



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

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SECTION 1: A320 SERIES

I. General

1. Type/ model/ Variant:

A320-211
A320-212
A320-214
A320-215
A320-216
A320-231
A320-232
A320-233

Significant Product Level Changes i.a.w. 21.A.101:

MOD 160500 Sharklet applicable on A320-214/-215/-216/-232/-233

2. Performance Class:

A

3. Certifying Authority:

European Aviation Safety Agency (EASA)
Postfach 101253
D-50452 Köln
Deutschland

4. Manufacturer

AIRBUS
1, rond-point Maurice Bellonte
31707 BLAGNAC CEDEX – France

5. Joint Airworthiness Authority (JAA) Certification Application Date

A320-111	
A320-211	
A320-212	31 January 1990
A320-214	10 May 1992
A320-231	16 June 1988
A320-232	10 May 1992
A320-233	23 February 1995

6. EASA Certification Application Date

A320-215	22 December 2005
A320-216	22 December 2005
MOD 160500	08 April 2010

SECTION 1: A320 series - continued

7. DGAC-F / Joint Airworthiness Authority (JAA) Type Certification Date

A320-211	November 08, 1988
A320-212	November 20, 1990
A320-214	March 10, 1995
A320-231	April 20, 1989
A320-232	September 28, 1993
A320-233	October 26, 1995

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

8. EASA Type Certification Date

EASA TCDS issue 1 issued December 21, 2005

A320-215	June 22, 2006
A320-216	June 14, 2006

MOD 160500 iss.1	November 30, 2012 (A320-214,-215,-216)
MOD 160500 iss.2	December 21, 2012 (A320-232,-233)

9. Production conditions

A320 aircraft up to and including MSN 0925, with the exception of those listed below, were 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 were produced in Blagnac (France) under approval F.G.035 issued by DGAC to AIRBUS INDUSTRIE.

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

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

From July 21st, 2008, A320 aircraft were 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.

II. Certification Basis

1. Reference Date for determining the applicable requirements

Application date of the A320-111 model

2. Initial Airworthiness Authority Type Certification Data Sheet No.

SECTION 1: A320 series - continued

Original French TCDS DGAC no. 180 was replaced by the EASA TCDS A.064

3. Initial Airworthiness Authority Certification Basis

See below

4. EASA Airworthiness Requirements

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.

4.1 The applicable technical conditions for models 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.

4.2 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)

4.3 For all models of A320-200 series, the JAR 25 paragraphs defined in 4.2. 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)

4.4 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.

SECTION 1: A320 series - continued

4.5 JAR AWO Change 1 for auto-land and operations in low visibility.

4.6 For all models Airbus Elect To Comply with 14 CFR Part 25.772(a) and (c) and 25.795 amendment 106 according to CRI E12 – Reinforced Security Cockpit Door

4.7 Certification basis revised for MOD 160500 “Sharklet” by CRI A-0001-001.

CS 25 Amdt 8 for

§ 25.23	§ 25.481(a)(c) amended by SC A-2 for § 25.481(a)
§ 25.25	§ 25.483
§ 25.117	§ 25.485
§ 25.147	§ 25.489
§ 25.161	§ 25.491
§ 25.177 amended by SC-F16	§ 25.571(a)(b)(e)
§ 25.235	§ 25.581
§ 25.251	§ 25.601
§ 25.301	§ 25.603
§ 25.302	§ 25.605
§ 25.303	§ 25.607
§ 25.305(a)(b)(c)(e)(f)	§ 25.609
§ 25.307(a)(d)	§ 25.613
§ 25.321(a)(b)(c)(d)	§ 25.619
§ 25.331(a)(b)(c)	§ 25.623
§ 25.333(a)(b)	§ 25.625
§ 25.335(a)(c)(d)(e)(f) amended by SC A5003 for (b) and SC A-2 for (e)	§ 25.629
§ 25.337	§ 25.631
§ 25.341(a)(b)	§ 25.651
§ 25.343(a)(b)	§ 25.683
§ 25.345(a)(b)(c)(d)	§ 25.899
§ 25.349(a)(b) amended by SC A-2.2.2 for 25.349(a)	§ 25.903(d)(1) (see CRI E-39 for interpretative material)
§ 25.351	§ 25.1385
§ 25.365(a)(b)(d)	§ 25.1387
§ 25.367	§ 25.1389
§ 25.371	§ 25.1391
§ 25.373	§ 25.1393
§ 25.391	§ 25.1395
§ 25.393(b)	§ 25.1397
§ 25.427	§ 25.1401
§ 25.445	§ 25.1505
§ 25.457	§ 25.1511
§ 25.459	§ 25.1515
§ 25.471(a)(b)	§ 25.1527
§ 25.473	§ 25.1587
§ 25.479(a)(c)(d) amended by SC A-2 for § 25.479(a)	§ 25.1591

CS 25 Amdt 2 for

§ 25.253

SECTION 1: A320 series - continued

JAR 25 Chg 15 for
§ 25.1517

JAR 25 Chg 14 for

§ 25.21 amended by A318 SC F5001 (for b)	§ 25.149 + OP96/1
§ 25.101 amended by SC F11/S79	§ 25.171 replaced by SC-F5004
§ 25.103 replaced by A318 SC F5001	§ 25.173 replaced by SC-F5004
§ 25.105 amended by SC F11/S79	§ 25.175 replaced by SC-F5004
§ 25.107 amended by A318 SC-F5001	§ 25.181
§ 25.109 amended by SC F11/S79	§ 25.201 + OP96/1, replaced by SC-F5001
§ 25.111	§ 25.203 + OP96/1, replaced by SC-F5001
§ 25.113 + OP96/1 amended by SC F11/S79	§ 25.207 amended by SC-F5001
§ 25.115 amended by SC F11/S79	§ 25.231
§ 25.119 + OP96/1 amended by A318 SC F5001 (for b)	§ 25.233
§ 25.121 + OP96/1, amended by A318 SC F5001 (for c & d)	§ 25.237
§ 25.123	§ 25X261
§ 25.125 + OP96/1, amended by A318 SC F5001	§ 25.1533
§ 25.143 + OP96/1, amended by SC F3, F7 & F8	§ 25.1581
§ 25.145 + OP96/1	§ 25.1585(a)

JAR 25 Chg 11 for

- § 25.671
- § 25.672
- § 25.1001
- § 25.1301
- § 25.1309
- § 25.1419 amended by AMC-F14

Interpretative Material:

CRI E-39 Uncontained Engine Rotor Failure

Note: The original Interpretative material applicable to each model remains effective.

Acceptable Means of Compliance:

AMC F-14 Flight in icing condition.

Note: AMC F-14 applicability extended from A321/A319/A318 to A320 with MOD 160500.

ETOPS

AMC 20-6 Rev 1 paragraphs related to operation in icing conditions 8.b.(11) for ice shapes on the Sharklet device.

AMC 20-6 Rev 1 paragraphs related to performance data in the AFM supplement for ETOPS 8.f.(1) (iii).

AMJ 120-42 for ETOPS for non-affected areas.

Note: This corresponds to the certification basis used for the initial ETOPS demonstration (refer to A320 CRI G1006).

SECTION 1: A320 series - continued

5. Special Conditions

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

- Special conditions: rose to cover novel or unusual features not addressed by the JAR.
- Experience related conditions: rose 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

SECTION 1: A320 series - continued

SC-P01	Full Authority Engine Control System (FADEC)
SC-E1005	Resistance to fire terminology

5.1 For weight variant 007 and subsequent and for all new models from and including A320-232, 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 high lift devices deployed

5.2 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)

5.3 For A320-233 and all A320-200 with OCTOPUS AFM (see CRI F2013), the JAR 25 paragraphs 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

5.4 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)

5.5 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)

SECTION 1: A320 series - continued

5.6 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 Seat with inflatable restraints
- SC E-13 Installation of inflatable restraints (optional)
- SC D-0306 Heat release and smoke density requirements to seat material (applicable from June 2010)
- SC P-27 Flammability Reduction System
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 FR 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.
- SC E-10 High Altitude airport operations (up to 14,100ft) (CRI E10)
- SC E-48 Fuel Tank Safety
- SC F-0311 Flight Recorders including Data Link Recording
- SC D-0322-001 Installation of suite type seating

5.7 Special Conditions for aircraft equipped with MOD 160500

- SC F-16 Static directional and lateral stability
- A318 SC F-5001 Stalling and scheduled operating speeds
- A318 SC F-5004 Static Longitudinal Stability and Low energy awareness
- A318 SC A-5003 Design Dive Speed Vd

Note: All other original Special Conditions applicable to each model remain effective.

6. Exemptions

No exemptions

7. Deviations

None

SECTION 1: A320 series - continued

8. Equivalent Safety Findings

8.1 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 autoextend function (see CRI P 1002).
JAR 25.791	Passenger information signs (CRI S53)

8.2 The following Equivalent Safety Findings have been developed post Type Certification:

FAR 25.856(b)	Fuselage burnthrough protection in bilge area (see CRI E-32), see note below If modifications 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).
14CFR Part 25.856(a)	Improved flammability standards for insulation materials (CRI E18)
JAR 25.812(b)(1)(ii)	Photo-luminescent EXIT sign for MCD (Moveable Class Divider) (CRI E14) (optional)
JAR 25.811(f)	Emergency exit marking reflectance (CRI E16)
JAR 25.812(b)(1)(i)(ii)	Symbolic EXIT signs as an alternative to red EXIT signs for passenger aircraft (CRI SE-42) (optional)
JAR 25.785(c)	Forward facing seats with more than 18° to aircraft centerline. (CRI D-0329-001) (optional)
JAR 25.1443(c)	Minimum Mass Flow of Supplemental Oxygen (CRI F-20) (optional)
JAR 25.1441(c)	Crew Determination of Quantity of Oxygen in Passenger Oxygen System (CRI F-21) (optional)

8.3 Equivalent Safety Findings for aircraft equipped with MOD 160500

ESF F-19	Flight in natural icing condition (§25.1419 (c))
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Note: The original ESFs applicable to each model remain effective.

