



JOHN DEERE

**ENGINE PERFORMANCE CURVE**

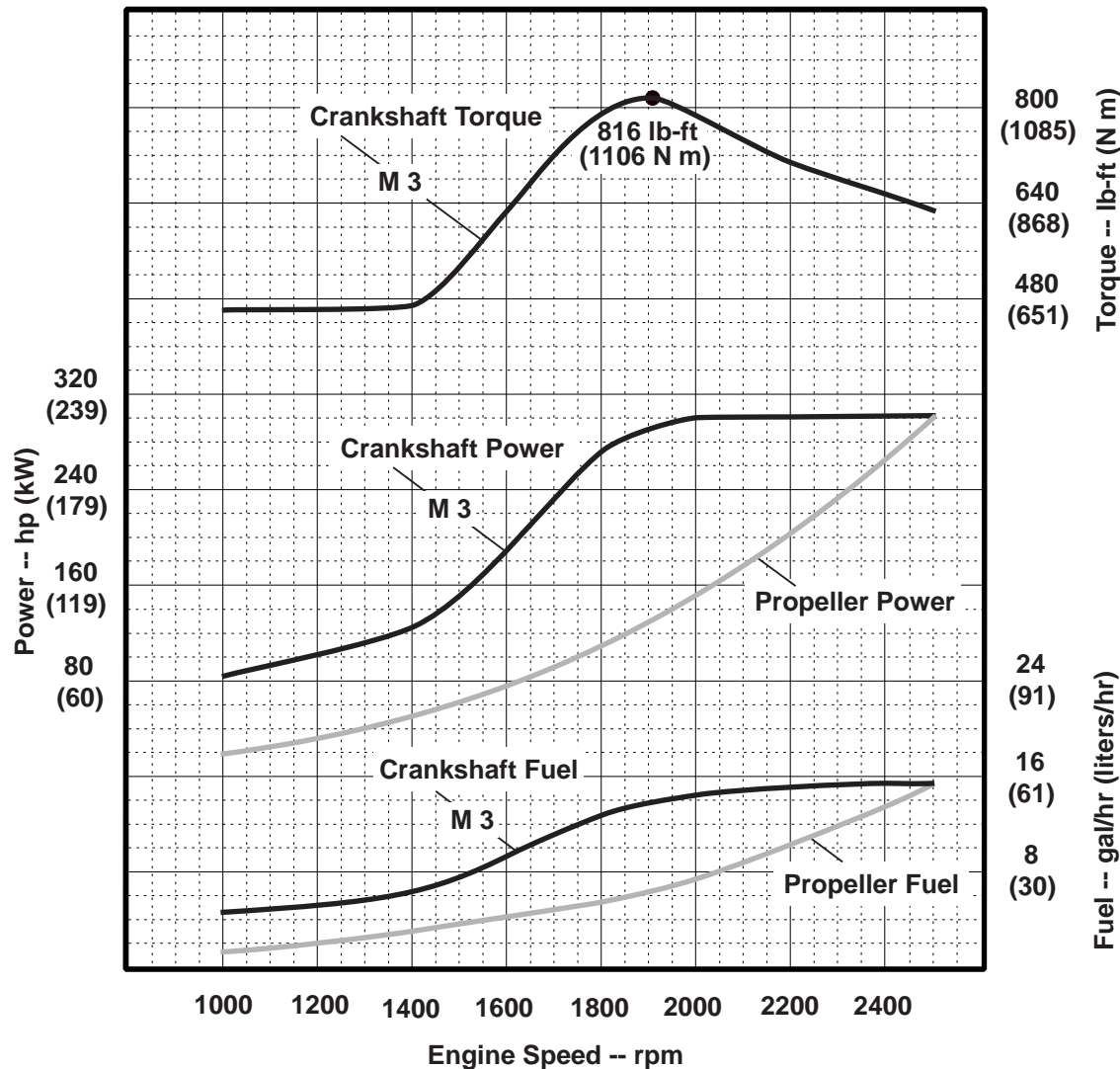
Rating: M3 - 300 hp (224 kW) @ 2500 rpm

**PowerTech 6.8 L Engine**

Model: **6068AFM75**

(Propeller Power is approximately 97% of Crankshaft Power)

Application: Marine



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 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

**Advance Information**

\* Revised Data  
 Curve: 6068AFM75300M3..... Sheet 1 of 2  
 January 2009

## Engine Installation Criteria

### General Data

Model .....	6068AFM75
Number of Cylinders .....	6
Bore and Stroke--in.(mm).....	4.19 x 5.00 (106.5 x 127)
Displacement--in <sup>3</sup> (L) .....	414 (6.8)
Compression Ratio .....	16.7 : 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 .....	Engine Coolant
Engine Crankcase Vent System .....	Closed
Maximum Crankcase Pressure--in. H <sub>2</sub> O (kPa) .....	2 (0.5)

### Physical Data

(Includes Engine, Flywheel Housing, Flywheel & Electrics)

Length--in.(mm) .....	40.2 (1021)
Width--in.(mm) .....	33.9 (860)
Height (centerline to top)--in.(mm) .....	25.4 (645)
Height (centerline to bottom)--in.(mm) .....	11.5 (292)
Weight, dry--lb (kg).....	1790 (812)
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 Bearing Load Limit (Forward)--lb (N) .....	900 (4003)
Maximum Installed Angle	
Front Up--degrees.....	9
Front Down--degrees .....	0

