DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A28NM
Revision 7

Airbus

A319 Model -111	A320 Model -111
A319 Model -112	A320 Model -211
A319 Model -113	A320 Model -212
A319 Model -114	A320 Model -214
A319 Model -115	A320 Model -231
A319 Model -131	A320 Model -232
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A319 Model -133	
A321 Model -111	
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April 22, 2003

TYPE CERTIFICATION DATA SHEET A28NM

This Data Sheet which is part of Type Certificate No. A28NM prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Airbus
1, Rond-Point Maurice Bellonte
31707 Blagnac, France

Type Certificate Holder Record: Name change from Airbus Industrie to Airbus January 2002

I. Type A319-100 Series Transport Category Airplanes

Model A319-112, Approved August 30, 1996;
Model A319-111, Approved June 20, 1997;
Model A319-113, Approved June 20, 1997;
Model A319-114, Approved June 20, 1997;
Model A319-131, Approved June 20, 1997;
Model A319-132, Approved June 20, 1997;
Model A319-115, Approved October 22, 2002;
Model A319-133, Approved October 22, 2002;

Engines:
Model A319-111, Two CFMI Model CFM56-5B5 or CFM56-5B5/P jet engines;
Model A319-112, Two CFMI Model CFM56-5B6 or CFM56-5B6/P or CFM56-5B6/2P jet engines;
Model A319-113, Two CFMI Model CFM56-5A4 jet engines;
Model A319-114, Two CFMI Model CFM56-5A5 jet engines;
Model A319-115, Two CFMI Model CFM56-5B7 or CFM56-5B7/P jet engines;
Model A319-131, Two IAE Model V2522-A5 jet engines;
Model A319-132, Two IAE Model V2524-A5 jet engines;
Model A319-133, Two IAE Model V2527M-A5 jet engines;

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Fuel:
See Installation Manual - Documents CFM 2026 or IAE-0043

NOMENCLATURE	SPECIFICATION		
	FRANCE	U.S.A	U.K.
Kerosene		MIL-T83133A (JP8)	
	Air 3405C	ASTM D1655 (Jet Al) (Jet A)	DERD 2494
Wide Cut	Air 3407	ASTM D 1655 (JET B)	DERD 2454
	AIR 3407 (TR4)	MIL-T 5624 (JP4)	DERD 2454
High Flash Point	AIR 3404	MIL-T 5624 (JP5)	DERD 2452

Additives: See CFMI " Specific Operating Instructions," CMF TPOI-13 or IAE V2500 “Installation and Operating Manual” IAE-0043, 4. The above mentioned fuels and additives are also suitable for the APU.

Engine Limits:

Engine Limitation	CFMI CFM56-5B5 or -5B5/P FAA Data Sheets E37NE E38NE	CFMI CFM56-5B6 or -5B6/P or -5B6/2P FAA Data Sheets E37NE E38NE	CFMI CFM56-5A4 FAA Data Sheet E28NE
Static Thrust at Sea Level - Take-off (5 min)** (Flat rated 30°C) Maximum Continuous (Flat rated 25°C)	9 786 daN (22,000 lb) 9 008 daN (20,250 1b)	10 453 daN (23,500 lb) 9 008 daN (20,250 1b)	9 786 daN (22,000 lb) 9 195 daN (20,670 1b)
Maximum Engine Speed - N1 rpm (%) - N2 rpm (%)	5,200 (104) 15,183 (105)	5,200 (104) 15,183 (105)	5,100 (102) 15,183 (105)
Max Gas Temperature (°C) - Take-off (5 min)** - Max Continuous - Starting *	950 915 725	950 915 725	Eng. Limit/ ECAM 915/890 880/855 725/725
Max Oil Temperature (supply pump inlet; °C) - Take-off, Stabilized - Transient (15 min max) Min. Press. (PSI)	140 155 13	140 155 13	140 155 13
Approved Oils	See SB CFMI 79-001-0X	See SB CFMI 79-001-0X	See SB CFMI 79-001-0X

Engine Limitation	CFMI CFM56-5A5 FAA Data Sheets E28NE (FAA)	IAE V2522-A5 FAA Data Sheets E40NE (FAA)	IAE V2524-A5 FAA Data Sheets E40NE (FAA)
Static Thrust at Sea Level - Take-off (5 min)** (Flat rated 30°C) Maximum Continuous (Flat rated 25°C)	10 453 daN (23,500 lb) 9 195 daN (20,670 1b)	10 249 daN (23,040 lb) 8 540 daN (19,200 1b)	10 889 daN (24,480 lb) 8 540 daN (19,200 1b)
Maximum Engine Speed - N1 rpm (%) - N2 rpm (%)	5,100 (102) 15,183 (105)	5,650 (100) 14,950 (100)	5,650 (100) 14,950 (100)
Max Gas Temperature (°C) - Take-off (5 min)** - Max Continuous - Starting *	Eng. Limit/ ECAM 915/890 880/855 725/725	Eng. Limit/ ECAM 625/635 610/610 635/635	Eng. Limit/ ECAM 635/635 610/610 635/635
Max Oil Temperature (supply pump inlet; °C) - Take-off, Stabilized - Transient (15 min max) Min. Press. (PSI)	140 155 13	155 165 60	155 165 60
Approved Oils	See SB CFMI 79-001-0X	See Doc IAE 0043 Sec 4.9 (MIL-L-23699)	See Doc IAE 0043 Sec 4.9 (MIL-L-23699)

Engine Limits: (continued)

Engine Limitation	CFMI CFM56-5B7 or –5B7/P FAA Data Sheets E37NE E38NE	IAE V2527M-A5 FAA Data Sheet E40NE
Static Thrust at Sea Level - Take-off (5 min)** (Flat rated 30°C) Maximum Continuous (Flat rated 25°C)	 12 010 daN (27,000 lb) 10 840 daN (24,370 1b)	 11 030 daN (24,800 lb) 9 890 daN (22,240 1b)
Maximum Engine Speed - N1 rpm (%) - N2 rpm (%)	 5,200 (104) 15,183 (105)	 5,650 (100) 14,950 (100)
Max Gas Temperature (°C) - Take-off (5 min)** - Max Continuous - Starting *	 950 915 725	 645 610 650
Max Oil Temperature (supply pump inlet; °C) - Take-off, Stabilized - Transient (15 min max) Min. Press. (PSI)	 140 155 13	 155 165 60
Approved Oils	See SB CFMI 79-001-0X	See Doc IAE 0043 Sec 4.9 (MIL-L-23699)

* 4 consecutive cycles of 2 minutes each.
** 10 minutes at take-off thrust allowed in case of engine failure (at take off and during go around).

Airspeed Limits (Indicated Airspeed - IAS - Unless Otherwise Stated:
- Maximum Operating Mach - MMO: 0.82
- Maximum Operating Speed - VMO: 350 kt
- Maneuvering Speed VA: - See Chapter 2.0 of the DGAC-approved Flight Manual
- Extended Flaps/Slats Speed - VFE

Configuration	Slats/Flaps	VFE (kt)	
1	18/0 *18/10	230 215	Intermediate Approach Take-off
2	22/15	200	Take-off and Approach
3	22/20	185	Take-off, Approach, and Landing
Full	27/40	177	Landing

* Auto flap retraction at 210 kt in Take-off configuration.