9. Environmental Protection Standards

ICAO Annex 16:

Vol. I , Part II	Noise Requirements
Vol. II, Part II	Fuel Venting

SECTION 1: A320 series - continued

Vol. II, Part III Chapter 2	Emissions
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Notes: Further details are defined within TCDSN EASA.A.064

SECTION 1: A320 series - continued

10. ETOPS

The Type Design, system reliability and performance of A320 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
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

Note:

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 A320-211/-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

III. Technical Characteristics and Operational Limitations

1. Type Design Definition

- 1.2 Certificated model: A320-211
Definition of reference airplane by AIRBUS INDUSTRIE document AI/EA-A-413.630/88
- 1.3 Certificated model: A320-212
Definition of reference airplane by AIRBUS INDUSTRIE document AI/EA-A 412.1589/90 (00D000A0004/C0S)
- 1.4 Certificated model: A320-214
Definition of reference airplane by AIRBUS INDUSTRIE document AI/EA-S 413.0150/95 (00D000A0006/C21)
- 1.5 Certificated model: A320-215
Definition of reference airplane by AIRBUS INDUSTRIE document D00D06006382 (00D000A0215/C21)
- 1.6 Certificated model: A320-216

SECTION 1: A320 series - continued

- Definition of reference airplane by AIRBUS INDUSTRIE document D00D06011383 (00D000A0216/C21)
- 1.7 Certificated model: A320-231
Definition of reference airplane by AIRBUS INDUSTRIE document AI/EA-A 414.301/89
- 1.8 Certificated model: A320-232
Definition of reference airplane by AIRBUS INDUSTRIE document AI/EA-AC 414.0502/93 (00D000A0005/C21)
- 1.9 Certificated model: A320-233
Definition of reference airplane by AIRBUS INDUSTRIE document AI/EA-S 413.1984/95 (00D000A0007/C21)

Notes:

- a. Model conversions:
- 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
- b. A320-216 model results of the embodiment of modification 36311 on A320-214 model.
- c. A320-215 model results of the embodiment of modification 36297 on A320-214 model.

2. Description

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

3. Equipment

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00D000A0101/C1S (not applicable for A320-216 and A320-215).

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

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

4. Dimensions

Principal dimensions of A320 Aircraft:

- | | |
|--|------------------------------|
| - Length: | 37,57 m |
| - Width: | 34,10 m |
| | (if MOD 160500 is installed) |
| - Height: | 35,80 m |
| - Width at horizontal stabilizer: | 11,76 m |
| - Outside fuselage diameter: | 12,45 m |
| - Distance between engines axis: | 3,95 m |
| - Distance between main landing gear: | 11,51 m |
| - Distance between nose and main landing gear: | 7,59 m |
| | 12,64 m |

5. Engines

SECTION 1: A320 series - continued

The list below lists the basic engines fitted on the aircraft models. The notes describe usual names and certified names as well as new engines variants.

A320-211

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

A320-212

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

A320-214

Two CFMI CFM 56-5B4 jet engines (MOD 24251), or
CFM 56-5B4/2 jet engines (MOD 24405)

A320-215

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

A320-216

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

A320-231

Two IAE V2500-A1 jet engines (MOD 20165)

A320-232

Two IAE V2527-A5 jet engines (MOD 23008)

A320-233

Two IAE V2527E-A5 jet engines (MOD 25068)

Notes:

- 1 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.
- 2 A320-211 CFM 56-5A1 engine can be intermixed with CFM 56-5A1/F engine (MOD 23755) on the same aircraft.
- 3 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.
- 4 If modification 25800 is embodied on models with CFM56-5B engines, the engine performance is improved. The engine's 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.

SECTION 1: A320 series - continued

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

- 5 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).

- 6 A320-214 CFM 56-5B4 engine can be intermixed with CFM 56-5B4/2 engine (MOD 24405) on the same aircraft (AFM supplement).

- 7 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's 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 remain unchanged.

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

- 8 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 remain unchanged.

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

6. Auxiliary Power Unit

APU GARRETT

GARRETT AIRESEARCH GTCP 36-300 (A)

SECTION 1: A320 series - continued

(Specification 31-5306B)
Approved oils: see GARRETT REPORT GT. 7800

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

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

7. Propellers
N/A

8. Fluids (Fuel, Oil, Additives, Hydraulics)

Fuel

Fuel Specification: See installation manual: document CFM 2026 or CFM 2129 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- (N°3) 2006 JET Fuel)
		MIL-DTL 83133 (JP 8)	DEF STAN (AVTUR/FSII) 91/87 (JET A1)	GOST R 52050-2006	
Wide cut		ASTM D 6615 (JET B)	DEF STAN (AVTAG/FSII) 91/88		
		MIL-DTL 5624 (JP 4)			
High flash point	DCSEA (F-44) 144	MIL-DTL 5624 (JP 5)	DEF STAN (AVCAT/FSII) 91/86		

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

OIL

For oil specification:

Engine	CFM56-5B5/P CFM56-5B6/P CFM56-5A1 CFM56-5A1/F CFM56-5A3 CFM56-5B4	IAE V2500-A1 IAE V2527-A5 IAE V2527E-A5
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SECTION 1: A320 series - continued

	CFM56-5B4/2	
Approved Oils	SB CFMI 79-001	See doc IAE 0043 Sect 4.9 (MIL-L-23699)

Additives:

Refer to Airbus Consumable Material List (CML) and CFM SB 73-0122 or IAE Standard Practices and Processes Manual for CIS fuel additives
The above mentioned fuels and additives are also suitable for the APU

Hydraulics

Hydraulic fluids: Type IV or Type V - Specification NSA 30.7110

9. Fluid Capacities

Fuel quantity (0,8 kg/liter)

A320-200 series (without MOD 160001)

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)

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.

A320-211/-212/-214/-215/-216 (with MOD 37331 and without MOD 160001)

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	15 959 (12 767)	58.9 (47.1)	15 959 (12 767)	58.9 (47.1)	15 959 (12 767)	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	17	2 992 /	17 / 34

SECTION 1: A320 series - continued

			(2 393)	(13.6)	5 984 (2 393 / 4 786)	(13.6 / 27.2)
TOTAL	24 209 (19 367)	82.1 (65.7)	27 201 (21 761)	99.1 (79.3)	27 201 / 30 193 (21 761 / 24 154)	99.1 / 116.1 (79.3 / 92.9)

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.

A320-200 series (without MOD 37331 and with MOD 160001)

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	15 569 (12 455)	58.9 (47.1)	15 569 (12 455)	58.9 (47.1)	15 569 (12 455)	58.9 (47.1)
CENTER	8 248 (6 598)	23.2 (18.6)	8 248 (6 598)	23.2 (18.6)	8 248 (6 598)	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	23 817 (19 054)	82.1 (65.7)	26 809 (21 447)	99.1 (79.3)	26 809 / 29 801 (21 447 / 23 841)	99.1 / 116.1 (79.3 / 92.9)

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.

A320-214/215/216 (with MOD 37331 and MOD 160001)

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	15 919 (12 735)	58.9 (47.1)	15 919 (12 735)	58.9 (47.1)	15 919 (12 735)	58.9 (47.1)
CENTER	8 248 (6 598)	23.2 (18.6)	8 248 (6 598)	23.2 (18.6)	8 248 (6 598)	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	24 167	82.1	27 159	99.1	27 159 /	99.1 / 116.1

SECTION 1: A320 series - continued

	(19 334)	(65.7)	(21 727)	(79.3)	30 151 (21 727 / 24 121)	(79.3 / 92.9)
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10. Airspeed Limits (Indicated Airspeed – IAS – unless otherwise stated)

Maximum Operating Mach (MMO): 0,82
Maximum Operating Speed (VMO): 350 kt
Manoeuvring Speed VA: See Limitations Section of the EASA 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	27/35**	177	Landing

* Auto flap retraction at 210 kt in take-off configuration
**27/40 for A320 equipped with IAE engines

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)

11. Flight Envelope

Maximum Operating Altitude:
39 100 ft (pressure altitude)
39 800 ft (pressure altitude) if modification 30748 is embodied

See the appropriate EASA approved Airplane Flight Manual

12. Operating Limitations

See the appropriate EASA approved Airplane Flight Manual

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)	E37NE (FAA) E38NE (FAA) M-17 (DGAC)	E28NE (FAA) M-15 (DGAC)	E28NE (FAA) M-15 (DGAC)	E37NE (FAA) E38NE (FAA) M-17 (DGAC)

SECTION 1: A320 series - continued

	M-IM28 (DGAC)	M-IM28 (DGAC)	M-IM19 (DGAC)	M-IM19 (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)

(**): see note 1 chapter 5 for usual names and certified names

(***): see note 3 chapter 5 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)

* 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

Notes:

- A320-212 (CFM 56-5A3 engines) - A320-211 (CFM 56-5A1/F engines, see note 1 in Chapter 5 "engines" 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.
- 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.
- 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.

SECTION 1: A320 series - continued

12.1 Approved Operations

Transport commercial operations

12.2 Other Limitations

For a complete list of applicable limitations see the appropriate EASA approved Airplane Flight Manual

SECTION 1: A320 series - continued

13. Maximum Certified Masses

A320-211/A320-212/A320-231

VARIANT	000 (BASIC) (MOD 20802)	001 (MOD 20966)	002 (MOD 21601)	003 (MOD 22269)	004 (MOD 21532)	005 (MOD 21711)
Max. Ramp Weight	73 900	68 400	70 400	75 900	71 900	67 400
Max. Take-off Weight	73 500	68 000	70 000	75 500	71 500	67 000
Max. Landing Weight	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
Minimum Weight	37 230	37 230	37 230	37 230	37 230	37 230

VARIANT	006 (MOD 22436)	007 (MOD 23264)	008 (MOD 23900)	009 (MOD 23900 & 22269)	010 (MOD 23900 & 23264)	011 (MOD 30307)
Max. Ramp Weight	66 400	77 400	73 900	75 900	77 400	75 900
Max. Take-off Weight	66 000	77 000	73 500	75 500	77 000	75 500
Max. Landing Weight	64 500	64 500	64 500	64 500	64 500	66 000
Max. Zero Fuel Weight	60 500	60 500	61 000	61 000	61 000	62 500
Minimum Weight	37 230	37 230	37 230	37 230	37 230	37 230

VARIANT	012 (MOD 30479)	013 (MOD 31132)	014 (MOD 31385)	016 (MOD 34094)	018 (MOD 151710)
Max. Ramp Weight	77 400	71 900	73 900	73 900	71 900
Max. Take-off Weight	77 000	71 500	73 500	73 500	71 500
Max. Landing Weight	66 000	64 500	64 500	66 000	66 000
Max. Zero Fuel Weight	62 500	61 000	61 500	62 500	62 500
Minimum Weight	37 230	37 230	37 230	37 230	37 230

SECTION 1: A320 series - continued

VARIANT	009⁽³⁾ (MOD 23900 & 22269)	011⁽³⁾ (MOD 30307)	013⁽³⁾ (MOD 31132)	014⁽³⁾ (MOD 31385)	016⁽³⁾ (MOD 34094)	018⁽³⁾ (MOD 151710)
Max. ramp weight	75 900	75 900	71 900	73 900	73 900	71 900
Max. Take-off Weight	75 500	75 500	71 500	73 500	73 500	71 500
Max. Landing Weight	64 500	66 000	64 500	64 500	66 000	66 000
Max. Zero Fuel Weight	61 000	62 500	61 000	61 500	62 500	62 500
Minimum Weight	37 230	37 230	37 230	37 230	37 230	37 230

Notes:

- (1) WV001 applicable to A320-215 (and -216) model only from MSN 530 (Introduction of A320-214 model)
- (2) WV005 applicable to A320-215 (and -216) models only for a/c having modification 28154 embodied
- (3) MOD 160500 is approved for WV 008 to WV 018, only.

