



**Engine Limits:**

| Engine Limitations  | A330-202<br>CF6-80E1A4<br>FAA Data Sheet E41NE   | A330-223<br>PW 4168A<br>FAA Data Sheet E36NE                                  | A330-243<br>RR 772B-60<br>FAA Data Sheet E39NE  |
|---|--|---|---|
| Static Thrust at Sea Level<br>• Take-off (5 mn) <sup>1</sup> (flat rated 30° C)<br>• maximum continuous (flat rated 25° C)            | 66,870 lbs<br>60,400 lbs   | 68,600 lbs<br>59,357 lbs  | 71,100 lbs<br>63,560 lbs  |
| Maximum Engine Speed<br>• N1 rpm (%)<br>• N2 rpm (%)  | 3,835 (115.5%)<br>11,105 (113%)  | 3,600<br>10,450   | 3,861 (99%)<br>10,611 (100%)  |
| Maximum Gas Temperature<br>• Take-off (5mn) <sup>1</sup><br>• Maximum Continuous<br>• Starting <sup>2</sup>                           | 1,787° F (975° C)<br>1,724° F (940° C)<br>1,598° F (870° C)  | 1,157° F (625° C)<br>1,112° F (600° C)<br>1,148° F (620° C)                   | 1,652° F (900° C)<br>1,562° F (850° C)<br>1,562° F (850° C)   |
| Maximum Oil Temperature (Supply Pump Outlet) °C<br>• Continuous Operation<br>• Transient (15 mn max.)<br>• Minimum Oil Pressure (PSI) | 320° F (160° C)<br>347° F (175° C)<br>10.0 psid (69 KPa)   | 325° F (163° C)<br>350° F (177° C)<br>70.0 psid (482.6 KPa)                   | 374° F (190° C)<br>374° F (190° C)<br>24.0 psid   |
| Approved oils   | Brand Names: See GE Service Bulletin 79-001<br>Specification: See GE specification D50TF1, Class B | Oils conforming to P&W Turbojet engine Service Bulletin 238, latest revision. | -Aeroshell Turbine Oil (Royco) 500, 555, 560<br>-Mobil Jet Oil II 254, 291<br>-Exxon Turbo Oil 2197 |

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.

- Maximum Operating Limit Speed/Mach,  $V_{MO}/M_{MO}$  360 KIAS / .86 M
- Design Diving Speed,  $V_D$  365 KIAS / .93 M
- Design Maneuvering Speed,  $V_A$  Refer to AFM Limitations Section
- Maximum Flaps/Slats Extended Speed or Operating Speed,  $V_{FE}$ :

| Configuration | Slats/Flaps/Ailerons ° | $V_{FE}$ (kt) |                                 |
|---------------|------------------------|---------------|---------------------------------|
| 1             | 16/0/0                 | 240           | Intermediate Approach           |
|               | 16/8/0                 | 215           | Take-off                        |
| 1 + F         | 16/8/5                 | 205           | Take-off                        |
| 2             | 20/14/10               | 196           | Take-off and Approach           |
| 3             | 23/22/10               | 186           | Take-off, Approach, and Landing |
| FULL          | 23/32                  | 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/.55M
- Maximum Speed with Landing Gear Locked Down,  $V_{LE}$  250 KIAS/.55M
- Tire Limit Speed (Ground Speed) 203 KIAS (235mph)

**Center of Gravity Limits:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Datum:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Leveling Means:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Maximum Weight:**

| Variant                        | 020 (Basic) kg/lb |
|--------------------------------|-------------------|
| Maximum Take-off Weight, MTOW  | 230,000/507,150   |
| Maximum Landing Weight, MLW    | 180,000/396,900   |
| Maximum Zero Fuel Weight, MZFW | 168,000/370,440   |

**Minimum Crew:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Number of Seats:**

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

**Maximum Baggage:**

| Cargo Compartment | Maximum Load<br>(kg/lb) |
|-------------------|-------------------------|
| Forward           | 18,869/41,606           |
| Aft               | 15,241/33,606           |
| Rear              | 3,468/7,646             |

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 00G080A0006/C2S for A330-200 airplanes.

**Fuel Capacity:**

| Tank      | 3 Tank Airplane |         |               |         |
|-----------|-----------------|---------|---------------|---------|
|           | Usable Fuel     |         | Unusable Fuel |         |
|           | liters          | gallons | liters        | gallons |
| Wing      | 91,300          | 24,121  | 348           | 70      |
| Center    | 41,560          | 10,980  | 83            | 21.9    |
| Trim Tank | 6,230           | 1,646   | 6             | 1.6     |
| Total     | 139,090         | 36,746  | 437           | 115.5   |

**Maximum Operating Altitude:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Control Surface Movements:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Manufacturer's Serial Numbers:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Import Requirements:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Certification Basis (A330-200):**

- a. Part 25 of the FAR effective February 1, 1965, including the following:
- Amendments 25-1 through 25-63, amendments 25-65, 25-66, 25-68, 25-69, 25-73, 25-75, 25-77, 25-78, 25-81, 25-82, 25-84 and 25-85
  - § 25.851 as amended by amendment 25-74
  - The following sections of Part 25 of the FAR as amended through amendment 25-72:
- |                                       |             |
|---------------------------------------|-------------|
| FAR 25.21                             | FAR 25.693  |
| FAR 25.29                             | FAR 25.723  |
| FAR 25.111                            | FAR 25.729  |
| FAR 25.147                            | FAR 25.731  |
| FAR 25.177                            | FAR 25.733  |
| FAR 25.181                            | FAR 25.735  |
| FAR 25.205                            | FAR 25.772  |
| FAR 25.307                            | FAR 25.779  |
| FAR 25.331                            | FAR 25.783  |
| FAR 25.341                            | FAR 25.933  |
| FAR 25.343                            | FAR25.979   |
| FAR 25.345                            | FAR 25.1093 |
| FAR 25.351                            | FAR 25.1381 |
| FAR 25.361                            | FAR 25.1419 |
| FAR 25.373                            | FAR 25.1522 |
| FAR 25.395                            | FAR 25.1533 |
| FAR 25.397                            | FAR 25.1543 |
| FAR 25.415                            | FAR 25.1551 |
| FAR 25.459                            | FAR 25.1581 |
| FAR 25.571 (b)                        | FAR 25.1583 |
| FAR 25.613 (Vertical stabilizer only) | FAR 25.1587 |
| FAR 25.615 (Vertical stabilizer only) |             |
- 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 (c) 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. In accordance with § 21.16 of the FAR, the following special conditions are part of the original A330 certification basis, and were published in the Federal Register April 15, 1993, (Docket No. NM-75, Special Conditions No. 25-ANM-69), and are also be part of the A330-200 certification basis:
- (1) Operation without Normal Electrical Power
  - (2) Electronic Flight Control System (EFCS) failures and Mode Annunciation
  - (3) Command Signal Integrity
  - (4) Protection From Lightning and Unwanted Effects of High Intensity Radiated Fields (HIRF)
  - (5) Interaction of Systems and Structures
  - (6) Design Dive Speed
  - (7) Design Maneuver Requirements
  - (8) Limit Pilot Forces
  - (9) Tail plane Tank Emergency Landing Loads
  - (10) Limit Engine Torque
  - (11) Flight Characteristics
  - (12) Flight Envelope Protection
  - (13) Side Stick Controllers
  - (14) Computerized Airplane Flight Manual (AFM) Performance Information
- d. Part 34 of the FAR, effective September 10, 1990, including Amendment 34-1.
- e. Part 36 of the FAR, effective December 1, 1969, including Amendments 36-1 through 36-21.

