



JOHN DEERE

ENGINE PERFORMANCE CURVE

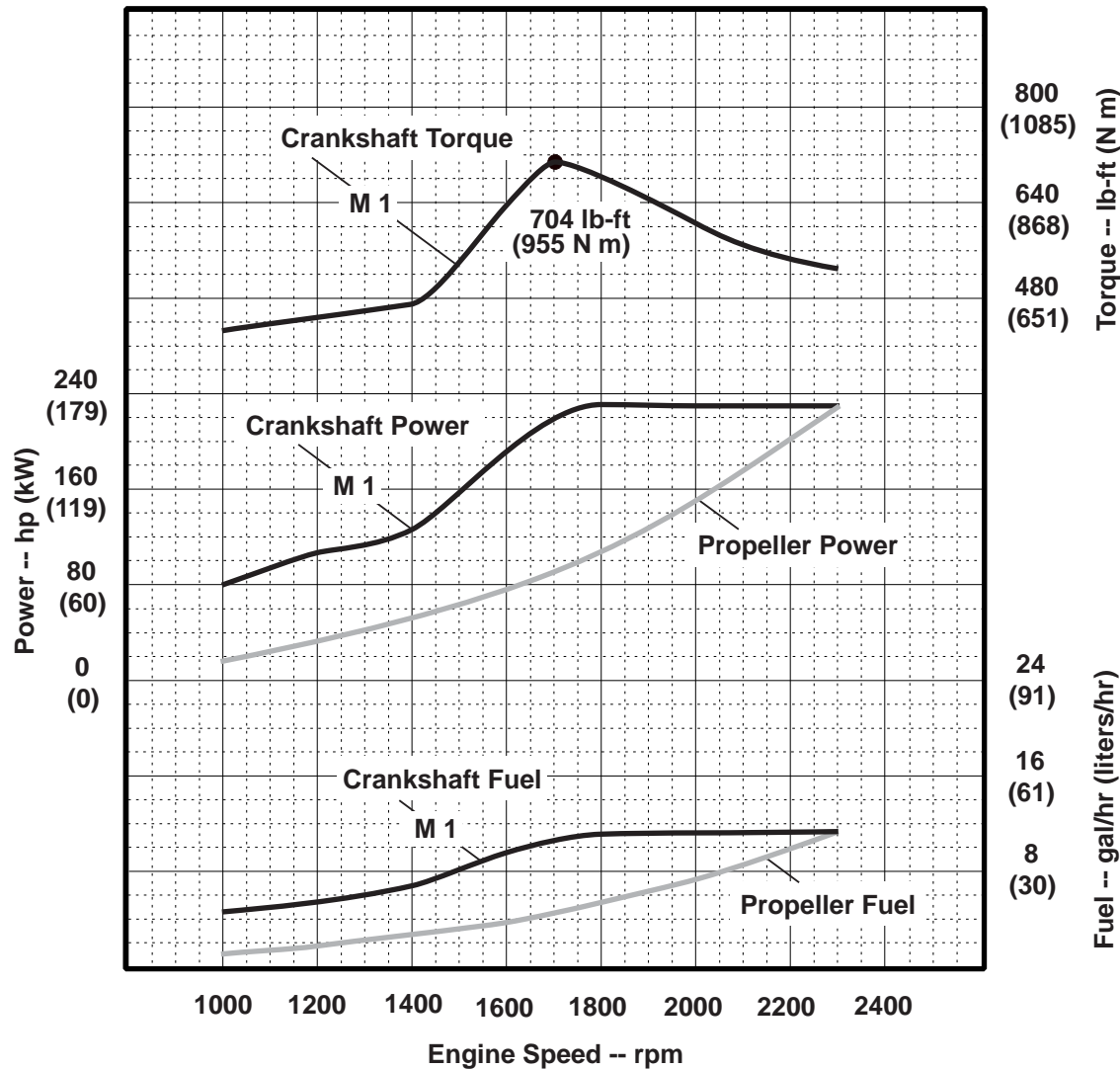
Rating: M1 - 230 hp (172 kW) @ 2300 rpm

PowerTech 6.8 L Engine

Model: **6068AFM75**

(Propeller Power is approximately 97% of Crankshaft Power)

Application: Marine



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:

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: 6068AFM75230M1..... 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--in³ (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. H₂O (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--in² (m²)..... 137 (0.088)
 Maximum Allowable Air Temperature Rise
 Ambient to Engine Inlet--°F (°C) 30 (17)
 Engine Air Flow--ft³/min (m³/min) 509 (144)
 Intake Manifold Pressure--psi (kPa)..... 20 (139)
 Maximum Air Intake Restriction
 Dirty Air Cleaner--in. H₂O (kPa)..... 25 (6.25)
 Clean Air Cleaner--in. H₂O (kPa)..... 12 (30)

Cooling System

Engine Heat Rejection--BTU/min (kW) 8587 (151)
 Engine Radiated Heat--BTU/min (kW)..... 853 (15)
 Coolant Flow--gal/min (L/min)..... 67 (253)
 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. H₂O (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

12 Volt 24 Volt

Recommended Battery Capacity
 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) 727 (386)
 Exhaust Gas Flow--ft³/min (m³/min) 1081 (31)
 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. H₂O (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 5.2
 Total Fuel Flow--lb/hr (kg/hr) 194 (88)
 Total Fuel Flow--gal/hr (L/hr)..... 28 (105)
 Min. Rec'd. Fuel Line ID--in.(mm)..... 0.31 (8)
 Min. Rec'd. Fuel Line Size -6
 Fuel Consumption--lb/hr (kg/hr) 82 (37.0)
 Fuel Consumption--gal/hr (L/hr)..... 11.7 (44.0)
 Max. Fuel Inlet Restriction--in. H₂O (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) 50 (345)
 Oil Pressure @ Low Idle--psi (kPa) 20 (138)

Sea Water System

Sea Water Pump Flow--gal/min (L/min)..... 47 (178)
 Maximum Inlet Restriction--in. H₂O (kPa) 120 (30)
 Maximum Outlet Pressure--psi (kPa)..... 24 (165)
 Maximum Suction Lift--ft (m)..... 10 (3)

Performance Data

Performance Option Codes 72B9 / 72C1
 Rated Power--hp (kW) 230 (172)
 Rated Power (Metric) Fuel @ 77 °F (25 °C)--PS 233
 Rated Speed--rpm 2300
 Rated Torque--lb-ft (N•m)..... 525 (712)
 Peak Torque--lb-ft (N•m)..... 704 (955)
 Peak Torque Speed--rpm..... 1700
 Torque Rise--percent 34
 Low Idle Speed--rpm 600
 BMEP--psi (kPa) 191 (1318)
 Smoke @ Rated Speed--Bosch No. 0.8

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)
2300	230 (172)	527 (714)	231 (172)	11.5 (43.7)
2200	230 (172)	552 (749)	202 (150)	10.1 (38.3)
2000	230 (172)	606 (821)	152 (113)	7.6 (28.9)
1800	230 (172)	673 (913)	110 (82)	5.6 (21.2)
1700	228 (170)	704 (955)	93 (69)	4.8 (18.0)
1600	193 (144)	632 (857)	78 (58)	4.0 (15.3)
1400	125 (93)	470 (637)	52 (39)	2.9 (10.9)
1200	106 (79)	462 (627)	33 (24)	1.9 (7.3)
1000	80 (60)	423 (573)	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
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