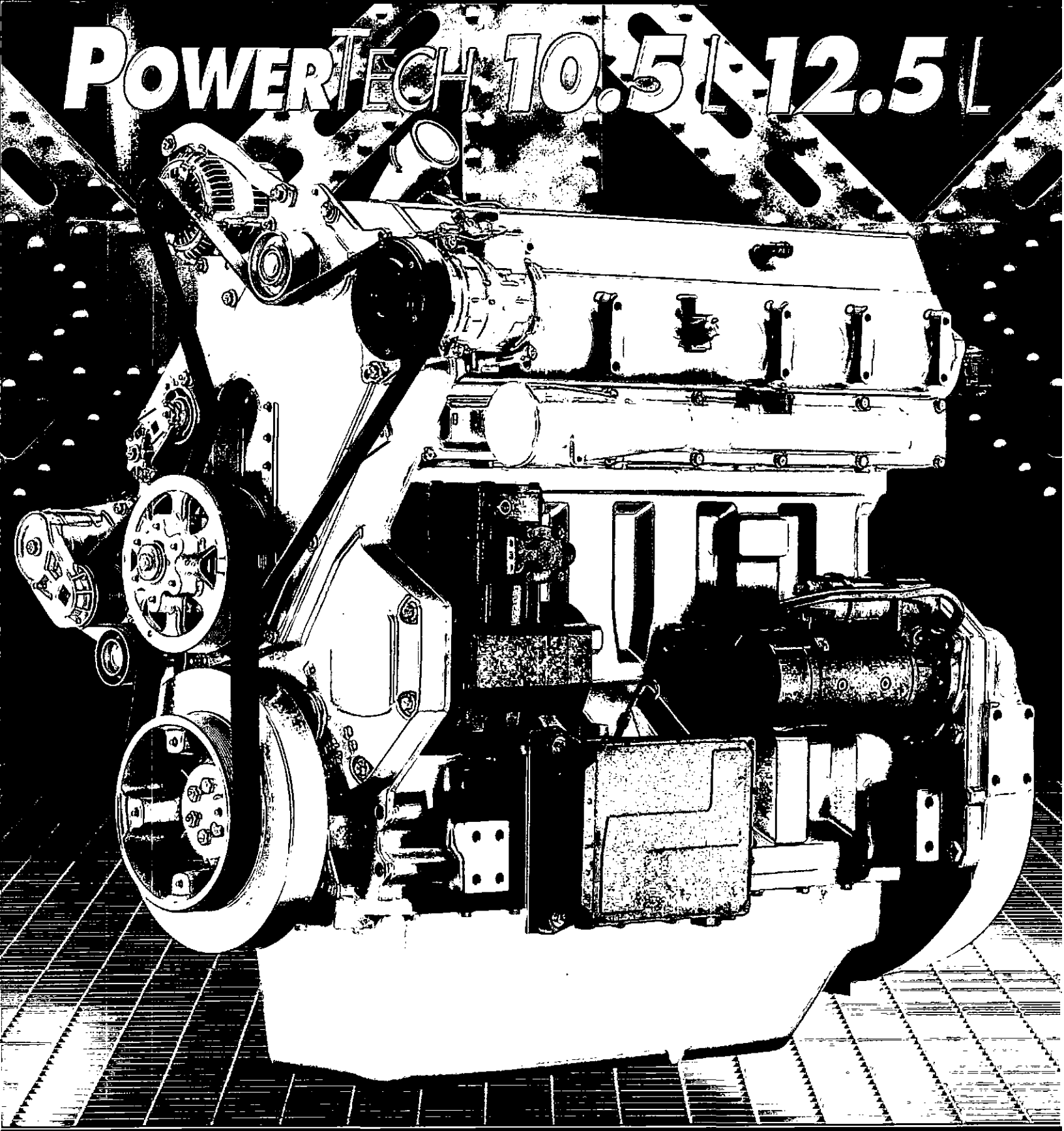
POWERTECH 10.5L 12.5L



JOHN DEERE DEERE POWER

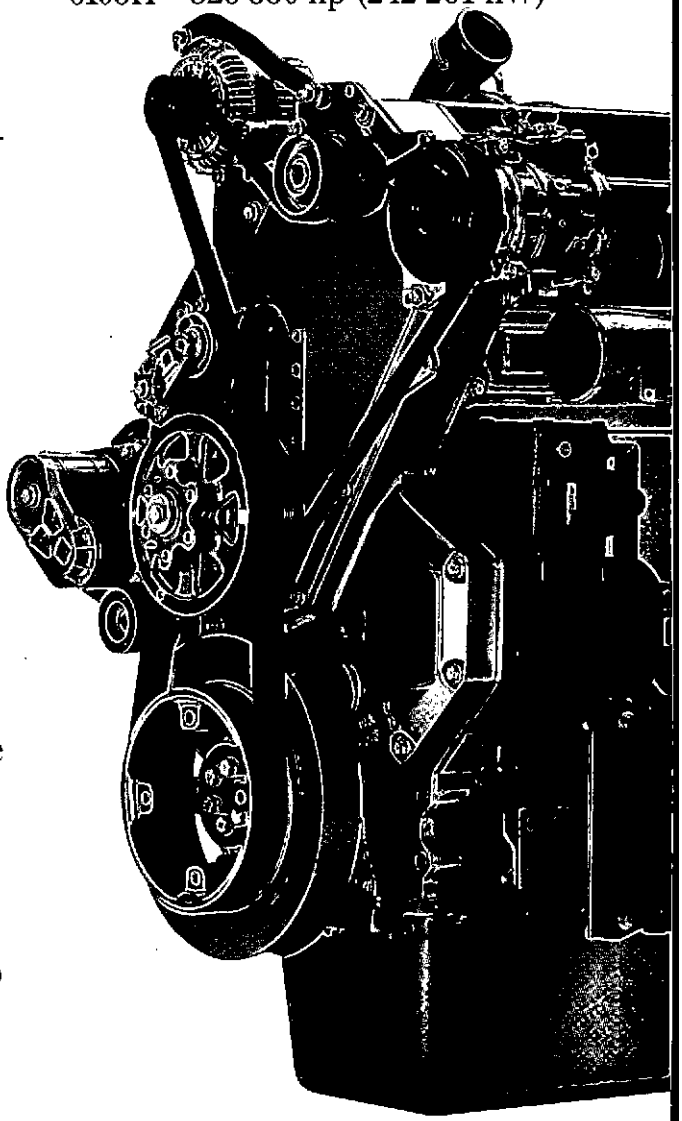
POWERTECH 10.5 L 12.

THE MOST POWERFUL JOHN DEERE ENGINES EVER, 300 TO 500 HP

POWERTECH 10.5 L and **12.5 L** engines carry much more than a bold, new high-tech look. From their pistons to their electronic controls, they feature the latest engine technology.

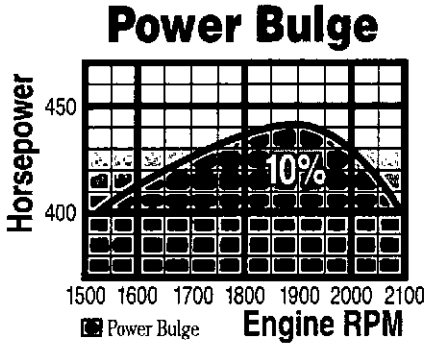
We asked our customers what performance features they'd like to see in a 300- to 500-hp (224- to 373-kW) engine. The result is a totally new engine design that delivers more power and torque, a new level of fuel efficiency, traditional John Deere durability, and utmost flexibility for applying the engine to different machines. The introduction of the **POWERTECH 10.5 L** and **12.5 L** confirms that John Deere is the "emerging power" in diesel technology.

10.5 L
6105A – 300 hp (224 kW)
6105H – 325-350 hp (242-261 kW)



IMPROVED ENGINE PERFORMANCE

Many of the performance improvements on the **POWERTECH 10.5 L** and **12.5 L** engines are achieved through the use of an all new ECU (Engine Control Unit) and EUI (Electronic Unit Injector), both of which are standard.

