



JOHN DEERE

ENGINE PERFORMANCE CURVE

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

POWERTECH 12.5L Engine

Model: **6125HF070**

512 hp (382 kW) Prime

617 hp (460 kW) Standby

[See Option Code Table]

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
512	382	617	460

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	30.8	23.0	0.8	318*-332*	397*-415*	385-402	481-503	100%

Note 1: Based on nominal engine power.

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:

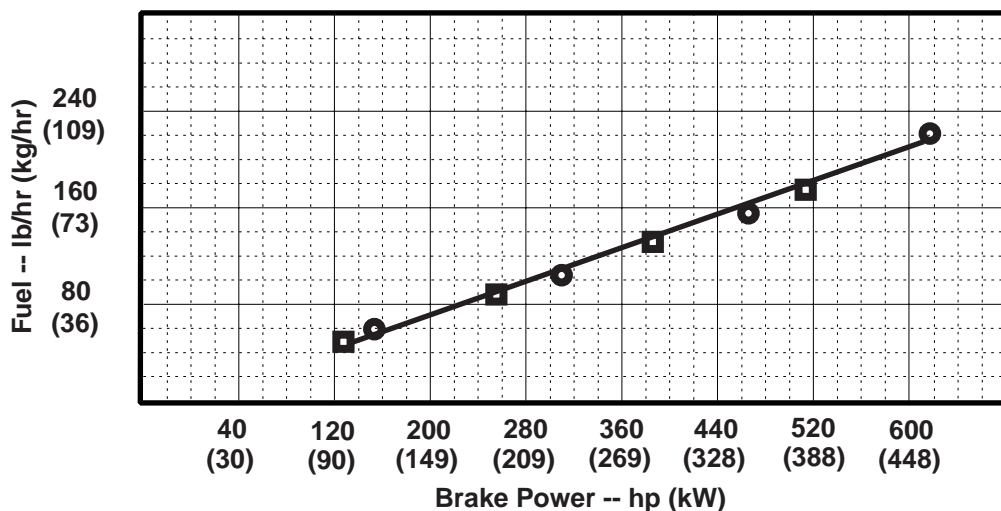
- 77 °F (25 °C) air inlet temperature
- 29.31 in.Hg (99 kPa) barometer
- 104 °F (40 °C) fuel inlet temperature
- 0.853 fuel specific gravity @ 60 °F (15.5 °C)

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:

Tier-2 Emission Certifications:

Certified by:

CARB; EPA

Ref: Engine Emission Label

Kevin Bailey
 12 MARCH 2001

* Revised Data

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 March 2001

Engine Specification Data

General Data

Model 6125HF070
 Number of Cylinders 6
 Bore and Stroke--in. (mm) 5.00 x 6.50 (127 x 165)
 Displacement--in.³ (L) 763 (12.5)
 Compression Ratio 17:1
 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
 Maximum Crankcase Pressure--in.H₂O (kPa) 2 (0.5)

Physical Data

Length--in. (mm) 52.2 (1326)
 Width--in. (mm) 31.8 (808)
 Height--in. (mm) 48.8 (1239)
 Weight, dry--lb (kg) 2657 (1205)
 (Includes flywheel housing, flywheel & electrics)
 Center of Gravity Location
 From Rear Face of Block (X-axis)--in. (mm) .21.5 (545)
 Right of Crankshaft (Y-axis)--in. (mm) 0.63 (16)
 Above Crankshaft (Z-axis)--in. (mm) 8.6 (218)
 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) 1225 (5449)
 Intermittent--lb (N) 1835 (8162)

Electrical System

Recommended Battery Capacity (CCA)
 12 Volt System--am 1800
 24 Volt System--am 900
 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 1280
 At -22 °F (-30 °C)--a 1500
 Starter Rolling Current--24 Volt System
 At 32 °F (0 °C)--amp 600
 At -22 °F (-30 °C)--amp 970

