European Aviation Safety Agency

EASA

TYPE-CERTIFICATE
DATA SHEET

No. EASA.A.169

for
AIRBUS A400M

Type Certificate Holder:
Airbus Military Sociedad Limitada (AMSL)

Avenida de Aragon 404
28022 MADRID
SPAIN

Airworthiness Category: Large Aeroplanes

For Model: A400M-180
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SECTION 1: A400M-180

I. General

This Data Sheet, which is part of Type Certificate No. EASA.A.169, prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the European Aviation Safety Agency.

1. Type / Model / Variant:
   A400M-180

2. Performance Class:
   A

3. Certifying Authority:
   European Aviation Safety Agency (EASA)
   Postfach 101253
   D-50452 Köln
   Deutschland

4. Manufacturer
   Airbus Military Sociedad Limitada (AMSL)
   Avenida de Aragon 404
   28022 MADRID
   SPAIN

Since the beginning of the A400M programme AMSL delegated to AIRBUS S.A.S. the A400M development and certification under a Development Management Contract (DMC). Therefore, and in application of Part 21.A.2 provisions, under this DMC agreement AIRBUS S.A.S. EASA approved Design Organisation (EASA.21J.031) undertook on behalf of AMSL the applicable A400M Type Certificate Holder actions and obligations required by Part 21.A.44. From 31st July 2014 on it is Airbus Defence and Space SA EASA approved Design Organisation (EASA.21J.032) who in application of Part 21.A.2 provisions is undertaking on behalf of AMSL the applicable A400M Type Certificate Holder actions and obligations required by Part 21.A.44. This has been approved by EASA following the successful completion of a DOA significant change process to include the A400M aircraft under the terms of approval of Airbus Defence and Space SA’s DOA EASA.21J.032 and after a new Development and Management Contract (DMC) between AMSL and Airbus Defence and Space SA has entered into force.

5. EASA Certification Application Date
   April 24th, 2003

6. EASA Type Certification Date
   March 13th, 2013
   (Restricted Type Certificate granted on April 30th, 2012 is superseded)
II. Certification Basis

1. Reference Date for determining the applicable requirements

   September 18\(^{th}\), 2007

2. EASA Type Certification Data Sheet No.

   TCDS EASA.A.169
   (R-TCDS EASA.A.169 issue 2, dated February 5\(^{th}\), 2013 is superseded)

3. EASA Airworthiness Requirements

   EASA Certification Specification Definitions – Definitions and Abbreviations
   (EASA Decision 2003/11/RM).

   EASA Certification Specification 25, Amendment 2 – Large Aeroplanes
   (EASA Decision 2006/05/R), except where identified below.

   EASA Certification Specification AWO – All Weather Operations Initial Issue
   (EASA Decision 2003/06/RM), except where identified below.

4. Special Conditions

   SC B-01  Stalling and scheduled operating speeds
   SC B-02  Motion and effects of cockpit control
   SC B-03  Static directional, lateral and longitudinal stability and low energy awareness
   SC B-04  Flight envelope protection
   SC B-05  Normal load factor limiting system
   SC B-06  Flight deck novel features – Human factors evaluation (INT/POL 25/14)
   SC B-12  Automatic take-off compensation

   SC C-02  Design dive speed Vd
   SC C-03  Limit pilot forces
   SC C-10  Design maneuver requirements
   SC C-11  Loading conditions for multi-leg landing gear
   SC C-12  Landing Gear Lateral Turning Load
   SC C-13  Dynamic Braking
   SC C-17  Kneeling and Raising System

   SC D-01  Electrical Flight control systems - harmonised 25.671/672
   SC D-02  Fire protection of thermal and acoustic insulation material
   SC D-07  Class E cargo compartment essential systems fire protection

   SC E-03  Falling and Blowing Snow (NPA 25E-341)
   SC E-04  Fuel Tank Crashworthiness (Interim Policy 25/9)

   SC F-01  HIRF Protection (JAA INT/POL 25/2 iss2)
   SC F-03  Flight Recorders / Datalink Recording
   SC F-51  Fuel Quantity Indicating System
   SC F-52  Lithium Battery Installations
SECTION 1: A400M - continued

SC G-01  Ferrying one engine unserviceable
SC H-01  Enhanced Airworthiness Programme for Aeroplane Systems – ICA on EWIS
SC K-04  Primary Head Up Display System

5. Exemptions

N/A

6. Deviations

The following time limited Deviation is part of the Certification Basis:

Temporary Deviation F-55  Powerplant and Fuel System alerts

7. Equivalent Safety Findings

ESF D-04  Fuselage Doors
ESF D-16  Packs Off Operations
ESF D-17  Doors
ESF D-18  Overpressure Relief valves and Outflow valves
ESF D-20  ESF for A400M Cargo Hold
ESF D-21  Forward Ditching Door
ESF D-23  Crew Determination of Quantity of Oxygen in Supply Sources
ESF E-05  Fuel Tank Access Cover
ESF E-09  Propeller speed and pitch controls
ESF F-10  Pneumatic Systems
ESF F-42  External LED Navigation, Anti-collision and Wingtip taxi lights
ESF F-43  Landing Light Switch
ESF K-05  CAT III Operations - Super Fail Passive Anomalies
(applicable to A400M CAT III option)
8. **Elect to Comply**

- ESF C-08  Engine failure loads (NPA 25C305)
- ESF F-21  New harmonised CS 25.1329 (NPA 25F344)
- SC K-03  Structural Limit Loads and Lateral Touchdown Performance (NPA AWO 14)

9. **Operational Suitability Data (OSD) certification basis**

For Master Minimum Equipment List (MMEL): JAR-MMEL/MEL Amendment 1, Section 1, Subparts A & B.

10. **Environmental Protection Standards**

- **Noise:** ICAO Annex 16, Volume I, Fifth Edition, Amendment 9, Chapter 4. (For details of the certification noise levels see TCDSN EASA.A.169)

**III. Technical Characteristics and Operational Limitations**

1. **Type Design Definition**

A400M-180: CCM000A0002/C10 issue 7 (A400M EASA Type Design Definition)

2. **Description**

Four turbo-propeller engines, medium range tactical transport aeroplane, large aeroplane category.

3. **Equipment**

The equipment required by the applicable requirements shall be installed.

Cabin furnishings, equipment and arrangement shall conform to the following specification:
- CCM252F0003/C11 for Sidewall Troop seats, Loadmaster seats.
- 00M251Y0003/C01 for Galley.

4. **Dimensions**

- **Wingspan:** 42.357 meters
- **Overall Length:** 45.091 meters
- **Height Overall:** 14.675 meters
5. Engines

Four (4) EPI Europrop International GmbH Turbo-Propeller Engines Models: TP400-D6 (EASA Engine Type Certificate No. E.033)

Engine Limits:

<table>
<thead>
<tr>
<th>Engine Limits Data Sheet EASA E.033</th>
<th>A400M-180 TP400-D6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static thrust at sea level:</td>
<td></td>
</tr>
<tr>
<td>- Normal Take-off (5min)</td>
<td>7971 kW (10690 shp)</td>
</tr>
<tr>
<td>- Uprated Take-off (5 min)</td>
<td>8251 kW (11065 shp)</td>
</tr>
</tbody>
</table>

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

6. Auxiliary Power Unit

One (1) APU, Hamilton Sundstrand APS 3240

Limitations and Operating Procedures - See the appropriate EASA approved Airplane Flight Manual (See TCDS Section IV Note 1)

7. Propellers

Four (4) RATIER-FIGEAC Propeller Models:
Two (2) anticlockwise propellers FH385 (fitted on engines 2 and 4), two (2) clockwise propellers FH386 (fitted on engines 1 and 3) (EASA Propeller Type Certificate No. P.012)

Propeller Limits:

<table>
<thead>
<tr>
<th>Propeller Limits Data Sheet EASA P.012</th>
<th>A400M-180 FH385 / FH386</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static thrust at sea level:</td>
<td></td>
</tr>
<tr>
<td>- Normal Take-off (5min)</td>
<td>7971 kW (10690 shp)</td>
</tr>
<tr>
<td>- Uprated Take-off (5 min)</td>
<td>8251 kW (11065 shp)</td>
</tr>
<tr>
<td>Rotational speed:</td>
<td></td>
</tr>
<tr>
<td>- Take-off</td>
<td>860 rpm</td>
</tr>
<tr>
<td>- Maximum Continuous</td>
<td>842 rpm</td>
</tr>
<tr>
<td>- Inadvertent Maximum Overspeed</td>
<td>948 rpm</td>
</tr>
</tbody>
</table>

Other propeller limitations: See the relevant Propeller Type Certificate Data Sheet.
### 8. Fluids (Fuel, Oil, Additives, Hydraulics)