Landing Gear:
- VLE - Extended: 280 kt/Mach 0.67
- VLO - Extension: 250 kt
- Retraction: 220 kt

Tire Limit Speed (Ground Speed) = 195.5 kt (225 mph)

Maximum Weights:

VARIANT	000 BASIC		001 Mod 25328		002 Mod 27112	
	(KG)	(LBS)	(KG)	(LBS)	(KG)	(LBS)
Max. Take-Off Weight	64,000	141,090	70,000	154,322	75,500	166,447
Max. Landing Weight	61,000	134,480	61,000	134,480	62,500	137,787
Max. Zero Fuel Weight	57,000	125.660	57,000	125,660	58,500	128,969

Minimum Weight:

VARIANT	All	
	(KG)	(LBS)
Minimum Weight	35,400	78,042

Minimum Crew:
2 Pilots

Maximum Passengers:
145

Maximum Baggage:

CARGO COMPARTMENT	MAXIMUM LOAD	
	(KG)	(LBS)
Forward	2,268	5,000
Aft	3,020	6,660
Rear (Bulk)	1,497	3,300

For the positions and the loading conditions authorized in each position (references of containers, pallets, associated weights), see Weight and Balance Manual, Ref. 00J080A0001/C1S Chapter 1.10.

Fuel Capacity (0.8 kg/liter)

3-Tank Airplane				
Tank	Usable Fuel		Unusable Fuel	
	Liters (kgs)	Gallons (lbs)	Liters (Kgs)	Gallons (lbs)
Wing	15,609 (12,487)	4,124 (27,531)	58.9 (47.1)	15.6 (103.9)
Center	8,250 (6,600)	2,179 (14,551)	23.2 (18.6)	6.5 (41.0)
TOTAL	23,859 (19,087)	6,303 (42,082)	82.1 (65.7)	20.8 (144.9)

4 to 9-Tank Airplane				
Tank	Usable Fuel		Unusable Fuel	
	Liters (kgs)	Gallons (lbs)	Liters (Kgs)	Gallons (lbs)
TOTAL 3-Tank Airplane	23,859 (19,087)	6,303 (42,082)	82.1 (65.7)	20.8 (144.9)
ACT 1	3,121 (2,497)	824 (5,505)	17 (13.6)	4.3 (28.8)
TOTAL 4-Tank Airplane	26,980 (21,584)	7,128 (47,587)	99.1 (79.3)	25.1 (173.7)
ACT 2	3,121 (2,497)	824 (5,505)	17 (13.6)	4.3 (28.8)
TOTAL 5-Tank Airplane	30,101 (24,081)	7,952 (53,092)	116.1 (92.9)	29.4 (202.5)
ACT 3	2,186 (1,749)	577 (3,855)	22 (17.6)	5.6 (37.4)
TOTAL 6-Tank Airplane	32,287 (25,830)	8,530 (56,947)	138.1 (110.5)	35.0 (239.9)
ACT 4	2,186 (1,749)	577 (3,855)	22 (17.6)	5.6 (37.4)

TOTAL 7-Tank Airplane	34,473 (27,579)	9,107 (60,803)	160.1 (128.1)	40.6 (277.3)
ACT 5	3,046 (2,437)	804 (5,372)	12 (9.6)	3.1 (20.6)
TOTAL 8-Tank Airplane	37,519 (30,016)	9,912 (66,176)	172.1 (137.7)	43.7 (297.9)
ACT 6	3,121 (2,497)	824 (5,505)	17 (13.6)	4.3 (28.8)
TOTAL 9-Tank Airplane	40,640 (32,513)	10,737 (71,681)	189.1 (151.3)	48.0 (326.7)

Oil Capacity
CFMI CFM56-5B - Engine Oil Capacity, 10 quarts/engine (9.46 liters).
IAE V2500-A5 - Engine Oil Capacity, 7 quarts/engine (6.6 liters)

Maximum Operating Altitude:
- 41,000 feet (12,600 m) clean if modification 28162 is embodied.
- 39,800 feet (12,200 m) clean if modification 30748 is embodied.
- 39,100 feet (12,000 m) clean.
- 20,000 feet (6,500 m) Slats/Flaps extended.

Equipment:
The basic equipment as prescribed in the airworthiness regulations (see certification basis) must be installed in the aircraft for certification.
Equipment approved for installation are listed in the definition of the reference model and the modifications applicable to it. Refer to Type Certification Standard Equipment Lists:
-00J000A0012/C0S for A319-111 Model
-00J000A0004/C0S for A319-112 Model
-00J000A0113/C0S for A319-113 Model
-00J000A0114/C0S for A319-114 Model
-00J000A0131/C0S for A319-131 Model
-00J000A0132/C0S for A319-132 Model
-00J000A0115/C0S for A319-115 Model
-00J000A0133/C0S for A319-133 Model
Refer to Note 4 for list of A319 airplane model FAA Type Definitions.

Serial Numbers Eligible:
A319 aircraft, all series, all models, are produced in Hamburg (Germany) under approval LBA.G.0009 or I-A9 issued by LBA to Airbus.

A German Export Certificate of Airworthiness endorsed as noted under "Import Requirement," must be submitted for each individual aircraft for which application for U.S. certification is made.

Import Requirements:
A FAA Standard Airworthiness Certificate may be issued on the basis of a German Export Certificate of Airworthiness, signed by a representative of the Luftfahrt-Bundesamt (LBA) of Germany, containing the following statement: "The Airplane covered by this certificate has been examined, tested, and found to conform to the Type Design approved under Type Certificate No. A28NM and to be in condition for safe operation."

The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is FAR Sections 21.183(c) or 21.185(c). The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 exported from countries other than the country manufacture (e.g., third party country) is FAR Sections 21.183(d) or 21.185(b). Notwithstanding that FAR section 21.183(d) and 25.185(b) do not specifically address or require certification by the foreign civil airworthiness authority of the country of manufacture, such certification is the only practical way for an applicant to show, and the Federal Aviation Administration (FAA) to find conformity to the FAA-approved type design and condition for safe operation. Additional guidance is contained in FAA advisory Circular 21-23, Airworthiness Certification of Civil Aircraft, Engines, Propellers, and Related Products Imported into the United States.

Certification Basis:

a. Part 25 of the FAR effective February 1, 1965, including Amendments 25-1 through 25-56 thereto.

b.1 Plus the following sections of Part 25 as amended by amendments 25-1 through:
-25-58 (Section 25.812(e))
-25-63 (Section 25.25 (a)(3))
-25-67 (Section 25.807 (c)(7))
(Applied per FAA derivative aircraft policy – reference FAA order 8110.4A)

b.2 Airbus elected to comply with the following sections of Part FAR 25 through Amendment 86:
25.305(d), 25.321(c)/(d), 25.331(a)/(d), 25.333(a)/(c),25.335(d), 25.341,
25.343 (b)(1)(ii), 25.345(a)/(c), 25.349(b), 25.351(b),25.371, 25.373(a),
25.391(e), 25.427, 25.445(a), 25.571(b)(2)/(b)(3), 25.1517.

b.3 Airbus elected to comply with portions of FAR 25.562, Amendment 64, for the passenger seats only. FAR paragraphs 25.562(c)(5), (c)(6) do not apply.

c. Part 34 of the FAR effective Sept. 10, 1990, including amendment 34-1.

d. Part 36 of the FAR effective December 1, 1965, including amendments 36-1 through 36-20 thereto.

e. FAA Special Conditions issued for the A320 in accordance with Section 21.16 of the FAR and published in the Federal Register as follows:
(1) January 27, 1989:
- Electronic Flight Controls
- Active Controls
- Engine Controls and Monitoring
- Protection from Lightning and Unwanted Effects of Radio Frequency
- (RF) Energy
- Flight Characteristics
- Flight Envelope Protection
- Side Stick Controllers
- Flight Recorder
(2) June 9, 1989:
- Computerized AFM

f. For precision approach and landing, the applicable technical requirements are complemented by AC 120-29 and AC 120-28c.
For the automatic flight control system, the applicable technical requirements are complemented by AC 20-57A for automatic landing and by AC 25.1329-1A for cruise.
Use of JAR AWO where applicable to the requirements above, is acceptable.

