



TYPE CERTIFICATE DATA SHEET

N° EASA.R.124

for

SA 318

Type Certificate Holder

Airbus Helicopters

Aéroport International Marseille – Provence

13725 Marignane CEDEX

France

For Models: SA 3180 Alouette Astazou, SA 318 B, SA 318 C



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**SECTION 1: SA 3180 Alouette Astazou,
SA 318 B, SA 318 C**

I. General

1.	Type/ Model/ Variant	
1.1	Type	SA 318
1.2	Model	SA 3180 Alouette Astazou SA 318 B SA 318 C
1.3	Variant	---
2.	Airworthiness Category	Small Rotorcraft
3.	Manufacturer	Airbus Helicopters Aéroport International Marseille – Provence 13725 Marignane CEDEX, France
4.	Type Certification Application Date to DGAC	not recorded
5.	State of Design Authority	EASA (pre EASA: DGAC, France)
6.	Type Certificate Date by DGAC FR	for SA 3180 Alouette Astazou: 18 February 1964 for SA 318 B: 18 February 1964 for SA 318 C: 18 February 1964
7.	Type Certificate n°	DGAC FR: n° 1 EASA: EASA.R.124
8.	Type Certificate Data Sheet n°	n° 24 (until issue 9, dated March 1993) EASA.R.123 (since 27 January 2010)
9.	EASA Type Certification Date	28 September 2003, in accordance with CR (EU) 1702/2003, Article 2, 3., (a), (i), 2 nd bullet, 1 st indented bullet.

II. Certification Basis

1.	Reference Date for determining the applicable requirements	not recorded
2.	Airworthiness Requirements	CAR-6, edition dated 11 October 1955 with additional Special Conditions notified at the French Official Services by the government of the United States (letter dated 28 May 1957)
3.	Special Conditions	Refer to §1 certification basis (see II.2)
4.	Exemptions	none
5.	Deviations	none
6.	Equivalent Safety Findings	none
7.	Requirements elected to comply	none
8.	Environmental Protection Requirements	
8.1	Noise Requirements	Complies with the essential requirements by virtue of early TC date, see also TCDSN N° EASA.R.124
8.2	Emission Requirements	n/a
9.	Operational Suitability Data (OSD)	Not required for rotorcraft that are no longer in production. CR (EU) 748/2012, as amended by CR (EU)



69/2014 does not require OSD elements for this model
(see Article 7a, 1.).

III. Technical Characteristics and Operational Limitations

1. Type Design Definition

SA 3180 Alouette Astazou, basic SA 3180 definition

SA 318 B definition is obtained by applying the SA 3180 definition the following modifications:

- AM 565/SS 01.07 – AM 816/SS 53-12 – AM 821/SS 11.02
- AM 798/SS 65.40 – AM 815/SS 65.32
or AM 767/SS 65.41 with Rear Gear Box 3160-66.10.000.1 and Alouette III rear blades.
- and for versions fitted with float gear AM 641/SS 32.12 and AM 769/SS 01.07

SA 318 C definition is obtained by applying the SA 3180 definition the following modifications:

- AM 565/SS 01.07 – AM 816/SS 53-12 – AM 656/SS 05.19 – AM 816/SS 53.12 –
AZ 155/SS 11.03 - AZ 141/SS 32.17
- AM 798/SS 65.40 – AM 815/SS 65.32 – AM 820/SS 05.24
or AM 767/SS 65.41 with Rear Gear Box 3160-66.10.000.1 and Alouette III rear blades.

Note: Alouette Astazou may have been obtained from Alouette II by applying the Sud-Aviation modification ref AM-817. To be deemed to have been approved by EASA, this transformation must have been done before 7 March 2007 when the Alouette II was officially declared to satisfy the definition of the Annex II of Basic Regulation EC 1592/2002.

2. Description

Main rotor: three-bladed main rotor
Tail rotor: two-bladed tail rotor
Fuselage: airframe of conventional structure
Landing gear: skids, wheeled fixed landing gear, or float gear
Powerplant: single turbine

3. Equipment

As per compliance with applicable airworthiness requirements defined here above and referenced within approved Rotorcraft Flight Manual.