14. Centre of Gravity Range

See approved Airplane Flight Manual

15. Datum

Station 0.0, located 2.540 meters forward of airplane nose

16. Mean Aerodynamic Chord (MAC)

4.1935 meters

17. Levelling Means

The A/C can be jacked on three primary jacking points.
See the appropriate EASA approved Weight and Balance Manual

18. Minimum Flight Crew

2 pilots

19. Maximum Seating Capacity

180

Note: 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. The maximum number of passengers between any of the overwing exit doors and rear door is 90.

A320 all models aircraft can be operated with 150 passengers and with 3 cabin attendants for increased cabin flexibility if modification 150364 is embodied.

SECTION 1: A320 series - continued

20. Baggage/ Cargo Compartment

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. 00E080A0001/C1S Chapter 1.10.

21. Wheels and Tyres

See SB A320-32-1007

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

IV. Operating and Service Instructions

1. Airplane Flight Manual (AFM)

EASA Approved Airplane Flight Manual for A320.

2. Instructions for Continued Airworthiness and Airworthiness Limitations

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.

Note:

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).

SECTION 1: A320 series - continued

For A320-211, -212, -214, -215, -216, -231, -232, -233 models, the embodiment of modification 39020 leads to change the maintenance program and its associated Limit of Validity (LoV) from 48,000FC/60,000FH to 60,000FC/120,000FH (whichever occurs first).

Other limitations

See EASA approved Flight Manual.

3. Weight and Balance Manual (WBM)

Airbus Compliance Document 00D80A0001/C1S

V. Notes

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

SECTION 2: A321 SERIES

I. General

1. Type/ model/ Variant

A321-111
A321-112
A321-131
A321-211
A321-212
A321-213
A321-231
A321-232

Significant Product Level Changes i.a.w. 21.A.101:

MOD 160023 Sharklet applicable on A321-211, A321-212, A321-213, A321-231, A321-232

2. Performance Class

A

3. Certifying Authority

European Aviation Safety Agency (EASA)
Postfach 101253
D-50452 Köln
Deutschland

4. Manufacturer

AIRBUS
1, rond-point Maurice Bellonte
31707 BLAGNAC CEDEX – France

5. Joint Airworthiness Authority (JAA) Certification Application Date

A321-111:	November 30, 1989
A321-112:	November 30, 1989
A321-131:	November 30, 1989
A321-211:	July 17, 1996
A321-212:	February 22, 2001
A321-213:	February 22, 2001
A321-231:	July 17, 1996
A321-232:	September 15, 2000

SECTION 2: A321 series - continued

6. EASA Certification Application Date

Mod 160023 08 April 2010

7. DGAC-F / Joint Airworthiness Authority (JAA) Type Certification Date

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

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

8. EASA Type Certification Date

EASA TCDS issue 1 issued December 21, 2005

Mod 160023 issue 1 17 July 2013 (A321-211)
Mod 160023 issue 2 30 July 2013 (A321-231)
Mod 160023 issue 4 TBD 2014 (A321-212, A321-213, A321-232)

9. Production conditions

A321 aircraft, all series, all models, were 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 were 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

II. Certification Basis

1. Reference Date for determining the applicable requirements

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

2. Initial Airworthiness Authority Type Certification Data Sheet No.

Original French TCDS DGAC no. 180 was replaced by the EASA TCDS A.064

SECTION 2: A321 series - continued

3. Initial Airworthiness Authority Certification Basis

See below

4. EASA Airworthiness Requirements

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 model.

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

4.1 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

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

a. 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)

b. JAR 25 paragraphs at Change 13 and amended by the NPA 25 BDG 244 Accelerate Stop Distances and Associated Performance.

SECTION 2: A321 series - continued

Refer to Special Conditions F-10, S-79 and IM-S79.

4.3 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 described above remains applicable, except 4.3.b 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).

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

4.5 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.

4.6 For all models, Airbus Elect To Comply with 14CFR Part 25.772(a) and (c) and 25.795 amendment 106 according to CRI E12 – Reinforced Security Cockpit Door

4.7 Certification basis revised for MOD 160023 “Sharklet” by CRI A-0001-001.

CS 25 Amdt 8 for

§ 25.23	§ 25.481(a)(c) amended by SC A-2 for § 25.481(a)
§ 25.25	§ 25.483
§ 25.117	§ 25.485
§ 25.147	§ 25.489
§ 25.161	§ 25.491
§ 25.177 amended by SC-F16	§ 25.571(a)(b)(e)
§ 25.235	§ 25.581
§ 25.251	§ 25.601
§ 25.301	§ 25.603
§ 25.302	§ 25.605
§ 25.303	§ 25.607
§ 25.305(a)(b)(c)(e)(f)	§ 25.609
§ 25.307(a)(d)	§ 25.613
§ 25.321(a)(b)(c)(d)	§ 25.619
§ 25.331(a)(b)(c)	§ 25.623
§ 25.333(a)(b)	§ 25.625
§ 25.335(a)(c)(d)(e)(f) amended by SC A5003 for (b) and SC A-2 for (e)	§ 25.629
§ 25.337	§ 25.631
§ 25.341(a)(b)	§ 25.651
§ 25.343(a)(b)	§ 25.683
§ 25.345(a)(b)(c)(d)	§ 25.899
§ 25.349(a)(b) amended by SC A-2.2.2 for 25.349(a)	§ 25.903(d)(1)
§ 25.351	§ 25.1385
§ 25.365(a)(b)(d)	§ 25.1387
§ 25.367	§ 25.1389

SECTION 2: A321 series - continued

§ 25.371	§ 25.1391
§ 25.373	§ 25.1393
§ 25.391	§ 25.1395
§ 25.393(b)	§ 25.1397
§ 25.427	§ 25.1401
§ 25.445	§ 25.1505
§ 25.457	§ 25.1511
§ 25.459	§ 25.1515
§ 25.471(a)(b)	§ 25.1527
§ 25.473	§ 25.1587
§ 25.479(a)(c)(d) amended by SC A-2 for § 25.479(a)	§ 25.1591

CS 25 Amdt 2 for
§ 25.253

JAR 25 Chg 15 for
§ 25.1517

JAR 25 Chg 14 for

§ 25.21 amended by A318 SC F5001 (for b)	§ 25.149 + OP96/1
§ 25.101 amended by SC F11/S79	§ 25.171 replaced by SC-F5004
§ 25.103 replaced by A318 SC F5001	§ 25.173 replaced by SC-F5004
§ 25.105 amended by SC F11/S79	§ 25.175 replaced by SC-F5004
§ 25.107 amended by A318 SC-F5001	§ 25.181
§ 25.109 amended by SC F11/S79	§ 25.201 + OP96/1, replaced by SC-F5001
§ 25.111	§ 25.203 + OP96/1, replaced by SC-F5001
§ 25.113 + OP96/1 amended by SC F11/S79	§ 25.207 amended by SC-F5001
§ 25.115 amended by SC F11/S79	§ 25.231
§ 25.119 + OP96/1 amended by A318 SC F5001 (for b)	§ 25.233
§ 25.121 + OP96/1, amended by A318 SC F5001 (for c & d)	§ 25.237
§ 25.123	§ 25X261
§ 25.125 + OP96/1, amended by A318 SC F5001	§ 25.1533
§ 25.143 + OP96/1, amended by SC F3, F7 & F8	§ 25.1581
§ 25.145 + OP96/1	§ 25.1585(a)

JAR 25 Chg 11 for

§ 25.671
§ 25.672
§ 25.1001
§ 25.1301
§ 25.1309
§ 25.1419 amended by AMC-F14

Interpretative Material:

CRI E-39 Uncontained Engine Rotor Failure

Note: The original Interpretative material applicable to each model remains effective.

SECTION 2: A321 series - continued

Acceptable Means of Compliance:

AMC F-14 Flight in icing condition.

Note: AMC F-14 applicability extended from A321/A319/A318 to A320 with MOD 160023.

ETOPS

AMC 20-6 Rev 1 paragraphs related to operation in icing conditions 8.b.(11) for ice shapes on the Sharklet device.

AMC 20-6 Rev 1 paragraphs related to performance data in the AFM supplement for ETOPS 8.f.(1) (iii).

AMJ 120-42 for ETOPS for non-affected areas.

Note: This corresponds to the certification basis used for the initial ETOPS demonstration (refer to A320 CRI G1006).

5. Special Conditions

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

- Special conditions: rose to cover novel or unusual features not addressed by the JAR.
- Experience related conditions: rose 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.

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

a. Further to application of the updated requirements of above paragraphs 4.1 and 4.2:

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)

SECTION 2: A321 series - continued

b. Further to JAR 25 requirements evolution:

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

c. Further to issuance of A321 Special Conditions and Interpretative Materials listed in paragraph 5.2 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

5.2 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

SECTION 2: A321 series - continued

5.3. 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

5.4. 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).

SECTION 2: A321 series - continued

5.5. 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).

5.6. 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 Seat with inflatable restraints
- SC E13 Installation of inflatable restraints (optional)
- SCD-0306 Heat release and smoke density requirements to seat material (applicable from June 2010)
- SC P-27 Flammability Reduction System (see Note below)
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 FR 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.
- SC E10 High altitude airport operations (up to 14,100ft)(CRI E10)
- SC E-48 Fuel Tank Safety
- SC F-0311 Flight Recorders including Data Link Recording
- SC D-0322-001 Installation of suite type seating

5.7. Special Conditions for aircraft equipped with MOD 160023

- SC F-16 Static directional and lateral stability
- A318 SC F-5001 Stalling and scheduled operating speeds
- A318 SC F-5004 Static Longitudinal Stability and Low energy awareness
- A318 SC A-5003 Design Dive Speed Vd

Note: All other original Special Conditions applicable to each model remain effective.