<table>
<thead>
<tr>
<th>Nomenclature</th>
<th>FRANCE</th>
<th>U.S.A.</th>
<th>U.K.</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEROSENE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DCSEA134</td>
<td>DCSEA134 (F-35)</td>
<td>ASTM D 1655 (Jet A)</td>
<td>DEF STAN 91-91 (F-35)</td>
</tr>
<tr>
<td>DCSEA144</td>
<td>DCSEA144 (JP5)</td>
<td>MIL-T-5624 (F-44 or JP5)</td>
<td>DEF STAN 91-86 (JP5)</td>
</tr>
<tr>
<td>DCSEA134</td>
<td>DCSEA134 (F-34)</td>
<td>MIL-T-83133 (F-34 or JP8)</td>
<td>DEF STAN 91-87 (F-34)</td>
</tr>
<tr>
<td></td>
<td>MIL-DTL-83136E (JP8+100)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MIL-DTL-5624 (F-40 or JP4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ASTM D 6615 (JET B)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The fuel system has been certified with: JET A, JET A1, JET B, JP4, JP5, JP8, and JP8+100. Additives: See EPI TP400 Engine Operating Instructions, installation manual. The above-mentioned fuels and additives are also suitable for the APU. See the appropriate EASA approved Airplane Flight Manual. (See TCDS Section IV Note 1)

**Oils**

Oils: Refer to the TP400 Engine Operating Instructions for information on approved oil specifications.

**Hydraulics**

Hydraulic Fluids: Low Density Type IV & V in accordance with NSA 307110.
9. Fluid Capacities

The maximum usable fuel is limited by the maximum fuel quantity, because the maximum fuel weight depends on the fuel density.

<table>
<thead>
<tr>
<th>Tanks</th>
<th>Fuel Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Center Tank</td>
<td>14 566 l</td>
</tr>
<tr>
<td>1 Left Inner Tank</td>
<td>17 143 l</td>
</tr>
<tr>
<td>1 Right Inner Tank</td>
<td>17 050 l</td>
</tr>
<tr>
<td>2 Feed Tanks (2 and 3)</td>
<td>7 726 l</td>
</tr>
<tr>
<td>2 Feed Tanks (1 and 4)</td>
<td>5 782 l</td>
</tr>
<tr>
<td>TOTAL</td>
<td>62 267 l</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tanks</th>
<th>Fuel Density</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.785 kg/l</td>
</tr>
<tr>
<td>Fuel Weight</td>
<td></td>
</tr>
<tr>
<td>1 Center Tank</td>
<td>11 434 kg</td>
</tr>
<tr>
<td>1 Left Inner Tank</td>
<td>13 457 kg</td>
</tr>
<tr>
<td>1 Right Inner Tank</td>
<td>13 384 kg</td>
</tr>
<tr>
<td>2 Feed Tanks (2 and 3)</td>
<td>6 064 kg</td>
</tr>
<tr>
<td>2 Feed Tanks (1 and 4)</td>
<td>4 538 kg</td>
</tr>
<tr>
<td>TOTAL</td>
<td>48 879 kg</td>
</tr>
</tbody>
</table>
High Fuel Load

To obtain the maximum fuel capacity (High Fuel Load), the ground standing attitude, of the aircraft during refuel operation, must be within +/- 3.5 degrees both in Pitch and Roll. The maximum usable fuel is limited by the maximum fuel quantity, because the maximum fuel weight depends on the fuel density.

<table>
<thead>
<tr>
<th>Tanks</th>
<th>Fuel Quantity</th>
<th>Fuel Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Center Tank</td>
<td>14 864 l</td>
<td>3 927 US Gal</td>
</tr>
<tr>
<td>1 Left Inner Tank</td>
<td>17 373 l</td>
<td>4 590 US Gal</td>
</tr>
<tr>
<td>1 Right Inner Tank</td>
<td>17 280 l</td>
<td>4 565 US Gal</td>
</tr>
<tr>
<td>2 Feed Tanks (2 and 3)</td>
<td>7 888 l</td>
<td>2 084 US Gal</td>
</tr>
<tr>
<td>2 Feed Tanks (1 and 4)</td>
<td>6 096 l</td>
<td>1 611 US Gal</td>
</tr>
<tr>
<td>TOTAL</td>
<td>63 501 l</td>
<td>16 777 US Gal</td>
</tr>
</tbody>
</table>

See appropriate Weights and Balance Manual
(See TCDS Section IV Note 3)

10. Airspeed Limits

Maximum Operating Limit Speed ($V_{MO}/M_{MO}$):
$V_{MO} = 300$ Kt IAS
$V_{MO} = M 0.72$

For other airspeed limits, see the appropriate EASA approved Airplane Flight Manual
(See TCDS Section IV Note 1)

11. Flight Envelope

Maximum Operating Altitude: 35,000 feet

See the appropriate EASA approved Airplane Flight Manual
(See TCDS Section IV Note 1)

12. Operating Limitations

See the appropriate EASA approved Airplane Flight Manual
(See TCDS Section IV Note 1)
12.1 Approved Operations

