JOHN DEERE

ENGINE PERFORMANCE CURVE

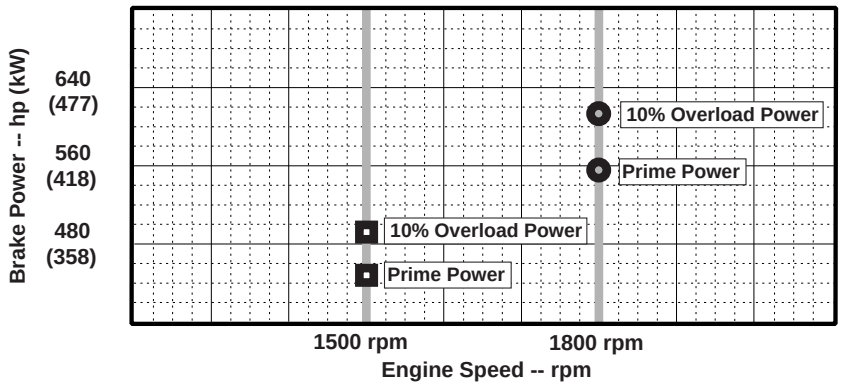
POWERTECH 13.5 L Engine
Model: **6135SFM75**

Rating: Marine

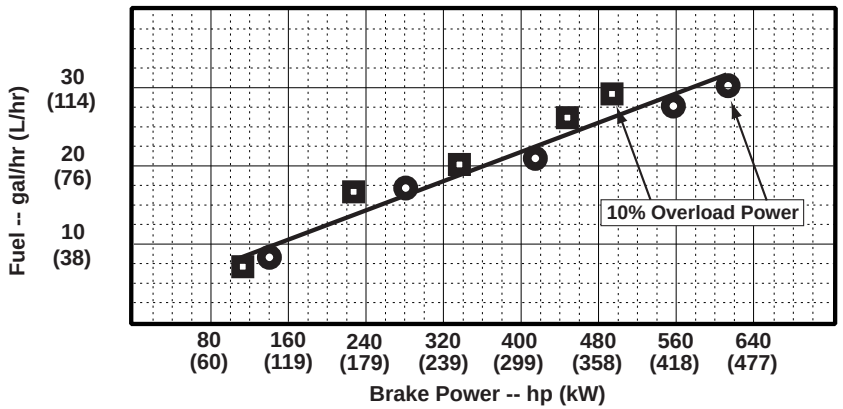
Application: Generator
Prime Power

558 hp (416 kW) @ 1800 rpm
447 hp (334 kW) @ 1500 rpm

Speed rpm (Hz)	Generator Efficiency %	Keel Cooled (no fan)		Power Factor	Calculated Gen-Set Rating	
					kW	kVA
1500 (50)	88-92	- -	- -	0.8	293-306	366-383
1800 (60)	88-92	- -	- -	0.8	366-383	458-479



■ - 1500 rpm ○ - 1800 rpm



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:

1800 RPM / 1500 RPM Emission Certifications:

- EPA Commercial Marine **(40 CFR Part 94)**
- IMO Annex VI
- EU 2004 / 26 / EC

Ref: Engine Emission Label

Certified by:

ADVANCE INFORMATION

* Revised Data
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July 2009

Engine Specification Data

General Data

Model	6135SFM75
Number of Cylinders	6
Bore and Stroke--in.(mm)	5.20 x 6.50 (132 x 165)
Displacement--in^3 (L)	824 (13.5)
Compression Ratio	16.0 : 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	Seawater
Engine Crankcase Vent System	Closed

Physical Data

Length--in.(mm)	52.6 (1335)
Width--in.(mm)	40.2 (1022)
Height (centerline to top)--in.(mm)	32.6 (829)
Height (centerline to bottom)--in.(mm)	14.4 (365)
Weight, dry--lb (kg) ++	3362 (1525)
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)

++ Engine with Flywheel Housing, Flywheel and Electrics.