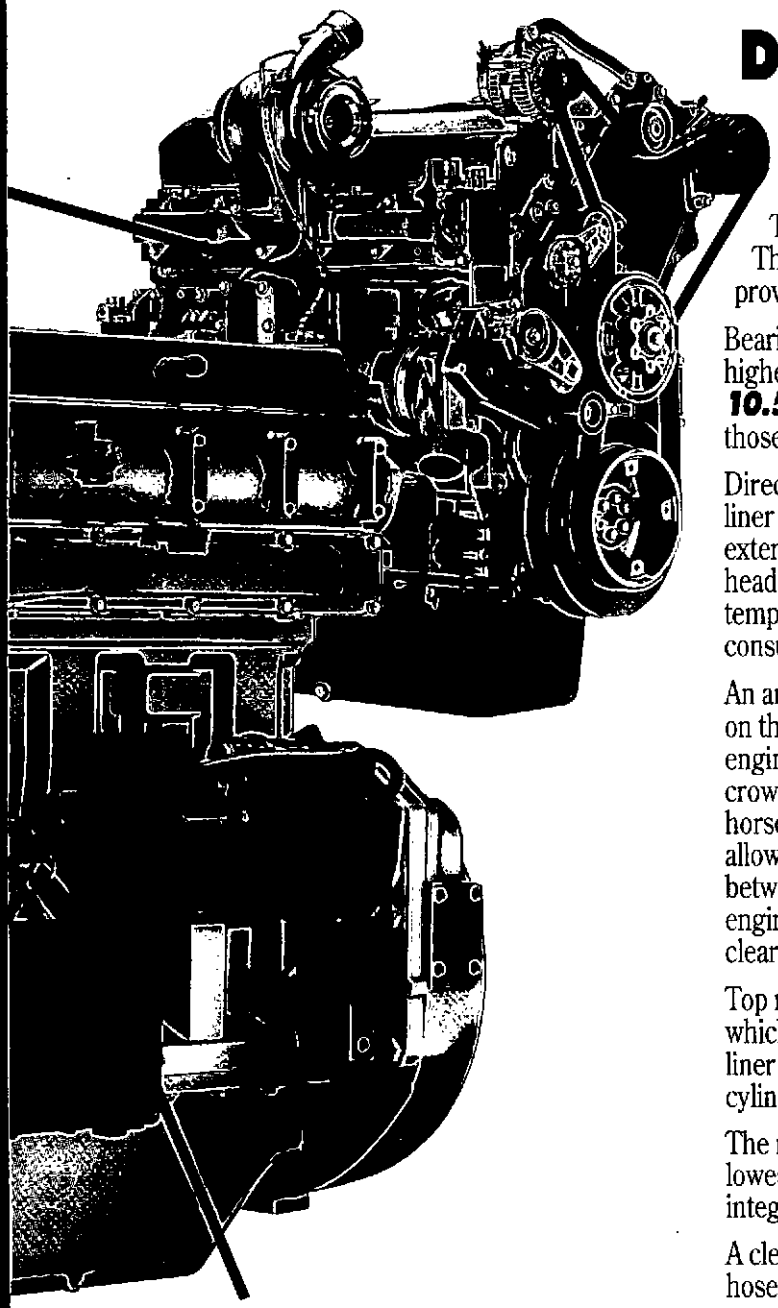


These new electronic controls provide a 10% power bulge at 1900 rpm to handle short term loads. They also provide increased torque at lower engine speeds for better low-speed driveability in mobile applications. A **POWERTECH** engine can better maintain desired rated speed for increased machine productivity. In certain applications, an optional timed power boost feature provides 30 to 50 extra horsepower to operate additional machine functions for short durations. The new electronic control system also features on-board diagnostics and expanded engine protection.

To further enhance engine performance and fuel economy, a new cam-in-head, four valve, cross-flow cylinder head gives the **POWERTECH 10.5 L** and **12.5 L** engines more efficient air flow. Best of all, **POWERTECH** gives you all this performance and fuel economy while complying with 1996 CARB and EPA off-road emission regulations.

