DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A43NM
Revision 4
Airbus
A340-200 Series:
Models: A340-211, -212, -213
A340-300 Series:
Models: A340-311, -312, -313
A340-500 Series:
Models: A340-541
A340-600 Series:
Models: A340-642
March 19, 2007

TYPE CERTIFICATE DATA SHEET NO. A43NM

This data sheet which is part of Type Certificate No. A43NM prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the US Federal Aviation Regulations.

Type Certificate Holder: Airbus
1, Rond-Point Maurice Bellonte
31707 Blagnac
France

Type Certificate Holder Record - Name change from Airbus Industrie to Airbus January 2002

I. Type A340-200 Series Transport Category Airplanes:

Airbus A340-211 - approved May 27, 1993
Airbus A340-212 - approved July 7, 1994
Airbus A340-213 - approved October 2, 1994

Model:	Definition of Reference Airplane by Airbus Documents:
A340-211	FAA A340-211 Type Design, ref. AI/EA-N 415.0266/96 Issue 4, dated June 11, 1997, for type definition and Type Certification Standard Equipment List, ref. 00F000A0101/C0S.
A340-212	FAA A340-212 Type Design, ref. AI/EA-N 415.0269/96 Issue 4, dated June 11, 1997, for type definition and Type Certification Standard Equipment List, ref. 00F000A0102/C0S.
A340-213	FAA A340-213 Type Design, ref. AI/EA-N 415.0271/96 Issue 4, dated June 11, 1997, for type definition and Type Certification Standard Equipment List, ref. 00F000A0103/C0S.

Engines:

Airplane Model	Engine Model:	Engine Type Certificate:
A340-211	Four CFMI-CFM 56-5C2 or four CFM 56-5C2/F or four CFM 56-5C2/G. Engine intermix between 5C2 and 5C2/F and 5C2/G on the same aircraft is allowed.	FAA-Type Certificate E37NE
A340-212	Four CFMI-CFM 56-5C3/F or four CFM 56-5C3/G. Engine intermix between 5C3/F and 5C3/G on the same aircraft is allowed.	FAA-Type Certificate E37NE
A340-213	Four CFMI-CFM56-5C4	FAA-Type Certificate E37NE

Maximum Weight:

Variant	000 (Basic) kg / lb	001 (MOD 41302) kg / lb
Maximum Ramp Weight	254,400 / 560,952	257,900 / 568,670
Maximum Take-off Weight, MTOW	253,500 / 558,968	257,000 / 566,685
Maximum Landing Weight, MLW	181,000 / 399,105	181,000 / 399,105
Maximum Zero Fuel Weight, MZFW	169,000 / 372,645	169,000 / 372,645

Maximum Baggage:

Cargo Compartment	Maximum Load (kg / lb)
Forward	18,507 / 40,809
Aft	15,241 / 33,606
Rear	3,468 / 7,647

For the positions and the loading conditions authorized in each position (references of containers, pallets and associated weight) see weight and Balance Manual: Airbus Document 00F080A0002/C2S for A340-211 and A340-212 and 00F080A0004/C0S for A340-213.

Aircraft Flight Manual:
Airplane operation must be in accordance with the EASA-Approved Airplane Flight Manual (AFM), US version, listed below, or later EASA approved revision applicable to the specific airplane model, modification status and serial number. All placards required by either the AFM, the applicable operating rules, or the certification basis must be installed in the airplane.

Model A340 Aircraft	Airbus Document Refr.	Revision No.	Date
-211	AI/EV-O 34000	1	May 27, 1993
-212	AI/EV-O 34000	1	February 3, 1997
-213	AI/EV-O 34000	1	February 3, 1997

For information on Fuel, Engine Limits, Airspeed Limits, Center of Gravity Limits, Datum, Leveling Means, Minimum Crew, Number Seats, Fuel Capacity, Maximum Operating Altitude, Control Surface Movements, Certification Basis, Production Basis, Equipment, Hydraulic Fluids, Auxiliary Power Unit (APU), Tires and Environmental requirements for noise :
See Section III, Data Pertinent to All Model A340-200 and A340-300 Series Airplanes.

For information on Import Requirements, Service Information and General Notes: See section VII, Data Pertinent to All Model A340-200, A340-300, A340-500 and A340-600 Series Airplanes.

II. Type A340-300 Series Transport Category Airplanes:

Airbus A340-311 - approved May 27, 1993:
Airbus A340-312 - approved July 7, 1994:
Airbus A340-313 - approved October 2, 1997:

The A340-300 series differs from the A340-200 series aircraft by the addition of 8 fuselage frames.

Model:	Definition of Reference Airplane by Airbus Documents:

A340-311	FAA A340-311 Type Design, ref. AI/EA-N 415.02695/96 Issue 4, dated June 11, 1997, for type definition and Type Certification Standard Equipment List, ref. 00F000A0101/C0S.
A340-312	FAA A340-312 Type Design, ref. AI/EA-N 415.0270/96 Issue 4, dated June 11, 1997, for type definition and Type Certification Standard Equipment List, ref. 00F000A0102/C0S.
A340-313	FAA A340-313 Type Design, ref. AI/EA-N 415.0272/96 Issue 4, dated June 11, 1997, for type definition and Type Certification Standard Equipment List, ref. 00F000A0103/C0S.

