TYPE-CERTIFICATE

DATA SHEET

No. EASA.A.015

for

AIRBUS A340

Type Certificate Holder

AIRBUS

2 Rond-Point Emile Dewoitine

31700 Blagnac

France

For Models:

A340-211	A340-311	A340-541	A340-642
A340-212	A340-312	A340-542	A340-643
A340-213	A340-313		

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CORRESPONDANCE TABLE MODELS / ENGINE MANUFACTURERS

	A340-200 series	A340-300 series	A340-500 series	A340-600 series
CFM Engines	A340-211 A340-212 A340-213	A340-311 A340-312 A340-313	-	-
RR Engines	-	-	A340-541 A340-542 -	- A340-642 A340-643

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TABLE OF CONTENTS

SECTION 1: A340-200 SERIES

I. General

1. Type / Model

1.1 Type

A340

1.2 Model

A340-211, A340-212, A340-213

2. Airworthiness Category

Large Aeroplanes

Performance Category A

3. Manufacturer

AIRBUS
2 Rond-Point Emile Dewoitine
31700 Blagnac FRANCE

4. State of Design Authority Type Certification

4.1 State of Design Authority

DGAC-F

4.2 Application Date

A340-211: 15 June 1988
A340-212: 15 June 1988
A340-213: 15 June 1988

4.3. State of Design Authority Type Certificate Date

A340-211: 22 December 1992
A340-212: 14 March 1994
A340-213: 19 December 1995

5. EASA Type Certification

5.1 State of Design Authority

N/A

5.2 Application Date

N/A

5.3. State of Design Authority Type Certificate Date

N/A

DGAC-F TC 183 remains a valid reference for models certified before 28 September 2003

SECTION 1: A340-200 SERIES (Cont'd)

II. Certification Basis

1. Reference Date for determining the applicable requirements

Reference Application Date for EASA Certification: 15 June 1988

2. Airworthiness Requirements

Original Airworthiness Requirements (at time of TC):

- Certification Requirements

  JAR 25 Change 13 effective on October 5, 1989 except as follows:

  Deviation on limited areas for compliance against paragraphs 25.561 and 25.562 such as:
  - Compliance at change 12 for wing tank outside the fuselage contour
  - For showing compliance with JAR 25.785 (a)(b)(c), the front row seats located behind a bulkhead are not tested according to JAR 25.562(c)(5)(6). Instead, a minimum 35 inches distance between the seats and the bulkhead is considered an acceptable alternative

- All Weather Operations

  JAR AWO Change 1

  NPA JAR AWO-3 (Take-off in low visibility)

Additional Airworthiness Requirements (added post TC):

- Airborne Communication, Navigation, Surveillance

  CS-ACNS Initial Issue
  - Subpart B, Section 2 – for optional modifications (Post TC) installing FANS aiming at answering to SES mandate as defined in (EU) N° 29/2009 and amended by (EU) N° 310/2015 of 26 Febuary 2015.

    Note: For compliance to CS-ACNS Subpart B, Section 2, a deviation to CS-ACNS.B.DLS.B1.075 is accepted by CRI ACNS-B-GEN-01 to not include DM89 MONITORING [unit name] [frequency] in the downlink message set installed.
  - Subpart D – for optional modifications installing transponders aiming at answering to SES mandate as defined in (EU) No 1207/2011 and amended by (EU) No 1028/2014 of 26 September 2014.

3. Special Conditions

Original Special Conditions part of Certification Basis (at time of TC):

- JAA Numbering:

SC A-1	Discrete gust requirements (NPA 25C-205)
SC A-2	Interaction of systems and structure (NPA 25C-199)
SC A-3	Design manoeuver requirements
SC A-4	Design dive speed
SC A-5	Limit pilot forces and torque
SC A-7	Stalling speeds for structural design
SC A-11	Aeroelastic stability requirements (NPA 25B, C, D-236)
SC F-1	Stalling and scheduled operating speeds
SC F-2	Motion and effects of cockpit controls

SC F-3 Static longitudinal stability
SC F-4 Static directional and lateral stability
SC F-5 Flight envelope protections
SC F-6 Normal load factor limiting system
SC G-5 Resistance to fire terminology (NPA 25D-181)
SC G-7 Function and reliability testing
SC S-3 Landing gear warning (NPA 25D-162)
SC S-6 Lightning protection indirect effects
SC S-10 Effects of external radiations upon aircraft systems
SC S-13 Autothrust system
SC S-16 Control signal integrity
SC S-18 Electronic flight controls
SC S-20 Emergency electrical power (NPA 25D, F-179)
SC S-23 Electrical wiring and miscellaneous electrical requirements (NPA 25D, F-191)
SC S-24 Doors (NPA 25D, F-251)
SC S-38 Towbarless towing
SC S-148 Longitudinal touchdown performance limit and Minimum Approach Break-Off Height ((NPA AWO-8, this SC replaces S-48)
SC P-1 FADEC
SC P-2 Centre of gravity control system

Additional Special Conditions part of Certification Basis (added post TC):

- JAA Numbering:

SC P-27 Flammability Reduction System
(applicable from June 2010)
SC P-32 Fuel Tank Safety
(applicable from November 2013)
SC E-2 Crew rest
(applicable from February 1993)
SC E-5.1 Lower deck Lavatory
(applicable from August 2000)
SC E-8.1 Lower deck stowage area
(applicable from August 2000)
SC E-11 Bulk crew rest compartment
(applicable from January 2002)
SC E-19 F/C sliding screens
(applicable from September 2003)
SC E-28 Partial Bulk Crew Rest Compartment with attached to galley
(applicable from January 2009)
SC E-128 Improved flammability standards for thermal/acoustic insulation
(applicable from February 2009)
SC E-130 Application of heat release and smoke density requirements to seat materials
(applicable from February 2010)
SC E-1014 HIC compliance for front row seating (inflatable restraints)
(applicable from July 2007)
SC F-GEN-01 Installation of non-rechargeable lithium battery
(applicable by the date of this TCDS EASA.A.015 at issue 25)

SC H-01 Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS (applicable from May 2010)

- EASA Numbering:

SC D-100 Installation of mini suite type seating (applicable from April 2018)

SC D-102 Incorporation of Inertia Locking Device in Dynamic Seats (applicable from January 2019)

SC F-126 Flight Recorders including Data Link Recording (applicable from June 2013)

SC F-131 Flight Instrument External Probes – Qualification in Icing Conditions (applicable from April 2016)

SC F-137 Security Protection of Aircraft Systems and Networks (applicable from May 2018)

4. Exemptions

None

5. Deviations

None

6. Equivalent Safety Findings

Original Equivalent Safety Findings part of Certification Basis (at time of TC):

- JAA Numbering:

ESF S-45 Oil temperature indication

The following Special Conditions provide an equivalent safety level to JAR 25 accelerate-stop and brakes qualification requirements (NPA 25 B, D, G 244)

- SC F-8 (or F-8.1) Accelerate stop distances
- SC S-21 Brakes wear limits

For A340-213 Weight Variant 021 only:

- SC F-8.1 is applicable instead of SC F-8.

Additional Equivalent Safety Findings part of the Certification Basis (added post TC):

The following Equivalent Safety Findings are additionally applicable when an A/C configuration include the subject optional design change(s):

- JAA Numbering:

ESF E-15 Reinforced security cockpit door (applicable from July 2002)

ESF E-17 Trolley Lift (applicable from November 2003)

ESF E-18 Lower Deck galley compartment (applicable from November 2003)

ESF E-21 Emergency exit marking reflectance (applicable from December 2004)

ESF E-27 Forward facing seats over 18 degrees to A/C centreline (applicable from June 2009)

ESF E-29 Fuselage burn through – aft pressure bulkhead
(applicable from March 2009)

ESF E-30 Fuselage burn through – belly fairing
(applicable from April 2009)

ESF E-31 Fuselage burn through – bilge area
(applicable from April 2009)

ESF E-134 Installation of seats that make an angle of more than 18° with the aircraft longitudinal axis
(applicable from November 2013)

ESF E-1022 Improved flammability standards for thermal / acoustic insulation materials, it provides an equivant level of safety to JAR 25.853(b)
(applicable from August 2005)

ESF F-128 Minimum Mass Flow of Supplemental Oxygen, it provides an equivalent level of safety to JAR 25.1443(c)
(applicable from November 2014).

ESF F-129 Crew Determination of Quantity of Oxygen in Passenger Oxygen System, it provides an equivalent level of safety to JAR 25.1441(c)
(applicable from November 2014).

- EASA Numbering:

ESF D-101 Green arrow and "Open" Placard of Emergency Exit marking, it provides an equivalent level of safety to CS 25.811(e)(4) amdt 3, when the aircraft is equipped with symbolic exit signs (applicable from July 2018).

7. Environmental Protection

Environmental requirements for noise, fuel venting and emissions:

- Noise: ICAO Annex 16 – Volume I
  (See EASA TCDSN A.015 for details)
  Note: MOD 55005 originally used for compliance demonstration is not mandatory anymore.
- Fuel venting and emissions: ICAO Annex 16 – Volume II

8. Operational Suitability Data (OSD)

See SECTION: DATA PERTINENT TO ALL MODELS for:

- Operational Suitability Requirements
- EASA Approved Operational Suitability Data

SECTION 1: A340-200 SERIES (Cont'd)

III. Technical Characteristics and Operational Limitations

1. Type Design Definition

With CFM International (CFMI) engines
A340-211: 00F000A0211/C00
A340-212: 00F000A0212/C00
A340-213: 00F000A0213/C00

2. Description

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

3. Equipment

Refer to Type Design Definition.

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

- 00F252K0005/C01 for cabin seats.
- 00F252K0006/C01 for galley.
- 00F252K0020/C01 for cabin attendant seats.

4. Dimensions

- Length: 59,39m (194ft 10in)
- Diameter: 05,64m (18ft 6in)
- Wing Span: 60,30m (197ft 10in)
- Height: 16,83 m (55ft 3in)

5. Engine

5.1 Model

CFM International (CFMI) engines

A340-211: Four (4) CFM56-5C2 or CFM56-5C2/4 or CFM56-5C2/F or CFM56-5C2/F4 or CFM56-5C2/G or CFM56-5C2/G4 or CFM56-5C2/P turbofan engines

A340-212: Four (4) CFM56-5C3/F or CFM56-5C3/F4 or CFM56-5C3/G or CFM56-C3/G4 or CFM56-5C3/P turbofan engines

A340-213: Four (4) CFM56-5C4 or CFM56-5C4/1 or CFM56-5C4/P or CFM56-5C4/1P turbofan engines

5.2 Type Certificate

CFM International (CFMI) engines
FAA Engine TCDS: E37NE
EASA Engine TCDS: EASA.E.003

5.3 Limitations

5.3.1 Installed Engine Limits

CFM International (CFMI) engines

A/C Model	A340-211	A340-212	A340-213
Engine Model Data Sheet E37NE (FAA) E.003 (EASA)	CFM56-5C2 CFM56-5C2/4 CFM56-5C2/F CFM56-5C2/F4 CFM56-5C2/G CFM56-5C2/G4 CFM56-5C2/P	CFM56-5C3/F CFM56-5C3/F4 CFM56-5C3/G CFM56-5C3/G4 CFM56-5C3/P	CFM56-5C4 CFM56-5C4/1 CFM56-5C4/P CFM56-5C4/1P
Static thrust at sea level: - take-off (5mn) * (flat rated 30°C) - maximum continuous	13,878 daN 12,588 daN	14,456 daN 13,078 daN	15,124 daN 13,371 daN
Approved Oils: see CFMI engine Service Bulletin N°79-001, latest revision			

* 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

6. Fluids (Fuel / Oil / Additives / Hydraulics)

6.1 Fuel

The following fuels may be used:

ENGINES	KEROSENE DESIGNATION
CFMI: (Operating Instruction in CFMI Manuels)	JET A, JET A-1, JP5, JP8, N° 3 Jet Fuel, Jet B, JP-4 TS-1(GOST), RT(GOST)

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

Refer to Consumable Material List (CML) for details on approved fuel specifications.