- f. The technical requirements are complemented by the following guidance material:  
 For precision approach and landing,  
     1. AC 120-29  
     2. AC 120-28C  
 and for the automatic flight control system  
     1. AC 20-57A for automatic landing  
     2. AC 25.1329-1A for cruise
- g. 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  
     (8) 25.933(a)(1)(ii), 25.1309(b)(1) for flight critical thrust reverser  
     (9) 25.1203(d) for turbine overheat detection (RR Trent 700 powered A330-243 only)  
     (10) 25.1305(c)(6) Warning means for engine fuel filter contamination (RR Trent 700 powered A330-243 only)
- h. Optional requirements elected:  
     • 25.801 for ditching.  
     • 25.1419 for icing.

Note: Compliance with the FAA Required Modification List for Airbus Model A330 Aircraft as included under the Import Requirements section of TCDS Revision 4, dated March 21, 2000 or later TCDS revision, is necessary for an A330 aircraft to be found in a condition for safe operation.

**Production Basis:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Equipment:**

- The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.
- The following Airbus Documents defines the set of modifications which comprise the FAA certificated type design. These documents contains certain modifications determined necessary for FAA certification, including installation of ozone converters, fuel system improvements and thrust reverser modifications.
  - AI/EA-N 415.0531/98 Issue 3, dated May 25, 1998 for the A330-202
  - AI/EA-N 415.1223/98 Issue 2, dated August 20, 1998 for the A330-223
  - AI/EA-N 415.2406/98 Issue 1, dated December 11, 1998 for the A330-243
- Equipment approved for installation is listed in the Certification Standard Equipment List
  - 00G000A0102/C0S for the A330-202.
  - 00G000A0123/C0S for the A330-223.
  - 00G000A0143/C0S for the A330-243.
- 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

**Other Information Applicable to A330-200 Series Airplanes:**

**Hydraulic Fluids:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Auxiliary Power Unit (APU):**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Tires:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Airplane Flight Manual:**

Airplane operation must be in accordance with the DGAC-Approved Airplane Flight Manual (AFM), US version, listed below, applicable to the specific airplane model and serial number.

| Model A330 Aircraft | Airbus Document Refr. | Revision No. | Date            |
|---------------------|-----------------------|--------------|-----------------|
| -202                | AI/ST-F 33000         | 2            | January 6, 1999 |
| -223                | AI/ST-F 33000         | 2            | January 6, 1999 |
| -243                | AI/ST-F 33000         | 2            | March 15, 2000  |

**Service and Operating Information:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Notes:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**II. Airbus A330-300 Series Transport Category Airplanes:**

**Airbus A330-301 - approved October 21, 1993:**

**Airbus A330-321 - approved June 21, 1999:**

**Airbus A330-322 - approved June 21, 1999:**

**Airbus A330-323 - approved October 8, 1999:**

**Airbus A330-341 – approved December 21, 2000:**

**Airbus A330-342 - approved December 21, 2000:**

**Airbus A330-343 - approved December 21, 2000:**

| Model:   | Definition of Reference Airplane by Airbus Documents:   |
|----------|---|
| A330-301 | FAA A330-301 Type Design, ref. AI/EA-N 415.1181/96 Issue 3, dated July 16, 1997 for type definition and Type Certification Standard Equipment list, ref. 00G000A0101/C0S.     |
| A330-321 | FAA A330-301 Type Design, ref. AI/EA-N 415.1184/96 Issue 3, dated June 25, 1998 for type definition and Type Certification Standard Equipment list, ref. 00G000A0121/C0S.     |
| A330-322 | FAA A330-301 Type Design, ref. AI/EA-N 415.1183/99 Issue 3, dated June 25, 1998 for type definition and Type Certification Standard Equipment list, ref. 00G000A0121/C0S.     |
| A330-323 | FAA A330-301 Type Design, ref. AI/EA-N 415.1630/99 Issue 1, dated July 20, 1999 for type definition and Type Certification Standard Equipment list, ref. 00G000A0123/C3S.     |
| A330-341 | FAA A330-301 Type Design, ref. AI/EA-N 415.1187/96 Issue 2, dated December 11, 1998 for type definition and Type Certification Standard Equipment list, ref. 00G000A0141/C0S. |
| A330-342 | FAA A330-301 Type Design, ref. AI/EA-N 415.1182/96 Issue 2, dated December 11, 1998 for type definition and Type Certification Standard Equipment list, ref. 00G000A0141/C0S. |
| A330-343 | FAA A330-301 Type Design, ref. AI/EA-N 415.2027/99 Issue 1, dated October 22, 1999 for type definition and Type Certification Standard Equipment list, ref. 00G000A0143/C3S.  |

**Engines:**

| Airplane Model: | Engine Model:                         | Engine Type Certificate:   |
|-----------------|---------------------------------------|----------------------------|
| A330-301        | Two GE-CF6-80E1A2 turbojet engines    | FAA-Type Certificate E41NE |
| A330-321        | Two PW 4164 turbojet engines          | FAA-Type Certificate E36NE |
| A330-322        | Two PW 4168 turbojet engines          | FAA-Type Certificate E36NE |
| A330-323        | Two PW 4168A turbojet engines         | FAA-Type Certificate E36NE |
| A330-341        | Two RR Trent 768-60 turbojet engines  | FAA-Type Certificate E39NE |
| A330-342        | Two RR Trent 772-60 turbojet engines  | FAA-Type Certificate E39NE |
| A330-343        | Two RR Trent 772B-60 turbojet engines | FAA-Type Certificate E39NE |

