JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Gross Power
Application: Generator (60 Hz)
Target: 125 kWe Standby Market

PowerTech E™ 6.8L Engine
Model: **6068HF285**

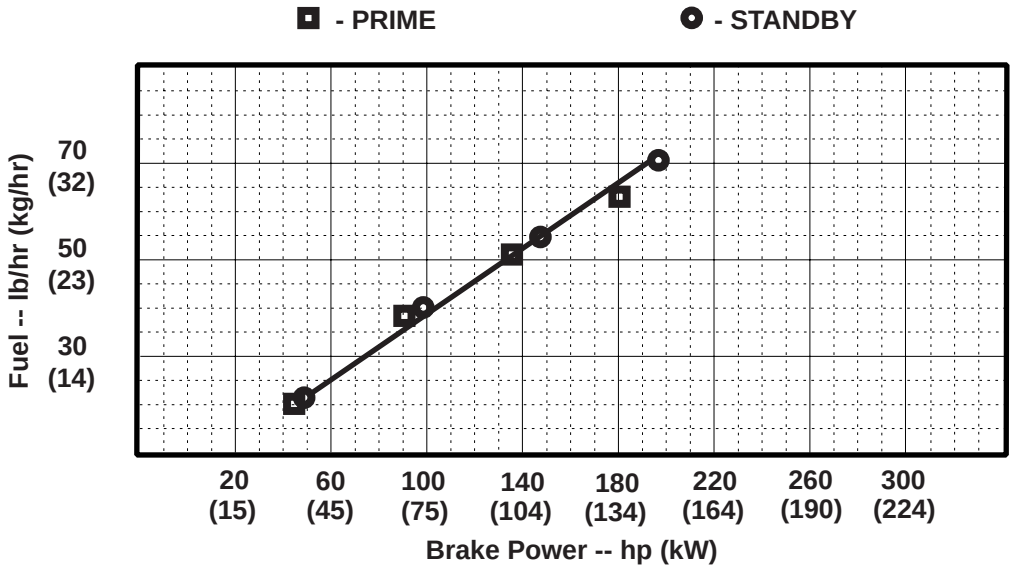
180 hp (134 kW) Prime
197 hp (147 kW) Standby

[See Option Code Tables]

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
180	134	197	147

Generator Efficiency %	Fan Power (6% of Standby)		Power Factor	Prime Rating [2]		Standby Rating [1,2]		ISO 8528 G2 Block Load Capability
	hp	kW		kWe	kVA	kWe	kVA	
88-92	10.9	8.1	0.8	111-116	139-145	122-128	153-160	100%

Note 1: Based on nominal engine power.
Note 2: kWe / kVA rating assumes 90% efficiency. "Generator Efficiency %" will vary.



STANDARD CONDITIONS

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 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 = 0.85 kg
- Torque: N•m = lb-ft x 1.356

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

Notes:

All OEM Gen Set Engine Applications must be pre-screened for torsional vibration compatibility with the respective alternator end hardware.

OEM Engine Application Engineering will perform this computer-based analysis work upon request.

Tier-3 Emission Certifications:	Certified by:
CARB; EPA	22 June '07
Ref: Engine Emission Label	

* Revised Data
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Engine Installation Criteria

General Data

Model	6068HF285
Number of Cylinders	6
Bore and Stroke--in. (mm)	4.19 x 5.00 (106 x 127)
Displacement--in.^{3} (L)	415 (6.8)
Compression Ratio	19.0:1
Valves per Cylinder--Intake/Exhaust	1 / 1
Firing Order	1-5-3-6-2-4
Combustion System	Unit Injection
Engine Type	In-line, 4-Cycle
Aspiration	Turbocharged
Charge Air Cooling System	Air-to-Air
Engine Crankcase Vent System	Open

Physical Data

Length--in. (mm)	44.2 (1123)
Width--in. (mm)	25.9 (657)
Height--in. (mm)	40.8 (1036)
Weight, with oil--lb (kg)	1340 (608)
(Includes flywheel hsg., flywheel & electrics)	
Center of Gravity Location (Estimated based on Tier 2)	
From Rear Face of Block (X-axis)--in. (mm)	14.5 (369)
Right of Crankshaft (Y-axis)--in. (mm)	0.1 (3)
Above Crankshaft (Z-axis)--in. (mm)	6.1 (154)
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 --lb (N)	Forward	Rearward
Intermittent	899 (4000)	450 (2000)
Continuous	495 (2200)	225 (1000)

Max. Front of Crank. Torsional Vibration--DDA	0.25
Max. Continuous Damper Temp--°F (°C)	180 (82)

Electrical System	**12 Volt**	**24 Volt**
Min. Battery Capacity (CCA)--amp	800	570
Max. Allow. Start. Circ't Resist.--Ohm	0.0012	0.002
Starter Rolling Current:		
At 32 °F (0 °C)--amp	920	600
At -22 °F (-30 °C)--amp	1300	700
Min. Volts at ECU while Cranking--volts	6	10
Max. ECU Temperature--°F (°C)	221 (105)	
Max. Harness Temperature--°F (°C)	248 (120)	
Maximum Voltage From Engine Crankshaft/ Generator Shaft to Ground--VAC	0.15	0.15

