TYPE-CERTIFICATE DATA SHEET

No. IM.E.053

for
CF34-8 series engines

Type Certificate Holder
General Electric Aircraft Engines
GE Aviation
1000 Western Avenue
Lynn, Massachusetts 01910
USA

For Models:
CF34-8C1
CF34-8C5
CF34-8C5A1
CF34-8C5B1
CF34-8C5A2
CF34-8C5A3
CF34-8E2
CF34-8E2A1
CF34-8E5
CF34-8E5A1
CF34-8E5A2
CF34-8E6
CF34-8E6A1

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I. General

1. Type/ Models:

CF34-8C1, CF34-8C5, CF34-8C5A1, CF34-8C5B1, CF34-8C5A2, CF34-8C5A3, CF34-8E2, CF34-8E2A1, CF34-8E5, CF34-8E5A1, CF34-8E5A2, CF34-8E6, CF34-8E6A1

2. Type Certificate Holder

General Electric Aircraft Engines
GE Aviation
1000 Western Avenue
Lynn, Massachusetts 01910
USA

3. Manufacturer

General Electric Aircraft Engines

4. Date of Application

CF34-8C1	CF34-8C5, CF34-8C5A1, CF34-8C5B1, CF34-8C5A2, CF34-8C5A3, CF34-8E2, CF34-8E2A1, CF34-8E5, CF34-8E5A1, CF34-8E5A2, CF34-8E6, CF34-8E6A1
16 October 1996	11 July 2000

5. Validation Reference Date:

1 May 1997

6. EASA Type Certification Date

CF34-8C1	CF34-8C5, CF34-8C5A1, CF34-8C5B1, CF34-8C5A2, CF34-8C5A3, CF34-8E2, CF34-8E2A1, CF34-8E5, CF34-8E5A1, CF34-8E5A2, CF34-8E6, CF34-8E6A1
29 June 2000	04 October 2002

EASA Type Certification for the CF34-8 engine models is granted, in accordance with Article 3 paragraph 1 (a)(i) of Commission Regulation (EU) No 748/2012, based on the CAA United Kingdom validation letter issued following the JAA Validation Recommendation. It is recognised that Type Certification has previously been performed by a number of EU states.

II. Certification Basis

1. FAA Certification Basis details:

see FAA TCDS E00063EN

2. EASA Certification Basis:

2.1 Airworthiness Standards:

For CF34-8C1:

- JAR-E Change 9 – 21 October 1994 plus Orange Paper E/96/1 effective 8 August 1996
- Orange Paper OP/E/97/01 30 December 1997
- NPA-E-20 Birds 23 December 1996
- NPA-E-27 Inclement Weather 16 September 1997

For CF34-8C5/-8C5A1/ - 8C5B1/ -8C5A2/ -8C5A3/ - 8E2/ - 8E2A1/ - 8E5/ - 8E5A1/ - 8E5A2/ - 8E6/ - 8E6A1:

- JAR- E Change 10 – 15 August 1999
- NPA-E-20 Birds – 3 December 1999

2.2 Special Conditions:

SC1: Transient Overtemperature – CF34-8C1

2.3 Equivalent safety finding:

JAR –E 890 (b) (1) – Thrust Reverser Endurance Test

2.4 Deviations:

None.

2.5 EASA environmental protection requirements:

CS-34 Amendment 3 as implemented by ED Decision 2019/014/R (29th July 2019); ICAO Annex 16 Volume II, Amendment 9 (1st January 2018) as implemented into EU legislation 11th September 2018 ; NOx levels in compliance with Part III, Chapter 2, paragraph 2.3.2e) (CAEP/8) of the above mentioned Annex. Maximum nvPM mass concentration levels in compliance with Part III, Chapter 4, paragraph 4.2.2 (CAEP/10) of the above mentioned Annex.
(See note 20)

III. Technical Characteristics

1. Type Design Definition

As defined by the applicable GE Model Lists

(See Note 6)

2. Description

Dual rotor, axial flow, high bypass ratio turbofan with single stage fan, ten stage axial compressor, annular combustion chamber, two stage high pressure turbine, four stage low pressure turbine, exhaust nozzle, starter, and a full authority digital engine control (FADEC). On the CF34-8E engine models only, a thrust reverser and aft core cowl is included in the engine type design.

3. Equipment

Equipment are included in Type Design Definition.