Engines

Airplane Model	Engine Model:	Engine Type Certificate:
A340-311	Four CFMI-CFM 56-5C2 or four CFM 56-5C2/F or four CFM 56-5C2/G. Engine intermix between 5C2 and 5C2/F and 5C2/G on the same aircraft is allowed.	FAA-Type Certificate E37NE
A340-312	Four CFMI-CFM 56-5C3/F or four CFM 56-5C3/G. Engine intermix between 5C3/F and 5C3/G on the same aircraft is allowed.	FAA-Type Certificate E37NE
A340-313	Four CFMI-CFM56-5C4	FAA-Type Certificate E37NE

Maximum Weight:

Variant	000 (Basic) kg / lb	001 (MOD 41302) kg / lb
Maximum Ramp Weight	254,400 / 560,952	257,900 / 568,670
Maximum Take-off Weight, MTOW	253,500 / 558,968	257,000 / 566,685
Maximum Landing Weight, MLW	186,000 / 410,130	186,000 / 410,130
Maximum Zero Fuel Weight, MZFW	174,000 / 383,670	174,000 / 383,670

Maximum Baggage:

Cargo Compartment	Maximum Load (kg / lb)
Forward	22,861 / 50,409
Aft	18,507 / 40,808
Rear	3,468 / 7,647

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

Ref. Airbus Document 00F080A0002/C3S for A340-311 and A340-312

Ref. Airbus Document 00F080A0004/C0S for A340-313

Aircraft Flight Manual:

Airplane operation must be in accordance with the EASA-Approved Airplane Flight Manual (AFM), US version, listed below, or later EASA approved revision applicable to the specific airplane model, modification status and serial number. All placards required by either the AFM, the applicable operating rules, or the certification basis must be installed in the airplane.

Model A340 Aircraft	Airbus Document Refr.	Revision No.	Date
-311	AI/EV-O 34000	1	May 27, 1993
-312	AI/EV-O 34000	1	February 3, 1997
-313	AI/EV-O 34000	1	February 3, 1997

For information on Fuel, Engine Limits, Airspeed Limits, Center of Gravity Limits, Datum, Leveling Means, Minimum Crew, Number Seats, Fuel Capacity, Maximum Operating Altitude, Control Surface Movements, Certification Basis, Production Basis, Equipment, Hydraulic Fluids, Auxiliary Power Unit (APU), Tires and Environmental requirements for noise :

See Section III, Data Pertinent to All Model A340-200 and A340-300 Series Airplanes.

For information on Import Requirements, Service Information and General Notes: See section VII, Data Pertinent to All Model A340-200, A340-300, A340-500 and A340-600 Series Airplanes.

III. Data Pertinent to All Model A340-200 and A340-300 Series Airplanes:

Fuel:

	Specification		
Nomenclature	United Sates	France	United Kingdom
Kerosene	ASTM D 1655 (JET A) (JET A1)	AIR 3405C	DERD 2494/2453
Wide Cut	ASTM D 1655 (JET B)	AIR 3407B	DERD 2454/2486
	MIL-T 5624 (JP4) MIL-T 83133 (JP8)	AIR 3407B	DERD 2454/2486

Additives: According to CFMI "Specific Operating Instructions", installation manual. The above-mentioned fuels are also suitable for the APU.

Engine Limits:

Engine Limitations	CFMI CFM 56 -5C2 -5C2/4 -5C2/F -5C2/F4 -5C2/G -5C2/G4	CFMI CFM 56 -5C3/F -5C3/F4 -5C3/G -5C3/G4	CFMI CFM 56 -5C4
	See FAA Data Sheet E37NE		
Static Thrust at Sea Level • Take-off (5 mn)[1] (flat rated 30º C) • Maximum continuous (flat rated 25º C)	13878 daN (31,200 lbs) 12588 daN (28,300lbs)	14456 daN (32,500 lbs) 13077 daN (29,400 lbs)	15123 daN (34,000 lbs) 13371 daN (30,060 lbs)
Maximum Engine Speed • N1 rpm (%) • N2 rpm (%)	4800 (100.3%) 15,183 (105%)	4800 (100.3%) 15,183 (105%)	4985 (104.2%) 15,183 (105%)
Maximum Gas Temperature • Take-off (5mn)[1] • Maximum Continuous • Starting[2]	 950º C 915º C 725º C	 965º C 930º C 725º C	 975º C 940º C 725º C
Maximum Oil Temperature (Supply Pump Outlet) ºC • Take-off, Stabilized • Transient (15 mn max.) Minimum Pressure	 140º C 155º C 89.6 KPa differential	 140º C 155º C 89.6 KPa differential	 140º C 155º C 89.6 KPa differential
Approved oils	See CFMI Service Bulletin CFMI 79-001 or GE specification D50TF1, Type I and II		

Table references:
(1) 10 minutes at take-off thrust allowed only in case of engine failure (at take-off or during go-around).

(2) 4 consecutive cycles of 2 minutes each

Airspeed Limits (Indicated Airspeed, IAS, unless otherwise stated):

- Maximum Operating Limit Speed/Mach, V_{MO}/M_{MO} — 330 KIAS / .86 M
- Design Diving Speed, V_D — 365 KIAS / .93 M
- Design Maneuvering Speed, V_A — Refer to AFM performance Section
- Maximum Flaps/Slats Extended Speed or Operating Speed, V_{FE}

Configuration	Slats/Flaps º	V_{FE} (kt)	
1	20/0	240	Intermediate Approach
	20/17	215	Take-off
2	24/22	196	Take-off and Approach
3	24/26	186	Take-off, Approach, and Landing
FULL	24/32	180	Landing

- Minimum Control Speed, V_{MC} — Refer to AFM performance Section (Performance Engineering Program/OCTOPUS)

Landing Gear Speeds:

- Maximum Speed with Landing Gear Operating (Extension and Retraction), V_{L0} 250 KIAS/.55 M
- Maximum Speed with Landing Gear Locked Down, V_{LE} 250 KIAS/.55M
- Tire Limit Speed (Ground Speed) 204 KTS

Center of Gravity Limits:

Refer to EASA-Approved AFM, US Version, Limitations Section for center of gravity envelope.
Note: 0% MAC is located 1275.51 in from the datum line.

