



## ENGINE PERFORMANCE CURVE

Rating: Gross Power  
 Application: Generator  
 1800 RPM (60 Hz)

**POWERTECH 6.8L Engine**  
**Model: 6068HF150**

**225 hp (168 kW) Prime**  
**251 hp (187 kW) Standby**  
 [Option 16ML / 16MM]

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
225	168	251	187

Generator Efficiency %	Fan Power		Power Factor	Prime Rating		Standby Rating <sup>1</sup>		4 sec Standby Block Load Capability
	hp	kW		kW	kVA	kW	kVA	
88-92	12.5	9.3	0.8	139-146	174-182	156-163	195-204	90%

Note 1: Based on nominal engine power. Derate 10% for 100% block load capability.

Air Intake Restriction ..... 12 in.H<sub>2</sub>O (3 kPa)  
 Exhaust Back Pressure ..... 30 in.H<sub>2</sub>O (7.5 kPa)

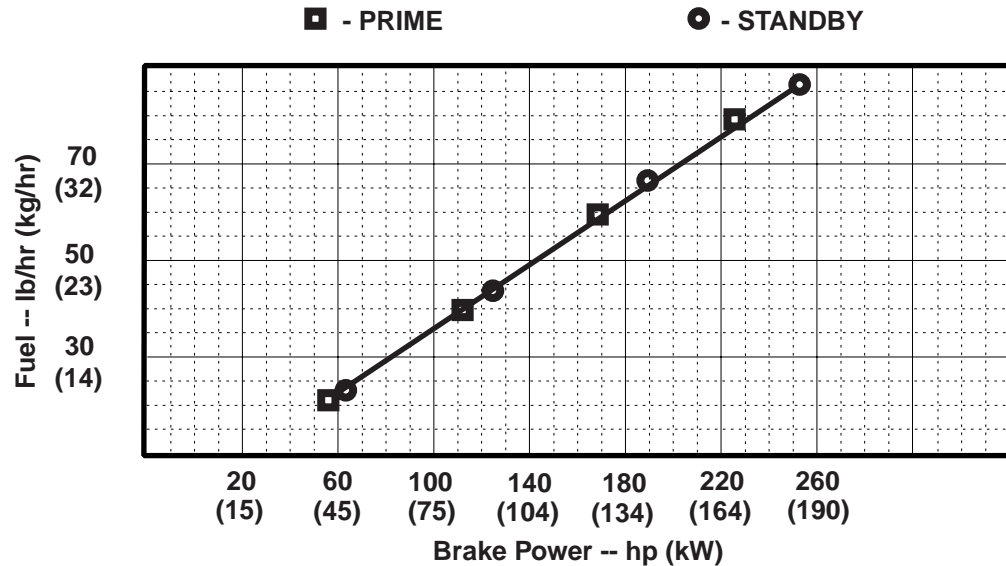
Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:

- 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:

**CARB; EPA**

Ref: Engine Emission Label

*Kevin J Bailey*  
 28 June 2000

\* Revised Data

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 June 2000

## Engine Specification Data

### General Data

Model ..... 6068HF150  
 Number of Cylinders ..... 6  
 Bore and Stroke--in. (mm)..... 4.19 x 5 (106 x 127)  
 Displacement--in.<sup>3</sup> (L) .....414 (6.8)  
 Compression Ratio ..... 17.0:1  
 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<sub>2</sub>O (kPa) .....2 (0.5)

### Physical Data

Length--in. (mm) .....44.9 (1141)  
 Width--in. (mm) .....24.5 (623)  
 Height--in. (mm) .....39.7 (1009)  
 Weight, dry--lb (kg) ..... 1250 (569)  
 (Includes flywheel hsg., flywheel & electrics)  
 Center of Gravity Location  
 From Rear Face of Block (X-axis)--in. (mm) .17.2 (438)  
 Right of Crankshaft (Y-axis)--in. (mm).....0.05 (1)  
 Above Crankshaft (Z-axis)--in. (mm).....6.2 (157)  
 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) .....500 (2224)  
 Intermittent--lb (N).....900 (4003)

