



European Aviation Safety Agency

EASA

TYPE-CERTIFICATE DATA SHEET

No. EASA.A.064

for

AIRBUS A318 – A319 – A320 – A321

**Type Certificate Holder:
AIRBUS**

1 Rond-point Maurice Bellonte
31707 BLAGNAC
FRANCE

For Models:	A318 – 111	A 319 – 111	A 320 – 111	A321 – 111
	A318 – 112	A 319 – 112	A 320 – 211	A321 – 112
	A318 – 121	A 319 – 113	A 320 – 212	A321 – 131
	A318 – 122	A 319 – 114	A 320 – 214	A321 – 211
		A 319 – 115	A 320 – 215	A321 – 212
		A 319 – 131	A 320 – 216	A321 – 213
		A 319 – 132	A 320 – 231	A321 – 231
		A 319 – 133	A 320 – 232	A321 – 232
			A 320 – 233	

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SECTION 1: GENERAL (ALL MODELS)

- 1. Data Sheet N°:** **A.064**
- 2. Airworthiness Category:** **Large Aeroplanes**
- 3. Performance category:** **A**
- 4. Certifying Authority:** **EASA**
- 5. Type Certificate Holder:** **AIRBUS**
1, rond-point Maurice Bellonte
31707 BLAGNAC CEDEX – France
- 6. ETOPS:**

The Type Design, system reliability and performance of A318/A319/A320/A321 models were found capable for Extended Range Operations when configured, maintained and operated in accordance with the current revision of the ETOPS Configuration, Maintenance and Procedures (CMP) document, SA/EASA: AMC 20-6/CMP.

This finding does not constitute an approval to conduct Extended Range Operations (operational approval must be obtained from the responsible Authority).

The following table provides details on the ETOPS approvals.

Aircraft Model	Engine Type	120 min Approval Date	180 min Approval Date
A318-111	CFM56-5B8	N/A	06 November 2006
A318-112	CFM56-5B9	N/A	06 November 2006
A318-121	PW6122A	N/A	16 November 2010
A318-122	PW6124A	N/A	16 November 2010
A319-111	CFM56-5B5	14 February 1997	11 March 2004
A319-112	CFM56-5B6	14 February 1997	11 March 2004
A319-113	CFM56-5A4	14 February 1997	11 March 2004
A319-114	CFM56-5A5	14 February 1997	11 March 2004
A319-115	CFM56-5B7	25 November 1999	11 March 2004
A319-131	V2522-A5	14 February 1997	11 March 2004
A319-132	V2524-A5	14 February 1997	11 March 2004
A319-133	V2527M-A5	25 November 1999	11 March 2004
A320-111	CFM56-5A1	17 September 1991	11 March 2004
A320-211	CFM56-5A1	17 September 1991	11 March 2004
A320-212	CFM56-5A3	17 September 1991	11 March 2004
A320-214	CFM56-5B4	28 April 1995	11 March 2004

A320-215	CFM56-5B5	N/A	06 November 2006
A320-216	CFM56-5B6	N/A	06 November 2006
A320-231	V2500-A1	13 January 1992	11 March 2004
A320-232	V2527-A5	28 April 1995	11 March 2004
A320-233	V2527E-A5	14 February 1997	11 March 2004
A321-111	CFM56-5B1	29 May 1996	11 March 2004
A321-112	CFM56-5B2	29 May 1996	11 March 2004
A321-211	CFM56-5B3	28 July 1997	11 March 2004
A321-212	CFM56-5B1	N/A	28 April 2006
A321-213	CFM56-5B2	N/A	28 April 2006
A321-131	V2530-A5	29 May 1996	11 March 2004
A321-231	V2533-A5	28 July 1997	11 March 2004
A321-232	V2530-A5	N/A	28 April 2006

SECTION 2: A318/A319/A320/A321

1. A320

1.1 A320-100 SERIES

Twin turbo-fan, short to medium range, single aisle, transport category airplane.

1.1.1 Model Definition A320-111

Certificated model: A320-111

Definition of reference airplane by AIRBUS INDUSTRIE document AI/EA-A 414.197/87

1.1.1.1 Engines

Two CFMI CFM 56-5A1 jet engines (Mod 20141), or
CFM 56-5A1/F jet engines (Mod 23755)

See note 1.4.14 for usual names and certified names

1.1.1.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List
ref. 00D000A0101/C1S

1.1.1.3 Weight Limits (kg)

VARIANT	000 (BASIC)	001 (MOD 20939)	002 (MOD 22520)
Max. Ramp Weight	68 400	66 400	68 400
Max. Take-off Weight	68 000	66 000	68 000
Max. Landing Weight	63 000	63 000	63 000
Max. Zero Fuel Weight	59 000	59 000	59 800
Minimum Weight	36 750	36 750	36 750

1.2 A320-200 SERIES

Twin turbo-fan, short to medium range, single aisle, transport category airplane.

1.2.1 Model Definition A320-211

Certificated model: A320-211

Definition of reference airplane by AIRBUS INDUSTRIE document AI/EA-A-413.630/88

See note 1.4.18 for model conversion into A320-211 model

1.2.1.1 Engines

Two CFMI CFM 56-5A1 jet engines (Mod 20141), or
CFM 56-5A1/F jet engines (Mod 23755)

See note 1.4.14 for usual names and certified names

1.2.1.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00D000A0101/C1S

1.2.1.3 Weight Limits (kg)

VARIANT	000 (BASIC) (MOD 20802)	001 (MOD 20966)	002 (MOD 21601)	003 (MOD 22269)	004 (MOD 21532)	005 (MOD 21711)	006 (MOD 22436)	007 (MOD 23264)
Max. Ramp Weight	73 900	68 400	70 400	75 900	71 900	67 400	66 400	77 400
Max. Take-off Weight	73 500	68 000	70 000	75 500	71 500	67 000	66 000	77 000
Max. Landing Weight	64 500	64 500	64 500	64 500	64 500	64 500	64 500	64 500
Max. Zero Fuel Weight	60 500	60 500	60 500	60 500	60 500	60 500	60 500	60 500
Minimum Weight	37 230	37 230	37 230	37 230	37 230	37 230	37 230	37 230

VARIANT	008 (MOD 23900)	009 (MOD 23900 & 22269)	010 (MOD 23900 & 23264)	011 (MOD 30307)	012 (MOD 30479)	013 (MOD 31132)	014 (MOD 31385)	016 (MOD 34094)
Max. Ramp Weight	73 900	75 900	77 400	75 900	77 400	71 900	73 900	73 900
Max. Take-off Weight	73 500	75 500	77 000	75 500	77 000	71 500	73 500	73 500
Max. Landing Weight	64 500	64 500	64 500	66 000	66 000	64 500	64 500	66 000
Max. Zero Fuel Weight	61 000	61 000	61 000	62 500	62 500	61 000	61 500	62 500
Minimum Weight	37 230	37 230	37 230	37 230	37 230	37 230	37 230	37 230

VARIANT	018 (MOD 151710)
Max. Ramp Weight	71 900
Max. Take-off Weight	71 500
Max. Landing Weight	66 000
Max. Zero Fuel Weight	62 500
Minimum Weight	37 230

1.2.2 Model Definition A320-231

Certificated model: A320-231

Definition of reference airplane by AIRBUS INDUSTRIE document AI/EA-A 414.301/89

1.2.2.1 Engines

Two IAE V2500-A1 jet engines (Mod 20165)

1.2.2.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List
ref. 00D000A0101/C1S

1.2.2.3 Weight Limits (kg)

Same as A320-211 above (para. 1.2.1.3.)

1.2.3 Model Definition A320-212

Certificated model: A320-212

Definition of reference airplane by AIRBUS INDUSTRIE document AI/EA-A 412.1589/90 (00D000A0004/C0S) See note 1.4.18 for model conversion into A320-212 model

1.2.3.1 Engines

Two CFMI CFM 56-5A3 jet engines (Mod 22093)

1.2.3.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List
ref. 00D000A0101/C1S

1.2.3.3 Weight Limits (kg)

Same as A320-211 above (para. 1.2.1.3.)

1.2.4 Model Definition A320-232

Certificated model: A320-232

Definition of reference airplane by AIRBUS INDUSTRIE document AI/EA-A 414.0502/93 (00D000A0005/C21)

1.2.4.1 Engines

Two IAE V2527-A5 jet engines (Mod 23008)

1.2.4.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List
ref. 00D000A0101/C1S

1.2.4.3 Weight Limits (kg)

[illegible]

[illegible]

VARIANT	010 (MOD 23900 & 23264)	011 (MOD 30307)	012 (MOD 30479)	013 (MOD 31132)	014 (MOD 31385)	015 (MOD 34047)	016 (MOD 34094)	017 (MOD 151634)
Max. Ramp Weight	77 400	75 900	77 400	71 900	73 900	78 400	73 900	78 400
Max. Take-off Weight	77 000	75 500	77 000	71 500	73 500	78 000	73 500	78 000
Max. Landing Weight	64 500	66 000	66 000	64 500	64 500	64 500	66 000	66 000
Max. Zero Fuel Weight	61 000	62 500	62 500	61 000	61 500	61 000	62 500	62 500
Minimum Weight	37 230	37 230	37 230	37 230	37 230	37 230	37 230	37 230

VARIANT	018 (MOD 151710)
Max. Ramp Weight	71 900
Max. Take-off Weight	71 500
Max. Landing Weight	66 000
Max. Zero Fuel Weight	62 500
Minimum Weight	37 230

1.2.6 Model Definition A320-233

Certificated model: A320-233

Definition of reference airplane by AIRBUS INDUSTRIE document AI/EA-S 413.1984/95
(00D000A0007/C21)

1.2.6.1 Engines

Two IAE V2527E-A5 jet engines (Mod 25068)

1.2.6.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List
ref. 00D000A0101/C1S

1.2.6.3 Weight Limits (kg)

Same as A320-232 above (para. 1.2.4.3)

1.2.7 Model Definition A320-215

Certificated model: A320-215

Definition of reference airplane by AIRBUS INDUSTRIE document D00D06006382
(00D000A0215/C21)

See note 1.4.16

1.2.7.1 Engines

Two CFMI CFM 56-5B5/P jet engines (Mod 25800)

1.2.7.2 Equipment

Not applicable

1.2.7.3 Weight Limits (kg)

VARIANT	000 (BASIC) (MOD 20802)	001 (MOD 20966)	002 (MOD 21601)	003 (MOD 22269)	005 (MOD 21711)	008 (MOD 23900)	009 (MOD 23900 & 22269)	011 (MOD 30307)
Max. ramp weight	73 900	68 400	70 400	75 900	67 400	73 900	75 900	75 900
Max. Take-off Weight	73 500	68 000	70 000	75 500	67 000	73 500	75 500	75 500
Max. Landing Weight	64 500	64 500	64 500	64 500	64 500	64 500	64 500	66 000
Max. Zero Fuel Weight	60 500	60 500	60 500	60 500	60 500	61 000	61 000	62 500
Minimum Weight	37 230	37 230	37 230	37 230	37 230	37 230	37 230	37 230

VARIANT	013 (MOD 31132)	014 (MOD 31385)	016 (MOD 34094)	018 (MOD 151710)
Max. ramp weight	71 900	73 900	73 900	71 900
Max. Take-off Weight	71 500	73 500	73 500	71 500
Max. Landing Weight	64 500	64 500	66 000	66 000
Max. Zero Fuel Weight	61 000	61 500	62 500	62 500
Minimum Weight	37 230	37 230	37 230	37 230

Note: WV001 applicable to A320-215 (and –216) model only from MSN 530 (Introduction of A320-214 model)
WV005 applicable to A320-215 (and –216) models only for a/c having modification 28154 embodied

1.2.8 Model Definition A320-216

Certificated model: A320-216
Definition of reference airplane by AIRBUS INDUSTRIE document D00D06011383 (00D000A0216/C21)

See note 1.4.17

1.2.8.1 Engines

Two CFMI CFM 56-5B6/P jet engines (Mod 25800)

1.2.8.2 Equipment

Not applicable

1.2.8.3 Weight Limits (kg)

Same as A320-215 above (para. 1.2.7.3)

1.3 DATA PERTINENT TO ALL A320 SERIES

1.3.1 Certification

1.3.1.1 Certification dates

A320-111:	February 26, 1988
A320-211:	November 08, 1988
A320-231:	April 20, 1989
A320-212:	November 20, 1990
A320-232:	September 28, 1993
A320-214:	March 10, 1995
A320-233:	June 12, 1996
A320-215:	June 22, 2006
A320-216:	June 14, 2006

Note: For A320-111/-211/-212/-214/-231/-232/-233 produced before December 21, 2005
DGAC-F TC 180 remains a valid reference

1.3.1.2 Certification basis

Introducing Note

Hereafter are listed the certification bases for the different A320 models. The amendments made to a particular basis at the occasion of further A320 model certification are identified per model.

- a. The applicable technical conditions for models A320-111, A320-211, A320-212, A320-231 and weight variants up to 006 (DGAC letter 53170 SFACT/TC) are defined as follows:
 - JAR 25 Change 11 (except paragraph 25.207 which remains at Change 10) as elected by the Manufacturer
 - A320 Special Conditions, Experience Related Conditions and Harmonization Conditions.

Reminder: Within the scope of the establishment of the A320 Joint Certification Basis, three types of special conditions were developed:

- Special conditions: raised to cover novel or unusual features not addressed by the JAR.
- Experience related conditions: raised to record an agreed text for the A320 Joint Certification Basis when evolution of JAR was in progress under the NPA procedure.
- Harmonization conditions: to record, for the purpose of the A320 Joint Certification Basis, a common understanding with respect to National variant. This should not be confused with the FAA/JAA harmonised regulations.

EC-G11	General Definitions
(DGAC-F) SC-G17	Operational proving flights
(CAA-UK) SC-G17	Operational flight before certification
SC-F1	Stalling and Scheduled operating Speeds
SC-F3	Cockpit control - motion and effect of cockpit control
SC-F4	Static longitudinal stability
SC-F6	Static directional and lateral stability
SC-F7	Flight envelope protection
SC-F8	Normal load factor limiting
SC-F9	Dual control system
HC-F103	Accelerate Stop Distance, Take-Off Distance and Take-Off Run on a Wet Runway
HC-F114	Approach and Target Threshold Speeds
SC-A.2.1.1	Certification Criteria of Aircraft Designed with Systems Interacting with Structural Performance
SC-A.2.2.2	Design manoeuvre requirement
SC-A.2.2.3	Design dive speed
EC-A.3.6.1	High Lift Devices
(CAA-UK) SC-A.4.3	Tuned Gust Loads
HC-A.4.4	Manoeuvre Loads - High Lift Devices Deployed
HC-A.4.5	Braked roll conditions
HC-A.4.6	Speed control device
SC-S11	Limit pilot forces and torques
HC-S23	Standby gyroscopic horizon
HC-S24	VMO/MMO Warning (setting)
EC-S30	Autoflight system
SC-S33	Autothrust system
SC-S52	Operation without normal electrical power
EC-S54	Circuit protective devices
HC-S61	Design Landing Brakes Kinetic Energy
HC-S62	Rejected Take-Off Brakes Kinetic Energy
HC-S72	Flight recorder
SC-S74	Abnormal attitudes
SC-S75	Lightning protection indirect effects
SC-S76	Effect of external radiations up on aircraft systems
SC-S77	Integrity of control signal
SC-P01	Full Authority Engine Control System (FADEC)

- b1. For weight variant 007 and subsequent and for all new models from and including A320-232, the following JAR 25 paragraphs are modified following the elect to comply to OP 91/1 (NPA 25C205) by the manufacturer (DGAC letter 60667/SFACT/N.AT)

JAR 25.305	JAR 25.349(b)
JAR 25.321	JAR 25.351
JAR 25.331	JAR 25.365(e)
JAR 25.333	JAR 25.371
JAR 25.335(d)	JAR 25.373
JAR 25.341	JAR 25.391
JAR 25.343(b)(1)(ii)	JAR 25.427
JAR 25.345(a)(c)	JAR 25.571(b)(2)

The following A320 Special Conditions and Interpretative Materials are deleted by application of JAR 25 amendment 91/1:

IM-A3.8	Discrete gust loads
SC/AMC-A4.3	Tuned gust loads
HC-A4.4	Manoeuvre loads with high lift devices deployed

- b2. For all models of A320-200 series, the JAR 25 paragraphs defined in 3.1.a. and b1. above are modified following the Elect-to-comply with the new discrete gust requirements of JAR 25 Change 14 as amended by NPA 25C-282, by application of the major change titled "Flight Controls - deletion of LAF features from A320", modifications 26334/26335. (CRI A2006)