g. The following paragraphs of the FAR have been complied with through equivalent safety demonstrations:
- 25.101, 25.105, 25.109, 25.113, 25.115, 25.735, for rejected takeoff and landing performance
- 25.783(f) for passenger doors
- 25.807(c) for maximum passenger capacity
- 25.813(a) emergency exit access for a single 13 inch aisle
- 25.933(a), 25.1309(b) for thrust reversing system
- 25.811(e)(3) Type III emergency exit marking.

h. Optional Requirements elected:
- 25.801 for ditching
- 25.1419 for icing

Note 1 - Weight and Balance

a. Current weight and balance report including list of equipment, entitled "Aircraft Inspection Report" included in certificated empty weight, and loading instructions, must be in each aircraft at the time of original certification and at all times thereafter, except in the case of operators having an approved weight control system. Airbus report, " Weight and Balance Manual," contains loading information for each airplane and interior arrangement configuration as delivered. This report contains, or refers to, information relative to location of all passengers and crew member seats, location and capacity of all cargo and baggage compartments, buffets, storage spaces and coat rooms, location and capacity of lounges, lavatories, and the required placards in the passenger compartment.

b. The airplane must be loaded so that the CG is within specified limits at all times, considering fuel loading usage, gear retraction and movement of crew and passengers from their assigned positions.

c. The weights of system fuel and oil, as defined below, and hydraulic fluid, all of which must be included in the airplane empty weight, are listed for each airplane in the Weight and Balance Manual specified in paragraph a. above.

d. System fuel is the weight of all fuel required to fill a lines and tanks up to zero-fuel point on the fuel gauges in the most critical flight attitude, including the unusable tank fuel as defined by FAR part 25.959. (The usable fuel in the crossfeed manifold lines, manifolds, and engine that is not part of the system fuel must be included in the total usable fuel to obtain correct weight and CG for take-off.)

e. The unusable fuel is that amount of fuel in the tanks which is unavailable to the engines under critical flight conditions as defined in FAR Part 25.959. This "unusable" fuel is included in System Fuel as indicated in paragraph d. above, and need not be accounted for separately.

f. System oil is the weight of all remaining in the engine, constant speed drive, lines, and tanks after subtracting the oil in the tanks which is above the standpipe (zero gauge) levels. The engine oil capacities shown elsewhere in this data sheet include only the usable oil for which the tanks must be placarded.

Note 2:
The aircraft must be operated in accordance with the DGAC-approved FAA Airplane Flight Manual. ("DGAC-approved" is considered equivalent to "FAA-approved".)

Note 3:
Life limitations are provided in the A319/A320/A321 Maintenance Planning Document, Section 9 “Airworthiness Limitation Section”, Sub-Sections 9-1-2 and 9-1-3 - Approved by DGAC.

Note 4:
The A319 basic definition for U.S. import certification is contained in the following documents:
-AI/EA-S 413.0969/96 for A319-111 model
-AI/EA-S 413.1012/96 for A319-112 model
-AI/EA-S 413.3100/96 (Mod 25699 supplement) for A319-112 model
-AI/EA-S 413.2504/96 for A319-113 model
-AI/EA-S 413.2505/96 for A319-114 model
-AI/EA-S 413.0393/97 for A319-131 model
-AI/EA-S 413.0396/97 for A319-132 model
-AI/EA-S 413.2127/99 for A319-115 model
-AI/EA-S 413.2128/99 for A319-133 model

Note 5:
Maintenance criteria to comply with certification requirements for systems are given in Airbus Document AI/ST4/955.061/89 “Certification Maintenance Requirements (FAA version)” (CMR).

Maintenance criteria to comply with certification requirements for structure are given in Airbus Document AI/SE-M4/95A.0252/96 “Airworthiness Limitation Items”. This document is not applicable to the A319 for Corporate Jet use, but rather Airbus document AI/SE-M2/95A-1038/99 “Airworthiness Limitation Items”.

Note 6:
If modification 25469 or 26968 is embodied on models with CFM engines, the airplane is qualified for CAT III B precision approach. This does not constitute operational approval.

Note 7:
Modification 25303 (for CFM engine) or 25302 (for IAE engine) are part of the FAA Type Design and shall be implemented on any A319 aircraft entered on the U.S. register, before the individual U.S. standard Certificate of Airworthiness can be issued.

Note 8:
If modification 25800 is embodied on models with CFM56-5B engines, the engine performance is improved. The engine denomination changes to /P.
CFM56-5B/”non-P” engine can be intermixed with CFM56-5B/P engine on the same aircraft.

Note 9:
If Modification 26716 or 26717 is embodied on models with IAE engines, the airplane is qualified for CAT III B precision approach. This does not constitute operational approval.

Note 10:
The type design definitions and certification standard equipment lists as referenced in Note 4 are complemented by document 00D000A0546/C0S "A319-100/A321-200 FMGC Type Standard Evolution" and document 00J000A0067/C0S "A319-111/112 ATC Transponder Type Standard Evolution".

Note 11:
A319 for Corporate Jet use are defined through the following set of modifications:
- Modification 28238 (0 to 6 ACTs)
- Modification 28162 (extension of flight envelope up to 41,000 ft)
- Modification 28342 (modification of CG limits)

Note 12:
On A319 for Corporate Jet use, the certification of installing up to six Additional Center Tanks (ACT) in bulk version is defined by modification 28238. The approval together with structural and system provisions was subject of compliance demonstrated to Advisory Circular AC 25-8.

Note 13:
On A319 for Corporate Jet use, exemptions to the following paragraphs of the FAR have been granted when the airplane is not operated for hire or for public transport
(Granted APR 9, 2001, Exemption No. 7489):
25.785(h)(2) Flight Attendant seat locations which do not provide for direct view of the cabin
25.807(d)(7) Distance between exits
25.813(e) Installation of Interior Doors in between passenger compartments

Note 14:
If modification 26610 is embodied on A319-112 airplanes, the engine performance and gaseous emission levels are improved. The engine denomination changes to /2P (DAC IIC Dual Annual Combustor).
CFM56-5B6/P engine can be intermixed with CFM56-5B6/2P (DAC IIC Dual Annual Combustor) engine on the same aircraft (AFM Supplement).

II. Type A320-100/200 Series Transport Category Airplanes

Model A320-111, Approved December 15, 1988
Model A320-211, Approved December 15, 1988;
Model A320-231, Approved July 6, 1989;
Model A320-212, Approved November 26, 1990;
Model A320-232, Approved November 12, 1993;
Model A320-233, Approved November 17, 1995;
Model A320-214, Approved December 12, 1996.

Engines:
Model A320-111, Two CFMI Model CFM-56-5A1 jet engines;
Model A320-211, Two CFMI Model CFM-56-5A1 jet engines;
Model A320-212, Two CFMI Model CFM56-5A3 jet engines;
Model A320-214, Two CFMI Model CFM56-5B4 or CFM56-5B4/P or CFM56-5B4/2P jet engines;
Model A320-231, Two IAE Model V2500-A1 jet engines;
Model A320-232, Two IAE Model V2527–A5 jet engines;
Model A320-233, Two IAE Model V2527E–A5 jet engines;

Fuel:
See Installation Manual - Documents CFM 2026 or IAE-0043

NOMENCLATURE	SPECIFICATION		
	FRANCE	U.S.A	U.K.
Kerosene	Air 3405C	ASTM D 1655 (JET A1) (JET A)	DERD 2494
Wide Cut	Air 3407	ASTM D 1655 (JET B)	DERD 2454
	Air 3407 (TR4)	MIL-T 5624 (JP4)	DERD 2454
High Flash Point	Air 3404	MIL-T 5624 (JP5)	DERD 2452

Additives: See CFMI "Specific Operating Instructions", CFM TPOI-13 or IAE V2500 "Installation and Operation Manual" IAE-0043, 4.5. The above mentioned fuels and additives are also suitable for the APU.

