DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

H1IN
Revision 9
Airbus Helicopters
SE.3160 Alouette III
SA.316B Alouette III
SA.315B Alouette III
SA.319B Alouette III
SA.316C Alouette III
March 1, 2022

TYPE CERTIFICATE DATA SHEET NO. H1IN

This data sheet which is a part of Type Certificate No. H1IN prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Civil Air Regulations/Federal Aviation Regulations.

Type Certificate Holder: Airbus Helicopters Aeroport International
Marseille Provence13725
Marignane - Cedex
France

TC Holder Record: Eurocopter France changed name to Airbus Helicopters on January 1, 2014.

I - Model SE.3160 Alouette III, approved 27 March 1962

Engine	One - Turbomeca Artouste III B.	
Fuel and Engine Oil	See data pertinent to all models.	
Engine limits	Maximum speed: 33,500 r.p.m. true held constant by governor within ± 200 r.p.m. (transient variations of ± 1000 r.p.m. are permissible).	
	Rating takeoff: 858 hp - 33,500 r.p.m. (5 min.) (limited to 562 hp by engine gear box)	) at sea level) standard
	Rating maximum continuous: 690 hp - 33,500 r.p.m.) (limited to 542 hp by engine gear box)	) conditions of) 59° F., 29.92 in.Hg
	Maximum tailpipe temperature	
	Takeoff power (5 min.)	: 550°C
	Maximum continuous power	: 500°C
Transmission Limits	Maximum takeoff power	: 542 hp
	Maximum continuous power	: 444 hp
Helicopter Limits	Maximum takeoff power	: 542 hp
	Maximum continuous power	: 444 hp
Rotor Limits	Maximum speed	: 420 r.p.m.
	Minimum speed	: 270 r.p.m.
	Constant speed, power-on flight	: 353.2 r.p.m.
Airspeed Limits	For CG location between (109.45) and (121.25) : 113 knots For CG location between (121.25) and (124.0) : 103 knots See Helicopter Flight Manual for variation of VNE with weight and altitude.	

I - Model SE.3160 Alouette III (cont'd)

C.G. Range	Longitudinal	(109.45) to (121.25) (121.25) to (124.0) with airspeed restriction per "Airspeed Limits" above.
	Lateral	LH Limit (5.51) RH Limit (4.72)
Maximum Weight	4630 lb.	
Number of Seats	7 - Pilot and two front passengers (54.55), plus four rear passengers (86.45)	
Maximum Baggage	See Helicopter Flight Manual.	
Fuel Capacity	149 U.S. Gal. (123.2) - Usable 146 U.S. Gal. Total tank capacity: 157 U.S. Gal. (See NOTE 1 for data on unusable fuel).	
Oil Capacity	Total capacity 2.6 U.S. Gal. at 143 inches (See NOTE 1 for data on undrainable oil).	
NOTE A	The "Siren" cargo swing, cargo sling and "Air Equipment" rescues hoist to Aerospatiale Drawing Nos. 3160-73.06.500 (cargo swing) 3160-73.06.000 (cargo sling) and 3160-73.38.000 (rescue hoist) are approved for special-purpose operation in accordance with limitations contained in the Helicopter Flight Manual.	

II. Model SA.316B Alouette III, approved 25 March 1971
(SA.316B may be obtained by conversion of SE.3160 in accordance with NOTE B)

Engine	One - Turbomeca Artouste III B.	
Fuel and Engine Oil	See data pertinent to all models.	
Engine Limits	Maximum speed: 33,500 r.p.m. true held constant by governor within ± 200 r.p.m. (transient variations of ± 1000 r.p.m. are permissible). Rating takeoff: 858 hp - 33,500 r.p.m. (5 min.)) (limited to 562 hp by engine gear box)) at sea level) standard Rating maximum continuous: 690 hp - 33,500 r.p.m.) conditions of (limited to 542 hp by engine gear box)) 59° F., 29.92 in.Hg Maximum tailpipe temperature Takeoff power (5 min.) : 550°C Maximum continuous power : 500°C	
Transmission Limits	Maximum takeoff power : 592 hp Maximum continuous power : 444 hp	
Helicopter Limits	Maximum takeoff power : 562 hp Maximum continuous power : 444 hp	
Rotor Limits	Maximum speed : 420 r.p.m. Minimum speed : 270 r.p.m. Constant speed, power-on flight : 353.2 r.p.m.	
Airspeed Limits	For CG location between (109.45) and (121.25): 113 knots For CG location between (121.25) and (124.0): 103 knots See Helicopter Flight Manual for variation of VNE with weight and altitude.	

