JOHN DEERE

ENGINE PERFORMANCE CURVE

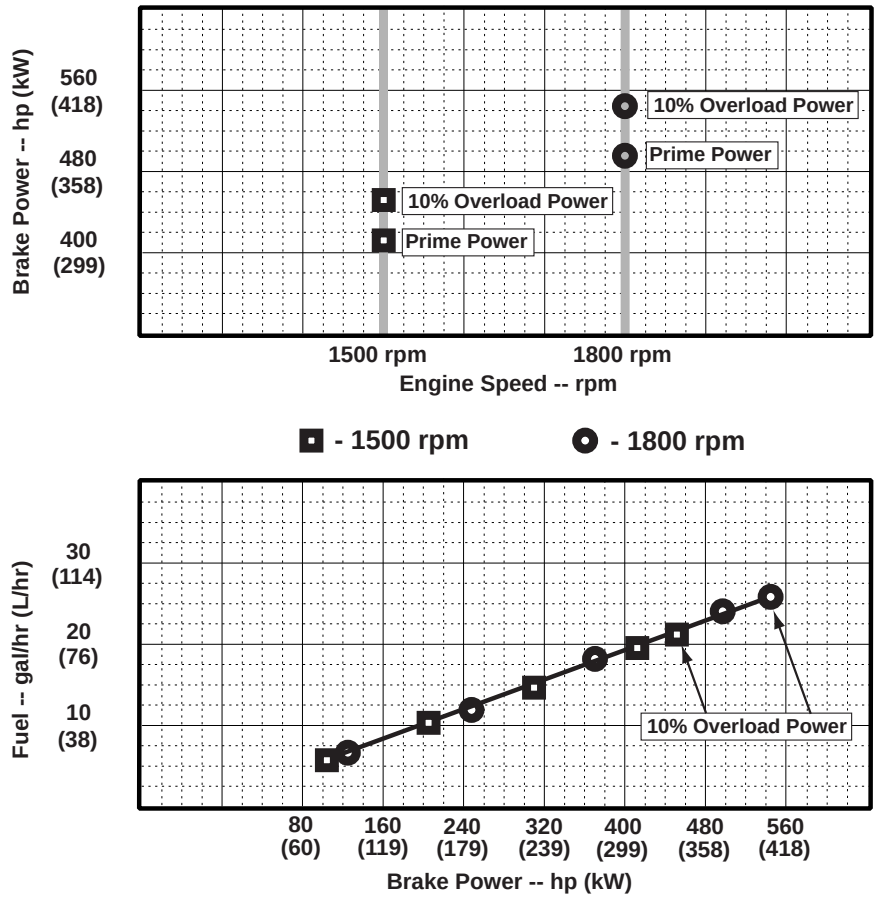
POWERTECH 12.5 L Engine
Model: **6125SFM75**

Rating: Marine

Application: Generator
Prime Power

488 hp (364 kW) @ 1800 rpm
412 hp (307 kW) @ 1500 rpm

Speed rpm (Hz)	Generator Efficiency %	Keel Cooled (no fan)		Power Factor	Calculated Gen-Set Rating	
					kW	kVA
1500 (50)	88-92	- -	- -	0.8	270-282	338-353
1800 (60)	88-92	- -	- -	0.8	320-335	400-419



Air Intake Restriction ..... 12 in.H_2O (3 kPa)
Exhaust Back Pressure ..... 30 in.H_2O (7.5 kPa)

Gross power guaranteed within + or - 5% at SAE J1995 and ISO 8665 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:

1800 RPM / 1500 RPM
Emission Certifications:

- EPA Commercial Marine **(40 CFR Part 94)**
- IMO Annex VI
- EU 2004 / 26 / EC

Ref: Engine Emission Label

Certified by:

20 June 2008

* Revised Data
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Engine Installation Criteria

General Data

Model	6125SFM75
Number of Cylinders	6
Bore and Stroke--in.(mm)	5.00 x 6.50 (127 x 165)
Displacement--in^3 (L)	766 (12.5)
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 and Aftercooled
Aftercooler	Sea Water
Engine Crankcase Vent System	Closed

Physical Data

(Includes Engine, Flywheel Housing, Flywheel & Electrics)

Length--in.(mm)	70.9 (1801)
Width--in.(mm)	40.6 (1032)
Height, Crank Center to Top--in. (mm)	31.0 (786)
Height, Crank Center to Bottom--in. (mm)	14.3 (364)
Weight, dry--lb (kg)	3252 (1475)
Center of Gravity Location	
From Rear Face of Block (X-axis)--in. (mm)	16.5 (420)
Right of Crankshaft (Y-axis)--in. (mm)	5.3 (135)
Above Crankshaft (Z-axis)--in. (mm)	9.6 (244)
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)--lb(N)	1835 (8162)
Maximum Installed Angle	
Front Up--degrees	12
Front Down--degrees	0