Engine Limits:

Engine Limitation	CFMI CFM56-5A1 Data Sheets E28NE (FAA)	CFMI CFM56-5A3 Data Sheets E28NE (FAA)	CFMI CFM56-5B4 or -5B4/P or –5B4/2P Data Sheets E37NE E38NE FAA	IAE V2500-A1 Data Sheets E31NE (FAA)	IAE V2527-A5 or V2527E-A5 Data Sheets E40NE (FAA)
Static Thrust at Sea Level - Take-off (5 min)** (Flat rated 30°C) - Maximum Continuous (Flat rated 25°C)	11 120 daN (25,000 lb) 10 542 daN (23,600 lb)	11 787 daN (26,500 lb) 10 542 daN (23,600 lb)	12 010 daN (27,000 lb) 10 840daN (24,370 lb)	11 030 daN (24,800 lb) 9 890 daN (22,240lb)	11 030 daN (24,800 lb) 9 890 daN (22,240lb)
Maximum Engine Speed - N1 rpm (%) - N2 rpm (%)	5,100 (102) 15,183(105)	5,100 (102) 15,183(105)	5,200 (104) 15,183(105)	5,465 (100) 14,915(100)	5,650 (100) 14,950(100)
Max Gas Temp.(°C) - Take-off (5 min)** - Max Continuous - Starting*	890 855 725	Eng. limit/ ECAM 915/890 880/855 725/725	950 915 725	635 610 635	Eng. limit/ ECAM 645/635 610/610 635/635
Maximum Oil Temp. (Supply Pump Inlet; °C) -Takeoff, Stabilized -Transient (15 min max) Min. Press. (PSI)	140 155 13	140 155 13	140 155 13	155 165 60	155 165 60
Approved oils	See SB CFMI 79-001-0X	See SB CFMI 79-001-0X	See SB CFMI 79-001-0X	See doc IAE 0043 (MIL-L 23699)	See doc IAE 0043 (MIL-L 23699)

* 4 consecutive cycles of 2 minutes each.
** 10 minute at take-off thrust allowed in case of engine failure (at take-off and during go-around)

Airspeed Limits (Indicated Airspeed - IAS - Unless otherwise Stated:
- Maximum Operating Mach - MMO: 0.82
- Maximum Operating Speed - VMO: 350 kt
- Maneuvering Speed VA: - See Chapter 2.0 of the DGAC-approved Flight Manual
- Extended Flaps/Slats Speed - VFE

Configuration	Slats/Flaps	VFE (Kt)	
1	18/0 *18/10	230 215	Intermediate Approach Take-off
2	22/15	200	Take-off and Approach
3	22/20	185	Take-off, Approach, and Landing
Full	27/35	177	Landing

* Auto flap retraction at 210 kt in Take-off configuration.

Landing Gear:
- VLE - Extended 280 Kt/Mach 0.67
- VLO - Extension 250 kt
- Retraction 220 kt

Tire Limit Speed (Ground Speed) = 195.5 kt (225 mph)

Minimum Control Speed:
A320-100:
- VMCA (Air): 105 kt
- VMCG (Ground): 102 kt (all config.)

A320-200:
- VMCA (Air) and VMCG (Ground): See TAB program issue M or N with associated A/C performances module

Maximum Weights:

A320-100:

VARIANT	000 (BASIC)	
	(KG)	(LBS)
Max. Ramp Weight	68,400	150,820
Max. Take-off Weight	68,000	149,940
Max. Landing Weight	63,000	138,915
Max. Zero Fuel Weight	59,000	130,100

A320-200:

FAA Approved Weight Variants	000 BASIC	001	003	007	008	009	010	011	012	013	014
A320-211	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
A320-212	YES		YES	YES	YES	YES	YES	YES	YES	YES	YES
A320-214	YES		YES	YES	YES	YES	YES	YES	YES	YES	YES
A320-231	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
A320-232	YES		YES	YES	YES	YES	YES	YES	YES	YES	YES
A320-233	YES		YES	YES	YES	YES	YES	YES	YES	YES	YES

VARIANT	000 BASIC	001	003	007	008	009	010	011	012	013	014
	(KG) (LBS)	(KG) (LBS)	(KG) (LBS)	(KG) (LBS)	(KG) (LBS)	(KG) (LBS)	(KG) (LBS)	(KG) (LBS)	(KG) (LBS)	(KG) (LBS)	(KG) (LBS)
Max. Ramp Weight	73900 162949	68400 150822	75900 167360	77400 170667	73900 162950	75900 167360	77400 170667	75900 167360	77400 170667	71900 158512	73900 162949
Max. Take-off Weight	73500 162068	68000 149940	75500 166478	77000 169785	73500 162068	75500 166478	77000 169785	75500 166478	77000 169785	71500 157631	73500 162068
Max. Landing Weight	64500 142223	64500 142223	64500 142223	64500 142223	64500 142223	64500 142223	64500 142223	66000 145505	66000 145505	64500 142223	64500 142223
Max. Zero Fuel Weight	60500 133403	60500 133403	60500 133403	60500 133403	61000 134505	61000 134505	61000 134505	62500 137789	62500 137789	61000 134505	61500 135584

Minimum Weight:

A320-100:

VARIANT	000 (BASIC)	
	(KG)	(LBS)
Minimum Weight	36,750	81,030

A320-200:

VARIANT	All	
	(KG)	(LBS)
Minimum Weight	37,230	82,080

Minimum Crew:
2 Pilots

Maximum Passengers:
179

Maximum Baggage:

CARGO COMPARTMENT	MAXIMUM LOAD (KG)	(LBS)
Forward	3,402	7,500
Aft	4,536	10,000
Rear (Bulk)	1,497	3,300

For the positions and the loading conditions authorized in each position (references of containers, pallets, and associated weights), see Weight and Balance Manual, ref. 00D080A0001/C1S Chapter 1.10.

Fuel Capacity (0.8 kg/liter):

A320-100:

2-Tank Airplane				
Tank	Usable Fuel		Unusable Fuel	
	Liters (kgs)	Gallons (lbs)	Liters (Kgs)	Gallons (lbs)
Wing	15,843 (12,674)	4,185 (27,946)	57.3 (45.8)	15.1 (101.0)
Total	15,843 (12,674)	4,185 (27,946)	57.3 (45.8)	15.1 (101.0)

3-Tank Airplane				
Tank	Usable Fuel		Unusable Fuel	
	Liters (kgs)	Gallons (lbs)	Liters (Kgs)	Gallons (lbs)
Wing	15,843 (12,674)	4,185 (27,946)	58.9 (47.1)	15.6 (103.9)
Center	8,250 (6,600)	2,179 (14,484)	23.2 (19.6)	6.1 (43.2)
TOTAL	24,093 (19,274)	6,364 (42,430)	82.1 (65.7)	21.7 (147.1)

A320-200:

Tank	Usable Fuel		Unusable Fuel	
	Liters (kgs)	Gallons (lbs)	Liters (Kgs)	Gallons (lbs)
Wing	15,609 (12,487)	4,124 (27,534)	58.9 (47.1)	15.6 (103.9)
Center	8,250 (6,600)	2,179 (14,484)	23.2 (19.6)	6.5 (41.0)
TOTAL	23,859 (19,087)	6,304 (42,087)	82.1 (65.7)	20.8 (144.9)

Oil Capacity:
CFMI CFM56-5A/5B - Engine Oil Capacity, 10 quarts/engine (9.46 liters).
IAE V2500-A5 - Engine Oil Capacity, 7 quarts/engine (6.6 liters)

Maximum Operating Altitude:
- 39,800 feet (12,200 m) clean if modification 30748 is embodied.
- 39,100 feet (12,000 m) clean.
- 20,000 feet (6,500 m) Slats/Flaps extended.