- c. The following Special Conditions have been developed for the A320-233:

SC-F11	Accelerate-Stop distances and related performances, worn brakes (see CRI F2012 dated June 4, 1996)
SC-S79	Brakes requirements, qualification and testing (see CRI SE2003 dated June 4, 1996), for which the requirements are met by installation of Mod 24946 (Messier-Bugatti SEPCARB III brakes)

- d. For A320-233 and all A320-200 with OCTOPUS AFM (see CRI F2013), the JAR 25 paragraphs defined in 3.1.a. and b. above are modified following the Elect-to-comply with SC-F11 and SC-S79

The following JAR Change 11 paragraphs are deleted:

JAR 25x131
JAR 25x132
JAR 25x133
JAR 25x135
JAR 25x1588

The following A320 Harmonisation Conditions are deleted:

HC-F103	Accelerate-Stop distance, Take-off distance, Take-off run on wet runway
HC-S61	Design landing brakes kinetic energy
HC-S62	Rejected take-off brakes kinetic energy

The following JAR 25 paragraphs are upgraded at Change 13 and amended by SC-F11 and SC-S79:

JAR 25.101
JAR 25.105
JAR 25.109
JAR 25.113
JAR 25.115
JAR 25.735
JAR 25x1591

- e. For take off and landing operations at high altitude airports up to 14,100 ft pressure altitude, the following new Special Condition has been created:

SC-E10	High altitude airport operations (up to 14,100 ft), (see CRI E10)
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- f. For any new application (new or modified aeroplane system and associated components) after July 10, 1998, SC/IM-S76 (Effect of external radiations upon aircraft systems) are superseded by SC/IM-S76-1 (CRI SE14)
- g. For any further variant certification after Aug. 10, 1998, the HC-A.4.5 (Braked roll conditions) is superseded by JAR 25.943(d) at Change 14 (CRI A7)

- h. The following special conditions have been developed post Type Certification:
- | | |
|-----------|---|
| SC H-01 | Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS (applicable from May 2010) |
| SC E-34 | HIC Compliance to Front Row Seating |
| SC D-0306 | Heat release and smoke density requirements to seat material (applicable from June 2010) |
| SC P-27 | Flammability Reduction System (see Note 1.4.27) |

- i. Exemptions:

No exemptions

- j. Equivalent Safety Findings:

j.1. The following paragraphs have been complied with through equivalent safety demonstrations:

JAR 25.783 (e)	cargo doors (see CRI SM 2005)
JAR 25.783 (f)	passenger doors and bulk cargo door (Mod 20029) (see CRI SM 2004 and SM 2007)
JAR 25.813 (c)	emergency exits (see CRI E 2105 issue 3 "Type III overwing emergency exit access", seat cushion height)
JAR 25.807	maximum number of passengers (180 PAX) (see CRI E 2107 "Passenger extension to 180")
JAR 25.933 (a)	thrust reverser autorestore function (see CRI P 1002).

j.2. The following Equivalent Safety Findings have been developed post Type Certification:

FAR 25.856(b)	Fuselage burnthrough protection in bilge area (see CRI E-28), see note 1.4.26
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- k. ETOPS :

For the Extended Range Twin Engine Airplane Operations the applicable technical conditions are contained in AMC 20-6 (as initially published in AMJ 120-42/IL 20 and CAP 513) and A320 ETOPS CRI:

CRI G1006 ETOPS.

- l. JAR AWO Change 1 for autoland and operations in low visibility.

- m. ICAO Annex 16:

Vol. I , Part II, Chapter 3	Noise Requirements (see also notes 1.4.19 and 1.4.20)
Vol. II, Part II	Fuel Venting
Vol. II, Part III Chapter 2	Emissions

1.3.2 Center of gravity range

See approved Airplane Flight Manual

1.3.3 Limit speeds (Indicated Airspeed - IAS - unless otherwise stated)

Maximum Operating Mach (MMO): 0,82
Maximum Operating Speed (VMO): 350 kt
Manoeuvring Speed VA: Chapter 2.0 of the DGAC approved Flight Manual
Extended Flaps / Slats Speed (VFE): see table below

Configuration	Slats/Flaps (°)	VFE (kt)	
1	18/0	230	Intermediate approach
	*18/10	215	Take-off
2	22/15	200	Take-off and approach
3	22/20	185	Take-off, approach, 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
Tyres limit speed (ground speed): 195.5 kt (225 mph)

1.3.4 Maximum operating altitude

39 100 ft (pressure altitude)
39 800 ft (pressure altitude) if modification 30748 is embodied

1.3.5 Minimum flight crew

2 pilots

1.3.6 Maximum number of passengers

180 (see also note 1.4.15)

1.3.7 Cargo compartment loading

CARGO COMPARTMENT	MAXIMUM LOAD (kg)
Forward	3 402
Aft	4 536
Rear (bulk)	1 497

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.

1.3.8 Fuel

1.3.8.1 Fuel Specification

See installation manual: document CFM 2026 or document IAE - 0043

TYPE	SPECIFICATION (NAME)				
	FRANCE	USA	UK	RUSSIA	CHINA
Kerosene	DCSEA 134	ASTM D 1655 (JET A) (JET A1)	DEF STAN 91/91 (AVTUR) (JET A1)	GOST 10227-86 (RT) (TS1)*	GB 6537-94 N°3 JET
		MIL - T -83133 (JP 8)	DEF STAN 91/87 (AVTUR) (JET A1) (AIA)	GOST R 52050-2003	
Wide cut		ASTM D 1655 (JET B)	DEF STAN 91/88 (AVTAG)		
		MIL - T 5624 (JP 4)			
High flash point	DCSEA (F-44) 144/A (XF-43)	MIL - T 5624 (JP 5)	DEF STAN 91/86 (AVCAT)		

* For IAE engines, TS-1 is cleared for transient use (less than 50% of operations)

Additives:

See CFMI "Specific Operating Instructions", CFM TPOI-13

See IAE V2500 "Installation and Operating Manual" IAE 0043 Section 4.5 or the
"Standard Practices and Processes Manual" in IETM.

The above mentioned fuels and additives are also suitable for the APU

1.3.8.2 Fuel quantity (0,8 kg/liter)

1.3.8.2.a A320-100 series

TANK		2 TANK AIRPLANE		3 TANK AIRPLANE **	
		Usable fuel liters (kg)	Unusable fuel liters (kg)	Usable fuel liters (kg)	Unusable fuel liters (kg)
WING	Basic	15 588 (12 470)	57.3 (45.8)	15 588 (12 470)	58.9 (47.1)
	Mod 21145	15 843 (12 674)		15 843 (12 674)	
CENTER	Basic	-	-	8 079 (6 463)	23.2 (18.6)
	Mod 21145			8 250 (6 600)	
TOTAL	Basic	15 588 (12 470)	57.3 (45.8)	23 667 (18 933)	82.1 (65.7)
	Mod 21145	15 843 (12 674)		24 093 (19 274)	

** See note 1.4.1

1.3.8.2.b A320-200 series

TANK	3 TANK AIRPLANE		4 TANK AIRPLANE		4 or 5 TANK AIRPLANE *	
	Usable fuel liters (kg)	Unusable fuel liters (kg)	Usable fuel liters (kg)	Unusable fuel liters (kg)	Usable fuel liters (kg)	Unusable fuel liters (kg)
WING	15 609 (12 487)	58.9 (47.1)	15 609 (12 487)	58.9 (47.1)	15 609 (12 487)	58.9 (47.1)
CENTER	8 250 (6 600)	23.2 (18.6)	8 250 (6 600)	23.2 (18.6)	8 250 (6 600)	23.2 (18.6)
ACT (*)			2992 (2 393)	17 (13.6)	2 992 / 5 984 (2 393 / 4 786)	17 / 34 (13.6 / 27.2)
TOTAL	23 859 (19 087)	82.1 (65.7)	26 851 (21 480)	99.1 (79.3)	26 851 / 29 843 (21 480 / 23 873)	99.1 / 116.1 (79.3 / 92.9)

* See note 1.4.13

1.3.9 Hydraulic fluids

Type IV - Specification NSA 30.7110

1.3.10 Auxiliary Power Unit (APU)

1.3.10.1 APU GARRETT

GARRETT AIRESEARCH GTCP 36-300 (A)
(Specification 31-5306B)
Approved oils: see GARRETT REPORT GT. 7800

1.3.10.2 APU APIC (Option)

The APU APIC installation is defined by MOD 22562 or MOD 35864.
APIC APS 3200 (Specification ESR 0802, Rev. A)
Approved oils: in conformance to MIL-L-7808, MIL-L-23699 or DERD 2487

1.3.10.3 APU AlliedSignal (Option)

The APU AlliedSignal installation is defined by MOD 25888
AlliedSignal 131-9[A] (Specification 4900 M1E 03 19 01)
Approved oils : according to Model Specification 31-12048A-3A

Note: for A320 models, the APU APIC APS 3200 (Mod 35864) is the production standard from MSN 2645

1.3.11 Tyres

See SB A320-32-1007

1.3.12 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00D000A0101/C1S

Cabin furnishings, equipment and arrangement shall be in conformance to the following specifications:

ref. 00D252K0004/C01 Cabin seats
ref. 00D252K0019/C01 Galleys

1.3.13 Limitations

1.3.13.1 Powerplant (2.2482 lb/daN)

Engine	CFM56-5B5/P	CFM56-5B6/P	CFMI CFM56-5A1 CFM56-5A1/F (**)	CFM56-5A3	CFM56-5B4 CFM56-5B4/2 (***)
Data sheets	E37NE (FAA) E38NE (FAA) M-17 (DGAC) M-IM28 (DGAC)	E37NE (FAA) E38NE (FAA) M-17 (DGAC) M-IM28 (DGAC)	E28NE (FAA) M-15 (DGAC) M-IM19 (DGAC)	E28NE (FAA) M-15 (DGAC) M-IM19 (DGAC)	E37NE (FAA) E38NE (FAA) M-17 (DGAC) M-IM28 (DGAC)
Static thrust at sea level					
Take-off (5 min)* (Flat rated 30° C)	9 786 daN (22 000 lbs)	10 453 daN (23 500 lbs)	11 120 daN (25 000 lb)	11 787 daN (26 500 lbs)	12 010 daN (27 000 lbs)
Maximum continuous (Flat rated 25° C)	9 008 daN (20 250 lbs)	9 008 daN (20 250 lbs)	10 542 daN (23 700 lbs)	10 542 daN (23 700 lbs)	10 840 daN (24 370 lbs)
Approved Oils	SB CFMI 79-001-OX				

(**): see note 1.4.14 for usual names and certified names

(***) : see note 1.4.24 for engine models no longer in prod/service.

Engine	IAE V2500-A1	IAE V2527-A5 IAE V2527E-A5
Data sheets	E31NE (FAA) M-IM22 (DGAC)	E40NE (FAA) M-IM31 (DGAC)
Static thrust at sea level		
Take-off (5 min)* (Flat rated 30° C)	11 031 daN (24 800 lbs)	11 031 daN (24 800 lbs)
Maximum continuous (Flat rated 25° C)	9 893 daN (22 240 lbs)	9 893 daN (22 240 lbs)
Approved oils	See doc IAE 0043 Sect 4.9 (MIL-L-23699)	

* 10 minutes at take-off thrust allowed only in case of engine failure (at take-off or during go-around) in accordance with DGAC "Fiche de Caractéristiques Moteur"

Other engine limitations: see the relevant Engine Type Certificate Data Sheet
Other power plant possibilities: see also notes 1.4.11, 1.4.12, 1.4.21 and 1.4.23

1.3.13.2 Airworthiness Limitations

- Limitations applicable to Safe Life Airworthiness Limitation Items are provided in the A318/A319/A320/A321 Airworthiness Limitations Section (ALS) sub-parts 1-2 and 1-3 approved by the EASA.
- Limitations applicable to Damage Tolerant Airworthiness Limitation Items are provided in the A318/A319/A320/A321 Airworthiness Limitations Items document (ALS Part 2) approved by the EASA.
- Certification Maintenance Requirements are provided in A318/A319/A320/A321 Airworthiness Limitations Section (ALS) Part 3 approved by the EASA.
- Ageing Systems Maintenance (ASM) limitations are provided in the A318/A319/A320/A321 Airworthiness Limitations Section (ALS) Part 4 approved by the EASA.
- Fuel Airworthiness Limitations are provided in A318/A319/A320/A321 Fuel Airworthiness Limitations document (ALS Part 5) approved by the EASA.

1.3.13.3 Other limitations

See EASA approved Flight Manual.

1.3.14 Production conditions

A320 aircraft up to and including MSN 0925, with the exception of those listed below, are produced in Blagnac (France) under approval P09 issued by DGAC to AIRBUS INDUSTRIE.

A320 aircraft MSN 0844, 0861, 0863, 0868, 0870, 0918, and A320 aircraft from and including MSN 0927 are produced in Blagnac (France) under approval F.G.035 issued by DGAC to AIRBUS INDUSTRIE.

Since September 27, 2004 A320 aircraft are produced in Blagnac (France) under approval FR.21G.0035 issued by DGAC France to AIRBUS.

Since April 15, 2008, A320 aircraft are produced in Hamburg (Germany) under approval DE.21G.0009 issued by LBA to AIRBUS.

From July 21st, 2008, A320 aircraft are produced in Toulouse (France) and Hamburg (Germany) under approval EASA.21G.0001 issued by EASA to AIRBUS.

From May 06th, 2009, A320 aircraft are produced in Toulouse (France), Hamburg (Germany) and Tianjin (People's Republic of China) under approval EASA.21G.0001 issued by EASA to AIRBUS.

1.4 NOTES PERTINENT TO ALL A320 SERIES

1.4.1 If modification 20024 is embodied on the series A320-100, the central wing box is used as a central fuel tank.

1.4.2 For models A320-111, A320-211 and A320-212, modification 21038 is the minimum standard to be qualified for Cat IIIB precision approach.
For models A320-231 and A320-232, modification 21039 is the minimum standard to be qualified for Cat IIIB precision approach.

All other models are qualified for Cat IIIB precision approach per basic design definition.

1.4.3 Aircraft incorporating modification 20139 and without modification 22129, are equipped with a four-wheel bogie landing gear (up to 73.5 T MTOW).

1.4.4 The Configuration, Maintenance and Procedure Standards for extended range twin-engine airplane operations (ETOPS) is contained in ETOPS CMP document reference SA/EASA: AMC 20-6/CMP at latest applicable revision. Certificated models are A320-111/-211/-212/-214/-215/-216/-231/-232/-233, with all applicable engines.

Embodiment of Modification:

- 36666 provides ETOPS 120 mn capability for EASA
- 32009 provides ETOPS 180 mn capability for EASA

1.4.5 A320-212 (CFM 56-5A3 engines) - A320-111/-211 (CFM 56-5A1/F engines, see note 1.4.14 for usual names and certified names). The maximum permissible gas temperature at take-off and max continuous is extended to 915° C and 880° C respectively. However, the ECAM indication remains at 890° C and 855° C.

1.4.6 A320-231 with modification 23872 (EGT redline increase for IAE engines):

- for consolidated bump rating operation (mod 23408), the maximum permissible gas temperature is extended to 650° C at take-off. The ECAM indication remains at 635° C.
- for non rating bump operation, the maximum permissible gas temperature is extended to 640° C at take-off. The ECAM indication remains at 635° C.
- for maximum continuous and take-off operation, the maximum permissible gas temperature is extended to 615° C. The ECAM indication remains at 610° C.

1.4.7 A320-231 with modification 25000 (FADEC Standard SCN12C for IAE engines):

- for take-off operation, the maximum permissible gas temperature is extended to 650° C. The ECAM indication remains at 635° C.
- for maximum continuous operation, the maximum permissible gas temperature is extended to 625° C. The ECAM indication remains at 610° C.

1.4.8 A320-111/-211 CFM 56-5A1 engine can be intermixed with CFM 56-5A1/F engine (mod 23755) on the same aircraft (see note 4.14 for usual names and certified names).

1.4.9 A320-214 CFM 56-5B4 engine can be intermixed with CFM 56-5B4/2 engine (mod 24405) on the same aircraft (AFM supplement). See note 1.4.24 as well.

1.4.10 A320-111 aircraft serial numbers eligible are restricted from MSN 001 up to MSN 021.

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

The modification is currently applicable for:

A320-214: CFM56-5B4 (SAC) which changes to CFM56-5B4/P

CFM 56-5B/"non-P" engine can be intermixed with CFM 56-5B/P engine on the same aircraft.