Air System

	1800 rpm	1500 rpm
Min. Ventilation Area--in.^{2} (m^2)	294 (0.19)	200 (0.13)
Max. Allow. Temp Rise, Ambient Air to Engine Inlet--°F (°C)	30 (17)	30 (17)
Engine Air Flow--ft^3/min (m^3/min)	1088 (30.8)	739 (20.9)
Intake Manifold Press.--psi (kPa)	25 (175)	18(121)
Maximum Air Intake Restriction		
Dirty Air Cleaner--in. H_2O (kPa)	25 (6.25)	25 (6.25)
Clean Air Cleaner--in. H_2O (kPa)	12 (3.0)	12 (3.0)

Cooling System

	1800 rpm	1500 rpm
Eng. Rad'd. Heat--BTU/min (kW)	2590(45.5)	2140(37.6)
Coolant Flow--gal/min (L/min)	90 (339)	75 (283)
Min. Coolant Fill Rate--gal/min (L/min)	3 (12)	
Thermostat Start to Open--°F (°C)	160 (71)	
Thermostat Fully Open--°F (°C)	183 (84)	
Maximum Top Tank Temp--°F (°C)	212 (100)	
Minimum Sea Water-to-Boil--°F (°C)	90 (32)	
Rec'd. Pressure Cap--psi (kPa)	15 (100)	
Engine Coolant Capacity--qt (L)	42 (40)	

Electrical System

	12 Volts	24 Volts
Recommended Battery Capacity CCA @ 32 °F (0 °C)--amp	1800	900
Max. Starting Circuit Resist.--Ohm	0.001	0.002
Starter Rolling Current @ 32 °F (0 °C)--amp	1280	600

Exhaust System

	1800 rpm	1500 rpm
Exhaust Flow--ft^3/min (m^3/min)	2405 (68)	1801 (51)
Exhaust Temperature--°F (°C)	727 (386)	847 (453)
Min. Exhaust Pipe Dia. Dry--in. (mm)	6.0 (152)	
Min. Exhaust Pipe Dia. Wet--in. (mm)	8.0 (203)	
Max. Allow. Back Press.--in. H_2O (kPa)	30 (7.5)	
Max. Weight on Turbo--lb (kg)	55 (25.0)	

Fuel System

	1800 rpm	1500 rpm
ECU Description	John Deere Electronic Controls	
Fuel Injection Pump	Unit Injectors	
Governor Type	Electronic	
Governor Regulation	Isochronous or Droop	
Total Fuel Flow--lb/hr (kg/hr)	275(124.8)	246(111.6)
Total Fuel Flow--gal/hr (L/hr)	39 (147)	35 (131)
Min. Rec'd. Fuel Line ID--in. (mm)	0.31 (8.0)	0.31 (8.0)
Min. Rec'd. Fuel Line Size	-6	-6
Fuel Cons. 'Prime' --lb/hr (kg/hr)	168.7(76.5)	139.8(63.4)
Fuel Cons. 'Prime' --gal/hr (L/hr)	23.8 (90.1)	19.7 (74.5)
Max Leak-off Line Press.--psi (kPa)	11.5 (80)	
Max. Fuel Trans. Pump Suction--ft (m)	10 (3.0)	
Max. Fuel Inlet Restrict.--in. H_2O (kPa)	-120 (-30)	
Max. Fuel Ht. Above Inj.Pump--ft (m)	10 (3.0)	
Max. Fuel Inlet Temp. --°F (°C)	194 (90)	
Fuel Filter @ 98% Efficiency--Microns	2	

Lubrication System

	1800 rpm	1500 rpm
Oil Press. at Rated Speed--psi (kPa)	45 (312)	42 (288)
Oil Press. at 1100 rpm Idle--psi (kPa)	36 (250)	

Sea Water System

	1800 rpm	1500 rpm
Pump Flow--gal/min (L/min)	103 (389)	86 (324)
Max. Inlet Restrict.--in. H_2O (kPa)	120 (30)	
Max. Outlet Pressure--psi (kPa)	20 (140)	
Max. Suction Lift--ft (m)	10 (3)	

Performance Data

	1800 rpm	1500 rpm
Rated 'Prime' Power--hp (kW)	488 (364)	412 (307)
10% Overload Eng. Pow.--hp (kW)	536 (400)	453 (338)
Low Idle Speed--rpm	1000	1000
Rated Torque--ft-lb (N•m)	1444 (1958)	1442 (1956)
BMEP--psi (kPa)	284 (1960)	284 (1960)
Friction Power @ Rated Speed--hp (kW)	31 (22.8)	21 (15.7)
Smoke @ Rated Speed--Bosch No.	<1.7	<1.4

Fuel Consumption

	1800 rpm	1500 rpm
Prime:		
25 % Power-- gal/hr (L/hr)	7.1 (26.9)	6.0 (22.6)
50 % Power-- gal/hr (L/hr)	12.4 (47.0)	10.3 (39.2)
75 % Power-- gal/hr (L/hr)	17.9 (67.7)	14.8 (55.9)
100 % Power-- gal/hr (L/hr)	23.8 (90.0)	19.7 (74.5)
10% Overload Power-- gal/hr (L/hr)	26.6 (100.9)	21.8 (82.6)

Data based on seawater aftercooled engine.
All values at rated speed and power with standard options unless otherwise noted.

* Revised Data

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June 2008