

European Aviation Safety Agency

EASA TYPE-CERTIFICATE DATA SHEET

AIRBUS A380

**Manufacturer:
AIRBUS**

1 Rond-point Maurice Bellonte
31707 BLAGNAC
FRANCE

For Models:

A380-841/ -842

Issue 1: 12 December 2006

List of effective Pages:

Page	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Issue	1	1	1	1	1	1	1	1	1	1	1	1					

TABLE OF CONTENT

SECTION 1: GENERAL (ALL MODELS)	3
SECTION 2: A380-800 SERIES	4
I. General	4
1. Aeroplane: A380-800	4
II. Certification Basis	4
1. Reference Application Date for EASA Certification: 20 December 2001	4
2. EASA Certification Date:	4
3. EASA Certification Basis:	4
4. Special Conditions:.....	4
4.1 Special conditions issued because the product has novel or unusual design features relative to the design practices on which the applicable JAR 25 are based (JAR 21.16(a)(1)):	4
4.2 Special conditions issued because the intended use of the product is unconventional (JAR 21.16(a)(2)):	5
4.3 Special conditions issued because experience from other products has shown that unsafe conditions may develop (JAR 21.16(a)(3)):	5
5. Temporary Deviation:	5
6. Equivalent safety findings (JAR 21.21(c)(2)):.....	5
7. Environmental requirements:	6
7.1 Fuel venting and emissions:.....	6
7.2 Noise:	6
8. Additional National Requirements:	6
9. Elect to comply	6
III. Technical Characteristics and Operational Limitations	8
1. A380-800 powered by RR engines	8
1.1 Type Design Definition:	8
1.2 Engines:	8
1.2.1 Engine Limits:.....	8
1.3 Fuel	8
1.4 Limit Speeds.....	9
1.5 Centre of Gravity Range.....	9
1.6 Maximum Certified Weights.....	9
1.7 Notes	9
2. Data pertinent to all A380-800 series	10
2.1 Fuel quantity (0.8 kg/liter) :	10
2.2 Minimum Flight Crew:.....	10
2.3 Maximum Seating Capacity.....	10
2.4 Cargo compartment loading	10
2.5 Environmental Flight Envelope.....	10
2.6 Other Limitations	11
2.7 Auxiliary Power Unit (APU).....	11
2.8 Equipment	11
2.9 All Weather Capabilities	11
2.10 Wheels and Tyres	11
2.11 Hydraulics.....	11
Fluid specifications: TYPE IV and TYPE V as per NSA 307-110.....	11
2.12 Maintenance Instructions and Airworthiness Limitations.....	11

SECTION 1: GENERAL (ALL MODELS)

1. **Data Sheet No:** TCDS A 110
2. **Airworthiness Category:** Large Aeroplanes
3. **Performance Category:** A
4. **Certifying Authority:** **EASA**
5. **Type Certificate Holder:** **AIRBUS**
1 Rond-point Maurice Bellonte
31707 BLAGNAC
FRANCE

SECTION 2: A380-800 SERIES

I. General

1. **Aeroplane:** A380-800

II. Certification Basis

1. **Reference Application Date for EASA Certification:** 20 December 2001

2. **EASA Certification Date:**

A380-841/ -842: 12th December 2006

3. **EASA Certification Basis:**

The following EASA/JAA airworthiness standards effective on the reference date are:

- JAR 1 at change 5 plus orange papers 1/97/1 and 1/99/1
- JAR 25 at change 15
- JAR AWO at change 2 (post TC for autoland)

4. **Special Conditions:**

4.1 **Special conditions issued because the product has novel or unusual design features relative to the design practices on which the applicable JAR 25 are based (JAR 21.16(a)(1)):**