The aeroplane is certified in the cargo transport category, in day and night conditions, when the appropriate equipment and instruments required by the airworthiness and operating regulations are approved, installed and in an operable condition. The aircraft is certified for the following conditions and operations:

- Visual (VFR)
- Instrument (IFR)
- Flight in icing conditions
- The aeroplane is certified for ditching

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

12.2 Other Limitations

Runway slope – +/- 2%
Maximum Takeoff and Landing Tailwind Component – 10 knots
Maximum Operating Altitude – 35,000 feet pressure altitude
Maximum Takeoff and Landing Altitude – 8,500 feet pressure altitude

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

13. Maximum Certified Masses

<table>
<thead>
<tr>
<th>Weight Variant : WV 001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Taxi Weight (MTW)</td>
</tr>
<tr>
<td>Maximum Takeoff Weight (MTOW)</td>
</tr>
<tr>
<td>Maximum Landing Weight (MLW)</td>
</tr>
<tr>
<td>Maximum Zero Fuel Weight (MZFW)</td>
</tr>
<tr>
<td>Minimum Weight</td>
</tr>
</tbody>
</table>

\(^{(1)}\): For landing below 121 500 kg (267 861 lb), the maximum touchdown vertical speed should not exceed 600 ft/min.

Notes: The maximum weight limits may be less as limited by center of gravity, performance requirements as given in the EASA approved Airplane Flight Manual (See TCDS Section IV Note 1). Refer to the Weight and Balance Manual (See TCDS Section IV Note 3) for additional specific aeroplane loading limitations.

See the appropriate EASA approved Airplane Flight Manual (See TCDS Section IV Note 1)

14. Centre of Gravity Range

See the appropriate EASA approved Airplane Flight Manual (See TCDS Section IV Note 1)
SECTION 1: A400M-180 - continued

15. Datum
Station 0.0, located 4.820 meters forward of aeroplane nose

16. Mean Aerodynamic Chord (MAC)
5.671 meters

17. Levelling Means
The aeroplane can be jacked on three primary jacking points. See the appropriate EASA approved Weight and Balance Manual (See TCDS Section IV Note 3)

18. Minimum Flight Crew
Two (2): Pilot and co-pilot

19. Maximum Seating Capacity
No other occupants apart of the minimum flight crew are allowed on board

20. Baggage/ Cargo Compartment
No loads shall be carried in the cargo compartment

21. Wheels and Tyres
Nose Assy (Qty 2)
  Tyre: 37x14.0-14  22PR
  Wheel: C20596000

Main Assy (Qty 12)
  Tyre: 43x15.5-17  22PR
  Wheel: C20595000

22. ETOPS
N/A
IV. Operating and Service Instructions

1. Airplane Flight Manual (AFM)

EASA Approved A400M civil Airplane Flight Manual for A400M-180, that consists of:

- Normal Revision 03 (as per Airbus Compliance Document CCM101A0015/C11 issue 3, June 2013, including AFM Temporary Revision TR63 issue 1.0(June 2013))

Or later EASA AFM approved revision

2. Maintenance Instructions and Airworthiness Limitations

- Limitations applicable to Safe Life Airworthiness Limitations Items are provided in the A400M ALS Part 1 Manual, Revision 01 approved by EASA (Compliance Document CMM050ALS01/C01 issue 3, April 2013[1])

- Limitations applicable to Damage-Tolerant Airworthiness Limitations Items are provided in the A400M ALS Part 2 DT ALI Manual, Revision 01 approved by EASA (Compliance Document CMM050ALS02/C01, issue 2, April 2013 [1]) completed by the Variation to Revision 01 of A400M ALS Part 2 (Compliance document CCVLG130001/C0S issue 1, April 2013)

- Certification Maintenance Requirements are provided in the A400M ALS Part 3 CMR Manual, Revision 01 approved by EASA (Compliance Document CMM050ALS03/C01, issue 02, April 2013[1]),

- A400M-180 System Equipment Maintenance Requirements are provided in the A400M ALS Part 4 SEMR Manual Revision 00 (Compliance Document CMM050ALS04/C01, issue 1, May 2013 [1]), completed by the Variation to Revision 00 of A400M ALS Part 4 (Compliance Document CCVLG130003/C0S issue 1, June 2013)

- A400M-180 Fuel Airworthiness Limitations are provided in the A400M ALS Part 5 FAL Manual, Revision 01 approved by EASA (Compliance Document CMM050ALS05/C01, issue 02, April 2013[1])

- A400M-180 Maintenance Review Board Report (MRBR) revision 1 limited to the Civil Scheduled Maintenance Requirements (CSMR) published and agreed by EASA on August 2012, or later revisions.