**Fuel:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Engine Limits:**

| Engine Limitations   | A330-301<br>CF6-80E1A2<br>FAA Data Sheet<br>E41NE           | A330-321<br>PW 4164<br>FAA Data Sheet<br>E36NE               | A330-322<br>PW 4168<br>FAA Data Sheet<br>E36NE               | A330-323<br>PW 4168A<br>FAA Data Sheet<br>E36NE              |
|--|---|--|--|--|
| Static Thrust at Sea Level<br>• Take-off (5 mn) <sup>1</sup> (flat rated 30° C)<br>• maximum continuous<br>(flat rated 25° C)            | 64,530 lbs<br>60,040 lbs                                    | 64,500 lbs<br>55,800 lbs                                     | 68,600 lbs<br>59,357 lbs                                     | 68,600 lbs<br>59,357 lbs                                     |
| Maximum Engine Speed<br>• N1 rpm (%)<br>• N2 rpm (%)   | 3,835 (115.5%)<br>11,105 (113%)                             | 3,600 (101%)<br>10,450 (103%)                                | 3,600 (101%)<br>10,450 (103%)                                | 3,600 (101%)<br>10,450 (103%)                                |
| Maximum Gas Temperature<br>• Take-off (5mn) <sup>1</sup><br>• Maximum Continuous<br>• Starting <sup>2</sup>                              | 1,787° F (975° C)<br>1,724° F (940° C)<br>1,598° F (870° C) | 1,157° F (625° C)<br>1,112° F (600° C)<br>1,148° F (620° C)  | 1,157° F (625° C)<br>1,112° F (600° C)<br>1,148° F (620° C)  | 1,157° F (625° C)<br>1,112° F (600° C)<br>1,148° F (620° C)  |
| Maximum Oil Temperature<br>(Supply Pump Outlet) °C<br>• Continuous Operation<br>• Transient (15 mn max.)<br>• Minimum Oil Pressure (PSI) | 320° F (160° C)<br>347° F (175° C)<br>10.0 psid (69 KPa )   | 325° F (163° C)<br>350° F (177° C)<br>70.0 psid (482.6 KPa ) | 325° F (163° C)<br>350° F (177° C)<br>70.0 psid (482.6 KPa ) | 325° F (163° C)<br>350° F (177° C)<br>70.0 psid (482.6 KPa ) |
| Approved oils  | See SB CFMI 79-001<br>or GE specification<br>D50TF1 Class B | See P&W Service Bulletin 238, latest revision.               |  |  |

| Engine Limitations   | A330-341<br>Trent 768-60<br>FAA Data Sheet<br>E39NE   | A330-342<br>Trent 772-60<br>FAA Data Sheet<br>E39NE         | A330-343<br>Trent 772B-60<br>FAA Data Sheet<br>E39NE        |
|--|---|---|---|
| Static Thrust at Sea Level<br>• Take-off (5 mn) <sup>1</sup> (flat rated 30° C)<br>• maximum continuous<br>(flat rated 25° C)            | 67,500 lbs<br>60,410 lbs  | 71,100 lbs<br>63,560 lbs                                    | 71,100 lbs<br>63,560 lbs                                    |
| Maximum Engine Speed<br>• N1 rpm (%)<br>• N2 rpm (%)   | 3,861 (99%)<br>10,611 (100%)  | 3,861 (99%)<br>10,611 (100%)                                | 3,861 (99%)<br>10,611 (100%)                                |
| Maximum Gas Temperature<br>• Take-off (5mn) <sup>1</sup><br>• Maximum Continuous<br>• Starting <sup>2</sup>                              | 1,652° F (900° C)<br>1,562° F (850° C)<br>1,562° F (850° C)   | 1,652° F (900° C)<br>1,562° F (850° C)<br>1,562° F (850° C) | 1,652° F (900° C)<br>1,562° F (850° C)<br>1,562° F (850° C) |
| Maximum Oil Temperature<br>(Supply Pump Outlet) °C<br>• Continuous Operation<br>• Transient (15 mn max.)<br>• Minimum Oil Pressure (PSI) | 374° F (160° C)<br>374° F (175° C)<br>24.0 psid   | 374° F (160° C)<br>374° F (175° C)<br>24.0 psid             | 374° F (160° C)<br>374° F (175° C)<br>24.0 psid             |
| Approved oils  | -Aeroshell Turbine Oil (Royco) 500, 555, 560<br>-Mobil Jet Oil II 254, 291<br>-Exxon Turbo Oil 2197 |   |   |

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,  $V_{MO}/M_{MO}$  360 KIAS / .86
- Design Diving Speed,  $V_D$  365 KIAS / .93
- Design Maneuvering Speed,  $V_A$  Refer to AFM Performance Section

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

| Configuration | Slats/Flaps/Ailerons ° | $V_{FE}$ (kt) |   |
|---------------|------------------------|---------------|---|
| 1             | 16/0/0                 | 240           | Intermediate Approach<br>Take-off<br>Take-off |
| 1 + F         | 16/8/0                 | 215           |   |
|               | 16/8/5                 | 205           |   |
| 2             | 20/14/10               | 196           | Take-off and Approach                         |
| 3             | 23/22/10               | 186           | Take-off, Approach, and<br>Landing            |
| FULL          | 23/32                  | 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)  $V_{LO}$  250 KIAS/.55M
- Maximum Speed with Landing Gear Locked Down,  $V_{LE}$  250 KIAS/.55M
- Tire Limit Speed (Ground Speed) 203 KIAS(235mph)

**Center of Gravity Limits:** See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Datum:** See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Leveling Means:** See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Maximum Weight:**

| Model A330 Airplane<br>Weight Variant | A330-301/-321/-322/-341/-342 |                             |                             | A330-323/-343           |
|---------------------------------------|------------------------------|-----------------------------|-----------------------------|-------------------------|
|                                       | 000<br>(Basic)<br>kg/lb      | 001<br>(MOD 42200)<br>kg/lb | 002<br>(MOD 42600)<br>kg/lb | 020<br>(Basic)<br>kg/lb |
| Maximum Take-off Weight, MTOW         | 212,000/467,460              | 184,000/405,720             | 212,000/467,460             | 230,000/507,064         |
| Maximum Landing Weight, MLW           | 174,000/383,670              | 174,000/383,670             | 177,000/390,285             | 185,000/407,856         |
| Maximum Zero Fuel Weight, MZFW        | 164,000/361,620              | 164,000/361,620             | 167,000/368,235             | 173,000/381,400         |

**Minimum Crew:** See Section III, Data pertinent to All A330-200 and A330-300 Models.

**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 exit configuration, and
- 379 passengers with a 4 pair Type A exit configuration.

**Maximum Baggage:**

| Cargo Compartment | Maximum Load<br>(kg/lb) |
|-------------------|-------------------------|
| Forward           | 22,861/50,400           |
| Aft               | 18,507/40,800           |
| Rear              | 3,468/7,646             |

For the positions and the loading conditions authorized in each position (references of containers, pallets and associated weight) see Weight and Balance Manual Ref. 00G080A0006/C3S for A330-300 airplanes.

