



JOHN DEERE

ENGINE PERFORMANCE CURVE

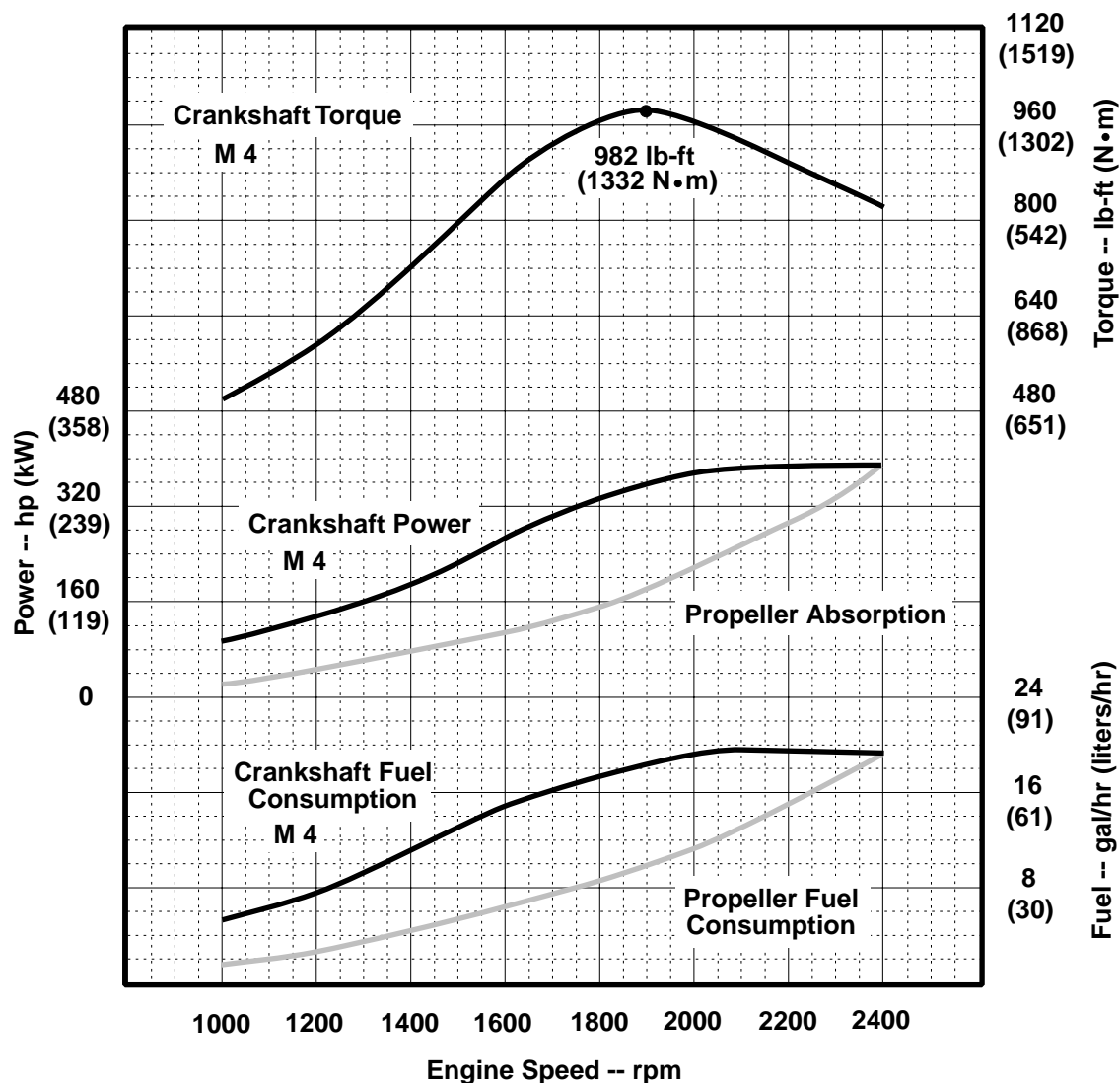
Rating: M4 - 375 hp (280 kW) @ 2400 rpm

PowerTech 8.1 L Engine

Model: **6081AFM75**

(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:
<ul style="list-style-type: none"> EPA Commercial Marine (40 CFR Part 94) IMO Annex VI Ref: Engine Emission Label	<i>NEAL CLEPER</i> <i>4 MAR 04</i>

* Revised Data
 Curve: 6081AFM75375M4..... Sheet 1 of 2
 March 2004

Common Specifications:

General Data

Model	6081AFM75
Number of Cylinders	6
Bore and Stroke--in.(mm).....	4.6 x 5.1 (116 x 129)
Displacement--in ³ (L)	497 (8.1)
Compression Ratio	15.7 : 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 and Aftercooled
Aftercooling System.....	Engine Coolant
Engine Crankcase Vent System	Open
Maximum Crankcase Pressure--in. H ₂ O (kPa)	2 (0.5)

