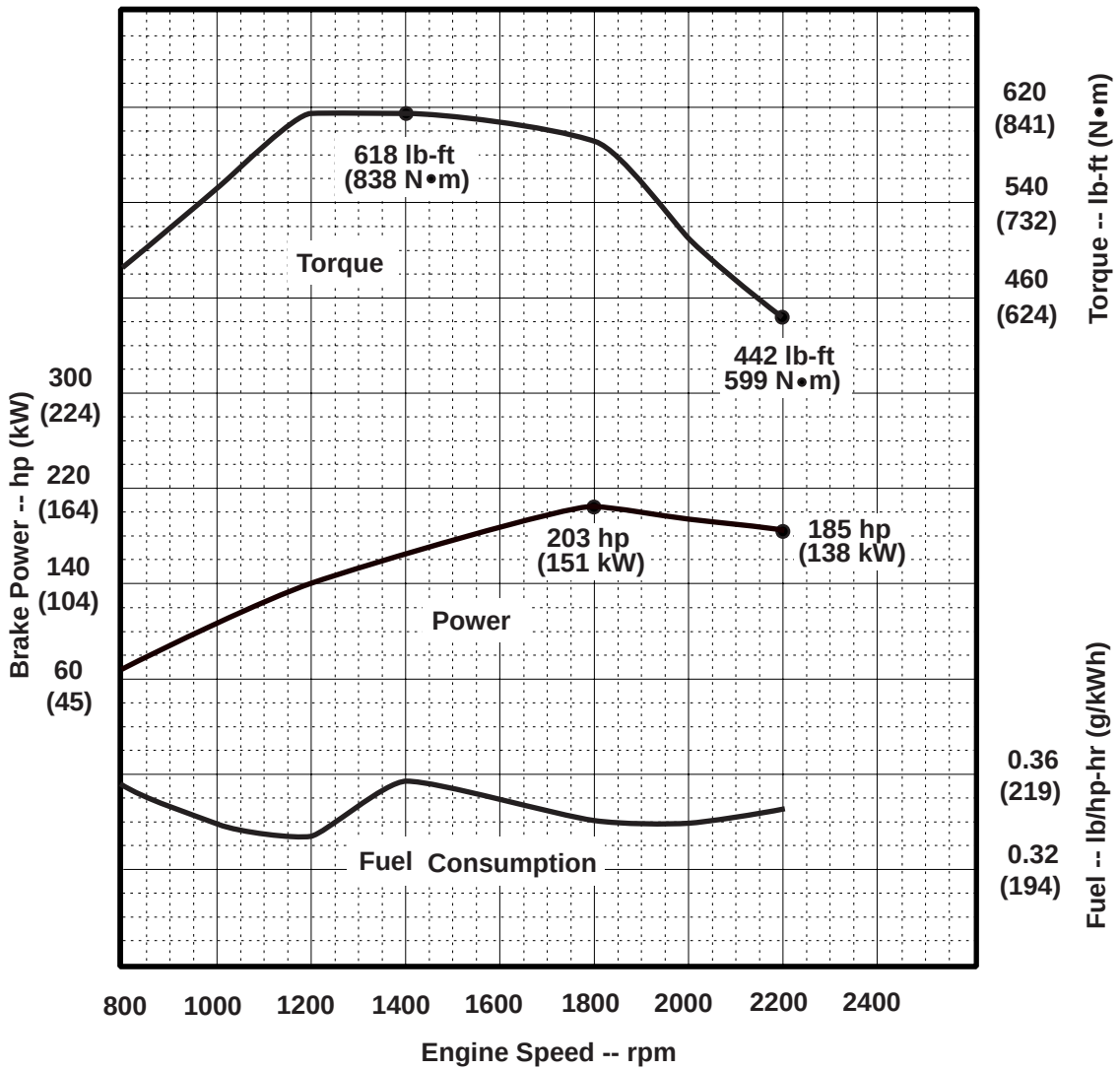
JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Gross Power
Application: Industrial - Continuous
Power Bulge - 9%
Torque Rise - 40%

PowerTech Plus™ 6.8 L Engine
Model: **6068HF485**
JD Electronic Control
185 hp @ 2200 rpm
138 kW @ 2200 rpm
[See Option Code Table]



STANDARD CONDITIONS*

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:

Tier-3 Emission Certifications:	Certified by:
CARB; EPA; EU Ref: Engine Emission Label	Brian L. Carlson 18 FEB05

* Revised Data
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Engine Installation Criteria