4. Dimensions

	CF34-8C1	CF34-8C5 models	CF34-8E models
Overall Length	387 cm (152.3 inches)	388 cm (152.6 inches)	308 cm (121,2 inches)
Overall Diameter	154.1 cm (60.66 inches)	154.1 cm (60.66 inches)	159.2 cm (62.65 inches)

See Note 1

5. Dry Weight

	CF34-8C1	CF34-8C5 models	CF34-8E models
Weight	1,227 kg (2,704 lb)	1,261 kg (2,780 lb)	1,428 kg (3,147.6 lb)

6. Ratings

Rating (see Note 2)		CF34-8C1	CF34-8C5	CF34-8C5A1	CF34-8C5B1	CF34-8C5A2
Thrust kN (lb)	Maximum Takeoff (5 min) (see Notes 3 and 4)	61.34 (13790)	64.54 (14510)	64.54 (14510)	61.34 (13790)	64.54 (14510)
	Normal Takeoff (5 min) (see Notes 3 and 4)	56.36 (12670)	59.43 (13360)	60.63 (13630)	59.36 (12670)	62.50 (14050)
	Maximum Continuous	59.05 (13277)	60.84 (13680)	60.84 (13680)	59.06 (13280)	60.84 (13680)
Flat rate ambient temperature °C(°F)	Maximum Takeoff	30 (86.0)	30 (86.0)	30 (86.0)	30 (86.0)	30 (86.0)
	Maximum continuous	25 (77)	30 (86)	30 (86)	25 (77)	30 (86)

Rating (see Note 2)		CF34-8C5A3	CF34-8E2	CF34-8E2A1	CF34-8E5	CF34-8E5A1
Thrust kN (lb)	Maximum Takeoff (5 min) (see Notes 3 and 4)	64.54 (14510)	59.16 (13300)	59.16 (13300)	64.54 (14510)	64.54 (14510)
	Normal Takeoff (5 min) (see Notes 3 and 4)	64.54 (14510)	55.20 (12410)	59.16 (13300)	59.70 (13420)	62.50 (14050)
	Maximum Continuous	60.84 (13680)	55.78 (12540)	55.78 (12540)	60.14 (13520)	60.14 (13520)
Flat rate ambient temperature °C(°F)	Maximum Takeoff	30 (86)	30 (86)	30 (86)	30 (86)	30 (86)
	Maximum continuous	30 (86)	30 (86)	30 (86)	30 (86)	30 (86)

Rating (see Note 2)		CF34-8E5A2	CF34-8E6	CF34-8E6A1
Thrust kN (lb)	Maximum Take-off (5 min) (see Notes 3 and 4)	64.54 (14510)	62.50 (14050)	62.50 (14050)
	Normal Take-off (5 min) (see Notes 3 and 4)	64.54 (14510)	59.67 (13420)	62.50 (14050)
	Maximum Continuous	60.14 (13520)	60.14 (13520)	60.14 (13520)
Flat rate ambient temperature °C(°F)	Maximum Take-off	30 (86)	30 (86)	30 (86)
	Maximum continuous	30 (86)	30 (86)	30 (86)

7. Control System

The engine is equipped with a Full Authority Digital Engine Control (FADEC) system. Software is verified to level A according to RTCA Document DO-178B

System		Component
Fuel Metering Unit	Woodward Governor	4120T01
Full Authority Digital Engine Control (FADEC)	Lockheed/Martin	4120T00
Configuration Plug	Hardware	
	Engine Rating	2041M41
	Engine Configuration	M42
	N1 Trim Setting	M43
Ignition System	2 Ignition Exciters - Unison	9238M66
	2 Ignition Plugs Federal Mogul / Champion	4096T33
Fuel Pump	Argotech	4120T04

See Note 8.

8. Fluids

8.1 Fuel:

Fuel conforming to GE Jet Fuel Specification No. D50TF2 is applicable for all models. See GEK 105094 (CF34-8C1/-8C5) and GEK112034 (CF34-8E). Operating Instructions, for specific fuels approved per the subject specifications.

8.2 Oil:
Oil conforming to GE Specification No. D50TF1 is applicable for all models. See GEK 105094 (CF34-8C1 & CF34-8C5) and GEK 112034 (CF34-8E models). Operating Instructions, for specific oils approved per the subject specifications.

