



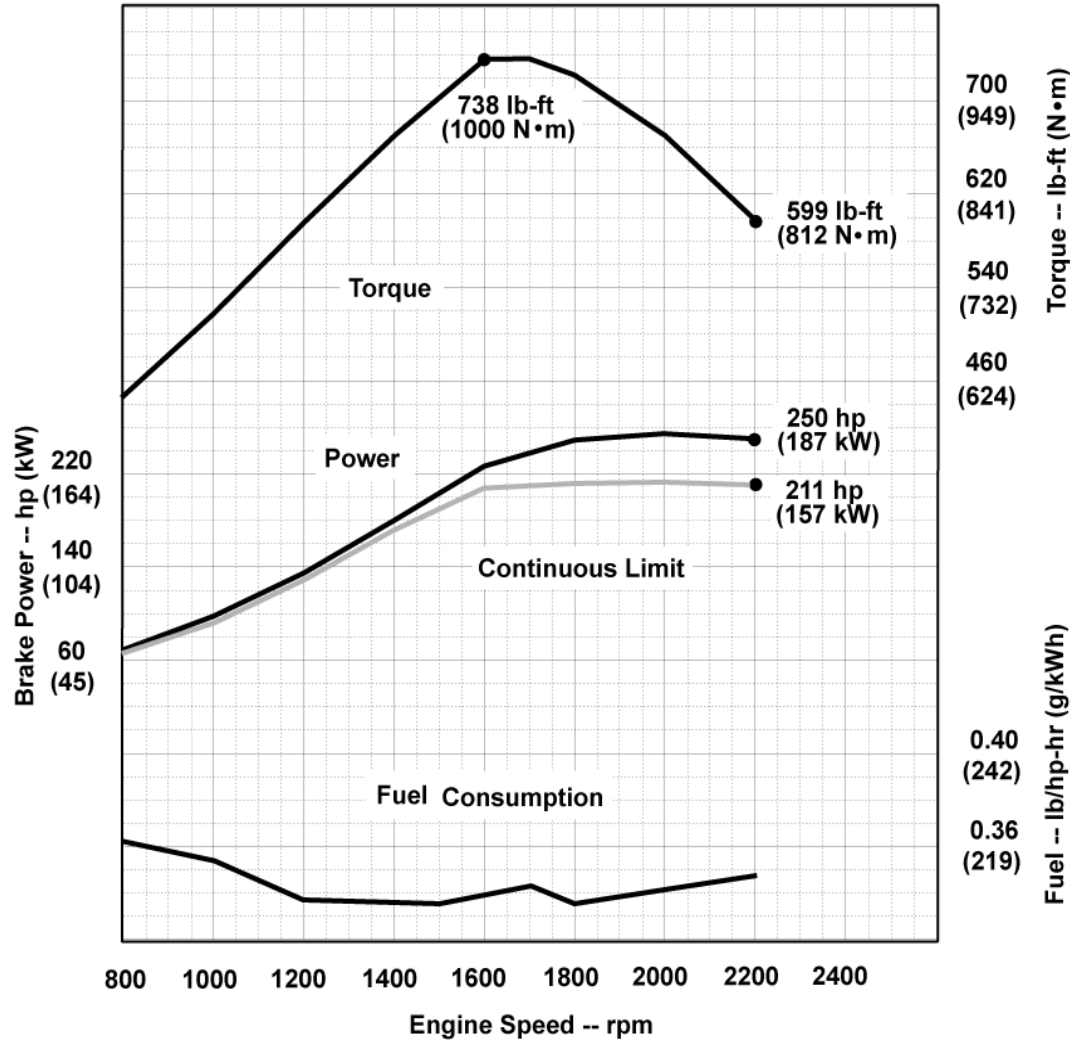
JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Gross Power
 Application: Intermittent
 Power Bulge - 2%
 Torque Rise - 23%

**PowerTech™ PVS 6.8L Engine
 Model: 6068HFC08**

250 hp @ 2200 rpm
 187 kW @ 2200 rpm



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: This Performance Curve provides installation requirements necessary for the engine to emit at its certified emission levels. For additional information necessary to meet applicable regulatory requirements, refer to the John Deere Emissions-related Installation Instructions (AG01): <https://power.deere.com/wps/myportal/jdps/products/engines/apguidelines>.

