

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET NO. E1GL	Rolls-Royce Corporation		E1GL
	Revision 22		17 December 2004
	250-C28	250-C30M	250-C40B
	250-C28B	250-C30P	250-C47B
	250-C28C	250-C30R (T703-AD-700)	250-C47M
	250-C30	250-C30R/1 (T703-AD-700B)	250-C30R/3
250-C30G	250-C30S	250-C30R/3M	
250-C30G/2	250-C30U		

Engines of models described herein conforming with this data sheet (which is part of Type Certificate No. E1GL) 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 Federal Aviation Regulations provided they are installed, operated and maintained as prescribed by the FAA approved manufacturer's manuals and other FAA approved instructions.

Type certificate holder Rolls-Royce Corporation
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Type certificate holder record: E1GL originally issued to Detroit Diesel Allison, General Motors Corporation on 28 Apr 76
E1GL reissued to Allison Gas Turbine Division, General Motors Corporation on 1 May 83
E1GL reissued to Allison Engine Company on 1 Dec 93
E1GL reissued to Rolls-Royce Corporation on 1 Sep 2000

Type	250-C28	250-C28B	250-C28C	250-C30 250-C30S	250-C30P
	Free turbine turboshaft with single stage centrifugal flow compressor, 2-stage gas producer turbine, 2-stage power turbine and single combustion chamber with pre-chamber.				
Shaft ratio	5.55:1	--	--	5.09:1	--
Ratings (see NOTE 4)					
Maximum continuous:					
SHP at sea level	478	500	--	650	600
Gas producer rpm (est.)	50193	50280	50135	50340	49310
Output shaft rpm	6016	--	--	--	--
Measured rated gas temp	1392°F (756°C)	1370°F (743°C)	1359°F (737°C)	1368°F (742°C)	1295°F (701°C)
Takeoff, 5 minute:					
SHP at sea level	500	--	--	650	--
Gas producer rpm	51005	50280	50135	50340	50330
Output shaft rpm	6016	--	--	--	--
Measured rated gas temp	1430°F (777°C)	1370°F (743°C)	1359°F (737°C)	1368°F (742°C)	1337°F (725°C)
30 minute OEI:					---
SHP at sea level	500	--	--	650	
Gas producer rpm	51005	50280	50135	50340	
Output shaft rpm	6016	--	--	--	
Measured rated gas temp	1430°F (777°C)	1370°F (743°C)	1359°F (737°C)	1368°F (742°C)	
2½ minute OEI:	---				---
SHP at sea level		550	--	700	
Gas producer rpm		51435	51165	51550	
Output shaft rpm		6016	--	--	
Measured rated gas temp		1425°F (774°C)	1410°F (766°C)	1424°F (773°C)	
Output shaft	Internal spline	--	--	--	--

	250-C28	250-C28B	250-C28C	250-C30 250-C30S	250-C30P
Control system:					
Gas producer fuel control	Honeywell DP-T1	Honeywell DP-T3	--	Honeywell DP-V1	--
Power turbine governor	Honeywell AL-AC1	--	--	Honeywell AL-AD1	--
Pneumatic accumulators and check valves or orifices	See NOTE 11	--	--	--	--
Electronic power turbine overspeed control system:					
Power turbine overspeed control	P/N 6893463	P/Ns 23001750, 23001777, 23004822	--	P/Ns 23001751, 23001768, 23004821	P/N 23004821
Power turbine overspeed solenoid valve	Valcor V5000-1250 or V5000-173	--	--	Valcor V5000-1310 or V5000-171	--
Power turbine speed pick-up	P/N 6894602	P/Ns 6898865, 6898868, 6899144	--	P/Ns 6898872, 6899145	P/Ns 6898865, 6898868, 6899144
Gas producer turbine speed pick up	—	—	—	P/N 6898540	—
Fuel pump	Single element fuel pump, Sundstrand Model 5000950 Series or TRW Model 388100 Series	--	--	Single element fuel pump with jet inducer, Sundstrand Model 5004506 or TRW Model 394400; and a 10 micron fuel filter	Same as -C28
Fuel	MIL-T-5624, Grade JP-4 or JP-5; Aviation Turbine Fuels ASTM D1655, Jet A or A-1, or Jet B, MIL-T-83133, Grade JP-8; (For other fuel and limitations, see NOTE 10.)				
Lubricating oil	MIL-L-23699 and subsequent revisions	MIL-L-7808G or MIL-L-23699 and subsequent revisions			
Ignition system (See NOTE 12)					
Exciter	Low tension capacitor discharge exciter. Simmonds Precision P/N 45754 or 49522 or Honeywell P/N 10-387150-1.				
Igniter	Shunted surface gap spark igniter, Champion P/N CH34078 or AC P/N 8990157.	Shunted surface gap spark igniter, Champion P/N CH34187 or AC P/N 8990304 or Auburn P/N 0270769.			