9. Aircraft Accessory Drives

Accessory	Location on AGB Axis	Speed, rpm	Power (rated), kW (HP)	Direction of rotation (facing AGB)	Torque Static/ Continuous/ Overload, Nm (lb-in)	Max. Acc. Wt, kg (lb)	Overhung Moment, Nm (lb-in)	Shear Torque, Nm (lb-in)
Lube & Scavenge Oil Pump	Axis-C Fwd	7898	4.47 (6)	CCW	33.9 (300) (*1) /5.4 (48) / NA	4.67 (10.3)	3.73 (33)	84.7-96.0 (750-850)
IDG	Axis-C Fwd	7928	55.78 (74.8) (*2)	CW	76.3 (675) (*1) / 67.5 (597) / 127.6 (1129) (5 min) (*4) 181.4 (1605) (5 sec) (*4)	36.83 (81.2) (*6)	81.3 (720) maximum	355.2-412.2 (3144-3648)
Air Turbine Starter	Axis-D Aft	12234	NA	CW	238.6 (2112), 474.6 (4200) (*3) / NA / NA	12.56 (27.7)	12.8 (113)	711.8-847.4 (6300-7500)
Hydraulic Pump CF34-8E	Axis-G Fwd	4825	22.37 (30)	CW	64.7 (573) (*1) (*5) / 44.3 (392) / 75.7 (670)	6.30 (13.9) (dry)	4.34 (38.4)	226.4 (2004) maximum
Hydraulic Pump CF34-8C	Axis-G Fwd	4825	22.37 (30)	CW	64.7 (573) (*1) (*5) / 44.3 (392) / 75.7 (670)	6.67 (14.7) (dry)	4.91 (43.5)	226.4 (2004) maximum
Alternator	Axis-E Aft	8103	2.98 (4)	CCW	NA/NA/NA	1.36 (3.0)	0.29 (2.6)	NA
Fuel Pump	Axis-F Aft	8319	29.83 (40)	CW	20.34 (180) (*1)/ 34.23(303)/ NA	10.43 (23)	12.77 (113)	141.80 – 155.91 (1255-1380)

CW - Clockwise CCW - Counter Clockwise

Accessory Speeds are based on Core Speed: 17000 rpm

(*1) -40°C (-40°F) SLS
(*2) HP is constant over the operating range with slight variations due to changes in efficiency. HP extraction is 55.8 kW (74.8 HP) at 7898 rpm (pad speed) and 54.8 kW (73.5 HP) at 4618 rpm (pad

speed). The 5 minute overload rating is 61.7 kW (82.7 HP) and the 5 second overload rating is 87.7 kW (117.6 HP)

(*3) 238.6 Nm (2112 in-lbs) at 15°C (59°F) SLS, 474.5 Nm (4200 in-lbs) at -40°C (-40°F) SLS

(*4) Overload at 4618 rpm (pad speed)

(*5) 64.7 Nm (573 in-lbs) at 626 rpm (pad speed)

(*6) Includes oil and V band coupling

10. Maximum Permissible Air Bleed Extraction: (See Note 5)

	Maximum Demonstrated Bleed Air (% of Total Compressor Massflow)		
Location	CF34-8C1	CF34-8C5	CF34-8E
Compressor Stage 6	8	8	8
Compressor Stage 10 (Compressor Discharge)	12.75	12.75	12.0
Maximum Allowable Bleed	NA	12.75	12.0

IV. Operating Limitations

1. Temperature Limits

1.1 Exhaust Gas Temperature °C (°F):

Maximum permissible temperatures are as follows:

Inter-turbine temperature (T45),°C (°F)

The inter-turbine temperature is measured by 5 probes (5 thermocouples) or 10 probes (20 thermocouples) mounted in the low pressure turbine casing.

** For the CF34-8C1, Takeoff and maximum continuous T45 limits may be exceeded transiently as a result of OBV actuation provided T45 does not exceed 1021°C (1869°F) for 30 seconds, and does not exceed a temperature limit that ramps from 1021°C (1869°F) to 979°C (1794°F) over the next 30 seconds, as defined in GE Operating Instructions ~ GEK105094. The total number of transient occurrences as a result of OBV actuation above a T45 of 979°C (1794°F) is limited to a maximum of 10 occurrences as defined in GE Engine Manual GEK 105091.

