

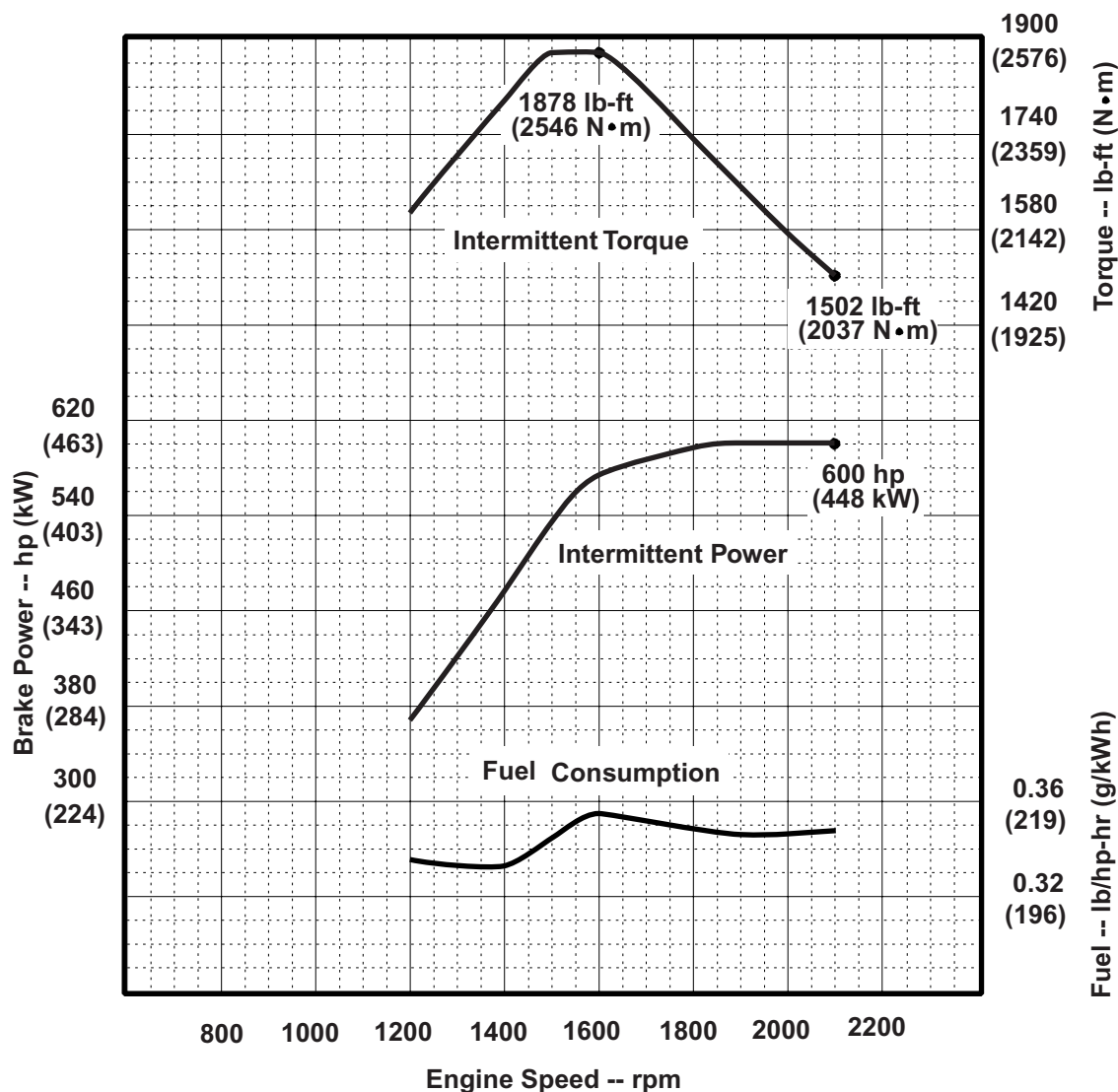


JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Gross Power
 Application: Industrial - Intermittent

PowerTech 12.5 L Engine
 Model: **6125HF070**
JD Electronic Control
600 hp @ 2100 rpm
448 kW @ 2100 rpm
 [See Option Code Table]



Air Intake Restriction 12 in.H₂O (3 kPa)
 Exhaust Back Pressure 30 in.H₂O (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:

Tier-2 Emission Certifications:

Certified by:

CARB; EPA; EU
 Ref: Engine Emission Label

Brian L. Carlson
 22 July 04

* Revised Data
 Curve: 6125HF070600I Sheet 1 of 2
 July 2004

Common Specifications:

General Data

Model	6125HF070
Number of Cylinders	6
Bore and Stroke--in. (mm).....	5.00 (127) x 6.50 (165)
Displacement--in. ³ (L).....	.763 (12.5)
Compression Ratio	14.7:1
Valves per Cylinder--Intake/Exhaust.....	2 / 2
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
Maximum Crankcase Pressure--in. H ₂ O (kPa)	6 (1.5)