	250-C28	250-C28B	250-C28C	250-C30 250-C30S	250-C30P
Principal dimensions:					
Length overall, in.	43.000	48.782	43.351	43.198	--
Width, in.	21.940	25.776	21.996	--	--
Height, in.	25.130	25.480	--	--	25.130
C.G. location, aft of side mount pad, centerline, in.	5.73	4.99	5.59	5.70	--
C.G. location, above side mount pad, centerline, in.	3.23	3.31	3.22	3.28	--
C.G. location, left or rights side of engine centerline looking forward, in.	0.02 (left)	0.03 (left)	0.04 (right)	0.00	--
Weight (dry), lb. Includes basic engine, fuel pump, ignition, fuel, control systems and supervisory electronic fuel control, if applicable.	219	238	236	253.75 252.75	247.75

	250-C30M	250-C30R	250-C30G	250-C30U	250-C30G/2
Type	Free turbine turboshaft with single stage centrifugal flow compressor, 2-stage gas producer turbine, 2-stage power turbine and single combustion chamber with pre-chamber.				
Shaft ratio	5.09:1	--	3.22:1	5.09:1	3.22:1
Ratings (see NOTE 4)					
Maximum continuous:					
SHP at sea level	600	--	650	600	557
Gas producer rpm (est.)	49235	49310	50340	49245	49104
Output shaft rpm	6016	--	9518	6016	9545
Measured rated gas temp	1320°F (716°C)	1295°F (702°C)	1368°F (742°C)	1295°F (702°C)	1251°F (677°C)
Takeoff, 5 minute:		—			
SHP at sea level	650		--	--	--
Gas producer rpm	50110		50340	50100	50791
Output shaft rpm	6016		9518	6016	9545
Measured rated gas temp	1368°F (742°C)		1368°F (742°C)	1337°F (725°C)	1352°F (733°C)
Intermediate, 30 minute:	—		—	—	—
SHP at sea level		650			
Gas producer rpm		50330			
Output shaft rpm		6016			
Measured rated gas temp		1337°F (725°C)			
Continuous OEI:	—	—	—	—	
SHP at sea level					650
Gas producer rpm					50791
Output shaft rpm					9545
Measured rated gas temp					1352°F (733°C)

	250-C30M	250-C30R	250-C30G	250-C30U	250-C30G/2
30 minute OEI:	—	—		—	
SHP at sea level			650		650
Gas producer rpm			50340		50791
Output shaft rpm			9518		9545
Measured rated gas temp			1368°F (742°C)		1352°F (733°C)
2½ minute OEI:	—	—		—	
SHP at sea level			700		700
Gas producer rpm			51550		51661
Output shaft rpm			9518		9545
Measured rated gas temp			1424°F (773°C)		1411°F (766°C)
Output shaft	Internal spline	--	--	--	Flanged Drive
Control system:		Rolls-Royce digital supervisory electronic control P/N 23009178		Rolls-Royce digital supervisory electronic control P/N 23051062	
Gas producer fuel control	Honeywell DP-VI	Honeywell DP-V3	Honeywell DP-VI	Same as -C30R	Same as -C30G
Power turbine governor	Honeywell AL-AD1	—	Honeywell AL-AD1	—	Same as -C30G
Pneumatic accumulators and check valves or orifices	See NOTE 11	—	See NOTE 11	—	Same as -C30G
Electronic power turbine overspeed control system:					
Power turbine overspeed control	P/N 23004821	—	P/Ns 23001751, 23001768, 23004821	—	P/N 23054053
Power turbine overspeed solenoid valve	Valcor V5000-1310 or V5000-171	--	--	--	--
Power turbine speed pick-up	P/Ns 6898872, 6899145	P/N 23007500	Same as -C30S	Same as -C30R	Same as -C30G
Gas producer turbine speed pick up	P/N 6898540	P/N 23003100	Same as -C30S	Same as -C30R	Same as -C30G
Fuel pump	Single element fuel pump with jet inducer, Sundstrand Model 5004506 or TRW Model 394400; and a 10 micron fuel filter	Single element fuel pump with jet inducer TRW Model 394400; and a 10 micron fuel filter	Same as -C30S	Same as -C30R	Same as -C30G
Fuel	MIL-T-5624, Grade JP-4 or JP-5; Aviation Turbine Fuels ASTM D1655, Jet A or A-1, or Jet B, MIL-T-83133, Grade JP-8; (for other fuel and limitations, see Note 10.)				
Lubricating oil	MIL-L-7808G or MIL-L-23699 and subsequent revisions				