Datum:

The aircraft reference zero datum point is located 251.37 in. forward of the fuselage nose, 275.8 in. under the fuselage centerline (datum line).

Leveling Means:

Inclinometer on cabin seat track rails (refer to AMM chapter 08.20.00).

Minimum Crew:

2 - Pilot and copilot

Number of Seats:

The maximum number of passengers approved for emergency evacuation is:
375 passengers with a 3 pair Type A and 1 pair Type 1 exits configuration, and
379 passengers with 4 pair Type A exits configuration.

Fuel Capacity:

	3 Tank Airplane			
	Usable Fuel		Unusable Fuel	
Tank	liters (kg)	gallons (lb)	liters (kg)	gallons (lb)
Wing	91,056 (72,845)	24,054 (164,052)	245 (196)	70 (41)
Center	41,468 (33,174)	10,955 (74,173)	83 (66)	22 (150)
Trim Tank	6,114 (4,891)	1,615 (11,014)	6 (5)	1.6 (11)
Total	138,638 (110,910)	36,627 (249,796)	334 (267)	88 (600)

Maximum Operating Altitude:
- Basic: 41,100 feet (12,527m) slats and flaps retracted (clean)
- Option: 41,450 feet (12,634m) slats and flaps retracted (clean) with modification 52536
- 20,000 feet (6,096 m) slats or slats/flaps extended

Control Surface Movements *(Total one-way travel in each direction of each movable control surface on the aircraft.)*

Control Surface	Maximum Travel
Aileron	+25°/-25°
#1 Spoiler	Speed Brake 25°
	Lift Dumper 35°
#2,3 Spoilers	Roll 35°
	Speed Brake 30°
	Lift Dumper 50°
#4,5 Spoilers	Roll 35°
	Speed Brake 30°
	Lift Dumper 50°
Aileron Droop	10°
Flaps	32°
Slats 1	21°
Slats 2 to 7	24°
Stabilizers	+2°/-14°
Elevator	+15°/-30°
Rudder	+31.6°/-31.6°

Certification Basis (A340-200 and A340-300):

a. Part 25 of the FAR effective February 1, 1965, including amendments 25-1 through 25-63 and amendments 25-65, 25-66 and 25-77.

b. Part 25 of the FAR amendment 25-64 with the following exceptions:
- Cockpit seats will not meet FAR 25.562 amendment 25-64 but will meet FAR 25.561
- Compliance with 25.785(a), (b), and (d) at amendment 25-64 for front row seats in front of a bulkhead will be based on ensuring a 35 inch free head strike envelope.

c. Special Federal Aviation regulation FAR Part 34 as amended by Amendments 27-1, through 27-7.

d. Part 36 of the FAR as amended by amendments 36-1 through 36-20.

e. FAA Special conditions issued for the A340 in accordance with Section 21.16 of the FAR and published in the Federal Register April 15, 1993, (Docket No. NM-75, Special Conditions No. 25-ANM-69), as follows:

(1) Electronic Flight Control System (EFCS) failures and Mode Annunciation
(2) Command Signal Integrity
(3) Protection From Lightning and Unwanted Effects of High Intensity Radiated Fields (HIRF)
(4) Interaction of Systems and Structures
(5) Design Dive Speed
(6) Design Maneuver Requirements
(7) Limit Pilot Forces
(8) Tail plane Tank Emergency Landing Loads
(9) Limit Engine Torque
(10) Ground Load Conditions for Center Landing Gear
(11) Flight Characteristics
(12) Flight Envelope Protection
(13) Side Stick Controllers
(14) Computerized Airplane Flight Manual (AFM) Performance Information

f. For precision approach and landing, the applicable technical requirements are complemented by AC 120-29 and AC 120-28C.

g. For the automatic flight control system, the applicable technical requirements are complemented by AC 20-57A for automatic landing and by AC 25.1329-1A for cruise.

h. Equivalent safety findings have been made in accordance with FAR 21.21(b)(1) for the following paragraphs of the FAR:

(1) 25.335(d) for design airspeeds
(2) 25.345 for high lift devices
(3) 25.349 for control surface loads
(4) 25.351(b) for unsymmetrical loads
(5) 25.371 for gyroscopic loads
(6) 25.373 for speed control devices
(7) 25.101(I); 25.105(c)(1); 25.109(a)(b)(c)(d)(e)(f); 25.113(a)(b)(c); 25.115(a); 25.735(f)(g)(h)(b) for rejected takeoff and landing performance

i. Optional requirements elected:
• 25.801 for ditching.
• 25.1419 for icing.

The Direction Generale de 'Aviation Civile (DGAC) of France originally type certificated the Airbus Model A340-200 and A340-300 series airplanes under its type certificate number DGAC-F TC 183. The FAA validated this product under U.S. Type Certificate Number A43NM. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of DGAC.