Equipment:
The basic equipment as prescribed in the airworthiness regulations (see certification basis) must be installed in the aircraft for certification.
Equipment approved for installation are listed in the definition of the reference model and the modification applicable to it. Refer to Type Certification Standard Equipment List 00D000A0101/C1S.

Refer Note 4 for list of A320 airplane model FAA Type Definitions.

Serial Numbers Eligible:
A320 aircraft, all series, all models, are produced in Blagnac (France) under approval P09 or F.G.035 issued by DGAC to Airbus.

A French "Certificat de Navigabilite pour Exportation," endorsed as noted under "Import Requirement," must be submitted for each individual aircraft for which application for U.S. certification is made.

Import Requirements:
A FAA Standard Airworthiness Certificate may be issued on the basis of a French "Certificat de Navigabilite pour Exportation," signed by a representative of the Direction Generale de 1'Aviation Civile (DGAC) of France, containing the following statement: "The Airplane covered by this certificate has been examined, tested, and found to conform to the Type Design approved under Type Certificate No. A28NM and to be in condition for safe operation."

The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is FAR Sections 21.183(c) or 21.185(c). The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 exported from countries other than the country manufacture (e.g., third party country) is FAR Sections 21.183(d) or 21.185(b). Notwithstanding that FAR section 21.183(d) and 25.185(b) do not specifically address or require certification by the foreign civil airworthiness authority of the country of manufacture, such certification is the only practical way for an applicant to show, and the Federal Aviation Administration (FAA) to find conformity to the FAA-approved type design and condition for safe operation. Additional guidance is contained in FAA advisory Circular 21-23, Airworthiness Certification of Civil Aircraft, Engines, Propellers, and Related Products Imported into the United States.

Certification Basis

a. Part 25 of the FAR effective February 1, 1965, including Amendments 25-1 through 25-56 thereto.

b. Special Federal Aviation Regulation (SFAR) No.27 effective February 1, 1974, including Amendments 27-1 through 27-5.

c. Part 36 of the FAR effective December 1, 1969, including Amendments 36-1 through 36-12.

d. FAA Special Conditions issued for the A320 in accordance with Section 21.16 of the FAR and published in the Federal Register, as follows:

(1) January 27, 1989:
- Electronic Flight Controls
- Active Controls
- Engine Controls and Monitoring
- Protection from Lightning and Unwanted Effects of Radio Frequency (RF) Energy
- Flight Characteristics
- Flight Envelope Protection
- Side Stick Controllers
- Flight Recorder.

(2) June 9, 1989:
- Computerized Airplane Flight Manual

e. For precision approach and landing, the applicable technical requirements are complemented by AC 120-29 and AC 120-28c.

For the automatic flight control system, the applicable technical requirements are complemented by AC 20-57A for automatic landing and by AC 25.1329-1A for cruise.

Use of JAR AWO where applicable to the requirements above, is acceptable.

f. The following paragraphs of the FAR have been complied with through equivalent safety demonstrations:
- 25.783(e) for cargo doors
- 25.783(f) for passenger doors and bulk cargo door
- 25.813(c) for emergency exit access
- 25.811(e)(3) Type III emergency exit marking.

g. Optional Requirements elected:
- 25.801 for ditching.
- 25.1419 for icing.

Note 1 - Weight and Balance

a. Current weight and balance report including list of equipment, entitled "Aircraft Inspection Report" included in certificated empty weight, and loading instructions, must be in each aircraft at the time of original certification and at all times thereafter, except in the case of operators having an approved weight control system. Airbus report, " Weight and Balance Manual," contains loading information for each airplane and interior arrangement configuration as delivered. This report contains, or refers to, information relative to location of all passengers and crew member seats, location and capacity of all cargo and baggage compartments, buffets, storage spaces and coat rooms, location and capacity of lounges, lavatories, and the required placards in the passenger compartment.

b. The airplane must be loaded so that the CG is within specified limits at all times, considering fuel loading usage, gear retraction and movement of crew and passengers from their assigned positions.

c. The weights of system fuel and oil, as defined below, and hydraulic fluid, all of which must be included in the airplane empty weight, are listed for each airplane in the Weight and Balance Manual specified in paragraph a. above.

d. System fuel is the weight of all fuel required to fill a lines and tanks up to zero-fuel point on the fuel gauges in the most critical flight attitude, including the unusable tank fuel as defined by FAR part 26.959. (The usable fuel in the crossfeed manifold lines, manifolds, and engine that is not part of the system fuel must be included in the total usable fuel to obtain correct weight and CG for take-off.)

e. The unusable fuel is that amount of fuel in the tanks which is unavailable to the engines under critical flight conditions as defined in FAR Part 25.959. This "unusable" fuel is included in System Fuel as indicated in paragraph d. above, and need not be accounted for separately.

f. System oil is the weight of all remaining in the engine, constant speed drive, lines, and tanks after subtracting the oil in the tanks which is above the standpipe (zero gauge) levels. The engine oil capacities shown elsewhere in this data sheet include only the usable oil for which the tanks must be placarded.

Note 2:
The aircraft must be operated in accordance with the DGAC-approved FAA Airplane Flight Manual. ("DGAC-approved" is considered equivalent to "FAA-approved".)

Note 3:
Life limitations are provided in the A319/A320/A321 Maintenance Planning Document, Section 9 “Airworthiness Limitation Section”, Sub-Sections 9-1-2 and 9-1-3 - Approved by DGAC.

Note 4:
The A320 basic definition for U.S. import certification is contained in the following documents:
- AI/A 414.282/88 for the A320 Models -111 and -211
- AI/EA-A 413.628/89 for the A320 Model -231
- AI/EA-A 412.1631/90 for the A320 Model -212
- AI/EA-A 414.0665/93 for the A320 Model -232
- AI/EA-S 413.2143/95 for the A320 Model -233
- AI/EA-S 413.0150/95 for the A320 Model -214
- AI/EA-S 413.3004/96 (supplement) for the A320 Model -214.

Note 5:
Maintenance criteria to comply with certification requirements for systems are given in Airbus Document AI/ST4/955.061/89 “Certification Maintenance Requirements (FAA version)” (CMR).

Maintenance criteria to comply with certification requirements for structure are given in Airbus Document AI/SE-M4/95A.0252/96 “Airworthiness Limitation Items”.

Note 6:
If modification 20758 is embodied, the airplane is certified for CAT III B precision approach (fail operational) and landing. This does not constitute an operational approval.

Note 7:
All Models of A320 airplanes manufactured after January 1, 1997 must have either modification 25302 (for IAE engines) or 25303 (for CFM engines) installed, before the individual U.S. standard Certificate of Airworthiness can be issued.

Note 8:
If modification 25800 is embodied on models with CFM56-5B engines, the engine performance is improved. The engine denomination changes to /P.

CFM56-5B/”non-P” engine can be intermixed with CFM56-5B/P engine on the same aircraft.