SC B-1	Stalling and scheduled operating speeds
SC B-2	Motion and effects of cockpit control
SC B-4	Static directional, lateral and longitudinal stability and low energy awareness
SC B-5	Flight envelope protection
SC B-6	Normal load factor limiting system
SC B-10	Human factors evaluation of novel features in the flight deck
SC C-1	Crashworthiness of Large Aircraft Structures
SC C-2	Discrete gust
SC C-3	Loading conditions for multi leg landing gear
SC C-4	Undercarriage lateral turning loads
SC C-5	Jacking by landing gear
SC C-6	Dynamic braking
SC C-11	Interaction of systems and structures
SC C-13	Design manoeuvre requirements
SC C-15	Design dive speed Vd
SC C-16	Limit pilot forces
SC D-3	Emergency exit arrangement-outside viewing
SC D-4	Crew rest compartments (Post TC)
SC D-6	Use of stairs between decks
SC D-7	Fire detection and protection in passenger cabin
SC D-12	Design for security

- SC D-28 Harmonised 671/672
- SC D-33 Extendable length escape slide

- SC F-1 JAR 25.1301 and 1309 compliance: Design assurance and safety assessment process
- SC F-2 Slide/ Raft portability
- SC F-12 HIRF Protection
- SC F-26 Flight recorders, data link recording
- SC F-52 Lithium – Ion battery installation

- SC K-8 Head up display (option)

4.2 Special conditions issued because the intended use of the product is unconventional (JAR 21.16(a)(2)):

- SC D-20 Towbarless towing
- SC D-31 High altitude operation

- SC G-6 Ferrying one engine unserviceable (option)

4.3 Special conditions issued because experience from other products has shown that unsafe conditions may develop (JAR 21.16(a)(3)):

- SC D-13 Fire protection of thermal and acoustic insulation material
- SC D-15 Brakes and braking system – NPA 25D291

- SC E-2 Fuel tank safety
- SC E-4 Thrust reverser system requirements
- SC E-5 Sustained engine imbalance

5. Temporary Deviation:

DEV J-04: APU mounting system fire proofness

6. Equivalent safety findings (JAR 21.21(c)(2)):

- ESF C-12 Vibration, buffet and aeroelastic stability requirements
- ESF C-14 Proof of structure
- ESF C-19 Checked Pitching manoeuvre loads
- ESF C-20 Engine failure loads
- ESF C-21 Continuous turbulence loads

- ESF D-17 Fuselage doors
- ESF D-19 Casting factors
- ESF D-21 Allowable carbon dioxide concentration in aeroplane cabins and cabin ozone concentration
- ESF D-24 Packs off operation

- ESF E-6 Falling and blowing snow
- ESF E-9 Fuel tank crashworthiness
- ESF E-10 Fuel tank access covers
- ESF E-11 Rolls-Royce Trent turbine overheat detection
- ESF E-12 GP 7200 Fan zone as a non fire zone
- ESF E-15 Warning means for engine fuel filters

ESF E-16 Thrust reverser testing
ESF E-17 Oil temperature indication

ESF F-11 Pneumatic systems
ESF F-15 Hydraulic systems
ESF F-23 Landing light switch
ESF F-29 New Harmonised JAR 25.1329
ESF F-38 Overpressure relief valves and outflow valves
ESF F-48 Use of computer simulation and similarity approach for high energy rotor containment demonstration

ESF J-2 APU installation requirements

ESF K-6 Localizer excessive deviation alerts
ESF K-7 Limit Risk (NPA AWO 14)

7. Environmental requirements:

7.1 Fuel venting and emissions:

ICAO annex 16 second edition volume 2 amdt. 4 part II and Part III chapter 2.

7.2 Noise:

ICAO Noise Standard (Annex 16, Volume 1, Part II, Chapter 4, amendment 7)

8. Additional National Requirements:

To be defined at a later stage for JAA countries not in EASA. Refer to CRI A-2

9. Elect to comply

The following paragraphs of JAR 25 at amendment 16 issued May 1st, 2003 and which includes **NPA 25B-G-311, 25C-312, 25D-F-313, 25C-D-F-314, 25E-315** (better plan for harmonisation) and **NPA 25G-321** (Omnibus NPA for subpart G) that are elected to comply by Airbus per their letter AI/LE-A 828.0005/99 iss.3 dated 20 July 2001:

JAR 25.21(d), JAR 25.25, JAR 25.149(e), JAR 25.251, JAR 25X261, JAR 25.337, JAR 25.493, JAR 25.562(b), JAR 25.605, JAR 25.607, JAR 25.701, JAR 25.733, JAR 25.777, JAR 25.781, JAR 25.791, JAR 25.803, JAR 25.807, JAR 25.812, JAR 25.815, JAR 25.853, JAR 25.857, JAR 25.863(b)(4), JAR 25.904, JAR 25.907, JAR 25.933, JAR 25.939, JAR 25.951, JAR 25.952, JAR 25.954, JAR 25.961, JAR 25.967, JAR 25.975(a)(5), JAR 25.981, JAR 25.993, JAR 25.994, JAR 25.997, JAR 25.1013, JAR 25.1015, JAR 25.1019, JAR 25.1145, JAR 25.1303, JAR 25.1305, JAR 25.1321, JAR 25.1325 title, JAR 25.1415, JAR 25.1441, JAR 25.1443, JAR 25.1445(a), JAR 25.1447, JAR 25.1449, JAR 25.1450, JAR 25.1457, JAR 25.1513, JAR 25X1516, JAR 25.1517, JAR 25.1519, JAR 25.1521(d), JAR 25X1524, JAR 25.1527, JAR 25.1545, JAR 25.1547, JAR 25.1549, JAR 25.1581, JAR 25.1583, JAR 25.1585, JAR 25.1587

Appendix D paragraph (b)
Appendix H subparagraph H25.3(e)

Appendix I

Note: JAR 25.1517, as in amendment 16 of JAR 25, is amended by Equivalent Safety Finding ESF C-21.

The following paragraphs of **JAR AWO as modified per NPA AWO 8 and 10**, adopted by the JAAC on February 7th, 2003, that are elected to comply by Airbus per their letter AI/LE-A 828.0005/99 iss.3 dated 20 July 2001:

Introduction to JAR AWO Subpart 3, section B, 3rd paragraph, Introduction to JAR AWO Subpart 3, section C, 2nd paragraph, Introduction to JAR AWO Subpart 3, section D, 1st paragraph, Introduction to JAR AWO Subpart 4, 2nd paragraph
JAR AWO 131(c)(2), JAR AWO 304 (b), JAR AWO 305, JAR AWO 313, JAR AWO 314, JAR AWO 316 title, JAR AWO 316(a), JAR AWO 321(c)(4), JAR AWO 321(d)(4), JAR AWO 381, JAR AWO 481(a)

III. Technical Characteristics and Operational Limitations

Four turbo-fan, long range, twin-aisle, large category airplane.

1. A380-800 powered by RR engines

1.1 Type Design Definition:

Type Design:

A380-841: 00L 000H0841/C01

A380-842: 00L 000H0842/C01

AFM:

STL 38000

1.2 Engines:

A380-841: Four (4) RB211 Trent 970-84 or RB211 Trent 970B-84 turbofan engines

A380-842: Four (4) RB211 Trent 972-84 or RB211 Trent 972B-84 turbofan engines

1.2.1 Engine Limits:

ENGINE LIMITS DATA SHEET EASA E-012	A380-841 RB211 Trent 970B-84	A380-842 RB211 Trent 972B-84
Static thrust at sea level: - Take-off (5mn)* (flat rated 30°C)	348.31 kN	356.81 kN
Approved Oil	Refer to the Engine Operating Instructions for information on approved oil specifications for the Trent 900	

*10 minutes at take-off thrust allowed only in case of engine failure (at take-off or during go-around) in accordance with EASA TCDS paragraph VI-1.

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

1.3 Fuel

NOMENCLATURE	SPECIFICATION				
	FRANCE	U.S.A.	U.K.	RUSSIA	CHINA
KEROSENE	MDLD DCSEA 134/A Kerosene AIR-3404/C (JP5) MIL-DTL-5624 T (JP5)	ASTM D- 1655-00(a) (Jet A), (Jet A1) Dod MIL- DTL-83133 E (JP8)	DEF STAN 91-91/3 AVTUR DEF STAN 91-87/2 AVTUR FSII DEF STAN 91-86/2 AVTUR FSII	RJFS0 GOST 10227 – 86, (RT)	PRC MPIS GB 6537-94 (No3 Jet Fuel)

Additives: See Rolls Royce "RB211 Specific Operating Instructions for Trent 900", installation manual. The above-mentioned fuels and additives are also suitable for the APU.

