



JOHN DEERE

Tier 3 / Stage 3A Diesel Engines



PowerTech M

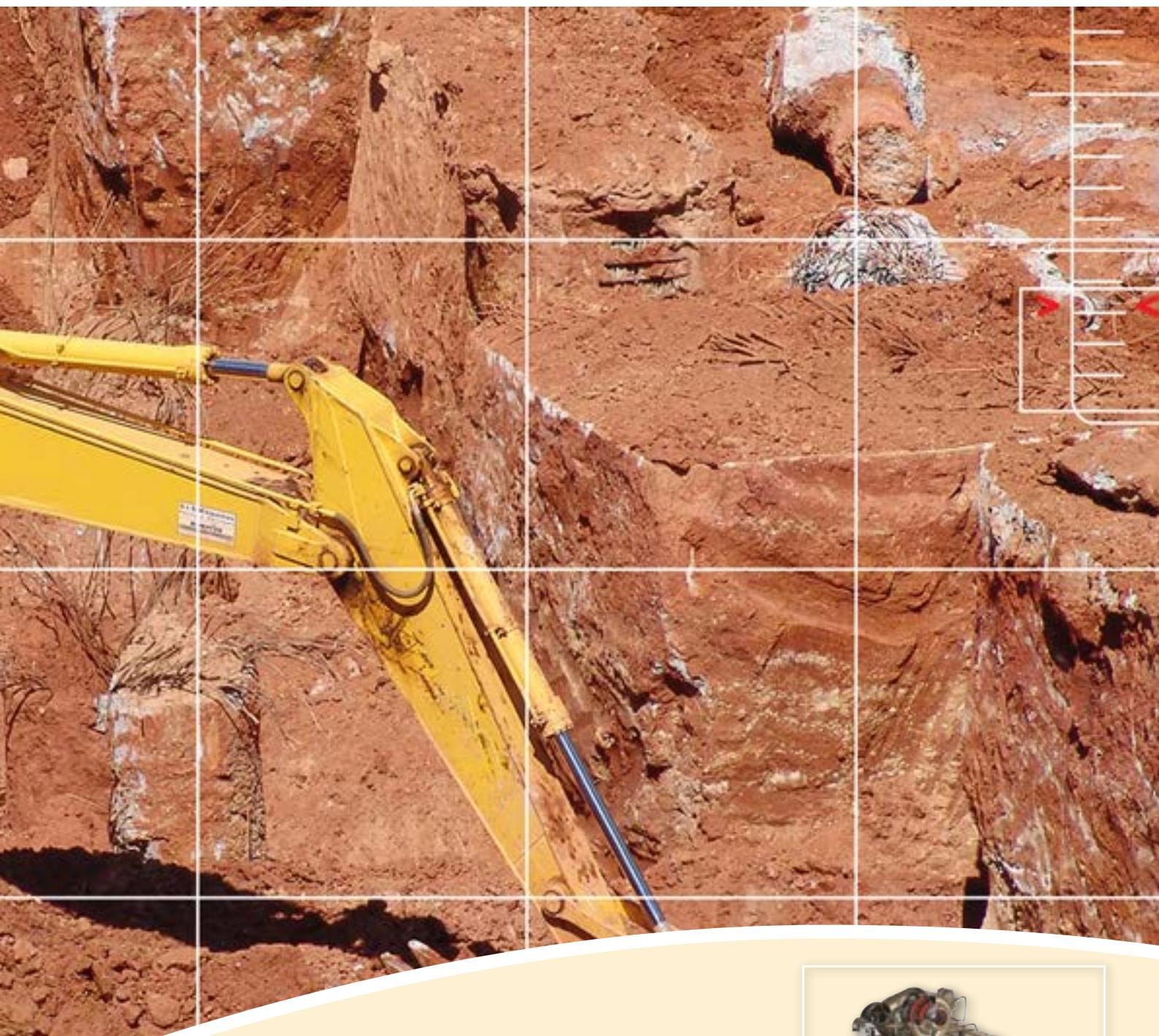
Output : 56 kW (75 hp) - 74 kW (99 hp)

PowerTech E

Output : 63 kW (85 hp) - 149 kW (200 hp)

PowerTech Plus

Output : 111 kW (149 hp) - 448 kW (600 hp)





POWERTECH M - 2.9L, AND 4.5L ENGINES

FIXED GEOMETRY TURBOCHARGER

Fixed geometry turbochargers are sized for a specific power range and optimized to provide excellent performance across the entire torque curve. They are also designed to maximize fuel economy between the engine's rated speed and peak torque.

MECHANICAL UNIT PUMP (MUP) FUEL SYSTEM

This system uses camshaft-driven MUPs, connected to the injectors by a short fuel line. The short fuel line between the unit pumps and the injectors helps to alleviate after-injection, secondary injection, and other injection abnormalities (2.9L).

