



JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Marine
 Application: Generator
 Prime Power

POWERTECH 6.8 L Engine
 Model: **6068AFM75**

223 hp (166 kW) @ 1800 rpm
186 hp (139 kW) @ 1500 rpm

Speed rpm (Hz)	Generator Efficiency %	Keel Cooled		Power Factor	Calculated Gen-Set Rating	
		(no fan)			kW	kVA
1500 (50)	88-92	--	--	0.8	122-128	153-160
1800 (60)	88-92	--	--	0.8	146-153	183-191

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

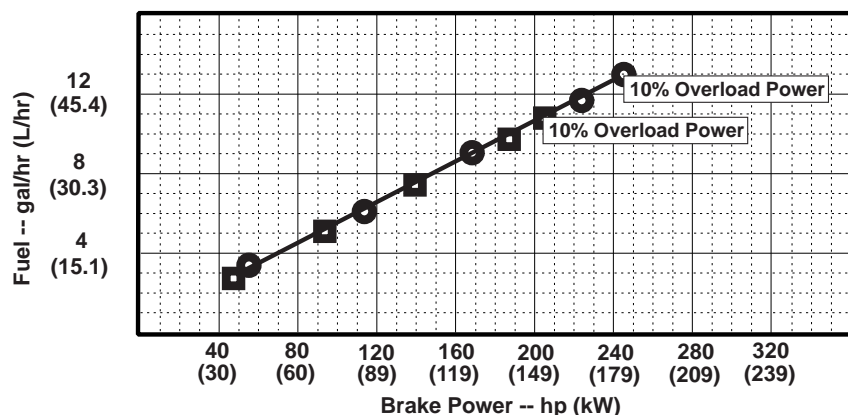
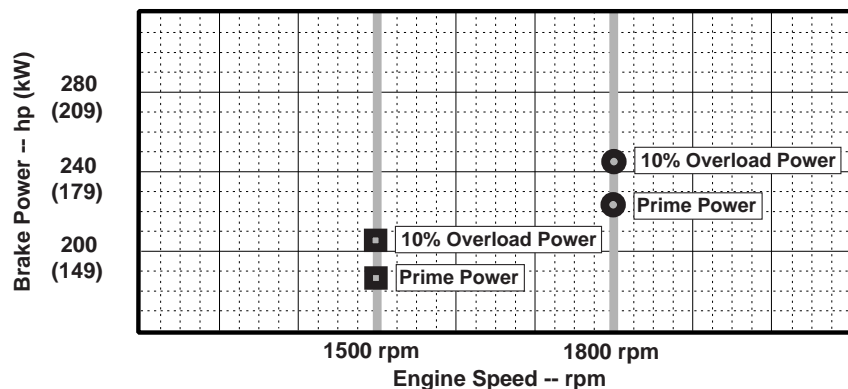
Gross power guaranteed within + or - 5% at SAE J1995 and ISO 8665 conditions:

- 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 / 1500 RPM
 Emission Certifications:**

- EPA Commercial Marine (40 CFR Part 94)
- IMO Annex VI

Ref: Engine Emission Label

Certified by:

**ADVANCE
 INFORMATION**

* Revised Data
 Curve 6068AFM75223MG Sheet 1 of 2
 March 2009

Engine Specification Data

General Data

Model 6068AFM75
 Number of Cylinders 6
 Bore and Stroke--in. (mm)..... 4.2 x 5.0 (107 x 127)
 Displacement--in.³ (L)415 (6.8)
 Compression Ratio 16.7 : 1
 Valves per Cylinder--Intake/Exhaust..... 2 / 2
 Firing Order..... 1-5-3-6-2-4
 Combustion System..... Direct Injection
 Engine Type..... In-line, 4-Cycle
 Aspiration..... Turbocharged and Aftercooled
 Aftercooler..... Engine Coolant
 Engine Crankcase Vent System Closed

Physical Data

Length--in. (mm)000 (000)
 Width--in. (mm)33.9 (860)
 Height, Crank Center to Top--in. (mm).....25.4 (645)
 Height, Crank Center to Bottom--in. (mm) 11.5 (292)
 Weight, dry--lb (kg).....1790 (812)
 (Includes flywheel housing, flywheel & electrics)
 Center of Gravity Location From
 Rear Face of Block (X-axis)--in. (mm)000 (000)
 Right of Crankshaft (Y-axis)--in. (mm).....000 (000)
 Above Crankshaft (Z-axis)--in. (mm).....000 (000)
 Max. Allow. Static Bending Moment at Rear Face
 of Flywhl Hsg w/ 5-G Load--lb-ft (N•m)600 (814)
 Thrust Brng. Load Limit (Forward)--lb (N)....900 (4003)
 Maximum Installation Angle
 Front up--degrees 000
 Front down--degrees.....000

