



JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Gross Power

Application: Industrial
Intermittent

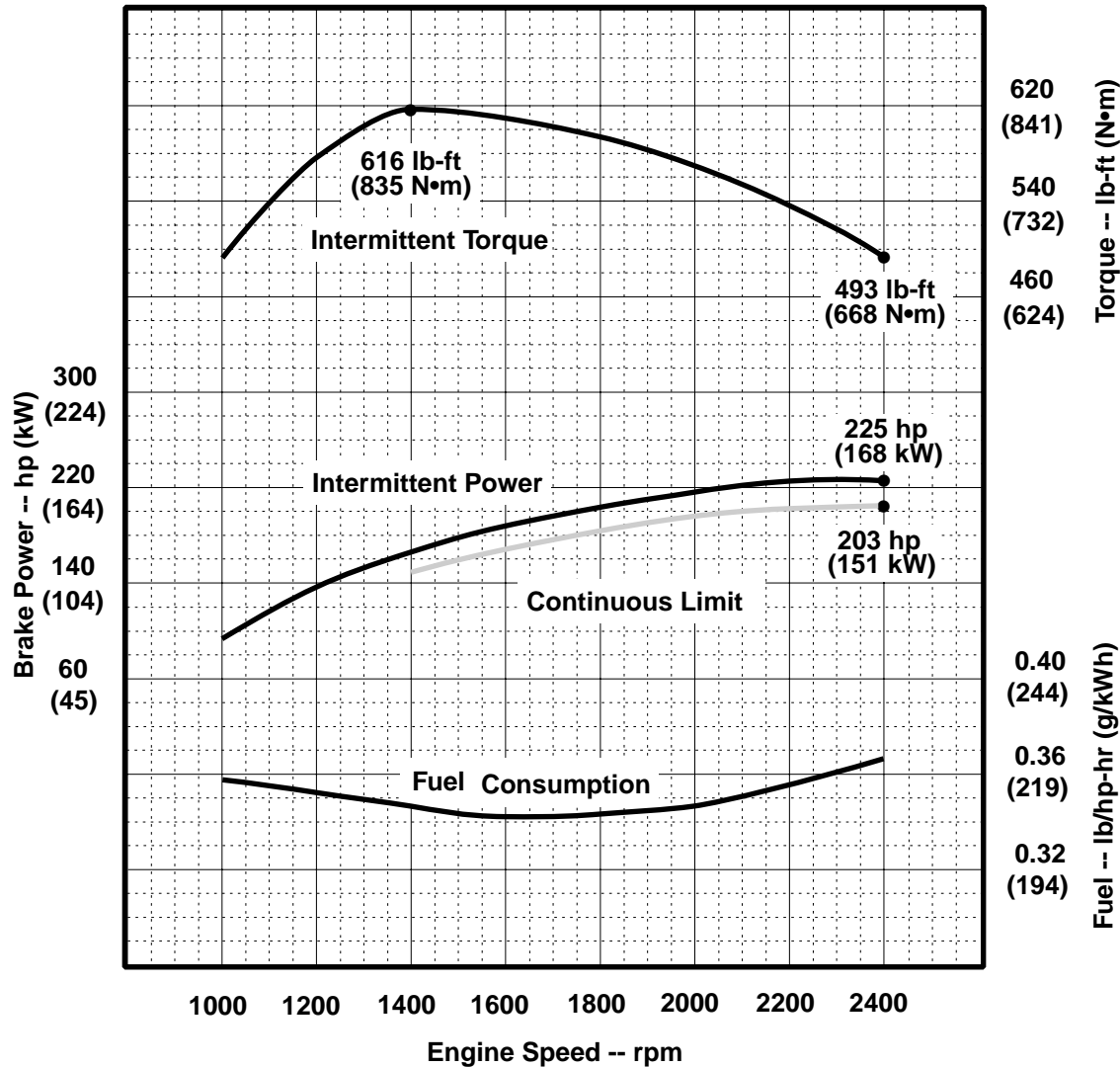
PowerTech 6.8L Engine

Model: **6068HF275**

225 hp @ 2400 rpm

168 kW @ 2400 rpm

[See Option Code Tables]



Air Intake Restriction 12 in.H₂O (3 kPa)
Exhaust Back Pressure 30 in.H₂O (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; EU
Ref: Engine Emission Label

Brian L. Carlson
27 AUG 04

* Revised Data

Curve: 6068HF275225I Sheet 1 of 2
August 2004

Common Specifications:

General Data

Model 6068HF275
 Number of Cylinders 6
 Bore and Stroke--in. (mm)..... 4.19 x 5.00 (106 x 127)
 Displacement--in.³ (L)415 (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. H₂O (kPa)2 (0.5)

Physical Data

Length--in. (mm) 44.2 (1123)
 Width--in. (mm)23.9 (608)
 Height--in. (mm)41.1 (1044)
 Weight, dry--lb (kg)..... 1291 (587)
 (Includes flywheel housing, 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)0.1 (3)
 Above Crankshaft (Z-axis)--in. (mm).....6.1 (154)
 Maximum Allowable Static Bending Moment at Rear
 Face of Flywhl Hsg w/ 5-G Load--lb-ft (N•m).... 600 (814)
 Thrust Brng. Load Limit (Forward)--lb (N) [I].....900 (4003)
 [C].....500 (2224)

