

European Aviation Safety Agency

EASA TYPE-CERTIFICATE DATA SHEET

**SA 3180 Alouette Astazou
SA 318B
SA 318C**

Type Certificate Holder: Eurocopter

Aéroport International Marseille – Provence
13725 Marignane cedex
France

Manufacturer: Eurocopter

Aéroport International Marseille – Provence
13725 Marignane cedex
France

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SA 3180 Alouette Astazou, SA 318B & SA 318C

I. General

1. **Data Sheet No:** EASA.R.124
Corresponding to DGAC-F n° 24, issue 9 dated March 1993
 2. **Type / Variant or Model:**
 - (a) Type: SA 318
 - (b) Variant or Model: SA 3180 Alouette Astazou, SA 318B & SA 318C
 3. **Airworthiness Category:** Small Rotorcraft
 4. **Type Certificate Holder:**

Since June 1, 1997

EUROCOPTER
Aéroport International Marseille - Provence
13725 MARIGNANE cedex - FRANCE

Before June 1, 1997

EUROCOPTER FRANCE
Aéroport International Marseille - Provence
13725 MARIGNANE cedex - FRANCE

Between January 1, 1970 and January 1, 1992

AEROSPATIALE
37, Boulevard de Montmorency
75781 PARIS cedex 16 – FRANCE

Before January 1, 1970

SUD AVIATION
37, Boulevard de Montmorency
75781 PARIS cedex 16 – FRANCE
 5. **Manufacturer:** As above
 6. **National Certification Date:**

SA 3180 Alouette Astazou	February 18, 1964
SA 318B	February 18, 1964
SA 318C	February 18, 1964
(DGAC-F National TC N° 1)	
 7. **DGAC-F Application Date:** N/A
 8. **DGAC-F Recommendation Date:** N/A
 9. **EASA Certification Date:** N/A
- ### II. Certification Basis
1. **Certification Basis:**

CAR-6, edition dated October 11, 1955 with additional Special Conditions notified at the French Official Services by the government of the United States (letter dated May 28, 1957)
 2. **Airworthiness Requirements:** As defined above
 3. **Reversions and Exemptions Granted:** N/A
 4. **Equivalent Safety Findings:** N/A
 5. **Special Conditions:** Refer to §1 certification basis

6. Environmental Standards including noise: N/A

III. Technical Characteristics and Operational Limitations

1. Type Design Definition:

SA 3180 Alouette Astazou, basic SA 3180 definition

SA 318B definition of SA 318B is obtained by applying to 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 318C definition of SA 318C is obtained by applying to 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.

Nota: 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 07 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: Small single-engine helicopter.

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

4. Dimensions:

Fuselage:	Length:	9,700 m (31,82 ft) or 9,750m (31,99 ft) for H/C with Tail rotor equipped with Alouette III blades
	Width:	2,080 m (6,82 ft) for H/C equipped with narrow pads gear 2,380 m (7,81 ft) for H/C equipped with large pads gear 2,200 m (7,22 ft) for H/C equipped with wheel gear 2,750 m (9,02 ft) for H/C equipped with float gear
	Height:	2,750 m (9,02 ft)
Main Rotor:	3 blades	Diameter 10,200 m (33,46 ft)
Tail Rotor:	2 blades	Diameter 1,817 m (5,96 ft) or 1,912 m (6,27 ft) for H/C with Tail rotor equipped with Alouette III blades

5. Engines: SA 3180, SA 318B & SA 318C: 1 Turboméca ASTAZOU II A or II A2
see EASA.E.139

5.1 Installed Engine Limits:

- max Rpm: 43500 rpm (\pm 1500 rpm allowed only for quick pitch angle changes)
- max power: 299 kW (transmission limitation) / (max continuous turbine power approved limitation: 353 kW)

	ASTAZOU II A	ASTAZOU II A2
max T4 temperature continuous	460°	490°
max T4 temperature at engine start	600°	600°
max T4 temperature at engine start (5s)	630°	630°
max T4 temperature before engine start	150°	150°
max T4 temperature at Take-off ($\Theta_s \leq 15^\circ\text{C}$)	490°	490°
max T4 temperature at Take-off ($\Theta_s = 45^\circ\text{C}$)	515°	515°