General Data

Model 6068HF485
Number of Cylinders 6
Bore and Stroke--in. (mm)..... 4.19 (106) x 5.00 (127)
Displacement--in.^{3} (L) 415 (6.8)
Compression Ratio ..... 17.0 : 1
Valves per Cylinder--Intake/Exhaust ..... 2 / 2
Firing Order 1-5-3-6-2-4
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) 45.7* (1161*)
Width--in. (mm) 24.3* (616*)
Height--in. (mm) 44.4* (1128*)
Weight, with oil*--lb (kg) 1495 (678)
(Includes flywheel housing, flywheel & electrics)
Center of Gravity Location
From Rear Face of Block(X-axis)--in.(mm). 15.5 (395)*
Right of Crankshaft (Y-axis)--in. (mm) ..... -0.1 (-2.24)*
Above Crankshaft (Z-axis)--in. (mm) 7.4 (189)
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)	Forward	Rearward
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)	
Max. VTG Actuator Surface Temp.--°F (°C)	356 (180)	
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_2O (kPa) 25 (6.25)
Clean Air Cleaner--in. H_2O (kPa) 15 (3.75)
Engine Air Flow--ft^3/min (m^3/min) 440 (12.47)
Air Cleaner Efficiency--% 99.9

Charge Air Cooling System

Air/Air Exch'r. Heat Rej.–Btu/min(kW) 1509 (27)
Compressor Discharge Temp.(Rated @ 77 °F (25°C) Ambient Air--°F (°C) 333 (167)
Compressor Discharge Temp.(Max.)--°F (°C) @ any Ambient--°F (°C) 370 (187.7)
Max. Pressure Drop, thru CAC--in.H_2O (kPa) 64 (16)
Min. Pressure Drop, thru CAC--in.H_2O (kPa) 32 (8)
Intake Manifold Pressure--psi (kPa) 23* (159.0*)
Max CAC Out Temp @ 77°F (25°C) Amb.--°F (°C) 126(52)
Min CAC Out Temp @ 77°F (25°C) Amb.--°F (°C). 109(43)
Max CAC Out Temp @ any Ambient--°F (°C) 190 (88)

Cooling System

Engine Heat Rejection--BTU/min (kW) 4503 (79)
Coolant Flow--gal/min (L/min) 85 (321)
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)

Exhaust System

Exhaust Flow--ft^3/min (m^3/min) 879 (25)
Exhaust Temperature--°F (°C) 658 (348)
Max. Allowable Back Pressure--in. H_2O (kPa) 40 (10)
Minimum Exhaust Restriction----in. H_2O (kPa) 16 (4)
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 ..... L14 Controller
Fuel System Description ..... HPCR*
Fuel Injection Pump ..... Denso HP3
Governor Type ..... Electronic
Total Fuel Flow--lb/hr (kg/hr) 156 (70.9)
Fuel Consumption--lb/hr (kg/hr) 65 (29.5)
Max. Fuel Inlet Temperature--°F (°C) 176 (80)
Fuel Temp. Rise, Inlet to Return--°F (°C) 66.6 (37)
Max. Fuel Inlet Restriction--in. H_2O (kPa) 80 (20)
Max. Fuel Inlet Pressure--in. H_2O (kPa) ..... NA (NA)
Max. Fuel Return Pressure--in. H_2O (kPa) 80 (20)

Lubrication System

Oil Pressure at Rated Speed--psi (kPa) 57 (394)
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) 22 (85)
Max. Crankcase Pressure--in. H_2O (kPa) 2 (0.5)

Performance Data

Rated Power--hp (kW) 185 (138)
Rated Speed--rpm 2200
Breakaway Speed--rpm 2270
Fast Idle Speed--rpm 2400
Peak Torque--lb-ft (N•m) 618 (838)
Peak Torque Speed--rpm 1400
Low Idle Speed--rpm 800
BMEP--psi (kPa) 161 (1107)
Friction Power @ Rated Speed--hp (kW) 36 (27)
Altitude Capability--ft (m) ..... 10,000 (3000)*
Ratio--Air : Fuel ..... 28.8 : 1
Smoke @ Rated Speed--Bosch No. ..... <1
Noise--dB(A) @ 1 m 92.1
Power Bulge--% 9
Power Bulge Speed--rpm 1800
Torque Rise--% 40

Engine Speed rpm	Power hp (kW)	Torque lb-ft (N•m)	BSFC lb/hp-hr (g/kWh)
2200	185 (138)	442 (599)	0.347 (212)
2000	193 (144)	507 (688)	0.340 (207)
1800	203 (151)	591 (802)	0.341 (208)
1600	184 (137)	604 (818)	0.349 (213)
1400	165 (123)	618 (838)	0.358 (218)
1200	141 (105)	618 (838)	0.331 (202)
1000	105 (79)	553 (750)	0.339 (206)
800	74 (55)	487 (660)	0.357 (218)

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

* Revised Data
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