



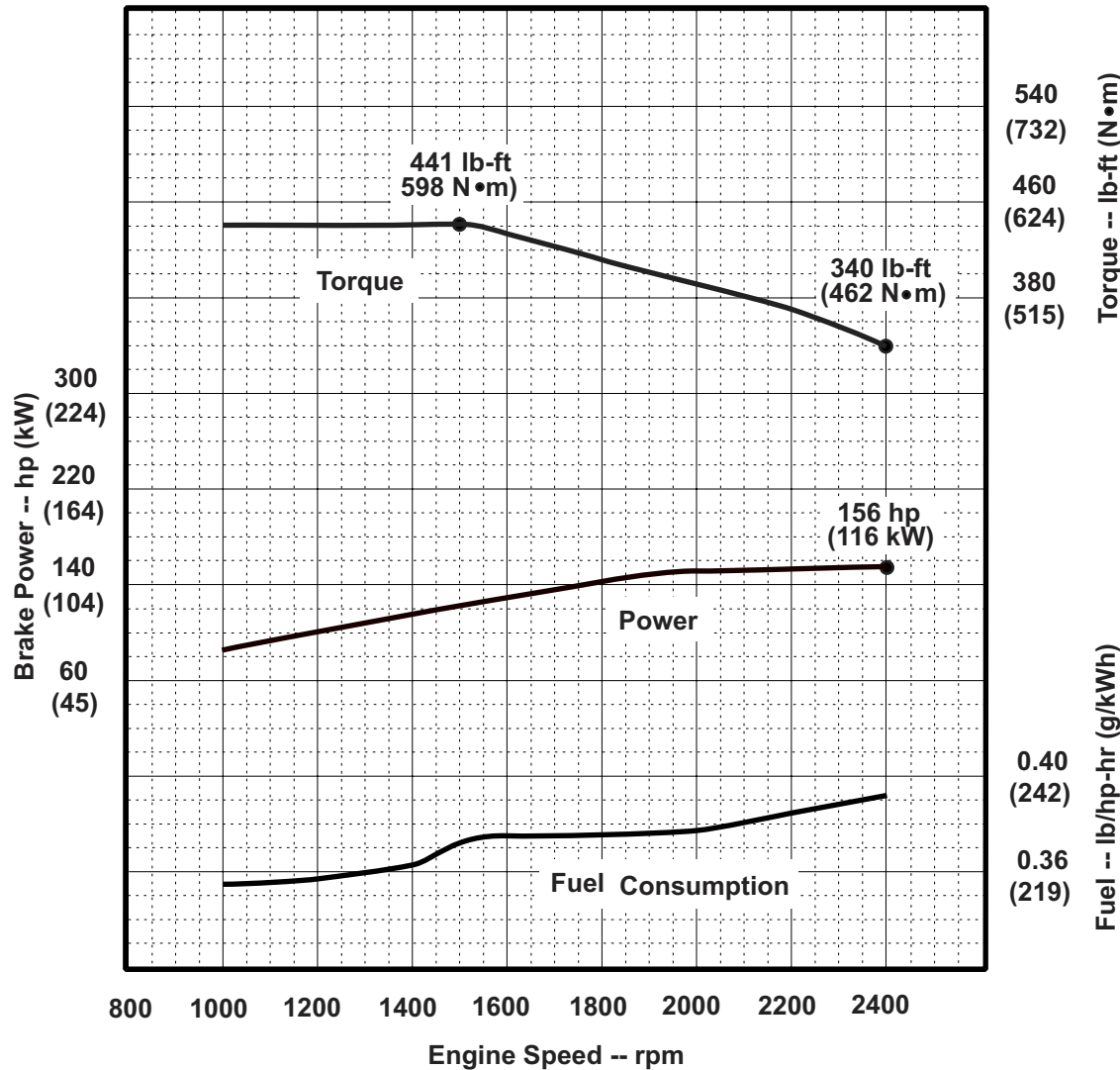
JOHN DEERE

### ENGINE PERFORMANCE CURVE

Rating: Gross Power  
Application: Industrial - Continuous  
Power Bulge - 0%  
Torque Rise - 30%