Air System

Maximum Allowable Temp Rise--Ambient Air to
 Engine Inlet--°F (°C)..... 15 (8)
 Maximum Air Intake Restriction
 Dirty Air Cleaner--in. H₂O (kPa)25 (6.25)
 Clean Air Cleaner--in. H₂O (kPa)..... 12 (3)
 Engine Air Flow--ft³/min (m³/min) [I]558 (15.8)
 [C]526 (14.9)
 Intake Manifold Pressure--psi (kPa) [I].....19.6 (135)
 [C].....17.4 (120)
 Compressor Discharge Temp--°F (°C) [I].....324 (162)
 [C].....298 (148)
 Max. Press. Drop Through
 Charge Air Cooler--in.H₂O (kPa)52 (13)
 Max. Temp. Out of Charge Air Cooler
 @ 77°F (25°C) Ambient Air--°F (°C) 140 (60)

Engine Specification Data

Cooling System

Engine Heat Rejection--BTU/min (kW) [I]..... 4438 (78)
 [C] 3983 (70)
 Air/Air Exch. Heat Rej.--BTU/min (kW) [I]1764 (31)
 [C] 1593 (28)
 Coolant Flow--gal/min (L/min)..... 60 (228)
 Thermostat Start to Open--°F (°C) 180 (82)
 Thermostat Fully Open--°F (°C)201 (94)
 Engine Coolant Capacity--qt (L) 12 (11.3)
 Minimum Pressure Cap--psi (kPa)..... 10 (69)
 Maximum Top Tank Temp--°F (°C) 221 (105)
 Minimum Coolant Fill Rate--gal/min (L/min) 3 (11)
 Minimum Air-to-Boil Temperature--°F (°C)..... 117 (47)

Electrical System

Minimum Battery Capacity (CCA)
 12 Volt System--amp800
 24 Volt System--amp570
 Maximum Allowable Starting Circuit Resistance
 12 Volt System--Ohm0.0012
 24 Volt System--Ohm0.002
 Starter Rolling Current--12 Volt System
 At 32 °F (0 °C)--amp920
 At -22 °F (-30 °C)--amp 1300
 Starter Rolling Current--24 Volt System
 At 32 °F (0 °C)--amp600
 At -22 °F (-30 °C)--amp 700

Exhaust System

Exhaust Flow--ft³/min (m³/min) [I]..... 1306 (37.0)
 [C]..... 1201 (34.0)
 Exhaust Temperature--°F (°C) [I]..... 842 (450)
 [C] 806 (430)
 Max. Allowable Back Pressure--in. H₂O (kPa) 30 (7.5)

Fuel System

Fuel Injection Pump Bosch VP44
 Governor Regulation 7-10 %
 Governor Type Electronic
 Fuel Consumption--lb/hr (kg/hr) [I] 82.5 (37.4)
 [C] 74.3 (33.7)
 Total Fuel Flow--lb/hr (kg/hr)..... 353 (160)
 Maximum Fuel Transfer Pump Suction--ft (m) fuel... 3 (0.9)
 Fuel Filter Micron Size @ 98% Efficiency 5

[I] = Intermittent Data; [C] = Continuous Data

Lubrication System

Oil Pressure at Rated Speed--psi (kPa) 50 (345)
 Oil Pressure at Low Idle-psi (kPa) 15 (105)
 In Pan Oil Temperature--°F (°C) 239 (115)

Performance Data

Rated Power--hp (kW) [I]..... 225 (168)
 [C]..... 203 (151)
 Rated Speed--rpm 2400
 Peak Torque--lb-ft (N•m) [I]..... 616 (835)
 [C] 555 (752)
 Peak Torque Speed--rpm 1400
 Low Idle Speed--rpm 850
 BMEP--psi (kPa) [I]..... 179 (1234)
 [C] 161 (1112)
 Friction Power @ Rated Speed--hp (kW) 42 (31)
 Altitude Capability -- ft (m) 10,000 (3050)
 Ratio--Air : Fuel [I] 29.1:1
 [C] 30.8:1
 Smoke @ Rated Speed--Bosch No. [I] < 2
 [C] < 2
 Noise--dB(A) @ 1 m [I] 93.9
 [C] 93.9

Engine Speed rpm	Cont. Limit hp(kW)	Intermit. Power hp(kW)	Intermit. Torque lb-ft(N•m)	BSFC lb/hp-hr (g/kWh)
2400	203 (151)	225 (168)	493 (668)	0.367 (223)
2200	203 (151)	225 (168)	538 (729)	0.357 (217)
2000	196 (146)	218 (163)	573 (777)	0.347 (211)
1800	184 (137)	204 (152)	595 (807)	0.343 (209)
1600	167 (124)	185 (138)	608 (825)	0.342 (208)
1400	148 (110)	164 (123)	616 (835)	0.347 (211)
1200	-----	131 (98)	576 (780)	0.352 (214)
1000	-----	94 (70)	493 (668)	0.358 (218)

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

* Revised Data
 Curve: 6068HF275225I Sheet 2 of 2
 August 2004