



JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Gross Power
Application: Generator
150 kVA Prime Market; Power Unit (U)
1500 RPM (50 Hz)

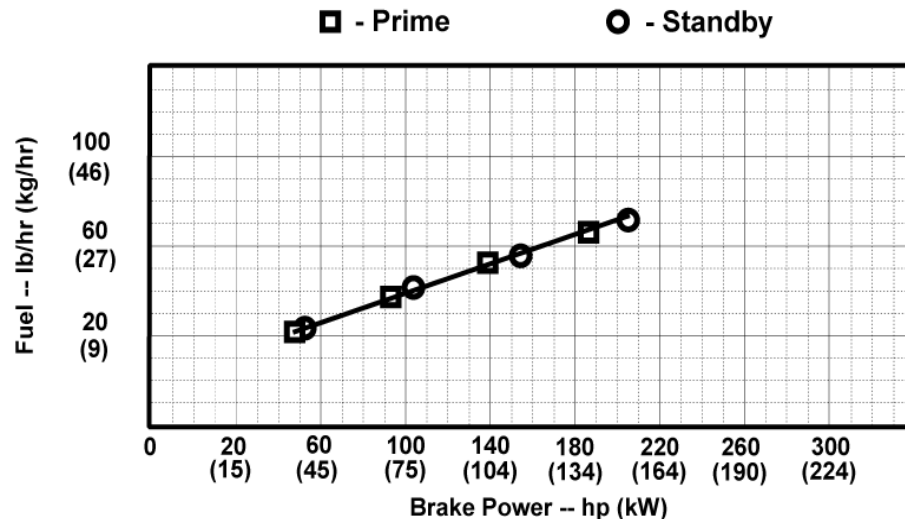
PowerTech™ E 6.8L Engine
Model: 6068HFU82

186 hp (139 kW) Prime
205 hp (153 kW) Standby

Nominal Engine Power @ 1500 RPM			
Prime		Standby	
HP	kW	HP	kW
186	139	205	153

Generator Efficiency %	Fan Power (% of Standby)		Power Factor	Prime Rating		Standby Rating	
	hp	kW		kWe	kVA	kWe	kVA
88-92	15.3	11.4	0.8	112-117	140-147	125-130	156-163

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 SAEJ1995 and ISO 3046 conditions:

Air Inlet Temperature = 77 °F (25 °C)

Barometer = 29.31 in.Hg (99 kPa)

Fuel Inlet Temperature = 104 °F (40 °C)

Fuel Specific Gravity @ 60 °F (15.5 °C) = 0.853

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:

Designed/Calibrated to meet:

- EPA Tier 3
- EU Stage III A

Ref: Engine Emission Label

Certified by:

03-14-2011

Performance Curve: 6068HFU82_B

Engine Installation Criteria

General Data

Model	6068HFU82	
Number of Cylinders	6	
Bore	106 mm	4.2 in.
Stroke	127 mm	5.0 in.
Displacement	6.8 L	415 in. ³
Compression Ratio	17.2 : 1	
Valves per Cylinder, Intake/Exhaust	1 / 1	
Firing Order	1-5-3-6-2-4	
Combustion System	HPCR	
Engine Type	In-line, 4-cycle	
Aspiration	Turbocharged and air-to-air aftercooled	
Engine Crankcase Vent System	Open	

Physical Data

Length	1123 mm	44.2 in.
Width	657 mm	25.9 in.
Height	1036 mm	40.8 in.
Weight, with oil & no coolant (Includes engine, flywheel housing, flywheel & electrics)	608 kg	1340 lb
Center of Gravity Location, X-axis From Rear Face of Block	545 mm	21.5 in.
Center of Gravity Location, Y-axis Right of Crankshaft	7 mm	0.3 in.
Center of Gravity Location, Z-axis Above Crankshaft	173 mm	6.8 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	4000 N	899 lb
Thrust Bearing Load Limit Forward, Continuous	2200 N	495 lb
Thrust Bearing Load Limit Rearward, Intermittent	2000 N	450 lb
Thrust Bearing Load Limit Rearward, Continuous	1000 N	225 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)	800 amps	
Recommended Battery Capacity, 24V @32 °F (0 °C)	570 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. 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. Harness Temperature	120 °C	248 °F
Max. Alternator Temperature	120 °C	248 °F
Max. Starter Temperature	120 °C	248 °F
Max. Temperature, All Other Electronics	125 °C	257 °F

