DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

E00008CH
Revision 4
Rolls-Royce Corporation
AE 1107C

May 30, 2014

TYPE CERTIFICATE DATA SHEET NO. E00008CH

Engine models described herein conforming with this data sheet (which is part of Type Certificate No. E00008CH) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certified aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations provided they are installed, operated, and maintained as prescribed by the manufacturer's FAA approved manuals and other FAA approved instructions.

Type Certificate Holder:	Rolls-Royce Corporation 450 South Meridian Street Indianapolis, Indiana 46255-1103
Model:	AE 1107C
Type:	Free turbine turboshaft engine, modular design, 14 stage axial compressor, annular combustor, 2 stage gas generator turbine, 2 stage power turbine, bottom mounted power section accessory gearbox, two single channel full authority digital electronic controls.

Model	AE 1107C (P/N 23060102)
Ratings (see Note 1)	
Takeoff (5 min, see Note 1):	
Shaft Horsepower, SHP	6,456
Gas Generator Speed, rpm (estimated)	15,817
Power Turbine Speed, rpm	15,750
Measured Gas Temperature °F	1,565
Maximum Continuous:	
Shaft Horsepower, SHP	4,633
Gas Generator Speed, rpm (estimated)	15,268
Power Turbine Speed, rpm	15,000
Measured Gas Temperature, °F	1,392
Principal Dimensions of Basic Engine:	
Length (overall), in.	77.94
Diameter, Nominal, in.	24.50
Maximum Radial Projection, in.	21.10
C. G. location, dry (refer to Installation Drawings)	
Engine Axial Station, in.	98.985
Engine Buttock Line, in.	99.59
Engine Water Line, in.	97.98
Weight (dry), lb:	972.7

	AE 1107C (P/N 23060102)
Engine Control System: (major components)	Full Authority Digital Electronic Control (FADEC), qty 2. Fuel Pump & Metering Unit (FPMU) Compressor Variable Geometry (CVG) actuator.
Fuels:	MIL-DTL-5624 grades JP-4 and JP-5. MIL-DTL-83133 grade JP-8. Additional fuels are identified in Engine Manual (CSP 31006), and Operations Manual (CSP 30007)
Lubrication Oil:	Oils conforming to MIL-PRF-23699 or MIL-PRF-7808, except MIL-PRF-23699 only for oil temperatures above those corresponding to an oil kinematic viscosity of 13,000 centistokes. Additional oils are identified in Engine Manual (31006), and Operation Manual (CSP 30007).
Ignition System:	Dual capacitance discharge, high energy type exciters, dual igniter plugs
Certification Basis:	14 CFR Part 33 dated February 1, 1965, with Amendments 1 through 15 inclusive, plus 14 CFR §33.74 amendment 17 (Continued Rotation) Original application for type Certificate dated April 3, 1995; Revised October 6, 1997 to include amendment 15. Type Certificate No. E00008CH issued November 6, 1998.
Production Basis:	Production Certificate No. 310, dated November 6, 1998.

NOTE 1.

Model	AE 1107C (P/N 23060102)

Engine ratings are based on:

- Sea level static, ISA+44°F.
- 100% inlet pressure recovery
- Exhaust nozzle area of: 318.7 in^2
- Zero relative humidity
- No inlet air distortion
- No customer bleed extraction
- No external power extraction
- No anti-ice airflow
- Fuel having an LHV of 18300 Btu/lb otherwise conforming to fuels specified for use with this engine
- Oil conforming to MIL-PRF-23699
- Minimum Specification Engine (100%)

NOTE 2.

Model	AE 1107C (P/N 23060102)
Temperature Limits:	
Measured Gas Temp. (same as T4.5 and ITT)	
Takeoff (5 minutes)	1616°F(A)
Max. Continuous	1532°F
Starting	1435° F(A)
Oil Inlet Temperature:	
Max. Steady State	275°F
Max. Transient (1 min.)	285°F
Minimum	-40°F (MIL-PRF-23699) -65°F (MIL-PRF-7808)
Fuel Pump Inlet Temp.:	
Minimum	-65°F or that temperature corresponding to 12 centistokes (Cs) fuel viscosity, whichever is higher.
Maximum steady state	135° F

(A) For AE 1107C production engines that have incorporated FADEC software version G14 or higher. For in-service engines that comply with SB AE 1107C-73-033. For all other engines the following temperature limits apply: Takeoff 1566°F, Starting 1500°F.

NOTE 3.

Model	AE 1107C (P/N 23060102)
Maximum Permissible Speeds:	
Gas Generator:	
Steady State, rpm	15,970
Transient, rpm	16,129
Power Turbine:	
Steady State, rpm	15,750
Transient, rpm	16,350

NOTE 4.

Model	AE 1107C (P/N 23060102)
Maximum Permissible Engine Shaft Torque:	
Transient, ft lb	2,500
Takeoff (5 min), ft lb	2,153
Max. Continuous, ft lb	1,622

NOTE 5.

Model	AE 1107C (P/N 23060102)

Pressure Limits:

Oil Pressure Limits:

Power Section (max), psid	60
Power Section (min), psid	35 @ 100% Ng 30 @ Idle Ng

Fuel Pump Inlet Pressure:

Minimum, psig	11.1
Maximum, psig	50

NOTE 6.

Model	AE 1107C (P/N 23060102)

Accessory Drive Provisions:

Accessory	Direction of rotation	Speed ratio	Max torque cont. (lb-in)	Max torque static (lb-in)	Max overhung moment (in. lb)
Starter	CW	1.0000	1080	3240	80

NOTE 7.

Model	AE 1107C (P/N 23060102)

The maximum permissible customer compressor bleed air quantity for the AE 1107C engine as a percentage of the total engine inlet airflow is:

14th stage, %	8.0%

NOTE 8.
Mandatory replacement times (life limits) established for critical components and mandatory airworthiness inspections for the AE 1107C engine are published in the Time Limits Manual, CSP 34027.

NOTE 9.
The AE 1107C engine meets the requirements of 14 CFR part 34-1B.

NOTE 10.
The AE 1107C model is intended for a US military application. Current US law does not require that public use or military aircraft/engines be operated or maintained in accordance with the FAA approved type design. Deliberate or planned operation of this model outside of the Type Design, to include but not limited to ratings, limitations, and instructions for continued airworthiness, is considered a violation of the Type Design and 14 CFR Part 33.

NOTE 11.
The AE 1107C model is intended for use only in a dual engine application.

NOTE 12.
The AE 1107C model is restricted to fixed engine attitude until tilt-rotor engine requirements are defined by the Federal Aviation Administration and subsequent compliance to these requirements has been demonstrated.

NOTE 13.
The AE 1107C model is intended for installation in a U.S. military aircraft which does not have an FAA type certificate or FAA standard certificate of airworthiness. The AE 1107C Instructions for Continued Airworthiness (ICA) are captured in the following published documents: AE 1107C Engine Manual (CSP 31006), AE 1107C Time Limits Manual (CSP 34027), and applicable service bulletins.

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