6. Exemptions

No exemptions.

7. Deviations

None

8. Equivalent Safety Findings

8.1 The following paragraphs JAR 25 have been complied with through equivalent safety demonstration:

SECTION 2: A321 series - continued

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

8.2 The following Equivalent Safety Findings have been developed post Type Certification:

- FAR 25.856(b) Fuselage burnthrough protection in bilge area (see CRI E-32). If modifications 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).
- 14CFR Part 25.856(a) Improved flammability standards for insulation materials (CRI E18)
- JAR 25.812(b)(1)(ii) Photo-luminescent EXIT sign for MCD (Moveable Class Divider) (CRI E14) (optional)
- JAR 25.811(f) Emergency exit marking reflectance (CRI E16)
- JAR 25.812(b)(1)(i)(ii) Symbolic EXIT signs as an alternative to red EXIT signs for passenger aircraft (CRI SE-42) (optional)
- JAR 25.785(c) Forward facing seats with more than 18° to aircraft centerline. (CRI D-0329-001) (optional)
- JAR 25.1443(c) Minimum Mass Flow of Supplemental Oxygen (CRI F-20) (optional)
- JAR 25.1441(c) Crew Determination of Quantity of Oxygen in Passenger Oxygen System (CRI F-21) (optional)

8.3 Equivalent Safety Findings for aircraft equipped with MOD 160023

- ESF F-19 Flight in natural icing condition (§25.1419 (c))

Note: The original ESFs applicable to each model remain effective.

9. Environmental Protection Standards

ICAO Annex 16:

Vol. I , Part II	Noise Requirements
Vol. II, Part II	Fuel Venting
Vol. II, Part III Chapter 2	Emissions

Notes: Further details are defined within TCDSN EASA.A.064

10. ETOPS

The Type Design, system reliability and performance of A321 models were found capable for Extended Range Operations when configured, maintained and operated in accordance with

SECTION 2: A321 series - continued

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
A321-111	CFM56-5B1	29 May 1996	11 March 2004
A321-112	CFM56-5B2	29 May 1996	11 March 2004
A321-131	V2530-A5	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
A321-231	V2533-A5	28 July 1997	11 March 2004
A321-232	V2530-A5	N/A	28 April 2006

Note:

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

III. Technical Characteristics and Operational Limitations

1. Type Design Definition

- 1.1 Certificated model: A321-111
Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-A 413.1063/94 (00E000A0008/C21)
- 1.2 Certificated model: A321-112
Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-A 414.0118/94 (00E000A0002/C11)
- 1.3 Certificated model: A321-131
Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-A 414.0900/93 (00E000A0003/C21)
- 1.4 Certificated model: A321-211
Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-S 413.0400/97 (00E000A0211/C21)
- 1.5 Certificated model: A 321-212
Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-S 413.1359/01 (00E000A0212/C21)
- 1.6 Certificated model: A321-213
Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-S 413.1360/01 (00E000A0213/C21)
- 1.7 Certificated model: A321-231

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Definition of reference airplane by AIRBUS INDUSTRIE Document AI/EA-S 413.0388/97 (00E000A0231/C21)

1.8 Certificated model: A321-232

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

NOTES

a. Model conversions:

- 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. Description

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

3. Equipment

A321-111

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

A321-112

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

A321-131

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

A321-211

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

A321-212

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00E000A0212/C0S.

A321-213

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

A321-231

Equipment approved for installation is listed in the Certification Standard Equipment List ref. 00E000A0231/C0S.

A321-232

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

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Note:

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

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

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

4. Dimensions

Principal dimensions of A321 Aircraft:

- Length:	44,51 m
- Width:	34,10 m
(If mod 160023 installed)	35,80m
- 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

5. Engines

The list below lists the basic engines fitted on the aircraft models. The notes describe usual names and certified names as well as new engines variants.

A321-111

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

A321-112

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

A321-131

Two IAE V2530 - A5 jet engines (MOD 22989)

A321-211

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

A321-212

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

A321-213

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

A321-231

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Two IAE V2533-A5 jet engines (MOD 25643)

A321-232

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

Notes:

1. 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
A321-213: CFM56-5B2 (SAC) which changes to CFM 56-5B2/P

CFM 56-5B/"non-P" engine can be intermixed with CFM 56-5B/P engine on the same aircraft. See notes 3 & 4 below as well.

2. 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).

3. From March 31st 2008, there is no longer any CFM56-5B1 non /P in field or in production.
4. From March 31st 2008, there is no longer any CFM56-5B1/2 non /P in field or in production.
5. A321-111 CFM 56-5B1 engine can be intermixed with CFM 56-5B1/2 engine (MOD 24404) on the same aircraft (AFM supplement).
6. 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).
7. 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

SECTION 2: A321 series - continued

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 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.

8. 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 remain unchanged.

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

6. Auxiliary Power Unit

APU GARRETT

GARRETT AIRESEARCH GTCP 36-300 (A)

(Specification 31-5306B)

Approved oils: see GARRETT REPORT GT.7800

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

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

SECTION 2: A321 series - continued

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

7. Propellers

N/A

8. Fluids (Fuel, Oil, Additives, Hydraulics)

Fuel

Fuel Specification: See installation manual: document CFM 2026 or CFM 2129 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 6537-2006 (N°3 Jet Fuel)
		MIL-DTL 83133 (JP 8)	DEF STAN 91/87 (AVTUR/FSII) (JET A1)	GOST R 52050-2006	
Wide cut		ASTM D 6615 (JET B)	DEF STAN 91/88 (AVTAG/FSII)		
		MIL-DTL 5624 (JP 4)			
High flash point	DCSEA (F-44) 144	MIL-DTL 5624 (JP 5)	DEF STAN 91/86 (AVCAT/FSII)		

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

OIL

Engine	CFMI CFM56-5B1 (**) CFM56-5B1/2 (**) CFM56-5B2 CFM56-5B3 (/P only) CFM56-5B3/2P	IAE V2530-A5 V2533-A5
Approved oils	See SB CFMI 79-001-OX	See Doc IAE 0043 Sect 4.9 (MIL-L 23 699)

(**): see notes 3 and 4 in chapter 5 for engine models no longer in prod/service.

Additives:

Refer to Airbus Consumable Material List (CML) and CFM SB 73-0122 or IAE Standard Practices and Processes Manual for CIS fuel additives
The above mentioned fuels and additives are also suitable for the APU.

Hydraulics

Hydraulic fluids: Type IV or Type V Specification NSA 30.7110

9. Fluid Capacities

Fuel quantity (0.8 kg/liter) (see note 1 below)

TANK	3 TANK AIRPLANE		4 or 5 TANK AIRPLANE (*) (**)	
	Usable fuel	Unusable	Usable fuel	Unusable

SECTION 2: A321 series - continued

	liters (kg)	fuel liters (kg)	liters (kg)	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 and 3 below

** 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

Note:

1. 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. 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).
3. 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).

10. Airspeed Limits (Indicated Airspeed – IAS – unless otherwise stated)

Maximum Operating Mach (MMO):	0,82
Maximum Operating Speed (VMO):	350 kt
Manoeuvring Speed VA:	see Limitations Section of the EASA 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	22/14	205	Take-off and approach
		215*	
3	22/21	195	Take-off, approach, landing
Full	27/25	190	Landing

* See note 1

** See note 2

Landing gear:

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

SECTION 2: A321 series - continued

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

Notes:

1. 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. 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).

11. Flight Envelope

Maximum Operating Altitude:
39 100 ft (pressure altitude)
39 800 ft (pressure altitude) if modification 30748 is embodied

See the appropriate EASA approved Airplane Flight Manual

12. Operating Limitations

See the appropriate EASA approved Airplane Flight Manual

Powerplant (2.2482 lb/daN)

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)

* 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
** see notes 3 and 4 in chapter 5 for engine models no longer in prod/service.

A321-211/-231

Engine	CFMI	IAE
--------	------	-----

SECTION 2: A321 series - continued

	CFM56-5B3 (/P only) CFM56-5B3/2P	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)

* 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

12.1 Approved Operations

Transport commercial operations

12.2 Other Limitations

For a complete list of applicable limitations see the appropriate EASA approved Airplane Flight Manual

13. Maximum Certified Masses

A321-111/A321-112

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

A321-131

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

Note:

SECTION 2: A321 series - continued

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.

SECTION 2: A321 series - continued

A321-211/A321-231

VARIANT	000 (BASIC)	001 (MOD 28960)	002 (MOD 28721)	003 (MOD 31613)	004 (MOD 31614)	005 (MOD 27553)	006 (MOD 31616)	010 (MOD 31321)	011 (MOD 32456)
Max. Ramp Weight	89 400	93 400	89 400	91 400	87 400	85 400	83 400	85 400	93 900
Max. Take-off Weight	89 000	93 000	89 000	91 000	87 000	85 000	83 000	85 000	93 500
Max. Landing Weight	75 500	77 800	77 800	77 800	75 500	75 500	75 500	77 800	77 800
Max. Zero Fuel Weight	71 500	73 800	73 800	73 800	71 500	71 500	71 500	73 800	73 800
Minimum Weight	47 500	47 500	47 500	47 500	47 500	47 500	47 500	47 500	47 500

Notes:

(1) MOD 160023 is approved for WV 000 to WV11.

A321-212/A321-213/A321-232

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

Notes:

(2) MOD 160023 is approved for WV 000 to WV11.

14. Centre of Gravity Range

See the appropriate DGAC approved Airplane Flight Manual

15. Datum

Station 0.0, located 2.540 meters forward of airplane nose

16. Mean Aerodynamic Chord (MAC)

4.1935 meters

17. Levelling Means

The A/C can be jacked on three primary jacking points.

See the appropriate EASA approved Weight and Balance Manual

18. Minimum Flight Crew

2 pilots

19. Maximum Seating Capacity

220

Notes:

- For cabin arrangements of 201 passenger seats up to the maximum number of 220 passenger seats, five cabin crewmembers are required.
- For cabin arrangements up to and including 200 passenger seats, only four cabin crewmembers are required.

SECTION 2: A321 series - continued

SECTION 2: A321 series - continued

20. Baggage/ Cargo Compartment

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.

21. Wheels and Tyres

See SB A320-32-1007

IV. Operating and Service Instructions

1. Airplane Flight Manual (AFM)

EASA Approved Airplane Flight Manual for A321.

2. Instructions for Continued Airworthiness and Airworthiness Limitations

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.

Other limitations

See EASA approved Flight Manual.

