



JOHN DEERE

**ENGINE PERFORMANCE CURVE**

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

**PowerTech 6.8L Engine**  
 Model: **6068HF275**

**256 hp (191 kW) Prime**  
**282 hp (210 kW) Standby**

[See Option Code Tables]

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
256	191	282	210

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	14.1	10.5	0.8	159-166	198-207	176-184	219-229	80%

Note 1: Based on nominal engine power. Derate 20% 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)

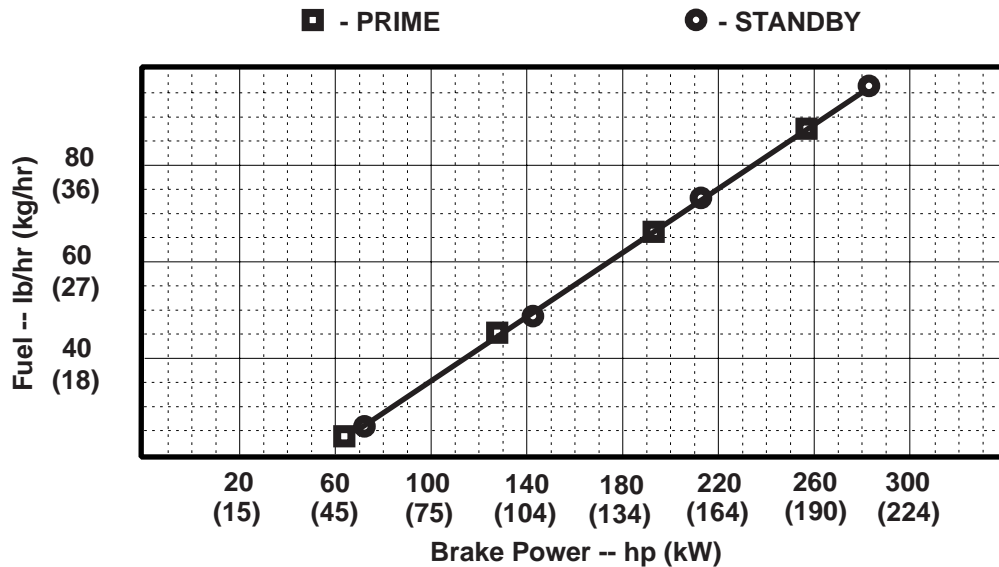
Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:

- 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:

Tier-2 Emission Certifications:

Certified by:

CARB; EPA

Ref: Engine Emission Label

*Brian L. Carlson*  
 30 Aug 04

\* Revised Data  
 Curve 6068HF2751800282 ..... Sheet 1 of 2  
 August 2004

## Engine Specification Data

### General Data

Model ..... 6068HF275  
 Number of Cylinders ..... 6  
 Bore and Stroke--in. (mm)..... 4.19 x 5.00 (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) ..... 43.9 (1116)  
 Width--in. (mm) .....24.5 (623)  
 Height--in. (mm) .....39.9 (1012)  
 Weight, dry--lb (kg).....1290 (587)  
 (Includes flywheel hsg., flywheel & electrics)  
 Center of Gravity Location  
 From Rear Face of Block (X-axis)--in. (mm) .14.5 (369)  
 Right of Crankshaft (Y-axis)--in. (mm) .....0.12 (3)  
 Above Crankshaft (Z-axis)--in. (mm) .....6.1 (154)  
 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)

### 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) ... 494 (14.0) ..530 (15.0)  
 Intake Manifold Pressure--psi (kPa).....24 (163) .....27 (186)  
 Compress. Discharge Temp--°F (°C) 331(166) ...358 (181)  
 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)113\*(45\*) ... 113\*(45\*)

### Cooling System

**Prime Standby**

Engine Heat Reject.--BTU/min (kW) .4609 (81) ... 4950 (87)  
 Air/Air Exchanger Heat Rejection--  
 BTU/min (kW) .....1479 (26) ... 1707 (30)  
 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).....201 (94) ..... 201 (94)  
 Engine Coolant Capacity--qt (L) ..... 12 (11.3) .... 12 (11.3)  
 Min. 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)

### Electrical System

Minimum 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

### Exhaust System

**Prime Standby**

Exhaust Flow--ft<sup>3</sup>/min (m<sup>3</sup>/min)..... 1306(37.0) . 1412(40.0)  
 Exhaust Temperature--°F (°C) .....991(533) .. 1020(550)  
 Maximum Allowable Back  
 Pressure--in.H<sub>2</sub>O (kPa) .....30 (7.5) ..... 30 (7.5)

### Fuel System

**Prime Standby**

Fuel Injection Pump (Bosch)..... VP44 ..... VP44  
 Governor Regulation..... 4 % ..... 4 %  
 Governor Type ..... Electronic ..... Electronic  
 Fuel Consumption--lb/hr (kg/hr) .....87 (39.7) ..... 97 (44.1)  
 Total Fuel Flow--lb/hr (kg/hr) .....352 (160) ..... 352 (160)  
 Maximum Fuel Transfer Pump  
 Suction--ft (m) fuel .....3 (0.9) ..... 3 (0.9)  
 Fuel Filter Micron Size @ 98 % Efficiency ... 5 ..... 5

### 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) ..... 255 (124) ...257 (125)

### Performance Data

**Prime Standby**

Rated Power--hp (kW) ..... 256 (191)..... 282 (210)  
 Rated Speed--rpm ..... 1800..... 1800  
 Low Idle Speed--rpm ..... 1150..... 1150  
 BMEP--psi (kPa) ..... 271 (1873).... 298 (2059)  
 Friction Power  
 @ Rated Speed--hp (kW) ..... 23 (17)..... 23 (17)  
 Altitude Capability--ft (m) ... 10,000 (3050) ... 10,000 (3050)  
 Ratio--Air : Fuel..... 24.0:1..... 23.3:1  
 Noise--dB(A) @ 1 m ..... NA..... NA

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

**Prime Standby**

25 % Power .....24.0 (10.9) ... 26.0 (11.8)  
 50 % Power .....45.1 (20.5) ... 49.5 (22.5)  
 75 % Power .....66.4 (30.2) ... 72.8 (33.1)  
 100 % Power .....87.3 (39.7) ... 97.0 (44.1)

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

\* Revised Data  
 Curve 6068HF2751800282..... Sheet 2 of 2  
 August 2004