



JOHN DEERE

PowerTech™ Plus

4045H Diesel Engine

Specifications



4045HF Engine shown

General Data

Model 4045HF485
Number of cylinders 4
Displacement-- L (cu in) 4.5 (275)
Bore and Stroke-- mm (in) 106 x 127 (4.17 x 5.00)
Compression Ratio 17.0 : 1
Engine Type In-line, 4-Cycle

Aspiration Air-to-Air
Length-- mm (in) 867 (34.1)
Width-- mm (in) 680 (26.8)
Height-- mm (in) 1055 (41.5)
Weight, dry-- kg (lb) 491 (1082)

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

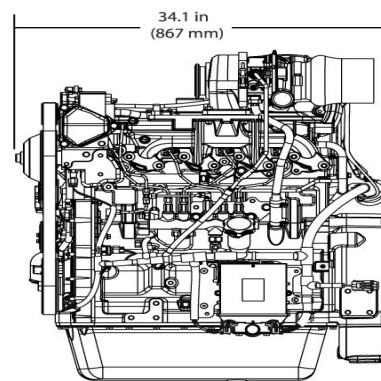
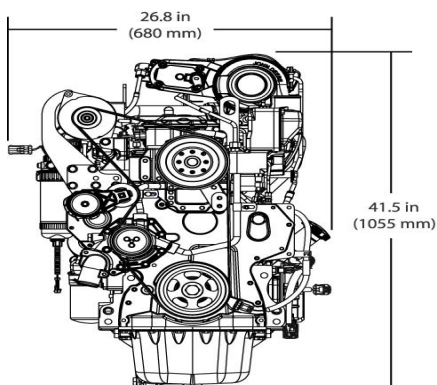
Continuous BHP is the power rating for applications operating under a constant load and speed for long periods of time.

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 111 kW (149 hp) @ 2000 rpm

Peak power

Power bulge % 116 kW (156 hp) @ 1800 rpm

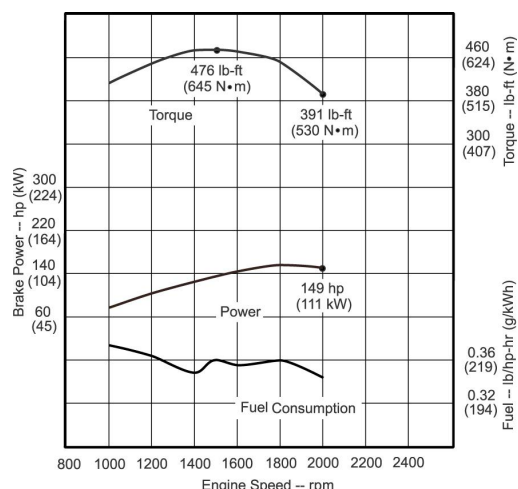
4% @ 1800 rpm

Peak torque

Torque Rise % 645 N-m (476 ft-lb) @ 1500 rpm

22% @ 1500 rpm

Performance curve



Features and Benefits

4-Valve Cylinder Head

- The 4-valve cylinder head provides excellent airflow resulting in greater low-speed torque and better transient response.

Cross flow design

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

Cooled Exhaust Gas Recirculation (EGR)

- EGR cools and mixes measured amounts of cooled exhaust gas with incoming fresh air to lower peak combustion temperatures, thereby reducing NOx

Variable Geometry Turbocharger (VGT)

- Varies exhaust pressure based on load and speed to insure proper EGR flow; greater low-speed torque, quicker transient response, higher peak torque, and best-in-class fuel economy.

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

- Horsepower/displacement ratio is best-in-class
- Lower installed cost
- Mounting points are the same as Tier 2/Stage II engine models

Engine Performance

- Multiple rated speeds to further reduce noise and improve fuel economy
- New higher peak torque ratings
- Better transient response time
- Greater levels of low speed torque
- New power bulge feature

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

- Glow plugs; gear-driven auxiliary drive; optional 500-hour oil change; self adjusting ploy-vee fan drive



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