

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

1E5 Revision 6 GENERAL ELECTRIC CJ805-23 CJ805-23B CJ805-23C May 1, 1976
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TYPE CERTIFICATE DATA SHEET NO. 1E5

Engines of models described herein conforming with this data sheet (which is a part of type certificate No. 1E5) 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.

Manufacturer General Electric Company
Aircraft Engine Group
Cincinnati, Ohio 45215

Model	CJ805-23	CJ805-23B, -23C
Type	Aft fan: 17 stage axial compressor, 3 stage turbine, cannular type combustion chamber, with free-floating single-stage fan aft of turbine	--
Rating		
Maximum continuous at sea level, static thrust, lb.	14,100	14,400
Takeoff (5 min.) at sea level, static thrust, lb.	15,850	16,100
Fuel control, Woodward	G.E. P/N 107RJ22	--
CIT sensor, Woodward	G.E. P/N 512D737	--
Fuel pump	Pesco 022819 two-element gear type fuel pump	--
Fuel	Conforming to GE Specification D50TF2 (See NOTE 10)	--
Oil	Synthetic type conforming to G.E. Specification D50TF1. G.E. Operation Engineering Bulletin No. 7 lists approved brand oils.	--
Principal dimensions:		
Length, in.	130.6 (excluding jet nozzle and exhaust cone)	--
Width, in.	56.0 (maximum envelope)	--
Height, in.	56.0 (maximum envelope)	--
Center of gravity location:		
Aft of front frame flange fwd. face, in.	68.5	--
Below engine centerline, in.	.7	--
Weight (dry), lb. (including basic engine accessories, oil supply tank, but excluding starter, ignition system power source, jet nozzle and exhaust tailcone)	3810	--
Ignition system (110 volts, 400 cycle)	Two ignition units GLA Model 40634, 42000, 42028 or 42398. Two igniter plugs AC JB-805 or JC-805 (See NOTE 16); or Champion AA-30S-X1, AA-30S-1, AA-30S-5, or AA-30S-9 (See NOTE 15 and 16)	--
NOTES	1 through 17	--

"- -" indicates "same as preceding model."

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Certification basis:

<u>Regulation and Amendments</u>	<u>Model</u>	<u>Date of Application</u>	<u>Date Type Certificate No. IE5 Issued/Revised</u>
CAR 13 effective June 15, 1956	CJ805-23	September 4, 1959	June 2, 1960
as amended by 13-1, 13-2 and 13-3	CJ805-23A	May 11, 1960	Deleted March 22, 1961
	CJ805-23B	May 2, 1961	September 21, 1961
	CJ805-23C	March 4, 1960	March 22, 1961

Production basis: Production Certificate No. 108.

NOTE 1. Maximum permissible temperatures:
 Turbine exhaust gas temperatures: (See NOTE 16)
 Takeoff (5 min.) 1170°F
 Maximum continuous 1095°F
 Maximum for acceleration (2 min.) 1202°F
 Maximum transient for starting (4 sec.) 1400°F

Oil inlet temperature 250°F

Accessory drive zone, maximum ambient air temperature 300°F

NOTE 2. Fuel and Oil Pressure Limits:

Fuel: Minimum at engine pump inlet, 4 p.s.i. above absolute fuel vapor pressure with maximum of 50 p.s.i. above absolute ambient atmospheric pressure.

Oil: At idle, 7 p.s.i.g. minimum
 Operating range, 25 to 65 p.s.i.g.

NOTE 3. Aircraft accessory drive provisions are the following:

Drive	Rotation*	Speed Ratio	Maximum Torque (in. -lb.)		Maximum Overhang (in. -lb.)
			Continuous**	Static	
Starter	C	1.000	4800	720	625
				0	
CSD and generator	CC	1.000	(79 hp.)	600	2000
				0	
Hyd. pump (2 pads)	C	0.482	1000	440	400
				0	
Tachometer***	C	0.562	17	45	4

*"C" - clockwise, "CC" counter-clockwise, facing drive.

**Combined customer accessory load not to exceed 113 hp. at engine idle speed (4474 r.p.m.) and 138 hp. at engine takeoff speed (7684 r.p.m. with a straight line relationship between these points.)

***Tachometer generator is standard equipment and is furnished by engine manufacturer.

NOTE 4. Engine ratings are based upon calibrated stand performance under the following conditions:

G.E. bell mouth air inlet

Compressor inlet air 59°F, 29.92 in. Hg.

No external air bleed or accessory drive power for aircraft accessories.