Production Basis:
A340 aircraft, all series and models, are produced in France under production approval FR.21G.0035 (formerly FG 035) issued by the DGAC (on behalf of EASA) to Airbus.

Equipment:
• The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.
• Equipment approved for installation is listed in the Type Certification Standard Equipment Lists; 00F000A0101/C0S for the A340-211 and A340-311, 00F000A0102/C0S for the A340-212 and A340-312, and 00F000A0103/C0S for the A340-213 and A340-313.

• Cabin furnishings, equipment and arrangement shall conform to the following specification:
  • 00F252K0010/C01 for cabin seats.
  • 00F252K0006/C01 for galley.
  • 00F252K0020/C01 for cabin attendant seats

Hydraulic Fluids:
Type IV - Specification NSA 30.7110

Auxiliary Power Unit (APU):

Garrett Airesearch	GTCP 331-350C (Specification 31-7677A)
Maximum Allowable Speed	(107%) 41,730 RPM
Maximum Gas Temperature: Turbine Outlet Temperature Starting	 650 °C 1250 °C

Approved oils: See Garrett report GT-7800 or Garrett Maintenance Manual.

Tires:
Refer to Airbus Service Bulletin (SB) A340-32-4007.

Environmental requirements for noise:
ICAO Annex 16 Volume 1 – Chapter 3, or Chapter 4 with Modification 55005.

IV. Type A340-600 Series Transport Category Airplanes:

Airbus Model A340-642 - approved July 22, 2002

Model:	Definition of Reference Airplane by Airbus Documents:
A340-642	FAA A340-642 Type Design, ref. EAL 415.0363/02 Issue 02, dated July 19, 2002, for type definition.

The A340-600 series differs from the A340-300 series aircraft by the addition of 20 fuselage frames with corresponding increases in weight, thrust, horizontal stabilizer area and wing area. Full electrical control of the rudder replaces the previous mechanical linkage between computer and actuators for both primary and backup systems

Engines

Airplane Model	Engine Model:	Engine Type Certificate:
A340-642	Four Rolls-Royce– Trent 556-61 turbojet engines	FAA-Type Certificate E00066NE

Maximum Weight:

Variant	000 (Basic) kg / lb	001 (Mod 50312) kg / lb
Maximum Ramp Weight	366,200 / 807,471	369,200 / 814,086
Maximum Take-off Weight, MTOW	365,000 / 804,825	368,000 / 811,440
Maximum Landing Weight, MLW	256,000 / 564,480	259,000 / 571,095
Maximum Zero Fuel Weight, MZFW	242,000 / 533,610	245,000 / 540,225

Number of Seats:
The maximum number of passengers approved for emergency evacuation is 379 passengers with a 4 pair of Type A and 1 pair of oversize Type III exits configuration.

Maximum Baggage:

Cargo Compartment	Maximum Load (kg / lb)
Forward	30,482 / 67,213
Aft	22,861 / 50,409
Rear	3,468 / 7,647

For the positions and the loading conditions authorized in each position (references of containers, pallets and associated weight) see weight and Balance Manual:
Ref. Airbus Document 00F080A0601/C6S for A340-642

Fuel Capacity

Tank		Tank Capacity			
		Usable Fuel		Unusable Fuel	
		liters (kg)	gallons (lb)	Liters (kg)	gallons (lb)
Wing	Tank 1 / 4	49,002 (39,202)	12,945 (86,426)	68 (54)	18 (120)
	Tank 2 / 3	69,514 (55,611)	18,364 (122,601)	230 (184)	61 (406)
	Outer	12,290 (9,832)	3,247 (21,676)	34 (27)	9 (60)
	Total	130,806 (104,645)	34,556 (230,703)	332 (266)	88 (586)
Center		54,969 (43,975)	14,521 (96,842)	404 (323)	107 (713)
Trim Tank		8,361 (6,689)	2,209 (14,747)	25 (20)	7 (44)
Total		194,136 (155,309)	51,286 (342,386)	761 (609)	201 (1,343)

Airplane Flight Manual:
Airplane operation must be in accordance with the EASA-Approved Airplane Flight Manual (AFM), US version, listed below, or later EASA approved revision applicable to the specific airplane model, modification status and serial number. All placards required by either the AFM, the applicable operating rules, or the certification basis must be installed in the airplane.

Model A340 Aircraft	Airbus Document Refr.	Revision No.	Date
-642	STL 34000	1	July 22, 2002

For information on Fuel, Engine Limits, Airspeed Limits, Center of Gravity Limits, Datum, Leveling Means, Minimum Crew, Maximum Operating Altitude, Control Surface Movements, Certification Basis, Production Basis, Equipment, Hydraulic Fluids, Auxiliary Power Unit (APU), Tires and Environmental requirements for noise :
See Section III, Data Pertinent to All Model A340-200 and A340-300 Series Airplanes.

For information on Import Requirements, Service Information and General Notes: See section VII, Data Pertinent to All Model A340-200, A340-300, A340-500 and A340-600 Series Airplanes.

V. Type A340-500 Series Transport Category Airplanes:

Airbus Model A340-541 - approved January 27, 2003

Model:	Definition of Reference Airplane by Airbus Documents:
A340-541	FAA A340-541 Type Design, ref. EAL 415.1445/02 Issue 01, dated November 28, 2002, for type definition.

The A340-500 series is shorther than the A340-600 by 14 frames. It is intended for long range operations having additional fuel capacity over that of the –600 with the installation of a rear center tank (RCT).

