JOHN DEERE

ENGINE PERFORMANCE CURVE

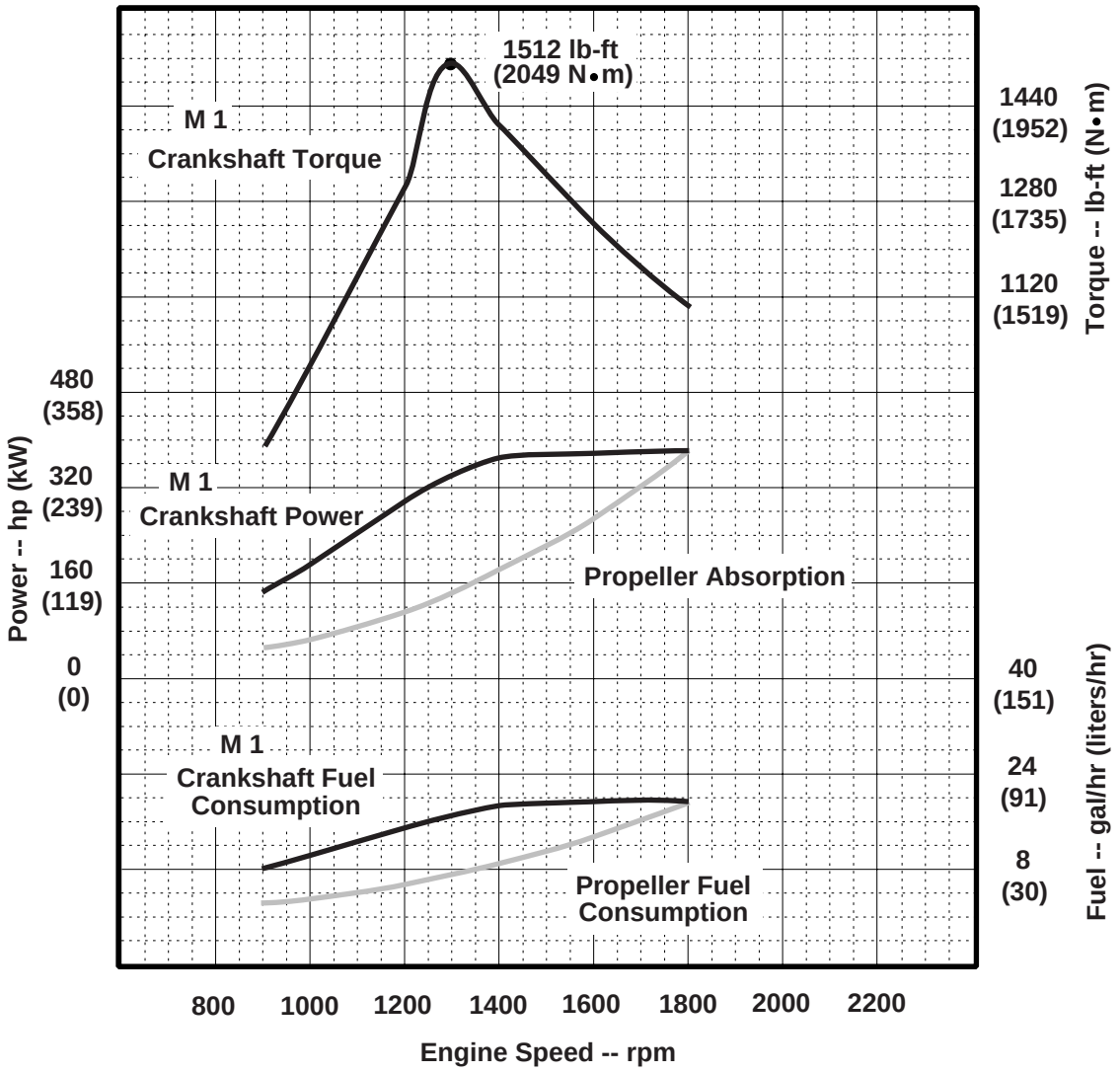
PowerTech 12.5 L Engine

Rating: M1 - 380 hp (283 kW) @ 1800 rpm

Model: **6125SFM75**

(Propeller Power is approximately 97% of Crankshaft Power)

Application: Marine



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:

Tier-2 Emission Certifications:	Certified by:
• **EPA Commercial Marine (40 CFR Part 94)** • **IMO Annex VI** • **EU 2004/26/EC** Ref: Engine Emission Label	Jennifer Barrett 12 April 2007

* Revised Data

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Common Specifications:

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
Engine Type ..... In-line, 4-Cycle
Aspiration ..... Turbocharged and Aftercooled
Aftercooling System ..... 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 (centerline to top)--in.(mm) 31.0 (786)
Height (centerline to bottom)--in.(mm) 14.3 (364)
Weight, dry--lb (kg) estimated 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