II. Model SA.316B Alouette III (cont'd)

C.G. Range	Longitudinal	(109.45) to (121.25) (121.25) to (124.0) with airspeed restriction per "Airspeed Limits" above.
	Lateral	LH limit (5.51) RH limit (4.72)
Maximum Weight	4850 lb.	
Number of Seats	7 - Pilot and two front passengers (54.55), plus four rear passengers (86.45).	
Maximum Baggage	See Helicopter Flight Manual.	
Fuel Capacity	149 U.S. Gal. (123.2) - Usable 146 U.S. Gal. Total tank capacity: 157 U.S. Gal. (See NOTE 1 for data in unusable fuel).	
Oil Capacity	Total capacity 2.6 U.S. Gal. at 143. (See NOTE 1 for data on undrainable oil).	
NOTE A	The "Siren" cargo swing, cargo sling and "Air Equipment" rescue hoist to Aerospatiale Drawing Nos. 3160-73.06.500 (cargo swing) 3160-73.06.000 (cargo sling) and 3160-73.38.000 (rescue hoist) are approved for special-purpose operation in accordance with limitations contained in the Helicopter Flight Manual.	
NOTE B	To convert the Model SE.3160 Alouette III to the Model SA.316B Alouette III the following assemblies, or those which bear a higher group number or dot number, must be installed. (See SGAC-approved Alouette Service Bulletin 01.20).	
	- Blade spacing cables reinforced	P/N 3160S.14.60.000
	- Main landing gear reinforced	P/N 3160S.42.10.000.1
	- Body structure reinforced	P/N 3160S.22.11.000.1
	- Improvement of tail boom service life	P/N 3160S.23.11.000.9
	- Instruction placards	(See NOTE 2)
	- Main gear box	P/N 3160S.62.00.000.13 or P/N 3160S.62.00.000.10 to 12 embodying modification AM.1212 in addition (See log card)
	- Main rotor shaft	P/N 3160S.68.10.000.1
	- Main rotor head	P/N 3160S.12.20.000.3
	- Freewheel	P/N 3160S.60.10.000.1
	- Tube and universal joint assy	P/N 3160S.67.11.000
	- Tail rotor gear box	P/N 3160S.66.10.000.3
	- Tail rotor head	P/N 3160S.33.30.000.6
	- Main rotor blades	P/N 3160S.11.10.000.16 to 31 .42 to 51 .62 to 71
	- Tail rotor blades	P/N 3160S.34.10.000.10

III. - Model SA.315B Alouette III, approved 25 February 1972

Engine	One - Turbomeca Artouste III B.	
Fuel and Engine Oil	See data pertinent to all models.	
Engine Limits	Maximum speed: 33,500 r.p.m. true held constant by governor within ± 200 r.p.m. (transient variations of ± 1000 r.p.m. are permissible).	
	Rating takeoff: 858 hp - 33,500 r.p.m. (5 min.) (limited to 562 hp by engine gear box)	)) at sea level) standard
	Rating maximum continuous: 690 hp - 33,500 r.p.m. (limited to 542 hp by engine gear box)	) conditions of) 59° F., 29.92 in.Hg
	Maximum tailpipe temperature Takeoff power (5 min.) : 550°C Maximum continuous power : 500°C	
Transmission Limits	Maximum takeoff power : 592 hp Maximum continuous power : 494 hp	
Helicopter Limits	Maximum takeoff power : 562 hp Maximum continuous power : 494 hp	
Rotor Limits	Maximum speed : 420 r.p.m. Minimum speed : 270 r.p.m. Constant speed, power-on flight : 353.2 r.p.m.	
Airspeed Limits	For CG location between (108.6) and (118.1): 113 knots For CG location between (118.1) and (124.0): 108 knots See Helicopter Flight Manual for variation of VNE with weight and altitude.	
C.G. Range	Longitudinal (108.6) to (118.1) (118.1) to (124.0) with airspeed restriction per "Airspeed Limits" above and for weights below 3860 lb.	
	Lateral LH limit (5.3) RH limit (1.7)	
Maximum Weight	4300 lb. with internal load. 5070 lb. with external load. Maximum permissible weight on sling: 2200 lb.	
Number of Seats	5 - Pilot and one front passenger (52.80), plus three rear passengers (84.10).	
Maximum Baggage	See Helicopter Flight Manual.	
Fuel Capacity	149 U.S. Gal. (120) - Usable 146 U.S. Gal. Total tank capacity: 157 U.S. Gal. (See NOTE 1 for data on unusable fuel).	
Oil Capacity	Total capacity 2.6 U.S. Gal. at 141.5. (See NOTE 1 for data on undrainable oil).	
NOTE A	The "Siren" cargo swing and "Air Equipment" rescue hoist to Aerospatiale Drawing Nos. 315A73.10.100 (cargo swing) and 315A73-02.100 (rescue hoist) are approved for special-purpose operation in accordance with limitations contained in the Helicopter Flight Manual.	

