority.

Case 2: ARTOUSTE III B or ARTOUSTE III B1 engines can be created by converting ARTOUSTE III BF or ARTOUSTE III BF1 engines. The ARTOUSTE III BF and ARTOUSTE III BF1 are military Models of the ARTOUSTE III B and ARTOUSTE III B1.

The compliance of Case 1 and Case 2 engines with the European rules enabling issuance of an aircraft standard certificate of airworthiness must be checked. Their configuration, including design changes and repairs, does not necessarily conform to the type definition approved by EASA, and it is possible that in operation they have exceeded the limits approved by EASA. Before a standard certificate of airworthiness is issued to an aircraft in which a Case 1 or Case 2 ARTOUSTE III B, ARTOUSTE III B1 turboshaft engine is installed, an EASA Form 1 must be issued for the engine. This requires incorporation of Safran Helicopter Engines Alert Service Bulletin A218 72 0094, Version E (or any subsequent approved issue) for Case 1 engines, and Alert Service Bulletin A218 72 0804, Original Issue (or any subsequent approved issue) for Case 2 engines.

VII SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

n/a

II. Type Certificate Holder Record

Until 18 July 2016 Turbomeca
After 18 July 2016 Safran Helicopter Engines

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	14 December 2010	Initial issue	14 December 2010
Issue 02	01 August 2016	Name change from Turbomeca to Safran Helicopter Engines	01 August 2016
Issue 03	18 December 2024	Partial surrender of EASA TC E.091 for the Artouste IIID model	18 December 2024

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