



JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: M2 - 208 hp (155 kW) @ 2300 rpm

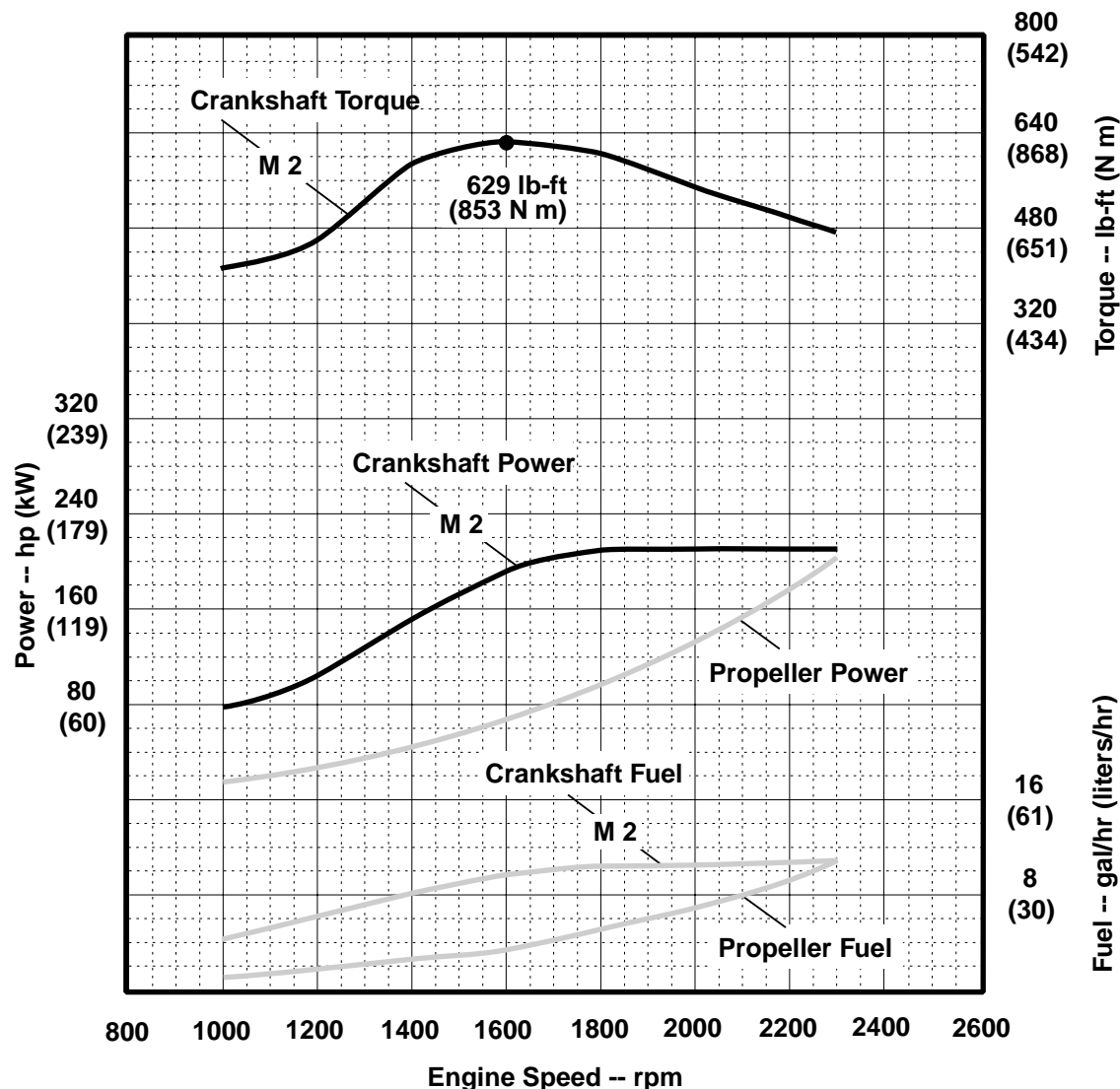
Application: Marine

PowerTech 6.8 L Engine

Model: **6068SFM50**

[See Option Code Table]

(Propeller Shaft Power Based on 97% Marine Gear Efficiency)



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:

- EPA Commercial Marine (40 CFR Part 94)
 - IMO Annex VI
- Ref: Engine Emission Label

Certified by:

NEAL LEEPER
22 APR 2004

* Revised Data

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Common Specifications:

General Data

Model 6068SFM50
 Number of Cylinders 6
 Bore and Stroke--in.(mm)..... 4.19 x 5.00 (106 x 127)
 Displacement--in³ (L)414 (6.8)
 Compression Ratio 17.0 : 1
 Valves per Cylinder -- Intake / Exhaust..... 1 / 1
 Firing Order..... 1-5-3-6-2-4
 Combustion System..... Direct Injection
 Engine Type In-line, 4-Cycle
 Aspiration Turbocharged
 Aftercooling System Seawater