- The EWIS ICAs in accordance with Airbus A400M EWIS ICA compliance source document CMM207ACSD0/C11 issue 1, dated January 2013 or later revisions and developed with EZAP are published as part of the MRBR.

Note [1]: Including ALS variations or later EASA approved revision

3. Weight and Balance Manual (WBM)

Airbus Compliance Document CCM080A0001/C0S
SECTION 1: A400M-180 - continued

V. Operational Suitability Data (OSD)

The Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate EASA.A.S.169 as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

1. Master Minimum Equipment List (MMEL)

EASA A400M MMEL revision number 5 (doc. Reference M00SP1408651) dated 18th February 2015 or later EASA approved revisions.

VI. Notes

NOTE 1: Aircraft Manufacturer Serial Numbers (MSN) that are eligible to be produced in conformity with EASA A400M Type Design Definition (CCM000A0002/C10 issue 7): NONE
SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

A/C Aircraft
AFM Airplane Flight Manual
ALS Airworthiness Limitation Section
AMC Acceptable Means of Compliance
AMSL Airbus Military Sociedad Limitada
APU Auxiliary Power Unit
AWO All Weather Operations
CG Center of Gravity
CMR Certification Maintenance Requirement
CRI Certification Review Item
CS Certification Specifications
DOA Design Organisation Approval
EASA European Aviation Safety Agency
EIS Entry Into Service
EPI Europrop International
ESF Equivalent Safety Finding
EU European Union
EWIS Enhanced Wiring Interconnection System
FAL Fuel Airworthiness Limitation
FMS Flight Management System
ICA Instructions for Continued Airworthiness
ICAO International Civil Aviation Organization
IFR Instrument Flight Rules
MAC Mean Aerodynamic Chord
MLW Maximum Landing Weight
MMEL Master Minimum Equipment List
MTOW Maximum Takeoff Weight
MTW Maximum Taxi Weight
MZFW Maximum Zero Fuel Weight
N/A Not Applicable
NPA Notice of Proposed Amendment
OSD Operational Suitability Data
RNAV Radio Navigation
RVSM Reduced Vertical Separation Minima
SC Special Condition
TCDS Type Certificate Data Sheet
TCDSN Type Certificate Data Sheet for Noise
VFR Visual Flight Rules
WBM Weight and Balance Manual
WV Weight Variant

II. Type Certificate Holder Record

Airbus Military Sociedad Limitada (AMSL)
Avenida de Aragon 404
28022 MADRID
SPAIN
### III. Change Record

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Changes</th>
<th>TC issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue 01</td>
<td>30 April 2012</td>
<td>Initial Issue for Model A400M-180</td>
<td>No change</td>
</tr>
<tr>
<td>Issue 02</td>
<td>05 Feb 2013</td>
<td>Page 11, Section 1 General, Paragraph III.13. Max. Certified Mass: sentence about minimum flight weight not including usable fuel has been removed. Page 13, Section 1, Paragraph IV.1 Airplane Flight Manual (AFM): additional information regarding status of initial EASA approved AFM revision has been added: issue 2 of Airbus document is including TR 5 for restricted TC content</td>
<td>13 March 2013</td>
</tr>
<tr>
<td>Issue 03</td>
<td>13 March 2013</td>
<td>Restricted deleted on all pages and cover sheet Page 04: date of issuance of TC and mention to Restricted TC now superseded by TC added Page 05: mention to standard TCDSs whih supersedes restricted TCDSs added Page 07, Section 1, Paragraph III.01. Type Design Definition : Type Def updated to issue 5 Page 11, Section 1, Paragraph III.12.1. Approved Operations : Restricted category removed Page 11, Section 1, Paragraph III.13. Max. Certified Mass: Updated masses to take into account of AFM TR 29 (Weight Limitations) Page 13, Section 1, Paragraph IV.1 Airplane Flight Manual (AFM): updated revision of AFM Page 13, Section 1, Paragraph IV.2. ICA and Airw. Limitations: updated revision of CMR and MRBR</td>
<td>13 March 2013</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Issue 06</td>
<td>17th December 2015</td>
<td>Page 4: The name EASA.21J.032 Part 21 DOA responsible being updated from former EADS-CASA to Airbus Defence and Space SA Page 7 Subparagraph added to define MMEL OSD Certification Basis Page 15 New Section V for Operational Suitability Data Page 15 Previous Section V Notes re-numbered as Section VI Page 17 Acronyms list updated</td>
<td>No change</td>
</tr>
</tbody>
</table>

-END-