**Fuel Capacity:**

| Model     | Two Tank Airplane            |                     |                    |                     |                |                 |
|-----------|------------------------------|---------------------|--------------------|---------------------|----------------|-----------------|
|           | Useable Fuel                 |                     |                    |                     | Unusable fuel  |                 |
|           | A330-301/-321/-322/-341/-342 |                     | A330-323/-343      |                     | All Models     |                 |
| Tank      | liters<br>(kg)               | gallons<br>(lb)     | liters<br>(kg)     | gallons<br>(lb)     | liters<br>(kg) | gallons<br>(lb) |
| Wing      | 91,056<br>(72,845)           | 24,054<br>(164,052) | 91,764<br>(73,411) | 24,241<br>(165,327) | 348<br>(278)   | 70<br>(41)      |
| Trim Tank | 6,115<br>(4891)              | 1,614<br>(11,008)   | 6,121<br>(4897)    | 1,617<br>(11,028)   | 6<br>(4.8)     | 1.6<br>(11)     |
| Total     | 97,171                       | 25,669              | 97,885             | 25,858              | 354            | 88              |

**Maximum Operating Altitude:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

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

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Manufacturer's Serial Numbers:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Import Requirements:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Certification Basis (A330-300):**

- a. Part 25 of the FAR effective February 1, 1965, including the following:
  - Amendments 25-1 through 25-63, amendments 25-65, 25-66, 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 (c) 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. FAA Special conditions issued for the A330 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) Operation without Normal Electrical Power
  - (2) Electronic Flight Control System (EFCS) failures and Mode Annunciation
  - (3) Command Signal Integrity
  - (4) Protection From Lightning and Unwanted Effects of High Intensity Radiated Fields (HIRF)
  - (5) Interaction of Systems and Structures
  - (6) Design Dive Speed
  - (7) Design Maneuver Requirements
  - (8) Limit Pilot Forces
  - (9) Tail plane Tank Emergency Landing Loads
  - (10) Limit Engine Torque
  - (11) Flight Characteristics
  - (12) Flight Envelope Protection
  - (13) Side Stick Controllers
  - (14) Computerized Airplane Flight Manual (AFM) Performance Information
- d. Special Federal Aviation regulation FAR Part 34, effective September 10, 1990.
- e. Part 36 of the FAR as amended by amendments 36-1 through 36-20.
- f. The technical requirements are complemented by the following guidance material:
 

For precision approach and landing,

  1. AC 120-29
  2. AC 120-28C

and for the automatic flight control system

1. AC 20-57A for automatic landing
2. AC 25.1329-1A for cruise

g. 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
- (8) 25.933(a)(1)(ii), 25.1309(b)(1) for flight critical thrust reverser
- (9) 25.1203(d) for turbine overheat detection (RR Trent 700 powered A330-341, -342, -343 only)
- (10) 25.1305(c)(6) Warning means for engine fuel filter contamination (RR Trent 700 powered A330-341, -342 and -343 only)

h. Optional requirements elected:

- 25.801 for ditching.
- 25.1419 for icing.

Note: Compliance with the FAA Required Modification List for Airbus Model A330 Aircraft as included under the Import Requirements section of TCDS Revision 4, dated March 21, 2000 or later TCDS revision, is necessary for an A330 aircraft to be found in a condition for safe operation.

**Production Basis:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Equipment:**

- The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.
- The following Airbus Documents defines the set of modifications which comprise the FAA certificated type design. This document contains certain modifications determined necessary for FAA certification, including installation of ozone converters, fuel system improvements and thrust reverser modifications.
  - AI/EA-N 415.1181/96 Issue 3, dated July 16, 1997 for the A330-301
  - AI/EA-N 415.1184/96 Issue 3, dated June 25, 1998 for the A330-321
  - AI/EA-N 415.1183/96 Issue 3, dated July 25, 1998 for the A330-322
  - AI/EA-N 415.1630/99 Issue 1, dated July 20, 1999 for the A330-323
  - AI/EA-N 415.1187/96 Issue 2, dated December 11, 1998 for the A330-341
  - AI/EA-N 415.1182/99 Issue 2, dated December 11, 1998 for the A330-342
  - AI/EA-N 415.2027/99 Issue 1, dated October 22, 1999 for the A330-343
- Equipment approved for installation is listed in the Certification Standard Equipment List
  - 00G000A0101/C0S for the A330-301.
  - 00G000A0121/C0S for the A330-321 and -322.
  - 00G000A0123/C3S for the A330-323.
  - 00G000A0141/C0S for the A330-341 and -342.
  - 00G000A0143/C3S for the A330-343.
- 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

**Other Information Applicable to A330-300 Series Airplanes:**

**Hydraulic Fluid:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Auxiliary Power Unit (APU):**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Tires:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Airplane Flight Manual:**

Airplane operation must be in accordance with the DGAC-Approved Airplane Flight Manual (AFM), US version, listed below, applicable to the specific airplane model and serial number.

| Model A330 Aircraft | Airbus Document Refr. | Revision No. | Date            |
|---------------------|-----------------------|--------------|-----------------|
| -301                | AI/EV-O 33000         | 3            | January 6, 1999 |
| -321, -322          | AI/ST-F 33000         | 2            | January 6, 1999 |
| -323                | AI/ST-F 33000         | 1            | October 7, 1999 |
| -341, -342          | AI/ST-F 33000         | 3            | March 15, 2000  |
| -343                | AI/ST-F 33000         | 2            | March 15, 2000  |

**Service and Operating Information:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**Notes:**

See Section III, Data pertinent to All A330-200 and A330-300 Models.

**III. Data Pertinent to All A330-200 and A330-300 Models:**

**Fuel:**

| Aircraft                                     | Nomenclature   | Specification                      |           |                   |
|--|--|------------------------------------|-----------|-------------------|
|  |  | United States                      | France    | United Kingdom    |
| A330-202<br>A330-301                         | Kerosene (conform to GE specification D50TF2 with current exception of JP4 and JET B)  | ASTM D<br>1655 (JET A)<br>(JET A1) | AIR 3405C | DERD<br>2494/2453 |
| A330-223<br>A330-321<br>A330-322<br>A330-323 | Fuel and fuel additives conforming to the latest applicable issue of FAA approved Pratt & Whitney Turbojet Engine Service Bulletin 2016 may be used separately or mixed in any proportions without adversely affecting the engine operation or power output. |                                    |           |                   |
| A330-243<br>A330-341<br>A330-342<br>A330-343 | Approved fuel and additives are identified in the relevant Operating instructions defined in the Rolls Royce Manual F-Trent – A330   |                                    |           |                   |

(a) Additives: According to GE "Specific Operating Instructions", installation manual. The above mentioned fuels are also suitable for the APU.

**Center of Gravity Limits:**

Refer to DGAC-Approved Airplane Flight Manual, US Version, Limitations Section for center of gravity envelope. Note: 0% MAC is located 1359.59 in. (34.532m) from the datum line

**Datum:**

The aircraft reference zero datum point is located 251.29 in. (6.3825 m) forward of the nose section, 275.6 in. (7m) under the fuselage centerline (datum line).

