



JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Gross Power
 Application: Generator
 Emergency Stationary (500 kWe Market)
 1800 RPM (60 Hz)

PowerTech™ PVX 13.5L Engine
Model: 6135HFG75
 JD Electronic Control

0 hp (0 kW) Prime
 755 hp (563 kW) Standby

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
0	0	755	563

Generator Efficiency %	Fan Power (% of Standby)		Power Factor	Prime Rating		Standby Rating	
	hp	kW		kWe	kVA	kWe	kVA
91-95	30.2	22.5	0.8	NA	NA	492-513	615-642

Note 1: Based on nominal engine power.

STANDARD CONDITIONS

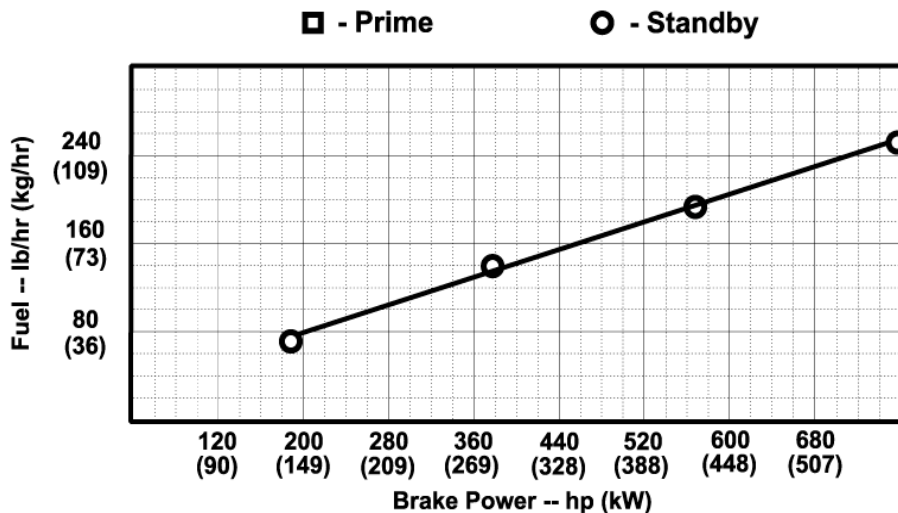
Air Intake Restriction.....12 in.H₂O (3 kPa)
 Exhaust Back Pressure.....30 in.H₂O (7.5 kPa)

Gross power guaranteed within + or - 5% at SAE
 J1995 and ISO 3046 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 = 0.85kg
 Torque: N·m = lb-ft x 1.356

All values are from currently available data and are subject to change without notice.

Notes: A crankshaft Torsional Vibration Analysis is required on all Gen Set applications.



Designed/Calibrated to meet:	Certified by:
• EPA Tier 2	<i>Scott A. Ochner</i>
Ref: Engine Emission Label	21 Jun 2011

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Engine Installation Criteria

General Data

Model	6135HFG75	
Number of Cylinders	6	
Bore	132 mm	5.2 in.
Stroke	165 mm	6.5 in.
Displacement	13.5 L	824 in. ³
Compression Ratio	16.0 : 1	
Valves per Cylinder, Intake/Exhaust	2 / 2	
Firing Order	1-5-3-6-2-4	
Combustion System	Unit Injection	
Engine Type	In-line, 4-cycle	
Aspiration	Turbocharged and air-to-air aftercooled	
Charge Air Cooling System	Air-to-Air	
Engine Crankcase Vent System	Open	

Physical Data

Length	1362 mm	53.6 in.
Width	857 mm	33.7 in.
Height	1210 mm	47.6 in.
Weight, with oil & no coolant (Includes engine, flywheel housing, flywheel & electrics)	1334 kg	2941 lb
Center of Gravity Location, X-axis From Rear Face of Block	-522 mm	-20.6 in.
Center of Gravity Location, Y-axis Right of Crankshaft	-23.3 mm	-0.9 in.
Center of Gravity Location, Z-axis Above Crankshaft	254.5 mm	10.0 in.
Max. Allowable Static Bending Moment At Rear Face of Flywheel Housing with 5-G Load	814 N-m	600 lb-ft
Thrust Bearing Load Limit Forward, Intermittent	8100 N	1821 lb
Thrust Bearing Load Limit Forward, Continuous	5400 N	1214 lb
Thrust Bearing Load Limit Rearward, Intermittent	4000 N	899 lb
Thrust Bearing Load Limit Rearward, Continuous	2500 N	562 lb
Max. Continuous Damper Temp	82 °C	180 °F
Max. Torsional Vibration, Front of Crank	0.25 DDA	

Electrical System

Recommended Battery Capacity, 12V @32 °F (0 °C)	1900 amps	
Recommended Battery Capacity, 24V @32 °F (0 °C)	925 amps	
Starter Rolling Current, 12V @32 °F (0 °C)	920 amps	
Starter Rolling Current, 24V @32 °F (0 °C)	600 amps	
Starter Rolling Current, 12V @-22 °F (-30 °C)	1300 amps	
Starter Rolling Current, 24V @-22 °F (-30 °C)	700 amps	
Min. Voltage at ECU during Cranking, 12V	6 volts	
Min. Voltage at ECU during Cranking, 24V	10 volts	
Max. Voltage Drop, Battery to Starter	0.8 volts	
Max. Allowable Start Circuit Resistance, 12V	0.0012 Ohm	
Max. Allowable Start Circuit Resistance, 24V	0.002 Ohm	
Max. Voltage From Engine to Crankshaft, 12V	0.15 volts	
Max. Voltage From Engine to Crankshaft, 24V	0.15 volts	
Max. ECU Temperature	105 °C	221 °F
Max. VTG Actuator Surface Temp	NA	
Max. Harness Temperature	125 °C	257 °F
Max. Alternator Temperature	120 °C	248 °F
Max. Starter Temperature	120 °C	248 °F
Max. Temperature, All Other Electronics	125 °C	257 °F

