



JOHN DEERE

ENGINE PERFORMANCE CURVE

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

PowerTech 6.8L Engine

Model: **6068HF475**

286 hp (213 kW) Prime

314 hp (234 kW) Standby

[See Option Code Tables]

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
286	213	314	234

Generator Efficiency %	Fan Power		Power Factor	Prime Rating		Standby Rating ¹		4 sec Standby Block Load Capability
	hp	kW		kW	kVA	kW	kVA	
88-92	15.7	11.7	0.8	177-185	221-231	196-205	245-256	80%

Note 1: Based on nominal engine power. Derate 20% for 100% block load capability.

Air Intake Restriction 12 in.H₂O (3 kPa)
 Exhaust Back Pressure 30 in.H₂O (7.5 kPa)

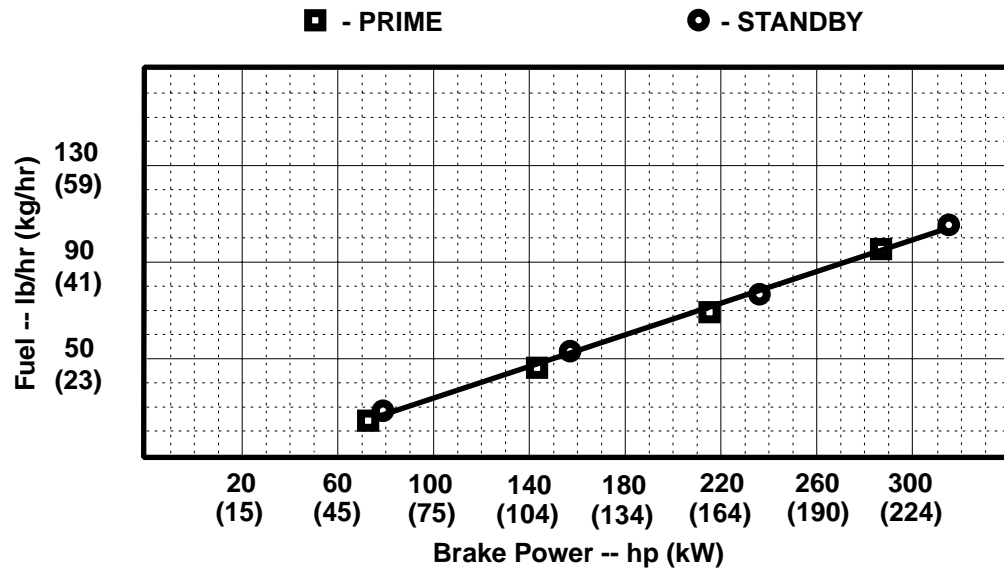
Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:

- 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

Ref: Engine Emission Label

Brian L. Carlson
 19 APRIL 2002

* Revised Data

Curve 6068HF4751800314 Sheet 1 of 3
 April 2002

Engine Specification Data

General Data

Model 6068HF475
 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..... 2 / 2
 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) 43.9 (1116)
 Width--in. (mm)24.5 (623)
 Height--in. (mm).....39.8 (1012)
 Weight, dry--lb (kg).....1294 (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)0.1 (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)
 Intermittent--lb (N).....900 (4003)
 Continuous--lb (N)500 (2224)

Electrical System

12 Volt 24 Volt

Rec'd Battery Capacity (CCA)--amp 800 570
 Max. Allow. Start. Circ't 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

Air System

Prime Standby

Max. Allowable Temp Rise--Ambient Air to
 Engine Inlet--°F (°C)46 (8) 46 (8)
 Maximum Air Intake Restriction
 Dirty Air Cleaner--in.H₂O (kPa)25 (6.3) 25 (6.3)
 Clean Air Cleaner--in.H₂O (kPa)12 (3) 12 (3)
 Engine Air Flow--ft³/min (m³/min)523 (14.8) ..579 (16.4)
 Intake Manifold Pressure--psi (kPa) ... 28 (190)..... 30 (207)
 Recm'd Intake Pipe Dia--in. (mm).....3 (76.2) 3 (76.2)
 Compress. Discharge Temp--°F (°C) .347(175) ... 392 (200)
 Max. Press. Drop Through
 Charge Air Cooler--in.H₂O (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) ..5333(94) ..5726(101)
 Air/Air Exchanger Heat Rejection--
 BTU/min (kW)2134(37.5) .2692(47.3)
 Coolant Flow--gal/min (L/min).....63 (240) 63 (240)
 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)
 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)