### Air System

Minimum Ventilation Area--in <sup>2</sup> (m <sup>2</sup> ).....	176 (0.114)
Maximum Allowable Air Temperature Rise	
Ambient to Engine Inlet--°F (°C) .....	30 (17)
Engine Air Flow--ft <sup>3</sup> /min (m <sup>3</sup> /min) .....	653 (18.5)
Intake Manifold Pressure--psi (kPa).....	28 (144)
Maximum Air Intake Restriction	
Dirty Air Cleaner--in. H <sub>2</sub> O (kPa).....	25 (6.25)
Clean Air Cleaner--in. H <sub>2</sub> O (kPa).....	12 (30)

### Cooling System

Engine Heat Rejection--BTU/min (kW) .....	11,658 (205)
Engine Radiated Heat--BTU/min (kW).....	1137 (20)
Coolant Flow--gal/min (L/min).....	73 (275)
Minimum Coolant Fill Rate--gal/min (L/min) .....	3 (12)
Thermostat Start to Open--°F (°C) .....	180 (82)
Thermostat Fully Open--°F (°C).....	202 (94)
Maximum Top Tank Temperature--°F (°C) .....	212 (100)
Minimum Sea Water-to-Boil Temperature--°F (°C) ..	90 (32)
Min. Water Pump Inlet Pressure--in. H <sub>2</sub> O (kPa) .....	00 (00)
Recommended Pressure Cap--psi (kPa).....	16 (110)
Max. Pressure Drop Across Keel Cooler--psi (kPa) ..	6 (40)
Engine Coolant Capacity--qt (L) .....	20 (19)

### Electrical System

Recommended Battery Capacity		<b>12 Volt</b> <b>24 Volt</b>
Cold Cranking Amps @ 32 °F (0 °C)--amp..800 .....	570	
Max. Starting Circuit Resistance--Ohms .....	0.0012 ... 0.002	
Starter Rolling Current @ 32 °F (0 °C)--amp .....	950	600

### Exhaust System

Exhaust Temperature--°F (°C) .....	730 (388)
Exhaust Gas Flow--ft <sup>3</sup> /min (m <sup>3</sup> /min) .....	1395 (39.5)
Min. Exhaust Pipe Diameter, Dry--in.(mm) .....	4.0 (101.6)
Min. Exhaust Pipe Diameter, Wet--in.(mm) .....	6.0 (152.4)
Max. Allowable Back Pressure--in. H <sub>2</sub> O (kPa) .....	30 (7.5)
Max. Weight on Turbocharger--lb (kg) .....	55 (25)

### Fuel System

ECU Description .....	John Deere Electronic Control
Fuel Injection Pump .....	Denso HPCR
Governor Type .....	Electronic
Governor Regulation--percent .....	0 to 4.8
Total Fuel Flow--lb/hr (kg/hr) .....	255 (116)
Total Fuel Flow--gal/hr (L/hr).....	36 (138)
Min. Rec'd. Fuel Line ID--in.(mm).....	0.31 (8)
Min. Rec'd. Fuel Line Size .....	-6
Fuel Consumption--lb/hr (kg/hr) .....	108 (49.0)
Fuel Consumption--gal/hr (L/hr).....	15.5 (58.5)
Max. Fuel Inlet Restriction--in. H <sub>2</sub> O (kPa) .....	80 (20)
Max. Fuel Inlet Temperature--°F (°C) .....	176 (80)
Fuel Filter Size @98% Efficiency--Micron .....	2

### Lubrication System

Oil Pressure @ Rated Speed--psi (kPa).....	51 (349)
Oil Pressure @ Low Idle--psi (kPa) .....	20 (138)

### Sea Water System

Sea Water Pump Flow--gal/min (L/min).....	51 (193)
Maximum Inlet Restriction--in. H <sub>2</sub> O (kPa) .....	120 (30)
Maximum Outlet Pressure--psi (kPa).....	24 (165)
Maximum Suction Lift--ft (m).....	10 (3)

### Performance Data

Performance Option Codes .....	72C4 / 72C5
Rated Power--hp (kW) .....	300 (224)
Rated Power (Metric) Fuel @ 77 °F (25 °C)--PS .....	304
Rated Speed--rpm .....	2500
Rated Torque--lb-ft (N•m).....	631 (856)
Peak Torque--lb-ft (N•m).....	816 (1106)
Peak Torque Speed--rpm.....	1900
Torque Rise--percent .....	29
Low Idle Speed--rpm .....	600
BMEP--psi (kPa) .....	230 (1584)
Smoke @ Rated Speed--Bosch No. ....	0.71

### 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)
2500	300 (224)	631 (856)	301 (224)	15.3 (57.8)
2400	300 (224)	657 (891)	266 (198)	13.5 (51.2)
2200	300 (224)	717 (972)	205 (153)	10.3 (38.9)
2000	300 (224)	789 (1070)	154 (115)	7.9 (30.1)
1900	295 (220)	816 (1106)	132 (98)	6.7 (25.5)
1800	274 (204)	798 (1082)	112 (84)	5.8 (21.9)
1600	193 (144)	632 (857)	79 (59)	4.1 (15.6)
1400	125 (93)	470 (637)	53 (39)	2.9 (10.9)
1200	106 (79)	463 (627)	33 (25)	1.9 (7.2)
1000	81 (60)	423 (574)	19 (14)	1.2 (4.4)

Advance  
Information

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

\* Revised Data  
Curve: 6068AFM75300M3 ..... Sheet 2 of 2  
January 2009