6.2 Oil

Refer to the Consumable Material List (CML).

Refer to Engine and APU Manufacturers Operating Instructions.

6.3 Additives

Refer to the Consumable Material List (CML).

See CFMI "Specific Operating Instructions", installation manual.

6.4 Hydraulics

Refer to the Consumable Material List (CML).

7. Fluid capacities

7.1 Fuel

Fuel quantity (0.8 kg / litre):

A340-211, A340-212, A340-213

	3 – TANK AIRPLANE		
	Usable fuel liters (kg)	Usable fuel liters (kg) (MOD 46761)	Unusable fuel litres (kg)
WING TANK	91 056 (72 845)	91 056 (72 845)	245 (196)
CENTER	41 468 (33 174)	41 468 (33 174)	83 (66)
TRIM TANK	6 114 (4 891)	6 230 (4 984)	6 (5)
TOTAL	138 638 (110 910)	138 754 (111 003)	334 (267)

A340-213 Weight Variant 021 and on

	3 – TANK AIRPLANE		3 – TANK AIRPLANE WITH OPTIONAL ACTs MOD 44002, 44005	
	Usable fuel liters (kg)	Unusable fuel litres (kg)	Usable fuel liters (kg)	Unusable fuel litres (kg)
WING TANK	92,850 (74,280)	245 (196)	92,850 (74,280)	245 (196)
CENTER	41,468 (33,174)	83 (66)	41,468 (33,174)	83 (66)
TRIM TANK	6,230 (4,984)	6 (5)	6,230 (4,984)	6 (5)
TOTAL	140,548 (112,438)	334 (267)	-	-
1 ACT in cargo hold	-	-	7,200 (5,760)	28 (22)
TOTAL with 1 ACT in cargo hold	-	-	147,748 (118,198)	362 (290)
2 ACTs in cargo hold	-	-	14,400 (11,520)	56 (44)
TOTAL with 2 ACTs in cargo hold			154,948 (123,958)	390 (312)

7.2 Oil

Refer to Weight & Balance Manual.

7.3 Coolant system capacity

N/A

8. Air Speeds Limits

Refer to approved Aeroplane Flight Manual.

9. Rotor Speed Limits

N/A

10. Maximum Operating Altitude and Temperature

10.1 Altitude

Maximum Flight level: 41 100 ft (12 527m)

Maximum Airfield altitude: 12 500 ft (3 810m)

10.2 Temperature

Flight: Minimum: -74°C SAT

Ground: Range: -54°C to +55°C

11. Operating Limitations

Refer to approved Aeroplane Flight Manual for maximum demonstrated crosswind.

Wind Speed Limitations:

- Crosswind:	Takeoff:	A/C :	37,5kt (gust included)
		Engine:	Refer to AFM Limitation section
	Landing:	A/C :	41kt (gust included)
		Engine:	Refer to AFM Limitation section
- Tailwind:	Takeoff:	10kt	
	Landing:	10kt	

12. Maximum Weight

Valid for A340-211, A340-212 and A340-213

Variant (MOD)	**000** (Basic)	**001** (41302)	**002** (44229)
MTOW (T)	235.5	257	260
MLW (T)	181	181	181
MZFW (T)	169	169	169

Valid for A340-213 Weight Variant 020

Variant (MOD)	**021** (44281)
MTOW (T)	275
MLW (T)	185
MZFW (T)	173

13. Centre of Gravity Range

Refer to approved Aeroplane Flight Manual.

14. Datum / Mean Aerodynamic Chord (MAC)

Datum: Station 0.0, located 6,382 meters forward of aeroplane nose.

MAC: 7,290m

15. Levelling Means

Three primary jacking points: Refer to approved Weight and Balance Manual.

16. Minimum Flight Crew

Two (2): Pilot and Co-pilot.

17. Passenger Emergency Exit

Two Passenger Emergency Exit configurations:

- Configuration A-A-I-A: Basic 3 Type A passenger doors and 1 Emergency Exit Type I
- Configuration A-A-A-A: Option 4 Type A passenger doors (MOD 40161)

18. Maximum Passenger Seating Capacity and associated Minimum Number of Cabin Crew

The maximum number of passengers approved for emergency evacuation is:
- 375 Basic
- 420 Option (in Configuration A-A-A-A, MOD 40161).

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

The table below provides the certified Maximum Passenger Seating Capacities (MPSC), the corresponding cabin configuration (exit arrangement and modifications) and the associated minimum numbers of cabin crew members used to demonstrate compliance with the certification requirement:

Maximum Passenger Seating Capacity (MPSC) & Cabin Configuration		Minimum Cabin crew
420	Configuration A-A-A-A (MOD 40161)	9
400	Configuration A-A-A-A (MOD 40161)	8
375	Configuration A-A-I-A (Basic)	8

A lower number of cabin crew may be approved by EASA for specific cabin layouts.

19. Maximum Baggage/ Cargo Loads

Cargo compartment	Maximum load (kg)
Forward	18507
Aft	15241
Rear (bulk)	3468

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

20. Rotor Blade control movement

N/A

21. Auxiliary Power Unit (APU)

One GARRETT (Company name changed to Honeywell International Inc. in 1999):
- GTCP 331-350C (Specification 31-7677A)

22. Life-limited parts

Refer to Airworthiness Limitation Section

See SECTION: DATA PERTINENT TO ALL MODELS.

23. Wheels and Tyres

Refer to Airbus Service Bulletin A340-32-4007.

A340-200 SERIES – Cont'd

IV. Operating and Service Instructions

In accordance with EASA Part 21 regulation, Airbus provide on-demand access to the following technical publications to any person required to comply with any of those instructions :

(Access via AirbusWorld portal)

1. Flight Manual (AFM)

   Ref. AFM 34000 (latest published revision)

2. Maintenance Manual

   Refer to Customized Maintenance Manuals published by Airbus (latest published revision)

3. Structural Repair Manual (SRM)

   Refer to Customized SRM published by Airbus (latest published revision)

4. Weight and Balance Manual (W&BM)

   Refer to Customized W&BM published by Airbus (latest published revision)

5. Illustrated Parts Catalogue (IPC)

   Refer to Customized IPC published by Airbus (latest published revision)

6. Service Bulletins (SBs)

   Refer to applicability section of Airbus Service Bulletins (latest published revision)

7. Required Equipment

   The equipment required by the applicable regulation shall be installed.

   Refer also to MMEL – See SECTION: DATA PERTINENT TO ALL MODELS.

A340-200 SERIES – Cont'd

V. Notes

1. All Weather Capability

A/C Model	CFMI Engines		
	A340-211	A340-212	A340-213
Type Design Capability	-	-	Cat 3 Precision approach and autoland
Option Capability (MOD)	Cat 2 Precision approach (41549) Cat 3 Precision approach and autoland (42100)	Cat 3 Precision approach and autoland (42100)	-

2. Conversions between Models

The following A/C Model conversions are approved:

- A340-211 aircraft can be converted into A340-212 by application of Airbus Service Bulletin A340-00-4029 (Mod 50472 – conversion of CFM56-5C2/F into CFM56-5C3/F).

The following A/C Model engine configuration changes are approved:

- A340-211 (Mod. 42680 or Mod. 43092 or Mod 44752 or Mod 51296):
  CFM56-5C2, CFM56-5C2/4, CFM56-5C2/F, CFM56-5C2/F4, CFM56-5C2/G, CFM56-5C2/G4, CFM56-5C2/P engine can be intermixed on the same aircraft whatever the number and the position.
- A340-212 (Mod. 43574 or Mod 44752 or Mod 51296):
  CFM56-5C3/F, CFM56-5C3/F4, CFM56-5C3/G, CFM56-5C3/G4, CFM56-5C3/P engine can be intermixed on the same aircraft whatever the number or the position.
- A340-213 (Mod. 51296):
  CFM56-5C4, CFM56-5C4/P, engines can be intermixed on the same aircraft whatever the number or the position.
- A340-213 (Mod 45912/45913):
  A340-213 can be fitted with CFM56-5C2 engines by application of Airbus Industrie Service Bulletin 00-4016 (mod 45912) and revert to CFM56-5C4 engines installation by Airbus Industrie Service Bulletin 00-4017 (mod 45913).

3. Change of Weight Variants

N/A

4. Other Notes

- A340-211 (CFM56-5C2/F or CFM56-5C2/F4 engines)
  A340-212 (CFM56-5C3/F or CFM56-5C3/F4 engines):

  The maximum permissible gas temperature at take-off and maximum continuous is extended to 965°C and 930°C respectively. However, the ECAM indication remains at 950°C and 915°C.

- A340-211 (CFM56-5C2/G or CFM56-5C2/G4 or CFM56-5C2/P engines)
  A340-212 (CFM 56-5C3/G or CFM56-5C3/G4 or CFM56-5C3/P engines)
  A340-213 (CFM 56-5C4 or CFM56-5C4/P or CFM56-5C4/1P engines):

  The maximum permissible gas temperature at take-off and maximum continuous is extended to 975°C and 940°C respectively, however the ECAM indications remain at 950°C and 915°C.

- A340-213 (Mod 44260):

  When CFM56-5C4/1 engines are installed, the thrust bump can be activated by Mod 44260.

SECTION 2: A340-300 SERIES

I. General

1. Type / Model

1.1 Type

A340

1.2 Model

A340-311, A340-312, A340-313

2. Airworthiness Category

Large Aeroplanes

Performance Category A

3. Manufacturer

AIRBUS

2 Rond-Point Emile Dewoitine

31700 Blagnac FRANCE

4. State of Design Authority Type Certification

4.1 State of Design Authority

DGAC-F

4.2 Application Date

A340-311:	15 June 1988
A340-312:	15 June 1988
A340-313:	15 June 1988

4.3. State of Design Authority Type Certificate Date

A340-311:	22 December 1992
A340-312:	14 March 1994
A340-313:	16 March 1995

DGAC-F TC 183 remains a valid reference for models certified before 28 September 2003

SECTION 2: A340-300 SERIES (Cont'd)

II. Certification Basis

1. Reference Date for determining the applicable requirements

Reference Application Date for EASA Certification: 15 June 1988

2. Airworthiness Requirements

Original Airworthiness Requirements (at time of TC):

- Certification Requirements

  JAR 25 Change 13 effective on October 5, 1989 except as follows:

  - Paragraph 25.561 is applied at change 12 for wing tanks outside the fuselage contour;
  - For showing compliance with JAR 25.785(a)(b)(c), the front row seats located behind a bulkhead are not tested according to JAR 25.562(c)(5)(6). Instead, a minimum 35 inches distance between the seats and the bulkhead is considered as an acceptable alternative.

- All Weather Operations

  JAR AWO Change 1

  NPA JAR AWO-3 (Take-off in low visibility)

Additional Airworthiness Requirements (added post TC):

- Airborne Communication, Navigation, Surveillance

  CS-ACNS Initial Issue

  - Subpart B, Section 2 – for optional modifications (Post TC) installing FANS aiming at answering to SES mandate as defined in (EU) N° 29/2009 and amended by (EU) N° 310/2015 of 26 Febuary 2015.