5.2 Transmission Torque Limits: Refer to approved Flight Manual

6. Fluids (Fuel/Oil/Hydraulic/Additives):

- 6.1 Fuel: as approved in the Flight Manual
- 6.2 Oil: as approved in the Flight Manual for engine and gearboxes
- 6.3 Hydraulic: as approved in the Flight Manual
- 6.4 Additives: as approved in the Flight Manual

7. Fluid Capacities:

- 7.1 Fuel: cubic tank: 580 l (153,2 US Gal)
usable 565 l (149,2 US Gal)
- quadrilobic tank: 575 l (151,9 US Gal)
usable 573 l (151,3 US Gal)
- 7.2 Oil: 7,5 l (1,9 US Gal)

8. Airspeed Limits:

SA 3180 Alouette Astazou & SA 318B versions:

Height (m)	0	1000 m	2000 m	3000 m	4000 m	4500 m
Weight (kg)	Vne (km/h)	Vne (km/h)	Vne (km/h)	Vne (km/h)	Vne (km/h)	Vne (km/h)
1600	185	165	145			
1500	195	175	155			
1400	195	185	165	145		
1300	195	195	175	155	135	
1200	195	195	185	165	145	135
1100	195	195	195	175	155	145
1000	195	195	195	185	165	155

SA 318C * version:

Height (m)	0	1000 m	2000 m	3000 m	4000 m	4500 m
Weight (kg)	Vne (km/h)	Vne (km/h)	Vne (km/h)	Vne (km/h)	Vne (km/h)	Vne (km/h)
1650	205	200	175	145		
1600	205	200	175	145		
1500	205	200	175	150	125	
1400	205	200	176	156	135	125
1300	205	200	181	163	145	135
1200	205	200	185	170	155	148
1100	205	200	188	176	165	157

* For CG longitudinal position between + 3 m and + 3,15 m, the table values must be reduced by 10 km/h.

9. Rotor Speed Limits:

- Max rotor speed: 420 rpm
- Min rotor speed: 280 rpm
- Max continuous rotor speed: 362 rpm

10. Maximum Operating Altitude and Temperature:

10.1 Altitude: max: 4500m

Nota: Additional limitation for H/C equipped with float gear (see approved Flight Manual)

10.2 Temperature: - 40°C to + 55°C

11. Operating Limitations:

General: VFR day
VFR night when the additional equipment required by operational regulations is installed and serviceable. (For more information refer to the approved Flight Manual)
Non-icing conditions

12. Maximum Certified Weights:

Take-off and landing:	SA 3180 Alouette Astazou	1500kg (3306,9 lb)
	SA 318B	1600kg* (3527,4 lb)
	SA 318C	1650kg (3637,6 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:

Forward limit:	2,72 m (8,92 ft)
Aft limit:	3,15 m (10,33 ft)

Lateral:

	With standard setting (3,5°)	With special setting (5°)
LH limit	0,135 m	0,146 m
RH limit	0,043 m	0,032 m

14. Datum:

Longitudinal:	3 m (9,84 ft) forward of main rotor centreline
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 in R.H. seat at station + 1.34 m

17. Maximum Passenger Seating Capacity: 1 in L.H. seat at station + 1.34 m
3 in rear bench at station + 2,13 m

18. Passenger Emergency Exits: Refer to approved Flight Manual

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 (220,4 lb)	+ 2.2 m
1 pilot + 1 passenger on front seats	Behind the front seats with the rear bench folded up	230 kg (507 lb)	+ 1.9 m

20. Rotor Blade and Control Movement: Refer to aircraft Maintenance Manual

21. Auxiliary Power Unit: None

IV. Operating and Service Instructions

1. Rotorcraft Flight Manual, Document No:

SA 3180 Alouette Astazou, SA 318B and SA 318C Flight Manual, original edition approved by DGAC-For later DGAC-F or EASA approved revision.

2. Maintenance Manual, Document No:

SA 3180; SA 318B and SA 318C Maintenance Manual.

3. Service Letters and Service Bulletins: As published by Aérospatiale or Eurocopter and approved by DGAC-F or EASA

4. Required Equipment: As per compliance with applicable requirements and in accordance with the original Type Design standard; refer to approved Flight Manual.

5. Master Minimum Equipment List: None

V. Notes

1. Eligible serial numbers: each Alouette Astazou version or Alouette II modified with application of the AM-817 Sud-Aviation modification before 07 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 318B and SA 318C versions

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