



JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Gross Power
 Application: Generator (60 Hz)
 Target: 200 kWe Standby Market

PowerTech Plus™ 6.8L Engine
 Model: **6068HF485**

286 hp (214 kW) Prime
315 hp (235 kW) Standby

[See Option Code Tables]

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
286	214	315	235

Generator Efficiency %	Fan Power (6% of Standby)		Power Factor	Prime Rating ²		Standby Rating _{1,2}		4 sec Standby Block Load Capability
	hp	kW		kWe	kVA	kWe	kVA	
88-92	18.9	14.1	0.8	176-184	220-230	194-203	243-254	80%

Note 1: Based on nominal engine power. Derate 20% for 100% block load capability.
 Note 2: kWe / kVA rating assumes 90% efficiency. "Generator Efficiency %" will vary.

STANDARD CONDITIONS

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:

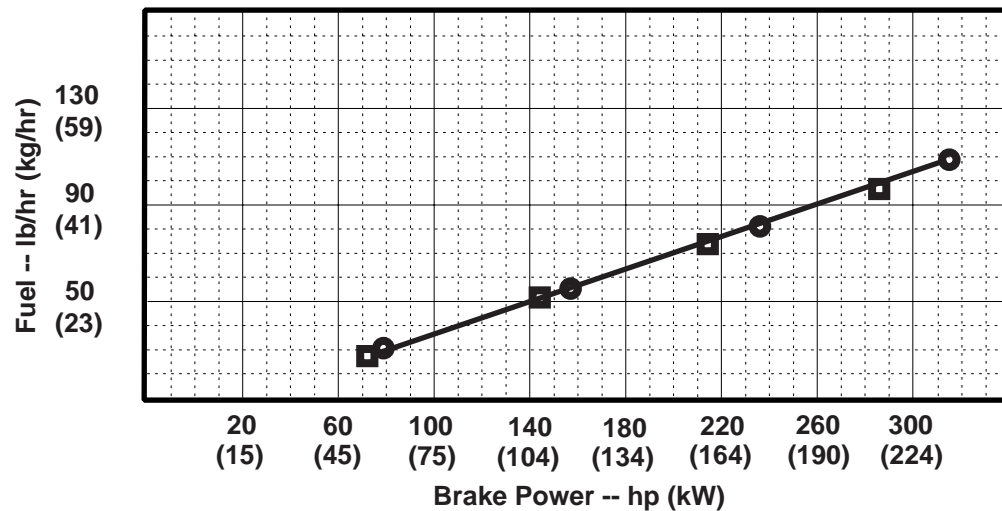
- 77 °F (25 °C) air inlet temperature
- 29.31 in.Hg (99 kPa) barometer
- 104 °F (40 °C) fuel inlet temperature
- 0.853 fuel specific gravity @ 60 °F (15.5 °C)

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.

■ - PRIME ● - STANDBY



Notes:

All OEM Gen Set Engine Applications must be pre-screened for torsional vibration compatibility with the respective alternator end hardware.

OEM Engine Application Engineering will perform this computer-based analysis work upon request.

Tier-3 Emission Certifications:

Certified by:

CARB; EPA

Ref: Engine Emission Label

Vincent Pando
 22 June '07

* Revised Data

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 June 2007

Engine Installation Criteria

General Data

Model 6068HF485
 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..... 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)45.7 (1161)
 Width--in. (mm)24.0 (611)
 Height--in. (mm)41.6 (1058)
 Weight, with oil--lb (kg).....1495 (678)
 (Includes flywheel hsg., flywheel & electrics)
 Center of Gravity Location
 From Rear Face of Block (X-axis)--in. (mm) .15.5 (394)
 Right of Crankshaft (Y-axis)--in. (mm) -0.1 (-2.24)
 Above Crankshaft (Z-axis)--in. (mm) 7.4 (189)
 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 --lb (N) Forward Rearward
 Intermittent.....899 (4000).....450 (2000)
 Continuous495 (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. 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
 Min. Volts at ECU while Cranking--volts.....6 10
 Max. ECU Temperature--°F (°C)221 (105)
 Max. VTG Actuator Surface Temp.--°F (°C).....356 (180)
 Max. Harness Temperature--°F (°C)248 (120)
 Maximum Voltage From Engine Crankshaft/
 Generator Shaft to Ground--VAC 0.15 0.15

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.H₂O (kPa) ... 25 (6.25) 25 (6.25)
 Clean Air Cleaner--in.H₂O (kPa) . 15 (3.75) 15 (3.75)
 Engine Air Flow--ft³/min (m³/min)520 (14.7) ..619 (17.5)
 Air Cleaner Efficiency--%99.9