Designed/Calibrated to meet:	Certified by:
<ul style="list-style-type: none"> CARB EPA Tier 4 EU Stage IV 	Advance Information
Ref: Engine Emission Label	

Performance Curve: 6068HFC08_-B

Engine Installation Criteria

General Data

Model	6068HFC08	
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	2 \ 2	
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	1160 mm	45.7 in.
Width	720 mm	28.3 in.
Height	1350 mm	53.1 in.
Center of Gravity Location, X-axis From Rear Face of Block	400 mm	15.7 in.
Center of Gravity Location, Y-axis Right of Crankshaft	0.0 mm	0.0 in.
Center of Gravity Location, Z-axis Above Crankshaft	220 mm	8.7 in.
Max. Bending Moment about Main Bearings Front and Rear	480 N-m	354 lb-ft
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)	770 kg	1698 lb
Max. Continuous Damper Temp	82 °C	180 °F
Max. ECU Vibration, All Axis	6.00 gRMS	
Max. Torsional Vibration, Front of Crank	0.25 DDA	
Max. Engine Torsional Vibration in Overspeed	0.40 DDA	

Electrical System

Min. Instantaneous Cranking	50 rpm	
Min. Steady State Cranking	120 rpm	
Starter Rolling Current, 12V @32 °F (0 °C)	450 amps	
Starter Rolling Current, 24V @32 °F (0 °C)	250 amps	
Starter Rolling Current, 12V @-22 °F (-30 °C)	700 amps	
Starter Rolling Current, 24V @-22 °F (-30 °C)	400 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. ECU Temperature	105 °C	221 °F
Max. VTG Actuator Surface Temp	130 °C	266 °F
Max. Air Throttle Electrical Actuator Temperature	125 °C	257 °F
Max. Harness Temperature	125 °C	257 °F
Max. Alternator Temperature	105 °C	221 °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	36.2 kW	2060 BTU/min
Compressor Discharge Temperature @77°F(25°C) Ambient Air	192.4 °C	378 °F
Intake Manifold Pressure	199 kPa	28.9 psi
Compressor Discharge Temperature @117°F(47°C) 80 kPa Barometric pressure	°C	
Max. Temperature Out of Charge Air Cooler @All Ambient Conditions	88 °C	190 °F
Max. Pressure Drop through CAC	16 kPa	64.0 in. H ₂ O
Min. Pressure Drop through CAC	8 kPa	32.0 in. H ₂ O
Max. Temperature Out of Charge Air Cooler @77°F (25°C) Ambient Air	56 °C	133 °F
Min. Temperature Out of Charge Air Cooler @77°F (25°C) Ambient Air	48 °C	118 °F
Max. Bending Moment on Compressor Outlet	3.5 N-m	3 lb-ft
Max. Shear on Compressor Outlet	2.5 kg	6 lb

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Cooling System

Engine Heat Rejection	128.4 kW	7308 BTU/min
Coolant Flow @10 kPa External Restriction	576 L/min	152 gal/min
Coolant Flow @40 kPa External Restriction	540 L/min	143 gal/min
Max. Auxiliary Coolant Flow	30 L/min	8 gal/min
Thermostat Start to Open	85 °C	185 °F
Thermostat Fully Open	97 °C	207 °F
Engine Coolant Capacity	11.9 Liter	12.6 quart
Min. Coolant Fill Rate	12 L/min	3.2 gal/min
Max. Water Pump Inlet Pressure	235 kPa	34 psia
Min. Pump Inlet Pressure @203°F (95°C) Coolant	110 kPa	16 psia
Min. Pump Inlet Pressure @Max. Top Tank Temperature	159 kPa	23 psia
Max. External Coolant Restriction	50 kPa	7 psi
Max. Top Tank Temperature	113 °C	235 °F
Max. Top Tank Temperature 95% of Operating Hours	103 °C	217 °F