Note 9:
If modification 26610 is embodied on A320-214 airplanes, the engine performance and gaseous emission levels are improved. The engine denomination changes to /2P (DAC IIC Dual Annual Combustor).
CFM56-5B4/P engine can be intermixed with CFM56-5B4/2P (DAC IIC Dual Annual Combustor) engine on the same aircraft (AFM Supplement).

Note 10:
For A320-200 series airplanes with OCTOPUS Airplane Flight Manual, Airbus elected to comply with Part 25 Amendment 25-92.

III. Type A321-100/200 Series Transport Category Airplanes

Model A321-111, Approved December 20, 1995;
Model A321-112, Approved December 20, 1995;
Model A321-131, Approved December 20, 1995;
Model A321-211, Approved September 18, 1997;
Model A321-231, Approved September 18, 1997:

Engines:
Model A321-111, Two CFMI Model CFM56-5B1 or CFM56-5B1/P or CFM56-5B1/2P jet engines;
Model A321-112, Two CFMI Model CFM56-5B2 or CFM56-5B2/P jet engines;
Model A321-131, Two IAE Model V2530-A5 jet engines
Model A321-211, Two CFMI Model CFM56-5B3/P or CFM56-5B3/2P jet engines
Model A321-231, Two IAE Model V2533-A5 jet engines

See Note 14 for description of "P" engine designations

Fuel:
See Installation Manual - Documents CFM 2026 or IAE-0043

NOMENCLATURE	SPECIFICATION		
	FRANCE	U.S.A	U.K.
Kerosene		MIL-T83133A (JP8)	
Wide Cut	Air 3405C	ASTM D 1655 (JET A1) (JET A)	DERD 2494
	Air 3407	ASTM D 1655 (JET B)	DERD 2454
High Flash Point	Air 3407 (TR4)	MIL-T 5624 (JP4)	DERD 2454
	Air 3404	MIL-T 5624 (JP5)	DERD 2452

Additives: See CFMI "Specific Operating Instructions," CFM TPOI-13 or IAE V2500 "Installation and Operating Manual" IAE-0043, 4.5. The above mentioned fuels and additives are also suitable for the APU.

Engine Limits

Engine Limitation	CFMI CFM56-5B1 or -5B1/P or –5B1/2P Data Sheets E37NE E38NE (FAA)	CFMI CFM56-5B2 or -5B2/P Data Sheets E37NE E38NE (FAA)	CFMI CFM56-5B3/P or –5B3/2P Data Sheets E37NE E38NE (FAA)
Static Thrust at Sea Level - Take-off (5 min)** (Flat rated 30°C) Maximum Continuous (Flat rated 25°C)	13 344 daN (30,000 lb) 12 940 daN (29,090 1b)	13 789 daN (31 000 lb) 12 940 daN (29,090 1b)	14 234 daN (32,000 lb) 12940 daN (29,090 lb)
Maximum Engine Speed - N1 rpm (%) - N2 rpm (%)	5,200 (104) 15,183 (105)	5,200 (104) 15,183 (105)	5,200 (104) 15,183 (105)
Max Gas Temperature (°C) - Take-off (5 min)** - Max Continuous - Starting *	950 915 725	950 915 725	950 915 725

Max Oil Temperature (Supply Pump Inlet; °C) - Take-off, Stabilized - Transient (15 min max) Min. Press. (PSI)	140 155 13	140 155 13	140 155 13
Approved Oils	See SB CFMI 79-001-OX	See SB CFMI 79-001-OX	See SB CFMI 79-001-OX

Engine Limitation	IAE V2530-A5 Data Sheets E40NE (FAA)	IAE V2533-A5 Data Sheets E40NE (FAA)
Static Thrust at Sea Level - Take-off (5 min)** (Flat rated 30°C) Maximum Continuous (Flat rated 25°C)	13 300 daN (29,900 lb) 11 988 daN (26,950 1b)	14 055 daN (31,600 lb) 11 988 daN (26,950 lb)
Maximum Engine Speed - N1 rpm (%) - N2 rpm (%)	5,650 (100) 14,950 (100)	5,650 (100) 14,950 (100)
Maximum Gas Temperature (°C) - Take-off (5 min)** - Max Continuous - Starting *	Eng. Limit/ ECAM 650/650 610/610 635/635	Eng. Limit/ ECAM 670/650 610/610 635/635
Maximum Oil Temperature (Supply Pump Inlet; °C) - Take-off, Stabilized - Transient (15 min max) Min. Press. (PSI)	155 165 60	155 165 60
Approved Oils	See Doc IAE 0043 Sec 4.9 (MIL-L-23699)	See Doc IAE 0043 Sec 4.9 (MIL-L-23699)

* 4 Consecutive cycles of 2 minutes each.
**10 minutes at take-off thrust allowed only in case of engine failure (at take-off or during go-around)

Airspeed Limits (Indicated Airspeed - IAS - Unless otherwise Stated:

- Maximum Operating Mach - MMO: 0.82
- Maximum Operating Speed - VMO: 350 kt
- Maneuvering Speed VA: - See Chapter 2.0 of the DGAC-approved Flight Manual
- Extended Flaps/Slats Speed - VFE

Configuration	Slats/Flaps	VFE (Kt)	
1	18/0 18/10	230** 215**	Intermediate Approach Take-off
2	22/14	205 215*	Take-off and Approach
3	22/21	195	Take-off, Approach, and Landing
Full	27/25	190	Landing

* See Note 12
** See Note 18

Landing Gear:

- VLE - Extended: 280 Kt/Mach 0.67
- VLO - Extension: 250 kt
- Retraction: 220 kt

Tire Limit Speed (Ground Speed) = 195.5 kt (225 mph)

Minimum Control Speed:

- VMCA (Air): 105 kt
- VMCG (Ground): 102 kt (all config.)

Maximum Weights:

A321-100:

VARIANT	000 BASIC		002 Mod 24178		003 Mod 24899	
	(KG)	(LBS)	(KG)	(LBS)	(KG)	(LBS)
Max. Take-off Weight	83,000	182,983	83,000	182,983	85,000	187,391
Max. Landing Weight	73,500	162,040	74,500	164,243	74,500	164,243
Max. Zero Fuel Weight	69,500	153,220	70,500	155,424	70,500	155,424

A321-200:

VARIANT	000 BASIC		001 Mod 28960	
	(KG)	(LBS)	(KG)	(LBS)
Max. Take-off Weight	89,000	196,210	93,000	205,027
Max. Landing Weight	75,500	166,448	77,800	171,517
Max. Zero Fuel Weight	71,500	157,629	73,800	162,699

Minimum Weight:

VARIANT	All	
	(KG)	(LBS)
Minimum Weight	47,500	104,718

Minimum Crew:
2 Pilots

Maximum Passengers:
220

Maximum Baggage:

CARGO COMPARTMENT	MAXIMUM LOAD	
	(KG)	(LBS)
Forward	5,670	12,500
Aft	5,670	12,500
Rear (Bulk)	1,497	3,300

For the positions and the loading conditions authorized in each position (references of containers, pallets, and associated weights), see Weight and Balance Manual, ref. 00E080A0001/C1S Chapter 1.10.