Note: modification 25800 is basically embodied for A320-215 and -216 models.

- 1.4.12 If modification 26610 is embodied on models with CFM-5B/2 (DAC) engines, the engine performance and gaseous emission levels are improved. The modification is currently applicable for:

A320-214: CFM 56-5B4/2 (DAC) which changes to CFM 56-5B4/2P (DAC II C).

CFM 56-5B/2 "non-P" (DAC) engine can be intermixed with CFM 56-5B/2P (DAC II C) engine on the same aircraft (AFM supplement).

CFM 56-5B/P or / "non-P" (SAC) engine can be intermixed with CFM 56-5B/2P (DAC II C) engine on the same aircraft (AFM supplement).

- 1.4.13 On the series A320-200, the certification of installing one or two Additional Center Tanks (ACT) in bulk version is defined by modification 28378.

An alternative is the installation of one ACT only (with the provisions for only one ACT), as defined by modification 34456.

- 1.4.14 Whereas it is common use to apply the name of CFMI engines CFM56-5A1 and CFM56-5A1/F, the correct names of the certified engines are:

- CFM56-5 is the certified engine name, when CFM56-5A1 is the usual name.
- CFM56-5-A1/F is the certified engine name, when CFM56-5A1/F is the usual name.

- 1.4.15 The second Type III emergency exit can be de-activated by embodiment of modification 35177 (aft overwing exit) or modification 150016 (forward overwing exit). In this case, the maximum number of passengers is 145.

- 1.4.16 A320-215 model results of the embodiment of modification 36297 on A320-214 model.

- 1.4.17 A320-216 model results of the embodiment of modification 36311 on A320-214 model.

- 1.4.18 Model conversion:

- If modification 34647 is embodied on A320-212 model powered with CFM56-5A3 engines, it is converted into A320-211 model, powered with CFM56-5A1 engines
- If modification 35962 is embodied on A320-211 model powered with CFM56-5A1 engines, it is converted into A320-212 model, powered with CFM56-5A3 engines

- 1.4.19 For noise, A320-215/-216 models are basically compliant with ICAO Annex 16 Chapter 4 requirement.

- 1.4.20 For all A320 models, but A320-215/-216, compliance with ICAO Annex 16 chapter 4

requirement is achieved when modification 36521 is embodied.

From the 28/10/2009, A320-232 V2527-A5 and A320-233 V2527E-A5, with or without modification 34041 (Lift Improvement Package), are demonstrated in compliance with ICAO Annex 16 chapter 4 requirement (D/E/J noise project).

Other models/configurations meet only the requirements defined by ICAO Annex 16, Vol I, Chapter 3.

- 1.4.21 Introduction of CFM56-5Bx/3 “Tech Insertion” engine is done through embodiment of modification 37147 in production or 38770 in field.

This modification is only applicable on CFM56-5Bx /P SAC engines.

If modification 37147 is embodied on models with CFM-5B engines, the engine denomination changes to /3.

The modification is currently applicable for:

A320-214: CFM 56-5B4 (SAC) which changes to CFM 56-5B4/3
A320-215: CFM 56-5B5 (SAC) which changes to CFM 56-5B5/3
A320-216: CFM 56-5B6 (SAC) which changes to CFM 56-5B6/3

Modification 37147 has been demonstrated as having no impact on previously certified noise levels.

The engine characteristics as per table 1.3.13.1 remain unchanged.

CFM56-5Bx/3 engine can be intermixed with CFM56-5Bx/P engine under considerations as prescribes in modification 38573.

- 1.4.22 For A320-211, -212, -231, -232 and –233 models, the embodiment of modification 37734 leads to change the maintenance program and its associated Limit of Validity (LoV) from 48,000FC/60,000FH to 37,500FC/80,000FH (whichever occurs first).

- 1.4.23 Introduction of “BUMP” function is done through embodiment of modification 38946.

If modification 38946 is embodied on models with CFM-5B engines, the engine denomination changes to /P1 (SAC) or /2P1(DAC) or /3B1 (Tech Insertion).

The modification is currently applicable for:

A320-214: CFM 56-5B4 (SAC) which changes to CFM 56-5B4/P1

Modification 38946 has been demonstrated as having no impact on previously certified noise levels.

The engine characteristics as per table 1.3.13.1 remain unchanged.

Intermix at aircraft level between “Non Bump” engine and “Bump” engine is not allowed.

- 1.4.24 From March 31st 2008, there is no longer any CFM56-5B/2 non /P in field or in production. CFM56-5B4/2 engine model has been removed from CFM56-5B Type Certificate Data Sheet.

1.4.25 Principal dimensions of A320 Aircraft:

- Length:	37,57 m
- Width:	34,10 m
- Height:	11,76 m
- Width at horizontal stabilizer:	12,45 m
- Outside fuselage diameter:	3,95 m
- Distance between engines axis:	11,51 m
- Distance between main landing gear:	7,59 m
- Distance between nose and main landing gear:	12,64 m

1.4.26 If modifications 36984 or 150700, and 37270 (with CLS option only), 37048 and 36985 are embodied in production on A318, A319, A320, or A321 airplanes, the airplane is compliant with Fuselage Flame Penetration “Burnthrough” requirements addressed by paragraph 14 CFR Part 25.856(b) Amdt 25-111 (See CRI E-28).

Regarding the fuselage skin in the bilge area, EASA issued an equivalent level of safety finding through CRI E-32.

1.4.27 If fitted, the centre fuel tank of aircraft which have made their first flight after 1st of January 2012 must be equipped in production with a fuel tank Flammability Reduction System (Modification 38062). This system shall remain installed and operative and can only be dispatched inoperative in accordance with the provisions of the MMEL revision associated with Modification 38062. If modification 38062 (Fuel Tank Inerting System (FTIS)) is embodied on A318, A319, A320, or A321 airplanes, the airplane is compliant with paragraph 14 CFR Section 25.981(a) & (b) at amendment 25-102, Part 25 appendix M & N at amendment 25-125, and Section 26.33 at amendment 26-3 (See Special Condition P-27).

2. A321

2.1 A321-100 SERIES

Twin turbo-fan, short to medium range, single aisle, transport category airplane.

2.1.1 Model Definition A321-131

Certificated Model: A321-131

Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-A 414.0900/93 (00E000A0003/C21)

2.1.1.1 Engines

Two IAE V2530 - A5 jet engines (Mod 22989)

2.1.1.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00E000A0004/C0S

2.1.1.3 Weight Limits (kg)

VARIANT	000 (BASIC)	002 (MOD 24178)	003 (MOD 24899)	004 (MOD 24308)	006 (MOD 26600*)	007 (MOD 26888)	008 (MOD 30334)
Max. Ramp Weight	83 400	83 400	85 400	78 400	78 400	80 400	89 400
Max. Take-off Weight	83 000	83 000	85 000	78 000	78 000	80 000	89 000
Max. Landing Weight	73 500	74 500	74 500	73 500	74 500	73 500	75 500
Max. Zero Fuel Weight	69 500	70 500	70 500	69 500	70 500	69 500	71 500
Minimum Weight	47 500	47 500	47 500	47 500	47 500	47 500	47 500

* See note 2.4.17 for other build-up possibilities.

2.1.2 Model Definition A321-112

Certificated Model: A 321-112

Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-A 414.0118/94 (00E000A0002/C11)

2.1.2.1 Engines

Two CFMI CFM 56-5B2 engines (Mod 23152)

For other power plant possibilities, see note 2.4.10.

2.1.2.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00E000A0006/C1S.

2.1.2.3 Weight Limits (kg)

VARIANT	000 (BASIC)	002 (MOD 24178)	003 (MOD 24899)	004 (MOD 24308)	005 (MOD 25649)	006 (MOD 26600*)	007 (MOD 26888)	008 (MOD 30334)
Max. Ramp Weight	83 400	83 400	85 400	78 400	83 400	78 400	80 400	89 400
Max. Take-off Weight	83 000	83 000	85 000	78 000	83 000	78 000	80 000	89 000
Max. Landing Weight	73 500	74 500	74 500	73 500	75 000	74 500	73 500	75 500
Max. Zero Fuel Weight	69 500	70 500	70 500	69 500	71 000	70 500	69 500	71 500
Minimum Weight	47 500	47 500	47 500	47 500	47 500	47 500	47 500	47 500

* See note 2.4.17 for other build-up possibilities.

2.1.3 Model Definition A321-111

Certificated Model: A321-111

Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-A 413.1063/94
(00E000A0008/C21)

2.1.3.1 Engines

Two CFMI CFM 56-5B1 jet engines (Mod 23083), or
CFM 56-5B1/2 jet engines (Mod 24404)

See notes 2.4.23 and 2.4.24 for engine models no longer in production and in-service.

For other power plant possibilities, see note 2.4.10 and 2.4.12.

2.1.3.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List
ref. 00E000A0007/C1S

2.1.3.3 Weight Limits (kg)

Same as A321-112 above (para. 2.1.2.3)

2.2 A321-200 SERIES

Twin turbo-fan, short to medium range, single aisle, transport category airplane.

2.2.1 Model Definition A321-211

Certificated Model: A321-211

Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-S 413.0400/97
(00E000A0211/C21)

See note 2.4.19 for model conversion into A321-211 model.

2.2.1.1 Engines

Two CFMI CFM 56-5B3/P jet engines (Mod 26359 + 25800), or
CFM 56-5B3/2P jet engines (Mod 27640)

2.2.1.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List
ref. 00E000A0211/C0S.

2.2.1.3 Weight Limits (kg)

VARIANT	000 (BASIC)	001 (MOD 28960)	002 (MOD 28721)	003 (MOD 31613)	004 (MOD 31614)	005 (MOD 27553)	006 (MOD 31616)	011 (MOD 32456)
Max. Ramp Weight	89 400	93 400	89 400	91 400	87 400	85 400	83 400	93 900
Max. Take-off Weight	89 000	93 000	89 000	91 000	87 000	85 000	83 000	93 500
Max. Landing Weight	75 500	77 800	77 800	77 800	75 500	75 500	75 500	77 800
Max. Zero Fuel Weight	71 500	73 800	73 800	73 800	71 500	71 500	71 500	73 800
Minimum Weight	47 500	47 500	47 500	47 500	47 500	47 500	47 500	47 500

2.2.2 Model Definition A321-231

Certificated Model: A321-231
Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-S 413.0388/97
(00E000A0231/C21)
See note 2.4.19 for model conversion into A321-231 model.

2.2.2.1 Engines

Two IAE V2533-A5 jet engines (Mod 25643)

2.2.2.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List
ref. 00E000A0231/COS.

2.2.2.3 Weight Limits (kg)

Same as A321-211 above (para. 2.2.1.3)

2.2.3 Model Definition A321-212

Certificated Model: A 321-212
Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-S 413.1359/01
(00E000A0212/C21)
See note 2.4.19 for model conversion into A321-212 model.

2.2.3.1 Engines

Two CFMI CFM 56-5B1 jet engines (Mod 23083), or
CFM 56-5B1/2 jet engines (Mod 24404)

See notes 2.4.23 and 2.4.24 for engine models no longer in production and in-service.
For other power plant possibility, see note 2.4.10 and 2.4.12.

2.2.3.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List
ref. 00E000A0212/COS.

2.2.3.3 Weight Limits (kg)

VARIANT	000 BASIC	001 (MOD 28960)	002 (MOD 28721)	003 (MOD 31613)	004 (MOD 31614)	005 (MOD 31615)	006 (MOD 31616)	007 (MOD 31617)	008 (MOD 31618)	009 (MOD 31619)	010 (MOD 31321)	011 (MOD 32456)
Max. Ramp Weight	89 400	93 400	89 400	91 400	87 400	85 400	83 400	83 400	80 400	78 400	85 400	93 900
Max. Take-off Weight	89 000	93 000	89 000	91 000	87 000	85 000	83 000	83 000	80 000	78 000	85 000	93 500
Max. Landing Weight	75 500	77 800	77 800	77 800	75 500	75 500	75 500	73 500	73 500	73 500	77 800	77 800
Max. Zero Fuel Weight	71 500	73 800	73 800	73 800	71 500	71 500	71 500	69 500	69 500	69 500	73 800	73 800
Minimum Weight	47 500	47 500	47 500	47 500	47 500	47 500	47 500	47 500	47 500	47 500	47 500	47 500

2.2.4 Model Definition A321-213

Certificated Model: A321-213

Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-S 413.1360/01
(00E000A0213/C21)

2.2.4.1 Engines

Two CFMI CFM 56-5B2 engines (Mod 23152)

2.2.4.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List
ref. 00E000A0213/C0S.

2.2.4.3 Weight Limits (kg)

Same as A321-212 above (para. 2.2.3.3)

2.2.5 Model Definition A321-232

Certificated Model: A321-232

Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-S 413.1361/01
(00E000A0232/C21)

2.2.5.1 Engines

Two IAE V2530 - A5 jet engines (Mod 22989).

2.2.5.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List
ref. 00E000A0232/C0S.

2.2.4.3 Weight Limits (kg)

Same as A321-212 above (para. 2.2.3.3)

2.3 DATA PERTINENT TO ALL A321 SERIES

2.3.1 Certification

2.3.1.1 Certification dates:

A321-131: December 17, 1993
A321-112: February 15, 1994
A321-111: May 27, 1994
A321-211: March 20, 1997
A321-231: March 20, 1997
A321-212: August 31, 2001
A321-213: August 31, 2001
A321-232: August 31, 2001

Note: For A321 produced before December 21, 2005 DGAC-F TC 180 remains a valid reference.

2.3.1.2 Certification basis

Hereafter are listed the certification bases for the different A321 models. The amendments made to a particular basis at the occasion of further A321 models certification are identified per series.

AIRBUS INDUSTRIE has applied for A321-100 certification on November 30, 1989 by letter AI/EA-410.106/89.

The applicable Joint Certification Basis defined in CRI G3001 Issue 4 dated 29/11/93 is:

- a. JAR 25 Change 11 as amended by the following JAR 25 Change 13 paragraphs effective on the reference date November 30, 1989:

JAR 25X20	JAR 25.253
JAR 25.101	JAR 25.345(a)
JAR 25.105	JAR 25.365
JAR 25.107(d)	JAR 25.812(e)
JAR 25.109(a)	JAR 25.857(d)(6)
JAR 25.113	JAR 25.1501(c)
JAR 25.119(b)	JAR 25.1533(b)
JAR 25.121	JAR 25.1581(b)
JAR 25.125	JAR 25.1583(k)
JAR 25.143(f)	JAR 25.1587
JAR 25.207	JAR 25X1591

Associated to JAR 25 Change 13, the following paragraphs are deleted:

JAR 25X131	Change 11
JAR 25X132	Change 11
JAR 25X133	Change 11
JAR 25X135	Change 11
JAR 25X1588	Change 11

- b. JAR 25 Requirements elected by the manufacturer (Letter AI/EA 412.0033/92 dated March 13, 1992):

- b1. JAR 25 paragraphs at Change 13 and amended by the NPA 25C205 Unified Discrete Gust Requirements introduced by Orange Paper 91/1:

JAR 25.305	JAR 25.349(b)
JAR 25.321	JAR 25.351
JAR 25.331	JAR 25.365
JAR 25.333	JAR 25.371
JAR 25.335(d)	JAR 25.373
JAR 25.341	JAR 25.391
JAR 25.343(b)(1)(ii)	JAR 25.427
JAR 25.345(a) and (c)	JAR 25.571(b)(2)

b2. JAR 25 paragraphs at Change 13 and amended by the NPA 25 BDG 244 Accelerate Stop Distances and Associated Performance.
Refer to Special Conditions F-10, S-79 and IM-S79.

c. The following A320 Special Conditions, Experience Related Conditions and Harmonization Conditions are deleted:

Reminder: Within the scope of the establishment of the A320 Joint Certification Basis, three types of special conditions were developed:

- Special conditions: raised to cover novel or unusual features not addressed by the JAR.
- Experience related conditions: raised to record an agreed text for the A320 Joint Certification Basis when evolution of JAR was in progress under the NPA procedure.
- Harmonization conditions: to record, for the purpose of the A320 Joint Certification Basis, a common understanding with respect to National variant. This should not be confused with the FAA/JAA harmonised regulations.

c1. Further to application of the updated requirements of above paragraphs (a) and (b):

