



JOHN DEERE

**ENGINE PERFORMANCE CURVE**

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

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

**402 hp (300 kW) Prime**  
**442 hp (330 kW) Standby**

[See Option Code Table]

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
402	300	442	330

Generator Efficiency %	Fan Power		Power Factor	Prime Rating		Standby Rating <sup>1</sup>		4 sec Standby Block Load Capability
	hp	kW		kW	kVA	kW	kVA	
90*-94*	22	16.4	0.8	255*-267*	319*-333*	282*-295*	353*-368*	100%

Note 1: Based on nominal engine power.

Air Intake Restriction ..... 12 in.H<sub>2</sub>O (3 kPa)  
 Exhaust Back Pressure ..... 30 in.H<sub>2</sub>O (7.5 kPa)

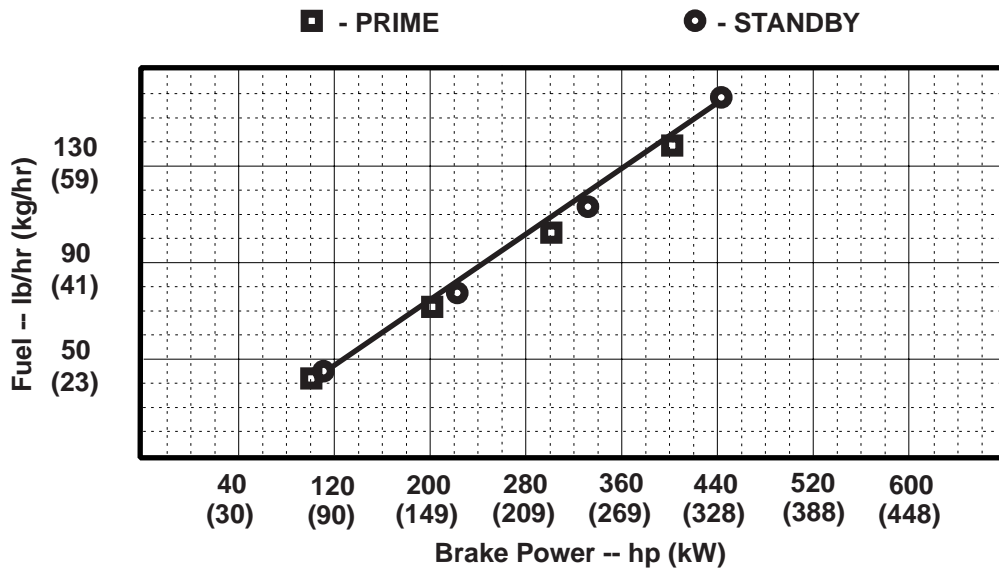
Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:

- 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*  
 22 July 04

\* Revised Data

Curve 6125HF1800442 ..... 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. <sup>3</sup> (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 <sub>2</sub> 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 <sub>2</sub> O (kPa) ...	25 (6.25)	25 (6.25)
Clean Air Cleaner--in.H <sub>2</sub> O (kPa) .....	12 (3)	12 (3)
Engine Air Flow--ft <sup>3</sup> /min (m <sup>3</sup> /min) ...	816 (23.1)	.978 (27.7)
Intake Manifold Press.--psi (kPa) .....	21 (145)	..28 (192)
Compress. Discharge Temp.--°F (°C) .....	315(157)	..365 (185)
Maximum Pressure Drop Through		
Charge Air Cooler--in.H <sub>2</sub> 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>
Engine Heat Reject.--BTU/min (kW) .....	7056(124)	. 7113(125)
Air/Air Exchanger Heat Rejection--		
Btu/min (kW) .....	2333(41)	... 3642(64)
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)
Min. 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 <sup>3</sup> /min (m <sup>3</sup> /min).....	2083 (59)	. 2475 (70.1)
Exhaust Temperature--°F (°C) .....	959 (515)	.... 972 (522)
Max. Allow. Back Press.--in.H <sub>2</sub> O (kPa).....	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) .....	272 (124)	..... 292 (133)
Fuel Consumption--lb/hr (kg/hr) ..	138.4 (62.9)	. 158.2 (71.9)
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) .....	402 (300)	..... 442 (330)
Rated Speed--rpm .....	1800	..... 1800
Low Idle Speed--rpm .....	1000	..... 1000
BMEP--psi (kPa) .....	231 (1593)	... 254 (1753)
Friction Power		
@ Rated Speed--hp (kW).....	30 (22)	..... 30 (22)
Altitude Capability --ft (m) ....	10,800 (3300)	..... 8900 (2700)
Ratio--Air : Fuel.....	25.0:1	..... 26.0:1
Noise--dB(A) @ 1 m .....	98.5	..... 100.5

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

	<u>Prime</u>	<u>Standby</u>
25 % Power .....	42.5 (19.3)	.... 45.5 (20.7)
50 % Power .....	71.5 (32.5)	.... 77.7 (35.3)
75 % Power .....	103.6 (47.1)	.. 113.5 (51.6)
100 % Power .....	138.4 (62.9)	.. 158.2 (71.9)

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

\* Revised Data  
Curve 6125HF1800442..... Sheet 2 of 2  
July 2004