3. Weight and Balance Manual (WBM)

Airbus Compliance Document 00E80A0001/C1S

SECTION 2: A321 series - continued

V. Notes

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

SECTION 3: A319 series

I. General

1. Type/ model/ Variant

A319-111
A319-112
A319-113
A319-114
A319-115
A319-131
A319-132
A319-133

Significant Product Level Changes i.a.w. 21.A.101:

MOD 160500 Sharklet applicable on A319-111/-112/-115/-131/-132/-133
including CJ

2. Performance Class

A

3. Certifying Authority:

European Aviation Safety Agency (EASA)
Postfach 101253
D-50452 Köln
Deutschland

4. Manufacturer

AIRBUS
1, rond-point Maurice Bellonte
31707 BLAGNAC CEDEX – France

5. Joint Airworthiness Authority (JAA) Certification Application Date

A319-111	June 17, 1992
A319-112	June 17, 1992
A319-113	June 17, 1992
A319-114	June 17, 1992
A319-115	September 14, 1998
A319-131	June 17, 1992
A319-132	June 17, 1992
A319-133	September 14, 1998

6. EASA Certification Application Date

MOD 160500 08 April 2010

7. DGAC-F / Joint Airworthiness Authority (JAA) Type Certification Date

SECTION 3: A319 series - continued

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

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

8. EASA Type Certification Date

EASA TCDS issue 1 issued December 21, 2005

MOD 160500 iss.4 May 28, 2013	A319-111,-112,-115 excluding CJ
MOD 160500 iss 5 September 6, 2013	A319-112 (CJ), A319-115 (CJ), A319-131 (PAX), A319-132 (PAX and CJ), A319-133 (PAX and CJ)

9. Production conditions

A319 aircraft, all series, all models, were 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 were produced in Hamburg - Germany under approval DE.21G.0009 issued by LBA to AIRBUS

From July 21st, 2008, A319 aircraft were 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.

II. Certification Basis

1. Reference Date for determining the applicable requirements

AIRBUS INDUSTRIE has applied for A319 certification on June 17, 1992 by letter AI/EA 410.0122/92.

2. Initial Airworthiness Authority Type Certification Data Sheet No.

Original French TCDS DGAC no. 180 was replaced by the EASA TCDS A.064

3. Initial Airworthiness Authority Certification Basis

SECTION 3: A319 series - continued

See below

4. EASA Airworthiness Requirements

Hereafter are listed the certification bases for the different A319 models. The amendments made to a particular basis at the occasion of further A319 models certification are identified per model.

The applicable Joint Certification Basis defined in CRI G4001 Issue 4 dated 21/03/96 is:

4.1 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	25.349 (b)
25.321	25.351
25.331	25.365 (e)
25.333	25.371
25.335 (d)	25.373
25.341	25.391
25.343 (b) (1) (ii)	25.427
25.345 (a) and (c)	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

SECTION 3: A319 series - continued

25.109
25.113
25.115
25.735
25x1591

- if modification 153945 is embodied on A319 aircraft, the following paragraph is upgraded at CS25 amendment 11 due to an Elect-to-Comply:

25.813(c)(2)(ii)

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

4.3 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.

4.4 For all models Airbus Elect To Comply with 14CFR Part 25.772(a) and (c) and 25.795 amendment 106 according to CRI E12 –Reinforced Security Cockpit Door.

4.5 Certification basis revised for MOD 160500 “Sharklet” by CRI A-0001-001.

CS 25 Amdt 8 for

§ 25.23	§ 25.481(a)(c) amended by SC A-2 for § 25.481(a)
§ 25.25	§ 25.483
§ 25.117	§ 25.485
§ 25.147	§ 25.489
§ 25.161	§ 25.491
§ 25.177 amended by SC-F16	§ 25.571(a)(b)(e)
§ 25.235	§ 25.581
§ 25.251	§ 25.601
§ 25.301	§ 25.603
§ 25.302	§ 25.605
§ 25.303	§ 25.607
§ 25.305(a)(b)(c)(e)(f)	§ 25.609
§ 25.307(a)(d)	§ 25.613
§ 25.321(a)(b)(c)(d)	§ 25.619
§ 25.331(a)(b)(c)	§ 25.623
§ 25.333(a)(b)	§ 25.625
§ 25.335(a)(c)(d)(e)(f) amended by SC A5003 for (b) and SC A-2 for (e)	§ 25.629
§ 25.337	§ 25.631
§ 25.341(a)(b)	§ 25.651
§ 25.343(a)(b)	§ 25.683
§ 25.345(a)(b)(c)(d)	§ 25.899
§ 25.349(a)(b) amended by SC A-2.2.2 for 25.349(a)	§ 25.903(d)(1) (see CRI E-39 for interpretative material)
§ 25.351	§ 25.1385
§ 25.365(a)(b)(d)	§ 25.1387
§ 25.367	§ 25.1389

SECTION 3: A319 series - continued

§ 25.371	§ 25.1391
§ 25.373	§ 25.1393
§ 25.391	§ 25.1395
§ 25.393(b)	§ 25.1397
§ 25.427	§ 25.1401
§ 25.445	§ 25.1505
§ 25.457	§ 25.1511
§ 25.459	§ 25.1515
§ 25.471(a)(b)	§ 25.1527
§ 25.473	§ 25.1587
§ 25.479(a)(c)(d) amended by SC A-2 for § 25.479(a)	§ 25.1591

CS 25 Amdt 2 for
§ 25.253

JAR 25 Chg 15 for
§ 25.1517

JAR 25 Chg 14 for

§ 25.21 amended by A318 SC F5001 (for b)	§ 25.149 + OP96/1
§ 25.101 amended by SC F11/S79	§ 25.171 replaced by SC-F5004
§ 25.103 replaced by A318 SC F5001	§ 25.173 replaced by SC-F5004
§ 25.105 amended by SC F11/S79	§ 25.175 replaced by SC-F5004
§ 25.107 amended by A318 SC-F5001	§ 25.181
§ 25.109 amended by SC F11/S79	§ 25.201 + OP96/1, replaced by SC-F5001
§ 25.111	§ 25.203 + OP96/1, replaced by SC-F5001
§ 25.113 + OP96/1 amended by SC F11/S79	§ 25.207 amended by SC-F5001
§ 25.115 amended by SC F11/S79	§ 25.231
§ 25.119 + OP96/1 amended by A318 SC F5001 (for b)	§ 25.233
§ 25.121 + OP96/1, amended by A318 SC F5001 (for c & d)	§ 25.237
§ 25.123	§ 25X261
§ 25.125 + OP96/1, amended by A318 SC F5001	§ 25.1533
§ 25.143 + OP96/1, amended by SC F3, F7 & F8	§ 25.1581
§ 25.145 + OP96/1	§ 25.1585(a)

JAR 25 Chg 11 for

- § 25.671
- § 25.672
- § 25.1001
- § 25.1301
- § 25.1309
- § 25.1419 amended by AMC-F14

Interpretative Material:

CRI E-39 Uncontained Engine Rotor Failure

Note: The original Interpretative material applicable to each model remains effective.

Acceptable Means of Compliance:

SECTION 3: A319 series - continued

AMC F-14 Flight in icing condition.

Note: AMC F-14 applicability extended from A321/A319/A318 to A320 with MOD 160500.

ETOPS

AMC 20-6 Rev 1 paragraphs related to operation in icing conditions 8.b.(11) for ice shapes on the Sharklet device.

AMC 20-6 Rev 1 paragraphs related to performance data in the AFM supplement for ETOPS 8.f.(1) (iii).

AMJ 120-42 for ETOPS for non-affected areas.

Note: This corresponds to the certification basis used for the initial ETOPS demonstration (refer to A320 CRI G1006).

5. Special Conditions

5.1 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: rose to cover novel or unusual features not addressed by the JAR.
- Experience related conditions: rose 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)

SECTION 3: A319 series - continued

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

5.2 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)

5.3 For A319, 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)

5.4 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).

5.5 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).

5.6 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).

5.7 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	Seat with inflatable restraints
SC E-13	Installation of inflatable restraints
SC D-0306	Heat release and smoke density requirements to seat material (applicable from June 2010)
SC P-27	Flammability Reduction System

SECTION 3: A319 series - continued

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 FR 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.

SC-E10 High altitude airport operations (up to 14,100 ft)" (see CRI E10).
SC E-48 Fuel Tank Safety
SC F-0311 Flight Recorders including Data Link Recording
SC D-0322-001 Installation of suite type seating

5.8 Special Conditions for aircraft equipped with MOD 160500

SC F-16 Static directional and lateral stability
A318 SC F-5001 Stalling and scheduled operating speeds
A318 SC F-5004 Static Longitudinal Stability and Low energy awareness
A318 SC A-5003 Design Dive Speed Vd

Note: All other original Special Conditions applicable to each model remain effective.

6. Exemptions

No exemptions

7. Deviations

None

8. Equivalent Safety Findings

8.1 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).

SECTION 3: A319 series - continued

JAR AWO 313 "Minimum approach break-off height" (see CRI SE 4005 - "Minimum approach break-off height").

8.2 The following Equivalent Safety Findings have been developed post Type Certification:

FAR 25.856(b) Fuselage burnthrough protection in bilge area (see CRI E-32)
If modifications 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.

14CFR Part 25.856(a) Improved flammability standards for insulation materials (CRI E18)

JAR 25.812(b)(1)(ii) Photo-luminescent EXIT sign for MCD (Moveable Class Divider) (CRI E14) (optional)

JAR 25.811(f) Emergency exit marking reflectance (CRI E16)

JAR 25.812(b)(1)(i)(ii) Symbolic EXIT signs as an alternative to red EXIT signs for passenger aircraft (CRI SE-42) (optional)

JAR 25.785(c) Forward facing seats with more than 18° to aircraft centerline. (CRI D-0329-001) (optional)

JAR 25.1443(c) Minimum Mass Flow of Supplemental Oxygen (CRI F-20) (optional)

JAR 25.1441(c) Crew Determination of Quantity of Oxygen in Passenger Oxygen System (CRI F-21) (optional)

8.3 Equivalent Safety Findings for aircraft equipped with MOD 160500

ESF F-19 Flight in natural icing condition (§25.1419 (c))

Note: The original ESFs applicable to each model remain effective.

9. Environmental Protection Standards

ICAO Annex 16:

Vol. I , Part II	Noise Requirements
Vol. II, Part II	Fuel Venting
Vol. II, Part III Chapter 2	Emissions

Notes: Further details are defined within TCDSN EASA.A.064

10. ETOPS

SECTION 3: A319 series - continued

The Type Design, system reliability and performance of A319 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
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

Note:

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 A319-111/-112/-113/-114/-115/-131/-132/-133, with all applicable engines.