The 2-minute inter-turbine temperature (T45) limits (2 minutes out of 5 minutes take-off time), are intended to cover engine T45 overshoot characteristics which occur during engine stabilisation at constant Take-off thrust.

Refer to GE Engine Manual GEK 105091 (CF34-8C1/-8C5), for inspection requirements when limits are exceeded.

	CF34-8C1	CF34-8C5	CF34-8C5A1	CF34-8C5B1
Maximum Takeoff (5 minutes)	960 (1760)	990 (1814)	990 (1814)	990 (1814)
Maximum Takeoff (2 min. out of a total of 5 minutes)	979 (1794)	1006 (1843)	1006 (1843)	1006 (1843)
Normal Takeoff (5 minutes)	920 (1689)	947 (1736)	957 (1754)	948 (1738)
Maximum Takeoff (2 min. out of a total of 5 minutes)	939 (1723)	963 (1765)	973 (1783)	964 (1767)
Maximum Continuous	927 (1701)	960 (1760)	960 (1760)	960 (1760)
At start up, ground	815 (1499)	815 (1499)	815 (1499)	815 (1499)
2 sec transient	955 (1751)	NA	NA	NA
5 sec transient	927 (1701)	NA	NA	NA
At start up, air, assisted	815 (1499)	815 (1499)	815 (1499)	815 (1499)
2 sec transient	1010 (1850)	NA	NA	NA
5 sec transient	993 (1819)	NA	NA	NA
At start up, air, windmill	927 (1701)	927 (1701)	927 (1701)	927 (1701)
2 sec transient	1010 (1850)	NA	NA	NA
10 sec transient	960 (1760)	NA	NA	NA

	CF34-8C5A2	CF34-8C5A3
Maximum Takeoff (5 minutes)	990 (1814)	990 (1814)
Maximum Takeoff (2 min. out of a total of 5 minutes)	1006 (1843)	1006 (1843)
Normal Takeoff (5 minutes)	973 (1783)	990 (1814)
Maximum Takeoff (2 min. out of a total of 5 minutes)	989 (1812)	1006 (1843)
Maximum Continuous	960 (1760)	960 (1760)
At start up, ground	815 (1499)	815 (1499)
2 sec transient	NA	NA
5 sec transient	NA	NA
At start up, air assisted	815 (1499)	815 (1499)
2 sec transient	NA	NA
5 sec transient	NA	NA
At start up, air, windmill	927 (1701)	927 (1701)
2 sec transient	NA	NA
10 sec transient	NA	NA

	CF34-8E2	CF34-8E2A1	CF34-8E5	CF34-8E5A1
Maximum Takeoff (5 minutes)	990 (1814)	990 (1814)	990 (1814)	990 (1814)
Maximum Takeoff (2 min. out of a total of 5 minutes)	1006 (1843)	1006 (1843)	1006 (1843)	1006 (1843)
Normal Takeoff (5 minutes)	957 (1755)	990 (1814)	949 (1740)	973 (1783)
Normal Takeoff (2 minutes out of a total of 5 minutes)	973 (1784)	1006 (1843)	965 (1769)	989 (1812)
Maximum Continuous	960 (1760)	960 (1760)	960 (1760)	960 (1760)
At start up, ground	815 (1499)	815 (1499)	815 (1499)	815 (1499)
At start up, air assisted	927 (1701)	927 (1701)	927 (1701)	927 (1701)
At start up, air, windmill	927 (1701)	927 (1701)	927 (1701)	927 (1701)

	CF34-8E5A2	CF34-8E6	CF34-8E6A1
Maximum Takeoff (5 minutes)	990 (1814)	990 (1814)	990 (1814)
Maximum Takeoff (2 min. out of a total of 5 minutes)	1006 (1843)	1006 (1843)	1006 (1843)
Normal Takeoff (5 minutes)	990 (1814)	966 (1771)	990 (1814)
Normal Takeoff (2 minutes out of a total of 5 minutes)	1006 (1843)	982 (1800)	1006 (1843)
Maximum Continuous	960 (1760)	960 (1760)	960 (1760)
At start up, ground	815 (1499)	815 (1499)	815 (1499)
At start up, air assisted	927 (1701)	927 (1701)	927 (1701)
At start up, air, windmill	927 (1701)	927 (1701)	927 (1701)

1.2 Oil Temperature (measured in the oil tank) °C (°F):

	All Models
Continuous Operation	155 (311)
Transient Operation (limited to 15 minutes)	163 (325)