    Note: For compliance to CS-ACNS Subpart B, Section 2, a deviation to CS-ACNS.B.DLS.B1.075 is accepted by CRI ACNS-B-GEN-01 to not include DM89 MONITORING [unit name] [frequency] in the downlink message set installed.

  - Subpart D – for optional modifications installing transponders aiming at answering to SES mandate as defined in (EU) No 1207/2011 and amended by (EU) No 1028/2014 of 26 September 2014.

3. Special Conditions

Original Special Conditions part of Certification Basis (at time of TC):

- JAA Numbering:

SC A-1	Discrete gust requirement (NPA 25C-205)
SC A-2	Interaction of systems and structure (NPA 25C-199)
SC A-3	Design manoeuver requirements
SC A-4	Design dive speed VD
SC A-5	Limit pilot forces and torque
SC A-7	Stalling speeds for structural design
SC A-11	Aeroelastic stability requirements (NPA 25B, C, D-236)
SC F-1	Stalling and scheduled operating speeds
SC F-2	Motion and effects of cockpit controls
SC F-3	Static longitudinal stability

SC F-4 Static directional and lateral stability
SC F-5 Flight envelope protections
SC F-6 Normal load factor limiting system
SC G-5 Resistance to fire terminology (NPA 25D-181)
SC G-7 Function and reliability testing
SC S-3 Landing gear warning (NPA 25D-162)
SC S-6 Lightning protection indirect effects
SC S-10 Effects of external radiations upon aircraft systems
SC S-13 Autothrust system
SC S-16 Control signal integrity
SC S-18 Electronic flight control
SC S-20 Emergency electrical power (NPA 25D, F-179)
SC S-23 Electrical wiring and miscellaneous electrical requirements (NPA 25D, F-191)
SC S-24 Doors (NPA 25D, F-251)
SC S-38 Towbarless towing
SC S-148 Longitudinal touchdown performance limit and Minimum Approach Break-Off Height ((NPA AWO-8, this SC replaces S-48)
SC P-1 FADEC
SC P-2 Centre of gravity control system

Additional Special Conditions part of the Certification Basis (added Post TC):
The following Special Conditions are additionally applicable when an A/C configuration include the subject optional design change(s):

- JAA Numbering:
  SC P-27 Flammability Reduction System
  (applicable from June 2010)
  SC P-32 Fuel Tank Safety
  (applicable from November 2013)
  SC E-2 Crew rest
  (applicable from February 1993)
  SC E-5.1 Lower deck Lavatory
  (applicable from August 2000)
  SC E-8.1 Lower deck stowage area
  (applicable from August 2000)
  SC E-11 Bulk crew rest compartment
  (applicable from January 2002)
  SC E-19 F/C sliding screens
  (applicable from September 2003)
  SC E-28 Partial Bulk Crew Rest Compartment with attached to galley
  (applicable from January 2009)
  SC E-128 Improved flammability standards for thermal/acoustic insulation
  (applicable from February 2009)
  SC E-130 Application of heat release and smoke density requirements to seat materials
  (applicable from February 2010)
  SC E-1014 HIC compliance for front row seating (inflatable restraints)
  (applicable from July 2007)
  SC F-GEN-01: Installation of non-rechargeable lithium battery
  (applicable by the date of this TCDS EASA.A.015 at issue 25)

SC H-01 Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS (applicable from May 2010)

- EASA Numbering:

SC D-100 Installation of mini suite type seating (applicable from April 2018)

SC D-102 Incorporation of Inertia Locking Device in Dynamic Seats (applicable from January 2019)

SC F-126 Flight Recorders including Data Link Recording (applicable from June 2013)

SC F-131 Flight Instrument External Probes – Qualification in Icing Conditions (applicable from April 2016)

SC F-137 Security Protection of Aircraft Systems and Networks (applicable from May 2018)

4. Exemptions

None

5. Deviations

None

6. Equivalent Safety Findings

Original Equivalent Safety Findings part of Certification Basis (at time of TC):

- JAA Numbering:

ESF S-45 Oil temperature indication

ESF S-48 Minimum Approach Break-off

The following Special Conditions provide an equivalent safety level to JAR 25 accelerate-stop and brakes qualification requirements (NPA 25 B, D, G 244)

- SC F-8 (or F-8.1) Accelerate stop distances
- SC S-21 Brakes wear limits

For A340-313 Weight Variant 020, 021, 024, 026, 027, 028 only:

- SC F-8.1 is applicable instead of SC F-8.

Additional Equivalent Safety Findings part of the Certification Basis (added post TC):

The following Equivalent Safety Findings are additionally applicable when an A/C configuration include the subject optional design change(s):

- JAA Numbering:

ESF E-15 Reinforced security cockpit door (applicable from July 2002)

ESF E-17 Trolley Lift (applicable from November 2003)

ESF E-18 Lower Deck galley compartment (applicable from November 2003)

ESF E-21 Emergency exit marking reflectance (applicable from December 2004)

ESF E-27 Forward facing seats over 18 degrees to A/C centreline (applicable from June 2009)

ESF E-29 Fuselage burn through – aft pressure bulkhead (applicable from March 2009)

ESF E-30 Fuselage burn through – belly fairing (applicable from April 2009)

ESF E-31 Fuselage burn through – bilge area (applicable from April 2009)

ESF E-134 Installation of seats that make an angle of more than 18° with the aircraft longitudinal axis (applicable from November 2013)

ESF E-1022 Improved flammability standards for thermal / acoustic insulation materials, it provides an equivant level of safety to JAR 25.853(b) (applicable from August 2005)

ESF F-128 Minimum Mass Flow of Supplemental Oxygen, it provides an equivalent level of safety to JAR 25.1443(c) (applicable from November 2014).

ESF F-129 Crew Determination of Quantity of Oxygen in Passenger Oxygen System, it provides an equivalent level of safety to JAR 25.1441(c) (applicable from November 2014).

- EASA Numbering:

ESF D-101 Green arrow and "Open" Placard of Emergency Exit marking, it provides an equivalent level of safety to CS 25.811(e)(4) amdt 3, when the aircraft is equipped with symbolic exit signs (applicable from July 2018).

7. Environmental Protection

Environmental requirements for noise, fuel venting and emissions:

- Noise: ICAO Annex 16 – Volume I
  (See EASA TCDSN A.015 for details)
  Note: MOD 55005 originally used for compliance demonstration is not mandatory anymore.
- Fuel venting and emissions: ICAO Annex 16 – Volume II

8. Operational Suitability Data (OSD)

See SECTION: DATA PERTINENT TO ALL MODELS for:

- Operational Suitability Requirements
- EASA Approved Operational Suitability Data

SECTION 1: A340-300 SERIES (Cont'd)

III. Technical Characteristics and Operational Limitations

1. Type Design Definition

With CFM International (CFMI) engines
A340-311: 00F000A0311/C00
A340-312: 00F000A0312/C00
A340-313: 00F000A0313/C00

2. Description

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

3. Equipment

Refer to Type Design Definition.

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

- 00F252K0005/C01 for cabin seats.
- 00F252K0006/C01 for galley.
- 00F252K0020/C01 for cabin attendant seats.

4. Dimensions

- Length: 63,66m (208ft 10in)
- Diameter: 05,64m (18ft 6in)
- Wing Span: 60,30m (197ft 10in)
- Height: 16,63 m (54ft 7in)

5. Engine

5.1 Model

With CFM International (CFMI) engines

A340-311: Four (4) CFM56-5C2 or CFM56-5C2/4 or CFM56-5C2/F or CFM56-5C2/F4 or CFM56-5C2/G or CFM56-5C2/G4 or CFM56-5C2/P turbofan engines

A340-312: Four (4) CFM56-5C3/F or CFM56-5C3/F4 or CFM56-5C3/G or CFM56-5C3/G4 or CFM56-5C3/P turbofan engines

A340-313: Four (4) CFM56-5C4 or CFM56-5C4/1 or CFM56-5C4/P or CFM56-5C4/1P turbofan engines

5.2 Type Certificate

CFM International (CFMI) engines
FAA Engine TCDS: E37NE
EASA Engine TCDS: EASA.E.003

5.3 Limitations

5.3.1 Installed Engine Limits

CFM International (CFMI) engines

A/C Model	A340-311	A340-312	A340-313
Engine Model Data Sheet E37NE (FAA) E.003 (EASA)	CFM56-5C2 CFM56-5C2/4 CFM56-5C2/F CFM56-5C2/F4 CFM56-5C2/G CFM56-5C2/G4 CFM56-5C2/P	CFM56-5C3/F CFM56-5C3/F4 CFM56-5C3/G CFM56-5C3/G4 CFM56-5C3/P	CFM56-5C4 CFM56-5C4/1 CFM56-5C4/P CFM56-5C4/1P
Static thrust at sea level: - take-off (5mn) * (flat rated 30°C) - maximum continuous	13,878 daN 12,588 daN	14,456 daN 13,078 daN	15,124 daN 13,371 daN
Approved Oils: see CFMI engine Service Bulletin N°79-001, latest revision			

* 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

6. Fluids (Fuel / Oil / Additives / Hydraulics)

6.1 Fuel

The following fuels may be used:

ENGINES	KEROSENE DESIGNATION
CFMI: (Operating Instruction in CFMI Manuels)	JET A, JET A-1, JP5, JP8, N° 3 Jet Fuel, Jet B, JP-4 TS-1(GOST), RT(GOST)

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

Refer to Consumable Material List (CML) for details on approved fuel specifications.

6.2 Oil

Refer to the Consumable Material List (CML).

Refer to Engine and APU Manufacturers Operating Instructions.

6.3 Additives

Refer to the Consumable Material List (CML).

See CFMI "Specific Operating Instructions", installation manual.

6.4 Hydraulics

Refer to the Consumable Material List (CML).

7. Fluid capacities

7.1 Fuel

Fuel quantity (0.8 kg / litre):

A340-311, A340-312 (except for WV 029) and A340-313

	3-TANK AEROPLANE	
	Usable fuel liters (kg)	Unusable fuel litres (kg)
WING TANK	91 056 (72 845)	245 (196)
CENTER	41 468 (33 174)	83 (66)
TRIM TANK	6 114 (4 891)	6 (5)
TOTAL	138 638 (110 910)	334 (267)

A340-312 WV 029
A340-313 WV 020 without MOD 49428 and without MOD 200118 and

	3 – TANK AIRPLANE		**3 – TANK AIRPLANE WITH OPTIONAL ACTs MOD 42612**	
	Usable fuel liters (kg)	Unusable fuel litres (kg)	Usable fuel liters (kg)	Unusable fuel litres (kg)
WING TANK	92,850 (74,280)	245 (196)	92,850 (74,280)	245 (196)
CENTER	42,420 (33,936)	83 (66)	42,420 (33,936)	83 (66)
TRIM TANK	6,230 (4,984)	6 (5)	6,230 (4,984)	6 (5)
TOTAL	141,500 (113,200)	334 (267)		
1 ACT in cargo hold	-	-	7,200 (5,760)	28 (22)
TOTAL with 1 ACT in cargo hold	-	-	148,700 (118,960)	362 (290)

A340-313 WV 020 without MOD 49428 and without MOD 200118 and MOD 202897

	3 – TANK AIRPLANE		**3 – TANK AIRPLANE WITH OPTIONAL ACTs MOD 42612**	
	Usable fuel liters (kg)	Unusable fuel litres (kg)	Usable fuel liters (kg)	Unusable fuel litres (kg)
WING TANK	92,850 (74,280)	245 (196)	92,850 (74,280)	245 (196)
CENTER	41,560 (33,248)	83 (66)	41,560 (33,248)	83 (66)
TRIM TANK	6,230 (4,984)	6 (5)	6,230 (4,984)	6 (5)
TOTAL	141,500 (113,200)	334 (267)	-	-
1 ACT in cargo hold	-	-	7,200 (5,760)	28 (22)
TOTAL with 1 ACT in cargo hold	-	-	147,840 (118,960)	362 (290)

7.2 Oil

Refer to Weight & Balance Manual.