Exhaust System

Exhaust Flow--ft³/min (m³/min) 2613(74.0) ... 3214(91.0)
 Exhaust Temperature--°F (°C) 986 (530) ... 1040 (560)
 Max. Allow. Back Press.--in.H₂O (kPa)30 (7.5)..... 30 (7.5)
 Recm'd Exhaust Pipe Dia--in. (mm).... 5 (127) 5 (127)

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) 1024 (29) ... 1201 (34)
 Intake Manifold Press.--psi (kPa)..... 29 (203) 38 (265)
 Rec'd. Intake Pipe Dia--in. (mm)..... 5.5 (140).... 5.5 (140)
 Compress. Discharge Temp.--°F (°C) 374(190)... 439 (226)
 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
 Eng. Heat Reject.--BTU/min (kW).8706(153) .. 10,242(180)
 Air/Air Exchanger Heat Rejection--
 Btu/min (kW) 3926 (69) . 6031(106)
 Coolant Flow--gal/min (L/min)..... 73 (276) 73 (276)
 Thermostat Start to Open--°F (°C)..... 180 (82) 180 (82)
 Thermostat Fully Open--°F (°C)..... 201 (94) 201 (94)
 Engine Coolant Capacity--qt (L) 17 (16.2) 17 (16.2)
 Rec'd. Pressure Cap--psi (kPa) 7 (48) 7 (48)
 Max. Top Tank Temp--°F (°C) 212 (100) ... 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)

Fuel System

Prime Standby
 Fuel Injection Pump Unit/E.C. Unit/E.C.
 Governor Type Electronic Electronic-
 Fuel Consumption--lb/hr (kg/hr) .. 176.9(80.4) . 221.3(100.6)
 Max. Fuel Trans. Pump Suction--
 ft (m) fuel 10 (3) 10 (3)
 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) 20 (138)..... 20 (138)
 In Pan Oil Temperature--°F (°C) 239 (115).... 239 (115)
 Oil Pan Capacity, High--qt (L) 42 (40)..... 42 (40)
 Oil Pan Capacity, Low--qt (L) 40 (38)..... 40 (38)
 Engine Oil Capacity with Filters--qt (L) 44 (42)..... 44 (42)
 Engine Angularity Limits (Continuous)
 Any Direction--degrees 20 20

Electronic Engine Controls (JDEC)

Torque Curve Option (Pins A and B)
 Curve 1 617 hp (460 kW) standby power
 Curve 2 Not used
 Governor Droop (Pin E)
 Isochronous 0%
 Droop 1800 rpm 4%
 Pins "C" and "D" Not used

OPTION CODE TABLE				
JDEC ECU FEATURE PROGRAMMING				
Option Code	ECU Voltage	Cruise Control	Adj. 2-stroke Throttle	Engine Protection
166A	12	No	Yes	None
166B	12	No	Yes	Shutdown only
166C	24	No	Yes	None
166D	24	No	Yes	Shutdown only

Performance Data

Prime Standby
 Rated Power--hp (kW) 512 (382) 617 (460)
 Rated Speed--rpm 1800 1800
 Low Idle Speed--rpm 1000 1000
 BMEP--psi (kPa) 294 (2027) ... 353 (2436)
 Friction Power
 @ Rated Speed--hp (kW)..... 30 (22) 30 (22)
 Altitude Capability --ft (m) 9000 (2745)..... 9000 (2745)
 Ratio--Air : Fuel..... 24.0:1 23.0:1
 Noise--dB(A) @ 1 m 100.5* 101.0*

Fuel Consumption -- lb/hr (kg/h) **Prime Standby**

25 % Power 50.8 (23.1)..... 59.8 (27.2)
 50 % Power 89.3 (40.6).... 105.8 (48.1)
 75 % Power 129.6 (58.9).... 155.8 (70.8)
 100 % Power 176.9 (80.4)... 221.3(100.6)

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

* Revised Data
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 March 2001