The following table provides a list of required design improvement modifications for the 5-frame RCT (defined by Airbus modification no. 47020) on Model A340-500 series aircraft. The modifications extend the Kevlar liner in the RCT and improve the RCT fuel jettison rate. Airbus modifications 51344 and 51452 are required as a condition for type certification and must be installed prior to issuance of a standard U.S airworthiness certificate.

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Airbus Modification No.	**Airbus Modification Title**
51344	Install Liners between RCT Forward and Rear Pressure Bulkheads (5 inter-frames)
51452	Relocate RCT Transfer/Refuel Restrictors to increase Jettison rate

Engines

Airplane Model	Engine Model:	Engine Type Certificate:
A340-541	Four Rolls-Royce– Trent 553-61 turbojet engines	FAA-Type Certificate E00066NE

Maximum Weight:

Variant	000 (Mod 51000) kg / lb	001 (Mod 51080) kg / lb
Maximum Ramp Weight	369,200 / 814,086	373,200 / 822,906
Maximum Take-off Weight, MTOW	368,000 / 811,440	372,000 / 820,260
Maximum Landing Weight, MLW	240,000 / 529,200	243,000 / 535,815
Maximum Zero Fuel Weight, MZFW	225,000 / 496,125	230,000 / 507,150

Number of Seats:
The maximum number of passengers approved for emergency evacuation is 375 passengers with a 3 pair of Type A and 1 pair of Type I exits configuration.

Maximum Baggage:

Cargo Compartment	Maximum Load (kg / lb)
Forward	24,494 / 54,009
Aft	16,330 / 36,008
Rear	3,458 / 7,625

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

Ref. Airbus Document 00F080A0501/C5S for A340-541

Fuel Capacity:

Tank		Tank Capacity			
		Usable Fuel		Unusable Fuel	
		liters (kg)	gallons (lb)	Liters (kg)	gallons (lb)
Wing	Tank 1 / 4	49,002 (39,202)	12,945 (86,421)	68 (54)	18 (120)
	Tank 2 / 3	69,514 (55,611)	18,364 (122,598)	230 (184)	61 (406)
	Outer	12,290 (9,832)	3,247 (21,677)	34 (27)	9 (60)
	Total	130,806 (104,645)	34,556 (230,696)	332 (265)	88 (586)
Center (with jet pumps : modification 50812)		55,133 (44,106)	14,566 (97,254)	240 (192)	63 (423)
Rear Center 5 frame (with liner: modification 51344)		19,741 (15,793)	5,216 (34,824)	100 (80)	26 (176)
Trim Tank		7,886 (6,309)	2,083 (13,911)	25 (20)	7 (44)
Total		213,566 (170,853)	56,421 (376,685)	697 (557)	184 (1,229)

Airplane Flight Manual:
Airplane operation must be in accordance with the EASA-Approved Airplane Flight Manual (AFM), US version, listed below, or later EASA approved revision applicable to the specific airplane model, modification status and serial number. All placards required by either the AFM, the applicable operating rules, or the certification basis must be installed in the airplane.

Model A340 Aircraft	Airbus Document Refr.	Revision No.	Date
-541	STL 34000	1	January 16, 2003

For information on Fuel, Engine Limits, Airspeed Limits, Center of Gravity Limits, Datum, Leveling Means, Minimum Crew, Maximum Operating Altitude, Control Surface Movements, Certification Basis, Production Basis, Equipment, Hydraulic Fluids, Auxiliary Power Unit (APU), Tires and Environmental requirements for noise :
See Section VI, Data Pertinent to All Model A340-500 and A340-600 Series Airplanes.

For information on Import Requirements, Service Information and General Notes: See section VII, Data Pertinent to All Model A340-200, A340-300, A340-500 and A340-600 Series Airplanes.

VI. Data Pertinent to All Model A340-500 and A340-600 Series Airplanes:

Fuel:

	Specification		
Nomenclature	United Sates	France	United Kingdom
Kerosene	ASTM D 1655 (JET A) (JET A1)	AIR 3405C	DERD 2494/2453
Wide Cut	ASTM D 1655 (JET B)	91056 (72845)	DERD 2454/2486
	MIL-T-5624 (JP 4) MIL-T-83133 (JP 8)	AIR 3407B	DERD 2454/2486

Additives: According to RR "Specific Operating Instructions", OI-Trent-A340. The above-mentioned fuels are also suitable for the APU.

Engine Limits:

Engine Limitations	Rolls-Royce RB 211 Trent 556-61	Rolls-Royce RB 211 Trent 553-61
	See FAA Data Sheet E00066NE	See FAA Data Sheet E00066NE
Static Thrust at Sea Level • Take-off (5 mn)[1] (flat rated 30º C) • maximum continuous (flat rated 25º C)	58,462 lbs (26,004 daN) 44,359 lbs (19,731 daN)	55,780 lbs (24,811 daN) 44,359 lbs (19,731 daN)
Maximum Engine Speed • N1 rpm (%) • N2 rpm (%)	3,900 (100%) 9,100 (100%)	3,900 (100%) 9,100 (100%)
Maximum Gas Temperature • Take-off (10mn)[1] • Maximum Continuous • Starting - Ground - Inflight	900º C 850º C 700º C 850° C	900º C 850º C 700º C 850° C
Maximum Oil Temperature (Combined scavenge temperature) ºC	196º C	196° C
Minimum Pressure	25 psi (172 kPa)	25 psi (172 kPa)
Approved oils	- Aeroshell Turbine Oil (Royco Turbine Oil) 555 - Mobil Jet Oil II, 254, 291	- Aeroshell Turbine Oil (Royco Turbine Oil) 555 - Mobil Jet Oil II, 254, 291

Table references:

(1) 10 minutes at take-off thrust allowed only in case of engine failure (at take-off or during go-around).