IV. - Model SA319B Alouette III, approved 20 November 1972.

Engine	One - Turbomeca Astazou XIVB.	
Fuel and Engine Oil	See data pertinent to all models.	
Engine Limits	Maximum speed: 43,000 r.p.m. true held constant by governor within ± 200 r.p.m. (transient variation of ± 1500 r.p.m. are permissible). Rating takeoff: 858 hp - 43,000 r.p.m. (5 min.)) (limited to 592 hp by engine gear box)) at sea level) standard Rating maximum continuous: 770 hp - 43,000 r.p.m.) conditions of (limited to 542 hp by engine gear box)) 59° F., 29.92 in.Hg Maximum tailpipe temperature Maximum takeoff (5 min.) : 520°C Maximum continuous power : 470°C	
Transmission Limits	Maximum takeoff power : 592 hp Maximum continuous power : 494 hp	
Helicopter Limits	Maximum takeoff power : 592 hp Maximum continuous power : 494 hp	
Rotor Limits	Maximum speed : 420 r.p.m. Minimum speed : 270 r.p.m. Constant speed, power on flight : 358 r.p.m.	
Airspeed Limits	For CG location between (109.4) and (121.2): 118 knots For CG location between (121.2) and (124.0): 108 knots See Helicopter Flight Manual for variation of V_{NE} with weight and altitude.	
C.G. Range	Longitudinal (109.4) to (121.2) (121.2) to (124.0) with airspeed restriction (See above "Airspeed Limits") Lateral LH limit (5.5) RH limit (4.7)	
Maximum Weight	4,960 lb.	
Number of Seats	7 - Pilot and two front passengers (54.5), plus four rear passengers (86.4).	
Maximum Baggage	See Helicopter Flight Manual.	
Total Fuel Capacity	149 U.S. Gal. (123.2) - Usable 146 U.S. Gal. (See NOTE 1 for data on unusable fuel).	
Oil Capacity	Total capacity 2.6 U.S. Gal. at 153. (See NOTE 1 for data on undrainable oil).	
Rotor Blade Movements	For rigging information, refer to the Alouette III SA319B Maintenance Manual.	
NOTE A	The "Siren" cargo swing, cargo sling and "Air Equipment" rescue hoist to "Aerospatiale" Drawings. 319A-73.06.500 and 319A-73.06.510 (cargo swing) 319A-73.06.000 and 319A-73.06.010 (cargo sling) and 319A-73.38.005 and 319A-73.38.000 (rescue hoist) are approved for operation in accordance with limitations contained in the Helicopter Flight Manual.	
NOTE B	To convert the Model SA316B Alouette III to the Model SA319B Alouette III the appropriate modifications listed in the Aerospatiale Technical Note SA319A.04.00.025 must be applied.	