Charge Air Cooling System

Prime Standby

Air/Air Exchanger Heat Rejection--
 BTU/min (kW) 2298(40.37) . 3264(57.34)
 Compress. Dischrg. Temp.(Rated)
 @ 77 °F (25°C) Amb. Air--°F (°C) 365(185) 441(227)
 Compress. Dischrg. Temp.(Max.)
 @ 47°C amb. and
 80 kPa bar.--°F (°C)000(000) 000(000)
 Press. Drop, thru CAC--in.H₂O (kPa)
 Max.64 (16) 64 (16)
 Min.32 (8) 32 (8)
 Intake Manifold Pressure--psi (kPa) ...27 (188) 37 (252)
 CAC Out Temp @ 77°F (25°C) Amb.--°F (°C)
 Max.126 (52) 126 (52)
 Min.109 (43) 109 (43)
 CAC Out Temp @ any Ambient--°F (°C)
 Max.190 (88) 190 (88)

Cooling System

Prime Standby

Engine Heat Reject.--BTU/min (kW) .4766(83.7) ... 5404(94.9)
 Coolant Flow--gal/min (L/min).....70 (265) 70 (265)
 Thermostat Start to Open--°F (°C)180 (82) 180 (82)
 Thermostat Fully Open--°F (°C)203 (95) 203 (95)
 Engine Coolant Capacity--qt (L) 13 (11.9) 13 (11.9)
 Min. Pressure Cap--psi (kPa) 14.5 (100) .. 14.5 (100)
 Max. Top Tank Temp--°F (°C)230 (110) ... 230 (110)
 Min. Coolant Fill Rate--gal/min (L/min) ...3 (11) 3 (11)
 Min. Air-to-Boil Temperature--°F (°C) .117 (47) 117 (47)
 Min. Pump Inlet Pressure--psi (kPa)....4.4 (30) 4.4 (30)

Exhaust System

Prime Standby

Exhaust Flow--ft³/min (m³/min).....1371 (38.8) 1514 (42.9)
 Exhaust Temperature--°F (°C)982 (528) ... 905 (485)
 Max. Exhaust Restriction---in. H₂O (kPa).....40 (10)
 Min. Exhaust Restriction---in. H₂O (kPa).....16 (4)
 Max. Bend. Moment, Turbo Out.--lb-ft (N•m) .5.2 (7.0)
 Max. Shear on Turbo Outlet--lb (kg)24 (11)

Fuel System

Prime Standby

ECU DescriptionL14 Controller
 Fuel System Description..... HPCR
 Fuel Injection PumpDenso HP3
 Governor Type Electronic
 Total Fuel Flow--lb/hr (kg/hr).....161 (73.1) 174 (78.7)
 Fuel Consumption--lb/hr (kg/hr).....97 (44) 110 (50)
 Max. Fuel Inlet Temp.--°F (°C).....176 (80)
 Fuel Temp. Rise, Inlt to Retr--°F (°C)97.2(54) ... 100.8(56)
 Max. Fuel Inlet Restriction--in. H₂O (kPa)80 (20)
 Max. Fuel Inlet Pressure--in. H₂O (kPa)NA (NA)
 Max. Fuel Return Pressure--in. H₂O (kPa)80 (20)

Lubrication System

Prime Standby

Oil Press. at Rated Speed--psi (kPa) .49 (339) 49 (339)
 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).....34 (130)
 Max. Crankcase Pressure--in. H₂O (kPa).....2 (0.5)

Performance Data

Prime Standby

Rated Power--hp (kW) 286 (214)..... 315 (235)
 Rated Speed--rpm 1800 1800
 Low Idle Speed--rpm 1150 1150
 Rated Torque--lb-ft (N•m)..... 1536 (1133).. 1690 (1247)
 BMEP--psi (kPa) 304 (2094).... 334 (2304)
 Friction Power
 @ Rated Speed--hp (kW) 25 (18.7)..... 25 (18.7)
 Altitude Capability--ft (m)10,000 (3000)
 Ratio--Air : Fuel..... 23.0 : 1 24.0 : 1
 Smoke @ Rated Speed--Bosch No. 0.45 0.77
 Noise--dB(A) @ 1 m NA NA

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

Prime Standby

25 % Power27.8 (12.6)..... 30.3 (13.7)
 50 % Power51.4 (23.3) 56.2 (25.5)
 75 % Power73.2 (33.2) 80.4 (36.5)
 100 % Power97.2 (44.1) 109.7 (49.8)

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

* Revised Data

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 June 2007