**PowerTech E™ 6.8 L Engine**  
**Model: 6068HF285**  
**JD Electronic Control**

**156 hp @ 2400 rpm**  
**116 kW @ 2400 rpm**  
[See Option Code Table]



#### STANDARD CONDITIONS

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-3 Emission Certifications:

Certified by:

**CARB; EPA; EU**  
Ref: Engine Emission Label

*Brian L. Carlson*  
**2 FEB 07**

\* Revised Data

Curve: 6068HF285156\_2400\_0\_30 ..... Sheet 1 of 2  
February 2007

## Engine Installation Criteria

### General Data

Model .....	6068HF285
Number of Cylinders .....	6
Bore and Stroke--in. (mm).....	4.19 (106) x 5.00 (127)
Displacement--in. <sup>3</sup> (L).....	415 (6.8)
Compression Ratio .....	19.0 : 1
Valves per Cylinder--Intake/Exhaust.....	1 / 1
Firing Order.....	1-5-3-6-2-4
Combustion System.....	Unit Injection
Engine Type .....	In-line, 4-Cycle
Aspiration .....	Turbocharged
Charge Air Cooling System.....	Air-to-Air
Engine Crankcase Vent System .....	Open

### Physical Data

Length--in. (mm) .....	44.2 (1123)
Width--in. (mm) .....	25.9 (657)
Height--in. (mm).....	40.8 (1036)
Weight, dry--lb (kg) .....	1340 (608)
(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).....	0.12 (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 Bearing Load Limit --lb (N) <u>Forward</u> <u>Rearward</u>	
Intermittent.....	899 (4000).....450 (2000)
Continuous .....	495 (2200).....225 (1000)
Max. Front of Crank. Torsional Vibration--DDA.....	0.25
Max. Continuous Damper Temp--°F (°C) .....	180 (82)

### Electrical System

**12 Volt    24 Volt**

Min. Battery Capacity (CCA)--amp.....	800	570
Max. Allow. Starting Circuit Resist.--Ohm 0.0012 .....	0.002	
Starter Rolling Current		
At 32 °F ( 0 °C)--amp .....	920	600
At -22 °F (-30 °C)--amp.....	1300	700
Min. Voltage at ECU during Cranking--volts.....	6	10
Maximum ECU Temperature--°F (°C) .....	221 (105)	
Maximum Harness Temperature--°F (°C) .....	248 (120)	

### Air System

Maximum Allowable Temp Rise--Ambient Air to	
Engine Inlet--°F (°C) .....	15 (8)
Maximum Air Intake Restriction:	
Dirty Air Cleaner--in. H <sub>2</sub> O (kPa).....	25 (6.25)
Clean Air Cleaner--in. H <sub>2</sub> O (kPa).....	15 (3.75)
Engine Air Flow--ft <sup>3</sup> /min (m <sup>3</sup> /min) .....	438 (12.4)
Air Cleaner Efficiency--% .....	99.9

### Charge Air Cooling System

Air/Air Exch'r. Heat Rej.--Btu/min(kW) .....	1207 (21)
Compressor Discharge Temp.(Rated)	
@ 77 °F (25°C) Ambient Air--°F (°C).....	298 (148)
Max. Pressure Drop, thru CAC--in.H <sub>2</sub> O (kPa) .....	52 (13)
Intake Manifold Pressure--psi (kPa) .....	18 (124)
CAC Out Temp @ 77°F (25°C) Amb.--°F (°C)	
Max. ....	140 (60)
Min. ....	118 (48)*
CAC Out Temp @ any Ambient--°F (°C)	
Max. ....	190 (88)