**Leveling Means:**

Inclinometer on cabin seat track rails (refer to WBM chapter 1.80).

**Minimum Crew:**

2 - Pilots

**Maximum Operating Altitude**

41,100 feet (12,496 m) slats and flaps retracted (clean)  
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 Spoilers     | Speed Brake 23° |
|                 | Lift Dumper 35° |
| #2,3 Spoilers   | Roll 35°        |
|                 | Speed Brake 30° |
|                 | Lift Dumper 50° |
| #4,5,6 Spoilers | Roll 35°        |
|                 | Speed Brake 30° |
|                 | Lift Dumper 50° |
| Aileron Droop   | 10°             |
| Flaps           | 32°             |
| Slats           | 23°             |
| Stabilizers     | +2°/-14°        |
| Elevator        | +15°/-30°       |
| Rudder          | +30°/-30°       |

**Manufacturer's Serial Numbers/Production Basis:**

A330 aircraft, all series and models, are produced in France under production approval FG 035 issued by the DGAC (on behalf of JAA) to Airbus.

**Import Requirements:**

To be considered eligible for operation in the United States, each aircraft manufactured under this certificate must be accompanied by a certificate of airworthiness for export containing a certifying statement endorsed by the exporting foreign civil airworthiness authority which states (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. A46NM as defined in TCDS A46NM revision 4 (or later revision) and to be in condition for safe operation."

The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is FAR Section 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 21.185(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." Notwithstanding that FAR sections 21.183(d) and 21.185(b) do not specifically address or require certification by the foreign civil airworthiness authority of the country of manufacture, such certification is the only practical way for an applicant to show, and the FAA to find conformity to the FAA-approved type design and condition for safe operation. Additional guidance is contained in FAA Advisory Circular (AC) 21-23, Airworthiness Certification of Civil Aircraft, Engines, Propellers, and Related Products Imported into the United States.

**FAA Required Modification List for Airbus Model A330 Aircraft:**

Prior to issuance of a Standard Airworthiness Certificate on any Airbus A330 model aircraft, all modifications shown on the (Model A330) Required Modification List (RML) with compliance times already **past**, must be accomplished before the aircraft can be found to be in a condition for safe operation.

Note 1: RML modifications with compliance times already past means that relative to the date of issuance of an Airworthiness Certificate for an individual aircraft, the compliance time of the RML item in calendar time and/or flight hours and/or flight cycles has been exceeded.

All **future** required modifications shown on the RML must be incorporated into the operator's maintenance or inspection program prior to placement of the aircraft into operation [just as for future airworthiness limitation items (ALI's), life limited parts or Certification Maintenance Requirements (CMR's)]. These future RML modifications must be incorporated prior to the compliance time specified in the RML and must remain with the airplane records. In the event of any transfer of the airplane to another operator these RML requirements must continue to be complied with and incorporated into the new operator's maintenance program.

Note 2: Future RML modifications means that relative to the date of issuance of an Airworthiness Certificate for an individual aircraft, the compliance time of the RML item in calendar time and/or flight hours and/or flight cycles has not yet been exceeded.

Prior to issuance of a Standard Airworthiness Certificate on any Airbus A330 model aircraft, the following note must be placed on the Airworthiness Certificate:

"CONTINUED AIRWORTHINESS: Type Certificate Data Sheet (TCDS) A46NM, Revision 4, dated March 21, 2000, contains the "FAA Required Modification List (RML)" that must be complied with for this aircraft to remain in a condition for safe operation.

The RML is part of the permanent record for this aircraft; it must remain with the aircraft data and continue to be complied with in the event of transfer to another operator.”

Note 3: The RML was finalized through its publication in TCDS Revision 4 and requirements will not be added by later TCDS revisions. Therefore, the RML in TCDS A46NM Revision 4 or any later TCDS revision are equivalent and acceptable for compliance. All future modifications that the FAA determines must be accomplished on U.S. registered aircraft will be addressed by issuance of an Airworthiness Directive (AD).

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 list below 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.

Alternative Methods of Compliance to an RML modification:

For each RML modification, an alternative method of compliance (AMOC) or adjustment of the compliance time may be used if approved by the Manager, International Branch, ANM-116, FAA Transport Airplane Directorate; 1601 Lind Avenue Southwest; Renton, Washington 98055; telephone (425) 227-2110; fax (425) 227-1149. Operators shall submit their request through an appropriate FAA Principle Maintenance Inspector, who may add comments and then send it to the Manager, International Branch.

An AMOC is not required to accomplish an RML modification in accordance with a DGAC-approved revision of an Airbus service bulletin later than that referenced in the RML. As discussed under the Service and Operating Information section of this TCDS, a service bulletin that contains a statement that the document is DGAC approved is accepted by the FAA and considered as FAA approved.

FAA Required Modification List (RML) for the Airbus Model A330 Aircraft:

The RML for the A330 is composed of items 1A through 40B as listed on the following pages.

| RML # | DGAC CN #         | Mod #                     | Mandatory Action                                     | Applicable To:   | S/B #                 | S/B REV(s)                             | Compliance Time  |
|-------|-------------------|---------------------------|--|--|-----------------------|--|--|
| 1A    | 1996-006-024(B)R1 | 42409                     | FUSELAGE - REINFORCE JOINT AT FRAMES 48 - 53.2       | Airplanes without mod 43475 or without SB A330-21-3027 | 53-3015               | 1 or higher                            | Frames 53/53.1/53.2: Prior to 5800 total flight cycles. For frames 48 to 52: Prior to 15600 total flight cycles. |
| 1B    | 1996-006-024(B)R1 | 42409                     | FUSELAGE - REINFORCE JOINT AT FRAMES 48 - 53.2       | Airplanes with mod 43475 or with SB A330-21-3027       | 53-3015               | 1 or higher                            | Frames 53/53.1/53.2 prior to 5300 total flight cycles. For frames 48 to 52 prior to 14100 total flight cycles.   |
| 2     | 1997-265-056(B)R1 | N/A                       | REVISE AMM AIRWORTHINESS LIMITS.                     | ALL Model A330 Airplanes                               | AMM CHAPTER 5         | 8 or higher                            | Prior to C of A Issuance   |
| 3     | 1998-539-088(B)   | N/A                       | REPLACE FRANKENJURA EYE-END ON ELEVATOR SERVOCONTRLS | ALL Model A330 Airplanes                               | AOT 27-24             | 1 or higher                            | Prior to 7/09/99 or C of A Issuance; whichever occurs later  |
| 4     | 1999-111-093(B)   | 45870 AND 46231 AND 46891 | INSTALL WIRING FOR E-BRAKE SHUTOFF VALVE             | ALL Model A330 Airplanes                               | 29-3054 AND 32-3083R2 | 3054: 0 or higher<br>3083: 2 or higher | Prior to 7/31/01 or C of A Issuance; whichever occurs later  |