7.3 Coolant system capacity

N/A.

8. Air Speeds Limits

Refer to approved Aeroplane Flight Manual.

9. Rotor Speed Limits

N/A

10. Maximum Operating Altitude and Temperature

10.1 Altitude

Maximum Flight level: 41 450 ft (12 634m)

Maximum Airfield altitude: 12 500 ft (3 810m)

10.2 Temperature

Flight: Minimum: -78°C SAT

Ground: Range: -54°C to +55°C

11. Operating Limitations

Refer to approved Aeroplane Flight Manual for maximum demonstrated crosswind.

Wind Speed Limitations:

- Crosswind:	Takeoff:	A/C :	37,5kt (gust included)
		Engine:	Refer to AFM Limitation section
	Landing:	A/C :	41kt (gust included)
		Engine:	Refer to AFM Limitation section
- Tailwind:	Takeoff:	10kt	
	Landing:	10kt	

12. Maximum Weight

Valid for A340-311, A340-312 and A340-313

Variant (MOD)	**000** (Basic)	**001** (41302)	**002** (44228)	**003** (44102)	**004** (44230)
MTOW (T)	235.5	257	260	257	260
MLW (T)	186	186	186	188	188
MZFW (T)	174	174	174	178	178

Valid for A340-312 only

Variant	**029** (53243)
MTOW (T)	260
MLW (T)	188
MZFW (T)	178

Valid for A340-313 only

Variant	**020** (43500)	**021** (44135)	**023** (44625)	**024** (45738)	**025** (44791)	**026** (46613)	**027** (46650)	**028** (49529)
MTOW (T)	271	275	262	275	260	275	271	276.5
MLW (T)	190	190	190	192	190	192	192	190
MZFW (T)	178	178	178	180	178	181	178	178

Variant	**050** (51808)	**051** (51809)	**052** (51810)	**053** (55566)	**054** (55677)
MTOW (T)	275	275	276.5	276.5	275
MLW (T)	192	192	192	192	192
MZFW (T)	180	181	181	183	183

13. Centre of Gravity Range

Refer to approved Aeroplane Flight Manual.

14. Datum / Mean Aerodynamic Chord (MAC)

Datum: Station 0.0, located 6,382 meters forward of aeroplane nose.

MAC: 7,290m

15. Levelling Means

Three primary jacking points: Refer to approved Weight and Balance Manual.

16. Minimum Flight Crew

Two (2): Pilot and Co-pilot.

17. Passenger Emergency Exit

Two Passenger Emergency Exit configurations:
- Configuration A-A-I-A: Basic 3 Type A passenger doors and 1 Emergency Exit Type I
- Configuration A-A-A-A: Option 4 Type A passenger doors (MOD 40161)

18. Maximum Passenger Seating Capacity and associated Minimum Number of Cabin Crew

The maximum number of passengers approved for emergency evacuation is:
- 375 Basic
- 440 Option (in Configuration A-A-A-A, MOD 40161).

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

The table below provides the certified Maximum Passenger Seating Capacities (MPSC), the corresponding cabin configuration (exit arrangement and modifications) and the associated minimum numbers of cabin crew members used to demonstrate compliance with the certification requirement:

Maximum Passenger Seating Capacity (MPSC) & Cabin Configuration		Minimum Cabin crew
440	Configuration A-A-A-A (MOD 40161)	9
400	Configuration A-A-A-A (MOD 40161)	8
375	Configuration A-A-I-A (Basic)	8

A lower number of cabin crew may be approved by EASA for specific cabin layouts.

19. Maximum Baggage/ Cargo Loads

Cargo compartment	Maximum load (kg)
Forward	22861
Aft	18507
Rear (bulk)	3468

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

20. Rotor Blade control movement

N/A

21. Auxiliary Power Unit (APU)

One GARRETT (Company name changed to Honeywell International Inc. in 1999):
- GTCP 331-350C (Specification 31-7677A)

22. Life-limited parts

Refer to Airworthiness Limitation Section

See SECTION: DATA PERTINENT TO ALL MODELS.

23. Wheels and Tyres

Refer to Airbus Service Bulletin A340-32-4007.

A340-300 SERIES – Cont'd

IV. Operating and Service Instructions

In accordance with EASA Part 21 regulation, Airbus provide on-demand access to the following technical publications to any person required to comply with any of those instructions :

(Access via AirbusWorld portal)

1. Flight Manual (AFM)

   Ref. AFM 34000 (latest published revision)

2. Maintenance Manual

   Refer to Customized Maintenance Manuals published by Airbus (latest published revision)

3. Structural Repair Manual (SRM)

   Refer to Customized SRM published by Airbus (latest published revision)

4. Weight and Balance Manual (W&BM)

   Refer to Customized W&BM published by Airbus (latest published revision)

5. Illustrated Parts Catalogue (IPC)

   Refer to Customized IPC published by Airbus (latest published revision)

6. Service Bulletins (SBs)

   Refer to applicability section of Airbus Service Bulletins (latest published revision)

7. Required Equipment

   The equipment required by the applicable regulation shall be installed.

   Refer also to MMEL – See SECTION: DATA PERTINENT TO ALL MODELS.

A340-300 SERIES – Cont'd

V. Notes

1. All Weather Capability

A/C Model	CFMI Engines		
	A340-311	A340-312	A340-313
Type Design Capability	-	-	Cat 3 Precision approach and autoland
Option Capability (MOD)	Cat 2 Precision approach (41549) Cat 3 Precision approach and autoland (42100)	Cat 3 Precision approach and autoland (42100)	-

2. Conversions between Models

The following A/C Model conversions are approved:

- Conversion of A340-311 into A340-312:
  A340-311 aircraft can be converted into A340-312 by application of Airbus Service Bulletin: A340-00-4014 (Mod 45247).
- Conversion of A340-312 into A340-311:
  A340-312 aircraft can be converted into A340-311 by application of Airbus Service Bulletins:
  A340-00-4028 (Mod 47596 – Conversion of CFM56-5C3/F into CFM56-5C2).
  A340-00-4026 (Mod 47427 – Conversion of CFM56-5C3/F into CFM56-5C2/F).
- Conversion of A340-313 into A340-312:
  A340-313 aircraft can be converted into A340-312 by application of Airbus Service Bulletin: A340-00-4035 (Mod 53452)

The following A/C Model engine configuration changes are approved:

- A340-311 (Mod. 42680 or Mod. 43092 or Mod 44752 or Mod 51296):
  CFM56-5C2, CFM56-5C2/4, CFM56-5C2/F, CFM56-5C2/F4, CFM56-5C2/G, CFM56-5C2/G4, CFM56-5C2/P engine can be intermixed on the same aircraft whatever the number and the position.
- A340-312 (Mod. 43574 or Mod 44752 or Mod 51296):
  CFM56-5C3/F, CFM56-5C3/F4, CFM56-5C3/G, CFM56-5C3/G4, CFM56-5C3/P engine can be intermixed on the same aircraft whatever the number or the position.
- A340-313 (Mod. 51296):
  CFM56-5C4, CFM56-5C4/P, engine can be intermixed on the same aircraft whatever the number or the position.

- A340-313 (Mod 45912/45913)
  A340-313 can be fitted with CFM56-5C2 engines by application of Airbus Industrie Service Bulletin 00-4016 (mod 45912) and revert to CFM56-5C4 engines installation by Airbus Industrie Service Bulletin 00-4017 (mod 45913).

3. Change of Weight Variants

N/A

4. Other Notes

- A340-311 (CFM56-5C2/F or CFM56-5C2/F4 engines)
  A340-312 (CFM56-5C3/F or CFM56-5C3/F4 engines)

  The maximum permissible gas temperature at take-off and max continuous is extended to 965°C and 930°C respectively. However, the ECAM indication remains at 950°C and 915°C.

- A340-311 (CFM56-5C2/G or CFM56-5C2/G4 or CFM56-5C2/P engines)
  A340-312 (CFM 56-5C3/G or CFM56-5C3/G4 or CFM56-5C3/P engines)
  A340-313 (CFM 56-5C4 or CFM56-5C4/P or CFM56-5C4/1P engines)

  The maximum permissible gas temperature at take-off and maximum continuous extended to 975°C and 940°C respectively, however the ECAM indications remain at 950°C and 915°C.

- A340-313 (Mod 44260)

  When CFM56-5C4/1 engines are installed, the thrust bump can be activated by Mod 44260

- A340-313 WV 027 Short Range Variant

  The A340-313 WV 027 aircraft can be operated as short range variant and have their new design service goal increased to 30000 cycles respectively 60000 FH providing the following condition is fulfilled: “These aircraft are maintained according to the specific temporary inspection program as per letter AI/SE-M 95A.1372/98 and the revised MRB for SSIs’ quoted post modification 46651“

SECTION 3: A340-600 SERIES

I. General

1. Type / Model

1.1 Type

A340

1.2 Model

A340-642, A340-643

2. Airworthiness Category

Large Aeroplanes

Performance Category A

3. Manufacturer

AIRBUS
2 Rond-Point Emile Dewoitine
31700 Blagnac FRANCE

4. State of Design Authority Type Certification

4.1 State of Design Authority

DGAC-F

4.2 Application Date

A340-642: 31 December 1997

4.3. State of Design Authority Type Certificate Date

A340-642: 21 May 2002

DGAC-F TC 183 remains a valid reference for models certified before 28 September 2003

5. EASA Type Certification

5.1 State of Design Authority

EASA

5.2 Application Date

A340-643: 31 December 1997

5.3. State of Design Authority Type Certificate Date

A340-643: 11 April 2006

SECTION 2: A340-600 SERIES (Cont'd)

II. Certification Basis

1. Reference Date for determining the applicable requirements

Reference Application Date for EASA Certification: 31 December 1997

2. Airworthiness Requirements

Original Airworthiness Requirements (at time of TC):

- Certification Requirements

  JAR 25 Change 14
  Except JAR 25.365(g) which remains at Change 13 for the design of the cockpit wall.

- All Weather Operations

  JAR AWO change 2 plus:
  - Orange Paper AWO 96/1

Additional Airworthiness Requirements (added post TC):

- Airborne Communication, Navigation, Surveillance

  CS-ACNS Initial Issue
  - Subpart B, Section 2 – for optional modifications (Post TC) installing FANS aiming at answering to SES mandate as defined in (EU) N° 29/2009 and amended by (EU) N° 310/2015 of 26 Febuary 2015.

    Note: For compliance to CS-ACNS Subpart B, Section 2, a deviation to CS-ACNS.B.DLS.B1.075 is accepted by CRI ACNS-B-GEN-01 to not include DM89 MONITORING [unit name] [frequency] in the downlink message set installed.
  - Subpart D – for optional modifications installing transponders aiming at answering to SES mandate as defined in (EU) No 1207/2011 and amended by (EU) No 1028/2014 of 26 September 2014.

