

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

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TYPE CERTIFICATE DATA SHEET
NO. E7EA

GENERAL ELECTRIC
CF700-2C CF700-2D CF700-2D-2

Engines of models described herein conforming with this data sheet (which is a part of Type Certificate No. E7EA) and other approved data on file with the Federal Aviation Administration meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Civil Air Regulations/Federal Aviation Regulations, provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

Type Certificate (TC) Holder: **General Electric Company**
GE – Aviation
1000 Western Ave
Lynn, Massachusetts 01910

Model	CF700-2C	CF700-2D	CF700-2D-2
Type	Turbofan: 8 stage axial flow compressor, 2 stage turbine, annular type combustion chamber, with free-floating single stage fan aft of turbine.		
Ratings (See NOTE 5)			
Maximum continuous at sea level, static thrust, lb.	4000	4120	--
Takeoff (5 Min.) at sea level, static thrust, lb.	4200	4325	4500
Fuel Control	General Electric MFC-2	--	--
Fuel Pump	Chandler-Evans model 9234 with integral boost.	--	--
Fuel (See NOTES 7, 8, and 11)	Kerosene, JP-4 and JP-5 type fuels conforming to G.E. Jet Fuel Spec. D50TF2, current revision		
Oil (See NOTE 11)	Oil conforming to General Electric Specification D50TF1, current revision		
Principal Dimensions			
Length, inches (flange to flange)	53.56	--	--
Max. diameter, inches (max. flange)			
Gas generator	17.56	--	--
Fan	33.10	--	--
Center of Gravity (dry weight) with standard equipment			
Aft of front frame flange fwd. face, in.	28.28	27.64	29.10
To right of engine vertical centerline, in.	0.3	--	--
Below engine horizontal centerline, in.	1.1	--	--
Weight (dry), lb. (includes as standard equipment basic engine accessories and speed control, oil tank, fuel-oil cooler, fan blucket guard, ignition system less power source, inlet anti-icing system and exhaust thermocouples, exhaust nozzle on 2D-2, Compressor Spool Rotor on CF700-2D and CF700-2D-2 (SB 72-160).)	765	799	829
Usable oil tank capacity (quarts)	3	--	--
Ignition (24-30 volts D.C.)	Capacitor discharge exciters P/N 37D401588, 4006T58, 4016T54, 4920T03 or 4026T03 and ignitor plugs P/N 37B201652, 37C311124 or 4013T35.		
NOTES	1 through 15 & 17	--	1 through 17

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LEGEND: "--" INDICATES "SAME AS PRECEDING MODEL"
"---" INDICATES "NOT APPLICABLE"

NOTES

Total customer power extraction in any combination from Pads P2, P3, and P4 shall not exceed 65 h.p.

- * Tachometer mounted on lube pump.
- ** Starter torque limitations at initial engagement of starter 1750 lb. in. maximum for 0.5 seconds. Follow-on start cycle 1056 lb. in. for a maximum of 15 seconds, otherwise generator continuous limits apply.
- *** "C" - Clockwise, "CC" - Counter-clockwise facing engine pad.

The customer power extraction limits vs engine speed are presented in the G.E. CF700 Installation Manual No. SEI-124A. Location and details of the accessory drive pads are presented on the Installation Drawing, Sheet I.

NOTE 5. Engine ratings are based on calibrated stand performance under the following conditions:

- Operation at rated engine speeds.
- Static sea level standard conditions of 59°F and 29.92 in. Hg.
- General Electric bellmouth and bullet nose on air inlet.
- No external air bleed or accessory drive power for aircraft accessories.
- Exhaust configuration as defined by G.E. drawing 5005T30 (CF700-2C) and 6006T89 (CF700-2D) and 5017T20 (CF700-2D-2).
- No anti-icing airflow.
- Turbine exhaust gas temperature limits not exceeded.

At sea level static conditions below 59°F rated thrust will increase to maximum physical thrust limits as indicated.