Airspeed Limits (Indicated Airspeed, IAS, unless otherwise stated):

• Maximum Operating Limit Speed/Mach, V_{MO}/M_{MO} 330 KIAS / .86 M

• Design Diving Speed, V_D 365 KIAS/ .93 M
• Design Maneuvering Speed, V_A Refer to AFM performance Section

• Maximum Flaps/Slats Extended Speed or Operating Speed, V_{FE}

Configuration	Slats/Flaps º	V_{FE} (kt)	
1	20/0	280	Intermediate Approach
	20/17	233	Take-off
2	23/22	216	Take-off and Approach
3	23/29	206	Take-off and Approach
FULL	23/34	200	Landing

• Minimum Control Speed, V_{MC} Refer to AFM performance Section (Performance Engineering Program/OCTOPUS)

Landing Gear Speeds:
• Maximum Speed with Landing Gear Operating (Extension and Retraction), V_{LO} 250 KIAS/.55 M
• Maximum Speed with Landing Gear Locked Down, V_{LE} 250 KIAS/.55 M
Tire Limit Speed (Ground Speed) 204 KIAS

Center of Gravity Limits:
Refer to EASA-Approved AFM, US Version, Limitations Section for center of gravity envelope.
Note: For A340-600, the 0% MAC is located 1,617 inch (41.034 m) from the datum line.
For A340-500, the 0% MAC is located 1,408 inch (35.734 m) from the datum line.

Datum:
The aircraft reference zero datum point is located 251.37 inch (6.38 m) forward of the fuselage nose, 275.8 inch (7 m) under the fuselage centerline (datum line).

Leveling Means:
Inclinometer on cabin seat track rails (refer to AMM chapter 08.20.00).

Minimum Crew:
2 – Pilot and copilot

Maximum Operating Altitude:
• Basic: 41,100 feet (12,527m) slats and flaps retracted (clean)
• Option: 41,450 feet (12,634m) slats and flaps retracted (clean) with modification 52536
• 20,000 feet (6,096 m) slats or slats/flaps extended

Control Surface Movements *(Total one-way travel in each direction of each movable control surface on the aircraft.)*

Control Surface	Maximum Travel
Inner Aileron	+20°/-30°
Outer Aileron	+25°/-25°
Ailerons	Maneuver Load Alleviation 11°
#1 Spoiler	Speed Brake 25°
	Lift Dumper 35°
#2,3 Spoilers	Roll 35°
	Speed Brake 35°
	Lift Dumper 50°
#4,5,6 Spoilers	Roll 40°
	Speed Brake 40°
	Lift Dumper 50°

	Manoeuvre Load Alleviation 9°
Aileron Droop	10°
Flaps	33.7°
Slats 1	21°
Slats 2 to 7	24°
Stabilizers	+2°/-14°
Elevator	+17°/-30°
Rudder	+35°/-35°

Certification Basis (A340-600 and A340-500)

The reference date for the determination of the certification basis was December 31, 1997.

a. 14 CFR Part 25, dated February 1, 1965 as amended by Amendments 25-1 through Amendment 25-95 inclusive plus Amendments 25-97, 25-98 and 25-104 with the following exceptions:

Excepted FAR	Allowed Amendment Level	Comments
§ 25.562(b)(2)	Pre-amendment 25-64	Allowance for compliance to pre-amdt 25-64 only applies to crew seat floor warpage test requirements
§ 25.365(g)	Amendment 25-54	Allowance for compliance to amdt 25-54 applies only to design of the cockpit wall
§§ 25.831(g), 25.831(a), 25.841(a)	§§ 25.831(g) and 25.831(a) at amendment 25-41 § 25.841(a) at amendment 25-38.	

b. 14 CFR Part 36, effective December 1, 1969, as amended by amendments 36-1 through 36-23.

c. 14 CFR Part 34, effective September 10, 1990, including all amendments effective on the TC date.

d. Special conditions in accordance with 14 CFR 21.16.

(i) Basic A340 Special Conditions also applicable to the A340-500 and A340-600:

Note 1: Refer to TCDS section III certification basis for the A340-200 and A340-300

Note 2: Special conditions issued for the A340 in accordance with Section 21.16 of the FAR and published in the Federal Register Special Vol. 58, No. 71, dated April 15, 1993

(1) Electronic Flight Control System (EFCS) failures and Mode Annunciation
(2) Command Signal Integrity
(3)(a) Protection From Lightning and Unwanted Effects of High Intensity Radiated Fields (HIRF)
(5) Design Dive Speed
(6) Design Maneuver Requirements
(7) Limit Pilot Forces
(11)(a) Flight Characteristics Characteristic - Compliance Determination By handling Qualities rating System for EFCS Failure Cases
(11)(c) Flight Characteristic – Lateral Directional Stability
(12)(a) Flight Envelope Protection – General Limiting Requirements
(12)(c) Flight Envelope Protection – Normal Load Factor g Limiting
(12)(d) Flight Envelope Protection – High Speed Limiting (12) Flight Envelope Protection
(12)(e) Pitch and Roll Limiting
(13) Side Stick Controllers