## A330 Required Modification List (RML)

| RML # | DGAC CN #         | Mod #                     | Mandatory Action                          | Applicable To:  | S/B #                           | S/B REV(s)                    | Compliance Time   |
|-------|-------------------|---------------------------|---|---|---------------------------------|-------------------------------|---|
| 5     | 1999-123-092(B)   | 43724, OR 44661, OR 44662 | FLIGHT MANAGEMENT COMPUTER REPLACEMENT    | ALL Model A330 Airplanes  | 22-3011, OR 22-3009, OR 22-3010 | All SB's revision 1 or higher | Prior to 6/30/99 or C of A Issuance; whichever occurs later   |
| 6     | 1999-142-097(B)   | 46170, OR 46596           | FLIGHT CONTROL UNIT CHANGE                | Airplanes with Mod. 44887 OR with SB 22-3012                        | 22-3021, OR 22-3020             | 1 or higher                   | Prior to 6/30/99 or C of A Issuance; whichever occurs later   |
| 7     | 1999-144-094(B)R1 | 45977                     | REPLACE RAT ACTUATOR                      | Airplanes with Sundstrand RAT                                       | 29-3057                         | 1 or higher                   | Prior to 12/31/00 or C of A Issuance; whichever occurs later  |
| 8     | 1999-331-098(B)   | 42447                     | REPLACE NLG HINGE FITTING BRACKETS        | ALL Model A330 Airplanes  | 52-3046                         | 1 or higher                   | Prior to 01/21/01 or C of A Issuance; whichever occurs later  |
| 9A    | 1999-350-100(B)R1 | 46904, AND 46905          | REPLACE PIVOT PINS & BELLCRANK ASSEMBLIES | -202, -223, -243, -323, -343  | 32-3095                         | 1 or higher                   | The Later of (a) and (b):<br>(a) Prior to 4800 total flight cycles or within 5 years since new; which ever occurs first; and<br>(b) Prior to 06/08/01 |
| 9B    | 1999-350-100(B)R1 | 46902, AND 46903          | REPLACE PIVOT PINS & BELLCRANK ASSEMBLIES | ALL Model A330 Airplanes  | 32-3096                         | 1 or higher                   | Prior to 10 years since new or C of A Issuance; whichever occurs later  |
| 9C    | 1999-350-100(B)R1 | 46904, AND 46905          | REPLACE PIVOT PINS & BELLCRANK ASSEMBLIES | -301, -321, -322, -341, -342  | 32-3095                         | 1 or higher                   | The Later of (a) and (b):<br>(a) Prior to 6500 total flight cycles or within 5 years since new; which ever occurs first; and<br>(b) Prior to 06/08/01 |
| 10A   | 1999-406-103(B)   | 45307                     | REPLACE HORIZONTAL HYDRAULIC BRACKET      | All Airplanes, except -202, with mod 43475 OR with SB 21-3027       | 53-3088                         | 0 or higher                   | Prior to 7880 total flight cycles or 30700 total flight hrs; whichever occurs first   |
| 10B   | 1999-406-103(B)   | 45307                     | REPLACE HORIZONTAL HYDRAULIC BRACKET      | All Airplanes, except -202, without mod 43475 OR without SB 21-3027 | 53-3088                         | 0 or higher                   | Prior to 8620 total flight cycles or 33600 total flight hrs; whichever occurs first   |
| 10C   | 1999-406-103(B)   | 45307                     | REPLACE HORIZONTAL HYDRAULIC BRACKET      | -202  | 53-3088                         | 0 or higher                   | Prior to 8540 total flight cycles or 33300 total flight hrs, whichever occurs first   |
| 11    | 1999-442-104(B)   | 46820, OR 46865           | PASSENGER/ CREW DOOR FRAME LININGS        | ALL Airplanes with mod 44461 OR 44462 OR 44463 OR 44464 OR 44465    | 25-3096                         | 1 or higher                   | Prior to 11/03/05 or C of A Issuance; whichever occurs later  |
| 12A   | 1999-449-105(B)   | 45899                     | REINFORCE FRAME 40                        | -202, -223  | 53-3093                         | 2 or higher                   | Prior to 9700 Total flight cycles or 28800 total flight hours; whichever occurs first   |

## A330 Required Modification List (RML)

| RML # | DGAC CN #                         | Mod #                                     | Mandatory Action                                  | Applicable To:  | S/B #  | S/B REV(s)  | Compliance Time   |
|-------|-----------------------------------|---|---|---|--|---|---|
| 12B   | 1999-449-105(B)                   | 45899                                     | REINFORCE FRAME 40                                | -301, -321,-322, -341, -342   | 53-3093  | 1 or higher   | Prior to 7320 total flight cycles or 26130 total flight Hours; whichever occurs first |
| 13    | 1999-508-106(B)                   | 41652, OR 43904                           | MODIFY LOWER SECTIONS OF FRAME 48 TO 53.2         | ALL Model A330 Airplanes  | 53-3062  | 0 or higher   | Prior to 2300 Total flight cycles or C of A Issuance; whichever occurs later          |
| 14    | 95-053-009(B)R3                   | 44049                                     | REPLACE HYDRAULIC SENSE LINES                     | Airplanes equipped with PW model 4164 or 4168 engines                   | 29-3019  | 1 or higher   | Prior to 10/31/97 or C of A Issuance; whichever occurs later                          |
| 15    | 95-248-022(B)                     | 42607                                     | MOD - FUSELAGE STRINGER 39                        | ALL Model A330 Airplanes  | 53-3021  | 0 or higher   | Prior to 3800 total flight cycles   |
| 16    | 96-106-030(B)                     | 41849 OR 43364                            | AFT CARGO COMPARTMENT DOOR                        | ALL Model A330 Airplanes  | 52-3023  | 0 or higher   | Prior to 6000 total flight cycles   |
| 17    | 96-134-031(B)R2 AND 97-266-057(B) | [45271]; OR [44143 AND SB-A330-32-3070R0] | LANDING GEAR FREE FALL EXTENSION ELECTRIC CIRCUIT | ALL Model A330 Airplanes  | [32-3048R3] OR [32-3048R0, R1 or R2 AND 32-3070R0) | -3048:3 or higher, OR 3048: 0,1, or 2 AND 3070: 0 or higher | Prior to 3/23/99 or C of A Issuance; whichever occurs later                           |
| 18    | 96-136-032(B)R1                   | 43689 AND 44603                           | ELECTRICAL POWER-APU FUEL PUMPS ELEC SUPPLY       | ALL Model A330 Airplanes  | 28-3041  | 3 or higher   | Prior to 3/1/98 or C of A Issuance; whichever occurs later                            |
| 19    | 96-159-033(B)R2                   | 44173, OR 44237                           | MLG- SHORTENING MECHANISM BELLCRANK               | ALL Model A330 Airplanes without Mod 43029 installed                    | 32-3047  | 2 or higher   | Prior to 1/07/99 or C of A Issuance; whichever occurs later                           |
| 20    | 96-184-036(B)R2                   | 46558                                     | ICE PROTECTION-WING ANTI ICE VALVES               | ALL Model A330 Airplanes  | S/B 30-3020  | -3020: 0 or higher  | Prior to C of A Issuance  |
| 21    | 97-004-041(B)                     | 43697, OR 43761                           | REAR FUSELAGE CARGO DOOR FRAME                    | ALL Model A330 Airplanes  | 53-3048  | 0 or higher   | Prior to 7000 total flight cycles   |
| 22    | 97-154-049(B)R1                   | 44457 AND 45022                           | RADIO ANTENNA ALTIMETER "THOMSON"                 | ALL Model A330 Airplanes fitted with Radio Altimeter P/N 9599-607-19501 | 34-3044 AND 21-3053 AND 92-3017                    | All S/Bs: 0 or higher                                       | Prior to 10/31/98 or C of A Issuance; whichever occurs later                          |
| 23    | 97-178-051(B)                     | 44918                                     | A/C RAM AIR OUTLET DUCT                           | ALL Model A330 Airplanes  | 21-3059  | 0 or higher   | Prior to 6/30/98 or C of A Issuance; whichever occurs later                           |