4. Dimensions

4.1 Fuselage

Length: 9.70 m (31.82 ft), or,
9.75 m (31.99 ft) with Alouette III
tail rotor blades
Width: 2.08 m (6.82 ft) with narrow pads gear
2.38 m (7.81 ft) with large pads gear
2.20 m (7.22 ft) with wheel gear
2.75 m (9.02 ft) with float gear
Height: 2.75 m (9.02 ft)

4.2 Main Rotor

Diameter: 10.20 m (33.46 ft)

4.3 Tail Rotor

Diameter: 1.82 m (5.96 ft), or,
1.91 m (6.27 ft) with Alouette III tail
rotor blades

5. Engine

5.1 Model

SAFRAN Helicopter Engines (Turbomeca)
1 x Model Astazou II A, or,
1 x Model Astazou II A2

5.2 Type Certificate

EASA TC/TCDS n°: EASA.E.139
(DGAC-FR TC/TCDS n°: 24)



5.3 Limitations

5.3.1 Installed Engine Limitations

	PWR [kW]	Gas generator [min ⁻¹]	Temperature T4 [°C]
Max rpm	---	43 500 ¹⁾	---
Max PWR (transmission limitation)	299	---	---
MCP (turbine limitation)	353	---	---
Max T4 before engine start		---	150
Max T4 at engine start		---	600
Max T4 at engine start (5 sec)		---	630
Max T4 at TKOF ($\Theta_s \leq 15^\circ\text{C}$)		---	490
Max T4 at TKOF ($\Theta_s 0\ 45^\circ\text{C}$)		---	515
Max T4 continuous	---	---	Astazou IIA: 460 Astazou IIA2: 490

Note: ¹⁾ rpm \pm 1 500 allowed only for quick pitch angle changes

5.3.2 Transmission Torque Limits Refer to approved RFM

6. Fluids (Fuel/ Oil/ Additives)

- 6.1 Fuel Refer to approved RFM
- 6.2 Oil Refer to approved RFM for engine and gearboxes
- 6.3 Additives Refer to approved RFM
- 6.4 Hydraulic Refer to approved RFM

7. Fluid capacities

- 7.1 Fuel
- Cubic tank:
Fuel tank capacity: 580 litres (153 US gal)
Usable fuel: 565 litres (149 US gal)
- Quadrilobic tank:
Fuel tank capacity: 575 litres (152 US gal)
Usable fuel: 573 litres (151 US gal)

7.2 Oil 7.5 litres (1.9 US gal)

7.3 Coolant System Capacity n/a

8. Air Speed Limitations

SA 3180 Alouette Astazou and SA 318

B versions:

Altitude [m]	0	1 000	2 000	3 000	4 000	4 500
Mass [kg]	V _{NE} [km/h]					
1 600	185	165	145	---	---	---
1 500	185	175	155	---	---	---
1 400	185	185	165	145	---	---
1 300	185	195	175	155	125	---
1 200	185	195	185	165	135	135
1 100	185	195	195	175	145	145
1 000	185	195	195	185	155	155



SA 318 C * version:

Altitude [m]	0	1 000	2 000	3 000	4 000	4 500
Mass [kg]	V _{NE} [km/h]					
1 650	205	200	175	145	---	---
1 600	205	200	175	145	---	---
1 500	205	200	175	150	125	---
1 400	205	200	176	156	135	125
1 300	205	200	181	163	145	135
1 300	205	200	185	170	155	148
1 100	205	200	188	176	165	157

*- For CG longitudinal position between +3 000 mm and +3 150 mm, the table values must be reduced by 10 km/h.

9. Rotor Speed Limitations
 Maximum 420 rpm
 Minimum 280 rpm
 Max continuous 362 rpm
10. Maximum Operating Altitude and Temperature
 10.1 Altitude 14 760 ft (4 500 m) PA
Note: Additional limitation for H/C equipped with float gear (refer to approved RFM)
 10.2 Temperature -40 °C to +55 °C
11. Operating Limitations
 VFR day
 VFR night, when the additional equipment required by operational regulations is installed and serviceable.
 For more information refer to approved RFM.
 Non-icing conditions
12. Maximum Mass
 TKOF/LDG
 SA 3180 Alouette Astazou: 1 500 kg (3 307 lb)
 SA 318 B: 1 600 kg* (3 527 lb)
 SA 318 C: 1 650 kg (3 638 lb)
 * Flights performed at weight >1 500 kg must be recorded (except if AM 656/SS 05.19 is applied)
13. Centre of Gravity Range
 Longitudinal C.G. limits
 Forward limit: 2 720 mm (8.92 ft)
 Aft limit: 3 150 mm (10.33 ft)
- | | Cyclic stick setting | |
|---------------|----------------------|-----------------------------|
| | normal
(3.5°) | special, Mod. S.190
(5°) |
| LH limit [mm] | 135 | 146 |
| RH limit [mm] | 43 | 32 |
14. Datum
 Longitudinal:
 3 000 mm (9.84 ft) forward of main rotor centre line
 Lateral: aircraft symmetry plane
15. Levelling Means
 4 levelling legs on the central structure:
 - 2 on left lower nodes
 - 2 on right lower nodes