1.4 Limit Speeds

Refer to approved Airplane Flight Manual.

1.5 Centre of Gravity Range

Refer to approved Airplane Flight Manual.

1.6 Maximum Certified Weights

VARIANT	000 Basic	001	002
MTOW (T)	560	510	569
MLW (T)	386	394	391
MZFW (T)	361	372	366

1.7 Notes

2. Data pertinent to all A380-800 series

2.1 Fuel quantity (0.8 kg/litre) :

Tanks		Usable Fuel Litres (Kg)	Unusable Fuel Litres (Kg)
Wing	Outer Left	10 340 (8 272)	38 (30)
	Feed 1	27 632 (22 106)	82 (66)
	Mid Left	36 461 (29 169)	50 (40)
	Inner Left	46 142 (36 914)	70 (56)
	Feed 2	29 349 (23 479)	88 (70)
	Feed 3	29 349 (23 479)	88 (70)
	Inner Right	46 142 (36 914)	70 (56)
	Mid Right	36 461 (29 169)	50 (40)
	Feed 4	27 632 (22 106)	82 (66)
	Outer Right	10 340 (8 272)	38 (30)
Trim		23 698 (18 958)	49 (39)
Systems		793 (634)	382 (305)
Total		324339 (259471)	1086 (869)

2.2 Minimum Flight Crew:

Two (2): Pilot and Co-pilot

2.3 Maximum Seating Capacity

The maximum number of passengers approved for emergency evacuation is: **853**

- Upper deck: 315 pax
- Main deck: 538 pax

See interior layout drawing for the maximum passenger capacities approved for each aeroplane when delivered.

2.4 Cargo compartment loading

Cargo compartment	Maximum load (kg)
Forward	28577 Kg or 63000 lb
Aft	20310 Kg or 44775 lb
Rear (bulk)	2515 Kg or 5540lb

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

- 00L080H0001/C0S

2.5 Environmental Flight Envelope

Refer to approved Airplane Flight Manual.

2.6 Other Limitations

Refer to approved Airplane Flight Manual.

2.7 Auxiliary Power Unit (APU)

One Pratt & Whitney Canada PW980A
Oils: refer to applicable approved Manuals

2.8 Equipment

The equipment required by the applicable requirements shall be installed.

Cabin furnishings, equipment and arrangement shall conform to the following specification:

- 00L252K0005/C01 for cabin seats,
- 00L252K0006/C01 for galley,
- 00L252K0020/C01 for cabin attendant seats.

2.9 All Weather Capabilities

The aircraft is qualified to Cat 1.

2.10 Wheels and Tyres

Tyres mixability (Michelin, Bridgestone) is not yet approved

2.11 Hydraulics

Fluid specifications: TYPE IV and TYPE V as per NSA 307-110.

2.12 Maintenance Instructions and Airworthiness Limitations

- Limitations applicable to **Safe Life Airworthiness Limitation Items** are provided in the A380 Airworthiness Limitations Section 1 approved by EASA (Document 00L050H0007/C01);
- Limitations applicable to **Damage-Tolerant Airworthiness Limitation Items** are provided in the A380 Airworthiness Limitations Section (ALS) section 2 approved by EASA (Document 00L050H0005/C01)
- **Certification Maintenance Requirements** are provided in the A380 Airworthiness Limitations Section (ALS) Section 3 approved by EASA (Document 00L050H0002/C01)
- A380- 800 **Ageing System Maintenance** are provided in the A380 Airworthiness Limitations Section (ALS) Section 4 approved by EASA (Document 00 L 050 H 0010 / C01)

- A380- 800 **Fuel Airworthiness Limitations** are provided in the A380 Airworthiness Limitations Section (ALS) Section 5 approved by EASA (Document 00 L 050 H 0009 / C01)
- **Maintenance Review Board Report** 00L050H0001/C01