Air System

1800 rpm 1500 rpm

Min. Ventilation Area--in.² (m²)147(0.095) ..100(0.065)
 Maximum Allowable Air Temperature Rise,
 Ambient to Engine Inlet--°F (°C)30 (17)30 (17)
 Engine Air Flow--ft³/min (m³/min) ...545 (15.4) ...364 (10.4)
 Intake Manifold Pressure--psi (kPa)....35 (238)24 (163)
 Maximum Air Intake Restriction
 Dirty Air Cleaner--in. H₂O (kPa)25 (6.25)25 (6.25)
 Clean Air Cleaner--in. H₂O (kPa)....12 (3.0) 12 (3.0)

Cooling System

1800 rpm 1500 rpm

Coolant Flow--gal/min (L/min).....53 (201) 44 (167)
 Min. Coolant Fill Rate--gal/min (L/min)3.2 (12)
 Thermostat Start to Open--°F (°C)180 (82)
 Thermostat Fully Open--°F (°C).....201 (94)
 Maximum Top Tank Temp--°F (°C)212 (100)
 Minimum Sea Water-to-Boil--°F (°C)90 (32)
 Rec'd. Pressure Cap--psi (kPa) 16 (110)
 Engine Coolant Capacity--qt (L)000 (00)

Electrical System

12 Volts 24 Volts

Recommended Battery Capacity
 CCA @ 32 °F (0 °C)--amp 800 570
 Max. Starting Circuit Resist.--Ohm 0.001 0.002
 Starter Rolling Current
 @ 32 °F (0 °C)--amp 920 600

Exhaust System

1800 rpm 1500 rpm

Exhaust Gas Flow--ft³/min (m³/min)1148 (32.5) .858 (24.3)
 Exhaust Temperature--°F (°C)709 (376) ... 822 (439)
 Min. Exhaust Pipe Dia. Dry--in. (mm)4.0 (102)
 Min. Exhaust Pipe Dia. Wet--in. (mm)6.0 (152)
 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

ECU DescriptionJohn Deere Electronic Controls
 Fuel Injection PumpDenso HP3
 Governor Type Electronic
 Governor Regulation--percentIsochronous or Droop
 Total Fuel Flow--lb/hr (kg/hr).....284 (129) 267 (121)
 Total Fuel Flow--gal/hr (L/hr).....40 (152) 38 (142)
 Min. Rec'd. Fuel Line ID--in. (mm).....0.31 (8)
 Min. Rec'd. Fuel Line Size-6
 Fuel Cons. 'Prime' --lb/hr (kg/hr)....83.5 (37.9) ..66.4 (30.1)
 Fuel Cons. 'Prime' --gal/hr (L/hr) ... 11.8 (44.6) 9.8 (51.1)
 Max. Fuel Inlet Restrict.--in. H₂O (kPa)80 (20)
 Max. Fuel Inlet Temp. w/o derate--°F (°C) ...176 (80)
 Fuel Filter @ 98% Efficiency--Microns..... 2

Lubrication System

1800 rpm 1500 rpm

Oil Press. at Rated Speed--psi (kPa) ..44 (300) 41 (280)
 Oil Pressure at Low Idle--psi (kPa) 36 (250)

Sea Water System

1800 rpm 1500 rpm

Sea Water Pump Flow--gal/min (L/min)40 (151) ...33 (126)
 Max. Inlet Restriction--in. H₂O (kPa) 120 (30)
 Max. Outlet Press--psi (kPa).....24 (165)
 Max. Suction Lift--ft (m) 10 (3.0)

Performance Data

1800 rpm 1500 rpm

Rated 'Prime' Power--hp (kW)223 (166) 186 (139)
 10% Overload Eng. Power--hp (kW)245 (183) 205 (153)
 Low Idle Speed--rpm 11501150
 Rated Torque--ft-lb (N•m).....650 (881) 653 (885)
 BMEP--psi (kPa)236 (1627) .. 231 (1635)
 Friction Power @
 Rated Speed--hp (kW).....23 (17) 17 (13)
 Smoke @ Rated Speed--Bosch No.<1.4 <1.4

Fuel Consumption

1800 rpm 1500 rpm

Prime:
 25 % Power-- gal/hr (L/hr)3.4 (12.9) 2.8 (10.6)
 50 % Power-- gal/hr (L/hr)6.2 (23.5) 5.1 (19.4)
 75 % Power-- gal/hr (L/hr)9.0 (34.0) 7.5 (28.3)
 100 % Power-- gal/hr (L/hr) ... 11.8 (44.6) 9.8 (37.1)
 10% Overload
 Power-- gal/hr (L/hr).....13.0 (49.3) .. 10.9 (41.3)

ADVANCE
INFORMATION

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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 March 2009