Transient operation above 155 (311) is limited to 15 minutes

1.3 Fuel Inlet Temperature (at engine fuel filter inlet) °C (°F):

All Models Continuous Operation: 121 (250)
(Jet A, Jet A1, Jet B, JP8, JP5, JP4, JP4/JP5 (Mixture), Ground Operation)

2. Maximum Permissible Rotor Speeds:

		CF34-8C1	CF34-8C5 / -8E models
Maximum takeoff	Low pressure rotor (N1), rpm	7360	7360
	High pressure rotor (N2), rpm	17710	17710
Normal takeoff	Low pressure rotor (N1), rpm	7247	7360
	High pressure rotor (N2), rpm	17515	17710
Maximum continuous	Low pressure rotor (N1), rpm	7360	7360
	High pressure rotor (N2), rpm	17437	17470

Refer to GE Engine Manual GEK 105091 (CF34-8C1/8C5 models) and GEK 112031 (CF34-8E models) for inspection requirements when limits are exceeded.

100% N1 rotor speed is 7,400 rpm
100% N2 rotor speed is 17,820 rpm

3. Pressure Limits

3.1 Fuel Pressure

At engine pump inlet: minimum pressure of 34 kPa (5 PSID) above the true vapour pressure of the fuel with a vapour liquid ratio of zero with aircraft boost operative. Operating range 34kPa (5 PSlG) to 345 kPa (50 PSIG). At engine motive flow discharge: minimum pressure of 1034 kPa (150 PSIG) at idle or above. Operating range is 1034 kPa (150 PSIG) to 5515 kPa (800 PSIG). See GE Installation Manual GEK 105093 (CF34-BC1/BC5), and GEK 112033 (CF34-8E).

3.2 Oil Pressure

At idle on the ground, 172 kPa (25 PSID) minimum. At take-off 310 kPa (45 PSID) minimum to 656 kPa (95 PSID) maximum. Operating range, 172 kPa (25 PSID).
See GE Installation Manual GEK105093 (CF34-8C1 & CF34-8C5 models) and GEK 112033 (CF34-8E models).

4. Installation Assumptions:

The installation assumptions are quoted in the GE Engine Installation Manuals:

GEK105093 (CF34-8C1 & CF34-8C5 models)
GEK112033 (CF34-8E models)

5. Time Limited Dispatch

The engine is approved for Time Limited Dispatch as allowed by JAR-E 510(e)(2) and in accordance with 14 CFR Part 33, Amendment 20, Paragraphs 33.4 and 33.28. The maximum rectification period for each dispatchable state is specified in the Airworthiness Limitations Section of the applicable CF34-8C1 & CF34-8C5 Engine Manual GEK105091 and CF-34-8E Engine Manual GEK 112041.

6. ETOPS

Not applicable, not part of the engine certification basis

V. Operating and Service Instructions

	CF34-8C1 & CF34-8C5	CF34-8E models
Operating Instructions	GEK 105094	GEK 112034
Installation Manual	GEK 105093	GEK 112033
Engine Manual	GEK 105091	GEK 112041

VI. Notes

1. Weight includes residual fuel and oil.

2. Engine ratings are based on calibrated test stand performance, and performance calculations are based on accepted parameter correction methods documented in the production data folder. These calculations assume the following conditions:
    1. Static sea level standard conditions of 15°C (59°F) and 101.32 kPa (29.92 inches Hg).
    2. No aircraft accessory loads or air extraction.
    3. No anti-icing; no inlet distortion; no inlet screen losses; and 100% ram recovery.
    4. Inlet bellmouth and cowl system as described in GE Installation Manual GEK 105093 (CF34-8C1 & CF34-8C5 models) and GEK 112033 (CF34-8E models).
    5. Specified fuel having an average lower, heating value of 43,031kJ/kg (CF34-8C1/-8C5 models); 43,147 kJ/kg (CF34-8E models) specified lube oil.

3. This engine is equipped with an automatic power reserve function for takeoff operation with one engine inoperative. During normal take-off, when the automatic power reserve function is activated, the engine control of the inoperative engine sends an input signal to the engine control of the operating engine. Upon receiving this signal, the engine thrust of the operating engine automatically increases from normal takeoff (NTO) or lower thrust to the corresponding, pre-determined maximum takeoff (MTO) thrust. If one engine is inoperable, full MTO thrust is available to the pilot at any time by throttle selection.