MECHANICAL ROTARY PUMP

The timing and fuel injection pressures are optimized to maximize performance and fuel economy at a given rated speed (4.5L).

2-VALVE CYLINDER HEAD

Cross-flow (4.5L) and U-flow (2.9L) head design provides excellent breathing from a lower-cost 2-valve cylinder head.

TURBOCHARGED

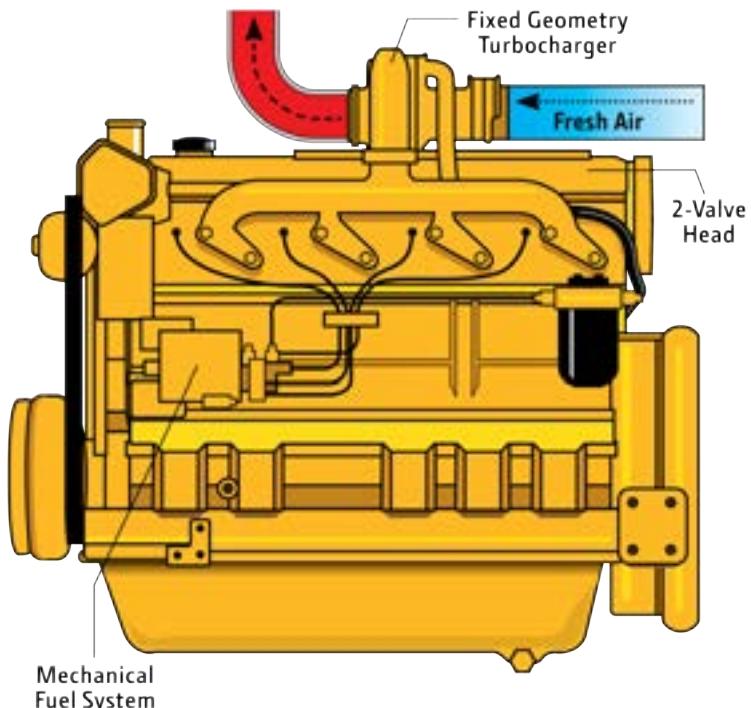
In turbocharged engines, the air is pre-compressed. Due to the higher pressure, more air is supplied into the combustion chamber, allowing a corresponding increase in fuel injection, which results in greater engine output.

COMPACT SIZE

Mounting points are the same as previous engine models.

ADDITIONAL FEATURES

- Self-adjusting poly-vee fan drive
- Forged-steel connecting rods
- Either-side service
- 500-hour oil change
- Glow plugs (2.9L)
- Optional balancer shafts



Stage 3A Generator Drives

POWERTECH E - 4.5L, 6.8L AND 9.0L ENGINES

FIXED GEOMETRY TURBOCHARGER

Fixed geometry turbochargers are sized for a specific power range and optimized to provide excellent performance across the entire torque curve. They are also designed to maximize fuel economy between the engine's rated speed and peak torque.

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 1,600 bar (23,000 psi). It also controls fuel injection timing and provides precise control for the start, duration, and end of injection.

2-VALVE CYLINDER HEAD

Cross-flow head design provides excellent breathing from a lower-cost 2-valve cylinder head.

4-VALVE CYLINDER HEAD

The 4-valve cylinder head provides excellent airflow (9.0L).

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 (4.5L).

AIR-TO-AIR AFTERCOOLED

This is the most efficient method of cooling intake air to help reduce engine emissions. It enables an engine to meet emissions regulations with better fuel economy and the lowest installed costs.

COMPACT SIZE

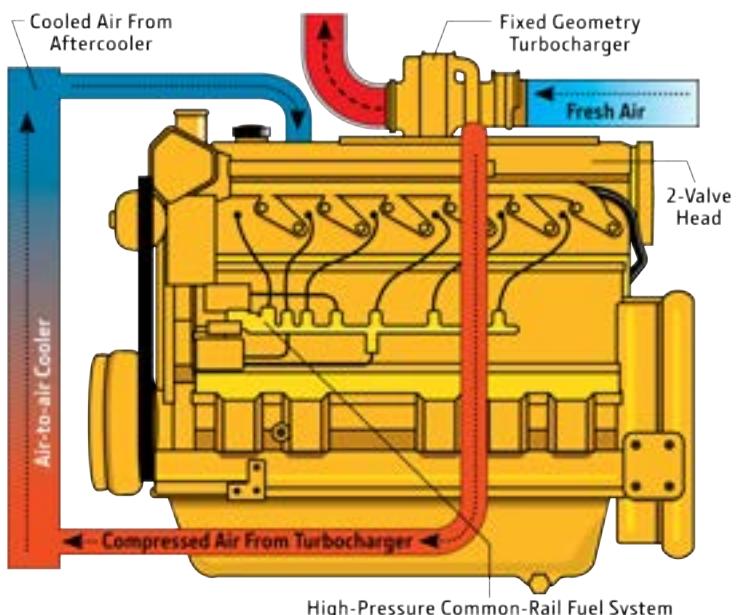
Mounting points are the same as previous engine models.