Max. Allow. Static Bending Moment at Rear Face of Flywhl Hsg w/5-G Load--lb-ft (N•m)	600 (814)
Maximum Installed Angle	
Front Up--degrees	12
Front Down--degrees	0

Air System

	1800 rpm	1500 rpm
Min. Ventilation Area--in.^{2} (m^2)	226(0.146)	145(0.094)
Maximum Allowable Air Temperature Rise, Ambient to Engine Inlet--°F (°C)	30 (17)	30 (17)
Engine Air Flow--ft^3/min (m^3/min)	1293 (36.6)	986 (27.9)
Intake Manifold Pressure--psi (kPa)	33 (229)	28 (192)
Maximum Air Intake Restriction		
Dirty Air Cleaner--in. H_2O (kPa)	25 (6.25)	25 (6.25)
Clean Air Cleaner--in. H_2O (kPa)	12 (3.0)	12 (3.0)

Cooling System

	1800 rpm	1500 rpm
Coolant Flow--gal/min (L/min)	80 (303)	67 (253)
Min. Coolant Fill Rate--gal/min (L/min)	3.2 (12)	
Thermostat Start to Open--°F (°C)	180 (82)	
Thermostat Fully Open--°F (°C)	197 (92)	
Maximum Top Tank Temp--°F (°C)	212 (100)	
Minimum Sea Water-to-Boil--°F (°C)	90 (32)	
Rec'd. Pressure Cap--psi (kPa)	16 (110)	
Engine Coolant Capacity--qt (L)	42 (40)	

Electrical System

	12 Volts	24 Volts
Recommended Battery Capacity CCA @ 32 °F (0 °C)--amp	1900	925
Max. Starting Circuit Resist.--Ohm	0.0012	0.002
Starter Rolling Current @ 32 °F (0 °C)--amp	920	600

Exhaust System

	1800 rpm	1500 rpm
Exhaust Gas Flow--ft^3/min (m^3/min)	2732(77.4)	2124(60.2)
Exhaust Temperature--°F (°C)	772 (411)	837 (447)
Min. Exhaust Pipe Dia. Dry--in. (mm)	6.0 (152)	
Min. Exhaust Pipe Dia. Wet--in. (mm)	8.0 (204)	
Max. Allow. Back Press.--in. H_2O (kPa)	30 (7.5)	
Max. Weight on Turbo--lb (kg)	55 (25.0)	

Fuel System

	1800 rpm	1500 rpm
ECU Description	L15 Controller	
Fuel Injection Pump	Unit Injection	
Governor Type	Electronic	
Governor Regulation--percent	Isochronous or Droop	
Total Fuel Flow--lb/hr (kg/hr)	351 (159)	315 (143)
Total Fuel Flow--gal/hr (L/hr)	49.4 (187)	44.4 (168)
Min. Rec'd. Fuel Line ID--in. (mm)	0.31 (8)	
Min. Rec'd. Fuel Line Size	-6	
Fuel Cons. 'Prime' --lb/hr (kg/hr)	196 (89.0)	160 (73.0)
Fuel Cons. 'Prime' --gal/hr (L/hr)	28 (105)	22.5 (86.0)
Max. Fuel Inlet Restrict.--in. H_2O (kPa)	40 (10)	
Max. Fuel Inlet Temp. w/o derate--°F (°C)	212 (100)	

Lubrication System

	1800 rpm	1500 rpm
Oil Press. at Rated Speed--psi (kPa)	44.7 (308)	43.2 (298)
Oil Pressure at Low Idle--psi (kPa)	32 (221)	

Sea Water System

	1800 rpm	1500 rpm
Sea Water Pump Flow--gal/min (L/min)	90 (341)	75 (284)
Max. Inlet Restriction--in. H_2O (kPa)	120 (30)	
Max. Outlet Press--psi (kPa)	20 (140)	
Max. Suction Lift--ft (m)	10 (3.0)	

Performance Data

	1800 rpm	1500 rpm
Rated 'Prime' Power--hp (kW)	558 (416)	447 (334)
10% Overload Eng. Power--hp (kW)	613 (458)	492 (367)
Low Idle Speed--rpm	1000	1000
Rated Torque--ft-lb (N•m)	1628 (2207)	1568 (2126)
BMEP--psi (kPa)	297 (2047)	286 (1972)
Smoke @ Rated Speed--Bosch No.	<0.5	<0.5

Fuel Consumption

	1800 rpm	1500 rpm
Prime:		
25 % Power-- gal/hr (L/hr)	7.9 (30.1)	7.7 (29.1)
50 % Power-- gal/hr (L/hr)	14.5 (55.0)	14.0 (53.0)
75 % Power-- gal/hr (L/hr)	21.0 (80.0)	20.3 (77.0)
100 % Power-- gal/hr (L/hr)	27.6 (104.5)	26.6 (101)
10% Overload Power-- gal/hr (L/hr)	30.2 (114.5)	29.1 (110)

ADVANCE INFORMATION

Data based on heat exchanged engine.
All values at rated speed and power with standard options unless otherwise noted.

* Revised Data

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