Fuel Capacity (0.8 kg/liter):
A321-100 and A321-200:

3-Tank Airplane				
Tank	Usable Fuel		Unusable Fuel	
	Liters (kgs)	Gallons (lbs)	Liters (Kgs)	Gallons (lbs)
Wing	15,500 (12,400)	4,094 (27,331)	22.6 (18)	6 (39.6)
Center	8,200 (6,560)	2,166 (14,460)	23.2 (18.6)	6.1 (40.97)
TOTAL	23,700 (18,960)	6,260 (41,791)	45.8 (36.6)	12.1 (80.62)

A321-200:

4-Tank Airplane (high pressure ACT system)				
Tank	Usable Fuel		Unusable Fuel	
	Liters (kgs)	Gallons (lbs)	Liters (Kgs)	Gallons (lbs)
Wing	15,500 (12,400)	4,094 (27,331)	22.6 (18)	6 (39.6)
Center	8,200 (6,560)	2,166 (14,460)	23.2 (18.6)	6.1 (40.97)
ACT	2,900 (2,320)	766 (5,114)	17 (13.6)	4.5 (29.96)
TOTAL	26,600 (21,280)	7,026 (46,905)	62.8 (50.2)	16.6 (110.58)

4 to 5-Tank Airplane (low pressure ACT system)				
Tank	Usable Fuel		Unusable Fuel	
	Liters (kgs)	Gallons (lbs)	Liters (Kgs)	Gallons (lbs)
TOTAL 3-Tank Airplane	23,700 (18,960)	6,260 (41,791)	45.8 (36.6)	12.1 (80.62)
ACT 1	2,992 (2,393)	790 (5,274)	17 (13.6)	4.5 (29.96)
TOTAL 4-Tank Airplane	26,692 (21,353)	7,050 (47,065)	62.8 (50.2)	16.6 (110.58)
ACT 2	2,992 (2,393)	790 (5,274)	17 (13.6)	4.5 (29.96)
TOTAL 5-Tank Airplane	29,684 (23,746)	7,840 (52,339)	79.8 (63.8)	21.1 (140.54)

Oil Capacity:
CFMI CFM56-5B - Engine Oil Capacity, 10 quarts/engine (9.46 liters).
IAE V2500-A5 - Engine Oil Capacity, 7 quarts/engine (6.6 liters)

Maximum Operating Altitude:
- 39,800 feet (12,200 m) clean if modification 30748 is embodied.
- 39,100 feet (12,000 m) clean.
- 20,000 feet (6,500 m) Slats/Flaps extended.

Equipment:
The basic equipment as prescribed in the airworthiness regulations (see certification basis) must be installed in the aircraft for certification. Equipment approved for installation are listed in the definition of the reference model and the modification applicable to it. Refer to Type Certification Standard Equipment Schedule Lists:

- 00E000A0007/C1S for A321-111 Model
- 00E000A0006/C1S for A321-112 Model
- 00E000A0004/COS for A321-131 Model
- 00E000A0211/COS for A321-211 Model
- 00E000A0231/COS for A321-231 Model

Refer to Note 4 for list of A321 airplane model FAA Type Definitions.

Serial Numbers Eligible:
A321 Aircraft, all series, all models, are produced in Hamburg (Germany) under approval LBA.G.0009 or I-A9 issued by LBA to Airbus.

A German Export Certificate of Airworthiness endorsed as noted under “Import Requirement”, must be submitted for each individual aircraft for which application for U.S. certification is made.

Import Requirements:
A FAA Standard Airworthiness Certificate may be issued on the basis of a German Export Certificate of Airworthiness, signed by a representative of the Luftfahrt-Bundesamt (LBA) of Germany, containing the following statement: "The airplane covered by this certificate has been examined, tested, and found to conform to the type design approved under Type Certificate No. A28NM and to be in condition for safe operation."

The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is FAR Sections 21.183(c) or 21.185(c). The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 exported from countries other than the country manufacture (e.g., third party country) is FAR Sections 21.183(d) or 21.185(b). Notwithstanding that FAR section 21.183(d) and 25.185(b) do not specifically address or require certification by the foreign civil airworthiness authority of the country of manufacture, such certification is the only practical way for an applicant to show, and the Federal Aviation Administration (FAA) to find conformity to the FAA-approved type design and condition for safe operation. Additional guidance is contained in FAA advisory Circular 21-23, Airworthiness Certification of Civil Aircraft, Engines, Propellers, and Related Products Imported into the United States.

Certification Basis (A321-100 and A321-200)

a. Part 25 of the FAR effective February 1, 1965, including amendments 25-1 through 25-56 thereto.

b.1. Plus the following sections of Part 25 as amended by amendments 25-1 through:
- 25-58 (Section 25.812(e))
- 25-63 (Section 25.25(a)(3))
- 25-67 (Section 25.807(c)(7))
- 25-70 (Section 25.1411(a)(2))
(Applied per FAA derivative aircraft policy – reference FAA order 8110.4A)

b.2. Airbus elected to comply with portions of FAR 25.562, Amendment 64, for the passenger seats only. FAR paragraphs 25.562(c)(5) and 25.562(c)(6) do not apply.

c. Part 34 of the FAR effective September 10, 1960, including amendments 34-1.

d. Part 36 of the FAR effective December 1, 1965, including amendments 36-1 through 36-20 thereto.

e. FAA Special Conditions issued for the A320 in accordance with Section 21.16 of the FAR and published in the Federal Register as follows:
1) January 27, 1989:
- Electronic Flight Controls
- Active Controls
- Engine Controls and Monitoring
- Protection from Lightning and Unwanted Effects of Radio Frequency (RF) Energy
- Flight Characteristics
- Flight Envelope Protection
- Side Stick Controllers
- Flight Recorder.
(2) June 9, 1989
- Computerized Airplane Flight Manual

f. For precision approach and landing, the applicable technical requirements are complemented by AC 120-29 and AC 120-28c.
For the automatic flight control system, the applicable technical requirements are complemented by AC 20-57A for automatic landing and by AC 25.1329-1A for cruise.
Use of JAR AWO where applicable to the requirements above, is acceptable.

g. The following sections of the FAR have been complied with through equivalent safety demonstrations in addition to the equivalent safety findings applicable from the original A320 certification basis:

- 25.101, 25.105, 25.109, 25.113, 25.115, 25.735, for rejected take-off and landing performance
- 25.305, 25.331, 25.333, 25.335, 25.341, 25.345, 25.349, 25.351, 25.371, 25.373, 25.391, 25.427, for design gust criteria
-25.783(e) bulk cargo door
- 25.783(f) for passenger doors
- 25.807(c) for maximum passenger capacity
- 25.933(a) for thrust reversing system.

h. Optional requirements elected:
- 25.801 for ditching.
- 25.1419 for icing.

Note 1 - Weight and Balance

a. Current weight and balance report including list of equipment, entitled "Aircraft Inspection Report" included in certificated empty weight, and loading instructions, must be in each aircraft at the time of original certification and at all times thereafter, except in the case of operators having an approved weight control system. Airbus report, " Weight and Balance Manual," contains loading information for each airplane and interior arrangement configuration as delivered. This report contains, or refers to, information relative to location of all passengers and crew member seats, location and capacity of all cargo and baggage compartments, buffets, storage spaces and coat rooms, location and capacity of lounges, lavatories, and the required placards in the passenger compartment.

b. The airplane must be loaded so that the CG is within specified limits at all times, considering fuel loading usage, gear retraction and movement of crew and passengers from their assigned positions.

c. The weights of system fuel and oil, as defined below, and hydraulic fluid, all of which must be included in the airplane empty weight, are listed for each airplane in the Weight and Balance Manual specified in paragraph a. above.

d. System fuel is the weight of all fuel required to fill a lines and tanks up to zero-fuel point on the fuel gauges in the most critical flight attitude, including the unusable tank fuel as defined by FAR part 26.959. (The usable fuel in the crossfeed manifold lines, manifolds, and engine that is not part of the system fuel must be included in the total usable fuel to obtain correct weight and CG for take-off.)

e. The unusable fuel is that amount of fuel in the tanks which is unavailable to the engines under critical flight conditions as defined in FAR Part 25.959. This "unusable" fuel is included in System Fuel as indicated in paragraph d. above, and need not be accounted for separately.

f. System oil is the weight of all remaining in the engine, constant speed drive, lines, and tanks after subtracting the oil in the tanks which is above the standpipe (zero gauge) levels. The engine oil capacities shown elsewhere in this data sheet include only the usable oil for which the tanks must be placarded.

