



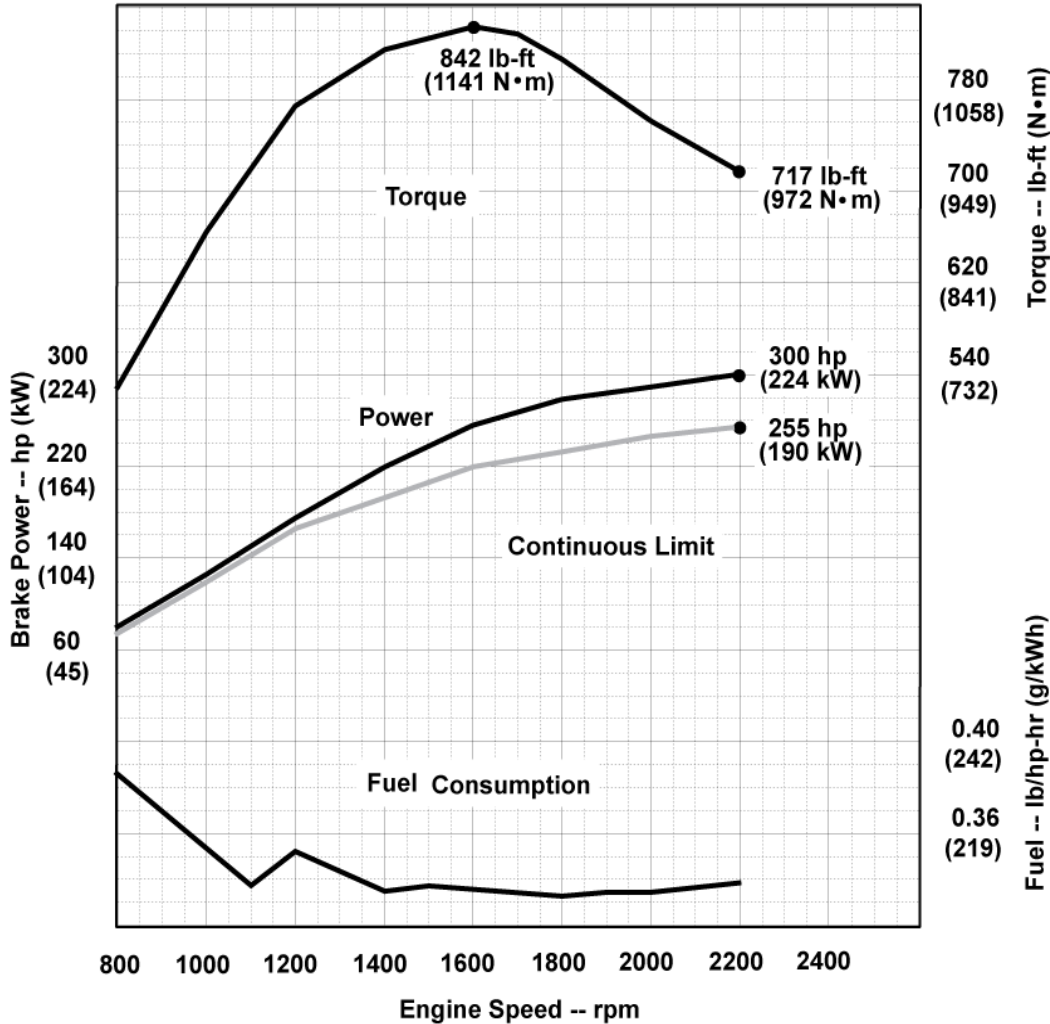
JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Gross Power
 Application: Intermittent
 Power Bulge - 0%
 Torque Rise - 17%

**PowerTech™ PSS 6.8L Engine
 Model: 6068HFC09**

300 hp @ 2200 rpm
 224 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: 6068HFC09_-B

Engine Installation Criteria

General Data

Model	6068HFC09	
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	16.7 : 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	780 mm	30.7 in.
Height	1205 mm	47.4 in.
Center of Gravity Location, X-axis From Rear Face of Block	420 mm	16.5 in.
Center of Gravity Location, Y-axis Right of Crankshaft	-10 mm	-0.4 in.
Center of Gravity Location, Z-axis Above Crankshaft	215 mm	8.5 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)	785 kg	1731 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	48 kW	2732 BTU/min
Compressor Discharge Temperature @77°F(25°C) Ambient Air	210 °C	410 °F
Intake Manifold Pressure	252 kPa	36.5 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	145 kW	8253 BTU/min
Coolant Flow @10 kPa External Restriction	522 L/min	138 gal/min
Coolant Flow @40 kPa External Restriction	498 L/min	132 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	28.7 m ³ /min	1014 ft. ³ /min
Exhaust Temperature	379 °C	714 °F
Max. Allowable Exhaust Restriction	22.0 kPa	88 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	5; Gen 1.5	
Exhaust Filter Pressure Drop (Clean)	14.5 kPa	58 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	136 kg/hr	300 lb/hr
Fuel Consumption	46 kg/hr	101.4 lb/hr
Fuel Temperature Rise, Inlet to Return	25 Δ°C	45 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	310 kPa	45 psi
Oil Pressure at Low Idle	160 kPa	23 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	15.3 m ³ /min	540 ft. ³ /min
Air Mass Flow	1062 kg/hr	2341 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	224 kW	300 HP
Rated Speed		2200 rpm
Max. Fast Idle Speed		2400 rpm
Breakaway Speed		2250 rpm
Power Bulge Speed		NA
Peak Torque Speed		1600 rpm
Low Idle Speed		800 rpm
Rated Torque	972 N·m	717 lb-ft
Peak Torque	1141 N·m	842 lb-ft
Torque Rise		17 %
BMEP, Rated	1820 kPa	264 psi
BMEP, Peak Torque	2134 kPa	310 psi
Altitude Capability	ft	
Friction Power @Rated Speed	30 kW	40 HP
Air:Fuel Ratio	22.5 : 1	
Noise @1 m	95.8 dB(A)	
Power Bulge	0 %	

Engine Speed	Power		Torque		BSFC	
	rpm	kW	hp	N-M	lb-ft	g/kWh
2200	224	300	972	717	207	0.339
2100	220	295	1000	738	206	0.338
2000	216	290	1031	760	204	0.335
1900	213	286	1069	788	204	0.335
1800	208	279	1103	814	203	0.333
1700	202	271	1135	837	205	0.336
1600	191	256	1141	842	205	0.336
1500	178	239	1135	837	206	0.338
1400	164	220	1116	823	204	0.335
1300	148	198	1089	803	213	0.349
1200	132	177	1051	775	214	0.351
1100	113	152	978	721	207	0.339
1000	94	126	900	664	217	0.356
900	78	105	830	612	223	0.366
800	60	80	715	527	236	0.387

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