### 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 ..... 920  
 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 <sub>2</sub> O (kPa) ....25 (6.25) .... 25 (6.25) Clean Air Cleaner--in.H <sub>2</sub> O (kPa).....12 (3) ..... 12 (3)		
Engine Air Flow--ft <sup>3</sup> /min (m <sup>3</sup> /min) .... 413 (11.7) . 441 (12.5)		
Intake Manifold Pressure--psi (kPa). 20.3 (140) .22.6 (156)		
Rec'd. Intake Pipe Dia--in. (mm)..... 3 (76.2) ..... 3 (76.2)		
Compress. Discharge Temp--°F (°C) 307 (153) .. 334 (168)		
Max. Press. Drop Through Charge Air Cooler--in.H <sub>2</sub> O (kPa) .... 52 (13)..... 52 (13)		
Max. Temp. Out of Charge Air Cooler @ 77°F (25°C) Ambient Air--°F (°C).. 140 (60)..... 140 (60)		

### Exhaust System

	Prime	Standby
Exhaust Flow--ft <sup>3</sup> /min (m <sup>3</sup> /min)..... 1112(31.5).. 1201(34.0)		
Exhaust Temperature--°F (°C) ..... 1024(551) ... 1056(569)		
Maximum Allowable Back Pressure--in.H <sub>2</sub> O (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) 4040 (71) ... 4438 (78)		
Air/Air Exchanger Heat Rejection-- BTU/min (kW) ..... 1164 (20)* ..1445 (25)*		
Coolant Flow--gal/min (L/min).....46 (174) ..... 46 (174)		
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 <sub>2</sub> O (kPa) .....27 (7) ..... 27 (7)		
Engine Coolant Capacity--qt (L) ..... 12 (11.3) .... 12 (11.3)		
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 ..... Stanadyne ... Stanadyne		
Governor Regulation.....5 % ..... 5 %		
Governor Type .....Mechanical .. Mechanical		
Fuel Consumption--lb/hr (kg/hr) ... 78.3 (35.6) ... 86.5 (39.3)		
Total Fuel Flow--lb/hr (kg/hr) ..... 212 (96) ..... 212 (96)		
Maximum Fuel Transfer Pump Suction--ft (m) fuel ..... 3 (0.9) ..... 3 (0.9)		
Fuel Filter Micron Size @ 98 % Efficiency ... 8 ..... 8		

### Lubrication System

	Prime	Standby
Oil Pressure at Rated Speed--psi (kPa) ..... 50 (345) ..... 50 (345)		
Oil Pressure at Low Idle--psi (kPa) .... 15 (105) ..... 15 (105)		
In Pan Oil Temperature--°F (°C).....250 (121) ... 252 (122)		
Oil Pan Capacity, High--qt (L) .....25 (23.9) ..... 25 (23.9)		
Oil Pan Capacity, Low--qt (L) .....24 (22.7) .... 24 (22.7)		
Total Engine Oil Capacity With Filters--qt (L) .....26 (24.6) ..... 26 (24.6)		
Engine Angularity Limits (Continuous) Any Direction--degrees ..... 20 ..... 20		

### Performance Data

	Prime	Standby
Rated Power--hp (kW) ..... 225 (168)..... 251 (187)		
Rated Speed--rpm ..... 1800..... 1800		
Low Idle Speed--rpm ..... 1400* ..... 1400*		
BMEP--psi (kPa) ..... 239 (1650)..... 266 (1837)		
Friction Power @ Rated Speed--hp (kW) ..... 23 (17)..... 23 (17)		
Altitude Capability--ft (m) ..... 7500 (2300).....5000 (1500)*		
Ratio--Air : Fuel..... 22.6:1 ..... 21.7:1		
Noise--dB(A) @ 1 m ..... N/A..... N/A		

### Fuel Consumption -- lb/hr (kg/h)

	Prime	Standby
25 % Power.....21.1 (9.6).... 23.1 (10.5)		
50 % Power.....39.4 (17.9) .... 44.0 (20.0)		
75 % Power.....59.8 (27.2) .... 66.7 (30.3)		
100 % Power.....78.3 (35.6) .... 86.5 (39.3)		

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

\* Revised Data  
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 June 2000