Physical Data

(Includes Engine, Flywheel Housing, Flywheel & Electrics)
 Length--in.(mm) 46.6 (1183)
 Width--in.(mm) 28.4 (721)
 Height--in.(mm) 36.5 (926)
 Height (centerline to top)--in.(mm) 24.4 (619)
 Height (centerline to bottom)--in.(mm) 12.9 (327)
 Center of Gravity Location
 From Rear Face of Block (X-axis)--in.(mm) 16.9 (430)
 Right of Crankshaft (Y-axis)--in.(mm)..... 2.0 (50)
 Above Crankshaft (Z-axis)--in.(mm)..... 8.9 (225)
 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..... 15
 Front Down--degrees 0

Air System

Minimum Ventilation Area--in² (m²)..... 180 (0.12)
 Maximum Allowable Air Temperature Rise
 Ambient to Engine Inlet--°F (°C) 160 (71)
 Engine Air Flow--ft³/min (m³/min) 448 (12.7)
 Intake Manifold Pressure--psi (kPa)..... 13 (91.6)
 Maximum Air Intake Restriction
 Dirty Air Cleaner--in. H₂O (kPa)..... 25 (6.3)
 Clean Air Cleaner--in. H₂O (kPa)..... 12 (3.0)

Engine Specification Data

Cooling System

Minimum Coolant Fill Rate--gal/min (L/min) 3 (11)
 Thermostat Start to Open--°F (°C) 176 (80)
 Thermostat Fully Open--°F (°C)..... 201 (94)
 Maximum Top Tank Temperature--°F (°C) 212 (100)
 Minimum Water-to-Boil Temperature--°F (°C)..... 201 (94)
 Recommended Pressure Cap--psi (kPa)..... 1 (10)
 Engine Coolant Capacity--qt (L) 30 (28)

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 920 600

Exhaust System

Exhaust Gas Flow--ft³/min (m³/min) 958 (27.1)
 Exhaust Temperature--°F (°C) 725 (385)
 Maximum Back Pressure--in. H₂O (kPa) 30 (7.5)
 Maximum Weight on Turbocharger--lb (kg) 55 (25)
 Rec'd Minimum Exhaust Outlet Diameter--in.(mm)
 Dry 3.5 (90)
 Wet..... 4.0 (101)

Fuel System

Fuel Injection Pump Bosch VP-44
 Governor Type Electronic
 Governor Regulation--percent 4
 Total Fuel Flow--gal/hr (L/hr)..... 42 (160.1)
 Minimum Hose ID--in. (mm)..... 0.27 (7)
 Minimum Fuel Supply and Return Hose Size -5
 Fuel Consumption--gal/hr (L/hr)..... 10.6 (40.1)
 Maximum Leak Off Line Pressure--psi (kPa) 2 (14)
 Max. Fuel Transfer Pump Suction Lift--ft (m) fuel..... 3 (0.9)
 Max. Fuel Inlet Pressure--psi (kPa) 4 (30)
 Max. Fuel Height Above Transfer Pump--ft (m) 4.6 (1.4)
 Max. Fuel Inlet Temperature--°F (°C) 167 (75)
 Fuel Filter Size @ 98% Efficiency--Micron 5

Lubrication System

Oil Pressure @ Rated Speed--psi (kPa)..... 56 (385)
 Oil Pressure @ Low Idle--psi (kPa) 15 (105)

Sea Water System

Sea Water Pump Flow--gal/min (L/min)..... 54 (205)
 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 72GB / 72GC
 Rated Power--hp (kW) 208 (155)
 Rated Power (Metric), Fuel @ 77 °F (25 °C)--PS 211
 Rated Speed--rpm 2300
 Rated Torque--lb-ft (N•m)..... 475 (644)
 Peak Torque--lb-ft (N•m) 629 (853)
 Peak Torque Speed--rpm..... 1600
 Torque Rise--percent 32.5
 Low Idle Speed--rpm 650
 BMEP--psi (kPa) 172 (1189)

Fuel Consumption for Typical Propeller Curve

Engine rpm	Crank Power hp (kW)	Crank Torque lb-ft (N•m)	Prop Power hp (kW)	Prop Fuel gal/hr(L/hr)
2300	208 (155)	475 (644)	202 (150)	10.6 (40.1)
2200	208 (155)	496 (673)	177 (132)	9.2 (34.9)
2100	208 (155)	520 (705)	154 (115)	7.9 (29.9)
2000	208 (155)	546 (740)	133 (99)	6.9 (26.2)
1900	208 (155)	575 (779)	114 (85)	5.9 (22.4)
1800	206 (154)	601 (815)	97 (72)	5.0 (18.8)
1700	202 (151)	624 (846)	81 (61)	4.3 (16.2)
1600	192 (143)	629 (853)	68 (51)	3.6 (13.5)
1400	158 (118)	592 (802)	46 (34)	2.5 (9.4)
1200	106 (79)	465 (630)	29 (21)	1.6 (6.2)
1000	79 (59)	415 (562)	17 (12)	1.0 (3.9)

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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