Exhaust System

Exhaust Flow	25.4 m ³ /min	897 ft. ³ /min
Exhaust Temperature	372.9 °C	703 °F
Max. Allowable Exhaust Restriction	19.2 kPa	77 in. H ₂ O
Max. Bending Moment on Turbo Outlet	7.4 N-m	5.5 lb-ft
Max. Shear on Turbine Outlet	2.5 kg	6 lb
Exhaust Filter Size	4; Gen 1.5	
Exhaust Filter Pressure Drop (Clean)	14.2 kPa	57 in. H ₂ O
Min. Mixing Length, Outlet to Exhaust Filter	NA	
Max. Bending Moment on Exhaust Filter Inlet	110 N-m	81 lb-ft
Max. Bending Moment on Exhaust Filter Outlet	110 N-m	81 lb-ft
Max. Exhaust Leakage Rate, Engine to Exhaust Filter @30kPa	5 L/min	1.3 gal/min
Max. Temperature Drop, Engine to Exhaust Filter	30 Δ°C	54 Δ°F

Fuel System

ECU Description	L33 Controller	
Fuel Injection Pump	Denso HP6	
Governor Type	Electronic	
Total Fuel Flow	127 kg/hr	280 lb/hr
Fuel Consumption	39.5 kg/hr	87.1 lb/hr
Fuel Temperature Rise, Inlet to Return	21 Δ°C	38 Δ°F
Min. Fuel Inlet Pressure	-30 kPa	-120 in. H ₂ O
Max. Fuel Return Pressure	40 kPa	160 in. H ₂ O
Min. Fuel Return Pressure	0 kPa	0 in. H ₂ O
Max. Fuel Inlet Temperature	75 °C	167 °F
Fuel Filter @98% Efficiency	2 mic	

Lubrication System

Oil Pressure at Rated Speed	390 kPa	57 psi
Oil Pressure at Low Idle	200 kPa	29 psi
Max. In-Pan Oil Temperature	138 °C	280 °F
Max. Crankcase Pressure	2 kPa	8 in. H ₂ O

Air Intake System

Engine Air Flow	13.3 m ³ /min	470 ft. ³ /min
Air Mass Flow	892.9 kg/hr	1969 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 %	

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Engine Installation Criteria

Performance Data

Rated Power	187 kW	250 HP
Rated Speed		2200 rpm
Max. Fast Idle Speed		2400 rpm
Breakaway Speed		2250 rpm
Power Bulge Speed		2000 rpm
Peak Torque Speed		1600 rpm
Low Idle Speed		800 rpm
Rated Torque	812 N·m	599 lb-ft
Peak Torque	1000 N·m	738 lb-ft
Torque Rise		23 %
BMEP, Rated	1492 kPa	216 psi
BMEP, Peak Torque	1851 kPa	268 psi
Altitude Capability	ft	
Friction Power @Rated Speed	30 kW	40 HP
Air:Fuel Ratio	22.2 : 1	
Noise @1 m	97.1 dB(A)	
Power Bulge	2 %	

Engine Speed	Power		Torque		BSFC	
	rpm	kW	hp	N·M	lb-ft	g/kWh
2200	187	251	812	599	212	0.348
2100	189	253	860	634	209	0.343
2000	190	255	908	670	208	0.341
1900	189	253	952	702	206	0.338
1800	185	248	979	722	205	0.336
1700	178	239	1000	738	209	0.343
1600	168	225	1000	738	206	0.338
1500	150	201	953	703	204	0.335
1400	134	180	911	672	205	0.336
1300	117	157	860	634	206	0.338
1200	102	137	808	596	206	0.338
1100	87	117	756	558	211	0.346
1000	74	99	704	519	215	0.353
900	61	82	652	481	215	0.353
800	50	67	600	443	220	0.361

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