HC-F103	ASD-TOD-TOR on wet runways
HC-F114	Approach and Target Threshold Speeds
EC-A.3.6.1	High Lift Devices
SC-A.4.3	Tuned Gust Loads (UK)
HC-A.4.4	Manoeuvre Loads - High Lift Devices Deployed
HC-S61	Design Landing Brake Kinetic Energy
HC-S62	Rejected Take-Off Brake Kinetic Energy
IM-AMC-F101	Wet Runway Friction Characteristics
IM-F103	ASD-TOD-TOR on Wet Runways
IM-A38	Discrete Gust Requirements
AMC-A43	Tuned Gust Loads (UK)

c2. Further to JAR 25 requirements evolution:

EC-G11	General Definition
IM-F107	Landing Distance Determination
AMC-F111	Take-Off Speeds VMU

- c3. Further to issuance of A321 Special Conditions and Interpretative Materials listed in paragraph (d) below:

SC-A.2.1.1/IM-A.2.1.1	Certification criteria for aircraft designed with systems interacting with structural performance
IM-A35	Rapid Decompression
IM-A47	Emergency Landing Conditions

- d. New or updated A321 Special Conditions and Advisory Material:

Flight

SC-F1 and IM-F1 (CRI F3001)	Stalling and Scheduled Operating Speeds
SC-F10 (CRI F3002)	Accelerate - Stop Distance
IM-F4 (CRI F3003)	Static Longitudinal Stability (low energy awareness)
IM-F12 (CRI F3004)	Computerized Airplane Flight Manual
IM-F13 (CRI F3005)	Landing Distance Extrapolation
AMC-F14 (CRI F3006)	Flight in Icing Conditions

Structure

SC-A1 and IM-A1 (CRI A3001)	Interaction of Systems and Structure
SC-A2 (CRI A3002)	Stalling Speeds for Structural Design
IM-A3 (CRI A3003)	Rapid Decompression
IM-A4 (CRI A3004)	Crashworthiness of Fuel Tanks outside the fuselage

Propulsion

SC-P1 and IM-P1 (CRI P3001)	FADEC
IM-P2 (CRI P3003)	Nacelle Cowling Resistance to Fire

Environment

SC-E1 and IM-E1 (CRI E3005)	Resistance to Fire Terminology
AMC-E2 (CRI E3006)	Emergency Evacuation Demonstration
SC-E3 (CRI E3001)	Exit Configuration
IM-E4 (CRI E3002)	Reclassification of door 2 and 3 to Type III

Systems

IM-S78	Low altitude autopilot engagement
SC-S79 and IM-S79	Brakes requirements qualification and testing

- e. The following A320 Special Conditions and Interpretative Material are validated for A321:

SC-G17 (F)	Operational proving flights
SC-G17 (G)	Operational flight for certification
SC-F3	Cockpit Control - motion and effect of cockpit control
SC-F4	Static Longitudinal Stability
SC-F6	Static Directional and Lateral Stability
SC-F7/IM-F7	Flight Envelope Protection
SC-F8	Normal Load Factor Limiting
SC-F9	Dual Control System
AMC-F116	Take-off Speeds VMU

SC-A.2.2.2/IM-A.2.2.2	Design Manoeuvre requirement
SC-A.2.2.3/IM-A.2.2.3	Design Dive Speed
AMC-A23	Composite Aircraft Structure
IM-A313	Composite Turbulence - use of calculation results
IM-A37	Emergency Landing Conditions and Landing Gear
IM-A39	Discrete Source Damage
HC-A.4.5/IM-A.4.5	Brake Roll Conditions
HC-A.4.6	Speed control device
AMC-S1	Digital Equipment
AMC-S5	Electrical bonding and lightning protection (direct effects)
SC-S11	Limit pilot forces and torques
IM-S13	Standby gyroscopic horizon
IM/AMC-S14	Electrical flight controls (manual flight)
AMC-S20	Electronic instrument systems
IM-S21	Landing Gear
HC-S23/IM-S23	Standby Gyroscopic Horizon
HC-S24	VMO/MMO Warning (Setting)
IM/AMC-S27	Altitude Display System
EC-S30/AMC-S30	Autoflight System
SC-S33	Autothrust System
IM-S35	Autopilot Synchronization
IM/AMC-S42	APU Rotor Burst
IM-S51	Emergency Loads
SC-S52/IM-S52	Operation without normal electrical power
SC-S54/IM-S54	Circuit protective devices
HC-S72/IM-S73	Flight recorder
SC-S74	Abnormal attitudes
SC-S75	Lightning protection (indirect effects)
SC-S76/IM-S76	Effect of external radiations upon aircraft systems
SC-S77/IM-S77	Integrity of signal control

- f. Airbus Industrie has applied for A321-200 certification on July 17, 1996 by letter AI/EA-S 413.1938/96

The applicable Joint Certification Basis defined in CRI G3001 Issue 4 dated 29/11/93 as listed under 7.1 a) to e) above remains applicable, except b2) which is superseded by the Airbus Industrie elect-to-comply (letter AI/EA-S 413.0278/97 dated January 29, 1997) with NPA 25 BDG 244 dated January 1996, amended 24/04/96, 22/05/96, 07/06/96, 04/07/96) (see CRI F3012).

- g. For take off and landing operations at high altitude airports up to 14,100 ft pressure altitude, the following new Special Condition has been created:

SC-E10 High altitude airport operations (up to 14,100 ft) (see CRI E10).

- h. For any new application (new or modified aeroplane system and associated components) after July 10, 1998, SC/IM-S76 (Effect of external radiations upon aircraft systems) are superseded by SC/IM-S76-1 (CRI SE14).
- i. For any further variant certification after Aug. 10, 1998, the HC-A.4.5 (Braked roll conditions) is superseded by JAR 25.943(d) at Change 14 (CRI A7).
- j. The following special conditions have been developed post Type Certification:
- | | |
|---------|---|
| SC H-01 | Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS (applicable from May 2010) |
|---------|---|

SC E-34	HIC Compliance to Front Row Seating
SC D-0306	Heat release and smoke density requirements to seat material (applicable from June 2010)
SC P-27	Flammability Reduction System (see Note 2.4.28)

k. Exemptions:

No exemptions.

l. Equivalent safety findings:

l.1 The following paragraphs JAR 25 have been complied with through equivalent safety demonstration:

JAR 25.783 (f)	passenger doors and bulk door (see CRI SM 3001, SM 3002 and SM 3004)
JAR 25.933 (a)	thrust reverser autoextend function (see CRI P 3008).

l.2. The following Equivalent Safety Findings have been developed post Type Certification:

FAR 25.856(b)	Fuselage burnthrough protection in bilge area (see CRI E-28), see note 2.4.27
---------------	---

m. JAR AWO Change 1 for autoland and operations in low visibility.

n. ICAO Annex 16:

Vol. I, Part II, Chapter 3	Noise Requirements (see also note 2.4.20)
Vol. II, Part II	Fuel Venting
Vol. II, Part III Chapter 2	Emissions

o. For the Extended Twin Engine Airplane Operations the applicable technical conditions are contained in AMC 20-6 (as initially published in AMJ 120-42/IL 20) and the A321 ETOPS CRI:

CRI G3006	ETOPS	
CRI G3007	ETOPS	One engine inoperative cruise speed.

2.3.2. Center of gravity range

See DGAC approved Airplane Flight Manual.

2.3.3. Limit speeds (Indicated Airspeed - IAS - unless otherwise stated)

Maximum Operating Mach (MMO):	0,82
Maximum Operating Speed (VMO):	350 kt
Manoeuvring Speed VA:	see Chapter 2.0 of the DGAC approved Flight Manual
Extended Flaps/Slats Speed (VFE):	see table below

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, landing
Full	27/25	190	Landing

* See note 2.4.7

** See note 2.4.18

Landing gear :

VLE - Extended: 280 kt/Mach 0.67

VLO - Extension: 250 kt

Retraction: 220 kt

Tyres limit speed (ground speed): 195.5 kt (225 mph)

2.3.4. Maximum operating altitude

39 100 ft (pressure altitude)

39 800 ft (pressure altitude) if modification 30748 is embodied

2.3.5. Minimum flight crew

2 pilots

2.3.6. Maximum number of passengers

220

2.3.7. Cargo compartment loading

CARGO COMPARTMENT	MAXIMUM LOAD (kg)
Forward	5 670
Aft	5 670
Rear (bulk)	1 497

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.

2.3.8. Fuel

2.3.8.1 Fuel Specification:

See installation manual: document CFM 2026 or document IAE - 0043

TYPE	SPECIFICATION (NAME)						
	FRANCE	USA	UK		RUSSIA	CHINA	
Kerosene	DCSEA 134	ASTM D 1655 (JET A) (JET A1)	DEF STAN 91/91	(AVTUR) (JET A1)	GOST (RT) 10227-86 (TS1)*	GB 6537- 94	N°3 JET

		MIL - T - 83133 (JP 8)	DEF STAN 91/87 (AVTUR) (JET A1) (AIA)	GOST R 52050-2003	
Wide cut		ASTM D 1655 (JET B)	DEF STAN 91/88 (AVTAG)		
		MIL - T 5624 (JP 4)			
High flash point	DCSEA (F-44) 144/A (XF-43)	MIL - T 5624 (JP 5)	DEF STAN 91/86 (AVCAT)		

* For IAE engines, TS-1 is cleared for transient use (less than 50% of operations)

Additives:

See CFMI "Specific Operating Instructions", CFM TPOI-13

See IAE V2500 "Installation and Operating Manual" IAE 0043 Section 4.5 or the "Standard Practices and Processes Manual" in IETM.

The above mentioned fuels and additives are also suitable for the APU.

2.3.8.2 Fuel quantity (0,8 kg/liter) (see note 2.4.26)

TANK	3 TANK AIRPLANE		4 or 5 TANK AIRPLANE (*) (**)	
	Usable fuel liters (kg)	Unusable fuel liters (kg)	Usable fuel liters (kg)	Unusable fuel liters (kg)
WING	15 500 (12 400)	22.6 (18)	15 500 (12 400)	22.6 (18)
CENTER	8 200 (6 560)	23.2 (18.6)	8 200 (6 560)	23.2 (18.6)
ACT (*) (**)			2 900 or 2 992 / 5 984 ** (2 320) or (2 393 / 4 786) **	17 / 34 (13.6 / 27.2)
TOTAL	23 700 (18 960)	45.8 (36.6)	26 600 or 26 692 / 29 684 ** (21 280) or (21 353 / 23 746) **	62.8 / 79.8 (50.2 / 63.8)

* See notes 2.4.11 and 2.4.16

**** 1 ACT high pressure system, 2900 liters on A321-200, on additional centre tanks 1 / 2 ACT low pressure system 2992/5984 liters on A321-200**

2.3.9. Hydraulic fluids

Type IV Specification NSA 30.7110

2.3.10. Auxiliary Power Unit (APU)

2.3.10.1 APU GARRETT

GARRETT AIRESEARCH GTCP 36-300 (A)
(Specification 31-5306B)

Approved oils: see GARRETT REPORT GT.7800

2.3.10.2 APU APIC (Option)

The APU APIC installation is defined by MOD 22562 or MOD 35864 APIC APS 3200 (Specification ESR 0802, Rev. A).

Approved oils: in conformance to MIL-L-7808, MIL-L-23699 or DERD 2487

2.3.10.3 APU AlliedSignal (Option)

The APU AlliedSignal installation is defined by MOD 25888
AlliedSignal 131-9[A] (Specification 4900 M1E 03 19 01)
Approved oils: according to Model Specification 31-12048A-3A

Note: For A321 models, the APU APIC APS 3200 (Mod 35864) is the production standard from MSN 2653

2.3.11 Tyres

See SB A320-32-1007

2.3.12 Cabin Equipment

Cabin furnishings, equipment and arrangement shall be in conformance to the following specification:

ref. 00D252K0004/C01 for cabin seats
ref. 00D252K0019/C01 for galleys

2.3.13 Limitations

2.3.13.1 Powerplant (2.2482 lb/daN)

2.3.13.1.a A321-111 or -212 / A321-112 or -213 / A321-131 or -232

Engine	CFMI CFM56-5B1 (**) CFM56-5B1/2 (**)	CFMI CFM56-5B2	IAE V2530-A5
Data sheets	E37NE (FAA) E38NE (FAA) M-17 (DGAC) M-IM28 (DGAC)	E37NE (FAA) E38NE (FAA) M-17 (DGAC) M-IM28 (DGAC)	E40NE (FAA) M-IM31 (DGAC)
Static thrust at Sea level			
Take-off (5 minutes)* (Flat rated 30° C)	13 344 daN (30 000 lbs)	13 789 daN (31 000 lbs)	13 300 daN (29 900 lbs)
Maximum continuous (Flat rated 25° C)	12 940 daN (29 090 lbs)	12 940 daN (29 090 lbs)	11 988 daN (26 950 lbs)
Approved oils	See SB CFMI 79-001-OX	See SB CFMI 79-001-OX	See Doc IAE 0043 Sect 4.9 (MIL-L 23 699)

* 10 minutes at take-off thrust allowed only in case of engine failure (at take-off or during go-around) in accordance with DGAC "Fiche de caractéristiques moteur"

** see notes 2.4.23 & 2.4.24 for engine models no longer in prod/service.

Other engine limitations: see the relevant Engine Type Certificate Data Sheet
Other power plant possibilities: see also notes 2.4.10, 2.4.12 and 2.4.21

2.3.13.1.b A321-211/-231

Engine	CFMI CFM56-5B3 (/P only) CFM56-5B3/2P	IAE V2533-A5
Data sheets	E37NE (FAA) E38NE (FAA) M-17 (DGAC) M-IM28 (DGAC)	E40NE (FAA) M-IM31 (DGAC)
Static thrust at Sea level		
Take-off (5 minutes)* (Flat rated 30° C)	14 234 daN (32 000 lbs)	14 055 daN (31 600 lbs)
Maxi continuous (Flat rated 25° C)	12 940 daN (29 090 lbs)	11 988 daN (26 950 lbs)
Approved oils	SB CFMI 79-001-OX	Doc IAE 0043 Sect 4.9 (MIL-L 23 699)

* 10 minutes at take-off thrust allowed only in case of engine failure (at take-off or during go-around) in accordance with DGAC "Fiche de Caractéristiques Moteur"

Other engine limitations: see the relevant Engine Type Certificate Data Sheet

Other power plant possibility : see also notes 2.4.21 and 2.4.22.

2.3.13.2 Airworthiness limitations

- Limitations applicable to Safe Life Airworthiness Limitation Items are provided in the A318/A319/A320/A321 Airworthiness Limitations Section (ALS) sub-parts 1-2 and 1-3 approved by the EASA
- Limitations applicable to Damage Tolerant Airworthiness Limitation Items are provided in the A318/A319/A320/A321 Airworthiness Limitations Items document (ALS Part 2) approved by the EASA
- Certification Maintenance Requirements are provided in A318/A319/A320/A321 Airworthiness Limitations Section (ALS) Part 3 approved by the EASA
- Ageing Systems Maintenance (ASM) limitations are provided in the A318/A319/A320/A321 Airworthiness Limitations Section (ALS) Part 4 approved by the EASA
- Fuel Airworthiness Limitations are provided in A318/A319/A320/A321 Fuel Airworthiness Limitations document (ALS Part 5) approved by the EASA

2.3.13.3 Other limitations

See EASA approved Flight Manual

2.3.14 Production conditions

A321 aircraft, all series, all models, are all produced in Hamburg - Germany - under approval I-A9 (until April 1999) or LBA.G.0009 (since April 1999) issued by LBA to AIRBUS INDUSTRIE

Since September 27, 2004, A321 aircraft are produced in Hamburg - Germany under approval DE.21G.0009 issued by LBA to AIRBUS

From July 21st, 2008, A321 aircraft are produced in and Hamburg (Germany) under approval EASA.21G.0001 issued by EASA to AIRBUS

2.4 NOTES PERTINENT TO ALL A321 SERIES

- 2.4.1 For models A321-111 and A321-112, modification 25199 is the minimum standard to be qualified for Cat IIIB precision approach.
For models A321-131, modification 25200 is the minimum standard to be qualified for Cat IIIB precision approach.

All other models are basically qualified for Cat IIIB precision approach.

2.4.2 deleted.

2.4.3 deleted.

2.4.4 deleted.

2.4.5 deleted.

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

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

2.4.8 A321-111 CFM 56-5B1 engine can be intermixed with CFM 56-5B1/2 engine (mod. 24404) on the same aircraft (AFM supplement). See notes 2.4.23 & 2.4.24 as well.

2.4.9 The Configuration, Maintenance and Procedure Standards for extended range twin-engine airplane operations are contained in ETOPS CMP document reference SA/EASA:AMC 20-6/CMP at latest applicable revision. Certificated models are A321-111/-112/-131/-211/-212/-213/-231/-232, with all applicable engines.