Exhaust System

Prime Standby

Exhaust Flow--ft³/min (m³/min).....1317(37.3) .1476(41.8)
 Exhaust Temperature--°F (°C)927 (497) ... 973 (523)
 Maximum Allowable Back
 Pressure--in.H₂O (kPa)30 (7.5) 30 (7.5)
 Recm'd Exhaust Pipe Dia--in. (mm) ..4 (101.6) 4 (101.6)

Fuel System

Prime Standby

Fuel Injection Pump (Denso)HPCR HPCR
 Governor Regulation.....5 % 5 %
 Governor Type ElectronicElectronic
 Total Fuel Flow--lb/hr (kg/hr).....158.5 (71.9) .170.2 (77.2)
 Fuel Consumption--lb/hr (kg/hr)94.6 (42.9) .106.3 (48.2)
 Maximum Fuel Transfer Pump
 Suction--ft (m) fuel3 (0.9) 3 (0.9)
 Max. Fuel Inlet Temp.--°F (°C).....176 (80) 176 (80)
 Fuel Filter Micron Size @ 98 % Efficiency ... 2 2

Lubrication System

Data based on engine with oil pan option code 1961

Prime Standby

Oil Pressure
 at Rated Speed--psi (kPa) 45 (310) 45 (310)
 Oil Pressure at Low Idle--psi (kPa) 15 (105) 15 (105)
 In Pan Oil Temperature--°F (°C) 228 (109) ... 230 (110)
 Oil Pan Capacity, High--qt (L) 33 (31.5) 33 (31.5)
 Oil Pan Capacity, Low--qt (L) 29 (27.5) 29 (27.5)
 Total Eng. Oil Capacity w/ Filters--qt (L)34 (32) 34 (32)
 Eng. Angularity Limits and direction--deg.
 Continuous 20 20

Performance Data

Prime Standby

Rated Power--hp (kW) 286 (213)..... 314 (234)
 Rated Speed--rpm 1800..... 1800
 Low Idle Speed--rpm 1400..... 1400
 BMEP--psi (kPa) 303 (2087).... 334 (2300)
 Friction Power
 @ Rated Speed--hp (kW) 23 (17)..... 23 (17)
 Altitude Capability--ft (m) NA..... NA
 Ratio--Air : Fuel..... 23.7:1 22.5:1
 Noise--dB(A) @ 1 m NA..... NA

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

Prime Standby

25 % Power 26.0 (11.8)..... 28.7 (13.0)
 50 % Power 48.1 (21.8)..... 52.9 (24.0)
 75 % Power 69.9 (31.7) 76.9 (34.9)
 100 % Power 94.6 (42.9) 106.3 (48.2)

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

* Revised Data

Curve 6068HF4751800314..... Sheet 2 of 3

April 2002

Engine Specification Data

Electronic Engine Controls (JDEC)

Performance System Option Code Table		
Option Codes		System
Injection Pump	Performance Software	Voltage
161U	72AR	12V
NA	NA	24V

ECU Feature Software Option Code (8300 Group) Table Generator* Applications -- 4-valve HPCR							
Option Code	Oil Pressure Sensor	Governing 8 % or Isochronous	Cruise Control	Engine Protection		Available Throttle Inputs	
				ECU Software	External Input	Analog	Digital
8365	No	Selectable	No	None	Derate & Shutdown	Two	Adj. 3-State
8366	Yes	Selectable	No	None	Derate & Shutdown	Two	Adj. 3-State
8367	Yes	Selectable	No	Shutdown	Derate & Shutdown	Two	Adj. 3-State

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

* Revised Data
Curve 6068HF4751800314..... Sheet 3 of 3
April 2002