ENGINE PERFORMANCE CURVE

Rating: Gross Power

Application: Generator
1500 RPM (50 Hz)

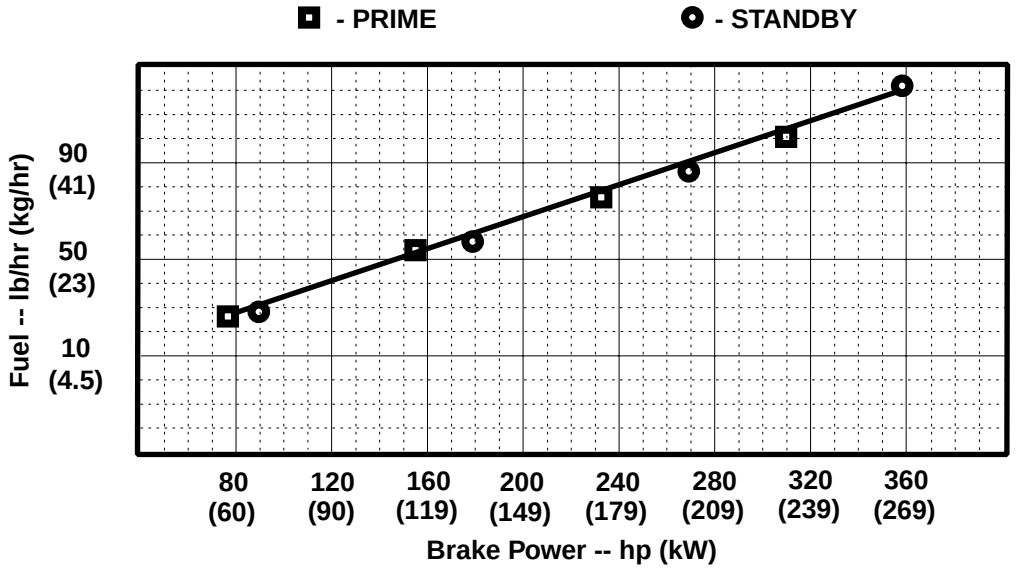
POWERTECH 8.1L Engine
Model: **6081HF001**

310 hp (231 kW) Prime
359 hp (268 kW) Standby

[Option 1661/1662/1663/1684/1686]*

Nominal Engine Power @ 1500 RPM			
Prime		Standby	
HP	kW	HP	kW
310	231	359	268

Generator Efficiency %	Fan Power		Power Factor	Prime Rating		Standby Rating [1]		4 sec Standby Block Load Capability
	hp	kW		kW	kVA	kW	kVA	
88-92	12.7	9.5	0.8	195-204	244-255	227-238	284-297	95%
Note 1: Based on nominal engine power. Derate 5% for 100% block load capability.								



Air Intake Restriction ..... 12 in.H_2O (3 kPa)
Exhaust Back Pressure ..... 30 in.H_2O (7.5 kPa)

Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:
- 77 °F (25 °C) air inlet temperature
- 29.31 in.Hg (99 kPa) barometer
- 104 °F (40 °C) fuel inlet temperature
- 0.853 fuel specific gravity @ 60 °F (15.5 °C)

Conversion factors:
- Power: kW = hp x 0.746
- Fuel: 1 gal = 7.1 lb, 1 L = 0.85 kg
- Torque: N•m = lb-ft x 1.356

All values are from currently available data and are subject to change without notice.

Notes:

Emission Certifications:	Certified by:
NONE Ref: Engine Emission Label	Kevin J. Bailey 17 Jan 2000

* Revised Data
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Engine Specification Data

General Data

Model	6081HF001
Number of Cylinders	6
Bore and Stroke--in. (mm)	4.56 x 5.06 (116 x 129)
Displacement--in.^{3} (L)	496 (8.1)
Compression Ratio	15.7:1
Valves per Cylinder--Intake/Exhaust	1/1
Firing Order	1-5-3-6-2-4
Combustion System	Direct Injection
Engine Type	In-line 4-Cycle
Aspiration	Turbocharged
Charge Air Cooling System	Air-to-Air
Engine Crankcase Vent System	Open
Maximum Crankcase Pressure--in.H_2O (kPa)	2 (0.5)

Physical Data

Length--in. (mm)	47.6 (1210)
Width--in. (mm)	23.5 (597)
Height--in. (mm)	45.3 (1152)
Weight, dry--lb (kg)	1710 (776)
(Includes flywheel housing, flywheel & electrics)	
Center of Gravity Location	
From Rear Face of Block (X-axis)--in. (mm)	19.2 (482)
Right of Crankshaft (Y-axis)--in. (mm)	-0.3 (-8)
Above Crankshaft (Z-axis)--in. (mm)	5.7 (145)
Max. Allow. Static Bending Moment at Rear Face of Flywhl Hsg w/ 5-G Load--lb-ft (N•m)	600 (814)
Thrust Bearing Load Limit (Forward)	
Continuous--lb (N)	1950 (8673)
Intermittent--lb (N)	2925 (13010)