Embodiment of modification:

- 36666 provides ETOPS 120 mn capability for EASA
- 32009 provides ETOPS 180 mn capability for EASA

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

The modification is currently applicable for:

A321-111: CFM 56-5B1 (SAC) which changes to CFM 56-5B1/P
A321-112: CFM 56-5B2 (SAC) which changes to CFM 56-5B2/P
A321-212: CFM 56-5B1 (SAC) which changes to CFM 56-5B1/P

CFM 56-5B/"non-P" engine can be intermixed with CFM 56-5B/P engine on the same aircraft. See notes 2.4.23 & 2.4.24 as well.

2.4.11 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 is subject of Major Change E2-001 (compliance to CRI P9).

- 2.4.12 If modification 26610 is embodied on models with CFM-5B/2 (DAC) engines, the engine performance and gaseous emission levels are improved. The engine denomination changes to /2P.

The modification is currently applicable for:

A321-111: CFM 56-5B1/2 (DAC) which changes to CFM 56-5B1/2P (DAC II C)

A321-212: CFM 56-5B1/2 (DAC) which changes to CFM 56-5B1/2P (DAC II C)

CFM 56-5B/2 "non P" (DAC) engine can be intermixed with CFM 56-5B/2P (DAC II C) engine on the same aircraft (AFM supplement).

CFM 56-5B/P or /"non-P" (SAC) engine can be intermixed with CFM 56-5B/2P (DAC II C) engine on the same aircraft (AFM supplement).

See notes 2.4.23 & 2.4.24 as well.

- 2.4.13 For cabin arrangements of 201 passenger seats up to the maximum number of 220 passenger seats, five cabin crew are required.

For cabin arrangements up to and including 200 passenger seats, only four cabin crewmembers are required.

- 2.4.14 The type design definitions and certification standard equipment lists as referenced in para. 6 are complemented by doc. 00D000A0546/C0S "A319-100/A321-200 FMGC Type Std Evolution".

- 2.4.15 CFM56-5B3/P (SAC) engine (mod 26359 + 25800) can be intermixed with CFM56-5B3/2P (DAC II C PIP) engine (mod 27640) on the same aircraft (AFM supplement).

- 2.4.16 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 is subject of Major Change E2-002 (compliance to CRI P9).

- 2.4.17 On the series A321-100, Weight Variant 006 is defined either by mod 26600, building up on Weight Variant 003, or mod 30310, building up on Weight Variant 000.

- 2.4.18 On the series A321-200, Weight Variant 001, 002 & 011, 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 or 28721).

- 2.4.19 Models conversion:

- If modification 34368 is embodied on A321-111 model powered with CFM56-5B1/2P engines, it is converted into A321-211 model, powered with CFM56-5B3/2P engines.
- If modification 34818 is embodied on A321-211 model powered with CFM56-5B3/P engines, it is converted into A321-212 model, powered with CFM56-5B1/P engines.
- If modification 35252 is embodied on A321-212 model powered with CFM56-5B1/P engines, it is converted into A321-211 model, powered with CFM56-5B3/P engines.
- If modification 35718 is embodied on A321-131 model powered with V2530-A5 engines, it is converted into A321-231 model, powered with V2533-A5 engines.

2.4.20 For all A321 models but:

- A321-211 CFM56-5B3/P,
- A321-211 CFM56-5B3/P mod 27772,
- A321-211 CFM56-5B3/2P mod 27727 with or without mod 27772,
- A321-111 CFM56-5B1/P,
- A321-111 CFM56-5B1/2P mod 26610 with or without mod 27772,
- A321-112 CFM56-5B2/P,
- A321-112 CFM56-5B2/P mod 27772,
- A321-111 CFM56-5B1/P mod 27772,

Compliance with ICAO Annex 16 chapter 4 requirements is achieved when modification 36521 is embodied.

From the 28/10/2009:

- A321-111 CFM56-5B1/P with mod 27772
- A321-111 CFM56-5B1/2P all Weight Variants but WV008 (mod 30334)
- A321-112 CFM56-5B2/P with mod 27772
- A321-212 CFM56-5B1/P with mod 27772, all Weight Variants but WVs 001/003/011 (mod 28960/31613/32456)
- A321-212 CFM56-5B1/2P with or without mod 27772, all Weight Variants but WVs 000/001/002/003/011 (basic/mod 28960/28721/31613/32456)
- A321-213 CFM56-5B2/P with mod 27772, all Weight Variants but WVs 001/002/003/011 (mod 28960/28721/31613/32456)

are demonstrated in compliance with ICAO Annex 16 Chapter 4 requirement (D/E/J noise project).

Other models/configurations meet only the requirements defined by ICAO Annex 16, Vol I, Chapter 3.

See notes 2.4.23 & 2.4.24 as well.

2.4.21 Introduction of CFM56-5Bx/3 "Tech Insertion" engine is done through embodiment of modification 37147 in production or 38770 in field. This modification is only applicable on CFM56-5Bx/P SAC engines.

If modification 37147 is embodied on models with CFM-5B engines the engine denomination changes to /3.

The modification is currently applicable for:

A321-111: CFM 56-5B1 (SAC) which changes to CFM 56-5B1/3
A321-112: CFM 56-5B2 (SAC) which changes to CFM 56-5B2/3
A321-211: CFM 56-5B3 (SAC) which changes to CFM 56-5B3/3
A321-212: CFM 56-5B1 (SAC) which changes to CFM 56-5B1/3
A321-213: CFM 56-5B2 (SAC) which changes to CFM 56-5B2/3
The engine characteristics as per tables 2.3.13.1a) & b) remain unchanged.

Modification 37147 has been demonstrated as having no impact on previously certified noise levels.

CFM56-5Bx/3 engine can be intermixed with CFM56-5Bx/P engine under considerations as prescribes in modification 38573.

- 2.4.22 Introduction of “BUMP” function is done through embodiment of modification 38946. If modification 38946 is embodied on models with CFM-5B engines, the engine denomination changes to /P1 (SAC) or /2P1 (DAC) or /3B1 (Tech Insertion).

The modification is currently applicable for:

A321-211: CFM 56-5B3 (SAC) which changes to CFM 56-5B3/P1

Modification 38946 has been demonstrated as having no impact on previously certified noise levels.

The engine characteristics as per table 2.3.13.1b) remain unchanged.

Intermix at aircraft level between “Non Bump” engine and “Bump” engine is not allowed.

- 2.4.23 From March 31st 2008, there is no longer any CFM56-5B1 non /P in field or in production.

- 2.4.24 From March 31st 2008, there is no longer any CFM56-5B1/2 non /P in field or in production.

- 2.4.25 Principal dimensions of A321 Aircraft:

- Length:	44,51 m
- Width:	34,10 m
- Height:	11,76 m
- Width at horizontal stabilizer:	12,45 m
- Outside fuselage diameter:	3,95 m
- Distance between engine axis:	11,51 m
- Distance between main landing gear:	7,59 m
- Distance between nose and main landing gear:	16,91 m

- 2.4.26 On series A321-200 equipped with IAE engines, introduction of standard of wingbox without dry bay (modification 38616) will increase the fuel capacity by 350 liters.

- 2.4.27 If modifications 36984 or 150700, and 37270 (with CLS option only), 37048 and 36985 are embodied in production on A318, A319, A320, or A321 airplanes, the airplane is compliant with Fuselage Flame Penetration “Burnthrough” requirements addressed by paragraph 14 CFR Part 25.856(b) Amdt 25-111 (See CRI E-28).

Regarding the fuselage skin in the bilge area, EASA issued an equivalent level of safety finding through CRI E-32.

- 2.4.28 If fitted, the centre fuel tank of aircraft which have made their first flight after 1st of January 2012 must be equipped in production with a fuel tank Flammability Reduction System (Modification 38062). This system shall remain installed and operative and can only be dispatched inoperative in accordance with the provisions of the MMEL revision associated with Modification 38062. If modification 38062 (Fuel Tank Inerting System (FTIS)) is embodied on A318, A319, A320, or A321 airplanes, the airplane is compliant with paragraph 14 CFR Section 25.981(a) & (b) at amendment 25-102, Part 25 appendix M & N at amendment 25-125, and Section 26.33 at amendment 26-3 (See Special Condition P-27).

3. A319

3.1 A319-100 SERIES

Twin turbo-fan, short to medium range, single aisle, transport category airplane.

3.1.1. Model Definition A319-111

Certificated model: A319-111

Definition of reference airplane by doc: AI/EA-S 413.0700/96 (00J000A0011/C21).

3.1.1.1 Engines

Two CFMI CFM 56-5B5 jet engines (Mod. 24932).

See note 3.3.16 for engine models no longer in production and in-service.
For other power plant possibility, see note 3.3.2.

3.1.1.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List
ref. 00J000A0012/COS.

3.1.1.3 Weight Limits (kg)

VARIANT	000 BASIC	001 Mod 25328	002 Mod 27112	003 Mod 26457	004 Mod 28053	005 Mod 28136
Max. Ramp Weight	64 400	70 400	75 900	68 400	68 400	70 400
Max. Take-off Weight	64 000	70 000	75 500	68 000	68 000	70 000
Max. Landing Weight	61 000	61 000	62 500	61 000	62 500	62 500
Max. Zero Fuel Weight	57 000	57 000	58 500	57 000	58 500	58 500
Minimum Weight	35 400	35 400	35 400	35 400	35 400	35 400

VARIANT	006 Mod 33418	007 Mod 35197	008 Mod 36291	009 Mod 36292	010 (*) Mod 39021	011 Mod 36933	012 Mod 36934
Max. Ramp Weight	73 900	75 900	64 400	66 400	76 900	66 400	62 400
Max. Take-off Weight	73 500	75 500	64 000	66 000	76 500	66 000	62 000
Max. Landing Weight	62 500	61 000	62 500	62 500	62 500	61 000	61 000
Max. Zero Fuel Weight	58 500	57 000	58 500	58 500	58 500	57 000	57 000
Minimum Weight	35 400	35 400	35 400	35 400	35 400	35 400	35 400

* WV010 is only certified for A319 in Corporate Jet configuration (modifications 28238, 28162 and 28342).

3.1.2. Model Definition A319-112

Certificated model: A319-112

Definition of reference airplane by doc: AI/EA-S 413.0505/96 (00J000A0003/C21).

See note 3.3.11 for model conversion into A319-112 model.

3.1.2.1 Engines

Two CFMI CFM 56-5B6 jet engines (Mod. 25287), or
CFM 56-5B6/2 jet engines (Mod. 25530).

See notes 3.3.17 and 3.3.19 for engine models no longer in production and in-service.
For other power plant possibility, see notes 3.3.5 and 3.3.6.

3.1.2.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00J000A0004/COS.

3.1.2.3 Weight Limits (kg)

Same as A319-111 above (para 3.1.1.3)

3.1.3. Model Definition A319-113

Certificated model: A319-113

Definition of reference airplane by doc: AI/EA-S 413.1377/96 (00J000A0113/C21).

3.1.3.1 Engines

Two CFMI CFM 56-5A4 jet engines (Mod. 25238), or
CFM 56-5A4/F jet engines (Mod. 23755).

3.1.3.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00J000A0113/COS.

3.1.3.3 Weight Limits (kg)

Same as A319-111 above (para 3.1.1.3)

3.1.4. Model Definition A319-114

Certificated model: A319-114

Definition of reference airplane by doc: AI/EA-S 413.1400/96 (00J000A0114/C21).

See note 3.3.11 for model conversion into A319-114 model.

3.1.4.1 Engines

Two CFMI CFM 56-5A5 jet engines (Mod 25286), or
CFM 56-5A5/F jet engines (Mod. 23755).

3.1.4.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00J000A0114/COS.

3.1.4.3 Weight Limits (kg)

Same as A319-111 above (para 3.1.1.3)

3.1.5. Model Definition A319-131

Certificated model: A319-131

Definition of reference airplane by doc: AI/EA-S 413.3250/96 (00J000A0131/C21)

3.1.5.1 Engines

Two IAE V2522-A5 jet engines (Mod 26152)

3.1.5.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00J000A0131/C0S.

3.1.5.3 Weight Limits (kg)

Same as A319-111 above (para 3.1.1.3)

3.1.6. Model Definition A319-132

Certificated model: A319-132
Definition of reference airplane by doc: AI/EA-S 413.3300/96 (00J000A0132/C21)

3.1.6.1 Engines

Two IAE V2524-A5 jet engines (Mod 26298)

3.1.6.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00J000A0132/C0S.

3.1.6.3 Weight Limits (kg)

Same as A319-111 above (para 3.1.1.3)

3.1.7. Model Definition A319-115

Certificated model: A319-115
Definition of reference airplane by doc: AI/EA-S 413.1204/99 (00J000A0115/C21)

3.1.7.1 Engines

Two CFMI CFM 56-5B7 jet engines (Mod 27567)

See note 3.3.18 for engine models no longer in production and in-service.
For other power plant possibility, see note 3.3.2.

3.1.7.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00J000A0115/C0S.

3.1.7.3 Weight Limits (kg)

Same as A319-111 above (para 3.1.1.3)

3.1.8. Model Definition A319-133

Certificated model: A319-133
Definition of reference airplane by doc: AI/EA-S 413.1205/99 (00J000A0133/C21)
See note 3.3.11 for model conversion into A319-133 model.

3.1.8.1 Engines

Two IAE V2527M-A5 jet engines (Mod 27568)

3.1.8.2 Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00J000A0133/COS.

3.1.8.3 Weight Limits (kg)

Same as A319-111 above (para 3.1.1.3)

3.2 DATA PERTINENT TO ALL A319 SERIES

3.2.1. Certification

3.2.1.1 Certification dates:

A319-111: April 10, 1996
A319-112: April 10, 1996
A319-113: May 31, 1996
A319-114: May 31, 1996
A319-131: December 18, 1996
A319-132: December 18, 1996
A319-115: July 30, 1999
A319-133: July 30, 1999

Note: For A319 produced before the 21st of December 2005, DGAC-F TC 180 remains a valid reference.

3.2.1.2 Certification basis

Airbus Industrie has applied for A319 certification on June 17, 1992 by letter AI/EA 410.0122/92. The applicable Joint Certification Basis defined in CRI G4001 Issue 4 dated 21/03/96 are:

- a. JAR 25 Change 11
- except Subpart BB,
 - except all National Variants,
 - except, due to the application of the procedure for establishing the Joint Type Certification Basis for derivative large aeroplanes, the following JAR 25 paragraphs which are upgraded at Change 13 and eventually amended by Orange Paper 90/1 or Orange Paper 91/1:

25 X 20	25.253
25.107(d)	25.365 amended by OP 91/1
25.121	25.807(c) amended by OP 90/1
25.125	25.812(e)
25.143(f)	25.857(d)(6)
25.207	

- except, due to the Elect to Comply with NPA 25-C205, the following JAR 25 paragraphs which are upgraded at Change 13 and amended by Orange Paper 91/1:

25.305	25.321
--------	--------

25.331	25.351
25.333	25.365 (e)
25.335 (d)	25.371
25.341	25.373
25.343 (b) (1) (ii)	25.391
25.345 (a) and (c)	25.427
25.349 (b)	25.571 (b) (2)

- except, due to the Elect to Comply with SC-F11 and SC-S79, the following deleted paragraphs:

25x131
25x132
25x133
25x135
25x1588

- the following JAR 25 paragraphs upgraded at Change 13 and amended by SC-F11 and SC-S79:

25.101
25.105
25.109
25.113
25.115
25.735
25x1591

b. JAR AWO at Change 1.

c. The following A320 Special conditions, Experience Related Conditions and Harmonization Conditions which are kept for the A319:

Reminder: Within the scope of the establishment of the A320 Joint Certification Basis, three types of special conditions were developed:

- Special conditions: raised to cover novel or unusual features not addressed by the JAR.
- Experience related conditions: raised to record an agreed text for the A320 Joint Certification Basis when evolution of JAR was in progress under the NPA procedure.
- Harmonization conditions: to record, for the purpose of the A320 Joint Certification Basis, a common understanding with respect to National variant. This should not be confused with the FAA/JAA harmonised regulations.