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Charge Air Cooling System

Air-to-Air Heat Rejection	116 kW	6603 BTU/min
Intake Manifold Pressure	272.3 kPa	39.5 psi
Compressor Discharge Temperature @77°F(25°C) Ambient Air	242 °C	468 °F
Compressor Discharge Temperature @117°F(47°C) 80 kPa Barometric pressure	0 °C	0 °F
Max. Temperature Out of Charge Air Cooler @All Ambient Conditions	88 °C	190 °F
Intake Manifold Temperature at which Power De-rate Occurs	89.5 °C	193 °F
Intake Manifold Temperature at which Severe Power De-rate Occurs	91.0 °C	195.8 °F
Max. CAC System Volume		NA
Max. Pressure Drop through CAC	13 kPa	52.0 in. H ₂ O
Max. Temperature Out of Charge Air Cooler @77°F (25°C) Ambient Air	60 °C	140 °F
Min. Temperature Out of Charge Air Cooler @77°F (25°C) Ambient Air		NA
Max. Bending Moment on Compressor Outlet	7 N-m	5 lb-ft
Max. Shear on Compressor Outlet	11 kg	24 lb

Cooling System

Engine Heat Rejection	209 kW	11896 BTU/min
Engine Radiated Heat	38 kW	2163 BTU/min
Coolant Flow	400 L/min	106 gal/min
Thermostat Start to Open	82 °C	180 °F
Thermostat Fully Open	92 °C	198 °F
Engine Coolant Capacity	18 Liter	19.0 quart
Min. Coolant Fill Rate	12 L/min	3.2 gal/min
Min. Pressure Cap	100 kPa	15 psi
Min. Pump Inlet Pressure @194°F (90°C) Coolant		NA
Min. Pump Inlet Pressure @203°F (95°C) Coolant	30 kPa	4 psia
Max. External Coolant Restriction	40 kPa	6 psi
Max. Top Tank Temperature	105 °C	221 °F
Max. Top Tank Temperature 95% of Operating Hours	95 °C	203 °F
Min. Limiting Ambient Temperature	47 °C	117 °F

Exhaust System

Exhaust Flow	97.2 m ³ /min	3433 ft. ³ /min
Exhaust Temperature	523.8 °C	975 °F
Max. Allowable Exhaust Restriction	7.5 kPa	30 in. H ₂ O
Max. Bending Moment on Turbo Outlet	7 N-m	5.2 lb-ft
Max. Shear on Turbine Outlet	11 kg	24 lb

Fuel System

ECU Description	L15 Controller	
Fuel Injection Pump	Unit Injection	
Governor Type	Electronic	
Governor Regulation	Selectable	
Total Fuel Flow	181.9 kg/hr	401 lb/hr
Fuel Consumption	113.9 kg/hr	251.1 lb/hr
Fuel Temperature Rise, Inlet to Return	47 Δ°C	85 Δ°F
Max. Fuel Inlet Restriction	10 kPa	40 in. H ₂ O
Min. Fuel Inlet Pressure	-10 kPa	-40 in. H ₂ O
Max. Fuel Inlet Pressure	24 kPa	96 in. H ₂ O
Max. Fuel Return Pressure	35 kPa	140 in. H ₂ O
Max. Fuel Inlet Temperature	100 °C	212 °F
Fuel Filter @98% Efficiency		2 mic

Lubrication System

Oil Pressure at Rated Speed	287 kPa	42 psi
In-Pan Oil Temperature	124 °C	255 °F
Max. Oil Carryover in Blow-By	3.0 g/hr	0.007 lb/hr
Max. Airflow in Blow-By	300 L/min	79.3 gal/min
Max. Crankcase Pressure	0.5 kPa	2 in. H ₂ O

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Air Intake System

Engine Air Flow	38 m ³ /min	1342 ft. ³ /min
Air Mass Flow	2541 kg/hr	5602 lb/hr
Maximum Allowable Temperature Rise, Ambient Air to Engine Inlet	8 Δ°C	15 Δ°F
Max. Air Intake Restriction, Clean Air Cleaner	3.75 kPa	15.0 in. H ₂ O
Max. Air Intake Restriction, Dirty Air Cleaner	6.25 kPa	25.0 in. H ₂ O
Air Cleaner Efficiency	99.9 %	

Performance Data

Rated Power, Prime	0 kW	0 HP
Rated Power, Standby	755 kW	563 HP
Rated Speed	1800 rpm	
Rated Torque, Prime	0.0 N-m	0 lb-ft
Rated Torque, Standby	2987 N-m	2203 lb-ft
BMEP, Prime	0.0 kPa	0 psi
BMEP, Standby	2780 kPa	403 psi
Altitude Capability	1524 m	5000 ft
Friction Power @Rated Speed	41 kW	55 HP
Air:Fuel Ratio	22.1 : 1	
Smoke @Rated Speed	NA	
Noise @1 m	0 dB(A)	
0-100% Standby Load Acceptance	7 sec	
Load Acceptance, ISO 8528-5	G3	

Fuel Consumption	Prime		Standby	
	lb/hr	kg/h	lb/hr	kg/h
25 % Power	0.0	0.0	72.1	32.7
50 % Power	0.0	0.0	140.0	63.5
75 % Power	0.0	0.0	194.2	88.1
100 % Power	0.0	0.0	251.1	113.9

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