	250-C30M	250-C30R	250-C30G	250-C30U	250-C30G/2
Ignition system (see NOTE 12.)	Low tension capacitor discharge exciter, Simmonds Precision P/N 43754 or 49522 or Honeywell P/N 10-387150-1 or 10-614950-1 Shunted surface gap spark igniter, Champion P/N CH34187 or AC P/N 8990304 or Auburn P/N 0270769.				
Principal dimensions:					
Length overall, in.	43.198	--	--	--	--
Width, in.	21.996	--	--	--	--
Height, in.	25.715	25.992	25.480	25.105	25.715
C.G. Location, aft of side mount pad, centerline, in.	5.70	--	5.89	--	5.43
C.G. Location, above side mount pad, centerline, in.	3.28	--	3.33	--	2.63
C.G. Location, left or right side of engine centerline looking forward, in.	0.08 (right)	0.00	--	--	0.13 (right)
Weight (dry), lb. Includes basic engine, fuel pump, ignition, fuel control systems and supervisory electronic fuel control, if applicable.	251.75	255.75	254.75	252.75	261.75

	250-C30R/1	250-C40B	250-C47B	250-C47M	250-C30R/3 250-C30R/3M
Type	Free turbine turboshaft with single stage centrifugal flow compressor, 2-stage gas producer turbine, 2-stage power turbine and single combustion chamber with pre-chamber.				
Shaft ratio	5.09:1	3.22:1	5.09:1	--	--
Ratings (see NOTE 4)					
Maximum continuous:					
SHP at sea level	600	613	600	--	--
Gas producer rpm (est)	48710	48488	48258	48348	48348 48348
Output shaft rpm	6016	9598	6317	6016	--
Measured rated gas temp	1250°F (677°C)	1263°F (684°C)	1253°F (678°C)	--	1230°F (666°C) 1253°F (678°C)
Takeoff, 5 minute:	—				—
SHP at sea level		715	650	--	
Gas producer rpm		49791	48863	48965	
Output shaft rpm		9598	6317	6016	
Measured rated gas temp		1356°F (736°C)	1296°F (702°C)	1298°F (703°C)	
Intermediate, 30 minute:		—	—	—	
SHP at sea level	650				650
Gas producer rpm	49378				48965
Output shaft rpm	6016				6016
Measured rated gas temp	1289°F (698°C)				1270°F (688°C) 1298°F (703°C)

	250-C30R/1	250-C40B	250-C47B	250-C47M	250-C30R/3 250-C30R/3M
Continuous OEI:	—		—	—	—
SHP at sea level		715			
Gas producer rpm		49791			
Output shaft rpm		9598			
Measured rated gas temp		1356°F (736°C)			
30 minute OEI:	—		—	—	—
SHP at sea level		715			
Gas producer rpm		49791			
Output shaft rpm		9598			
Measured rated gas temp		1356°F (736°C)			
2 minute OEI:	—		—	—	—
SHP at sea level		770			
Gas producer rpm		50553			
Output shaft rpm		9598			
Measured rated gas temp		1400°F (760°C)			
30 second OEI:	—		—	—	—
SHP at sea level		820			
Gas producer rpm		51323			
Output shaft rpm		9598			
Measured rated gas temp		1447°F (786°C)			
Output shaft	Internal spline	Flanged drive	Internal spline	--	--
Control system:	Same as -C30R	Chandler Evans FADEC system including an Electronic Control Unit (ECU) and Hydromechanical Unit (HMU)			
Gas producer fuel control	Same as -C30R	—	—	—	—
Power turbine governor	—	—	—	—	—
Pneumatic accumulators and check valves or orifices	—	—	—	—	—
Electronic power turbine overspeed control system	Same as -C30R	Integral to FADEC system			
Power turbine overspeed control	—	—	—	—	—
Power turbine overspeed solenoid valve	Same as -C30R	—	—	—	—
Power turbine speed pick-up	Same as -C30R	—	—	—	—
Gas producer turbine speed pick up	Same as -C30R	—	—	—	—
Fuel pump	Same as -C30R	Two-stage suction system, integral to HMU			
Fuel	Same as -C30R	Same as -C30G/2	Same as -C30P	--	--
Lubricating oil	MIL-L-7808G or MIL-L-23699 and subsequent revisions				
Ignition system (See NOTE 12)	Same as -C30R	TRW solid state, high energy exciter unit. Shunted surface gap spark igniter, Champion P/N CH34187 or AC P/N 8990304 or Auburn P/N 0270769.			

	250-C30R/1	250-C40B	250-C47B	250-C47M	250-C30R/3 250-C30R/3M
Principal dimensions:					
Length overall, in.	43.198	--	--	--	--
Width, in.	21.996	--	--	--	--
Height, in.	25.105	25.715	25.130	25.715	--
C.G. location, aft of side mount pad, centerline, in.	5.85	5.44	5.86	--	--
C.G. location, above side mount pad, centerline, in.	3.06	2.46	2.95	--	--
C.G. location, left or right side of engine centerline looking forward, in.	0.00	0.14 (right)	0.13 (right)	--	--
Weight (dry), lb. Includes basic engine, fuel pump, ignition, fuel control systems and supervisory electronic fuel control, if applicable.	256.75	280	275.75 (does not include inter-ECU harness)	--	274 278 (includes CIT sensor and engine & accy harnesses)

Certification Basis:

Part 33 of the Federal Aviation Regulations effective February 1, 1965 and Amendments 33-2, 33-3, 33-4 and Exemption No. 2087B from FAR 33.69, Regulatory Docket No. 13294 issued February 24, 1975 and amended December 10, 1991, (Docket No. 26072). Application for Type Certificate dated October 2, 1973. Type Certificate No. E1GL for 250-C28 issued April 28, 1976. Models 250-C28B and 250-C28C added February 28, 1978. Model 250-C30 added March 28, 1978. Model 250-C30P added September 15, 1981. Model 250-C30S added June 15, 1982. Model 250-C30M added January 7, 1983. Models 250-C30L and 250-C30R added July 15, 1983. Model 250-C30L deleted March 17, 2000. Model 250-C30G added March 2, 1989. Model 250-C30U added August 28, 1989. Model 250-C30G/2 added March 4, 1992. Model 250-C30R/1 added March 31, 1994. Model 250-C47B added January 19, 1996. Model 250-C40B added February 22, 1996. The certification basis for the model 250-C40B includes Special Conditions SC-95-04-NE dated November 16, 1995 and the Equivalent Level of Safety (ELOS) finding identified in Memorandum to ANE-110 from ACE-115C, dated July 28, 2000, approving a modified gas generator test speed parameter for 33.7 and 33.87 compliance and ELOS finding 8040-8-1-001 dated May 11, 2001, approving gas generator test speeds for 33.87 compliance. Model 250-C47M added May 14, 1997. Model 250-C30R/3 added June 10, 1997. Model 250-C30R/3M added 24 September 2001. See NOTE 17 for additional Certification Basis details.

Production Basis:

Production Certificate No. 310

NOTE 1. Maximum allowable temperatures:

	250-C28	250-C28B	250-C28C	250-C30 250-C30S	250-C30P
Measured gas temperature					
2½ minute OEI	—	1490°F (810°C)	--	1518°F (826°C)	—
30 minute OEI	1450°F (788°C)	1455°F (791°C)	--	1468°F (798°C)	—
Takeoff, 5 minute	1450°F (788°C)	1455°F (791°C)	--	1414°F (768°C)	--
Maximum continuous	1430°F (777°C)	1455°F (791°C)	--	1414°F (768°C)	1320°F (716°C)
Maximum transient	1475°F (802°C) to 1600°F (871°C) (not to exceed 6 seconds)	1490°F (810°C) to 1600°F (871°C) (not to exceed 6 seconds)	--	1518°F (826°C) to 1662°F (906°C) (not to exceed 12 seconds)	1414°F (768°C) to 1600°F (871°C) (not to exceed 12 seconds)
Starting (not to exceed 10 seconds)	1475°F (802°C) to 1700°F (927°C)	1490°F (810°C) to 1700°F (927°C)	--	1518°F (826°C) to 1700°F (927°C)	--
Starting (momentary peak of one second maximum)	1700°F (927°C)	--	--	--	--
Oil inlet temperature	-65°F (-54°C) to 225°F (107°C)	--	--	--	--

	250-C30M	250-C30R	250-C30G	250-C30U	250-C30G/2
Measured gas temperature					
2½ minute OEI	—	—	1518°F (826°C)	—	1518°F (826°C)
30 minute OEI	—	—	1468°F (798°C)	—	1468°F (798°C)
Continuous OEI	—	—	—	—	1414°F (768°C)
Takeoff, 5 minute	1414°F (768°C)	—	1414°F (768°C)	1445°F (785°C)	1414°F (768°C)
Intermediate, 30 minute	—	1445°F (785°C)	—	—	—
Maximum continuous	1320°F (716°C)	1320°F (716°C)	1414°F (768°C)	1320°F (716°C)	--
Maximum transient	1414°F (768°C) to 1600°F (871°C) (not to exceed 12 seconds)	1445°F (785°C) to 1600°F (871°C) (not to exceed 12 seconds)	1518°F (826°C) to 1662°F (906°C) (not to exceed 12 seconds)	1445°F (785°C) to 1600°F (871°C) (not to exceed 12 seconds)	1518°F (826°C) to 1662°F (906°C) (not to exceed 12 seconds)
Starting (not to exceed 10 seconds)	1518°F (826°C) to 1700°F (927°C)	1445°F (785°C) to 1700°F (927°C)	1518°F (826°C) to 1700°F (927°C)	1445°F (785°C) to 1700°F (927°C)	1518°F (826°C) to 1700°F (927°C)
Starting (momentary peak of one second maximum)	1700°F (927°C)	--	--	--	--
Oil inlet temperature	-65°F (-54°C) to 225°F (107°C)	--	--	--	--