(DGAC-F) SC-G17	Operational proving flights
(CAA-UK) SC-G17	Operational flight before certification
SC-F3	Cockpit control - motion and effect of cockpit control
SC-F4	Static longitudinal stability
SC-F6	Static directional and lateral stability
SC-F7	Flight envelope protection
SC-F8	Normal load factor limiting
SC-F9	Dual control system

SC-A.2.2.2.	Design manoeuvre requirement
SC-A.2.2.3.	Design dive speed
HC-A.4.5.	Braked roll conditions
HC-A.4.6.	Speed control device
SC-S11	Limit pilot forces and torques
HC-S23	Standby gyroscopic horizon
HC-S24	VMO/MMO Warning (setting)
EC-S30	Autoflight system
SC-S33	Autothrust system
SC-S52	Operation without normal electrical power
EC-S54	Circuit protective devices
HC-S72	Flight recorder
SC-S74	Abnormal attitudes
SC-S75	Lightning protection indirect effects
SC-S76	Effect of external radiations up on aircraft systems
SC-S77	Integrity of control signal

- d. The following Special Conditions developed for the A319 :

SC-A2	"Stalling Speeds for Structural Design" (see CRI A4002)
SC-F1	"Stalling and Scheduled Operating Speeds" (see CRI F4001)
SC-F11	"Accelerate-Stop distances and related performances, worn brakes" (see CRI F4012)
SC-S79	"Brakes requirements, qualification and testing" (see CRI SE4003)

- e. For A 319, Airbus Industrie has elected to comply with the following A321 Special Conditions:

SC-A1	"Interaction of Systems and Structure" (see CRI A 4001)
SC-P1	"FADEC" (see CRI P 4001)
SC-E1	"Resistance to Fire Terminology" (see CRI E 4005)

- f. For take off and landing operations at high altitude airports up to 14,100 ft pressure altitude, the following new Special Condition has been created :

SC-E10 "High altitude airport operations (up to 14,100 ft)" (see CRI E10).

- g. For any new application (new or modified aeroplane system and associated components) after July 10, 1998, SC/IM-S76 (Effect of external radiations upon aircraft systems) are superseded by SC/IM-S76-1 (CRI SE14).

- h. For A319 weight variant 002 and for any further variant certification after Aug. 10, 1998, the HC-A.4.5 (Braked roll conditions) is superseded by JAR 25.493(d) at Change 14 (CRI A7).

- i. For A319-115 and -133 models, the following JAR 25 paragraphs and Special Conditions are upgraded at Change 14 and Orange Paper 96/1:

25.119(a)
25.121(d)/SC-F1 Appendix 3
25.145(b)(c)
25.149(f)(g)(h)(i) and associated ACJ

This is introduced as Special Condition applicable to the "Third Rating", with a wording as close as possible to those paragraphs of the NPA 25B-261 involving the Go-around rating (CRI F8).

- j. The following special conditions have been developed post Type Certification:
- | | |
|-----------|---|
| SC H-01 | Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS (applicable from May 2010) |
| SC E-34 | HIC Compliance to Front Row Seating |
| SC D-0306 | Heat release and smoke density requirements to seat material (applicable from June 2010) |
| SC P-27 | Flammability Reduction System (see Note 3.3.16) |

- k. Exemption
No exemptions.

- l. Equivalent Safety findings:

l.1. Equivalent Safety findings to the following requirements are granted, as documented in relevant CRIs:

JAR 25-783(f)	"Doors" (see CRI SM 4004 "Passenger doors"; The same Equivalent Safety finding was previously granted for A320 and A321).
JAR 25-807(c)(1)	"Passengers emergency exits" (see CRI E 4001 - "Exit configuration" issued on the basis of the JAA policy dated December 1995).
JAR 25-813(c)(1)	"Emergency exit access" (see CRI E 4105 - "Type III over wing emergency exit access", issued on the basis of A320 CRI E2105 issue 3).
JAR 25-933(a)(1)	"Reversing systems" (see CRI P4008 - "Thrust Reverser Auto restow", issued on the basis of A320 CRI P1002).
JAR AWO 313	"Minimum approach break-off height" (see CRI SE 4005 - "Minimum approach break-off height").

l.2. The following Equivalent Safety Findings have been developed post Type Certification:

FAR 25.856(b)	Fuselage burnthrough protection in bilge area (see CRI E-28), see note 3.3.21
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- m. JAR AWO Change 1 for autoland and operations in low visibility.
- n. National requirements for TC and Environmental requirements:
The environmental requirements applicable in each JAA country are listed in CRI G4002, G4004 and G4005.
- o. ICAO Annex 16:

Vol. I , Part II, Chapter 3	Noise Requirements (See also note 3.3.12)
Vol. II, Part II	Fuel Venting
Vol. II, Part III Chapter 2	Emissions

- p. For the Extended Twin Engine Airplane Operations the applicable technical conditions are contained in AMC 20-6 (as initially published in AMJ 120-42/IL 20) and the A319 ETOPS CRI:

CRI G4006 ETOPS
CRI G4007 ETOPS - One engine inoperative cruise speed.

3.2.2 Center of gravity range

See EASA approved Airplane Flight Manual.

3.2.3 Limit speeds (Indicated Airspeed - IAS - unless otherwise stated)

Maximum Operating Mach (MMO): 0,82
Maximum Operating Speed (VMO): 350 kt
Manoeuvring Speed (VA): see Chapter 2.0 of the DGAC approved Flight Manual
Extended Flaps/Slats Speed (VFE): see table below

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, 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
Tyres limit speed (ground speed): 195.5 kt (225 mph)

3.2.4 Maximum operating altitude

39 100 ft (pressure altitude)
41 000 ft (pressure altitude) if modification 28162 is embodied (A319-112/-115/-132/-133 only)
39 800 ft (pressure altitude) if modification 30748 is embodied

3.2.5 Minimum flight crew

2 pilots

3.2.6 Maximum number of passengers

145 (see also Note 3.3.13 & 3.3.14)

3.2.7 Cargo compartment loading

CARGO COMPARTMENT	MAXIMUM LOAD (kg)
Forward	2 268
Aft	3 021
Rear (bulk)	1 497

For the positions and the loading conditions authorized in each position (references of containers, pallets and associated weights) see Weight and Balance Manual, ref. 00 J 080 A 0001/C1S Chapter 1.10.

3.2.8 Fuel

3.2.8.1 Fuel Specification:

See installation manual: document CFM 2026 or document IAE - 0043

TYPE	SPECIFICATION (NAME)				
	FRANCE	USA	UK	RUSSIA	CHINA
Kerosene	DCSEA 134	ASTM D 1655 (JET A) (JET A1)	DEF STAN (AVTUR) 91/91 (JET A1)	GOST (RT) 10227-86 (TS1)*	GB 6537- 94 N°3 JET
		MIL - T - (JP 8) 83133	DEF STAN (AVTUR) 91/87 (JET A1) (AIA)	GOST R 52050- 2003	
Wide cut		ASTM D 1655 (JET B)	DEF STAN (AVTAG) 91/88		
		MIL - T 5624 (JP 4)			
High flash point	DCSEA (F-44) 144/A (XF-43)	MIL - T 5624 (JP 5)	DEF STAN (AVCAT) 91/86		

* For IAE engines, TS-1 is cleared for transient use (less than 50% of operations)

Additives:

See CFMI "Specific Operating Instructions", CFM TPOI-13.

See IAE V2500 "Installation and Operating Manual" IAE 0043 Section 4.5 or the "Standard Practices and Processes Manual" in IETM.

The above mentioned fuels and additives are also suitable for the APU.

3.2.8.2 Fuel quantity (0,8 kg/liter)

Tank	3 TANK AIRPLANE		4 or 5 TANK AIRPLANE*		4 or 5 TANK AIRPLANE**	
	Usable fuel liters (kg)	Unusable fuel liters (kg)	Usable fuel liters (kg)	Unusable fuel liters (kg)	Usable fuel liters (kg)	Unusable fuel liters (kg)
Wing	15 609 (12 487)	58.9 (47.1)	15 609 (12 487)	58.9 (47.1)	15 609 (12 487)	58.9 (47.1)
Center	8 250 (6 600)	23.2 (18.6)	8 250 (6 600)	23.2 (18.6)	8 250 (6 600)	23.2 (18.6)
ACT			3 121 / 6 242 (2 497 / 4 994)	17 / 34 (13.6 / 27.2)	2 992 / 5 984 (2 393 / 4 786)	17 / 34 (13.6 / 27.2)
TOTAL	23 859 (19 087)	82.1 (65.7)	26 980 / 30 101 (21 584 / 24 081)	99.1 / 116.1 (79.3 / 92.9)	26 851 / 29 843 (21 480 / 23 873)	99.1 / 116.1 (79.3 / 92.9)

* see note 3.3.9

** see note 3.3.10

Tank	6 or 7 TANK AIRPLANE*		8 or 9 TANK AIRPLANE*	
	Usable fuel liters (kg)	Unusable fuel Liters (kg)	Usable fuel liters (kg)	Unusable fuel liters (kg)
Wing	15 609 (12 487)	58.9 (47.1)	15 609 (12 487)	58.9 (47.1)
Center	8 250 (6 600)	23.2 (18.6)	8 250 (6 600)	23.2 (18.6)
ACT	8 428 / 10 614 (6 743 / 8 492)	56 / 78 (44.8 / 62.4)	13 660 / 16 781 (10 929 / 13 426)	90 / 107 (72 / 85.6)
TOTAL	32 287 / 34 473 (25 830 / 27 579)	138.1 / 160.1 (110.5 / 128.1)	37 519 / 40 640 (30 016 / 32 513)	172.1 / 189.1 (137.7 / 151.3)

* see note 3.3.9

3.2.9 Hydraulic fluids

Type IV - Specification NSA 30.7110.

3.2.10 Auxiliary Power Unit (APU)

3.2.10.1 APU GARRETT

GARRETT AIRESEARCH GTCP 36-300 (A)
(Specification 31-5306B)
Approved oils: see GARRETT REPORT GT.7800

3.2.10.2 APU APIC (Option)

The APU APIC installation is defined by MOD 22562 or MOD 35864.
APIC APS 3200 (Specification ESR 0802, Rev. A).
Approved oils: in conformance to MIL-L-7808, MIL-L-23699 or DERD 2487.

3.2.10.3 APU AlliedSignal (Option)

The APU AlliedSignal installation is defined by MOD 25888.
AlliedSignal 131-9[A] (Specification 4900 M1E 03 19 01)
Approved oils: according to Model Specification 31-12048A-3A.

Note: for A319 models, the APU APIC APS 3200 (Mod 35864) is the production standard from MSN 2643.

3.2.11 Tyres

See SB A320-32-1007.

3.2.12 Cabin Equipment

Cabin furnishings, equipment and arrangement shall be in conformance to the following specifications:

ref. 00 D 252 K 0004/C01 for Cabin seats
ref. 00 D 252 K 0019/C01 for Galleys

3.2.13 Limitations

3.2.13.1 Powerplant (2.2482 lb/daN)

3.2.13.1a) CFMI Engines

Engine	CFMI				
	CFM56-5B5 (**)	CFM56-5B6 CFM56-5B6/2 (**)	CFM56-5B7 (**)	CFM56-5A4 CFM56-5A4/F	CFM56-5A5 CFM56-5A5/F
Data sheets	E37NE (FAA) E38NE (FAA) M-17 (DGAC) M-IM28 (DGAC)	E37NE (FAA) E38NE (FAA) M-17 (DGAC) M-IM28 (DGAC)	E37NE (FAA) E38NE (FAA) M-17 (DGAC) M-IM28 (DGAC)	E28NE (FAA) M-15 (DGAC) M-IM19 (DGAC)	E28NE (FAA) M-15 (DGAC) M-IM19 (DGAC)
Static thrust at sea level					
Take-off (5 min)* (Flat rated 30° C)	9 786 daN (22 000 lbs)	10 453 daN (23 500 lbs)	12 010 daN (27 000 lb)	9 786 daN (22 000 lbs)	10 453 daN (23 500 lbs)
Maximum continuous (Flat rated 25° C)	9 008 daN (20 250 lbs)	9 008 daN (20 250 lbs)	10 840 daN (24 370 lb)	9 195 daN (20 670 lbs)	9 195 daN (20 670 lbs)
Approved Oils	SB CFMI 79-001-OX				

Other power plant possibility: see also notes 3.3.2, 3.3.6 and 3.3.15

* 10 minutes at take-off thrust allowed only in case of engine failure (at take-off or during go-around) in accordance with DGAC "Fiche de Caractéristiques Moteur".

** see note 3.3.16 to 3.3.19 for engine models no longer in production/service.

Other engine limitations: see the relevant Engine Type Certificate Data Sheet.

3.2.13.1.b) IAE Engines

Engine	IAE		
	V2522-A5	V2524-A5	V2527M-A5
Data sheets	E40NE (FAA) M-IM31 (DGAC)	E40NE (FAA) M-IM31 (DGAC)	E40NE (FAA) M-IM31 (DGAC)
Static thrust at sea level			
Take-off (5 min)* (Flat rated 30° C)	10 249 daN (23 040 lb)	10 889 daN (24 480 lb)	11 031 daN (24 800 lb)
Maximum continuous (Flat rated 25° C)	8 540 daN (19 200 lb)	8 540 daN (19 200 lb)	9 893 daN (22 240 lb)
Approved oils	See doc. IAE-0043 Sect. 4.9 (MIL-L-23699)		

* 10 minutes at take-off thrust allowed only in case of engine failure (at take-off or during go-around) in accordance with DGAC "Fiche de Caractéristiques Moteur".

Other engine limitations: see the relevant Engine Type Certificate Data Sheet.

3.2.13.2 Airworthiness limitations

- Limitations applicable to Safe Life Airworthiness Limitation Items are provided in the A318/A319/A320/A321 Airworthiness Limitations Section (ALS) sub-parts 1-2 and 1-3 approved by the EASA.
- Limitations applicable to Damage Tolerant Airworthiness Limitation Items are provided in the A318/A319/A320/A321 Airworthiness Limitations Items document (ALS Part 2) approved by the EASA.
Note: Depending on the kind of A/C operation (CJ or not), the appropriate limitations have to be considered.
- Certification Maintenance Requirements are provided in A318/A319/A320/A321 Airworthiness Limitations Section (ALS) Part 3 approved by the EASA.
- Ageing Systems Maintenance (ASM) limitations are provided in the A318/A319/A320/A321 Airworthiness Limitations Section (ALS) Part 4 approved by the EASA.
- Fuel Airworthiness Limitations are provided in A318/A319/A320/A321 Fuel Airworthiness Limitations document (ALS Part 5) approved by the EASA.

3.2.13.3 Other limitations

See EASA approved Flight Manual.

3.2.14 Production conditions

A319 aircraft, all series, all models, are produced in Hamburg (Germany) under approval I-A9 (until April 1999) or LBA.G.0009 (since April 1999) issued by LBA to AIRBUS INDUSTRIE

Since September 27, 2004, A319 aircraft are produced in Hamburg - Germany under approval DE.21G.0009 issued by LBA to AIRBUS

From July 21st, 2008, A319 aircraft are produced in Hamburg (Germany) under approval EASA.21G.0001 issued by EASA to AIRBUS.

From May 06th, 2009, A319 aircraft are produced in Hamburg (Germany) and Tianjin (People's Republic of China) under approval EASA.21G.0001 issued by EASA to AIRBUS.

3.3 NOTES PERTINENT TO ALL A319 SERIES

- 3.3.1 For models A319-111, A319-112, A319-113 and A319-114, modification 26799 (FM without ACARS) or 26968 (FM ACARS) is the minimum standard to be qualified for Cat IIIB precision approach.
For models A319-131 and A319-132, modification 26716 (FM without ACARS) or 26717 (FM ACARS) is the minimum standard to be qualified for Cat IIIB precision approach.

All other models are basically qualified for Cat IIIB precision approach.

- 3.3.2 If modification 25800 is embodied on models with CFM-5B engines, the engine performance is improved. The engine denomination changes to /P. The modification is currently applicable for:

A319-111: CFM 56-5B5 (SAC) which changes to CFM 56-5B5/P
A319-112: CFM 56-5B6 (SAC) which changes to CFM 56-5B6/P
A319-112: CFM 56-5B6/2 (DAC) which changes to CFM 56-5B6/2P
A319-115: CFM 56-5B7 (SAC) which changes to CFM 56-5B7/P

CFM 56-5B/"non-P" engine can be intermixed with CFM 56-5B/P engine on the same aircraft.

- 3.3.3 A319-113/-114 (CFM 56-5A4/F or -5A5/F engines):
The maximum permissible gas temperature at take-off and max. continuous is extended to 915° C and 880° C respectively. However, the ECAM indication remains at 890° C and 855° C.

CFM 56-5A4 engines can be intermixed with CFM 56-5A4/F engine (mod. 23755) on the same aircraft.

