



**JOHN DEERE**

**ENGINE PERFORMANCE CURVE**

Rating: Gross Power  
 Application: Generator  
 200 kVA Prime Market; Bare Engine (G)  
 1500 RPM (50 Hz)

**PowerTech™ M 6.8L Engine  
 Model:6068HSG22**

247 hp (184 kW) Prime  
 271 hp (202 kW) Standby

Nominal Engine Power @ 1500 RPM			
Prime		Standby	
HP	kW	HP	kW
247	184	271	202

Generator Efficiency %	Fan Power (% of Standby)		Power Factor	Prime Rating		Standby Rating	
	hp	kW		kWe	kVA	kWe	kVA
88-92	9.4	7	0.8	156-163	195-203	172-179	215-224

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:

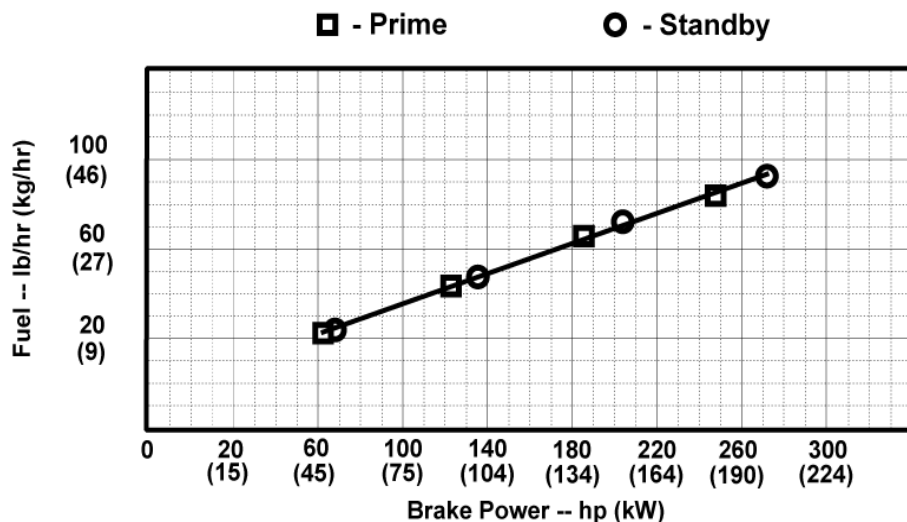
Certified by:

- Non-Emissions Certified

*Early Data*

Ref: Engine Emission Label

Performance Curve: 6068HSG22\_C15



## Engine Installation Criteria

### General Data

Model	6068HFG20	
Number of Cylinders	6	
Bore	106 mm	4.2 in.
Stroke	127 mm	5.0 in.
Displacement	6.8 L	415 in. <sup>3</sup>
Compression Ratio	17.0 : 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 air-to-air aftercooled	
Engine Crankcase Vent System	Open	

### Physical Data

Length	1141 mm	44.9 in.
Width	630 mm	24.8 in.
Height	1009 mm	39.7 in.
Center of Gravity Location, X-axis From Rear Face of Block	438 mm	17.2 in.
Center of Gravity Location, Y-axis Right of Crankshaft	1 mm	0.0 in.
Center of Gravity Location, Z-axis Above Crankshaft	157 mm	6.2 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
Weight, with oil & no coolant (Includes engine, flywheel housing, flywheel & electrics)	569 kg	1254 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	NA	
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	41.1 kW	2339 BTU/min
Compressor Discharge Temperature @77°F(25°C) Ambient Air	197 °C	387 °F
Intake Manifold Pressure	225 kPa	32.6 psi
Max. Temperature Out of Charge Air Cooler @All Ambient Conditions	88 °C	190 °F
Max. Pressure Drop through CAC	13 kPa	52.0 in. H <sub>2</sub> O
Max. Temperature Out of Charge Air Cooler @77°F (25°C) Ambient Air	45.0 °C	113 °F

Performance Curve: 6068HSG22\_C15

## Engine Installation Criteria

### Cooling System

Engine Heat Rejection	64.8 kW	3688 BTU/min
Engine Radiated Heat	20.2 kW	1150 BTU/min
Coolant Flow	144 L/min	38 gal/min
Thermostat Start to Open	82 °C	180 °F
Thermostat Fully Open	94 °C	201 °F
Engine Coolant Capacity	11.3 Liter	11.9 quart
Min. Coolant Fill Rate	11 L/min	2.9 gal/min
Min. Pressure Cap	70 kPa	10 psi
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	100 °C	212 °F
Min. Limiting Ambient Temperature	47 °C	117 °F

### Exhaust System

Exhaust Flow	35.2 m³/min	1243 ft.³/min
Exhaust Temperature	519 °C	966 °F
Max. Allowable Exhaust Restriction	7.5 kPa	30 in. H <sub>2</sub> 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	NA	
Fuel Injection Pump	Stanadyne	
Governor Type	Mechanical	
Governor Regulation	3-5	
Total Fuel Flow	kg/hr	
Fuel Consumption	41.9 kg/hr	92.4 lb/hr
Fuel Temperature Rise, Inlet to Return	18.0 Δ°C	32 Δ°F
Max. Fuel Inlet Restriction	NA	
Min. Fuel Inlet Pressure	-30 kPa	-120 in. H <sub>2</sub> O
Max. Fuel Inlet Pressure	69 kPa	276 in. H <sub>2</sub> O
Max. Fuel Return Pressure	10 kPa	40 in. H <sub>2</sub> O
Max. Fuel Inlet Temperature	85 °C	185 °F
Fuel Filter @98% Efficiency	8 mic	

### Lubrication System

Oil Pressure at Rated Speed	294 kPa	43 psi
Max. Crankcase Pressure	0.5 kPa	2 in. H <sub>2</sub> O

### Air Intake System

Engine Air Flow	13.9 m³/min	491 ft.³/min
Air Mass Flow	966 kg/hr	2130 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 <sub>2</sub> O
Max. Air Intake Restriction, Dirty Air Cleaner	6.25 kPa	25.0 in. H <sub>2</sub> O
Air Cleaner Efficiency	99.9 %	

### Performance Data

Rated Power, Prime	184 kW	247 HP
Rated Power, Standby	202 kW	271 HP
Rated Speed	1500 rpm	
Rated Torque, Prime	1168 N-m	861 lb-ft
BMEP, Prime	2400 kPa	348 psi
Altitude Capability, Prime	ft	
Altitude Capability, Standby	1524 m	5000 ft
Friction Power @Rated Speed	15.0 kW	20 HP
Air:Fuel Ratio	22.8 : 1	
Smoke @Rated Speed	1.9 Bosch No.	
Noise @1 m Standby	105.4 dB(A)	
0-100% Standby Load Acceptance	NA	
Load Acceptance, ISO 8528-5	G2	

Fuel Consumption	Prime		Standby	
	lb/hr	kg/h	lb/hr	kg/h
25 % Power	21.8	9.9	24.0	10.9
50 % Power	43.2	19.6	47.8	21.7
75 % Power	65.9	29.9	71.4	32.4
100 % Power	83.8	38.0	92.4	41.9

Performance Curve: 6068HSG22\_C15