Embodiment of modification:

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

III. Technical Characteristics and Operational Limitations

1. Type Design Definition

- 1.1 Certificated model: A319-111
Definition of reference airplane by doc: AI/EA-S 413.0700/96 (00J000A0011/C21).
- 1.2 Certificated model: A319-112
Definition of reference airplane by doc: AI/EA-S 413.0505/96 (00J000A0003/C21).
- 1.3 Certificated model: A319-113
Definition of reference airplane by doc: AI/EA-S 413.1377/96 (00J000A0113/C21).
- 1.4 Certificated model: A319-114
Definition of reference airplane by doc: AI/EA-S 413.1400/96 (00J000A0114/C21).
- 1.5 Certificated model: A319-115
Definition of reference airplane by doc: AI/EA-S 413.1204/99 (00J000A0115/C21)
- 1.6 Certificated model: A319-131

SECTION 3: A319 series - continued

- Definition of reference airplane by doc: AI/EA-S 413.3250/96
(00J000A0131/C21)
- 1.7 Certificated model: A319-132
Definition of reference airplane by doc: AI/EA-S 413.3300/96
(00J000A0132/C21)
- 1.8 Certificated model: A319-133
Definition of reference airplane by doc: AI/EA-S 413.1205/99
(00J000A0133/C21)

SECTION 3: A319 series - continued

NOTES

Model conversions:

- 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.

2. Description

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

3. Equipment

A319-111

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

A319-112

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

A319-113

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

A319-114

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

A319-115

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

A319-131

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

A319-132

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

A319-133

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

Note

The type design definitions and certification standard equipment lists 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".

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

SECTION 3: A319 series - continued

4. Dimensions

Principal dimensions of A319 Aircraft:

Length:	33.84 m
Width:	34.10 m
(if MOD 160500 is installed)	35,80 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

5. Engines

The list below lists the basic engines fitted on the aircraft models. The notes describe usual names and certified names as well as new engines variants.

A319-111

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

A319-112

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

A319-113

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

A319-114

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

A319-115

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

A319-131

Two IAE V2522-A5 jet engines (MOD 26152)

A319-132

Two IAE V2524-A5 jet engines (MOD 26298)

A319-133

Two IAE V2527M-A5 jet engines (MOD 27568)

Notes:

1. From March 31st 2008, there is no longer any CFM56-5B5 non /P in field or in production.
2. From March 31st 2008, there is no longer any CFM56-5B6 non /P in field or in production.

SECTION 3: A319 series - continued

3. From March 31st 2008, there is no longer any CFM56-5B6/2 non /P in field or in production.
4. From March 31st 2008, there is no longer any CFM56-5B7 non /P in field or in production.
5. 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.

6. A319-112 CFM 56-5B6 engine can be intermixed with CFM 56-5B6/2 engine (MOD 25532) on the same aircraft (AFM supplement).
7. 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).

8. 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 remain unchanged.

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

6. Auxiliary Power Unit

SECTION 3: A319 series - continued

APU GARRETT

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

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.

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.

7. Propellers

N/A

8. Fluids (Fuel, Oil, Additives, Hydraulics)

Fuel

Fuel Specification: See installation manual: document CFM 2026 or CFM 2129 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-(N°3 Jet 2006 Fuel)
		MIL-DTL 83133 (JP 8)	DEF STAN 91/87 (AVTUR/FS II) (JET A1)	GOST R 52050-2006	
Wide cut		ASTM D 6615 (JET B)	DEF STAN 91/88 (AVTAG/FS II)		
		MIL-DTL 5624 (JP 4)			
High flash point	DCSEA (F-44) 144	MIL-DTL 5624 (JP 5)	DEF STAN 91/86 (AVCAT/FS II)		

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

OIL

For oil specification:

Engine	CFM56-5B5 CFM56-5B6 CFM56-5B6/2 CFM56-5B7 CFM56-5A4	IAE V2522-A5 IAE V2524-A5 IAE V2527M-A5
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SECTION 3: A319 series - continued

	CFM56-5A4/F CFM56-5A5 CFM56-5A5/F	
Approved Oils	SB CFMI 79-001-OX	See doc IAE 0043 Sect 4.9 (MIL-L-23699)

Additives

Refer to Airbus Consumable Material List (CML) and CFM SB 73-0122 or IAE Standard Practices and Processes Manual for CIS fuel additives. The above mentioned fuels and additives are also suitable for the APU.

Hydraulics

Hydraulic fluids: Type IV or Type V - Specification NSA 30.7110.

9. Fluid Capacities

Fuel quantity (0.8 kg/liter)

A319 aircraft (without MOD 160001)

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 1 below

** see note 2 below

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 1 below

A319 aircraft (with MOD 37331 and MOD 160001)

SECTION 3: A319 series - continued

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	15 919 (12 735)	58.9 (47.1)	15 919 (12 735)	58.9 (47.1)	15 919 (12 735)	58.9 (47.1)
CENTER	8 248 (6 598)	23.2 (18.6)	8 248 (6 598)	23.2 (18.6)	8 248 (6 598)	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	24 167 (19 334)	82.1 (65.7)	27 159 (21 727)	99.1 (79.3)	27 159 / 30 151 (21 727 / 24 121)	99.1 / 116.1 (79.3 / 92.9)

(*) On the A319 aircraft, the certification of installing one or two Additional Center Tanks (ACT) in bulk version is defined by modification 33973.

An alternative is the installation of one ACT only (with the provisions for only one ACT), as defined by modification 37226.

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	15 919 (12 735)	58.9 (47.1)	15 919 (12 735)	58.9 (47.1)
Center	15 919 (12 735)	58.9 (47.1)	15 919 (12 735)	58.9 (47.1)
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	32 595 / 34 781 (26 076 / 27 825)	138.1 / 160.1 (110.5 / 128.1)	37 827 / 40 948 (30 262 / 32 759)	172.1 / 189.1 (137.7 / 151.3)

* see note 1 below

SECTION 3: A319 series - continued

A319 aircraft (without MOD 37331 and with MOD 160001)

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	15 569 (12 455)	58.9 (47.1)	15 569 (12 455)	58.9 (47.1)	15 569 (12 455)	58.9 (47.1)
CENTER	8 248 (6 598)	23.2 (18.6)	8 248 (6 598)	23.2 (18.6)	8 248 (6 598)	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	23 817 (19 054)	82.1 (65.7)	26 809 (21 447)	99.1 (79.3)	26 809 / 29 801 (21 447 / 23 841)	99.1 / 116.1 (79.3 / 92.9)

(*) On the A319 aircraft, the certification of installing one or two Additional Center Tanks (ACT) in bulk version is defined by modification 33973.

An alternative is the installation of one ACT only (with the provisions for only one ACT), as defined by modification 37226.

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	15 569 (12 455)	58.9 (47.1)	15 569 (12 455)	58.9 (47.1)
Center	8 248 (6 598)	23.2 (18.6)	8 248 (6 598)	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	32 245 / 34 431 (25 796 / 27 545)	138.1 / 160.1 (110.5 / 128.1)	37 477 / 40 598 (29 982 / 32 479)	172.1 / 189.1 (137.7 / 151.3)

* see note 1 below

Notes:

- 1- 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.

SECTION 3: A319 series - continued

- 2- 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).

10. Airspeed Limits (Indicated Airspeed – IAS – unless otherwise stated)

Maximum Operating Mach (MMO): 0,82
 Maximum Operating Speed (VMO): 350 kt
 Manoeuvring Speed (VA): see Limitations Section of the EASA 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)

11. Flight Envelope

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

12. Operating Limitations

See the appropriate EASA approved Airplane Flight Manual

Powerplant (2.2482 lb/daN)

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)	E37NE (FAA)	E37NE (FAA)	E28NE (FAA)	E28NE (FAA)

SECTION 3: A319 series - continued

	E38NE (FAA) M-17 (DGAC) M-IM28 (DGAC)	E38NE (FAA) M-17 (DGAC) M-IM28 (DGAC)	E38NE (FAA) M-17 (DGAC) M-IM28 (DGAC)	M-15 (DGAC) M-IM19 (DGAC)	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)

* 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.

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)

* 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.

Note:

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.

SECTION 3: A319 series - continued

12.1 Approved Operations

Transport Commercial operations

12.2 Other Limitations

For a complete list of applicable limitations, see the appropriate EASA approved Airplane Flight Manual.

13. Maximum Certified Masses

A319-111/A319-112/A319-113/A319-114/A319-115/A319-131/A319-132/A319-133

VARIANT	000 BASIC	001 MOD 25328	002 MOD 27112	003 MOD 26457	004 MOD 28053	005 MOD 28136	006 MOD 33418
Max. Ramp Weight	64 400	70 400	75 900	68 400	68 400	70 400	73 900
Max. Take-off Weight	64 000	70 000	75 500	68 000	68 000	70 000	73 500
Max. Landing Weight	61 000	61 000	62 500	61 000	62 500	62 500	62 500
Max. Zero Fuel Weight	57 000	57 000	58 500	57 000	58 500	58 500	58 500
Minimum Weight	35 400	35 400	35 400	35 400	35 400	35 400	35 400

VARIANT	007 MOD 35197	008 MOD 36291	009 MOD 36292	010 (*) MOD 39021	011 MOD 36933	012 MOD 36934	013 (**) MOD 153453
Max. Ramp Weight	75 900	64 400	66 400	76 900	66 400	62 400	75 900
Max. Take-off Weight	75 500	64 000	66 000	76 500	66 000	62 000	75 500
Max. Landing Weight	61 000	62 500	62 500	62 500	61 000	61 000	62 500
Max. Zero Fuel Weight	57 000	58 500	58 500	58 500	57 000	57 000	52 000
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).

** WV013 is only certified for A319-133, MSN 4042

14. Centre of Gravity Range

See EASA approved Airplane Flight Manual.

15. Datum

Station 0.0, located 2.540 meters forward of airplane nose

16. Mean Aerodynamic Chord (MAC)

4.1935 meters

17. Levelling Means

The A/C can be jacked on three primary jacking points.

See the appropriate EASA approved Weight and Balance Manual

SECTION 3: A319 series - continued

18. Minimum Flight Crew

2 pilots

19. Maximum Seating Capacity

145

Notes:

1. 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.
2. 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. For aircraft models A319-115, A319-132 and A319-133, the Type III emergency exit hatch can be de-activated by embodiment of modification 152777. In this case, the maximum number of occupants in the passenger cabin is limited to zero during taxi, take-off, flight and landing, unless terms and conditions to occupy specific cabin areas have been approved by operator's competent airworthiness authority

20. Baggage/ Cargo Compartment

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.