CFM 56-5A5 engines can be intermixed with CFM 56-5A5/F engine (mod. 23755) on the same aircraft.

- 3.3.4 The configuration, Maintenance and Procedure Standards for extended range twin-engine airplane operations (ETOPS) are contained in ETOPS CMP document reference SA/EASA:AMC 20-6/CMP at latest applicable revision. Certificated models are A319-111/-112/-113/-114/-115/-131/-132/-133, with all applicable engines.

Embodiment of modification:
36666 provides ETOPS 120 min capability for EASA,
32009 provides ETOPS 180 min capability for EASA.

- 3.3.5 A319-112 CFM 56-5B6 engine can be intermixed with CFM 56-5B6/2 engine (mod. 25532) on the same aircraft (AFM supplement). See notes 3.3.17 & 3.3.19 as well.

- 3.3.6 If modification 26610 is embodied on models with CFM-5B/2 (DAC) engines, the engine performance and gaseous emission levels are improved.

A319-112: CFM 56-5B6/2 (DAC) which changes to CFM 56-5B6/2P (DAC II C)

CFM 56-5B/2 "non P" (DAC) engine can be intermixed with CFM 56-5B/2P (DAC II C) engine on the same aircraft (AFM supplement).
CFM 56-5B/P or / "non P" (SAC) engine can be intermixed with CFM 56-5B/2P (DAC II C) engine on the same aircraft (AFM supplement).
See note 3.3.19 as well.

3.3.7 deleted

3.3.8 The type design definitions and certification standard equipment lists as referenced in para. 9 are complemented by doc. 00D000A0546/COS "A319-100/A321-200 FMGC Type Std Evolution" and doc. 00J000A0067/COS "A319-111/112 ATC Transponder Type Std Evolution".

3.3.9 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 is subject of Major Change J1-CJT (compliance to CRI P9).

A319 for Corporate Jet use are defined through the following set of modifications:

Modification 28238:	Installation of up to 6 ACTs
Modification 28162:	Extension of the flight envelope up to 41000ft
Modification 28342:	Extension of the forward C.G.

3.3.10 The certification of installing one or two Additional Center Tanks (ACT) in bulk version is defined by modification 33973. The approval together with structural and system provisions is subject of Major Change J-33973 (compliance to CRI P9).

3.3.11 Models conversion:

If modification 30149 is embodied on A319-113 model powered with CFM56-5A4 engines, it is converted into A319-114 model, powered with CFM56-5A5 engines.

If modification 34281 is embodied on A319-111 model powered with CFM56-5B5/P engines, it is converted into A319-112 model, powered with CFM56-5B6/P engines.

If modification 34815 is embodied on A319-132 model powered with V2524-A5 engines, it is converted into A319-133 model, powered with V2527M-A5 engines.

3.3.12 From the 28/10/2009:

- A319-111 CFM56-5B5
- A319-111 CFM56-5B5/P (mod 25800) with or without modification 27772
- A319-112 CFM56-5B6
- A319-112 CFM56-5B6/P
- A319-112 CFM56-5B6/P DAC
- A319-112 CFM56-5B6/2P (mod 25800 + mod 26610) with or without mod 27772
- A319-112 CFM56-5B6/P with or without mod 27772
- A319-113 CFM56-5A with modification 22495
- A319-114 CFM56-5A with modification 22495
- A319-115 CFM56-5B7/P with modification 27772
- A319-131 V2522-A5
- A319-132 V2524-A5
- A319-133 V2524M-A5

are demonstrated in compliance with ICAO Annex 16 Chapter 4 requirement.
This is independent of embodiment of 36521 (D/E/J noise project).

3.3.13 A second pair of overwing emergency exit (Type III) can be installed by embodiment of modification 32208. In this case, the maximum number of passengers is 160.
If in addition the modification 150365 is embodied, the aircraft can be operated with 150 passengers and with 3 cabin attendants for increased cabin flexibility.

3.3.14 The LH & RH rear passenger doors can be de-activated by embodiment of modification 37807. In this case, the maximum number of passengers is 80.

3.3.15 Introduction of CFM56-5Bx/3 “Tech Insertion” engine is done through embodiment of modification 37147 in production or 38770 in field.

This modification is only applicable on CFM56-5Bx /P SAC engines.

If modification 37147 is embodied on models with CFM-5B engines, the engine denomination changes to /3.

The modification is currently applicable for:

A319-111: CFM 56-5B5 (SAC) which changes to CFM 56-5B5/3
A319-112: CFM 56-5B6 (SAC) which changes to CFM 56-5B6/3
A319-115: CFM 56-5B7 (SAC) which changes to CFM 56-5B7/3

Modification 37147 has been demonstrated as having no impact on previously certified noise levels.

The engine characteristics as per powerplant table 3.2.13.1a) remain unchanged.

CFM56-5Bx/3 engine can be intermixed with CFM56-5Bx/P engine under considerations as prescribes in modification 38573.

3.3.16 From March 31st 2008, there is no longer any CFM56-5B5 non /P in field or in production.

3.3.17 From March 31st 2008, there is no longer any CFM56-5B6 non /P in field or in production.

3.3.18 From March 31st 2008, there is no longer any CFM56-5B7 non /P in field or in production.

3.3.19 From March 31st 2008, there is no longer any CFM56-5B6/2 non /P in field or in production.

3.3.20 Principal dimensions of A319 aircraft:

Length:	33.84 m
Width:	34.10 m
Height:	11.76 m
Width at horizontal stabilizer:	12.45 m
Outside fuselage diameter:	3.95 m
Distance between engine axes:	11.51 m
Distance between main landing gear:	7.59 m
Distance between nose and main landing gear:	11.04 m

3.3.21 If modifications 36984 or 150700, and 37270 (with CLS option only), 37048 and 36985 are embodied in production on A318, A319, A320, or A321 airplanes, the airplane is compliant with Fuselage Flame Penetration “Burnthrough” requirements addressed by paragraph 14 CFR Part 25.856(b) Amdt 25-111 (See CRI E-28).

Regarding the fuselage skin in the bilge area, EASA issued an equivalent level of safety finding through CRI E-32.

3.3.22 If fitted, the centre fuel tank of aircraft which have made their first flight after 1st of January 2012 must be equipped in production with a fuel tank Flammability Reduction System (Modification 38062). This system shall remain installed and operative and can only be dispatched inoperative in accordance with the provisions of the MMEL revision associated with Modification 38062. If modification 38062 (Fuel Tank Inerting System

(FTIS)) is embodied on A318, A319, A320, or A321 airplanes, the airplane is compliant with paragraph 14 CFR Section 25.981(a) & (b) at amendment 25-102, Part 25 appendix M & N at amendment 25-125, and Section 26.33 at amendment 26-3 (See Special Condition P-27).

4. A318

4.1 A318-100 SERIES

Twin turbo-fan, short to medium range, single aisle, transport category airplane.

4.1.1 Model Definition A318-111

Certificated model: A318-111

Definition of reference airplane by doc.: D03006056 (00P000A0111/C21).

4.1.1.1 Engines

Two CFMI CFM 56-5B8/P jet engines (Mod. 32028).

4.1.1.2 Equipment

Not applicable

4.1.1.3 Weight Limits (kg)

VARIANT	000 BASIC	001 MOD 31672	002 MOD 31673	003 MOD 31674	004 MOD 31675	005 MOD 31676
Max. Ramp Weight	59 400	61 900	63 400	64 900	66 400	68 400
Max. Take-off Weight	59 000	61 500	63 000	64 500	66 000	68 000
Max. Landing Weight	56 000	56 000	57 500	57 500	57 500	57 500
Max. Zero Fuel Weight	53 000	53 000	54 500	54 500	54 500	54 500
Minimum Weight	34 500	34 500	34 500	34 500	34 500	34 500

VARIANT	006 MOD 33235	007 MOD 33126	008 MOD 33128
Max. Ramp Weight	56 400	61 400	64 400
Max. Take-off Weight	56 000	61 000	64 000
Max. Landing Weight	56 000	56 000	56 000
Max. Zero Fuel Weight	53 000	53 000	53 000
Minimum Weight	34 500	34 500	34 500

4.1.2 Model Definition A318-112

Certificated model: A318-112

Definition of reference airplane by doc.: D03006716 (00P000A0112/C21).

4.1.2.1 Engines

Two CFMI CFM 56-5B9/P jet engines (Mod. 32029).

4.1.2.2 Equipment

Not applicable

4.1.2.3 Weight Limits (kg)

Same as A318-111 above (para 4.1.1.3)

4.1.3 Model Definition A318-121

Certificated model: A318-121

Definition of reference airplane by doc.: D05028326 (00P000A0121/C21).

4.1.3.1 Engines

Two PW 6122A jet engines (Mod. 30034)

4.1.3.2 Equipment

Not applicable

4.1.3.3 Weight Limits (kg)

Same as A318-111 above (para 4.1.1.3)

4.1.4 Model Definition A318-122

Certificated model: A 318-122

Definition of reference airplane by doc.: D05028327 (00P000A0122/C21).

4.1.4.1 Engines

Two PW 6124A jet engines (Mod. 31882)

4.1.4.2 Equipment

Not applicable

4.1.4.3 Weight Limits (kg)

Same as A318-111 above (para 4.1.1.3)

4.2 DATA PERTINENT TO ALL A318 SERIES

4.2.1 Certification

4.2.1.1 Certification dates:

A318-111:	May 23, 2003
A318-112:	May 23, 2003
A318-121:	December 21, 2005
A318-122:	December 21, 2005

Note: For A318-111/-112 models produced before the 21st of December 2005, DGAC-F TC 180 remains a valid reference.

4.2.1.2 Certification basis

Airbus Industrie has applied for A318 certification on December 11, 1998 by letter AI/EA-S

413.2952/1998. The applicable Joint Certification Basis defined in CRI G5001 Issue 3 dated May 2003 are:

- a. JAR 25 Change 11
 - except Subpart BB which remains at Change 10,
 - except all National Variants,

JAR 25 X 20 Change 14

JAR 25.21 Change 14

JAR 25.23 Change 14

JAR 25.25 Change 14

JAR 25.27 Change 14

JAR 25.29 Change 14

JAR 25.31 Change 14

JAR 25.101 Change 14

JAR 25.103 Change 14

JAR 25.105 Change 14

JAR 25.107 Change 14

JAR 25.109 Change 14

JAR 25.111 Change 14

JAR 25.113 Change 14 amended by OP 96/1

JAR 25.115 Change 14

JAR 25.117 Change 14

JAR 25.119 Change 14 amended by OP 96/1

JAR 25.121 Change 14 amended by OP 96/1

JAR 25.123 Change 14

JAR 25.125 Change 14 amended by OP 96/1

JAR 25.143 Change 14 amended by OP 96/1

JAR 25.145 Change 14 amended by OP 96/1

JAR 25.147 Change 14

JAR 25.149 Change 14 amended by OP 96/1

JAR 25.161 Change 14

JAR 25.171 Change 14

JAR 25.173 Change 14

JAR 25.175 Change 14

JAR 25.177 Change 14 amended by OP 96/1

JAR 25.181 Change 14

JAR 25.201 Change 14 amended by OP 96/1

JAR 25.203 Change 14 amended by OP 96/1

JAR 25.207 Change 14

JAR 25.231 Change 14

JAR 25.233 Change 14

JAR 25.235 Change 14

JAR 25.237 Change 14

JAR 25.251 Change 14

JAR 25.253 Change 14 amended by OP 96/1

JAR 25.255 Change 14

JAR 25X261 Change 14

JAR 25.305 Change 15

JAR 25.321 Change 15

JAR 25.331 Change 15

JAR 25.333 Change 15

JAR 25.335 Change 15

JAR 25.341 Change 15

JAR 25.343 Change 15

JAR 25.345 Change 15

JAR 25.349 Change 15

JAR 25.351 Change 15

JAR 25.361 Change 15 **ONLY** for A318-121/-122

JAR 25.363 Change 15 **ONLY** for A318-121/-122

JAR 25.365 Change 13

JAR 25.367 Change 15 **ONLY** for A318-121/-122

JAR 25.371 Change 15

JAR 25.373 Change 15

JAR 25.391 Change 15

JAR 25.415 Change 15

JAR 25.427 Change 15

JAR 25.445 Change 15

JAR 25.473 Change 15

JAR 25.479 Change 15

JAR 25.481 Change 15

JAR 25.483 Change 15

JAR 25.485 Change 15

JAR 25.491 Change 15

JAR 25.493(d) Change 14 amended by OP 96/1

JAR 25.499 Change 15

JAR 25.511 Change 15

JAR 25.X519 Change 13

JAR 25.561(c) Change 15

JAR 25.562 Change 14 (see CRI E5001)

JAR 25.571 Change 15

JAR 25.801 Change 14

JAR 25.803 Change 14

JAR 25.807 Change 14

JAR 25.809 Change 14

JAR 25.810 Change 14

JAR 25.811 Change 14

JAR 25.812 Change 14

JAR 25.813 Change 14

JAR 25.853 Change 14

JAR 25.855 Change 14

JAR 25.857 Change 14

JAR 25.858 Change 14

JAR 25.901 Change 15 **ONLY** for A318-121/-122

JAR 25.903 Change 15 **ONLY** for A318-121/-122

JAR 25.933 Change 15 **ONLY** for A318-121/-122

JAR 25.934 Change 15 **ONLY** for A318-121/-122

JAR 25.939 Change 15 **ONLY** for A318-121/-122

JAR 25.941 Change 15 **ONLY** for A318-121/-122

JAR 25.943 Change 15 **ONLY** for A318-121/-122

JAR 25.945 Change 15 **ONLY** for A318-121/-122

JAR 25.1041 Change 15 **ONLY** for A318-121/-122

JAR 25.1043 Change 15 **ONLY** for A318-121/-122

JAR 25.1045 Change 15 **ONLY** for A318-121/-122

JAR 25.1091 Change 15 **ONLY** for A318-121/-122

JAR 25.1093 Change 15 **ONLY** for A318-121/-122

JAR 25.1103 Change 15 **ONLY** for A318-121/-122 JAR 25.1182 Change 15 **ONLY** for A318-121/-122
JAR 25.1105 Change 15 **ONLY** for A318-121/-122 JAR 25.1183 Change 15 **ONLY** for A318-121/-122
JAR 25.1107 Change 15 **ONLY** for A318-121/-122 JAR 25.1185 Change 15 **ONLY** for A318-121/-122
JAR 25.1121 Change 15 **ONLY** for A318-121/-122 JAR 25.1187 Change 15 **ONLY** for A318-121/-122
JAR 25.1123 Change 15 **ONLY** for A318-121/-122 JAR 25.1189 Change 15 **ONLY** for A318-121/-122
JAR 25.1125 Change 15 **ONLY** for A318-121/-122 JAR 25.1191 Change 15 **ONLY** for A318-121/-122
JAR 25.1127 Change 15 **ONLY** for A318-121/-122 JAR 25.1193 Change 15 **ONLY** for A318-121/-122
JAR 25.1141 Change 15 **ONLY** for A318-121/-122 JAR 25.1501 Change 14
JAR 25.1143 Change 15 **ONLY** for A318-121/-122 JAR 25.1517 Change 15
JAR 25.1163 Change 15 **ONLY** for A318-121/-122 JAR 25.1583 Change 14
JAR 25.1165 Change 15 **ONLY** for A318-121/-122 JAR 25.1587 Change 14
JAR 25.1167 Change 15 **ONLY** for A318-121/-122 JAR 25.X1591 Change 14 (replacing JAR 25X131,
JAR 25.1181 Change 15 **ONLY** for A318-121/-122 25X132, 25X133, 25X135, 25X1588 at Change 11)

c. JAR AWO at Change 1

d. The following A320 Special Conditions, Experience Related Conditions and Harmonization Conditions which are kept for the A318:

Reminder: Within the scope of the establishment of the A320 Joint Certification Basis, three types of special conditions were developed:

- Special conditions: raised to cover novel or unusual features not addressed by the JAR.
- Experience related conditions: raised to record an agreed text for the A320 Joint Certification Basis when evolution of JAR was in progress under the NPA procedure.
- Harmonization conditions: to record, for the purpose of the A320 Joint Certification Basis, a common understanding with respect to National variant. This should not be confused with the FAA/JAA harmonised regulations.

