



JOHN DEERE

ENGINE PERFORMANCE CURVE

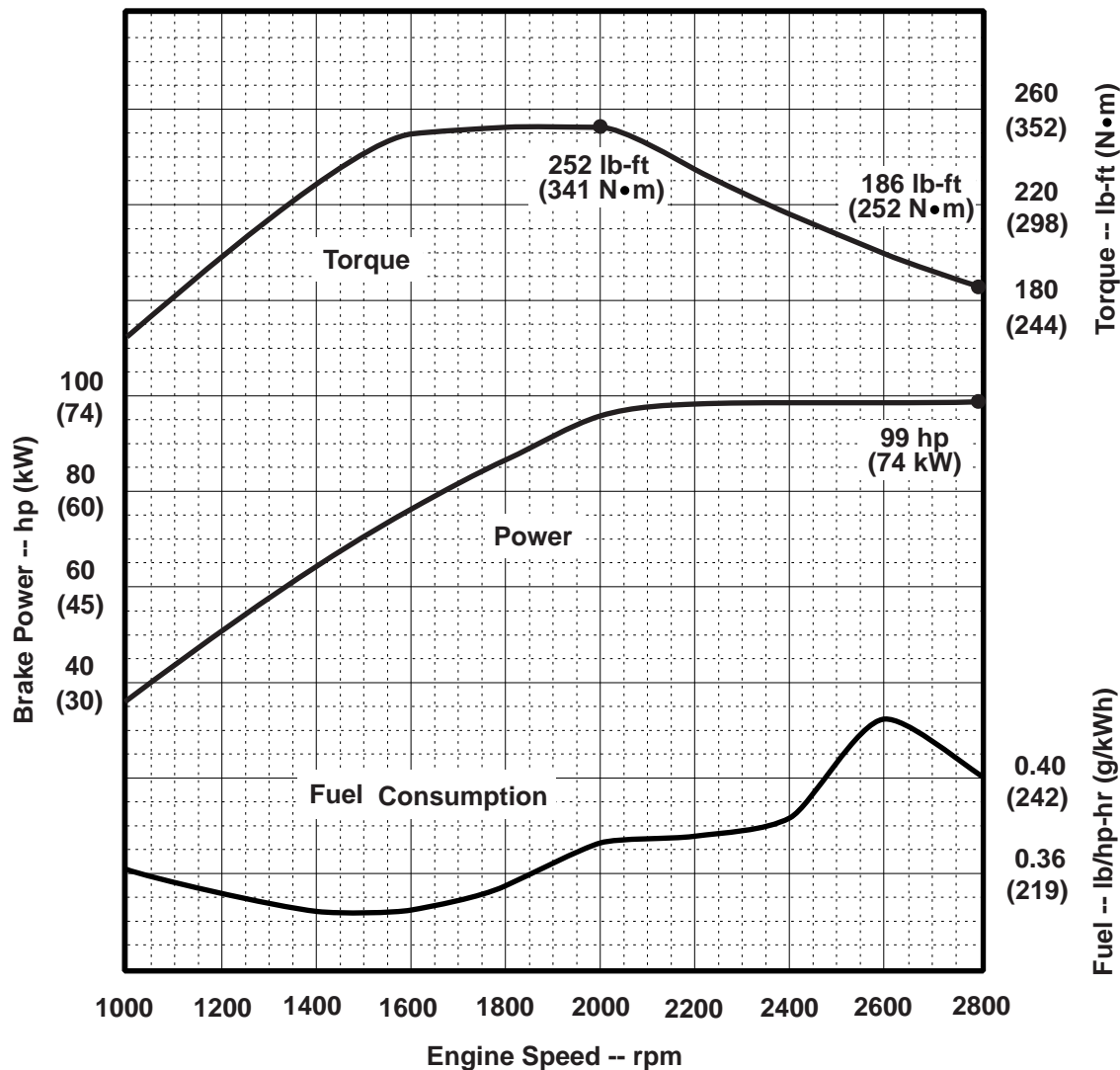
Rating: Gross Power
 Application: Industrial - Intermittent
 Power Bulge - 0%
 Torque Rise - 35%

