



JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Marine
 Application: Generator
 Prime Power

POWERTECH 12.5 L Engine
 Model: **6125AFM75**

402 hp (300 kW) @ 1800 rpm
N/A @ 1500 rpm

| Speed rpm (Hz) | Generator Efficiency % | Keel Cooled | | Power Factor | Calculated Gen-Set Rating | |
|-------------------|---------------------------|-------------|----|-----------------|---------------------------|---------|
| | | (no fan) | | | kW | kVA |
| 1500 (50) | ----- | -- | -- | --- | ----- | ----- |
| 1800 (60) | 88-92 | -- | -- | 0.8 | 264-276 | 330-345 |

Air Intake Restriction 12 in.H₂O (3 kPa)
 Exhaust Back Pressure 30 in.H₂O (7.5 kPa)

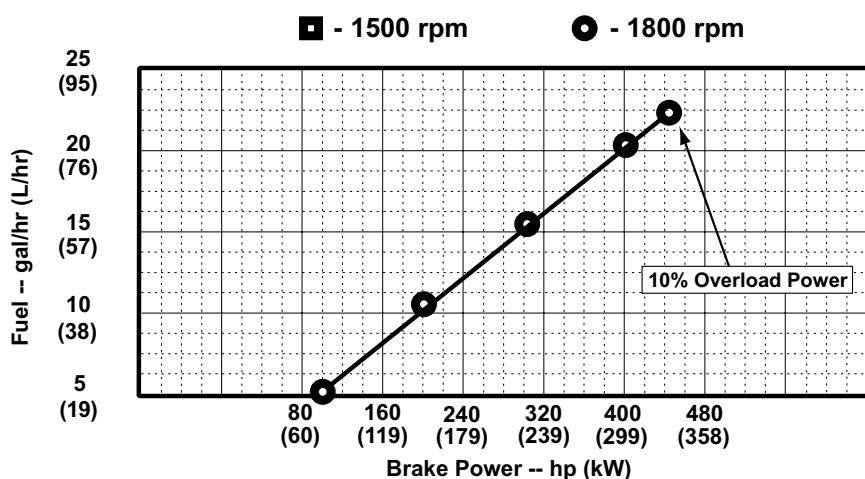
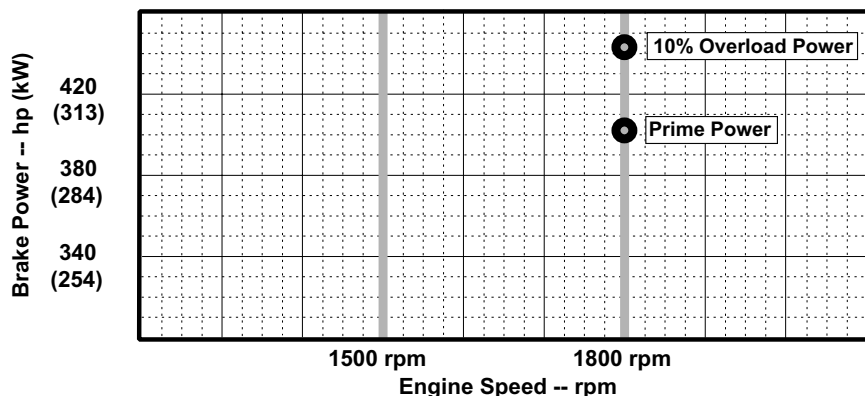
Gross power guaranteed within + or - 5% at SAE J1995 and ISO 8665 conditions:

- 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 Emission Certifications: | 1500 RPM Emission Certifications: |
|--|--------------------------------------|
| <ul style="list-style-type: none"> • EPA Commercial Marine (40 CFR Part 94) • IMO Annex VI | N/A |
| Ref: Engine Emission Label | Ref: Engine Emission Label |

Certified by:

NEAL LEPPER 27 APR 2004

* Revised Data
 Curve 6125AFM75402MG Sheet 1 of 2
 April 2004

Engine Specification Data

General Data

Model 6125AFM75
 Number of Cylinders 6
 Bore and Stroke--in.(mm)..... 5.00 x 6.50 (127 x 165)
 Displacement--in³ (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
 Charge Air Cooling System..... Engine Coolant
 Engine Crankcase Vent System Open
 Max. Crankcase Pressure--in. H₂O (kPa)2 (0.5)