### Cooling System

Engine Heat Rejection--BTU/min (kW) .....	3603 (63)
Coolant Flow--gal/min (L/min).....	55 (207)
Thermostat Start to Open--°F (°C).....	180 (82)
Thermostat Fully Open--°F (°C).....	203 (95)
Engine Coolant Capacity--qt (L) .....	13 (11.9)
Minimum Pressure Cap--psi (kPa).....	14.5 (100)
Maximum Top Tank Temp--°F (°C) .....	230 (110)
Minimum Coolant Fill Rate--gal/min (L/min) .....	3 (11)
Minimum Air-to-Boil Temperature--°F (°C).....	117 (47)
Minimum Pump Inlet Pressure--psi (kPa).....	4.4 (30)
Max. Radiator System Restriction--in. H <sub>2</sub> O (kPa)....	80 (20)

### Exhaust System

Exhaust Flow--ft <sup>3</sup> /min (m <sup>3</sup> /min).....	1019 (29)
Exhaust Temperature--°F (°C).....	835 (446)
Maximum Exhaust Restriction---in. H <sub>2</sub> O (kPa) .....	30 (7.5)
Max. Bend. Moment on Turbo Out.--lb-ft (N•m).....	5.2 (7)
Max. Shear on Turbo Outlet--lb (kg) .....	24 (11)

### Fuel System

ECU Description .....	L16 Controller
Fuel Injection Pump .....	Denso HP3
Governor Type.....	Electronic
Total Fuel Flow--lb/hr (kg/hr) .....	148 (67.0)
Fuel Consumption--lb/hr (kg/hr).....	61 (28)
Max. Fuel Inlet Temperature--°F (°C).....	176 (80)
Fuel Temp. Rise, Inlet to Return--°F (°C) .....	81 (45)
Max. Fuel Inlet Restriction--in. H <sub>2</sub> O (kPa) .....	80 (20)
Max. Fuel Inlet Pressure--in. H <sub>2</sub> O (kPa).....	NA (NA)
Max. Fuel Return Pressure--in. H <sub>2</sub> O (kPa).....	80 (20)

### Lubrication System

Oil Pressure at Rated Speed--psi (kPa) .....	54 (375)
Oil Pressure at Low Idle--psi (kPa) .....	15 (105)
Max. Oil Carryover in Blow-by--lb/hr (g/hr) .....	0.002 (1.0)
Max. Airflow in Blow-by--gal/min (l/min).....	26 (100)
Max. Crankcase Pressure--in. H <sub>2</sub> O (kPa).....	2 (0.5)

### Performance Data

Rated Power--hp (kW) .....	156 (116)
Rated Speed--rpm .....	2400
Breakaway Speed--rpm .....	2470
Fast Idle Speed--rpm .....	2600
Peak Torque--lb-ft (N•m).....	441 (598)
Peak Torque Speed--rpm .....	1500
Low Idle Speed--rpm .....	800
BMEP--psi (kPa).....	124 (853)
Friction Power @ Rated Speed--hp (kW) .....	42 (31)
Altitude Capability--ft (m) .....	10,000 (3048)
Ratio--Air : Fuel .....	30 : 1
Smoke @ Rated Speed--Bosch No. ....	<1
Noise--dB(A) @ 1 m .....	91.5
Power Bulge--% .....	0
Power Bulge Speed--rpm .....	NA
Torque Rise--%.....	30

Engine Speed rpm	Power hp (kW)	Torque lb-ft (N•m)	BSFC lb/hp-hr (g/kWh)
2400	156 (116)	340 (462)	0.392 (239)
2200	156 (116)	371 (503)	0.385 (235)
2000	149 (111)	391 (531)	0.378 (230)
1800	141 (105)	411 (558)	0.375 (228)
1600	131 (98)	431 (585)	0.375 (228)
1500	126 (94)	441 (598)	0.372 (227)
1400	117 (88)	440 (597)	0.362 (220)
1200	101 (75)	440 (597)	0.358 (218)
1000	84 (63)	440 (597)	0.355 (216)

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

\* Revised Data  
Curve: 6068HF285156\_2400\_0\_30 ..... Sheet 2 of 2  
February 2007