(DGAC-F) SC-G17	Operational proving flights
(CAA-UK) SC-G17	Operational flight before certification
SC-F3	Cockpit control - motion and effect of cockpit control
SC-F6	Static directional and lateral stability
SC-F7	Flight envelope protection
SC-F8	Normal load factor limiting
SC-F9	Dual control system
SC-A2.2.2	Design manoeuvre requirements
SC-S11	Limit pilot forces and torques
SC-S33	Auto-thrust system
SC-S52	Operation without normal electrical power
SC-S74	Abnormal attitudes
SC-S75	Lightning protection indirect effects
SC-S77	Integrity of control signal
HC-A4.6	Speed control device
HC-S23	Standby gyroscopic horizon
HC-S24	VMO/MMO warning (setting)
HC-S72	Flight recorder
EC-G11	General definition
EC-S30	Autoflight system
EC-S54	Circuit protective devices

- e. The following A319 Special Conditions, are kept for the A318:

SC-A2	Stalling speeds for structural design
SC-F11	Accelerate-stop distances and relates performances, worn brakes
SC-A1	Interaction of systems and structure
SC-P1	FADEC for CFM56 and AMJ20X-1 change 14 for PW6000
SC-S79	Brakes requirements, qualification and testing

- f. The following A319/A320/A321 Special Conditions are kept for the A318:

SC-IM76	Effect of external radiations upon aircraft systems (modified by CRI SE14)
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- g. The following Special Conditions developed for the A318:

SC-F5001	Stalling and scheduled operation speed
SC-F5004	Static longitudinal stability and low energy awareness
SC-A5001	Engine Failure Loads (PW engine only)
SC-A5003	Design Dive Speed
SC-P5004	Engine Sustained Imbalance (PW engine only)
SC-SE5002	AFM – RVR limits

- h. The following special conditions have been developed post Type Certification:

SC H-01	Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS (applicable from May 2010)
SC E-34	HIC Compliance to Front Row Seating
SC D-0306	Heat release and smoke density requirements to seat material (applicable from June 2010)
SC P-27	Flammability Reduction System (see Note 4.3.8)

- i. Exemption

No exemptions.

- j. Equivalent Safety findings:

j.1 Equivalent Safety findings to the following requirements are granted, as documented in relevant CRIs:

JAR 25.783(f)	"Doors (see A319 CRI SM 4004 "passenger doors")
JAR 25.807(d)	"Passenger emergency exits" (see CRI E 5004 "Exit configuration" similar to A319 CRI E 4001)
JAR 25.813(c)(1)	"Emergency exit access" (see CRI E 5005 "Type III overwing emergency exit access")
JAR 25.831(a)	"Ventilation" (see CRI E 5006 "Packs Off Operation")
JAR 25.933(a)(1)	"Reversing systems" (see A319 CRI P 4008 "Thrust Reverser Auto restow")
JAR AWO 313	"Minimum Approach Break-Off Height" (see A319 CRI SE 4005 "Minimum Approach Break-Off Height")
JAR AWO 236	"Excess Deviation Alerts" (see CRI SE 5005 "Cat III Operation – Excess Deviation Alert")
NPA AWO 10	"Airworthiness Harmonization package n°2" (see CRI SE-5002 "AFM – RVR limits")

j.2. The following Equivalent Safety Findings have been developed post Type Certification:

FAR 25.856(b) Fuselage burnthrough protection in bilge area (see CRI E-28), see note 4.3.7

k. JAR AWO Change 1 for autoland and operations in low visibility.

l. Environmental requirements:
ICAO Annex 16:

Vol. I, Part II, Chapter 3	Noise Requirements (see also notes 4.3.3 and 4.3.4)
Vol. II, Part II	Fuel Venting
Vol. II, Part III Chapter 2	Emissions

m. For the Extended Twin Engine Airplane Operations the applicable technical conditions are contained in AMC 20-6 (as initially published in AMJ 120-42/IL 20) and the A318 ETOPS CRI:

CRI G-22 ETOPS approval.

4.2.2 Center of gravity range

See EASA approved Airplane Flight Manual.

4.2.3 Limit speeds (Indicated Airspeed - IAS - unless otherwise stated)

Maximum Operating Mach (MMO): 0,82
Maximum Operating Speed (VMO): 350 kt
Manoeuvring Speed (VA): see Chapter 2.0 of the DGAC approved Flight Manual
Extended Flaps/Slats Speed (VFE): see table below

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, 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

Tyres Limit Speed (Ground speed): 195.5 kt (225 mph)

4.2.4 Maximum operating altitude

39 800 ft (pressure altitude) (see also note 4.3.10)

4.2.5 Minimum flight crew

2 pilots

4.2.6 Maximum number of passengers

136 (See also notes 4.3.5 and 4.3.9)

4.2.7 Cargo compartment loading

CARGO COMPARTMENT	MAXIMUM LOAD (kg)
Forward	1614
Aft	2131
Rear (bulk)	1372

For the positions and the loading conditions authorized in each position (references of containers, pallets and associated weights) see Weight and Balance Manual, ref. 00 P 080 A 0001/C1S Chapter 1.10.

4.2.8 Fuel

4.2.8.1 Fuel Specification:

See installation manual: document CFM 2026 and PWA-7707.

TYPE	SPECIFICATION (NAME)				
	FRANCE	USA	UK	RUSSIA	CHINA
Kerosene	DCSEA 134	ASTM D 1655 (JET A) (JET A1)	DEF STAN 91/91 (AVTUR) (JET A1)		GB 6537-94 N°3 JET
		MIL - T -83133 (JP 8)	DEF STAN 91/87 (AVTUR) (JET A1) (AIA)		
Wide cut *		ASTM D 1655 (JET B)	DEF STAN 91/88 (AVTAG)		
		MIL - T 5624 (JP 4)			
High flash point	DCSEA (F-44) 144/A (XF-43)	MIL - T 5624 (JP 5)	DEF STAN 91/86 (AVCAT)		

* Wide cut is only certified for CFM engines

Additives: See CFMI "Specific Operating Instructions", CFM TPOI-13 and Pratt & Whitney Service Bulletin 2016.

The above-mentioned fuels and additives are also suitable for the APU.

4.2.8.2 Fuel quantity (0.8 kg/liter)

Tank	3 TANK AIRPLANE	
	Usable fuel liters (kg)	Unusable fuel Liters (kg)
Wing	15 609 (12 487)	58.9 (47.1)
Center	8 250 (6 600)	23.2 (18.6)
ACT		
TOTAL	23 859 (19 087)	82.1 (65.7)

4.2.9 Hydraulic fluids

Type IV - Specification NSA 30.7110.

4.2.10 Auxiliary Power Unit (APU)

4.2.10.1 Basic

4.2.10.1a) A318-111/-112

HONEYWELL AIRESEARCH GTCP 36-300 (A) (Specification 31-5306 B)
Approved oil: See Garrett report GT 7800.

4.2.10.1b) A318-121/-122

APIC APS 3200 (Specification ESR 0802, Rev. A).
APU APIC installation defined by MOD 35864.
Approved oils: in conformance to MIL-L-7808, MIL-L-23699 or DERD 2487.

4.2.10.2 Option

4.2.10.2a) A318-111/-112

APIC APS 3200 (Specification ESR 0802, Rev. A).
APU APIC installation defined by MOD 22562 or 35864.
Approved oils: in conformance to MIL-L-7808, MIL-L-23699 or DERD 2487.

Or

AlliedSignal 131-9[A] (Specification 4900 M1E 03 19 01)
The APU AlliedSignal installation is defined by MOD 25888.
Approved oils: according to Model Specification 31-12048A-3A.

4.2.10.2b) A318-121/-122

AlliedSignal 131-9[A] (Specification 4900 M1E 03 19 01)
The APU AlliedSignal installation is defined by MOD 25888.
Approved oils: according to Model Specification 31-12048A-3A.

Note: For A318 models, the APU APIC APS 3200 (Mod 35864) is the production standard from MSN 2686

4.2.11 Tyres

See SB A320-32-1007

4.2.12 Cabin Equipment

Cabin furnishings, equipment and arrangement shall be in conformance to the following Specifications:

ref. 00 D 252 K 0004/C01 plus ref.00D 252 K 0030/C01 for Cabin seats

ref. 00 D 252 K 0019/C01 for Galleys.

4.2.13 Limitations

4.2.13.1 Powerplant (2.2482 lb/daN)

4.2.13.1a) CFMI Engines

Engine	CFMI	
	CFM565B8/P	CFM56-5B9/P
Data sheets	E37NE, E38NE (FAA) M-17, M-IM28 (DGAC)	E37NE, E38NE (FAA) M-17, M-IM28 (DGAC)
Static thrust at sea level		
Take-off (5 min)* (Flat rated 30° C)	9 608 daN (21 600 lbs)	10 364 daN (23 300 lbs)
Maximum continuous (Flat rated 25° C)	8478 daN (19060 lbs)	9 008 daN (20 250 lbs)
Approved Oils	SB CFMI 79-001-OX	

* 10 minutes at take-off thrust allowed only in case of engine failure (at take-off or during go-around) in accordance with DGAC "Fiche de Caractéristiques Moteur".

Other power plant possibility: see also note 4.3.6

4.2.13.1b) PW Engines

Engine	PW6000	
	PW6122A	PW6124A
Data sheets	IM.E.020 (EASA) E00064EN (FAA)	
Sea level static thrust ratings		
Take-off (5 min)* (Flat rated 30° C)	9 830 daN (22 100 lbs)	10 587 daN (23 800 lbs)
Maximum continuous (Flat rated 25° C)	9030 daN (20 300 lbs)	9297 daN (20 900 lbs)
Approved Oils	PW SB 238	

* 5 min TO time limit can be extended to 10 min for one engine inoperative
Other engine limitations: see the relevant Engine Type Certificate Data Sheet.

4.2.13.2 Airworthiness limitations

- Limitations applicable to Safe Life Airworthiness Limitation Items are provided in the A318/A319/A320/A321 Airworthiness Limitations Section (ALS) sub-parts 1-2 and 1-3 approved by the EASA.
- Limitations applicable to Damage Tolerant Airworthiness Limitation Items are provided in the A318/A319/A320/A321 Airworthiness Limitations Items document (ALS Part 2) approved by the EASA.
- Certification Maintenance Requirements are provided in A318/A319/A320/A321 Airworthiness Limitations Section (ALS) Part 3 approved by the EASA.
- Ageing Systems Maintenance (ASM) limitations are provided in the A318/A319/A320/A321 Airworthiness Limitations Section (ALS) Part 4 approved by the EASA.
- Fuel Airworthiness Limitations are provided in A318/A319/A320/A321 Fuel Airworthiness Limitations document (ALS Part 5) approved by the EASA.

4.2.13.3 Other limitations

See EASA approved Flight Manual.

4.2.14 Production conditions

A318 aircraft, all series, all models, are produced in Hamburg (Germany) under approval LBA.G.0009 issued by LBA to AIRBUS.

Since September 27, 2004, A318 aircraft are produced in Hamburg - Germany under approval DE.21G.0009 issued by LBA to AIRBUS.

From July 21st, 2008, A318 aircraft are produced in Hamburg (Germany) under approval EASA.21G.0001 issued by EASA to AIRBUS

4.3 NOTES PERTINENT TO ALL A318 SERIES

4.3.1 Principal dimensions of A318 aircraft:

Length:	31.45 m
Width:	34.10 m
Height:	12.79 m
Width at horizontal stabilizer:	12.45 m
Outside fuselage diameter:	3.95 m
Distance between engine axes:	11.51 m
Distance between main landing gear:	7.59 m
Distance between nose and main landing gear:	11.04 m

- 4.3.2. For models A318-111 and A318-112, modifications 32997 or 33310 and 33299 are the minimum standard to be qualified for CAT III B precision approach.

All other models are basically qualified for Cat IIIB precision approach.

- 4.3.3. For noise, A318-121/-122 models are basically compliant with ICAO Annex 16 Chapter 4 requirement.

- 4.3.4. For A318-111/-112 models, compliance with ICAO Annex 16 chapter 4 requirements is achieved when modification 36521 is embodied.

- 4.3.5. The LH & RH rear passenger doors can be de-activated by embodiment of modification 37807. In this case, the maximum number of passengers is 80.

- 4.3.6. Introduction of CFM56-5Bx/3 "Tech Insertion" engine is done through embodiment of modification 37147 in production or 38770 in field.

This modification is only applicable on CFM56-5Bx /P SAC engines.
If modification 37147 is embodied on models with CFM-5B engines, the engine denomination changes to /3.

The modification is currently applicable for:

A318-111: CFM 56-5B8 (SAC) which changes to CFM 56-5B8/3
A318-112: CFM 56-5B9 (SAC) which changes to CFM 56-5B9/3

The engine characteristics as per power plant table 4.2.13.1a) remain unchanged.

Modification 37147 has been demonstrated as having no impact on previously certified noise levels.

CFM56-5Bx/3 engine can be intermixed with CFM56-5Bx/P engine under considerations as prescribes in modification 38573.

- 4.3.7. If modifications 36984 or 150700, and 37270 (with CLS option only), 37048 and 36985 are embodied in production on A318, A319, A320, or A321 airplanes, the airplane is compliant with Fuselage Flame Penetration "Burn through" requirements addressed by paragraph 14 CFR Part 25.856(b) Amdt 25-111 (see CRI E-28).
Regarding the fuselage skin in the bilge area, EASA issued an equivalent level of safety finding through CRI E-32.

- 4.3.8. If fitted, the centre fuel tank of aircraft which have made their first flight after 1st of January 2012 must be equipped in production with a fuel tank Flammability Reduction System (Modification 38062). This system shall remain installed and operative and can only be dispatched inoperative in accordance with the provisions of the MMEL revision associated with Modification 38062. If modification 38062 (Fuel Tank Inerting System (FTIS)) is embodied on A318, A319, A320, or A321 airplanes, the airplane is compliant with paragraph 14 CFR Section 25.981(a) & (b) at amendment 25-102, Part 25 appendix M & N at amendment 25-125, and Section 26.33 at amendment 26-3 (See Special Condition P-27).
- 4.3.9. The Type III emergency exit can be de-activated by embodiment of modification 39673. In this case, the maximum number of passengers is 110 when operating overland and 32 when operating overwater.
- 4.3.10. For models A318-111/-112, the embodiment of modification 39195 allows to increase the flight envelope up to 41 000 ft.
- 4.3.11. The Configuration, Maintenance and Procedure Standards for extended range twin-engine airplane operations (ETOPS) is contained in ETOPS CMP document reference SA/EASA: AMC 20-6/CMP at latest applicable revision. Certificated models are A318-111/-112/-121/-122, with all applicable engines.

Embodiment of modification:
36666 provides ETOPS 120 min capability for EASA,
32009 provides ETOPS 180 min capability for EASA

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List of Changes

Revision 6:

Ref.	Subject of Change
Cover page	Page listing removed
Multiple pages	Editorial corrections
6.	ETOPS approval information added
1.2, 2.2	Weight Variants added. 015, 017, 018 (A320), 004, 006 (A321)
1.3.1.2, 2.3.1.2,	Introduction of Post-TC SC (H-01, E-34, D-0306, P-27)
3.2.1.2, 4.2.1.2	Introduction of Post-TC ESF (E-28), ETOPS reference doc updated
1.3.8, 2.3.8, 3.2.8, 4.2.8	Limitation on JP4 deleted, ACT fuel quantity corrected
1.4.2, 2.4.1, 3.3.1, 4.3.2	Note reworded on Cat IIIB precision approach, Notes 2.4.2 to 2.4.5, 3.3.7 deleted
1.4.4, 2.4.9, 3.3.4, 4.3.11	ETOPS reference doc updated and models added (A320-215/-216)
1.4.20, 2.4.20, 3.3.12,	Noise compliance clarified to take into account D/E/J noise project
3.3.13	Mod 150365 (capacity of 150 pax + 3 cabin attendants) added to note
1.4.21, 2.4.21, 3.3.15, 4.3.6,	Mod 38770 for "tech insertion kit" for in-service aircraft added to note
1.4.22	Models A320-211/-212 added to note
1.4.26, 2.4.27, 3.3.21, 4.3.7	Note added to take into account the burnthrough (CRI E-28 and E-32)
1.4.27, 2.4.28, 3.3.22, 4.3.8	Note added to take into account the flammability reduction system (SC P-27)
2.4.26	Note added to introduce the wingbow without dry bay (mod 38616)
4.2.6, 4.3.9	Mod 39673 De-activation of Type III exit
4.2.4, 4.3.10	Mod 39195 Operations up to 41 000 ft

Revision 7:

Ref.	Subject of Change
1.4.15	Mod 150016 – deactivation of forward Type III exit for A320 added to note
1.4.27, 2.4.28, 3.3.22, 4.3.8	Note modified to take into account the production cut-in for installation of flammability reduction system on new aeroplanes