(ii) Special Conditions applicable to the A340-500 and A340-600:

Docket No. NM211; Special Conditions No. 25-200-SC, "Airbus, Model A340-500 and A340-600 Airplanes; Ground Loads and Conditions for Center Landing Gear with four Wheels and Braking Capability," Federal Register Vol. 67 No. 98, May 21, 2002.
Docket No. NM213; Special Conditions No. 25-201-SC, "Airbus, Model A340-500 and A340-600 Airplanes; Interaction of Systems and Structure…", Federal Register Vol. 67 No. 126, July 1, 2002.
Docket No. NM213; Special Conditions No. 25-201-SC, "Airbus, Model A340-500 and A340-600 Airplanes; "…Electronic Flight Control System: Longitudinal Stability and Low Energy Awareness…" Federal Register Vol. 67 No. 126, July 1, 2002.
Docket No. NM213; Special Conditions No. 25-201-SC, "Airbus, Model A340-500 and A340-600 Airplanes; "…Use of High Incidence Protection and Alpha Floor Systems", Federal Register Vol. 67 No. 126, July 1, 2002.
Docket No. NM212; Special Conditions No. 25-02-04-SC, "Airbus, Model A340-500 and A340-600 Airplanes; Sudden Engine Stoppage," Federal Register Vol. 67 No. 81, April 26, 2002.

e. Equivalent safety findings have been made in accordance with FAR 21.21(b)(1) for the following FAR paragraphs:

§ 25.621(c) Casting factors. The ESF is only applicable to the Inner Flap – Flap Rib Fitting of the A340-500 and –600. For all other castings on the aircraft, as defined by the certification basis, the requirements of § 25.621(c) amendment 25-0 apply
§§ 25.473, 25.723: Landing Gear Drop Tests
§§ 25.341(a)(5),(b),(c), 25.345(c)(2), 25.371, 25.373(a), 25.1517: Continuous Turbulence Loads
§ 25.331(c)(2): Checked Maneuver Loads
§ 25.107(e)(1)(iv): Reduced Margins between V_{MU} and V_{LOF} for Geometry Limited Airplanes
§§ FAR 25 (All FAR 25 sections, except structural, dealing with stall speeds and related factors): Use of 1-g Stall Speeds Instead of Minimum Speed in the Stall as a Basis for Determining Compliance
§ 25.831(a): Airplane Operation with Air Conditioning Packs Off During Takeoff
§§ 25.933(a)(1), 25.1585(a)(9): Flight Critical Thrust Reverser
§ 25.963(d) first sentence: Fuel Tank Loads. The ESF is to the first sentence of § 25.963(d); "Fuel tanks within the fuselage contour must be able to resist rupture and to retain fuel, under the inertia forces prescribed for emergency landing conditions in § 25.561."
§ 25.1203(d): Rolls-Royce Trent 500 Turbine Overheat Detection
§§ 25.1305, 251501(b): Auxiliary Power Unit (APU) Instrumentation and Monitoring Requirements
§ 25.1305(c)(6), Warning Means for Engine Fuel Filter Contamination

f. Optional Design Regulations

(a) §25.801: Ditching Provisions

(b) §25.1411(d),(e),(f),(g): General Safety Equipment

(c) §25.1415: Ditching Equipment

(d) §25.1419: Ice Protection

g. Exemptions: Exemptions from the applicable regulations has been processed in accordance with the provisions of 14 CFR 11.25.

- Airbus petitioned for an exemption to §25.807(f)(4) with letter dated May 9, 2000 (the "60 foot rule" was relocated to this section as of amdt 25-94). In reply issued on December 11, 2000, the FAA denied the petition for exemption (ref. Exemption No. 7404).
- Exemption 7840, dated July 19, 2002, was issued to Airbus for non-compliance to §25.901(c) as it relates to uncontrollable high thrust failure conditions.

The Direction Generale de 'Aviation Civile (DGAC) of France originally type certificated the Airbus Model A340-500 and A340-600 series airplanes under its type certificate number DGAC-F TC 183. The FAA validated this product under U.S. Type Certificate Number A43NM. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of DGAC.

Production Basis:
A340 aircraft, all series and models, are produced in France under production approval FR.21G.0035 (formerly FG 035) issued by the DGAC (on behalf of EASA) to Airbus.

Equipment:
• The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.

• Cabin furnishings, equipment and arrangement shall conform to the following specification:
- 00F252K0010/C01for cabin seats.
- 00F252K0006/C01for galley.
- 00F252K0020/C01for cabin attendant seats

Hydraulic Fluids:
Type IV - Specification NSA 307110

Auxiliary Power Unit (APU)

Honeywell E. & S.	331-600[A] (Model Specification 31-15857-01A)
Maximum Allowable Speed	(100%) 39,044 rpm
Maximum Gas Temperature: Turbine Outlet Temperature Starting	 650 °C 1250 °C

Approved oils: See also Model Specification 31-15857-01A for approved oils.

Tires:
Refer to Airbus Service Bulletin

Environmental requirements for noise:
ICAO Annex 16 Volume 1 – Chapter 3, or Chapter 4 with Modification 55005.