3. Special Conditions

Original Special Conditions part of Certification Basis (at time of TC):

- JAA Numbering:

  SC A-1001 Revised Loads Requirements (NPA 25C20 and NPA 25C282)
  SC A-1002 Interaction of systems and structure
  SC A-1003 Design Maneuver Requirements
  SC A-1004 Design Dive Speed
  SC A-5 Limit pilot forces and torque
  SC A-1006 Grounds Loads and Conditions for Central Landing Gear
  SC A-1011 Vibration, Buffet and Aeroelastic Requirements (NPA25BCD236)
  SC A-1017 Braked Roll Conditions (NPA 25C-276)
  SC A-1020 Shock Absorption test (NPA 25D-279)
  SC F-1001 Stalling and scheduled operating speeds
  SC F-2 Motion and effects of cockpit controls
  SC F-1003 Static longitudinal stability
  SC F-4 Static directional and lateral stability

SC F-5 Flight envelope protections
SC F-6 Normal load factor limiting system
SC F-1008 Accelerate stop distances
SC F-1014 Flap Gates (NPA 25B238)
SC G-7 Function and Reliability Testing
SC P-1018 Engine Sustained Imbalance
SC P-1020 APU Instruments (NPA 25J246)
SC P-1021 Windmilling without oil (NPA 25E268)
SC P-1022 Falling and Blowing Snow (NPA 25E288)
SC S-10.2 Effects of external radiations upon aircraft systems
SC S-1013 Autothrust system
SC S-16 Control Signal Authority
SC S-18 Electrical Flight Control unusual features
SC S-38 Towbarless towing
SC S-148 Longitudinal touchdown performance limit and Minimum Approach Break-Off Height ((NPA AWO-8, this SC replaces S-48)
SC S-1021 Brakes (partial NPA 25D-291)

Additional Special Conditions part of the Certification Basis (All models, added Post TC):
The following Special Conditions are additionally applicable when an A/C configuration include the subject optional design change(s):

- JAA Numbering:
  SC E-2 Crew rest
  (applicable from February 1993)
  SC E-5.1 Lower deck Lavatory
  (applicable from August 2000)
  SC E-8.1 Lower deck stowage area
  (applicable from August 2000)
  SC E-11 Bulk crew rest compartment
  (applicable from January 2002)
  SC E-19 F/C sliding screens
  (applicable from September 2003)
  SC E-28 Partial Bulk Crew Rest Compartment with attached to galley
  (applicable from January 2009)
  SC E-128 Improved flammability standards for thermal/acoustic insulation
  (applicable from February 2009)
  SC E-130 Application of heat release and smoke density requirements to seat materials
  (applicable from February 2010)
  SC E-1014 HIC compliance for front row seating (inflatable restraints)
  (applicable from July 2007)
  SC E-1023 Side Facing Seats with Inflatable Restraints
  (applicable from December 2005)
  SC F-GEN-01 Installation of non-rechargeable lithium battery
  (applicable by the date of this TCDS EASA.A.015 at issue 25)
  SC H-01 Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS
  (applicable from May 2010)
  SC O-1001 Ferrying one engine unserviceable
  (applicable from Oct 2002)

SC P-27 Flammability Reduction System
(applicable from June 2010)

- EASA Numbering:
  SC D-100 Installation of mini suite type seating
  (applicable from April 2018)
  SC D-102 Incorporation of Inertia Locking Device in Dynamic Seats
  (applicable from January 2019)
  SC F-126 Flight Recorders including Data Link Recording
  (applicable from June 2013)
  SC F-131 Flight Instrument External Probes – Qualification in Icing Conditions
  (applicable from April 2016)
  SC F-137 Security Protection of Aircraft Systems and Networks
  (applicable from May 2018)

4. Exemptions

- Temporary exemption (A340-642 only):
  P-1024 ECAM EGT indication (cancelled by modification 50560)

5. Deviations

None

6. Equivalent Safety Findings

Original Equivalent Safety Findings part of Certification Basis (at time of TC):

- JAA Numbering:
  ESF A-1015 Checked Pitching Maneuver Loads
  ESF A-1021 Engine Failure Loads
  ESF A-1023 Continuous Turbulence
  ESF A-1024 Casting Factors
  ESF A-1026 Proof of structure
  ESF S-45 Oil temperature indication
  ESF S-148 Longitudinal touch down performance and Minimum Approach Break-off Height deletion (NPA AWO 8)
  ESF S-1059 Hydraulics System
  ESF S-1065 Packs Off Operation
  ESF S-1066 Excess deviation alert
  ESF S-1070 AFM – Runway Visual Range Limits
  ESF P-1008 Fuel Tank Access Covers
  ESF P-1009 Rolls-Royce Trent 500 Turbine Overheat Detection
  ESF P-1011 Thrust Reverser Testing
  The following Special Condition provide an equivalent safety level to JAR 25 accelerate-stop and brakes qualification requirements (NPA 25 B, D, G 244)
  - SC F-1008 Accelerate stop distances
  - SC F-1014 Flap Gates (NPA 25B238)
  - SC S-1021 Brakes (partial NPA 25D-291)

Additional Equivalent Safety Findings part of the Certification Basis (added post TC):

The following Equivalent Safety Findings are additionally applicable when an A/C configuration include the subject optional design change(s):

- JAA Numbering:
  - ESF E-15 Reinforced security cockpit door (applicable from July 2002)
  - ESF E-17 Trolley Lift (applicable from November 2003)
  - ESF E-18 Lower Deck galley compartment (applicable from November 2003)
  - ESF E-21 Emergency exit marking reflectance (applicable from December 2004)
  - ESF E-27 Forward facing seats over 18 degrees to A/C centreline (applicable from June 2009)
  - ESF E-29 Fuselage burn through – aft pressure bulkhead (applicable from March 2009)
  - ESF E-30 Fuselage burn through – belly fairing (applicable from April 2009)
  - ESF E-31 Fuselage burn through – bilge area (applicable from April 2009)
  - ESF E-134 Installation of seats that make an angle of more than 18° with the aircraft longitudinal axis (applicable from November 2013)
  - ESF E-1022 Improved flammability standards for thermal / acoustic insulation materials, it provides an equivant level of safety to JAR 25.853(b) (applicable from August 2005)
  - ESF F-128 Minimum Mass Flow of Supplemental Oxygen, it provides an equivalent level of safety to JAR 25.1443(c) (applicable from November 2014).
  - ESF F-129 Crew Determination of Quantity of Oxygen in Passenger Oxygen System, it provides an equivalent level of safety to JAR 25.1441(c) (applicable from November 2014).
- EASA Numbering:
  - ESF D-101 Green arrow and “Open” Placard of Emergency Exit marking, it provides an equivalent level of safety to CS 25.811(e)(4) amdt 3, when the aircraft is equipped with symbolic exit signs (applicable from July 2018).

7. Environmental Protection

Environmental requirements for noise, fuel venting and emissions:

- Noise: ICAO Annex 16 – Volume I
  (See EASA TCDSN A.015 for details)
  Note: MOD 55005 originally used for compliance demonstration is not mandatory anymore.
- Fuel venting and emissions: ICAO Annex 16 – Volume II

8. Operational Suitability Data (OSD)

See SECTION: DATA PERTINENT TO ALL MODELS for:

- Operational Suitability Requirements
- EASA Approved Operational Suitability Data

SECTION 1: A340-600 SERIES (Cont'd)

III. Technical Characteristics and Operational Limitations

1. Type Design Definition

With Rolls Royce (RR) engines
A340-642: EAL 415.0410/02
A340-643: F00RP0604310

2. Description

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

3. Equipment

Refer to Type Design Definition.

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

- 00F252K0005/C01 for cabin seats.
- 00F252K0006/C01 for galley.
- 00F252K0020/C01 for cabin attendant seats.

4. Dimensions

- Length: 74,77m (245ft 3in)
- Diameter: 05,64m (18ft 6in)
- Wing Span: 63,45m (208ft 2in)
- Height: 17,29 m (56ft 9in)

5. Engine

5.1 Model

Rolls Royce (RR) engines

A340-642: Four (4) Rolls Royce RB211 Trent 556-61 or RB211 Trent 556A2-61 turbofan engines

A340-643: Four (4) Rolls Royce RB211 Trent 560A2-61 turbofan engines

5.2 Type Certificate

Rolls Royce (RR) engines
CAA UK Engine TCDS: 1056
EASA Engine TCDS: EASA.E.060

5.3 Limitations

5.3.1 Installed Engine Limits

Rolls Royce (RR) engines

A/C Model	A340-642	A340-643
Engine Model Data Sheet EASA.E.060	RB211 Trent 556-61 RB211 Trent 556A2-61	RB211 Trent 560A2-61
Static thrust at sea level: - take-off (5mn)* - maximum continuous	 58,462 lbs 44,359 lbs	 61,902 lbs 44,359 lbs
Approved Oils: Refer to the RR Engine Operating Instructions		

* 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

6. Fluids (Fuel / Oil / Additives / Hydraulics)

6.1 Fuel

The following fuels may be used:

ENGINES	KEROSENE DESIGNATION
RR: (Operating Instruction in RR Manuels)	JET A, JET A-1, JP5, JP8, N° 3 Jet Fuel, TS-1(GOST), RT(GOST)

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

Refer to Consumable Material List (CML) for details on approved fuel specifications.

6.2 Oil

Refer to the Consumable Material List (CML).

Refer to Engine and APU Manufacturers Operating Instructions.

6.3 Additives

Refer to the Consumable Material List (CML).

See Rolls Royce “RB211 Specific Operating Instructions for Trent 500", installation manual.

6.4 Hydraulics

Refer to the Consumable Material List (CML).

7. Fluid capacities

7.1 Fuel

Fuel quantity (0.8 kg / litre):

A340-642 without mod 53000 and without mod 54679

		3 – TANK AIRPLANE		3 – TANK AIRPLANE WITH OPTIONAL ACTs MOD 48487	
		Usable fuel liters (kg)	Unusable fuel litres (kg)	Usable fuel LWW liters (kg)	Unusable fuel LWW litres (kg)
CENTER		55,133* (44,106)	240* (192)	55,133 (44,106)	240 (192)
WING TANK	Inner 1 / 4	49,002 (39,202)	68 (54)	69,610 (55,688)	190 (152)
	Inner 2 / 3	69,514 (55,611)	230 (184)	49,432 (39,546)	48 (38)
	Outer	12,290 (9,832)	34 (27)	12,620 (10,096)	44 (35)
	Total	130,806 (104,645)	332 (265)	131,662 (105,329)	282 (225)
TRIM TANK	FCMC before FL 6.0	8,361 (6,689)	25 (20)	7,986 (6,389)	25 (20)
	FCMC FL 6.0 up to FL 7.0	7,986 (6,389)			
	FCMC FL 7.1 onwards	7,886 (6,309)		7,886 (6,309)	
TOTAL	FCMC before FL 6.0	194,300 (155,440)	597 (477)	194,781 (155,825)	547 (437)
	FCMC FL 6.0 up to FL 7.0	193,925 (155,140)			
	FCMC FL 7.1 onwards	193,825 (155,060)		194,681 (155,745)	

* For A/C not fitted with Jet Pumps (Mod 50812), values for CENTER Tank are:
54,969 liters (43,975 kgs) for usable and
404 liters (323 kgs) for unusable.