V. - Model SA316C Alouette III, approved 20 November 1972.

Engine	One - Turbomeca Artouste IIID.
Fuel and Engine Oil	See data pertinent to all models.
Engine Limits	Maximum speed: 33,500 r.p.m. true held constant by governor within ± 200 r.p.m. (transient variations of ± 1000 r.p.m. are permissible). Rating takeoff: 858 hp - 33,500 r.p.m. (5 min.)) (limited to 592 hp by engine gear box)) at sea level) standard Rating maximum continuous: 690 hp - 33,500 r.p.m.) conditions of (limited to 542 hp by engine gear box)) 29.92 in.Hg Maximum tailpipe temperature Maximum takeoff (5 min.) : 550°C Maximum continuous tsail : 500°C
Transmission Limits	Maximum takeoff power : 592 hp Maximum continuous power : 494 hp
Helicopter Limits	Maximum takeoff power : 592 hp Maximum continuous power : 494 hp
Rotor Limits	Maximum speed : 420 r.p.m. Minimum speed : 270 r.p.m. Constant speed, power-on flight : 358 r.p.m.
Airspeed Limits	For CG location between (109.4) and (121.2): 118 knots For CG location between (121.2) and (124.0): 108 knots See Helicopter Flight Manual for variation of VNE with weight and altitude.
C.G. Range	Longitudinal (109.4) to (121.2) (121.2) to (124.0) with airspeed restriction (See above "Airspeed Limits") Lateral LH limit (5.5) RH limit (4.7)
Maximum Weight	4,960 lb.
Number of Seats	7 - Pilot and two passengers (54.5), four rear passengers (86.4).
Maximum Baggage	See Helicopter Flight Manual.
Total Fuel Capacity	149 U.S. Gal. (123.2) - Usable 146 U.S. Gal. (See NOTE 1 for data on unusable fuel)
Oil Capacity	Total capacity 2.6 U.S. Gal. at 128. (See NOTE 1 for data on undrainable oil).
Rotor Blade Movements	For rigging information, refer to the SA316C Alouette III Maintenance Manual.
NOTE A	The "Siren" cargo swing, cargo sling and "Air Equipment" rescue hoist to "Aerospatiale" Drawings. 319A-73.06.500 and 319A-73.06.510 (cargo swing) 319A-73.06.000 and 319A-73.06.010 (cargo sling) and 319A-73.38.005 and 319A-73.38.010 (rescue hoist) are approved for operation in accordance with limitations contained in the Helicopter Flight Manual.

NOTE B To convert the Model SA316B Alouette III to the Model SA316C Alouette III the appropriate modifications listed in the Aerospatiale Technical Note SA319A.04.00.025 must be applied.

DATA PERTINENT TO ALL MODELS.

Fuel

Normal Fuels, Unrestricted

SPECIFICATIONS				REMARKS
French	U.S.A.	British	NATO	
Aviation Fuels AIR 3405 (TRO)		D. Eng. RD 2453 AVTUR FS II	F34	
	ASTMJet A			
	ASTMJet A1	D.Eng. RD 2494 AVTUR	F35	
Aviation Fuels AIR 3407 (TR4)	MIL-T-5624 (JP.4)	D.Eng. RD 2454 AVTAG FS II	F40	
	ASTMJet B	D.Eng. RD 2486 AVTAG	F45	
			F42	
Aviation Fuels AIR 3404 (TR5)	MIL-T-5624 (JP.5)	D.Eng. RD 2498 AVCAT	F44	

Note a: Refer to current issues and amendments.

Note b: The use of an approved anti-icing additive is recommended, if none is contained in the fuel, at OAT below O°C.

Note c: The following fuel additives are approved for use:
Anti-icing additive: AIR 3652, NATO.S.748, MIL.I.27686,
D.Eng. RD 2451 (each is eligible up to .15% in volume, with or without glycerine).
Anti-static additive: SHELL ASA.3, (up to .0001% in volume).

Fuels Subjected to Restrictions on Use.

SPECIFICATIONS				RESTRICTIONS
French	U.S.A.	British	NATO	
Gasoline	MIL-G-5572 (Grade 80/87) (Grade 100/130)		F12	Maximum operation time on gasoline during any period between overhauls: 25 hrs.
		D.Eng. RD 2485	F18	
AIR 3401	(Grade 115/145)		F22	Add 1 to 2% of lubricating oil by volume (mineral oil if possible)
Automotive Gasoline DCEA/2D MT 80	MIL-G-3056	DEF 2401	F46	
Automotive Diesel Oil DCEA/21 C	VVF 800 DF2	TS.10.003	F54	Not to be used at OAT below -5° C
	VVF 800 DF1			Not to be used at OAT below - 15°C
	VVF 800 DFA		F56	
Gasoil O 7120 STM	MIL-F-16884	DEF 2402 (47/0 DIESO)	F75	Not to be used at OAT below -5°C
Gasoil 20 7120STM		DEF 2402 (47/20 DIESO)	F76	Not to be used at OAT below 0°C
Illuminating Oil DCEA/11C	VV-K211	DEF 2403	F58	Not to be used at OAT below - 15°C

Engine Lubricating Oil

SPECIFICATIONS (Latest Amendment)					Remarks
	French	NATO	U.S.A.	British	
Normal	AIR 3513	0.148	MIL.l.7808		Synthetic Oil
	AIR 3515	0.135	Aeroshell Turbine Oil 3	D.Eng. RD 2490	Mineral oil
			Esso Aviation Utility Oil F		
			Caltex jet engine oil medium heavy		
		0.156	MIL.L.23699		Synthetic oil

CAUTION: The mixing of oils AIR 3513 and 3515 is not permitted. The system should be flushed when changing from one type to the other.