Charge Air Cooling System

Air-to-Air Heat Rejection	18.9 kW	1076 BTU/min
Compressor Discharge Temperature @77°F(25°C) Ambient Air	150.0 °C	302 °F
Intake Manifold Pressure	124.2 kPa	18.0 psi
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 °C	195.8 °F
Max. CAC System Volume	20.4 Liter	22 quart
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	52 °C	126 °F

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Engine Installation Criteria

Cooling System

Engine Heat Rejection	73.9 kW	4206 BTU/min
Engine Radiated Heat	15 kW	854 BTU/min
Coolant Flow	160 L/min	42 gal/min
Thermostat Start to Open	82 °C	180 °F
Thermostat Fully Open	95 °C	203 °F
Engine Coolant Capacity	11.9 Liter	12.6 quart
Min. Coolant Fill Rate	11 L/min	2.9 gal/min
Min. Pressure Cap	100 kPa	15 psi
Min. Pump Inlet Pressure @203°F (95°C) Coolant	30 kPa	4 psia
Max. External Coolant Restriction	20 kPa	3 psi
Max. Top Tank Temperature	110 °C	230 °F
Max. Top Tank Temperature 95% of Operating Hours	100 °C	212 °F
Min. Limiting Ambient Temperature	47 °C	117 °F

Exhaust System

Exhaust Flow	26.0 m³/min	918 ft.³/min
Exhaust Temperature	545 °C	1013 °F
Max. Allowable Exhaust Restriction	7.5 kPa	30 in. H ₂ O
Max. Bending Moment on Turbo Outlet	7.0 N·m	5.2 lb-ft
Max. Shear on Turbine Outlet	11 kg	24 lb

Fuel System

ECU Description	Until 24 Sept 2018: Level 16 Controller - After: Level 25 Controller	
Fuel Injection Pump	Denso HP3	
Governor Type	Electronic	
Governor Regulation	0	
Total Fuel Flow	kg/hr	
Fuel Consumption	32.2 kg/hr	71.0 lb/hr
Fuel Temperature Rise, Inlet to Return	40 Δ°C	72 Δ°F
Max. Fuel Inlet Restriction	20 kPa	80 in. H ₂ O
Min. Fuel Inlet Pressure	7.6 kPa	30 in. H ₂ O
Max. Fuel Inlet Pressure	20 kPa	80 in. H ₂ O
Max. Fuel Return Pressure	20 kPa	80 in. H ₂ O
Max. Fuel Inlet Temperature	80 °C	176 °F
Fuel Filter @98% Efficiency	2 mic	

Lubrication System

Oil Pressure at Rated Speed	274.1 kPa	40 psi
Oil Pressure at Low Idle	105 kPa	15 psi
Max. Oil Carryover in Blow-By	1.0 g/hr	0.002 lb/hr
Max. Airflow in Blow-By	130 L/min	34.3 gal/min
Max. Crankcase Pressure	0.5 kPa	2 in. H ₂ O

Air Intake System

Engine Air Flow	10.0 m³/min	353 ft.³/min
Air Mass Flow	675.6 kg/hr	1489 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	139 kW	186 HP
Rated Power, Standby	153 kW	205 HP
Rated Speed	1500 rpm	
Rated Torque, Prime	886 N·m	653 lb-ft
BMEP, Prime	1637 kPa	237 psi
Altitude Capability	3000 m	9843 ft
Friction Power @Rated Speed	15.0 kW	20 HP
Air:Fuel Ratio	20.6 : 1	
Smoke @Rated Speed	Bosch No.	
Noise @1 m	97.1 dB(A)	
0-100% Standby Load Acceptance	2.7 sec	
Load Acceptance, ISO 8528-5	G3	

Fuel Consumption	Prime		Standby	
	lb/hr	kg/h	lb/hr	kg/h
25 % Power	20.7	9.4	22.7	10.3
50 % Power	37.7	17.1	41.0	18.6
75 % Power	52.0	23.6	56.0	25.4
100 % Power	65.5	29.7	71.0	32.2

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