Minimum Ventilation Area--in^2 (m^2)..... 193.8 (0.125)
Maximum Allowable Air Temperature Rise
Ambient to Engine Inlet--°F (°C) 31 (17)
Engine Air Flow--ft^3/min (m^3/min) 720 (20.4)
Intake Manifold Pressure--psi (kPa)..... 14 (96)
Maximum Air Intake Restriction
Dirty Air Cleaner--in. H_2O (kPa)..... 25 (6.25)
Clean Air Cleaner--in. H_2O (kPa)..... 12 (3.0)

Engine Specification Data

Cooling System

Engine Radiated Heat--BTU/min (kW)..... 2009 (35.3)
Coolant Flow--gal/min (L/min)..... 90 (339)
Minimum Coolant Fill Rate--gal/min (L/min) 3.2 (12)
Thermostat Start to Open--°F (°C) 160 (71)
Thermostat Fully Open--°F (°C)..... 183 (84)
Maximum Top Tank Temperature--°F (°C) 212 (100)
Minimum Sea Water-to-Boil Temperature--°F (°C) .. 90 (32)
Recommended Pressure Cap--psi (kPa)..... 15 (100)
Engine Coolant Capacity--qt (L) 42 (40)

Electrical System

	12 Volt	24 Volt
Recommended Battery Capacity		
Cold Cranking Amps @ 32 °F (0 °C)--amp	1800	900
Max. Starting Circuit Resistance--Ohms	0.0012	0.002
Starter Rolling Current @ 32 °F (0 °C)--amp	1280	600

Exhaust System

Exhaust Temperature--°F (°C) 784 (418)
Exhaust Gas Flow--ft^3/min (m^3/min) 1670 (47)
Min. Exhaust Pipe Diameter, Dry--in.(mm) 6.0 (152)
Min. Exhaust Pipe Diameter, Wet--in.(mm) 8.0 (204)
Max. Allowable Back Pressure--in. H_2O (kPa) 30 (7.5)
Max. Weight on Turbocharger--lb (kg)..... 55 (25)

Fuel System

ECU Description ..... John Deere Electronic Control
Fuel Injection Pump ..... Unit Injectors
Governor Type ..... Electronic
Governor Regulation--percent ..... 0 to 5.7
Total Fuel Flow--lb/hr (kg/hr)..... 238 (108)
Total Fuel Flow--gal/hr (L/hr)..... 34 (127)
Min. Rec'd. Fuel Line ID--in.(mm)..... 0.31 (8)
Min. Rec'd. Fuel Line Size ..... -6
Fuel Consumption--lb/hr (kg/hr)..... 132 (60)
Fuel Consumption--gal/hr (L/hr)..... 18.5 (70.0)
Maximum Leak Off Line Pressure--psi (kPa)..... 11.5 (80)
Max. Fuel Transfer Pump Suction Lift--ft (m) fuel..... 10 (3)
Max. Fuel Inlet Restriction--in. H_2O (kPa) .....-120 (-30.0)
Max. Fuel Height Above Transfer Pump--ft (m)..... 10 (3)
Max. Fuel Inlet Temperature--°F (°C) 194 (90)
Fuel Filter Size @98% Efficiency--Micron 2

Lubrication System

Oil Pressure @ Rated Speed--psi (kPa)..... 46 (318)
Oil Pressure @ Low Idle--psi (kPa) 21 (146)

Sea Water System

Sea Water Pump Flow--gal/min (L/min)..... 113 (428)
Maximum Inlet Restriction---in. H_2O (kPa) 120 (30)
Maximum Outlet Pressure--psi (kPa)..... 29 (200)
Maximum Suction Lift--ft (m)..... 10 (3.0)

Performance Data

Rated Power--hp (kW) 380 (283)
Rated Power (Metric) Fuel @ 77 °F (25 °C)--PS 384.8
Rated Speed--rpm 1800
Rated Torque--lb-ft (N•m)..... 1107 (1501)
Peak Torque--lb-ft (N•m) 1512 (2049)
Peak Torque Speed--rpm..... 1300
Torque Rise--percent 39
Low Idle Speed--rpm 600
BMEP--psi (kPa) 218 (1503)
Smoke @ Rated Speed--Bosch No. 0.61

Fuel Consumption for Typical Propeller Curve

Engine rpm	Crank. Power hp (kW)	Crank. Torque lb-ft (N•m)	Prop. Absorption hp (kW)	Prop. Fuel gal/hr(L/hr)
1800	380 (283)	1107 (1501)	380 (283)	19.5 (73.7)
1600	378 (282)	1242 (1683)	267 (199)	13.7 (52.0)
1400	376 (280)	1410 (1911)	179 (133)	9.3 (35.2)
1300	374 (279)	1512 (2049)	143 (107)	7.5 (28.3)
1200	297 (221)	1299 (1761)	112 (84)	5.8 (21.9)
1000	192 (143)	1008 (1366)	65 (48)	3.4 (13.0)
900	148 (111)	865 (1173)	47 (35)	2.5 (9.6)

Data based on keel-cooled engine.
All values at rated speed and power with standard options unless otherwise noted.

* Revised Data
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