Total are modified as follows:

TOTAL	FCMC before FL 6.0	194,136 (155,309)	761 (608)	194,781 (155,825)	547 (437)
	FCMC FL 6.0 up to FL 7.0	193,136 (155,309)			
	FCMC FL 7.1 onwards	193,661 (154,929)		194,681 (155,745)	

A340-642 with mod 54679

A maximum total of 2,800 liters can be added to the values identified in paragraph above starting refueling Center tank and continuing with Inner Tanks as necessary, according to the following added quantities:

- Center tank up to 1,050 liters
- Inner tank 2 / 3 up to 550 liters each
- Inner tank 1 / 4 up to 325 liters each

A340-642 with mod 53000, A340-643

		3 – TANK AIRPLANE	
		Usable fuel liters (kg)	Unusable fuel litres (kg)
CENTER		55,202 (44,161)	171 (137)
WING TANK	Inner 1 / 4	49,178 (39,342)	56 (45)
	Inner 2 / 3	69,648 (55,718)	220 (176)
	Outer	12,442 (9,954)	54 (43)
	Total	131,268 (105,014)	330 (264)
TRIM TANK	Basic	7,886 (6,309)	25 (20)
	Extended (Mod 54382)	9,509 (7,607)	45 (36)
TOTAL	Basic Trim Tank	194,356 (155,484)	526 (421)
	Extended Trim Tank (Mod 54382)	195,979 (156,783)	546 (437)

7.2 Oil

Refer to Weight & Balance Manual.

7.3 Coolant system capacity

N/A.

8. Air Speeds Limits

Refer to approved Aeroplane Flight Manual.

9. Rotor Speed Limits

N/A

10. Maximum Operating Altitude and Temperature

10.1 Altitude

Maximum Flight level: 41 450 ft (12 634m)

Maximum Airfield altitude: 12 500 ft (3 810m)

10.2 Temperature

Flight: Minimum: -78°C SAT

Ground: Range: -54°C to +55°C

11. Operating Limitations

Refer to approved Aeroplane Flight Manual for maximum demonstrated crosswind.

Wind Speed Limitations:

- Crosswind: Takeoff: A/C : 35kt (gust included)
  Engine: Refer to AFM Limitation section
  Landing: A/C : 37kt (gust included)
  Engine: Refer to AFM Limitation section
- Tailwind: Takeoff: 10kt
  Landing: 10kt

12. Maximum Weight

Valid for A340-642

Variant (MOD)	**000** (Basic)	**001** (50312)	**101** (53043)	**102** (54805)	**103** (57713)
MTOW (T)	365	368	380	368	365
MLW (T)	256	259	265	259	265
MZFW (T)	242	245	251	245	251

Valid for A340-643

Variant (MOD)	**101** (53043)	**102** (54805)	**103** (57713)
MTOW (T)	380	368	365
MLW (T)	265	259	265
MZFW (T)	251	245	251

13. Centre of Gravity Range

Refer to approved Aeroplane Flight Manual.

14. Datum / Mean Aerodynamic Chord (MAC)

Datum: Station 0.0, located 6,382 meters forward of aeroplane nose.

MAC: 8,370m

15. Levelling Means

Three primary jacking points: Refer to approved Weight and Balance Manual.

16. Minimum Flight Crew

Two (2): Pilot and Co-pilot.

17. Passenger Emergency Exit

Two Passenger Emergency Exit configurations:

- Configuration A-A-III-A-A: Basic 4 Type A passenger doors and 1 Emergency Exit Type III

18. Maximum Passenger Seating Capacity and associated Minimum Number of Cabin Crew

The maximum number of passengers approved for emergency evacuation is 440.

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

The table below provides the certified Maximum Passenger Seating Capacities (MPSC), the corresponding cabin configuration (exit arrangement and modifications) and the associated minimum numbers of cabin crew members used to demonstrate compliance with the certification requirement:

Maximum Passenger Seating Capacity (MPSC) & Cabin Configuration	Minimum Cabin crew
440	9
400	8

A lower number of cabin crew may be approved by EASA for specific cabin layouts.

19. Maximum Baggage/ Cargo Loads

Cargo compartment	Maximum load (kg)
Forward	30,482
Aft	22,861
Rear (bulk)	3,468

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

20. Rotor Blade control movement

N/A

21. Auxiliary Power Unit (APU)

One HONEYWELL E. & S. 331-600[A] (Model Specification 31-15857-01).
Oils: refer to applicable approved Manuals

22. Life-limited parts

Refer to Airworthiness Limitation Section

See SECTION: DATA PERTINENT TO ALL MODELS.

23. Wheels and Tyres

Refer to Airbus Service Bulletin

A340-600 SERIES – Cont'd

IV. Operating and Service Instructions

In accordance with EASA Part 21 regulation, Airbus provide on-demand access to the following technical publications to any person required to comply with any of those instructions :

(Access via AirbusWorld portal)

1. Flight Manual (AFM)

   Ref. AFM 34000 (latest published revision)

2. Maintenance Manual

   Refer to Customized Maintenance Manuals published by Airbus (latest published revision)

3. Structural Repair Manual (SRM)

   Refer to Customized SRM published by Airbus (latest published revision)

4. Weight and Balance Manual (W&BM)

   Refer to Customized W&BM published by Airbus (latest published revision)

5. Illustrated Parts Catalogue (IPC)

   Refer to Customized IPC published by Airbus (latest published revision)

6. Service Bulletins (SBs)

   Refer to applicability section of Airbus Service Bulletins (latest published revision)

7. Required Equipment

   The equipment required by the applicable regulation shall be installed.

   Refer also to MMEL – See SECTION: DATA PERTINENT TO ALL MODELS.

A340-600 SERIES – Cont'd

V. Notes

1. All Weather Capability

A/C Model	RR Engines	
	A340-642	A340-643
Type Design Capability	-	Cat 3 Precision approach and autoland
Option Capability (MOD)	Cat 3 Precision approach and autoland (50321)	-

2. Conversions between Models

The following A/C Model engine configuration changes are approved:

- A340-642
  RB211 Trent 556-61, RB211 Trent 556A2-61 engines can be intermixed on the same aircraft whatever the number or the position.

3. Change of Weight Variants

N/A

SECTION 4: A340-500 SERIES

I. General

1. Type / Model

1.1 Type

A340

1.2 Model

A340-541, A340-542

2. Airworthiness Category

Large Aeroplanes

Performance Category A

3. Manufacturer

AIRBUS
2 Rond-Point Emile Dewoitine
31700 Blagnac FRANCE

4. State of Design Authority Type Certification

4.1 State of Design Authority

DGAC-F

4.2 Application Date

A340-541: 31 December 1997

4.3. State of Design Authority Type Certificate Date

A340-541: 03 December 2002

DGAC-F TC 183 remains a valid reference for models certified before 28 September 2003

5. EASA Type Certification

5.1 State of Design Authority

EASA

5.2 Application Date

A340-542: 31 December 1997

5.3. State of Design Authority Type Certificate Date

A340-542: 15 February 2007

SECTION 2: A340-600 SERIES (Cont'd)

II. Certification Basis

1. Reference Date for determining the applicable requirements

Reference Application Date for EASA Certification: 31 December 1997

2. Airworthiness Requirements

Original Airworthiness Requirements (at time of TC):

- Certification Requirements

  JAR 25 Change 14
  Except JAR 25.365(g) which remains at Change 13 for the design of the cockpit wall.

- All Weather Operations

  JAR AWO change 2 plus:
  - Orange Paper AWO 96/1

Additional Airworthiness Requirements (added post TC):

- Airborne Communication, Navigation, Surveillance

  CS-ACNS Initial Issue
  - Subpart B, Section 2 – for optional modifications (Post TC) installing FANS aiming at answering to SES mandate as defined in (EU) N° 29/2009 and amended by (EU) N° 310/2015 of 26 Febuary 2015.

    Note: For compliance to CS-ACNS Subpart B, Section 2, a deviation to CS-ACNS.B.DLS.B1.075 is accepted by CRI ACNS-B-GEN-01 to not include DM89 MONITORING [unit name] [frequency] in the downlink message set installed.
  - Subpart D – for optional modifications installing transponders aiming at answering to SES mandate as defined in (EU) No 1207/2011 and amended by (EU) No 1028/2014 of 26 September 2014.

3. Special Conditions

Original Special Conditions part of Certification Basis (at time of TC):

- JAA Numbering:

  SC A-1001 Revised Loads Requirements (NPA 25C20 and NPA 25C282)
  SC A-1002 Interaction of systems and structure
  SC A-1003 Design Maneuver Requirements
  SC A-1004 Design Dive Speed
  SC A-5 Limit pilot forces and torque
  SC A-1006 Grounds Loads and Conditions for Central Landing Gear
  SC A-1011 Vibration, Buffet and Aeroelastic Requirements (NPA25BCD236)
  SC A-1017 Braked Roll Conditions (NPA 25C-276)
  SC A-1020 Shock Absorption test (NPA 25D-279)
  SC F-1001 Stalling and scheduled operating speeds
  SC F-2 Motion and effects of cockpit controls
  SC F-1003 Static longitudinal stability
  SC F-4 Static directional and lateral stability

SC F-5 Flight envelope protections
SC F-6 Normal load factor limiting system
SC F-1008 Accelerate stop distances
SC F-1014 Flap Gates (NPA 25B238)
SC G-7 Function and Reliability Testing
SC P-1016 Rear Centre Tank and Tyre Failure
SC P-1018 Engine Sustained Imbalance
SC P-1020 APU Instruments (NPA 25J246)
SC P-1021 Windmilling without oil (NPA 25E268)
SC P-1022 Falling and Blowing Snow (NPA 25E288)
SC S-10.2 Effects of external radiations upon aircraft systems
SC S-1013 Autothrust system
SC S-16 Control Signal Authority
SC S-18 Electrical Flight Control unusual features
SC S-38 Towbarless towing
SC S-148 Longitudinal touchdown performance limit and Minimum Approach Break-Off Height ((NPA AWO-8, this SC replaces S-48)
SC S-1021 Brakes (partial NPA 25D-291)

Additional Special Conditions part of the Certification Basis (All models, added Post TC):
The following Special Conditions are additionally applicable when an A/C configuration include the subject optional design change(s):

SC E-2 Crew rest
(applicable from February 1993)
SC E-5.1 Lower deck Lavatory
(applicable from August 2000)
SC E-8.1 Lower deck stowage area
(applicable from August 2000)
SC E-11 Bulk crew rest compartment
(applicable from January 2002)
SC E-19 F/C sliding screens
(applicable from September 2003)
SC E-28 Partial Bulk Crew Rest Compartment with attached to galley
(applicable from January 2009)
SC E-128 Improved flammability standards for thermal/acoustic insulation
(applicable from February 2009)
SC E-130 Application of heat release and smoke density requirements to seat materials
(applicable from February 2010)
SC E-1014 HIC compliance for front row seating (inflatable restraints)
(applicable from July 2007)
SC E-1023 Side Facing Seats with Inflatable Restraints
(applicable from December 2005)
SC F-GEN-01 Installation of non-rechargeable lithium battery
(applicable by the date of this TCDS EASA.A.015 at issue 25)
SC H-01 Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS
(applicable from May 2010)
SC O-1001 Ferrying one engineunserviceable
(applicable from Oct 2002)

SC P-27 Flammability Reduction System
(applicable from June 2010)

- EASA Numbering:

SC D-100 Installation of mini suite type seating
(applicable from April 2018)
SC D-102 Incorporation of Inertia Locking Device in Dynamic Seats
(applicable from January 2019)
SC F-126 Flight Recorders including Data Link Recording
(applicable from June 2013)
SC F-131 Flight Instrument External Probes – Qualification in Icing Conditions
(applicable from April 2016)
SC F-137 Security Protection of Aircraft Systems and Networks
(applicable from May 2018)

4. Exemptions

None

5. Deviations

None

6. Equivalent Safety Findings

Original Equivalent Safety Findings part of Certification Basis (at time of TC):

- JAA Numbering:

ESF A-1015 Checked Pitching Maneuver Loads
ESF A-1021 Engine Failure Loads
ESF A-1023 Continuous Turbulence
ESF A-1024 Casting Factors
ESF A-1026 Proof of structure
ESF S-45 Oil temperature indication
ESF S-148 Longitudinal touch down performance and Minimum Approach Break-off Height deletion (NPA AWO 8)
ESF S-1059 Hydraulics System
ESF S-1065 Packs Off Operation
ESF S-1066 Excess deviation alert
ESF S-1070 AFM – Runway Visual Range Limits
ESF P-1008 Fuel Tank Access Covers
ESF P-1009 Rolls-Royce Trent 500 Turbine Overheat Detection
ESF P-1011 Thrust Reverser Testing

The following Special Condition provide an equivalent safety level to JAR 25 accelerate-stop and brakes qualification requirements (NPA 25 B, D, G 244)

- SC F-1008 Accelerate stop distances
- SC F-1014 Flap Gates (NPA 25B238)
- SC S-1021 Brakes (partial NPA 25D-291)

Additional Equivalent Safety Findings part of the Certification Basis (added post TC):

The following Equivalent Safety Findings are additionally applicable when an A/C configuration include the subject optional design change(s):

- JAA Numbering:
  - ESF E-15 Reinforced security cockpit door
    (applicable from July 2002)
  - ESF E-17 Trolley Lift
    (applicable from November 2003)
  - ESF E-18 Lower Deck galley compartment
    (applicable from November 2003)
  - ESF E-21 Emergency exit marking reflectance
    (applicable from December 2004)
  - ESF E-27 Forward facing seats over 18 degrees to A/C centreline
    (applicable from June 2009)
  - ESF E-29 Fuselage burn through – aft pressure bulkhead
    (applicable from March 2009)
  - ESF E-30 Fuselage burn through – belly fairing
    (applicable from April 2009)
  - ESF E-31 Fuselage burn through – bilge area
    (applicable from April 2009)
  - ESF E-134 Installation of seats that make an angle of more than 18° with the aircraft longitudinal axis
    (applicable from November 2013)
  - ESF E-1022 Improved flammability standards for thermal / acoustic insulation materials, it provides an equivant level of safety to JAR 25.853(b)
    (applicable from August 2005)
  - ESF F-128 Minimum Mass Flow of Supplemental Oxygen, it provides an equivalent level of safety to JAR 25.1443(c)
    (applicable from November 2014).
  - ESF F-129 Crew Determination of Quantity of Oxygen in Passenger Oxygen System, it provides an equivalent level of safety to JAR 25.1441(c)
    (applicable from November 2014).
- EASA Numbering:
  - ESF D-101 Green arrow and “Open” Placard of Emergency Exit marking, it provides an equivalent level of safety to CS 25.811(e)(4) amdt 3, when the aircraft is equipped with symbolic exit signs (applicable from July 2018).

7. Environmental Protection

Environmental requirements for noise, fuel venting and emissions:

- Noise: ICAO Annex 16 – Volume I
  (See EASA TCDSN A.015 for details)
  Note: MOD 55005 originally used for compliance demonstration is not mandatory anymore.
- Fuel venting and emissions: ICAO Annex 16 – Volume II

8. Operational Suitability Data (OSD)

See SECTION: DATA PERTINENT TO ALL MODELS for:

- Operational Suitability Requirements
- EASA Approved Operational Suitability Data

SECTION 1: A340-500 SERIES (Cont'd)

III. Technical Characteristics and Operational Limitations

1. Type Design Definition

With Rolls Royce (RR) engines
A340-541: EAL 415.1094/02
A340-542: EAL F01M06010396

2. Description

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

3. Equipment

Refer to Type Design Definition.

Cabin furnishings, equipment and arrangement shall conform to the following specification:
- 00F252K0005/C01 for cabin seats.
- 00F252K0006/C01 for galley.
- 00F252K0020/C01 for cabin attendant seats.

4. Dimensions

- Length: 67,33m (220ft 11in)
- Diameter: 05,64m (18ft 6in)
- Wing Span: 63,45m (208ft 2in)
- Height: 17,11 m (56ft 1in)

5. Engine

5.1 Model

Rolls Royce (RR) engines

A340-541: Four (4) Rolls Royce RB211 Trent 553-61 or RB211 Trent 553A2-61 turbofan engines

A340-542: Four (4) Rolls Royce RB211 Trent 556A2-61 turbofan engines

5.2 Type Certificate

Rolls Royce (RR) engines
CAA UK Engine TCDS: 1056
EASA Engine TCDS: EASA.E.060

5.3 Limitations

5.3.1 Installed Engine Limits

Rolls Royce (RR) engines

A/C Model	A340-541	A340-542
Engine Model Data Sheet EASA.E.060	RB211 Trent 553-61 RB211 Trent 553A2-61	RB211 Trent 556A2-61
Static thrust at sea level: - take-off (5mn)* - maximum continuous	 55,780 lbs 44,359 lbs	 58,462 lbs 44,359 lbs
Approved Oils: Refer to the RR Engine Operating Instructions		

* 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

6. Fluids (Fuel / Oil / Additives / Hydraulics)

6.1 Fuel

The following fuels may be used:

ENGINES	KEROSENE DESIGNATION
RR: (Operating Instruction in RR Manuels)	JET A, JET A-1, JP5, JP8, N° 3 Jet Fuel, TS-1(GOST), RT(GOST)

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

Refer to Consumable Material List (CML) for details on approved fuel specifications.

6.2 Oil

Refer to the Consumable Material List (CML).

Refer to Engine and APU Manufacturers Operating Instructions.

6.3 Additives

Refer to the Consumable Material List (CML).

See Rolls Royce “RB211 Specific Operating Instructions for Trent 500", installation manual.

6.4 Hydraulics

Refer to the Consumable Material List (CML).

7. Fluid capacities

7.1 Fuel

Fuel quantity (0.8 kg / litre):

A340-541 without mod 53000

		3 – TANK AIRPLANE		3 – TANK AIRPLANE WITH OPTIONAL ACTs MOD 48487	
		Usable fuel liters (kg)	Unusable fuel litres (kg)	Usable fuel LWW liters (kg)	Unusable fuel LWW litres (kg)
CENTER		55,133 (44,106)	240 (192)	55,133 (44,106)	240 (192)
WING TANK	Inner 1 / 4	49,002 (39,202)	68 (54)	49,432 (39,546)	48 (38)
	Inner 2 / 3	69,514 (55,611)	230 (184)	69,610 (55,688)	190 (152)
	Outer	12,290 (9,832)	34 (27)	12,620 (10,096)	44 (35)
	Total	130,806 (104,645)	332 (265)	131,662 (105,330)	282 (225)
REAR CENTER 5 FRAME	Without liner (Mod 51344)	19,873 (15,898)	10 (8)	19,873 (15,898)	10 (8)
	With liner (Mod 51344)	19,741 (15,793)	100 (80)	19,741 (15,793)	100 (80)
REAR CENTER 7 FRAME				27,329 (21,863)	241 (193)
TRIM TANK	FCMC FL 7.1 onwards	7,886 (6,309)	25 (20)	7,886 (6,309)	25 (20)
TOTAL (with RCT 5 Frame)	Without liner (Mod 51344)	213,698 (170,958)	597 (485)	214,554 (171,643)	557 (445)
	With liner (Mod 51344)	213,566 (170,958)	697 (557)	214,422 (171,538)	647 (517)
TOTAL (with RCT 7 Frame)				222,010 (177,608)	788 (630)

For aircraft with FCMC FL 6.0 up to FL 7.0, trim tank and total usable fuel quantities are increased by 100 liters (80 kg).

A340-541 with mod 53000, A340-542

		3 – TANK AIRPLANE	
		Usable fuel liters (kg)	Unusable fuel litres (kg)
CENTER		55,202 (44,161)	171 (137)
WING TANK	Inner 1 / 4	49,178 (39,342)	56 (45)
	Inner 2 / 3	69,648 (55,718)	220 (176)
	Outer	12,442 (9.954)	54 (43)
	Total	131,268 (105,014)	330 (264)
REAR CENTER 5 FRAME	With liner (Mod 51344)	19,741 (15,793)	100 (80)
TRIM TANK	Extended	9,509 (7,607)	45 (36)
TOTAL (with Extended trim tank and RCT 5 Frame)		215,720 (172,576)	646 (517)

7.2 Oil

Refer to Weight & Balance Manual.

7.3 Coolant system capacity

N/A.

8. Air Speeds Limits

Refer to approved Aeroplane Flight Manual.

9. Rotor Speed Limits

N/A

10. Maximum Operating Altitude and Temperature

10.1 Altitude

Maximum Flight level: 41 450 ft (12 634m)

Maximum Airfield altitude: 12 500 ft (3 810m)

10.2 Temperature

Flight: Minimum: -78°C SAT

Ground: Range: -54°C to +55°C

11. Operating Limitations

Refer to approved Aeroplane Flight Manual for maximum demonstrated crosswind.

Wind Speed Limitations:

- Crosswind:	Takeoff:	A/C :	35kt (gust included)
		Engine:	Refer to AFM Limitation section
	Landing:	A/C :	37kt (gust included)
		Engine:	Refer to AFM Limitation section
- Tailwind:	Takeoff:	10kt	
	Landing:	10kt	

12. Maximum Weight

Valid for A340-541

Variant (MOD)	**000** (51000)	**001** (51080)	**002** (50791)	**003*** (54237)	**004*** (56719)	**101** **(53039)**	**102** **(54806)**	**103** **(55642)**
MTOW (T)	368	372	372	374	374	380	372	372
MLW (T)	240	243	243	231	243	246	243	246
MZFW (T)	225	230	230	218	218	232	230	232

(*)WV003 and WV004 are only certified for those aircraft equipped with the Light Weight Wings and the 7-frame RCT.

Valid for A340-542

Variant	101 (53039)	102 (54806)	103 (55642)
MTOW (T)	380	372	372
MLW (T)	246	243	246
MZFW (T)	232	230	232

13. Centre of Gravity Range

Refer to approved Aeroplane Flight Manual.

14. Datum / Mean Aerodynamic Chord (MAC)

Datum: Station 0.0, located 6,382 meters forward of aeroplane nose.

MAC: 8,370m

15. Levelling Means

Three primary jacking points: Refer to approved Weight and Balance Manual.

16. Minimum Flight Crew

Two (2): Pilot and Co-pilot.

17. Passenger Emergency Exit

Two Passenger Emergency Exit configurations:

- Configuration A-A-I-A: Basic 3 Type A passenger doors and 1 Emergency Exit Type I

18. Maximum Passenger Seating Capacity and associated Minimum Number of Cabin Crew

The maximum number of passengers approved for emergency evacuation is 375.

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

The table below provides the certified Maximum Passenger Seating Capacities (MPSC), the corresponding cabin configuration (exit arrangement and modifications) and the associated minimum numbers of cabin crew members used to demonstrate compliance with the certification requirement:

Maximum Passenger Seating Capacity (MPSC) & Cabin Configuration	Minimum Cabin crew
375	8

A lower number of cabin crew may be approved by EASA for specific cabin layouts.

19. Maximum Baggage/ Cargo Loads

Cargo compartment	Maximum load (kg)
Forward	24,494
Aft	16,330
Rear (bulk)	3,458

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

20. Rotor Blade control movement

N/A

21. Auxiliary Power Unit (APU)

One HONEYWELL E. & S. 331-600[A] (Model Specification 31-15857-01).
Oils: refer to applicable approved Manuals

22. Life-limited parts

Refer to Airworthiness Limitation Section

See SECTION: DATA PERTINENT TO ALL MODELS.

