JOHN DEERE

ENGINE PERFORMANCE CURVE

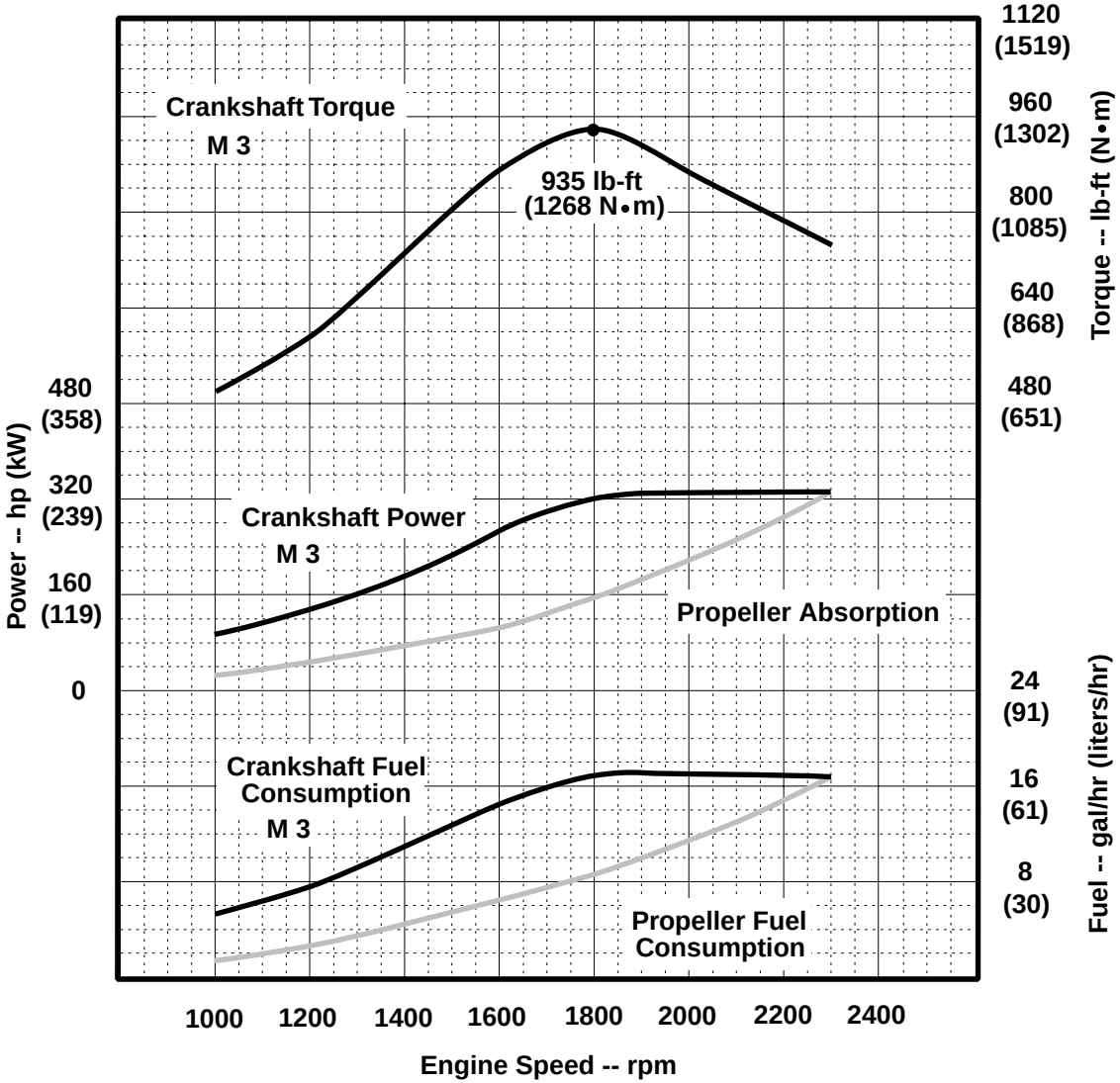
PowerTech 8.1 L Engine

Rating: M3 - 330 hp (246 kW) @ 2300 rpm

Model: **6081AFM75**

(Propeller Power is approximately 97% of Crankshaft Power)