Physical Data

(Includes Engine, Flywheel Housing, Flywheel & Electrics)	
Length--in.(mm)	51.1 (1299)
Width--in.(mm)	31.0 (787)
Height (centerline to top)--in.(mm)	27.0 (687)
Height (centerline to bottom)--in.(mm)	12.5 (318)
Weight, dry--lb (kg).....	1881 (853)
Center of Gravity Location	
From Rear Face of Block (X-axis)--in.(mm)	21.5 (546)
Right of Crankshaft (Y-axis)--in.(mm).....	-3.5 (-87.9)
Above Crankshaft (Z-axis)--in.(mm).....	7.0 (179)
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)	1950 (8673)
Maximum Installed Angle (High-mount turbo)*	
Front Up--degrees.....	12
Front Down--degrees.....	0
Maximum Installed Angle (Low-mount turbo)*	
Front Up--degrees.....	8
Front Down--degrees.....	0

Air System

Minimum Ventilation Area--in ² (m ²).....	215.5 (0.139)
Maximum Allowable Air Temperature Rise	
Ambient to Engine Inlet--°F (°C)	30 (17)
Engine Air Flow--ft ³ /min (m ³ /min)	795 (22.5)
Intake Manifold Pressure--psi (kPa).....	32 (220)
Maximum Air Intake Restriction	
Dirty Air Cleaner--in. H ₂ O (kPa).....	25 (6.25)
Clean Air Cleaner--in. H ₂ O (kPa).....	12 (3.0)

Engine Installation Criteria

Cooling System

Engine Heat Rejection--BTU/min (kW)	12,978 (228)
Engine Radiated Heat--BTU/min (kW).....	2106 (37)
Coolant Flow--gal/min (L/min).....	76 (288)
Minimum Coolant Fill Rate--gal/min (L/min)	3.2 (12)
Thermostat Start to Open--°F (°C)	160 (71)
Thermostat Fully Open--°F (°C).....	183 (84)
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 ₂ O (kPa)	00 (00)
Recommended Pressure Cap--psi (kPa).....	10 (70)
Max. Pressure Drop Across Keel Cooler--psi (kPa) ..	6 (40)
Engine Coolant Capacity--qt (L)	26.4 (24)

Electrical System

Recommended Battery Capacity	12 Volt 24 Volt
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).....	822 (439)
Exhaust Gas Flow--ft ³ /min (m ³ /min)	1900 (54)
Min. Exhaust Pipe Diameter, Dry--in.(mm)	5.5 (140)*
Min. Exhaust Pipe Diameter, Wet--in.(mm)	6.0 (150)*
Max. Allowable Back Pressure--in. H ₂ 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 5
Total Fuel Flow--lb/hr (kg/hr)	831 (377)
Total Fuel Flow--gal/hr (L/hr).....	117 (444)
Min. Rec'd. Fuel Line ID--in.(mm).....	0.45 (11.5)*
Min. Rec'd. Fuel Line Size	-10*
Fuel Consumption--lb/hr (kg/hr).....	136.5 (61.9)
Fuel Consumption--gal/hr (L/hr).....	19.2 (72.8)
Maximum Leak Off Line Pressure--psi (kPa)	8.7 (60)
Max. Fuel Transfer Pump Suction Lift--ft (m) fuel...	10 (3.0)
Max. Fuel Inlet Restriction--in. H ₂ O (kPa)	-120 (-30.0)
Max. Fuel Inlet Pressure--psi (kPa)	13.8 (95.0)
Max. Fuel Height Above Transfer Pump--ft (m)	10 (3.0)
Max. Fuel Inlet Temperature--°F (°C)	149 (65)
Fuel Filter Size @98% Efficiency--Micron	2

Lubrication System

Oil Pressure @ Rated Speed--psi (kPa).....	50 (345)
Oil Pressure @ Low Idle--psi (kPa)	15 (105)

Sea Water System

Sea Water Pump Flow--gal/min (L/min).....	57 (217)
Maximum Inlet Restriction--in. H ₂ O (kPa)	120 (30)
Maximum Outlet Pressure--psi (kPa).....	20 (140)
Maximum Suction Lift--ft (m).....	10 (3.0)

Performance Data

Performance Option Codes	72D1 / 72D2
Rated Power--hp (kW)	375 (280)
Rated Power (Metric) Fuel @ 77 °F (25 °C)--PS	237.9
Rated Speed--rpm	2400
Rated Torque--lb-ft (N•m).....	822 (1114)
Peak Torque--lb-ft (N•m).....	982 (1332)
Peak Torque Speed--rpm.....	1900
Torque Rise--percent	19
Low Idle Speed--rpm	600
BMEP--psi (kPa)	250 (1721)
Smoke @ Rated Speed--Bosch No.	<1.5
Noise--dB(A) @ 1 m	NA

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)
2400	375 (280)	822 (1114)	375 (280.0)	19.3 (72.9)
2300	375 (280)	857 (1163)	330 (246.4)	17.0 (64.3)
2200	375 (280)	896 (1215)	289 (215.7)	14.9 (56.4)
2100	375 (280)	939 (1273)	252 (187.6)	13.0 (49.1)
2000	371 (277)	975 (1323)	217 (162.0)	11.3 (42.7)
1900	355 (265)	982 (1332)	186 (138.9)	9.8 (37.1)
1800	334 (249)	974 (1321)	158 (118.1)	8.5 (32.0)
1600	266 (198)	872 (1182)	111 (83.0)	6.2 (23.5)
1400	192 (143)	719 (975)	75 (55.6)	4.2 (15.8)
1200	135 (101)	593 (804)	47 (35.0)	2.7 (10.1)
1000	95 (71)	500 (678)	27 (20.3)	1.6 (6.2)

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 2004