Air System	**Prime**	**Standby**
Max. Allowable Temp Rise--Ambient Air to Engine Inlet--°F (°C)	15 (8)	
Maximum Air Intake Restriction		
Dirty Air Cleaner--in.H_2O (kPa)	25 (6.25)	
Clean Air Cleaner--in.H_2O (kPa)	15 (3.75)	
Engine Air Flow--ft^3/min (m^3/min)	388 (11.0)	410 (11.6)
Air Cleaner Efficiency--%	99.9	

Charge Air Cooling System	**Prime**	**Standby**
Air/Air Exchanger Heat Rejection--BTU/min (kW)	1042(18.3)	1229 (21.6)
Compress. Dischrg. Temp.(Rated) @ 77 °F (25°C) Amb. Air--°F (°C)	300(149)	324(162)
Compress. Dischrg. Temp.(Max.) @ 47°C amb. and 80 kPa bar.--°F (°C)	NA (NA)	NA (NA)
Press. Drop, thru CAC--in.H_2O (kPa)		
Max.	52 (13)	
Min.	32 (8)	
Intake Manifold Pressure--psi (kPa)	19(128)	21 (143)
CAC Out Temp @ 77°F (25°C) Amb.--°F (°C)		
Max.	140 (60)	
Min.	118 (48)	
CAC Out Temp @ any Ambient--°F (°C)		
Max.	190 (88)	

Cooling System	**Prime**	**Standby**
Engine Heat Reject.--BTU/min (kW)	NA(NA)	4758 (83.6)
Coolant Flow--gal/min (L/min)	48(180)	48(180)
Thermostat Start to Open--°F (°C)	180 (82)	
Thermostat Fully Open--°F (°C)	203 (95)	
Engine Coolant Capacity--qt (L)	13 (11.9)	
Min. Pressure Cap--psi (kPa)	14.5 (100)	
Max. Top Tank Temp--°F (°C)	230 (110)	
Min. Coolant Fill Rate--gal/min (L/min)	3 (11)	
Min. Air-to-Boil Temperature--°F (°C)	117 (47)	
Min. Pump Inlet Pressure--psi (kPa)	4.4 (30)	

Exhaust System	**Prime**	**Standby**
Exhaust Flow--ft^3/min (m^3/min)	964 (27.3)	1031(29.2)
Exhaust Temperature--°F (°C)	916(491)	945 (507)
Max. Exhaust Restriction----in. H_2O (kPa)	30 (7.5)	
Min. Exhaust Restriction----in. H_2O (kPa)	None	
Max. Bend. Moment, Turbo Out.--lb-ft (N•m)	5.2 (7.0)	
Max. Shear on Turbo Outlet--lb (kg)	24 (11)	

Fuel System	**Prime**	**Standby**
ECU Description	L16 Controller	
Fuel Injection Pump	Denso HP3	
Governor Type	Electronic	
Total Fuel Flow--lb/hr (kg/hr)	153(69.4)	168(76.3)
Fuel Consumption--lb/hr (kg/hr)	64(28.9)	70 (31.8)
Max. Fuel Inlet Temp.--°F (°C)	176 (80)	
Fuel Temp. Rise, Inlt to Retrn--°F (°C)	72(40)	79.2(44)
Max. Fuel Inlet Restriction--in. H_2O (kPa)	80 (20)	
Max. Fuel Inlet Pressure--in. H_2O (kPa)	NA (NA)	
Max. Fuel Return Pressure--in. H_2O (kPa)	80 (20)	

Lubrication System	**Prime**	**Standby**
Oil Press. at Rated Speed--psi (kPa)	44(300)	44 (300)
Min. Oil Pressure--psi (kPa)	15 (105)	
Max. Oil Carryover in Blow-by--lb/hr (g/hr)	0.002 (1.0)	
Max. Airflow in Blow-by--gal/min (l/min)	34 (130)	
Max. Crankcase Pressure--in. H_2O (kPa)	2 (0.5)	

Performance Data	**Prime**	**Standby**
Rated Power--hp (kW)	180 (134)	197 (147)
Rated Speed--rpm	1800	1800
Low Idle Speed--rpm	1150	1150
Rated Torque--lb-ft (N•m)	1157 (853)	1273 (939)
BMEP--psi (kPa)	229 (1577)	252 (1735)
Friction Power @ Rated Speed--hp (kW)	23 (17)	23 (17)
Altitude Capability--ft (m)	10,000(3050)	10,000(3050)
Ratio--Air : Fuel	25 : 1	24 : 1
Smoke @ Rated Speed--Bosch No.	0.7	1.2
Noise--dB(A) @ 1 m	88.4	88.8

Fuel Consumption -- lb/hr (kg/h)	**Prime**	**Standby**
25 % Power	20.0 (9.1)	21.6 (9.8)
50 % Power	38.1 (17.3)	40.8 (18.5)
75 % Power	51.0 (23.1)	55.1 (25.0)
100 % Power	63.7 (28.9)	70.5 (32.0)

All values at rated speed and power with standard options unless otherwise noted.

* Revised Data

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June 2007