NOTE 1 (cont) Maximum allowable temperatures

	250-C30R/1	250-C40B	250-C47B	250-C47M	250-C30R/3 250-C30R/3M
Measured gas temperature					
30 second OEI	—	1600°F (871°C)	—	—	—
2 minute OEI	—	1521°F (827°C)	—	—	—
30 minute OEI	—	1468°F (798°C)	—	—	—
Intermediate, 30 minute	1445°F (785°C)	—	—	—	1475°F (802°C)
Continuous OEI	—	1435°F (779°C)	—	—	—
Takeoff, 5 minute	—	1435°F (779°C)	1435°F (779°C)	--	—
Maximum continuous	1320°F (716°C)	1340°F (727°C)	1340°F (727°C)	--	1320°F (716°C)
Maximum transient	1445°F (785°C) to 1600°F (871°C) (not to exceed 12 seconds)	1468°F (798°C) to 1662°F (906°C) (not to exceed 12 seconds)	1435°F (779°C) to 1662°F (906°C) (not to exceed 12 seconds)	--	1475°F (801°C) to 1662°F (906°C) (not to exceed 12 seconds)
Starting (not to exceed 10 seconds)	1445°F (785°C) to 1700°F (927°C)	1550°F (843°C) to 1700°F (927°C)	--	--	--
Starting (momentary peak of one second maximum)	1700°F (927°C)	--	--	--	--
Oil inlet temperature	-65°F (-54°C) to 225°F (107°C)	--	--	--	--

NOTE 2. Fuel inlet and oil pressure limits

(a) Fuel inlet pressure (applicable to MIL-T-5624 and ASTM D1655 Jet A or A-1, or MIL-T-83833 JP-8 fuels):

	Minimum pressure at fuel inlet connection to the engine					Maximum fuel inlet pressure
	Sea level	6000 ft	10000 ft	15000 ft	20000 ft	
250-C28, -C28B, -C28C, -C30P	Ambient minus 9 in Hg	Ambient minus 5.5 in Hg	Ambient minus 3.5 in Hg	Ambient minus 1.0 in Hg	Ambient plus 1.5 in Hg	25 psig
250-C30, -C30G, -C30G/2, -C30M, -C30R, -C30R/1, -C30S, -C30U	No lower than atmospheric or tank pressure, whichever is higher, minus either: 1. 4.0 psig using ASTM D1655, Jet A, A-1 or equivalent at -20°F to 130°F, or 2. A pressure which varies linearly from 4.0 psig at sea level to 2.24 psig at 15,000 ft and a constant 2.24 psig to 20,000 ft using Jet B at -20°F to 110°F. The minimum pressure for satisfactory fuel pump ejector performance is 1 psig at 15,000 ft and 3 psig at 20,000 ft measured at the after-filter port.					25 psig with a vapor-to- liquid ratio (V/L) not greater than 0.30.
250-C40B, -C47B, -C47M, -C30R/3, -C30R/3M	Minimum allowable fuel inlet pressure varies as a function of fuel type, fuel temperature and altitude. Tables, curves and methods for determining the minimum fuel pressure are included in the following Installation Design Manuals: 250-C40B refer to CSP24001 250-C47B refer to CSP24002 250-C47M refer to CSP24003 250-C30R/3 refer to CSP24005 250-C30R/3M refer to CSP24007					25 psig

No fuel inlet depression allowed with MIL-G-5572 fuel.

NOTE 2. (cont) Fuel inlet and oil pressure limits

(b) Operating oil gauge pressures:

	Operating oil gauge pressure (psig)						Minimum oil pump inlet pressure
	47,884 rpm (94%) gas generator speed and above	40,234 rpm (79.0%) gas generator speed to 47,884 rpm	Below 40,234 rpm (79.0%) gas generator speed	47,940 rpm (94%) gas generator speed and above	40,290 rpm (79.0%) gas generator speed to 47,940 rpm	Below 40,290 rpm (79.0%) gas generator speed	
250-C28 Series:	115 – 130	90 – 130	50 – 130	—	—	—	5 in Hg absolute
250-C30 Series, 250-C40B and 250-C47 Series:	—	—	—	115 to 130	90 to 130	50 to 130	5 in Hg absolute

NOTE 3. The following accessory drive mounting provisions are available:

250-C28 Series

	Direction of rotation *	Speed ratio to turbine	Max shaft torque (in-lb)		Max accessory pad overhung moment (in-lb)
			Continuous	Static	
Driven by gas producer turbine:					
Tachometer	CC	0.0825	7	50	4
Starter-generator	C	0.2351	550**	1100	150
Driven by power turbine:					
Tachometer	CC	0.1257	7	50	4
Power take-off	C	0.180	5868***	10000	100
Spare	C	0.3600	79	395	150

* C - Clockwise viewing drive pad

CC - Counterclockwise

** The maximum generator load is 12 horsepower.

*** The sum of the torques extracted in any combination from the front and rear power output drives shall not exceed the torque values specified in NOTE 7. The value given in the above table represents the 2½ minute limited maximum total torque.