Physical Data

Length--in. (mm)	52.2 (1326)
Width--in. (mm)	31.8 (808)
Height--in. (mm)	48.8 (1239)
Weight, dry--lb (kg)	2657 (1205)
(Includes flywheel housing, flywheel & electrics)	
Center of Gravity Location	
From Rear Face of Block (X-axis)--in. (mm).....	21.5 (545)
Right of Crankshaft (Y-axis)--in. (mm).....	0.6 (16)
Above Crankshaft (Z-axis)--in. (mm).....	8.6 (218)
Maximum Allowable Static Bending Moment at Rear Face of Flywhl Hsg w/ 5-G Load--lb-ft (N•m)	600 (814)
Thrust Bearing Load Limit (Forward)--lb (N)	
Intermittent.....	1835 (8162)
Continuous	1225 (5449)

Air System

Maximum Allowable Temp Rise--Ambient Air to	
Engine Inlet--°F (°C)	15 (8)
Maximum Air Intake Restriction:	
Dirty Air Cleaner--in. H ₂ O (kPa).....	25 (6.25)
Clean Air Cleaner--in. H ₂ O (kPa).....	12 (3)
Engine Air Flow--ft ³ /min (m ³ /min)	1363 (38.6)
Intake Manifold Pressure--psi (kPa).....	36 (246)
Compressor Discharge Temp.--°F (°C).....	435.2 (224)
Maximum Pressure Drop,	
Charge Air Cooler--in.H ₂ O (kPa)	52 (13)
Max Temp Out of Charge Air Cooler	
@ 77°F (25°C) Ambient--°F (°C)	140 (60)

Engine Specification Data

Cooling System

Engine Heat Rejection--BTU/min (kW)	9432 (165.7)
Air/Air Exch'r. Heat Rej.--Btu/min(kW)	7138 (125.4)
Coolant Flow--gal/min (L/min).....	87 (330)
Thermostat Start to Open--°F (°C).....	180 (82)
Thermostat Fully Open--°F (°C).....	201 (94)
Engine Coolant Capacity--qt (L)	17.2 (16.3)
Minimum Pressure Cap--psi (kPa).....	7 (48)
Maximum Top Tank Temp--°F (°C)	212 (100)
Minimum Coolant Fill Rate--gal/min (L/min)	3 (11)
Minimum Air-to-Boil Temperature--°F (°C).....	117 (47)

Electrical System

12 Volt 24 Volt

Min. Battery Capacity (CCA)--amp	1800.....	900
Max. Allow. Starting Circuit Resist.--Ohm 0.0012.....	0.002.....	0.002
Starter Rolling Current		
At 32 °F (0 °C)--amp.....	1280.....	600
At -22 °F (-30 °C)--amp	1500.....	970

Exhaust System

Exhaust Flow--ft ³ /min (m ³ /min).....	3214 (91)
Exhaust Temperature--°F (°C).....	878 (470)
Max. Allowable Back Pressure--in. H ₂ O (kPa)	30 (7.5)

Fuel System

Fuel Injection Pump	Delphi EUI
Governor Type.....	Electronic
Total Fuel Flow--lb/hr (kg/hr)	344 (156)
Fuel Consumption--lb/hr (kg/hr).....	209 (95)
Max. Fuel Transfer Pump Suction--ft (m) fuel.....	10 (3.0)
Max. Fuel Inlet Temperature--°F (°C)	212 (100)
Fuel Filter Micron Size @ 98% Efficiency.....	2

Lubrication System

Oil Pressure at Rated Speed--psi (kPa)	45 (310)
Oil Pressure at Low Idle--psi (kPa)	20 (138)
In Pan Oil Temperature--°F (°C)	239 (115)

Performance Data

Rated Power--hp (kW)	600 (448)
Rated Speed--rpm	2100
Breakaway Speed--rpm	2150
Fast Idle Speed--rpm	2275
Peak Torque--lb-ft (N•m).....	1878 (2546)
Peak Torque Speed--rpm	1600
Low Idle Speed--rpm	900
BMEP--psi (kPa)	298 (2058)
Friction Power @ Rated Speed--hp (kW)	60 (45)
Altitude Capability--ft (m)	8400 (2560)*
Ratio--Air : Fuel	27.5:1
Smoke @ Rated Speed--Bosch No.	0.2
Noise--dB(A) @ 1 m	100.4

Intermittent

Engine Speed rpm	Power hp (kW)	Torque lb-ft (N•m)	BSFC lb/hp-hr (g/kWh)
2100	600 (448)	1502 (2037)	0.348 (212)
2000	600 (448)	1578 (2139)	0.347 (212)
1900	600 (448)	1661 (2252)	0.346 (211)
1800	594 (443)	1733 (2350)	0.349 (212)
1600	572 (427)	1878 (2546)	0.354 (215)
1500	536 (400)	1878 (2546)	0.345 (210)
1400	476 (355)	1785 (2420)	0.332 (202)
1200	368 (274)	1609 (2181)	0.336 (205)

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

* Revised Data
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July 2004