No anti-icing airflow.

Turbine exhaust gas temperature limits not exceeded.

Below 59°F, the sea level static limitations for these models will increase as follows:

For -23: to 16150 lb. max. at 52°F for T.O.; to 14850 lb. max. at 36°F for M.C.

For -23B, -23C: to 16300 lb. max. at 52°F for T.O.; to 15500 lb. max. at 36°F for M.C.

Complete performance parameters are contained in the following G.E. Performance Bulletins:

For -23: G.E. No. R60FPD593

For -23B: G.E. No. GEI 67896

For -23C: G.E. No. GEI 67897

- NOTE 5. For CJ805-23 and -23B: Maximum air bleed air extraction for aircraft purposes is 10 percent for engine speeds from idle to 6714 r.p.m., dropping to 5 percent at any speed in excess of 6714 r.p.m. For -23C air bleed limits refer to page E-2 of Performance Bulletin GEI-67897.
- NOTE 6. United Aircraft Products fuel heater and oil cooler are provided. Fuel heater automatically controls minimum fuel temperature within limits of 33°F to 45°F.
- NOTE 7. Monument Engineering Company oil tank is provided and contains two separate oil compartments. One contains 4.1 gallons for engine lubrication, the other 1.8 gallons for the CSD unit.
- NOTE 8. The engine meets FAA requirements for operation in icing conditions; for adequate turbine and fan disc integrity and rotor blade containment and, except for the aft fan component, does not require external armoring. The aft fan casing requires an external bucket guard conforming to G.E. Drawing Nos. 639E401 together with 107R789; or replacement guard G.E. P/N 110R133 together with 110R135.
- NOTE 9. Maximum permissible engine main rotor speed is 7684 r.p.m. Maximum permissible fan rotor speed is 5965 r.p.m.

The engine control incorporates an automatic feature limiting the engine gas generator corrected speed to 7910 r.p.m. This corresponds to takeoff physical speed of 7684 r.p.m. at 30°F
- NOTE 10. Approved fuel conforming to G.E. Specification D50TF2, MIL-T-5624, Grades JP-4 or JP-5, ASTM 1655-65T, Jet A, A1 and B are consistent with this General Electric Specification. Primary fuel is Jet A with other fuels listed being acceptable alternates. No fuel control adjustment is required when changing from primary to alternate fuels.

The use of aviation gas as emergency fuel is permissible provided that its use is recorded and limited to no more than 10 hours during any one hot section inspection period.
- NOTE 11. Deleted.
- NOTE 12. G.E. Thrust Reverser model 7H-TR-30 or -30A is approved in accordance with CAR 13.260(a) for incorporation on engine models -23 and -23B.
- NOTE 13. Engine model -23B is similar to model -23 except it incorporates improved parts and features and increased ratings. Engine model -23C is similar to model -23B except it has side mounting provisions.
- NOTE 14. Engine model CJ805-23 may be modified per G.E. Service Bulletin (23)72-40. This modification incorporates the CJ805-23B compressor components in the -23 engine. Engines so modified are approved for a sea level static thrust takeoff rating of 15,940 lbs. in accordance with CJ805-23 Performance Deck R61FPD481 (AAL engine configuration) and shall be identified by adding a suffix letter "F" to the engine serial number on the nameplate.
- NOTE 15. See G.E. Service Bulletin No. 74-3(-23) or 74-1(-23B) prior to use of igniter plug AA-80S-9 or JC-805.
- NOTE 16. Engine models CJ805-23, modified per G.E. Service Bulletin (-23) 72-40, and CJ805-23B may be modified with Low Smoke Combustors per G.E. Service Bulletins (990) 72-308, (990)73-47 and (990) 74-10. These modifications incorporate new design of combustors and fuel nozzles, longer igniter plug, modification of fuel control and increased flow area in stage 1 turbine nozzle. Engines so modified are approved for maximum permissible turbine exhaust gas temperatures:
- | | |
|---|--------|
| Takeoff (5 min.) | 1216°F |
| Maximum Continuous | 1141°F |
| Maximum for Acceleration (2 min.) | 1248°F |
| Maximum Transient for Starting (4 sec.) | 1400°F |
- All three of the above Service Bulletins must be incorporated currently. Neither the replaced components nor these modifications are individually interchangeable.
- NOTE 17. Life limits established for critical rotating components are published in the CJ805 Overhaul Manual, Inspection Section, and in G.E. Service Bulletin (990) 72-306.

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