## A330 Required Modification List (RML)

| RML # | DGAC CN #           | Mod #  | Mandatory Action                                    | Applicable To:   | S/B #                                       | S/B REV(s)                                   | Compliance Time  |
|-------|---------------------|--|---|--|---|--|--|
| 24    | 97-179-052(B)       | 45088, OR<br>45087                             | FWD FLAP TRACKS                                     | ALL Model A330<br>Airplanes  | 57-3048                                     | 1 or higher                                  | Prior to 3500 total flight<br>hours                                |
| 25    | 97-204-053(B)       | 41856,<br>OR<br>45224                          | FWD FUSELAGE-<br>REINFORCE<br>DBLR/OUTFLOW<br>VALVE | ALL Model A330<br>Airplanes  | 53-3084                                     | 0 or higher                                  | Prior to 7500 total flight<br>cycles                               |
| 26    | 97-361-<br>058(B)R2 | 44511 AND<br>41671                             | MLG-SHORTENING<br>MECHANISM<br>BELLCRANK BOLTS      | ALL Model A330<br>Airplanes without<br>Mod<br>43029 installed                          | 32-3056                                     | 1 or higher                                  | Prior to 12000 total flight<br>cycles on the MLG                   |
| 27    | 97-386-060(B)       | 45077<br>OR<br>45564                           | HOT TRANSFO-<br>RECTIFIERS<br>OPERATION             | ALL Model A330<br>Airplanes  | 24-3019                                     | 1 or higher                                  | Prior to 12/31/98 or C of A<br>Issuance; whichever occurs<br>later |
| 28    | 98-022-<br>062(B)R1 | 46115  | PNEUMATIC LEAK<br>DETECTION<br>SYSTEM WIRING        | ALL Model A330<br>Airplanes  | AOT 36-04<br>OR<br>SB 36-3012               | AOT: 0 or<br>higher<br>-3012:<br>0 or higher | Prior to 12/16/98 or C of A<br>Issuance; whichever occurs<br>later |
| 29    | 98-023-063(B)       | 43441,<br>OR<br>41848                          | CENTER FUSELAGE<br>REINFORCE FR<br>53.3/53.5        | ALL Model A330<br>Airplanes with<br>Mod. 40161   | 53-3039                                     | 1 or higher                                  | Prior to 10000 total flight<br>cycles                              |
| 30    | 98-024-064(B)       | 44360,<br>OR<br>44440                          | REINFORCE KEEL<br>ANGLE OF FRONT<br>SPAR FR40       | All Airplanes with<br>Mod. 41652   | 57-3046                                     | 0 or higher                                  | Prior to 4000 total flight<br>cycles                               |
| 31    | 98-098-065(B)       | [42351 AND<br>42353 AND<br>43438]; OR<br>41848 | REINFORCE<br>DOORFRAMES/<br>EMERGENCY EXITS         | Airplanes with<br>Mod. 40161   | 53-3023                                     | 0 or higher                                  | Prior to 10000 total flight<br>cycles                              |
| 32    | 98-099-066(B)       | 42969 AND<br>45580                             | FUEL<br>DENSITOMETERS -<br>ATA 28                   | ALL Model A330<br>Airplanes  | 28-3044R1<br>OR 28-3053<br>and<br>28-3044R0 | 3044: 1 or<br>higher<br>3053: 0 or<br>higher | Prior to 6 Years since new   |
| 33    | 98-101-068(B)       | 43306  | MODIFY DOOR<br>STOP FITTING ON<br>PASS DOORS        | ALL Model A330<br>Airplanes  | 53-3044                                     | 1 or higher                                  | Prior to 10000 total flight<br>cycles                              |
| 34    | 98-268-<br>073(B)R1 | 45534  | REPLACE MLG<br>DOOR                                 | All Airplanes with<br>MLG door S/N<br>AA1001 to<br>AA1196; or<br>SPAA001 to<br>SPAA015 | 52-3049                                     | 0 or higher                                  | Prior to 2/18/00 or C of A<br>Issuance; whichever occurs<br>later  |
| 35    | 98-291-074(B)       | 44030,<br>OR<br>43761                          | REINFORCE FRAME<br>65 REAR FUSELAGE                 | ALL Model<br>A330-300<br>Airplanes   | 53-3058                                     | 2 or higher                                  | Prior to 10000 total flight<br>cycles                              |