VII. Data Pertinent to All Model A340-200, A340-300, A340-500 and A340-600 Series Airplanes:

Import Requirements
The FAA can issue a U.S. airworthiness certificate based on an French Export Certificate of Airworthiness (Export C of A) signed by a representative of the Direction Generale de 'Aviation Civile (DGAC) of France on behalf of the European Community. The Export C of A should contain the following statement (in the English language): "The aircraft covered by this certificate has been examined, tested, and found to conform to the Type Design approved under FAA Type Certificate No. A43NM as defined in TCDS A43NM and to be in condition for safe operation."

The regulatory basis U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is FAR Sections 21.183(c) or 21.185(c). The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 exported from countries other than the country manufacture (e.g., third party country) is FAR Sections 21.183(d) or 21.183(b). These sections provide that U.S. airworthiness certificates are issued only if the Administrator finds "that the aircraft conforms to the type design and is in a condition for safe operation."

In order for the FAA to make the finding that an A340 aircraft is in a condition for safe operation, the FAA certificating inspector or other authorized person must contact the Manager, International Branch, ANM-116, FAA Transport Airplane Directorate; 1601 Lind Avenue Southwest; Renton, Washington 98055; telephone (425) 227-1263; fax (425) 227-1149, prior to issuance of the U.S. airworthiness certificate to obtain the FAA Required Modification List (RML) for the A340. Prior to issuance of a Standard Airworthiness Certificate on any Airbus A340 model aircraft, all modifications shown in the Model A340 RML must be accomplished in the interest of safety before the aircraft can be found to be in a condition for safe operation.

Authority for these required modifications is given per the airworthiness certification provisions of 49 U.S.C. 44704 (c), which states "the Administrator may include in an airworthiness certificate terms required in the interest of safety". "Terms required in the interest of safety" include actions to correct unsafe conditions issued by the foreign authority of the state of design that also meet FAA criteria for corrective action. This law also gives the FAA the authority to adopt FAR § 21.183(c) and (d), which form the regulatory basis for the issue of standard U.S. airworthiness certificates on imported products. 14 CFR §21.183(c) and (d) provide that airworthiness certificates are issued only if the Administrator finds "that the aircraft conforms to the type design and is in a condition for safe operation." The modifications identified in the Model A340 RML are required in the interest of safety and are necessary for this airplane to be in a condition for safe operation.

A Notice of Policy Statement announcing the FAA's policy with respect to foreign mandatory continued airworthiness information, when no aircraft of the affected design are currently operating in the U.S. was published in the Federal Register on May 11, 1998. Additional guidance is contained in FAA advisory Circular 21-23, Airworthiness Certification of Civil Aircraft, Engines, Propellers, and Related Products Imported into the United States.

Service Information:

Each of the documents listed below that contain a statement that it is approved by the European Aviation Safety Agency (EASA) - or for approvals made before September 28, 2003 - by the DGAC France, are accepted by the FAA and are considered FAA approved.

Additionally, approvals issued by Airbus under the authority of EASA approved Design Organization EASA.21J.031 - or for approvals made before September 28, 2003 - under the authority of by DGAC Design Organization Approval No. C01 or JAA Design Organization Approval No. F.JA.02 are considered FAA approved. These approvals pertain to the type design only.

- Airbus Service Bulletins, except as noted below,
- Structural repair manuals,
- Vendor manuals referenced in Airbus service bulletins
- US version of Aircraft flight manuals,
- Repair Instructions.

Note: Design changes that are contained in Airbus Service Bulletins and that are classified as Level 1 Major in accordance with the US/France Bilateral Aviation Safety Agreement Implementation Procedures for Airworthiness must be approved by the FAA.

General Notes: (All Models of A340 Series Airplanes)

Note 1: A current Weight and Balance report including list of the equipment included in the certificated empty weight, and loading instructions, when necessary, must be provided for each aircraft at the time of original airworthiness certification and at all times thereafter. Refer to Airbus Documents:

- 00F080A0002/C2S for A340-211 and -212;
- 00F080A0001/C3S for A340-311 and -312;

- 00F080A0004/C0S for A340-213 and -313;
- 00F080A0601/C6S for A340-642;
- 00G080A0006/C3S for A340-541.

Note 2: Instructions For Continued Airworthiness required under § 21.50 for service life limits on components, required inspections and inspection intervals, and certification maintenance requirements:

- Safe Life Airworthiness Limitation Items are provided in the A340 Airworthiness Limitations Section (ALS) sub parts 1-2 and 1-3 approved by EASA (Document 00F050AM091/C01);
- Damage-Tolerant Airworthiness Limitation Items are provided in the A340 Airworthiness Limitations Section (ALS) part 2 approved by EASA (Document 00F050A3401/C01);
- Certification Maintenance Requirements (CMR's) are provided in the A340 Airworthiness Limitations Section (ALS) Part 3 approved by EASA (Document 00F050A0003/C01);
- A340 Maintenance Review Board Report 00F050A0002/C01 aproved by FAA.
- Fuel Airworthiness Limitations are provided in the A340 Airworthiness Limitations Section (ALS) Part 5 approved by EASA (Document 95A.1933/05)

Note 3: Compliance with the FAA Required Modification List (RML) is necessary for an A340-200, A340-300, A340-500 or A340-600 aircraft to be found in a condition for safe operation. (See Import Requirements in TCDS section VII Data Pertinent to All Model A340-200, A340-300, A340-500 and A340-600 Series Airplanes).

Note 4: For Airbus model A340-541: Airbus modifications 51344 and 51452 that extend the Kevlar liner in the RCT and improve the RCT fuel jettison rate are required as a condition for type certification and must be installed prior to issuance of a standard U.S airworthiness certificate.

….END….