NOTE 3 (cont) The following accessory drive mounting provisions are available:

250-C30 Series, 250-C40B and 250-C47 Series

	Direction of rotation *	Speed ratio to turbine	Max shaft torque (in-lb)		Max accessory pad overhung moment (in-lb)
			Continuous	Static	
Driven by gas producer turbine:					
Tachometer	CC	0.0825	7	50	4
Starter-generator	C	0.2351	550**	1100	150
Spare	CC	0.2351	550****	1100	150
Driven by power turbine:					
Tachometer	CC	0.1370	7	50	4
Tachometer (250-C30G, -C30G/2 and -C40B only)	CC	0.2168	4	32	4
Power take-off	C	0.1963	7524***	10000	100
Power take-off (250-C30G only)	C	0.3105	4765***	6321	100
Power take-off (250-C30G/2 only):					
Front drive (2½ minute OEI limit maximum)	CC	0.3105	4846***	6443	380 *****
Rear drive	C	0.3105	330*****	330	10
Power take-off (250-C40B only):					
Front drive (30 second OEI limit maximum)	CC	0.3105	5544*****	6443	380 *****
Front drive (30 minute OEI limit maximum)	CC	0.3105	5184*****	6443	380 *****
Rear drive	C	0.3105	330*****	330	10
Power take-off (250-C47B only):					
Front drive	CC	0.1963	7524 ***	10000	969
Rear drive	C	0.1963	7524 ***	10000	100
Power take-off (250-C30R/3M and -C47M only):					
Front drive	CC	0.1963	7524*****	10000	100
Rear drive	C	0.1963	7524*****	10000	100
Spare (250-C30P, -C30R, -C30R/1, -C30R/3 and -C30R/3M)	C	0.3925	79	395	150

* C - Clockwise viewing drive pad CC - Counterclockwise

** The maximum generator load is 12 horsepower.

*** The sum of the torques extracted in any combination from the front and rear power take-off drives shall not exceed the torque values specified in NOTE 7. The value given in the above table represents the 2½-minute OEI limited maximum total torque applicable to Models 250-C30, -C30S, -C30G and -C30G/2.

**** The maximum accessory load is 6 horsepower.

***** The sum of the torques extracted in any combination from the front and rear power take-off drives shall not exceed the torque values specified in NOTE 7.

***** The max overhung moment applies to the shaft flange, not the pad, for the -C30G/2 and -C40B.

NOTE 4. The engine ratings, unless otherwise specified, are based on static sea level standard conditions. Compressor inlet air (dry) 59°F, 29.92 in Hg. Compressor inlet bell attached (250-C28, -C28C, -C30, -C40 and -C47 Series) to provide suitable air approach conditions. No external accessory loads and no bleed air offtake.

Measured rated gas temperature is indicated by the average of the 4 gas temperature thermocouples.

NOTE 5.

250-C28	Basic Model
250-C28B	Similar to C28 except compressor and turbine changes which result in an increased power rating and the addition of an inlet particle separator.
250-C28C	Identical to C28B except without particle separator
250-C30	Similar to C28C except compressor and turbine changes which result in an increased power rating.
250-C30P	Similar to C30 but with no 2½ or 30 min OEI ratings.
250-C30S	Similar to C30 except compressor production changes which result in 5 percent new or overhaul performance margin.
250-C30M	Similar to C30 but with no 2½ or 30 min OEI ratings and adapted for torque tube mounting.
250-C30R	Similar to C30P but with inducer fuel pump and filter.
250-C30G	Similar to C30S but with 9518 rpm power takeoff shaft speed.
250-C30U	Similar to C30R but with 5 min. takeoff rating and reduced life limits on certain critical parts.
250-C30G/2	Similar to C30G but with 9545 rpm power takeoff shaft speed at 100% power turbine speed of 30737 rpm; continuous OEI rating added; flanged power takeoff drive system used in place of spline drive system.
250-C30R/1	Similar to C30R but with 7% increased engine airflow due to increased impeller blade height. Inducer bleed port is double the C30R capacity. Also, a compressor bleed valve is utilized.
250-C40B	Similar to C30G/2 but with 9598 rpm output shaft speed at 100% power turbine speed of 30,908 rpm, no 2½ min. OEI rating, but 30 sec OEI and 2 min OEI ratings added and single channel Full Authority Digital Electronic Control (FADEC) system with manual backup and C30R/1 flow path changes.
250-C47B	Similar to C30P but with 6317 rpm output shaft speed at 100% power turbine speed of 32,183 rpm and C30R/1 flow path changes. Single channel FADEC system with manual backup similar to the 250-C40B.
250-C47M	Similar to C47B but with 6016 rpm output shaft speed at 100% power turbine speed of 30,650 rpm
250-C30R/3	Similar to C47M, but with Intermediate Power Rating. The military Intermediate Rating on the engine is used in the military applications and is equivalent to the FAA Takeoff Rating with the exception of the time limit, which is 30 minutes for the Intermediate Rating.
250-C30R/3M	Similar to C30R/3 but with an acceleration bleed valve and accumulator. Declared flight envelope increased to 20000 ft.

There may be a number of variants of a given engine Model (distinguished by different part numbers) which incorporate minor modifications to tailor the engine for particular airframe applications.