## A330 Required Modification List (RML)

| RML # | DGAC CN #       | Mod #   | Mandatory Action                              | Applicable To:                                 | S/B #   | S/B REV(s)  | Compliance Time   |
|-------|-----------------|---|---|--|---------|-------------|---|
| 36    | 98-352-076(B)   | 46416   | MOD MLG O/B PIN / BRAKE ROD TO MAIN STRUT     | ALL Model A330 Airplanes                       | 32-3084 | 2 or higher | Prior to 1/19/99 or C of A Issuance; whichever occurs later                         |
| 37    | 98-454-082(B)   | [43577];<br>OR [41652<br>AND<br>44440]; OR<br>[41652<br>AND<br>44360]                     | LOWER KEELBEAM FITTING/FWD LOWER SHELL        | ALL Model A330 Airplanes                       | 57-3032 | 3 or higher | Prior to 6600 Total flight cycles or 21800 Total Flight Hrs, whichever occurs first |
| 38A   | 98-484-081(B)R1 | 46472   | REPLACE PIVOT PINS OF SLIDE LOCKING MECHANISM | All Airplanes with 44860 (Type 1 Emerg Exits)  | 52-3050 | 1 or higher | Prior to 3/12/00 or C of A Issuance; whichever occurs later                         |
| 38B   | 98-484-081(B)R1 | 46471   | REPLACE PIVOT PINS OF SLIDE LOCKING MECHANISM | All Airplanes with 44330 (Mid & Aft Pax Doors) | 52-3050 | 1 or higher | Prior to 3/12/00 or C of A Issuance; whichever occurs later                         |
| 38C   | 98-484-081(B)R1 | 46473   | REPLACE PIVOT PINS OF SLIDE LOCKING MECHANISM | All Airplanes with 44332 (Type A Emerg Exits)  | 52-3050 | 1 or higher | Prior to 3/12/00 or C of A Issuance; whichever occurs later                         |
| 39    | 98-507-085(B)   | [45090],<br>OR<br>[45155],<br>OR<br>[45197],<br>OR<br>[45904],<br>OR [45904<br>and 45905] | REPLACE-DIAPHRAGM FOR EMERGENCY ACTUATOR      | ALL Model A330 Airplanes                       | 52-3048 | 1 or higher | Prior to 12/16/01 or C of A Issuance; whichever occurs later                        |
| 40A   | 98-538-087(B)R1 | 46353   | MODIFY DOOR STAY MECHANISM EMERG EXITS        | All Airplanes with 44332 (Type A Emerg Exits)  | 52-3051 | 1 or higher | Prior to 3/31/00 or C of A Issuance; whichever occurs later                         |
| 40B   | 98-538-087(B)R1 | 46352   | MODIFY DOOR STAY MECHANISM MID/AFT EXITS      | All Airplanes with 44330 (Mid & Aft Pax Doors) | 52-3051 | 1 or higher | Prior to 3/31/00 or C of A Issuance; whichever occurs later                         |

**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:<br>Turbine Outlet Temperature<br>Starting | 650 °C<br>1250 °C                      |

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

**Tires:**

Refer to Airbus Service Bulletin (SB) A330-32-3004.

**Service and Operating Information:**

- Service and repair instructions (bulletins, letters, etc...), the structural repair manual, aircraft flight manual, and overhaul and maintenance manuals which contain a statement that the document is DGAC approved are accepted by the FAA and are considered as FAA approved. These approvals pertain to the type design only.
- Service Bulletins which have been approved under the authority of DGAC Design Organization Approval No. C01 (or, since Nov. 1996, approved under the authority of JAA Design Organization Approval No. F.JA.02), constitute DGAC approval and, therefore, FAA approval. The changes specified in the Service Bulletin have been approved by the DGAC when they are major, or under the authority of DGAC Design Organization Approval No.C01/F.JA.02 when they are minor. These approvals pertain to the type design only.
- Airplane operation must be in accordance with the DGAC-Approved Airplane Flight Manual (AFM), US version, listed below, applicable to the specific airplane model and serial number.

| Model A330 Aircraft | Airbus Document Refr. | Revision No. | Date            |
|---------------------|-----------------------|--------------|-----------------|
| -202                | AI/ST-F 33000         | 2            | January 6, 1999 |
| -223                | AI/ST-F 33000         | 2            | January 6, 1999 |
| -243                | AI/ST-F 33000         | 2            | March 15, 2000  |
| -301                | AI/EV-O 33000         | 3            | January 6, 1999 |
| -321, -322          | AI/ST-F 33000         | 2            | January 6, 1999 |
| -323                | AI/ST-F 33000         | 1            | October 7, 1999 |
| -341, -342          | AI/ST-F 33000         | 3            | March 15, 2000  |
| -343                | AI/ST-F 33000         | 2            | March 15, 2000  |

- Weight & Balance Manual - Refer to Airbus Documents 00G080A0006/C2S for A330-200 series aircraft and 00G080A0006/C3S for A330-300 series aircraft. See Note 1 for information on Weight and Balance.

See Note 3 for reference to the Instructions for Continued Airworthiness required under § 21.50 for service life limits on components, required inspections and inspection intervals, and certification maintenance requirements.

**Notes:**

**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.

**Note 2:** Airplane operation must be in accordance with the applicable FAA approved Airplane Flight Manual. All placards required by either the FAA approved AFM, the applicable operating rules, or the certification basis must be installed in the airplane.

**Note 3:** Instructions For Continued Airworthiness:

- Component Life Limitations are provided in chapter 05, "Time Limits and Maintenance Checks", of the A330 Aircraft Maintenance Manual (AMM), approved by the DGAC. In addition, modification 47487, "Introduce Scallop on Growth Main Fitting to Improve Fatigue Life," is life-limited to 3000 Flight Cycles. It is expected that the mod 47487 life-limit will be extended on the basis of further fatigue tests and incorporated into a later revision of chapter 05.
- Maintenance tasks to comply with Certification Maintenance Requirements (CMR's) for systems are listed in the A330 Certification Maintenance Requirements, Airbus Document 955.2074/93, Issue 12, dated October 1999, which is included as Appendix 1a of the Maintenance Review Board (MRB) report. The MRB report, issue date March 1998, is approved by the FAA (refr. Airbus Document 00G050A0002/C01).

- Fatigue related structural inspections to comply with the damage tolerance requirements of the type certification are listed in the A330 Airworthiness Limitation Items , Airbus Document SE-M4/95A.0089/97, Issue 6, dated September 1999, which is included as Appendix 1b of the MRB report. The MRB report, issue date March 1998, is approved by the FAA (refr. Airbus Document 00G050A0002/C01).

Note: Compliance with the FAA Required Modification List for Airbus Model A330 Aircraft as included under the Import Requirements section of TCDS Revision 4, dated March 21, 2000 or later TCDS revision, is necessary for an A330 aircraft to be found in a condition for safe operation.

**Note 4:** A330-301: If modification 42792, “Autoflight-FMGEC-Introduce L5 Standard on A330 Aircraft,” is embodied the aircraft is qualified for CAT III precision approach and autoland. This does not constitute operational approval.

**Note 5:** A330-321 and A330-322: If modification 43397, “Autoflight-FMGEC-Certify CAT III Autoland for A330 with P&W engines,” is embodied, the aircraft is qualified for CAT III precision approach and autoland. This does not constitute an operational approval.

**Note 6:** A330-202, -223, -243, -323, -341, -342 and -343: The aircraft Type Design is qualified for CAT III precision approach and autoland. This does not constitute an operational approval.

**Note 7:** ETOPS for the A330-323: The Type Design reliability and performance of this airframe-engine combination has been evaluated in accordance with AC 120-42A and found suitable for (180 minute maximum diversion time) Extended Range Operations with the incorporation of the approved airplane configuration CMP document (AI/EA5001, Revision 01, dated October 21, 1999). This finding does not constitute approval to conduct extended range operations.

...END...