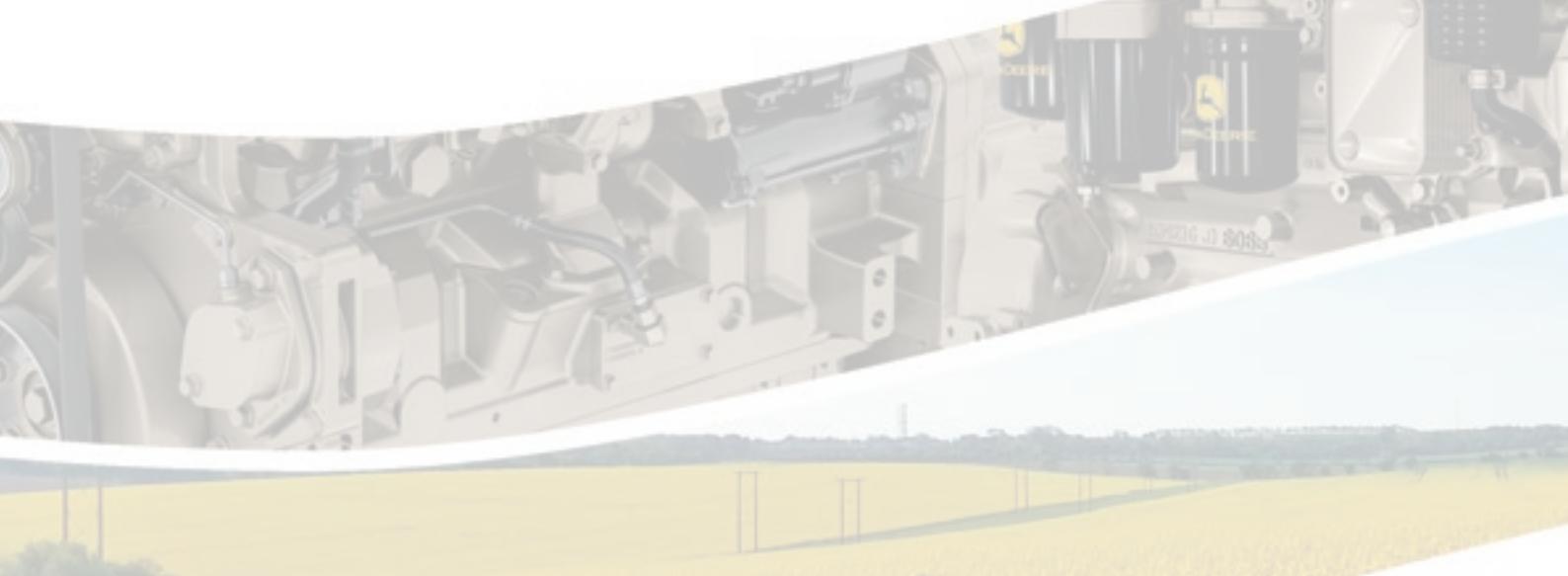
JOHN DEERE ELECTRONIC ENGINE CONTROLS

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.

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
- Optional balancer shafts (4.5L)





DIFFERENT TECHNOLOGIES FOR DIFFERENT APPLICATIONS

If there's one thing you can count on in the off-highway industry, it's every application having different power demands. The jobs that our family of PowerTech™ engines tackle every day are as varied as the equipment they power.

You might have minimal horsepower demands. Or you might need an engine that can be pushed to the limits without increasing your fuel costs. Either way, John Deere has an engine platform to fit your performance needs, while meeting emissions regulations.

POWERTECH M

The simplest of the PowerTech family, these engines have 2-valve heads, fixed geometry turbochargers and mechanical fuel systems. PowerTech M engines (4.5L) are perfect for less demanding applications. Their mechanical controls are simple to operate and maintain.

POWERTECH E

These engines also have 2-valve heads and fixed geometry turbochargers, but introduce full-authority electronic controls and more sophisticated fuel delivery- high-pressure common-rail (HPCR) fuel systems.

QUALITY

John Deere's continuing research and development efforts are the key to the constant improvement of their engines. The commitment to technology excellence and a rigorous manufacturing process are the best guarantees of each John Deere engine's precision. Performance, fuel efficiency, reliability and easy installation, in keeping with environmental standards, are the key words that characterize their engines.

POWER RATINGS