NOTE 6. The ejector tube assembly for the Model 250-C28B is airframe mounted.

NOTE 7. The maximum allowable torque as measured by the torquemeter for below standard inlet air temperature and/or ram conditions are as follows:

	Maximum torque (lb-ft)									
	For 2 sec	For 10 sec	For 16 sec	At 30 sec OEI power	At 2 min OEI power	At 2½ min OEI power	At 30 min OEI/ Interm power	At Con OEI power	At Takeoff power	At Max con power
250-C28	—	480	—	—	—	—	463	—	463	417
250-C28B	—	499	—	—	—	489	463	—	463	463
250-C28C	—	612	—	—	—	489	463	—	463	463
250-C30, -C30S	—	—	877	—	—	627	590	—	590	590
250-C30P, -C30M, -C30U, -C47B, -C47M	686	637	—	—	—	—	—	—	590	524
250-C30R, -C30R/1, -C30R/3, -C30R/3M	686	637	—	—	—	—	590	—	590	524
250-C30G	—	—	521	—	—	398	373	—	373	373
250-C30G/2	—	—	521	—	—	404	393	372	372	307
250-C40B	—	—	521	462	444	—	432	409	409	338

NOTE 8. Maximum and minimum turbine rotor speeds

	Output shaft speed				Gas producer speed	
	Max transient (up to 15 sec)	Maximum sustained	Min transient (up to 15 sec)	Minimum sustained	Max transient (up to 10 sec)	Maximum sustained
250-C28, -C28B, -C28C: 100% output shaft speed = 6016 rpm 100% gas producer speed = 50940 rpm	Varies linearly from 115% at autorotation to 105% at takeoff	Varies linearly from 113% at autorotation to 103% at takeoff	—	—	105%	104%
250-C30, -C30M, -C30P, -C30S, -C30R, -C30R/1, -C30R/3, -C30R/3M, -C30U, -C47M: 100% output shaft speed = 6016 rpm 100% gas producer speed = 51000 rpm	126.6% (7616 rpm)	107.1% (6443 rpm)	70.1% (4220 rpm)	90.0% (5414 rpm)	106%	105%
250-C30G: 100% output shaft speed = 9518 rpm 100% gas producer speed = 51000 rpm	126.6% (12049 rpm)	107.1% (10194 rpm)	70.1% (6677 rpm)	89.7% (8540 rpm)	106%	105%
250-C30G/2: 100% output shaft speed = 9545 rpm 100% gas producer speed = 51000 rpm	126.2% (12049 rpm)	106.8% (10194 rpm)	70.0% (6681 rpm)	89.5% (8542 rpm)	106%	105%
250-C40B: 100% output shaft speed = 9598 rpm 100% gas producer speed = 51000 rpm	125.5% (12049 rpm)	106.3% (10203 rpm)	69.6% (6680 rpm)	89.0% (8542 rpm)	106%	105%
250-C47B: 100% output shaft speed = 6317 rpm 100% gas producer speed = 51000 rpm	120.6% (7616 rpm)	102.1% (6449 rpm)	66.8% (4220 rpm)	85.4% (5397 rpm)	106%	105%

NOTE 9. External air bleed may not exceed 4.5 percent for the Models 250-C28, 250-C30, 250-C40 and 250-C47 Series and 4.0 percent for the Models 250-C28B and 250-C28C.

NOTE 10. For the Model 250-C28 Series and 250-C30P, emergency use of aviation gasoline MIL-G-5572, all grades, is limited to the amount of fuel required to operate the engine for not over 6 hours during any overhaul period. Emergency use of aviation gasoline is permitted in Models 250-C30, -C30S, -C30M, -C30R, -C30G, -C30U and -C30G/2 and -C30R/1 for a maximum of 6 hours during any overhaul period provided aircraft boost pumps are available and turned on. Emergency use of aviation gasoline is permitted in Model 250-C40B, -C47B, -C47M, -C30R/3 and -C30R/3M for a maximum of 6 hours during any overhaul period. For all models a mixture consisting of 1/3 by volume of aviation gasoline MIL-G-5572, grade 80/87 and 2/3 by volume MIL-T-5624, grade JP-5, or aviation turbine fuels ASTM D1655, Jet A or A-1, may be used for unrestricted periods of time. A mixture consisting of 1/3 by volume of aviation gasoline MIL-G-5572, grade 100/130 with a maximum of 2.0 ml./gal. lead content and 2/3 by volume of MIL-T-5624, grade JP-5, or aviation turbine fuels ASTM D1655, Jet A or A-1, may be used for not over 300 hours during any overhaul period. It is not necessary to purge the unused fuel from the system before refueling with different type fuels. No fuel control adjustment is required when switching these type fuels.