Electrical System

Recommended Battery Capacity (CCA)	
12 Volt System--am	800
24 Volt System--am	570
Maximum Allowable Starting Circuit Resistance	
12 Volt System--Ohm	0.0012
24 Volt System--Ohm	0.002
Starter Rolling Current--12 Volt System	
At 32 °F (0 °C)--amp	950
At -22 °F (-30 °C)--a	1300
Starter Rolling Current--24 Volt System	
At 32 °F (0 °C)--amp	600
At -22 °F (-30 °C)--amp	700

Air System

	Prime	Standby
Max. Allowable Temp Rise--Ambient Air to Engine Inlet--°F (°C)	15 (8)	15 (8)
Maximum Air Intake Restriction		
Dirty Air Cleaner--in.H_2O (kPa)	25 (6.25)	25 (6.25)
Clean Air Cleaner--in.H_2O (kPa)	12 (3)	12 (3)
Engine Air Flow--ft^3/min (m^3/min)	583 (16.5)	611 (17.3)
Intake Manifold Press.--in.psi (kPa)	32.9 (227)	39.6 (273)
Rec'd. Intake Pipe Dia--in. (mm)	4 (102)	4 (102)
Compressor Discharge Temp.--^{o}F (^{o}C)	394 (201)	418 (214.4)
Maximum Pressure Drop Through Charge Air Cooler--in.H2O (kPa)	52 (13)	52 (13)
Max. Temp. Out of Charge Air Cooler @ 77 ^{o}F (25 ^{o}C) Ambient--^{o}F (^{o}C)	140 (60)	140 (60)

Exhaust System

	Prime	Standby
Exhaust Flow--ft^3/min (m^3/min)	1568 (44.4)	1670(47.3)
Exhaust Temperature--°F (°C)	1184 (640)	1297(703)
Maximum Allowable Back Pressure--in.H_2O (kPa)	30 (7.5)	30 (7.5)
Recm'd Exhaust Pipe Dia--in. (mm)	4 (101.6)	4 (101.6)

Cooling System

	Prime	Standby
Engine Heat Reject.--BTU/min (kW)	4324 (76)	5235 (92)
Air/Air Exchanger Heat Rejection--BTU/min (kW)	2490(44)*	2858(50)*
Coolant Flow--gal/min (L/min)	61 (230)*	61 (230)*
Thermostat Start to Open--°F (°C)	180 (82)	180 (82)
Thermostat Fully Open--°F (°C)	202 (94)	202 (94)
Maximum Water Pump Inlet Restrict.--in.H_2O (kPa)	20 (5)	20 (5)
Engine Coolant Capacity--qt (L)	15 (14)	15 (14)
Recm'd Pressure Cap--psi (kPa)	10 (69)	10 (69)
Max. Top Tank Temp--°F (°C)	221 (105)	221 (105)
Min. Coolant Fill Rate--gal/min (L/min)	3 (11)	3 (11)
Min. Air-to-Boil Temperature--°F (°C)	117 (47)	117 (47)

Fuel System

	Prime	Standby
Fuel Injection Pump	RB P7100	RB P7100
Governor Regulation	5 %	5 %
Governor Type	Mechanical	Mechanical
Fuel Consumption--lb/hr (kg/hr)	99.8 (45.4)	121.2(55.1)
Fuel Spill Rate--lb/hr (kg/hr)	284.2(129.6)	274(125)
Total Fuel Flow--lb/hr (kg/hr)	384 (175)	384 (175)
Maximum Fuel Transfer Pump Suction--ft (m) fuel	10* (3.0)*	10* (3.0)*
Fuel Filter Micron Size @ 98 % Efficiency	8	8

Lubrication System

	Prime	Standby
Oil Press. at Rated Speed--psi (kPa)	35 (240)	35 (240)
Oil Pressure at Low Idle--psi (kPa)	30 (210)	30 (210)
In Pan Oil Temperature--°F (°C)	240 (115)	240 (115)
Oil Pan Capacity, High--qt (L)	32.75 (31)	32.75 (31)
Oil Pan Capacity, Low--qt (L)	31.75 (30)	31.75 (30)
Eng. Oil Capacity with Filters--qt (L)	33.75 (32)	33.75 (32)
Engine Angularity Limits (Continuous)		
Any Direction--degrees	20	20

Performance Data

	Prime	Standby
Rated Power--hp (kW)	310 (231)	359 (268)
Rated Speed--rpm	1500	1500
Low Idle Speed--rpm	850	850
BMEP--psi (kPa)	331 (2284)	384 (2650)
Friction Power @ Rated Speed--hp (kW)	21 (16)	21 (16)
Altitude Capability --ft (m)	7500 (2300)	5000 (1500)*
Ratio--Air : Fuel	25.9:1	24.8:1
Noise--dB(A) @ 1 m	NA	NA

Fuel Consumption -- lb/hr (kg/h)	Prime	Standby
25 % Power	27.9 (12.7)	29.5 (13.4)
50 % Power	52.4 (23.8)	57.2 (26.0)
75 % Power	75.9 (34.5)	88.0(40.0)
100 % Power	101.4 (46.1)	121.2(55.1)

All values at rated speed and power with standard options unless otherwise noted.

* Revised Data

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January 2000