   The engine control system also incorporates schedules that assure a fully degraded engine, during operation at the NTO of lower thrust, will achieve the specified MTO thrust without exceeding the engine operating limits when the automatic power reserve function is activated.
4. The time limit at the normal takeoff rating is five minutes and shall include any time accumulated above the normal takeoff rating for that takeoff. The 5-minute takeoff time limit may be extended to 10 minutes for one engine inoperative operation in multi-engine aircraft.

5. Refer to Operating Instructions GEK 105094 (CF34-8C1/8C5 models) and GEK 112034 (CF34-8E models) for engine warm-up procedure.

6. Refer to Operating Instructions GEK 105094(CF34-8C1/8C5 models) and GEK 112034 (CF34-8E models) for thrust reverser operation.

7. Air Bleed Extraction - maximum customer air bleed extraction is as follows: Customer bleed air is available from either Stages 6 or 10 (compressor discharge) of the compressor at all operating conditions at or above idle. (No compressor bleed is permitted below idle). Customer bleed is scheduled to switch from Stage 10 bleed at low power operation to Stage 6 bleed at high power operation as described in GE Installation Manual GEK 105093 (CF34-8C1 & CF34-8C5 models), and GEK112033 (CF34-8E models).

8. The maximum permissible inlet distortion is specified in GE Installation Manual GEK105093 (CF34-8C1 & CF34-8C5 models) and GEK 112033 (CF34-8E models). Ground operational limits and procedures for operation in crosswind are specified in GE Specific Operating Instructions GEK 105094 (CF34-8C1 & CF34-8C5 models) and GEK 112034(CF34-8E models).

9. This engine meets the applicable requirements for operation in icing conditions provided that for ground idle engine operation in icing conditions a minimum core speed N2 is maintained and for flight idle engine operations in icing conditions, an N2 to provide a minimum PS3 schedule as defined in GE Operating instructions GEK 105094 (CF34-8C1 & CF34-8C5 models) and GEK112031 (CF34-8E models) are maintained. The FADEC Power Management controls ground and flight idle core speeds above the minimum speed demonstrated during engine certification for operation in icing conditions. At low ambient temperatures, the minimum permissible ground and flight idle speeds correspond to N2=58.47% (9,940 rpm) which is a non-adjustable limit, pre-set in the FADEC Power Management schedules. As ambient temperatures increase, the minimum permissible core speed increases as scheduled by the FADEC Power Management based upon N2 or PS3 control schedules.

10. For the CF34-8E models, the engine manufacturer supplies the Nacelle System. The following Aft Core Cowl and Thrust Reverser systems, which are a part of this Nacelle· system, have been certified for the listed engine models under this TCDS in accordance with JAR-E. The JAR-E engine type design definition is provided by:

Engine Model List	Aft Cowl Core Parts List	Thrust Reverser Parts List
CF34-8E2	15F0001	15G0001
CF34-8E2A1	15F0001	15G0001
CF34-8E5	15F0001	15G0001
CF34-8E5A1	15F0001	15G0001
CF34-8E5A2	15F0001	15G0001
CF34-8E6	15F0001	15G0001
CF34-8E6A1	15F0001	15G0001

11. The type definition for the CF34-8C1/-8C5 engine models does not include the thrust reverser. Compliance with JAR-E890 was demonstrated with the thrust reverser defined by:

Model List TR CF34-8C1G01	(Left Hand Nacelle/EBU)
Model List TR CF34-8C1 G02	(Right Hand Nacelle/EBU)
Model List TR CF34-8C5G01	(Left Hand Nacelle/EBU)
Model List TR CF34-8G5G02	(Right Hand Nacelle/EBU)
Model List TR CF34-8C5A1G01	(Left Hand Nacelle/EBU)
Model List TR CF34-8G5A1G02	(Right Hand Nacelle/EBU)
Model List TR CF34-8C5B1G01	(Left Hand Nacelle/EBU)
Model List TR CF34-8C5B1G02	(Right Hand Nacelle/EBU)
Model List TR CF34-8C5A2G01	(Left Hand Nacelle/EBU)
Model List TR CF34-8C5A2G02	(Right Hand Nacelle/EBU)
Model List TR CF34-8C5A3G01	(Left Hand Nacelle/EBU)
Model List TR CF34-8C5A3G02	(Right Hand Nacelle/EBU)

12. Refer to Operating Instructions GEK 105094 (CF34-8C1/8C5 models) and GEK 112034 (CF34-8E models) for thrust reverser operation.

