



**JOHN DEERE**

# Tier 3 / Stage 3A Diesel Engines





# PowerTech M

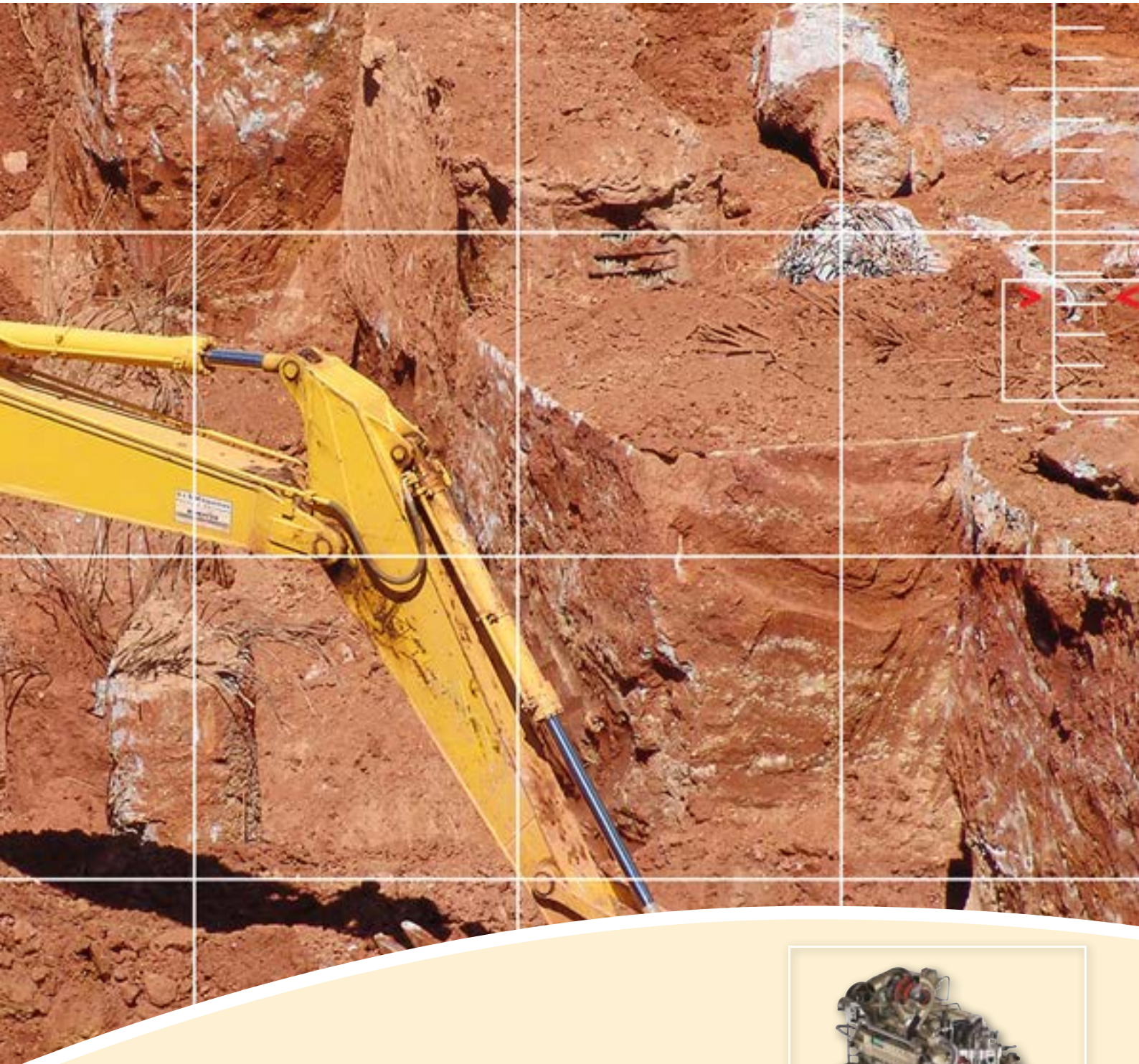
Output : 56 kW (75 hp) - 74 kW (99 hp)

# 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

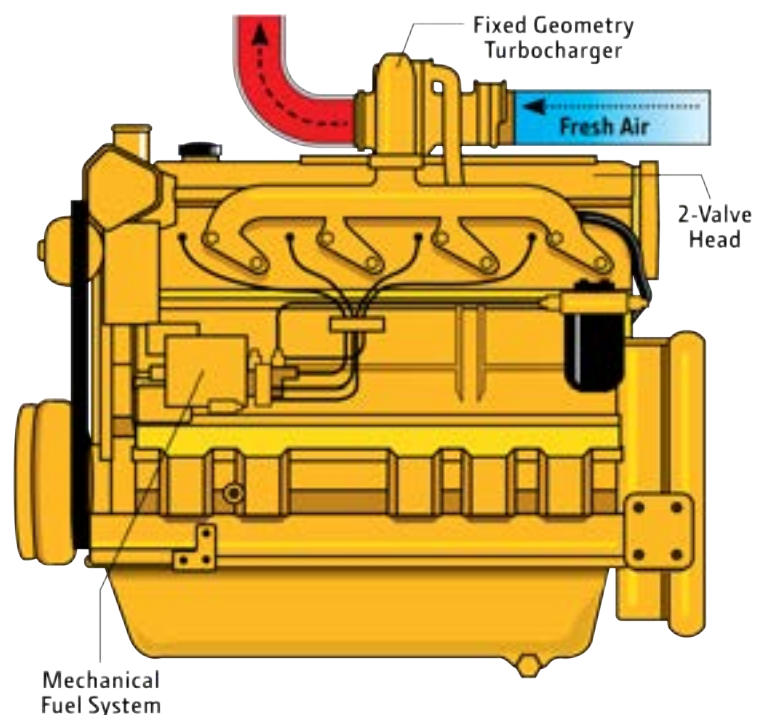
In turbocharged engines, the air is pre-compressed. Due to the higher pressure, more air is supplied into the combustion chamber, allowing a corresponding increase in fuel injection, which results in greater engine output.

## 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)