- NOTE 10 (cont) Fuels containing Tri-Cresyl-Phosphate additives shall not be used. Anti-icing additives conforming to MIL-I-27686 are approved for use in fuels in amounts not to exceed 0.15 percent by volume. Shell anti-static additive is approved for use at a concentration that will not exceed fuel conductivity of 300 pico-Ohms per meter. The 250-C28, 250-C30, 250-C40 and 250-C47 Series engines are approved for use with C.I.S. Specification fuels and Romanian fuel in accordance with Commercial Service Letter 2102/3105/5050/6050. The 250-C28, 250-C30, 250-C40 and 250-C47 Series engines are approved for use with fuel meeting Chinese specification GB6537-94 RP-3.
- NOTE 11. Pneumatic accumulator(s), double check valve(s) or other attenuating devices can be incorporated for compatibility with the rotor system of the particular model rotorcraft in which the engine is to be installed, except for electronically controlled Model 250-C30R, -C30U, -C30R/1, -C40B, -C47B, -C47M, -C30R/3 and -C30R/3M.
- NOTE 12. Model 250-C30, -C30S and -C30G engines are equipped with dual ignition. The remaining models have a single ignition system. A dual ignition kit is available for the Model 250-C28B and -C28C engines. Exemption No. 2087B (from FAR 33.69), dated December 10, 1991, permits the type certification of the engines on this type certificate data sheet with single ignition for use in all rotorcraft, regardless of whether the rotorcraft is certificated under Part 6 or Part 7 of the CAR, or Part 27 or Part 29 of the FAR and regardless of whether the rotorcraft is designated as Category A or Category B.
- NOTE 13. Life limits established for critical rotating components are published in the corresponding Rolls-Royce Operation and Maintenance Manual. Distributor Information Letters (DIL) 190 and 202 establish acceptable crack limits suitable for return to service of first stage and second stage turbine wheels, respectively, in time continued (repair) engines.
- NOTE 14. Engines produced under this type certificate are approved for operation with unprotected inlets having been tested in accordance with Group I and Group II Foreign Objects Ingestion criteria of FAA Advisory Circular AC 33-1B.
- NOTE 15. A press-to-test indicator lamp for the N2 overspeed control system is an installation requirement. The Models 250-C30R, -C30U and -C30R/1 require a second press-to-test indicator for the digital overspeed control.
- NOTE 16. A magnetic oil drain plug (chip detector) indicator lamp is an installation requirement.
- NOTE 17. Model 250-C30, -C30S, -C30G, -C30G/2, -C40B, -C47B, -C47M, -C30R/3 and -C30R/3M engines comply with the following sections of FAR 33-6: 33.17(b), 33.67(a), (b) 33.68(a), (b) and 33.71(a), (b) except that oil strainers are not incorporated ahead of each scavenge pump. In addition, Model 250-C30G/2 and -C40B engines comply with the following sections of FAR 33-12 related to the Continuous OEI rating: 33.7 and 33.87. Model 250-C40B, -C47B, -C47M, -C30R/3 and -C30R/3M engines comply with section 33.28 of FAR 33-15 as related to the Full Authority Digital Electronic Control (FADEC) system. Model 250-C40B, -C47B, -C47M, -C30R/3 and -C30R/3M engines comply with the applicable sections of 33.27, 33.75, 33.89 and 33.91 of FAR 33-15.
- NOTE 18. Compliance with Rolls-Royce Alert Commercial Engine Bulletin CEB-A-73-3018 (Disarm N2 Electronic Overspeed Control System) and any subsequent FAA approved revisions are an installation requirement for the Model 250-C30M and -C30P engines.

- NOTE 19. Fuel control maximum fuel flow stop settings

	Maximum fuel flow stop setting (pph)	Available maximum fuel flow stop setting for field use (pph)
250-C28	375	—
250-C28B, -C28C	360	293
250-C30 Series	440	353, 313 and 284
250-C40B, -C47B, -C47M, -C30R/3, -C30R/3M	500	—

- NOTE 20. All Model 250-C30 Series engines incorporate an overspeed #1 wheel internal energy absorbing ring, either by initial production or by retrofit.

NOTE 21. Applicable to the Model 250-C40B and -C47M engines: Operational use of the on-line software loader in the field is prohibited.

Applicable to the Model 250-C47B engine: Operational use of the on-line loader in the field is approved for Software Version 5.201 or later FAA approved Software Version per applicable FAA approved Commercial Engine Bulletin.

Applicable to the 250-C30R/3 engine: Operational use of the on-line loader in the field is approved for Software Version 7.102 or later FAA approved Software Version per applicable FAA approved Commercial Engine Bulletin.

Applicable to the 250-C30R/3M engine: Operational use of the on-line loader in the field is approved for Software Version 8.00 or later FAA approved Software Version per applicable FAA approved Commercial Engine Bulletin.

NOTE 22. Applicable to the 250-C30R/3M engine. The engine ECU incorporates an N2 overspeed system with a trip point of 124% which exceeds the main rotor speed limit of the application aircraft. Therefore, the decision to install and operate the 250-C30R/3M in this application is the responsibility of the installation authority.

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