23. Wheels and Tyres

Refer to Airbus Service Bulletin

A340-500 SERIES – Cont'd

IV. Operating and Service Instructions

In accordance with EASA Part 21 regulation, Airbus provide on-demand access to the following technical publications to any person required to comply with any of those instructions :

(Access via AirbusWorld portal)

1. Flight Manual (AFM)

   Ref. AFM 34000 (latest published revision)

2. Maintenance Manual

   Refer to Customized Maintenance Manuals published by Airbus (latest published revision)

3. Structural Repair Manual (SRM)

   Refer to Customized SRM published by Airbus (latest published revision)

4. Weight and Balance Manual (W&BM)

   Refer to Customized W&BM published by Airbus (latest published revision)

5. Illustrated Parts Catalogue (IPC)

   Refer to Customized IPC published by Airbus (latest published revision)

6. Service Bulletins (SBs)

   Refer to applicability section of Airbus Service Bulletins (latest published revision)

7. Required Equipment

   The equipment required by the applicable regulation shall be installed.

   Refer also to MMEL – See SECTION: DATA PERTINENT TO ALL MODELS.

A340-500 SERIES – Cont'd

V. Notes

1. All Weather Capability

A/C Model	RR Engines	
	A340-541	A340-542
Type Design Capability	-	Cat 3 Precision approach and autoland
Option Capability (MOD)	Cat 3 Precision approach and autoland (51315)	-

2. Conversions between Models

The following A/C Model engine configuration changes are approved:

- Conversion from A340-541 to A340-542 and engines change from 553A2-61 to 556A2-61: A340-541 aircraft can be converted into A340-542 aircraft by application of Airbus Service Bulletin A340-00-5010 (Mod 58770)
- Conversion from A340-542 to A340-541 and engines change from 556A2-61 to 553A2-61: A340-542 aircraft can be converted into A340-541 aircraft by application of Airbus Service Bulletin A340-00-5009 (Mod 58771)

The following A/C Model engine configuration changes are approved:

- A340-541
  RB211 Trent 553-61, RB211 Trent 553A2-61 engines can be intermixed on the same aircraft whatever the number or the position.

SECTION 5: DATA PERTINENT TO ALL MODELS

The below information is applicable to all models unless secifically mentioned:

1. Maintenance Instructions and Airworthiness Limitations

The following initial minimum maintenance requirements and their frequencies shall be used in the development of an approved maintenance programme for the aircraft:

Applicable Document Reference:

- A340 Maintenance Review Board Report (latest published revision)

The following Airworthiness Limitations Sections (ALS) apply:

- **ALS PART 1: SAFE LIFE AIRWORTHINESS LIMITATION ITEMS (SL ALI)**
  Limitations applicable to Safe Life Airworthiness Limitation Items are provided in the A340 Airworthiness Limitations Section (ALS) sub-parts 1-2 and 1-3 approved by EASA;

  Applicable Document Reference:
  - Ref: A340 ALS Part 1 (latest published revision)
  - Ref: A340 ALS Part 1 Variations (latest published set of variations)

- **ALS PART 2: DAMAGE TOLERANCE AIRWORTHINESS LIMITATION ITEMS (DT ALI)**
  Limitations applicable to Damage Tolerant Airworthiness Limitation Items are provided in the A340 Airworthiness Limitations Section (ALS) Part 2 approved by EASA;

  Applicable Document Reference:
  - Ref: A340 ALS Part 2 (latest published revision)
  - Ref: A340 ALS Part 2 Variations (latest published set of variations)

- **ALS PART 3: CERTIFICATION MAINTENANCE REQUIREMENTS (CMR)**
  Certification Maintenance Requirements are provided in the A340 Airworthiness Limitations Section (ALS) Part 3 approved by EASA;

  Applicable Document Reference:
  - Ref: A340 ALS Part 3 (latest published revision)
  - Ref: A340 ALS Part 3 Variations (latest published set of variations)

- **ALS PART 4: AGEING SYSTEMS MAINTENANCE (ASM)**
  Limitations applicable to Ageing System Maintenance are provided in the A340 Airworthiness Limitation Section (ALS) Part 4 approved by EASA;

  Applicable Document Reference:
  - Ref: A340 ALS Part 4 (latest published revision)
  - Ref: A340 ALS Part 4 Variations (latest published set of variations)

- **ALS PART 5: FUEL AIRWORTHINESS LIMITATIONS (FAL)**
  Fuel Airworthiness Limitations are provided in the A340 Airworthiness Limitations Section (ALS) Part 5 approved by EASA;

  Applicable Document Reference:
  - Ref: A340 ALS Part 5 (latest published revision)
  - Ref: A340 ALS Part 5 Variations (latest published set of variations)

2. Operational Suitability Data (OSD)

The Operational Suitability Requirements and Data listed below are applicable to all A340 models:

2.1 Flight Crew Data (FCD)

- Operational Suitability Requirements:
  CS-FCD Initial Issue
- Operational Suitability Data approved by EASA:
  a. FCD ref. F01RP1536752 Issue 1 dated 7th of December 2015 or later approved revisions
  b. Required for Entry into Service by EU operator

2.2 Cabin Crew Data (CCD)

- Operational Suitability Requirements:
  SC A-01-CCD OSD Cabin Crew Data (CCD) Certification Basis
  SC CCD-01 OSD Changes to A340 Cabin Crew Data
- Operational Suitability Data approved by EASA:
  a. CCD ref. LR01RP1534111 Issue 1 dated 16th November 2015 or later approved revisions
  b. Required for Entry into Service by EU operator
  c. A340-200 and A340-300 are one aircraft type.
  A340-500 and A340-600 are variants of the A340-200 and A340-300.

2.3 Master Minumum Equipment List (MMEL)

- Operational Suitability Requirements:
  JAR MMEL / MEL Subpart B amendment 1
- Operational Suitability Data approved by EASA:
  a. MMEL Ref. MMEL STL 33100 Revision November 2015 or later approved revisions
  b. Required for Entry into Service by EU operator

SECTION 6: ADMINISTRATIVE

I. Acronyms and Abbreviations

A/C	Aircraft
AFM	Aeroplane Flight Manual
ALS	Airworthiness Limitation Section
AMC	Acceptable Means of Compliance
APU	Auxiliary Power Unit
AWO	All Weather Operations
CAA	Civil Aviation Authority
CCD	Cabin Crew Data
CRI	Certification Review Item
CS	Certification Specification
DGAC	Direction Générale de l'Aviation Civile (French NAA)
EASA	European Aviation Safety Agency
EC	European Commission
EIS	Entry Into Service
ESF	Equivalent Safety Finding
ETOPS	Extended Range Operations (with Two-Engined Aeroplanes)
EU	European Union
EU MS	European Union Member States
EWIS	Electrical Wiring Interconnection System
FCD	Flight Crew Data
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FRS	Flammability Reduction Systems
ICA	Instructions for Continued Airworthiness
ICAO	International Civil Aviation Organization
JAA	Joint Aviation Authorities
JAR	Joint Aviation Requirements
MSN	Manufacturer Serial Number
MMEL	Master Minimum Equiment List
MLW	Maximum Landing Weight
MTOW	Maximum Take-Off Weight
MZFW	Maximum Zero Fuel Weight
NAA	National Aviation Authority
NPA	Notice of Proposed Amendment
OSD	Operational Suitability Data
SB	Service Bulletin
SC	Special Condition
TC	Type Certificate
TCDS	Type Certificate Data Sheet
TCDSN	Type Certificate Data Sheet for Noise
WV	Weight Variant

II. Type Certificate Holder Record

AIRBUS
2 Rond-Point Emile Dewoitine
31700 Blagnac
France

III. Change Record

Starting from issue 17

TCDS Issue No	TCDS Date	TCDS Changes	TC Date
17	27/11/09	Page 10 Section 2.III.1.7 Amended engine intermix applicability for A340-213 (deletion of CFM56-5C4/1P) Page 13 Section 2.III.2.12 Introduction of reference to ALS 4, and deletion of Certification Document reference numbers Page 18 Section 3.III.1.7 Amended engine intermix applicability for A340-313 (deletion of CFM56-5C4/1P) Page 21 Section 3.III.2.12 Introduction of reference to ALS 4, and deletion of Certification Document reference numbers Page 24 Section 4.III.1.2.1 Introduction of reference to Approved Oil documentation Page 27 Section 4.III.2.1.3 Amended fuel tank capacity values Page 28 Section 4.III 2.12 Introduction of reference to ALS 4, and deletion of Certification Document reference numbers Page 31 Section 5.III.1.2.1 Introduction of reference to Approved Oil documentation Page 32 Section 5.III 1.6 Mod number corrected (Variant 103) Page 32 Section 5.III.1.7 Addition of two notes: -Conversion from A340-541 to A340-542 -Conversion from A340-542 to A340-541 Page 33 Section 5.III.2.1.2 Amended fuel tank capacity values Page 35 Section 5.III.2.12 Introduction of reference to ALS 4, and deletion of Certification Document reference numbers Page 36 Section 6. Introduction of Change Record	15/02/07
18	11/05/10	Update §2.1 – Fuel quantity for A340-300 Introduction of MOD 200118 for A340-313 Update of § Environmental Standards for all models	15/02/07
19	11/06/10	Addition of CRI H-01 as Special Condition (Enhanced Airworthiness Programme for Aeroplane Systems - ICA for EWIS) Typo error in the fuel quantity table for A340-642 §2.1.1	15/02/07
20	21/10/10	Correction of Special Condition numbers and titles in Section 4.II.4, 4.II.6, 5.II.4 and 5.II.6. Deletion of SC P-1016 from Section 4.II.4	15/02/07

TCDS Issue No	TCDS Date	TCDS Changes	TC Date
21	20/11/12	Addition of Special Condition P-27, E-128, E-130 and E-1014 to Certification Basis of A340-200/-300/-600/-500 Addition of Equivalent Safety Finding E-1022 to Certification Basis of A340-200/-300/-600/-500 Correction of Fuel Quantity mod validity in Section 3.III.2.1.1 Introduction of Mod 202897 in Fuel Quantity table of Section 3.III.2.1.3	15/02/07
22	10/12/15	ESF S-148 correctly classified as an SC for the A340-200 and -300 series CRI P-9 removed from TCDS due to non-applicability to the A340 type Addition of ESFs F-128 and F-129 on A340-200, -300, -600, and -500 Completion of approved Oil Engine Reference for RR engines Introduction of Operational Suitability Data for MMEL, FCD, CCD on A340-200, A340-300, A340-500, A340-600	15/02/07
23	07/11/17	Change in the Airbus mail address	15/02/07
24	20/07/18	Introduction of ESF D-101 Green Arrow and "Open" Placard for Emergency Exit Marking	09/04/10
25	04/07/19	FULL REVISION Full rework of TCDS to match latest EASA TCDS Template and harmonize with A330 TCDS when relevant. Simultaneous release of full Annex to TCDS detailing SC / ESF The following remarkable omissions / typo is corrected vs. previous versions: A340-200/-300 - §II-3: Addition of SC P-32 A340-500/-600 - §II-3: Addition of SC E-1023 A340-200/-300/-500/-600 - §II-3: Addition of SC E-28 - §II-3: Addition of SC D-100, D-102, F-126, F-131, F-137 - §II-6: Addition of ESF E-21, E-27, E-29, E-30, E-31, E-134 DATA PERTINENT TO ALL MODELS - §2.2: addition of Special Condition for change to OSD: SC CCD-01 OSD Simultaneous release of full Annex to TCDS detailing SC / ESF In addition, as compared to previous versions the following changes are introduced: A340-200/-300/-500/-600 - §II-2: Elect to Comply to CS-ACNS Subpart B, Section 2 and Subpart D for optional modifications answering SES mandates - §II-3: New SC F-GEN-01: Installation of non-rechargeable lithium battery	09/04/10

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