



JOHN DEERE

ENGINE PERFORMANCE CURVE

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

PowerTech 8.1L Engine
 Model: **6081HF070**
JD Electronic Control
295 hp (220 kW) Prime
347 hp (259 kW) Standby
 [See Option Code Table]

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
295	220	347	259

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	17.4	13	0.8	182-190	228-238	217-226	271-283	95%

Note 1: Based on nominal engine power. Derate 5% for 100% block load capability.

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

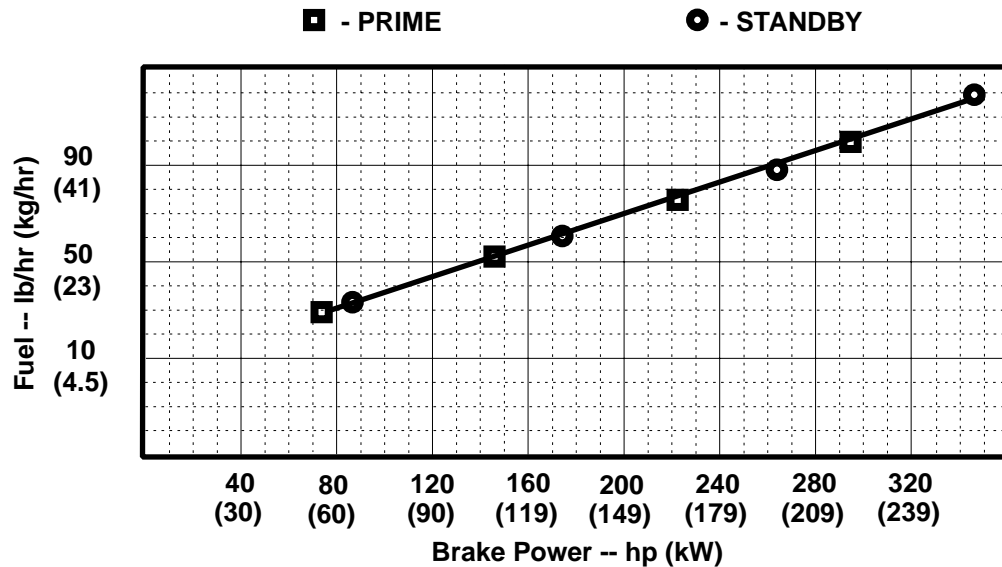
Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:

- 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
 30 Aug 04

* Revised Data

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 August 2004

Engine Specification Data

General Data

Model 6081HF070
 Number of Cylinders 6
 Bore and Stroke--in. (mm)..... 4.56 x 5.06 (116 x 129)
 Displacement--in.³ (L).....494 (8.1)
 Compression Ratio 15.7:1
 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)47.6 (1210)
 Width--in. (mm)23.6 (599)
 Height--in. (mm) 45.4 (1152)
 Weight, dry--lb (kg)..... 1711 (776)
 (Includes flywheel housing, flywheel & electrics)
 Center of Gravity Location
 From Rear Face of Block (X-axis)--in. (mm) .19.0 (482)
 Right of Crankshaft (Y-axis)--in. (mm) -0.3 (-8)
 Above Crankshaft (Z-axis)--in. (mm)5.7 (145)
 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)
 Continuous--lb (N)1950 (8673)
 Intermittent--lb (N).....2925 (13010)

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)..... 12 (3) 12 (3)
 Engine Air Flow--ft³/min (m³/min) ... 657 (18.6) . 717 (20.3)
 Intake Manifold Press.--psi (kPa) 30 (204) 35 (240)
 Compress Dischrg Temp.--°F (°C) ... 370 (188) .. 415 (213)
 Maximum Pressure Drop Through
 Charge Air Cooler--in.H₂O (kPa) ... 52 (13)52 (13)
 Max. Temp. Out of Charge Air Cooler
 @ 77 °F (25 °C) Ambient--°F (°C) 140 (60)140 (60)

Cooling System

Prime Standby

Engine Heat Reject.--BTU/min (kW) .4040 (71) .5918 (104)
 Air/Air Exchanger Heat Rejection--
 BTU/min (kW).....3073 (54) ... 3642 (64)
 Coolant Flow--gal/min (L/min).....71 (270) 71 (270)
 Thermostat Start to Open--°F (°C)180 (82) 180 (82)
 Thermostat Fully Open--°F (°C).....201 (94) 201 (94)
 Maximum Water Pump
 Inlet Restrict.--in.H₂O (kPa)28 (7) 28 (7)
 Engine Coolant Capacity--qt (L)15 (14) 15 (14)
 Min. 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)

Electrical System

Minimum Battery Capacity (CCA)
 12 Volt System--am 800
 24 Volt System--am 570
 Maximum Allowable Starting Circuit Resistance
 12 Volt System--Ohm 0.0012
 24 Volt System--Ohm 0.002
 Starter Rolling Current--12 Volt System
 At 32 °F (0 °C)--amp..... 950
 At -22 °F (-30 °C)--a 1300
 Starter Rolling Current--24 Volt System
 At 32 °F (0 °C)--amp..... 600
 At -22 °F (-30 °C)--amp 700

Exhaust System

Prime Standby

Exhaust Flow--ft³/min (m³/min).....1568(44.4). 1776(50.3)
 Exhaust Temperature--°F (°C) 777 (414) 838 (448)
 Maximum Allowable Back
 Pressure--in.H₂O (kPa)30 (7.5) 30 (7.5)

Fuel System

Prime Standby

Fuel Injection Pump Denso ECD-U2
 Governor Regulation 5 % 5 %
 Governor Type ElectronicElectronic
 Fuel Consump.--lb/hr (kg/hr)..... 99.9 (45.4) ... 119.7 (54.4)
 Total Fuel Flow--lb/hr (kg/hr)..... 600 (272) 600 (272)
 Maximum Fuel Transfer Pump Suction--
 ft (m) fuel 10 (3.0) 10 (3.0)
 Max. Fuel Inlet Temp.--°F (°C)..... 149 (65) 149 (65)
 Fuel Filter Micron Size @ 98% Efficiency.. 2 2

Lubrication System

Prime Standby

Oil Press. at Rated Speed--psi (kPa) .40 (275) 40 (275)
 Oil Pressure at Low Idle--psi (kPa)30 (210)..... 30 (210)
 In Pan Oil Temperature--°F (°C) 240 (115) 240 (115)

Performance Data

Prime Standby

Rated Power--hp (kW) 295 (220) 347 (259)
 Rated Speed--rpm 1800 1800
 Low Idle Speed--rpm 1000 1000
 BMEP--psi (kPa) 263 (1813) ... 308 (2126)
 Friction Power
 @ Rated Speed--hp (kW) 28 (21) 28 (21)
 Altitude Capability --ft (m) 7500 (2300).... 5000 (1500)
 Ratio--Air : Fuel.....29.8:1 27.2:1
 Noise--dB(A) @ 1 m NA NA

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

Prime Standby

25 % Power 29.0 (13.2) ... 33.2 (15.1)
 50 % Power 52.8 (24.0) ... 60.9 (27.7)
 75 % Power 75.5 (34.3) ... 88.0 (40.0)
 100 % Power 99.9 (45.4) 119.7 (54.4)

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

* Revised Data
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