



JOHN DEERE

ENGINE PERFORMANCE CURVE

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

PowerTech 12.5L Engine
 Model: **6125HF070**

561* hp (418* kW) Prime
617 hp (460 kW) Standby

[See Option Code Table]

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
561*	418*	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	
90*-94*	30.8	23.0	0.8	355*-371*	444*-464*	393*-411*	492*-513*	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:

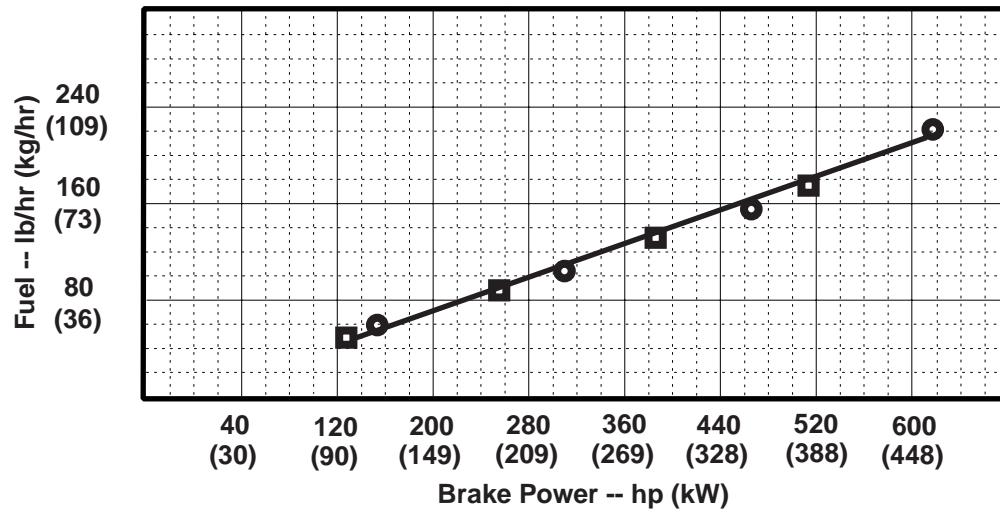
- 77 °F (25 °C) air inlet temperature
- 29.31 in.Hg (99 kPa) barometer
- 104 °F (40 °C) fuel inlet temperature
- 0.853 fuel specific gravity @ 60 °F (15.5 °C)

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

Brian L. Carlson
 22 July 04

* Revised Data
 Curve 6125HF1800617 Sheet 1 of 2
 July 2004

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.H ₂ O (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)

Air System

	<u>Prime</u>	<u>Standby</u>
Max. Allowable Temp Rise--Ambient Air to		
Engine Inlet--°F (°C).....	15 (8)	15 (8)
Maximum Air Intake Restriction		
Dirty Air Cleaner--in.H ₂ O (kPa) ...	25 (6.25)	25 (6.25)
Clean Air Cleaner--in.H ₂ O (kPa)	12 (3)	12 (3)
Engine Air Flow--ft ³ /min (m ³ /min)	1024 (29)	1201 (34)
Intake Manifold Press.--psi (kPa)	29 (203)	38 (265)
Compress. Discharge Temp.--°F (°C) 374(190) ...	439 (226)	
Maximum Pressure Drop Through		
Charge Air Cooler--in.H ₂ O (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

	<u>Prime</u>	<u>Standby</u>
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)

Electrical System

Minimum 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

	<u>Prime</u>	<u>Standby</u>
Exhaust Flow--ft ³ /min (m ³ /min).....	2613(74.0)	3214(91.0)
Exhaust Temperature--°F (°C)	986 (530)	1040 (560)
Max. Allow. Back Press.--in.H ₂ O (kPa)30 (7.5)	30 (7.5)	30 (7.5)

Fuel System

	<u>Prime</u>	<u>Standby</u>
Fuel Injection Pump	Unit/E.C.	Unit/E.C.
Governor Type	Electronic	Electronic
Total Fuel Flow--lb/hr (kg/hr)	311 (141)	355 (162)
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

	<u>Prime</u>	<u>Standby</u>
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)

Performance Data

	<u>Prime</u>	<u>Standby</u>
Rated Power--hp (kW)	561* (418*)	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)

	<u>Prime</u>	<u>Standby</u>
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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July 2004