21. Wheels and Tyres

See SB A320-32-1007

IV. Operating and Service Instructions

1. Airplane Flight Manual (AFM)

EASA Approved Airplane Flight Manual for A319 (Airbus Compliance Document...)

SECTION 3: A319 series - continued

2. Instructions for Continued Airworthiness and Airworthiness Limitations

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.

Other limitations

See EASA approved Flight Manual.

3. Weight and Balance Manual (WBM)

Airbus Compliance Document 00J80A0001/C1S

V. Notes

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.

SECTION 4: A318 Series

I. General

1. Type/ model/ Variant

A318-111
A318-112
A318-121
A318-122

2. Performance Class:

A

3. Certifying Authority:

European Aviation Safety Agency (EASA)
Postfach 101253
D-50452 Köln
Deutschland

4. Manufacturer

AIRBUS
1, rond-point Maurice Bellonte
31707 BLAGNAC CEDEX – France

5. Joint Airworthiness Authority (JAA) Certification Application Date

Airbus Industrie has applied for A318 certification on December 11, 1998 by letter AI/EA-S
413.2952/1998

6. EASA Certification Application Date

N/A

7. DGAC-F / Joint Airworthiness Authority (JAA) Type Certification Date

A318-111: May 23, 2003
A318-112: May 23, 2003

SECTION 4: A318 series - continued

8. EASA Type Certification Date

EASA TCDS issue 1 issued December 21, 2005

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

9. Production conditions

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

Since September 27, 2004, A318 aircraft were 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

II. Certification Basis

1. Reference Date for determining the applicable requirements

Airbus Industrie has applied for A318 certification on December 11, 1998 by letter AI/EA-S 413.2952/1998.

2. Initial Airworthiness Authority Type Certification Data Sheet No.

Original French TCDS DGAC no. 180 was replaced by the EASA TCDS A.064

3. Initial Airworthiness Authority Certification Basis

See below

4. EASA Airworthiness Requirements

Hereafter are listed the certification bases for the different A318 models. The amendments made to a particular basis at the occasion of further A318 models certification are identified per model.

SECTION 4: A318 series - continued

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

4.1 JAR 25 Change 11

- except Subpart BB which remains at Change 10,
- except all National Variants,

JAR 25 X 20 Change 14	JAR 25.335 Change 15
JAR 25.21 Change 14	JAR 25.341 Change 15
JAR 25.23 Change 14	JAR 25.343 Change 15
JAR 25.25 Change 14	JAR 25.345 Change 15
JAR 25.27 Change 14	JAR 25.349 Change 15
JAR 25.29 Change 14	JAR 25.351 Change 15
JAR 25.31 Change 14	JAR 25.361 Change 15 ONLY for A318-121/-122
JAR 25.101 Change 14	JAR 25.363 Change 15 ONLY for A318-121/-122
JAR 25.103 Change 14	JAR 25.365 Change 13
JAR 25.105 Change 14	JAR 25.367 Change 15 ONLY for A318-121/-122
JAR 25.107 Change 14	JAR 25.371 Change 15
JAR 25.109 Change 14	JAR 25.373 Change 15
JAR 25.111 Change 14	JAR 25.391 Change 15
JAR 25.113 Change 14 amended by OP 96/1	JAR 25.415 Change 15
JAR 25.115 Change 14	JAR 25.427 Change 15
JAR 25.117 Change 14	JAR 25.445 Change 15
JAR 25.119 Change 14 amended by OP 96/1	JAR 25.473 Change 15
JAR 25.121 Change 14 amended by OP 96/1	JAR 25.479 Change 15
JAR 25.123 Change 14	JAR 25.481 Change 15
JAR 25.125 Change 14 amended by OP 96/1	JAR 25.483 Change 15
JAR 25.143 Change 14 amended by OP 96/1	JAR 25.485 Change 15
JAR 25.145 Change 14 amended by OP 96/1	JAR 25.491 Change 15
JAR 25.147 Change 14	JAR 25.493(d) Change 14 amended by OP 96/1
JAR 25.149 Change 14 amended by OP 96/1	JAR 25.499 Change 15
JAR 25.161 Change 14	JAR 25.511 Change 15
JAR 25.171 Change 14	JAR 25.X519 Change 13
JAR 25.173 Change 14	JAR 25.561(c) Change 15
JAR 25.175 Change 14	JAR 25.562 Change 14 (see CRI E5001)
JAR 25.177 Change 14 amended by OP 96/1	JAR 25.571 Change 15
JAR 25.181 Change 14	JAR 25.801 Change 14
JAR 25.201 Change 14 amended by OP 96/1	JAR 25.803 Change 14
JAR 25.203 Change 14 amended by OP 96/1	JAR 25.807 Change 14
JAR 25.207 Change 14	JAR 25.809 Change 14
JAR 25.231 Change 14	JAR 25.810 Change 14
JAR 25.233 Change 14	JAR 25.811 Change 14
JAR 25.235 Change 14	JAR 25.812 Change 14
JAR 25.237 Change 14	JAR 25.813 Change 14
JAR 25.251 Change 14	JAR 25.853 Change 14
JAR 25.253 Change 14 amended by OP 96/1	JAR 25.855 Change 14
JAR 25.255 Change 14	JAR 25.857 Change 14
JAR 25X261 Change 14	JAR 25.858 Change 14
JAR 25.305 Change 15	JAR 25.901 Change 15 ONLY for A318-121/-122
JAR 25.321 Change 15	JAR 25.903 Change 15 ONLY for A318-121/-122
JAR 25.331 Change 15	JAR 25.933 Change 15 ONLY for A318-121/-122
JAR 25.333 Change 15	JAR 25.934 Change 15 ONLY for A318-121/-122

SECTION 4: A318 series - continued

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 Change15 **ONLY** for A318-121/-122
JAR 25.1043 Change15 **ONLY** for A318-121/-122
JAR 25.1045 Change15 **ONLY** for A318-121/-122
JAR 25.1091 Change15 **ONLY** for A318-121/-122
JAR 25.1093 Change15 **ONLY** for A318-121/-122
JAR 25.1103 Change15 **ONLY** for A318-121/-122
JAR 25.1105 Change15 **ONLY** for A318-121/-122
JAR 25.1107 Change15 **ONLY** for A318-121/-122
JAR 25.1121 Change15 **ONLY** for A318-121/-122
JAR 25.1123 Change15 **ONLY** for A318-121/-122
JAR 25.1125 Change15 **ONLY** for A318-121/-122
JAR 25.1127 Change15 **ONLY** for A318-121/-122
JAR 25.1141 Change15 **ONLY** for A318-121/-122
JAR 25.1143 Change15 **ONLY** for A318-121/-122
JAR 25.1163 Change15 **ONLY** for A318-121/-122
JAR 25.1165 Change15 **ONLY** for A318-121/-122
JAR 25.1167 Change15 **ONLY** for A318-121/-122
JAR 25.1181 Change15 **ONLY** for A318-121/-122
JAR 25.1182 Change15 **ONLY** for A318-121/-122
JAR 25.1183 Change15 **ONLY** for A318-121/-122
JAR 25.1185 Change15 **ONLY** for A318-121/-122
JAR 25.1187 Change15 **ONLY** for A318-121/-122
JAR 25.1189 Change15 **ONLY** for A318-121/-122
JAR 25.1191 Change15 **ONLY** for A318-121/-122
JAR 25.1193 Change15 **ONLY** for A318-121/-122
JAR 25.1501 Change 14
JAR 25.1517 Change 15
JAR 25.1583 Change 14
JAR 25.1587 Change 14
JAR 25.X1591 Change 14 (replacing JAR 25X131, 25X132, 25X133, 25X135, 25X1588 at Change 11)

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

4.3 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.

4.4 For all models Airbus Elect To Comply with 14 CFR part 25.772(a) and (c) and 25.795 amendment 106 according to CRI E12 – Reinforced Security Cockpit Door

5. Special Conditions

5.1 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: rose to cover novel or unusual features not addressed by the JAR.
- Experience related conditions: rose 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

SECTION 4: A318 series - continued

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

5.2 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

5.3 The following A319/A320/A321 Special Conditions are kept for the A318:

SC-S76-1	Effect of external radiations upon aircraft systems (modified by CRI SE14)
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5.4 The following Special Conditions are 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

5.5 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	Seat with inflatable restraints
SC E13	Installation of inflatable restraints
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) If fitted, the centre fuel tank of aircraft which have made their first flight after 1st of January 2012 must be

SECTION 4: A318 series - continued

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 FR 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.

SC F5011	Steep approach
SC E-48	Fuel Tank Safety
SC F-0311	Flight Recorders including Data Link Recording
SC D-0322-001	Installation of suite type seating

6. Exemptions

No exemptions.

7. Deviation

None.

8. Equivalent Safety Findings

8.1 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")

8.2 The following Equivalent Safety Findings have been developed post Type Certification:

FAR 25.856(b)	Fuselage burnthrough protection in bilge area (see CRI E-32). If modifications 150700, and 37270 (with CLS option only), 37048 and 36985 are embodied in production on
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SECTION 4: A318 series - continued

	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).
14CFR Part 25.856(a)	Improved flammability standards for insulation materials (CRI E18)
JAR 25.812(b)(1)(ii)	Photo-luminescent EXIT sign for MCD (Moveable Class Divider) (CRI E14) (optional)
JAR 25.811(f)	Emergency exit marking reflectance (CRI E16)
JAR 25.812(b)(1)(i)(ii)	Symbolic EXIT signs as an alternative to red EXIT signs for passenger aircraft (CRI SE-42) (optional)
JAR 25.785(c)	Forward facing seats with more than 18° to aircraft centerline. (CRI D-0329-001) (optional)
JAR 25.1443(c)	Minimum Mass Flow of Supplemental Oxygen (CRI F-20) (optional)
JAR 25.1441(c)	Crew Determination of Quantity of Oxygen in Passenger Oxygen System (CRI F-21) (optional)

9. Environmental Protection Standards

ICAO Annex 16:

Vol. I , Part II	Noise Requirements
Vol. II, Part II	Fuel Venting
Vol. II, Part III Chapter 2	Emissions

Notes: Further details are defined within TCDSN EASA.A.064

10. ETOPS

The Type Design, system reliability and performance of A318 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

Note:

SECTION 4: A318 series - continued

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 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

III. Technical Characteristics and Operational Limitations

1. Type Design Definition

- 1.1 Certificated model: A318-111
Definition of reference airplane by doc.: D03006056 (00P000A0111/C21).
- 1.2 Certificated model: A318-112
Definition of reference airplane by doc.: D03006716(00P000A0112/C21).
- 1.3 Certificated model: A318-121
Definition of reference airplane by doc.: D05028326 (00P000A0121/C21).
- 1.4 Certificated model: A 318-122
Definition of reference airplane by doc.: D05028327 (00P000A0122/C21).