Physical Data

(Includes Engine, Flywheel Housing, Flywheel & Electrics)
 Length--in.(mm)56.1 (1426)
 Width--in.(mm)33.5 (850)
 Height, Crank Center to Top--in. (mm).....30.5 (774)
 Height, Crank Center to Bottom--in. (mm) 14.3 (364)
 Weight, dry--lb (kg).....3142 (1425)
 Center of Gravity Location
 From Rear Face of Block (X-axis)--in. (mm) ...21.5 (546)
 Right of Crankshaft (Y-axis)--in. (mm).....0.9 (24)
 Above Crankshaft (Z-axis)--in. (mm).....9.1 (230)
 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 (m²)242(0.156).....
 Max. Allow. Temp Rise, Ambient Air to
 Engine Inlet--°F (°C)..... 30 (17).....
 Engine Air Flow--ft³/min (m³/min) .. 897 (25.4).....
 Intake Manifold Press.--psi (kPa) 25 (172).....
 Maximum Air Intake Restriction
 Dirty Air Cleaner--in. H₂O (kPa) ... 25 (6.25).....
 Clean Air Cleaner--in. H₂O (kPa) ... 12 (3.0).....

Cooling System

1800 rpm 1500 rpm

Eng. Heat Reject.--BTU/min (kW) . 18,044(317).....
 Eng. Radiat. Heat--BTU/min (kW) .. 2231(39.2).....
 Coolant Flow--gal/min (L/min)..... 90 (339).....
 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).....
 Min. Water Pump In. Press.--in. H₂O (kPa)00 (00)
 Rec'd. Pressure Cap--psi (kPa) 15 (100).....
 Max. Pres. Drop
 Across Keel Cooler--psi (kPa)..... 4 (30).....
 Engine Coolant Capacity--qt (L) 38 (36).....

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 Temperature--°F (°C) 743 (395).....
 Exhaust Gas Flow--ft³/min (m³/min) 2013 (57).....
 Min. Exhaust Pipe Dia. Dry--in. (mm) 5.0 (125).....
 Min. Exhaust Pipe Dia. Wet--in. (mm)6.0 (150).....
 Max. Allow. Back Press.--in. H₂O (kPa)30 (7.5).....
 Max. Weight on Turbo--lb (kg)55 (25.0).....

Fuel System

1800 rpm 1500 rpm

Fuel Injection Pump Unit Injectors.....
 Governor Type Electronic.....
 Governor Regulation..... Isochronous or Droop
 Total Fuel Flow--lb/hr (kg/hr)252 (114.3).....
 Total Fuel Flow--gal/hr (L/hr).....35 (134).....
 Min. Rec'd. Fuel Line ID--in. (mm).....0.25 (6.5)
 Min. Rec'd. Fuel Line Size -5
 Fuel Cons. 'Prime' --lb/hr (kg/hr) ... 145.5(66.0).....
 Fuel Cons. 'Prime' --gal/hr (L/hr) ...20.5 (77.6).....
 Max Leak-off Line Press.--psi (kPa) 12 (80)
 Max. Fuel Trans. Pump Suction--ft (m)..... 10 (3.0)
 Max. Fuel Inlet Restrict.--in. H₂O (kPa) -120 (-30)
 Max. Fuel Ht. Above Inj.Pump--ft (m) 10 (3.0)
 Max Leak-off Return Height--ft (m)8 (2.5)
 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)..40 (275).....
 Oil Press. at 1100 rpm Idle--psi (kPa) .20 (138).....

Sea Water System

1800 rpm 1500 rpm

Pump Flow--gal/min (L/min).....83 (314).....
 Max. Inlet Restrict.--in. H₂O (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) 402 (300).....
 10% Overload Eng. Pow.--hp (kW) 443 (330).....
 Low Idle Speed--rpm 1000.....
 Rated Torque--ft-lb (N•m)..... 1174 (1592).....
 BMEP--psi (kPa) 231 (1593).....
 Friction Power
 @ Rated Speed--hp (kW) 31 (22.8).....
 Smoke @ Rated Speed--Bosch No. <1.3.....

Fuel Consumption

1800 rpm 1500 rpm

Prime:
 25 % Power-- gal/hr (L/hr) 5.1 (19.1).....
 50 % Power-- gal/hr (L/hr) .. 10.7 (40.4).....
 75 % Power-- gal/hr (L/hr) .. 15.5 (58.8).....
 100 % Power-- gal/hr (L/hr) .. 20.5 (77.6).....
 10% Overload Power-- gal/hr (L/hr)22.4(84.9).....

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

* Revised Data
 Curve 6125AFM75402MG Sheet 2 of 2
 April 2004