16. Minimum Flight Crew 1 pilot (RH seat at STA +1 340 mm)
17. Maximum Passenger Seating Capacity Four
1 in LH seat at STA +1 340
3 on rear bench at STA +2 130
18. Passenger Emergency Exit Refer to approved RFM
19. Maximum Baggage/ Cargo Loads

Configuration	Baggage/Cargo location	Max load	Station
1 pilot + 4 passengers – 80 kg each	Under the rear bench	100 kg (220 lb)	+2 200 mm
1 pilot + 1 passenger on front seats	Behind the front seats with the rear bench folded up	230 kg (507 lb)	+1 900 mm

20. Rotor Blade Control Movement For rigging information refer to the Maintenance Manual
21. Auxiliary Power Unit (APU) n/a
22. Life-limited Parts The periods specified in the latest approved revision of the Airworthiness Limitations section of the Maintenance Manual must not be exceeded.

IV. Operating and Service Instructions

1. Flight Manual SA 3180 Alouette Astazou, SA 318 B and SA 318 C Flight Manual, original edition approved by DGAC, or later DGAC-FR or EASA approved revision.
2. Maintenance Manual SA 3180, SA 318 B and SA 318 C Maintenance Manual
3. Structural Repair Manual not recorded
4. Weight and Balance Manual not recorded
5. Illustrated Parts Catalogue not recorded
6. Miscellaneous Manuals not recorded
7. Service Letters and Service Bulletins As published by Aérospatiale, Eurocopter or Airbus Helicopters
8. Required Equipment
As per compliance with applicable requirements and in accordance with the original Type Design standard; refer to approved Flight Manual.

V. Notes

1. Manufacturer's eligible serial numbers:
Each Alouette Astazou version or Alouette II modified with application of the AM-817 Sud-Aviation modification before 7 March 2007.
2. The certified "optional" installations are each approved independently of the basic helicopter and an approved Flight Manual Supplement is associated to each optional installation, if necessary.
3. Commercial designation:
ALOUETTE ASTAZOU corresponds to SA 3180 Alouette Astazou; SA 318 B and SA 318 C versions

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SECTION: ADMINISTRATIVEI. Acronyms and Abbreviations

°C	Degree Celsius	PWR	Power
C.G.	Centre of Gravity	RFM	Rotorcraft Flight Manual
CR	(European) Commission Regulation	rpm	Rounds per minute
EU	European Union	s/n	Serial Number
LDG	Landing	sec	Seconds
Max	Maximum	STA	Station
MCP	Maximum Continuous Power	TC	Type Certificate
n/a	not applicable	TCDS	Type Certificate Data Sheet
n°	Number	TKOF	Take-Off
OSD	Operational Suitability Data	VFR	Visual Flight Rules
PA	Pressure Altitude	V _{NE}	Never Exceed Speed

II. Type Certificate Holder Record

Type Certificate Holder	Period
Sud Aviation 37, Boulevard de Montmorency 75016 Paris, France	until 31 December 1996
Aérospatiale 37, Boulevard de Montmorency 75781 Paris CEDEX 16, France	From 1 January 1970 until 31 December 1991
Eurocopter France Aéroport International Marseille – Provence 13725 Marignane CEDEX, France	From 1 January 1992 until 30 May 1997
Eurocopter Aéroport International Marseille – Provence 13725 Marignane CEDEX, France	From 1 June 1997 until 6 January 2014
Airbus Helicopters Aéroport International Marseille – Provence 13725 Marignane CEDEX, France	Since 7 January 2014

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	27 Jan 2010	Initial issue of EASA TCDS	Re-issued on 27 January 2010
Issue 02	7 Jan 2014	The company name has been changed to AIRBUS HELICOPTERS	Re-issued on 7 January 2014
Issue 03	14 Feb 2017	New TCDS template, reference to OSD, minor editorial corrections	---

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