2. Description

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

3. Equipment

Not applicable.

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. Dimensions

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

SECTION 4: A318 series - continued

5. Engines

The list below lists the basic engines fitted on the aircraft models. The notes describe usual names and certified names as well as engines variants.

A318-111

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

A318-112

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

A318-121

Two PW 6122A jet engines (MOD 30034)

A318-122

Two PW 6124A jet engines (MOD 31882)

Notes:

- 1 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's 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 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.

6. Auxiliary Power Unit

1. Basic

- **A318-111/-112**

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

- **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.

SECTION 4: A318 series - continued

2. Option

- **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.

- **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

7. Propellers

N/A

8. Fluids (Fuel, Oil, Additives, Hydraulics)

Fuel

Fuel Specification: See installation manual: document CFM 2129 or 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-(N°3 Jet 2006 Fuel)
		MIL-DTL 83133 (JP 8)	DEF STAN 91/87 (AVTUR/FS II) (JET A1)		
Wide cut *		ASTM D 6615 (JET B)	DEF STAN 91/88 (AVTAG/FS II)		
		MIL-DTL 5624 (JP 4)			
High flash point	DCSEA (F-44) 144	MIL-DTL 5624 (JP 5)	DEF STAN 91/86 (AVCAT/FS II)		

* Wide cut is only certified for CFM engines

OIL

For oil specification:

Engine	CFM56-5B8/P CFM56-5B9/P	PW6122A PW6124A
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SECTION 4: A318 series - continued

Approved Oils	SB CFMI 79-001-OX	SB PW 238
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Additives:

Refer to Airbus Consumable Material List (CML) and CFM SB 73-0122 or PW SB 2016 for CIS fuel additives

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

Hydraulics:

Hydraulic fluids: Type IV or Type V - Specification NSA 30.7110.

9. Fluid Capacities

Fuel quantity (0,8 kg/liter)

A318-100 series (without MOD 160001)

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)
TOTAL	23 859 (19 087)	82.1 (65.7)

A318-100 series (with MOD 37331 and without MOD 160001)

Tank	3 TANK AIRPLANE	
	Usable fuel liters (kg)	Unusable fuel Liters (kg)
Wing	15 959 (12 767)	58.9 (47.1)
Center	8 250 (6 600)	23.2 (18.6)
TOTAL	24 209 (19 367)	82.1 (65.7)

A318-100 series (without MOD 37331 and with MOD 160001)

Tank	3 TANK AIRPLANE	
	Usable fuel liters (kg)	Unusable fuel Liters (kg)
Wing	15 568 (12 454)	58.9 (47.1)
Center	8 248 (6 598)	23.2 (18.6)
TOTAL	23 816 (19 052)	82.1 (65.7)

SECTION 4: A318 series - continued

A318-100 series (with MOD 37331 and with MOD 160001)

Tank	3 TANK AIRPLANE	
	Usable fuel liters (kg)	Unusable fuel Liters (kg)
Wing	15 918 (12 734)	58.9 (47.1)
Center	8 248 (6 598)	23.2 (18.6)
TOTAL	24 166 (19 332)	82.1 (65.7)

10. Airspeed Limits (Indicated Airspeed – IAS – unless otherwise stated)

Maximum Operating Mach (MMO): 0,82
 Maximum Operating Speed (VMO): 350 kt
 Manoeuvring Speed (VA): see Limitations Section of the EASA 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)

11. Flight Envelope

Maximum operating altitude
 39 800 ft (pressure altitude)
 41 100 ft (pressure altitude) if modification 39195 is embodied
 (models A318-111/-112 only)

SECTION 4: A318 series - continued

12. Operating Limitations

See the appropriate EASA approved Airplane Flight Manual

Powerplant (2.2482 lb/daN)

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)

* 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".

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)

* 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.

12.1 Approved Operations

Transport commercial operations

12.2 Other Limitations

For a complete list of applicable limitations see the appropriate EASA approved Airplane Flight Manual

SECTION 4: A318 series - continued

13. Maximum Certified Masses

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

14. Centre of Gravity Range

See the appropriate DGAC approved Airplane Flight Manual

15. Datum

Station 0.0, located 2.540 meters forward of airplane nose

16. Mean Aerodynamic Chord (MAC)

4.1935 meters

17. Levelling Means

The A/C can be jacked on three primary jacking points.

See the appropriate EASA approved Weight and Balance Manual

18. Minimum Flight Crew

2 pilots

19. Maximum Seating Capacity

136

Notes:

1. 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.
2. 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.

SECTION 4: A318 series - continued

20. Baggage/ Cargo Compartment

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.

21. Wheels and Tyres

See SB A320-32-1007

IV. Operating and Service Instructions

1. Airplane Flight Manual (AFM)

EASA Approved Airplane Flight Manual for A318.

2. Instructions for Continued Airworthiness and Airworthiness Limitations

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.

Other limitations

See EASA approved Flight Manual.

SECTION 4: A318 series - continued

3. Weight and Balance Manual (WBM)

Airbus Compliance Document 00P80A0001/C1S

V. Notes

All models are basically qualified for Cat IIIB precision approach

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

- reserved -

II. Type Certificate Holder Record

AIRBUS
1 Rond-point Maurice Bellonte
31707 BLAGNAC
FRANCE

III. Change Record

Issue	Date	Changes	TC issue
1	21.12.2005	Initial EASA Issue / Approval of A318-121,-122	21.12.2005
2	22.06.2006	-	No change
3	20.05.2008	-	No change
4	18.07.2008	-	No change
5	06.05.2009	-	No change
6	25.05.2011	<ul style="list-style-type: none"> • ETOPS approval information added • Weight Variants added. 015, 017, 018 (A320), 004, 006 (A321) • Introduction of Post-TC SC (H-01, E-34, D-0306, P-27) • Introduction of Post-TC ESF (E-28), ETOPS reference doc updated • Limitation on JP4 deleted, ACT fuel quantity corrected • Note reworded on Cat IIIB precision approach, • Notes 2.4.2 to 2.4.5, 3.3.7 deleted • ETOPS reference doc updated and models added (A320-215/-216) • Noise compliance clarified to take into account D/E/J noise project • MOD 150365 (capacity of 150 pax + 3 cabin attendants) added to note • MOD 38770 for "tech insertion kit" for in-service aircraft added to note • models A320-211/-212 added to note • Note added to take into account the burnthrough (CRI E-28 and E-32) • Note added to take into account the flammability reduction system (SC P-27) • Note added to introduce the wingbox without dry bay (MOD 38616) • MOD 39673 De-activation of Type III exit • MOD 39195 Operations up to 41 000 ft 	No change
7	13.06.2011	<ul style="list-style-type: none"> • MOD 150016 – deactivation of forward Type III exit for A320 added to note • Note modified to take into account the production cut-in for installation of • flammability reduction system on new aeroplanes 	No change
8	06.06.2012	<ul style="list-style-type: none"> • Correction of Post-TC ESF (E-32 instead of E-28) • Title of SC E-34 modified to reflect the real CRI title • Correction in the table of fuel specification due to obsolescence 	No change

SECTION 4: ADMINISTRATIVE - continued

		<ul style="list-style-type: none"> • MOD 150364 – cabin operational flexibility added • Introduction of D/E/J noise project step 2 for A320-214 • Reference to CFM document 2129 “Installation manual” for CFM-5B added • Reference to CFM document 2129 “Installation manual” for CFM-5B added and reference to CFM document 2026 “installation manual” for CFM-5A deleted • MOD 153453 - WV013 A319-133, MSN 4042 • MOD 152777 - DOORS - EMERGENCY EXIT- DEACTIVATE TYPE III OVERWING EXITS • Note reworded on Cat IIIB precision approach (error on MOD numbers) 	
9	30.11.2012	<ul style="list-style-type: none"> • Editorial changes to accommodate new TCDS template. • A320 Fuel Quantity figures revised due to MOD 160001. • Approval of MOD 160500 “Sharklets” for A320-214, -215, -216. • Detailed references to modifications concerning noise removed. Reference to TCDSN added. 	No change
10	21.12.2012	<ul style="list-style-type: none"> • Approval of MOD 160500 “Sharklets” for A320-232, -233 • A319 Fuel Quantity figures revised due to MOD 160001 	No change
11	31.05.2013	<ul style="list-style-type: none"> • A318 Fuel Quantity figures revised due to MOD 160001 • Removal of MOD 36984 • Approval of MOD 160500 “Sharklets” for A319-111,112, 115 excluding CJ • Clarification of fuel additives 	No change
12	12.09.2013	<ul style="list-style-type: none"> • Correction of TC date for A320-233 • Correction of reference number of SC-S79-1 for A318; • Inclusion of Post TC SC F5011 - Steep Approach for A318; • Inclusion of Elect-to-Comply E12 for all models; • Inclusion of SC E1005 for A320 models; • Inclusion of SC E13 for all models; • Inclusion of ESF E14 for all models; • Inclusion of ESF E16 for all models; • Inclusion of ESF E18 for all models; • Inclusion of ESF SE42 for all models; • Inclusion of ESF S53 for A320 models; • Moving SC E10 to Post-TC SC section; • Inclusion of A321 mod 160023 • Inclusion of A321 WV 10 for A321-211 & A231-231 • Extension of the applicability of mod 160500 	12.09.2013
13	31.01.2014	<ul style="list-style-type: none"> • Surrender/Removal of the A320-111 • Introduction of WV restriction for mod 160023 • A319 engine model note correction • Addition of hydraulic fluid type V for all models • A320 LOV note amended due to mod 39020 • Correction of VFE flap setting for A320 equipped with IAE engines • Inclusion of SC F-0311 for all models • Inclusion of SC E-48 for all models • Inclusion of ESF D-0329-1 for all models • Inclusion of SC D-0322-001 for all models 	31.01.2014
14	14.07.2014	<ul style="list-style-type: none"> • Inclusion of ESF F20 for all models • Inclusions of ESF F21 for all models 	No change

SECTION 4: ADMINISTRATIVE - continued

		<ul style="list-style-type: none">• Extension of mod 160023 approval• Fuel table clarifications	
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