Note 2:

The aircraft must be operated in accordance with the DGAC-approved FAA Airplane Flight Manual. ("DGAC-approved" is considered equivalent to "FAA-approved".)

Note 3:

Life limitations are provided in the A319/A320/A321 Maintenance Planning Document, Section 9 “Airworthiness Limitation Section”, Sub-Sections 9-1-2 and 9-1-3 - Approved by DGAC.

Note 4:

The A321 basic definition for U.S. import certification is contained in the following documents:
- 00E000A0010/C11 for A321-111 model
- 00E000A0011/C11 for A321-112 model
- 00E000A0012/C11 for A321-131 model
- AI/EA-S 413.3365/96 (supplement) for A321-111/112/131 models
- AI/EA-S 413.0401/97 for A321-211 model
- AI/EA-S 413.0399/97 for A321-231 model.

Note 5:

Maintenance criteria to comply with certification requirements for systems are given in Airbus Document AI/ST4/955.061/89 “Certification Maintenance Requirements (FAA version)” (CMR).

Maintenance criteria to comply with certification requirements for structure are given in Airbus Document AI/SE-M4/95A.0252/96 “Airworthiness Limitation Items”.

Note 6:

Door 2 and/or Door 3 may be derated to Type III.

Note 7:

If modifications 24173 and 22853 are embodied on models with IAE engines, the aircraft is qualified for Cat II precision approach. This does not constitute operational approval.

Note 8:
If modification 24064 is embodied on models with CFM engines, the aircraft is qualified for Cat III precision approach. This does not constitute operational approval.

Note 9:
If modification 24066 is embodied on models with IAE engines, the aircraft is qualified for Cat III precision approach. This does not constitute operational approval.

Note 10:
If modification 25199 is embodied on models with CFM engines, the aircraft is qualified for Cat III B precision approach. This does not constitute operational approval.

Note 11:
If modification 25200 is embodied on models with IAE engines, the aircraft is qualified for Cat III B precision approach. This does not constitute operational approval.

Note 12:
If FWC Standard D2 and FAC standard BAM 0510 are fitted on A321 aircraft, VFE speed in configuration 2 is increased from 205kts to 215kts (as identified by speed limitation placard installed by modification 24641).

Note 13:
Modifications 25302 (for IAE engine) and 25303 (for CFM engine) are part of the FAA Type Design, and shall be implemented on any A321 aircraft entered on the U.S. register, before the individual U.S. standard Certificate of Airworthiness be issued.

Note 14:
If modification 25800 is embodied on models with CFM56-5B engines, the engine performance is improved. The engine denomination changes to /P.

CFM56-5B/"non-P" engine can be intermixed with CFM56-5B/P engine on the same aircraft.

Note 15:
On the series A321-200, one Additional Center Tank (ACT) in bulk version is defined by modification 25453 (high pressure system). Its approval together with structural and system provisions was subject of compliance demonstrated to Advisory Circular (AC) 25-8.

Note 16:
The type design definitions and certification standard equipment lists as referenced in Note 4 above are complemented by document 00D000A0546/C0S "A319-100/A321-200 FMGC Type Standard Evolution".

Note 17:
On the series A321-200, one or two Additional Center Tanks (ACT) in bulk version are defined by modification 30422 (low pressure system). Their approval together with structural and system provisions was subject of compliance demonstrated to AC 25-8.

Note 18:
On the series A321-200, Weight Variant 001, VFE speed in Configuration 1 is increased from 230 to 235 kts, and in Configuration 1+F increased from 215 to 225 kts (as identified by speed limitation placard installed by modification 28960).

Note 19:
If modification 26610 is embodied on A321-111airplanes, the engine performance and gaseous emission levels are improved. The engine denomination changes to /2P (DAC IIC Dual Annual Combustor).
CFM56-5B1/P engine can be intermixed with CFM56-5B1/2P (DAC IIC Dual Annual Combustor) engine on the same aircraft (AFM Supplement).

Note 20:
If modification 27640 is embodied on A321-211airplanes, the engine performance and gaseous emission levels are improved. The engine denomination changes to /2P (DAC IIC Dual Annual Combustor).
CFM56-5B3/P engine can be intermixed with CFM56-5B3/2P (DAC IIC Dual Annual Combustor) engine on the same aircraft (AFM Supplement).

DATA PERTINENT TO ALL MODELS

Auxiliary Power Unit (APU)
GARRETT AIRESEARCH GTCP 36-300(A) (Standard)
(Specification 31-5306B)

APIC APS 3200 (Option - Mod 22562)
(Specification ESR 0802, Rev A)

AlliedSignal 131-9[A] (Option – Mod 25888)
(Specification 4900 M1E 03 19 01)

APU Limits:

GTCP 36-300 (A)		
- Maximum Allowable Speed	69,204 rpm (107 %)	
- Maximum Gas Temperature at turbine outlet (ISA + 35°C)		
rated output	638°C	
overtemp. shutdown	711°C	
Maximum on starting	1038°C	
APS 3200		
- Maximum Rotor Speed	49,300 rpm	(105 %)
- Maximum EGT	742°C	
- Maximum for Start	900°C at altitudes below 25000 ft	
	982°C at altitudes below 25000 ft	
131-9[A]		
- Maximum Allowable Speed	Nominal	51,728 rpm (106 %)
	Overshoot	53,875 rpm (110 %)
- Maximum Gas Temperature		
	at turbine outlet	675°C
	rated output (ISA + 23°C)	585°C
	overtemp. shutdown (ISA)	706°C
	maximum on starting (ISA)	1080°C below 35000 ft, 1108°C above 35000 ft
	(ISA + 40°C)	1090°C below 35000 ft, 1120°C above 35000 ft

APU Approved oils:
See GARRETT Report GT-7800 or in conformity with MIL-L-IAS, MIL-L23699 or DERD 2487 for the GTCP 36-300, Usable Capacity: 5.8 liters

See APIC Maintenance Manual for approved oils for the APS 3200

See Model Specification 31-12048A-3B for Allied Signal 131-9[A]

Center of Gravity Range (% Mean Aerodynamic Chord):

See DGAC-Approved Airplane Flight Manual, U.S. Version.

Hydraulic Fluids:
- Type IV - Specification NSA 30.7110.
- Capacity (Reservoirs and Systems):

System	Liters	Gallons
Green	100	26
Yellow	75	20
Blue	60	16

Pressure: 3000 ± 200 PSI (207 ± 4 bar)

Tires:
- See Airbus Service Bulletin (SB) A320-32-1007

Datum:
Station 0 (100 inches forward of fuselage nose).

Reference Mean Aerodynamic Chord (MAC):
165.10 inches / 4.1935 m (leading edge of MAC: Sta. 700.85 inches).

Leveling Means:
Clinometer on the cabin seat track rails.

Service Information:
- Service bulletins, structural repair manuals, vendor manuals, aircraft flight manuals, and overhaul and maintenance manuals, which contain a statement that the document DGAC-approved, are accepted by the FAA and are considered FAA approved. These approvals pertain to the type design only. The reference to service bulletins includes any type of service instructions (letters, repair approvals, etc.). The reference to DGAC-approved includes findings made by DGAC designees and/or design organizations which are equally as acceptable as those made directly by the DGAC.

- Other available service documents for the Airbus include:
a. Illustrated Parts Catalog
b. Wiring Diagram Manual
c. Maintenance Manual

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