13. Life limits established for critical components, are published in GE Engine Manual GEK 105091 for CF34-8C1 & CF34-8C5 models and GEK 112031 for the CF34-8E models.

14. Recommended maintenance inspection intervals are published in GE Engine Manual GEK 105091 for CF34-8C1 & CF34-8C5 models and GEK 112031 for the CF34-8E models

15. The operating temperature limit for specific components and accessories specified in GE Installation Manuals GEK 105093 (CF34-8C1 & CF34-8C5 models) and GEK 112033 (CF34-8E models), must be observed when installing the engine.

16. Static thrusts at sea level are rated at 30°C ambient temperature and below for takeoff and at 25°C and below for maximum continuous. The computer performance deck for calculating engine performance is as follows:

Engine Model	Computer Deck No.
CF34-8C1	L0073A5
CF34-8C5	G0175C
CF34-8C5A1	G0175C
CF34-8C581	L0073A
CF34-8C5A2	G0175C
CF34-8C5A3	G0175C
CF34-8E2	G0175D
CF34-8E2A1	G017SD
CF34-8E5	G0175D
CF34-8E5A1	G0175D
CF34-8E5A2	G017SD
CF34-8E6	G0175D
CF34-8E6A1	G0175D

17. Overhaul of the CF34-8C1, CF34-8C5 (all models) and CF34-8E (all models), components is only authorised via approved component manuals

18. Effective September 10, 2010 the model designations CF34-8D1, CF34-8D3, CF34-8D5 and CF34-8D6 were withdrawn at the request of the manufacturer. These models were originally recognised based on validations performed in several EU member states following the Validation Recommendation by the JAA. None of these models were released to revenue service.

19. A suffix may be added to CF34-8 basic engine model numbers on the engine nameplate to identify minor variations in the engine configuration, installation components, or differences specific to aircraft requirements, for example, CF34-8C5/B or CF34-8C5/M.

    Service Bulletin (SB) 72-A0237 describes the conversion of the base model to a suffix designation (with /B designation) and Service Bulletin (SB) 72-A0243 describes the conversion from the suffix designation (with /B designation) back to the base model.

    Service Bulletin (SB) 72-0235 describes the conversion of the base model to a suffix designation (with /M designation) and Service Bulletin (SB) 72-0244 describes the conversion from suffix designation (with /M designation) back to the base model.

    Only those designations and purposes listed below may be used. The SB number must be appended to the engine nameplate

    Life limits for the /B and /M minor model designations, established for critical components, are published in Authority approved GE Engine Manual GEK 105091 (CF34-8C1/8C5 models):

Designation:	Purpose:
CF34-8C5/B	Indicates use of the engine in an Alternate Mission application, with associated airworthiness limitations section life limits.
CF34-8C5B1/B	Indicates use of the engine in an Alternate Mission application, with associated airworthiness limitations section life limits.
CF34-8C5A1/B	Indicates use of the engine in an Alternate Mission application, with associated airworthiness limitations section life limits.
CF34-8C5A2/B	Indicates use of the engine in an Alternate Mission application, with associated airworthiness limitations section life limits.
CF34-8C5/M	Indicates the capability for frequent or repetitive use of the max takeoff (MTO) rating with associated airworthiness limitations section life limits.

CF34-8C5A1/M	Indicates the capability for frequent or repetitive use of the max takeoff (MTO) rating with associated airworthiness limitations section life limits.
CF34-8C5A2/M	Indicates the capability for frequent or repetitive use of the max takeoff (MTO) rating with associated airworthiness limitations section life limits.

20. Per EASA Certificate 10072071 dated 17th December 2019, the engine models CF34-8 series were recertified to show compliance with the CAEP/10 nvPM Emissions as defined in II 2.5 above.

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

n/a

II. Type Certificate Holder Record

n/a

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	22 April 2015	Initial Issue	Initial Issue 22 April 2015
Issue 02	16 March 2017	Administrative correction in section 6 Ratings	16 March 2017
Issue 03	9 January 2020	Introduction of CAEP/10 compliance for nvPM emissions (EASA Major Change Approval 10072071)	

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