Application: Marine



Air Intake Restriction ..... 12 in.H_2O (3 kPa)
Exhaust Back Pressure ..... 30 in.H_2O (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** Ref: Engine Emission Label	NEAL LEEPER 4MAR04

* Revised Data

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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_2O (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)..... 186.0 (0.120)
Maximum Allowable Air Temperature Rise Ambient to Engine Inlet--°F (°C) 30 (17)
Engine Air Flow--ft^3/min (m^3/min) 692 (19.6)
Intake Manifold Pressure--psi (kPa)..... 26 (180)
Maximum Air Intake Restriction
Dirty Air Cleaner--in. H_2O (kPa)..... 25 (6.25)
Clean Air Cleaner--in. H_2O (kPa)..... 12 (3.0)

Engine Installation Criteria

Cooling System

Engine Heat Rejection--BTU/min (kW) 11,327 (199)
Engine Radiated Heat--BTU/min (kW)..... 1821 (32)
Coolant Flow--gal/min (L/min)..... 73 (276)
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_2O (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

	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) 810 (432)
Exhaust Gas Flow--ft^3/min (m^3/min) 1635 (46)
Min. Exhaust Pipe Diameter, Dry--in.(mm) ..... 5.0 (125)*
Min. Exhaust Pipe Diameter, Wet--in.(mm) ..... 6.0 (150)*
Max. Allowable Back Pressure--in. H_2O (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)..... 785 (356)
Total Fuel Flow--gal/hr (L/hr)..... 111 (419)
Min. Rec'd. Fuel Line ID--in.(mm)..... 0.45 (11.0)*
Min. Rec'd. Fuel Line Size ..... -10*
Fuel Consumption--lb/hr (kg/hr)..... 118.4 (53.7)
Fuel Consumption--gal/hr (L/hr)..... 16.7 (63.2)
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_2O (kPa) .....-120 (-30.0)
Max. Fuel Inlet Pressure--psi (kP) 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)..... 53 (199)
Maximum Inlet Restriction---in. H_2O (kPa) 120 (30)
Maximum Outlet Pressure--psi (kPa)..... 20 (140)
Maximum Suction Lift--ft (m)..... 10 (3.0)

Performance Data

Performance Option Codes ..... 72C1 / 72C2
Rated Power--hp (kW) 330 (246)
Rated Power (Metric) Fuel @ 77 °F (25 °C)--PS 237.9
Rated Speed--rpm 2300
Rated Torque--lb-ft (N•m)..... 753 (1021)
Peak Torque--lb-ft (N•m) 935 (1268)
Peak Torque Speed--rpm..... 1800
Torque Rise--percent 24
Low Idle Speed--rpm 600
BMEP--psi (kPa) 229 (1577)
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)
2300	330 (246)	753 (1021)	330 (246.0)	16.7 (63.3)
2200	330 (246)	788 (1068)	289 (215.3)	14.9 (56.3)
2100	330 (246)	825 (1119)	251 (187.2)	13.0 (49.1)
2000	330 (246)	866 (1175)	217 (161.7)	11.3 (42.6)
1900	330 (246)	912 (1236)	186 (138.7)	9.8 (37.0)
1800	321 (239)	935 (1268)	158 (117.9)	8.4 (31.9)
1600	266 (198)	872 (1182)	111 (82.8)	6.2 (23.5)
1400	193 (144)	724 (982)	74 (55.5)	4.2 (15.8)
1200	135 (101)	593 (804)	47 (34.9)	2.7 (10.1)
1000	95 (71)	500 (678)	27 (20.2)	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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