



JOHN DEERE

PowerTech™ E

4045H Diesel Engine

Specifications



4045HF Engine shown

General Data

Model	4045HF285	Aspiration	Air-to-Air
Number of cylinders	4	Length-- mm (in)	860 (33.9)
Displacement-- L (cu in)	4.5 (275)	Width-- mm (in)	612 (24.1)
Bore and Stroke-- mm (in)	106 x 127 (4.17 x 5.00)	Height-- mm (in)	1039 (40.9)
Compression Ratio	19.0:1	Weight, dry-- kg (lb)	491 (1082)
Engine Type	In-line, 4-cycle		

Rated BHP is the power rating for variable speed and load applications where full power is required intermittently.

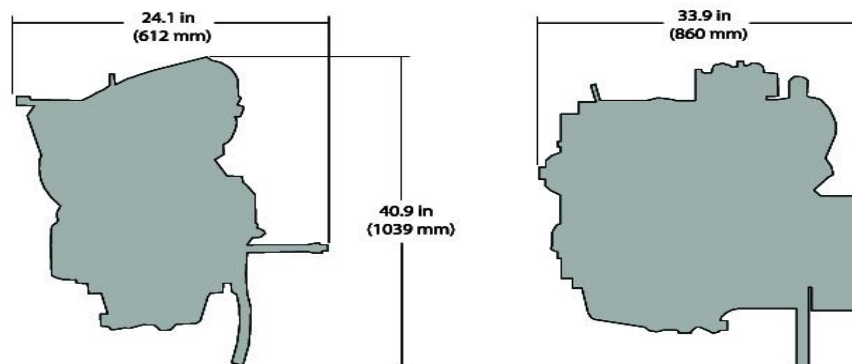
Continuous BHP is the power rating for applications operating under a constant load and speed for long periods of time.

Heavy duty - see application ratings/definitions, engine performance curves. Power output is within + or - 5% at standard SAE J 1995 and ISO 3046.

Certifications

- CARB
- EPA Tier 3
- EU Stage III A

Dimensions



Performance data

Rated Speed

Intermittent 104 kW (139 hp) @ 2400 rpm

Peak power

104 kW (139 hp) @ 2400 rpm

Power bulge %

NA @ 2400 rpm

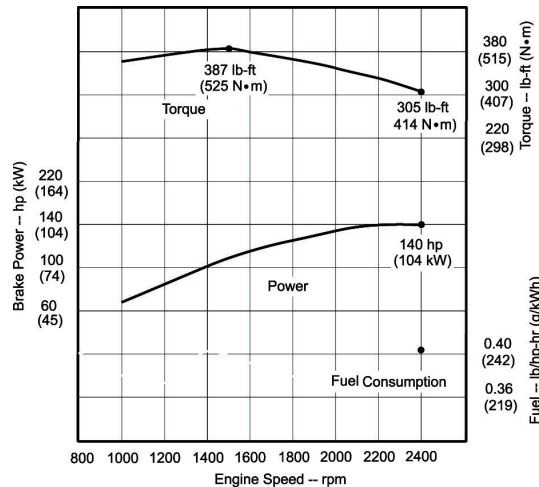
Peak torque

525 N-m (387 ft-lb) @ 1500 rpm

Torque Rise %

27% @ 1500 rpm

Performance curve



Features and Benefits

2-Valve Cylinder Head

- Cross flow head design that provides excellent breathing from a lower cost two-valve cylinder head

High-Pressure Common-Rail (HPCR) and Engine Control Unit (ECU)

- The HPCR fuel system provides variable common-rail pressure, multiple injections, and higher injection pressures, up to 1600 bar (23,000 psi). It also controls fuel injection timing and provides precise control for the start, duration, and end of the injection

Fixed Geometry Turbocharger

- Fixed geometry turbochargers are precisely matched to the power level and application

Turbocharged

- In turbocharged engines, the air is pre-compressed. Due to the higher pressure, more air is supplied into the combustion chamber allowing a corresponding increase in fuel injection which results in greater engine output.

Air-to-Air Aftercooled

- This is the most efficient method of cooling intake air to help reduce engine emissions while maintaining low-speed torque, transient response time, and peak torque. It enables an engine to meet emissions regulations with better fuel economy and the lowest installed costs

Compact Size

- Mounting points are the same as Tier 2/Stage II engine models

Multiple Injection Strategy

- The new HPCR fuel system and engine control unit (ECU) allow for multiple fuel injections. The number of fuel injections,

lower combustion NOx and so provides an

Engine Performance

- New power bulge feature
- Increased low speed torque
- New higher-peak torque speed
- Faster torque rise
- Lower-rated speeds available for reduced noise and improved fuel economy

John Deere Electronic Engine Controls

- Electronic engine controls monitor critical engine functions, providing warning and/or shutdown to prevent costly engine repairs and eliminate the need for add-on governing components all lowering total installed costs. Snapshot diagnostic data that can be retrieved using commonly available diagnostic service tools
- Controls utilize new common wiring interface connector for vehicles or available OEM instrumentation packages; new solid conduit and "T" connectors to reduce wiring stress and provide greater durability and improved appearance
- Factory-installed, engine mounted ECU or remote-mounted ECU comes with wiring harness and associated components. Industry-standard SAE J1939 interface communicates with other vehicle systems, eliminating redundant sensors and reducing vehicle installed cost

Additional Features

- Self-adjusting poly-vee fan drive
- Forged-steel connecting rods
- Replaceable wet-type cylinder liners
- Either-side service
- 500-hour oil change
- Gear-driven auxiliary drive



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John Deere Power Systems
3801 W. Ridgeway Ave.
PO Box 5100
Waterloo, IA 50704-5100
Phone: 800.553.6446
Fax: 319.292.5075

John Deere Power Systems
Usine de Saran
La Foulonnerie - B.P. 11.13
45401 Fleury les Aubrais Cedex
France
Phone: 33.2.38.82.61.19
Fax: 33.2.38.82.60.00