	<u>CF700-2C</u>	<u>CF700-2D</u>	<u>CF700-2D-2</u>
Takeoff	4360 lb. @ 45°F	4453 lb. @ 48°F	(Does not apply)
Maximum Continuous	4250 lb. @ 42°F	4418 lb. @ 40°F	4418 lb. @ 40°F

These limits may be authorized for use at any ambient temperature for engines whose individual characteristics permit higher than rated thrust to be developed without exceeding approved temperature or RPM limits.

The CF700-2C, -2D and -2D-2 models develop 4125, 4250, and 4315 lb. thrust, respectively, at 86°F sea level static conditions. Refer to G.E. Performance Bulletin No. SEI-206 (CF700-2C), SEI-237 (CF700-2D) and SEI-284 (CF700-2D-2) for detailed performance data.

- NOTE 6. Maximum permissible bleed air extraction for aircraft purposes is 6% of compressor inlet airflow; refer to the currently approved G.E. CF700 Installation Manual SEI-124A for additional data.
- NOTE 7. Commercial kerosene, JP-4 and JP-5 type fuels are acceptable, but whenever a change is made or a mixture is used, a re-adjustment of the fuel control specific gravity setting must be made for optimum acceleration performance. The use of aviation gasoline as an emergency fuel is permitted provided that its use is limited to no more than 25 hours during any one overhaul period. Refer to G.E. Maintenance Manual SEI-187 for specific gravity adjustment.
- NOTE 8. Optional additive which may be used in approved fuels are:
- 1) Philips PFA-55MB or anti-icing additives to specification MIL-I-27686E at a concentration not in excess of 0.15% by volume.
 - 2) Shell ASA-3 anti-static additive at a concentration that will provide not in excess of 300 conductivity units which is approximately equivalent to one (1) PPM.
 - 3) SOHIO Biobor JF biocide additive at a concentration not in excess of 20 PPM elemental boron (270 PPM total additive).
- The above additives may be used in combination.
- NOTE 9. These engines meet FAA requirements for operation in icing conditions, for adequate turbine and fan disc integrity and rotor blade containment and do not require airframe mounted armoring. Refer to G.E. Operating Instructions SEI-189 for operating procedure under icing conditions.

NOTE 10. The maximum permissible rotor overspeeds are as follows:

Gas Generator (r.p.m.)		
Steady State		17,160 for 2 minutes
Transient		17,820
Fan		
Steady State		9,300 for 2 minutes
Transient		9,700

When any of these limits are exceeded, the engine must be inspected as defined in the G.E. Maintenance Manual SEI-187.

NOTE 11. Refer to G.E. Operating Instructions SEI-189 (Operations Engineering Bulletin Nos. 1 & 2) for list of approved fuels and oils.

NOTE 12. An altitude idle speed reset unit (AIR) P/N 6002T64 is available and may be incorporated in the fuel control to automatically establish a special flight idle speed schedule within the limits of the minimum flight idle speeds defined in SEI-124A -CF700 Installation Manual. For engines not equipped with AIR, either the aircraft system must be capable of maintaining the minimum idle schedule or the pilot must monitor and manually reset idle speed to maintain the minimum speed schedule as defined in SEI-124A, unless a modified schedule is coordinated with and approved by the General Electric Company. Engine equipped with the AIR unit are identified by the letter "A" following the engine serial number.

NOTE 13. The CF700-2D model engine is the same as the CF700-2C model except for increased ratings and an improved turbine. The CF700-2D-2 model engine is the same as the CF700-2D model, except for increased ratings and larger tailpipe area.

NOTE 14. Engine models CF700-2D & -2D-2 may be modified in accordance with G.E. Service Bulletin No. 72-64 to conform to the CF700-2C ratings and limitations by incorporating G.E. Kits P/N 5910T15G01. CF700-2D or -2D-2 engines so modified have the suffix letter "K" added to the engine serial number.

NOTE 15. Certain engine parts are life limited. These limits are listed in the FAA approved G.E. CF700 Turbofan Overhaul Manual SEI-133, Section 72-00 Inspection.

NOTE 16. Only CF700-2D-2 engine models incorporating the letter "B" designation following the engine serial number are eligible for use in NA-265-80 Sabreliner 75A aircraft.

NOTE 17. Fuel venting emission control is not included on these engines; and therefore, beginning January 1, 1975, airframe compliance must be provided.

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