PowerTech E™ 3.0 L Engine

Model: 5030HF285

99 hp @ 2800 rpm

74 kW @ 2800 rpm



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-3 Emission Certifications:

Certified by:

CARB; EPA; EU
 Ref: Engine Emission Label

Vincenzo Perduca
 11-28-2007

* Revised Data

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Engine Installation Criteria

General Data

Model	5030HF285
Number of Cylinders	5
Bore and Stroke--in. (mm).....	3.4 x 4.1 (86 x 105)
Displacement--in. ³ (L).....	186 (3.05)
Compression Ratio	18.2 : 1
Valves per Cylinder--Intake/Exhaust.....	1 / 1
Firing Order.....	1-2-4-5-3
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 (Estimated based on Tier 2)

Length--in. (mm)	31.5 (799)
Width--in. (mm)	22.3 (566)
Height--in. (mm)	31.5 (800)
Weight, dry--lb (kg)	633 (287)
(Includes flywheel housing, flywheel & electrics)	
Center of Gravity Location	
From Rear Face of Block (X-axis)--in. (mm)	9.5 (241)
Right of Crankshaft (Y-axis)--in. (mm)	0.5 (12)
Above Crankshaft (Z-axis)--in. (mm)	4.9 (124)
Maximum Allowable Static Bending Moment at Rear Face of Flywhl Hsg w/ 5-G Load--lb-ft (N•m)	369 (500)
Thrust Bearing Load Limit --lb (N) <u>Forward</u> <u>Rearward</u>	
Intermittent.....	1147 (5100).....337 (1500)
Continuous	629 (2800).....180 (800)
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.....	750	500
Max. Allow. Starting Circuit Resist.--Ohm 0.0012	0.002	
Starter Rolling Current		
At 32 °F (0 °C)--amp	290	310
At -22 °F (-30 °C)--amp.....	370	340
Min. Voltage at ECU during Cranking--volts.....	6	10
Maximum ECU Temperature--°F (°C)	221 (105)	
Maximum Harness Temperature--°F (°C)	257 (125)	

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 (3.0)
Engine Air Flow--ft ³ /min (m ³ /min)	272 (7.7)
Air Cleaner Efficiency--%	99.9

Lubrication System

Oil Pressure at Rated Speed--psi (kPa)	44 (300)
Oil Pressure at Low Idle--psi (kPa)	36 (250)
Max. Oil Carryover in Blow-by--lb/hr (g/hr)	0.002 (1.0)
Max. Airflow in Blow-by--gal/min (l/min).....	15 (55)
Max. Crankcase Pressure--in. H ₂ O (kPa).....	2 (0.5)

Performance Data

Rated Power--hp (kW)	99 (74)
Rated Speed--rpm	2800
Breakaway Speed--rpm	2870
Fast Idle Speed--rpm	3000
Peak Torque--lb-ft (N•m).....	252 (341)
Peak Torque Speed--rpm	2000
Low Idle Speed--rpm	900
BMEP--psi (kPa).....	126 (871)
Friction Power @ Rated Speed--hp (kW)	28 (21)
Altitude Capability--ft (m)	10,000 (3050)
Ratio--Air : Fuel	27 : 1
Smoke @ Rated Speed--Bosch No.	1.5
Noise--dB(A) @ 1 m	NA
Power Bulge--%	0
Power Bulge Speed--rpm	NA
Torque Rise--%.....	35

Engine Speed rpm	Power hp (kW)	Torque lb-ft (N•m)	BSFC lb/hp-hr (g/kWh)
2800	99 (74)	186 (252)	0.400 (244)
2600	99 (74)	200 (272)	0.425 (259)
2400	99 (74)	216 (292)	0.383 (233)
2200	98 (73)	233 (316)	0.376 (229)
2000	96 (71)	252 (341)	0.373 (227)
1800	86 (64)	252 (341)	0.355 (217)
1600	76 (57)	250 (338)	0.344 (210)
1400	65 (48)	231 (313)	0.345 (210)
1200	51 (38)	198 (269)	0.351 (214)
1000	36 (27)	166 (225)	0.361 (220)

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

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