Datum

Longitudinal: 118.1 in. forward of rotor hub center
Lateral: Plane of symmetry of rotorcraft.

Leveling Means

Four leveling lugs, vertical tubes of body structure, two at the front and two at the rear.

Rotor Blade Movements

For rigging information, refer to the Alouette III Maintenance Manual.

Serial Nos. Eligible

The French Government "Certificat de Navigabilite pour Exportation" endorsed as noted under "Import Requirements" must be submitted for each individual helicopter for which application for certification is made. For applications for Standard Airworthiness Certificates made after May1, 2004, a review of historical records is needed to determine if the helicopter was delivered to and operated by the military. If the helicopter has military history, the helicopter is not eligible for a Standard Airworthiness Certificate unless a copy of a Standard Airworthiness Certificate issued at the time of delivery to the military is submitted.

Import Requirements

The FAA can issue a U.S. airworthiness certificate based on a National Aviation Authority (NAA) Export Certificate of Airworthiness (Export C of A) signed by a representative of the French Generale de l'Aviation Civile (DGAC) on behalf of the European Community.

The Export C of A should contain the following statement: "The aircraft covered by this certificate has been examined, tested, and found to comply with the type design approved under U.S. Type Certificate Number H1IN and to be in a condition for safe operation."

Refer to the applicable bilateral agreement to verify eligibility for import into the United States of both new and used aircraft based on the scope of the agreement, to identify any required statements by the exporting authority on the export certificate of airworthiness (or equivalent document), and for procedures for coordinating exceptions to conformity statements on these documents. Refer to FAA Order 8130.2, *Airworthiness Certification of Aircraft*, for requirements for issuance of an *airworthiness certificate* for imported aircraft.

Certification Basis

CAR 10 (FAR 21.29) CAR 6, 20 December 1956, plus Amendments 6.1 through 6.4 and Special Requirements notified to the French Government by the U.S. Government, in letters dated 3 May 1960 and 13 September 1961.
Type Certificate No. H1IN issued 27 March 1962 for the SE.3160 Alouette III.
Type Certificate No. H1IN amended 25 March 1971 to add the SA.316B Alouette III.
Type Certificate No. H1IN amended 25 February 1972 to add the SA.315B Alouette III.
Type Certificate No. H1IN amended 20 November 1972 to add the SA.319B AlouetteIII and the SA.316C Alouette III.
Date of Application for Type Certificate: 28 July 1961.

The French Direction Generale de l'Aviation Civile (DGAC) originally type certificated this rotorcraft under its type certificate TC 14. The FAA validated this product under U.S. Type Certificate Number H1IN. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of the DGAC.

Service Information

Each of the documents listed below must state that it is approved by the European Aviation Safety Agency (EASA) or – for approvals made before September 28, 2003 – by the French Generale de l'Aviation Civile (DGAC). Any such documents are accepted by the FAA and are considered FAA approved.

- Service Bulletin,
- Structural repair manuals,
- Vendor manuals,
- Aircraft flight manuals, and
- Overhaul and maintenance manuals.

This applies only to the acceptance of the type design data.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (See Certification Basis) must be installed in the aircraft for certification. In addition, the following items of equipment are required:

SGAC-approved Helicopter Flight Manual (English language version).
Ambient air temperature gauge.

NOTES:

NOTE 1 Current weight and balance report, including loading instructions and list of equipment included in the certificated empty weight, must be provided for each helicopter at the time of original certification. In order to obtain the most consistent weight and balance results, all helicopters should be weighed on jackpoints rather than on wheels and floats. When changes are made to the helicopter that affect the weight and balance, refer to the Flight Manual for instructions.

The certificated empty weight and corresponding center of gravity locations must include unusable fuel of 18 lb. (120.8), and undrainable oil of 1.5 lb. (138.6).

NOTE 2 The following placard must be displayed in clear view of the pilot:

"THIS HELICOPTER MUST BE OPERATED IN COMPLIANCE WITH THE OPERATING LIMITATIONS SPECIFIED IN THE APPROVED FLIGHT MANUAL"

The other placards as indicated in the Helicopter Flight Manual must be installed in the appropriate location.

NOTE 3 Information essential to the proper maintenance of the helicopter is contained in the Manufacturer's Maintenance Manual provided with each helicopter. The retirement times of critical parts are listed in Chapter 5, approved by SGAC.

NOTE 4 Revision 8 to the TCDS changed the company name from Eurocopter France to Airbus Helicopters.

NOTE 5: Effective January 1, 2014, Eurocopter France name was changed to Airbus Helicopters.

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