Certified standby gen-s

.5 L DIESEL ENGINES



12.5 *L*
6125A – 325-400 hp (242-298 kW)
6125H – 425-500 hp (317-373 kW)

ratings from 200-350 kWe

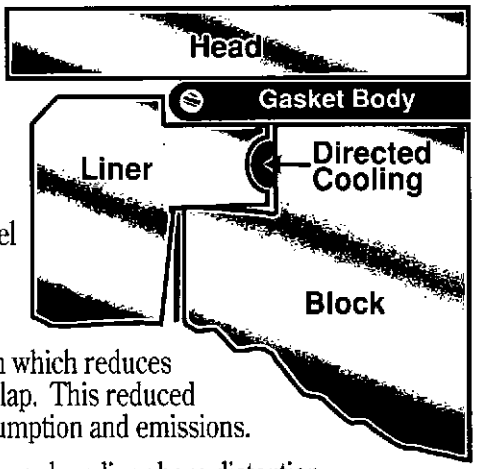
DURABILITY AND RELIABILITY

POWERTECH 10.5 *L* and **12.5** *L* engines pack a lot of power into a compact package. That's why every component within these engines is new.

The camshaft, located high in the head, eliminates pushrods and lifters. This design reduces the number of parts, stiffens the valve train and provides more precise control of valve events.

Bearing surface areas have been increased substantially to handle the higher horsepower and increased torque. In fact, both the **POWERTECH** **10.5** *L* and **12.5** *L* engines have bearing areas as large or larger than those found in many 14 liter engines.

Directed top-liner cooling (illustrated at right) reduces head gasket and liner temperatures. This extends power cylinder and head gasket life. Reducing temperatures also reduces oil consumption and emissions.



An articulated two-piece piston on the **POWERTECH** **12.5** *L* engine uses a high strength steel crown to handle the higher horsepower. The steel crown allows a reduced clearance between the liner and the piston which reduces engine noise caused by piston slap. This reduced clearance also reduces oil consumption and emissions.

Top mounted, thick-walled liners reduce liner bore distortion which improves oil consumption and reduces emissions. This increased liner thickness minimizes the sensitivity to cavitation and improves power cylinder durability.

The robust front gear train gives the **POWERTECH** **10.5** *L* and **12.5** *L* the lowest number of active gears and the fewest wear points. The oil pump is integrated into this gear train for fewer parts and improved reliability.

A clean, modern design reduces the number of fittings, lines, gaskets, hoses, clamps and O-rings. Potential leak paths are practically eliminated.

APPLICATION FLEXIBILITY

POWERTECH 10.5 L and **12.5** L engines are sized to fit into many applications. They are the shortest engines in their power class (1326 mm from front of fan drive to rear of flywheel housing). They are also the narrowest engines in their power class (741 mm). But since size is only one consideration, John Deere has designed in many features that increase flexibility of the **POWERTECH 10.5** L and **12.5** L engines.

- An adjustable-height fan drive provides fan centers ranging from 12" to 18" (305-457 mm) with four different positions.
- Five different fan drive ratios from 0.5:1 to 1.1:1.
- Gear driven auxiliary drive for optional equipment like hydraulic pumps, air compressors or fuel transfer pump.
- Factory installed air compressors and R134a refrigerant compressors.
- Large 12 volt (90 to 140 amp) and 24 volt (60 amp) alternators and alternator mountings for the larger frame/brushless alternators.
- Front PTO adaptation parts for the 1310, 1350, and 1410 Series drive-line couplings.
- Daily service (dipstick and oil fill) can be performed on either side of the engine.
- Engine mounted or remote mounted secondary and primary fuel filters.
- New forward mounted combination full flow and bypass oil filter. The new location allows for easier service in most mobile applications.
- Right hand exhaust simplifies vehicle exhaust routing.
- Low-profile turbocharger lets you design vehicles with lower engine covers for improved driver visibility.
- More threaded ports for coolant sensors, oil heaters and coolant heaters.

IMPROVED SERVICEABILITY

John Deere engineers didn't forget the importance of quick and easy maintenance when they designed these new engines. They've made many servicing improvements to the **POWERTECH 10.5** L and **12.5** L engines.

- Self-adjusting, poly-vee accessory and fan drives. The self-adjusting feature extends belt life while the poly-vee fan belt provides additional fan drive capacity over comparable "V" belts.
- Spin-on, vertically mounted fuel filters and a combination type oil filter that provides full-flow and by-pass filtration.
- Either side daily service.
- Gear driven water pump is independent of the fan drive. Water pump design is simplified and easier to service.
- One-time valve lash adjustment (2,500 hours).

WORLDWIDE ENGINE SUPPORT

POWERTECH 10.5 L and **12.5** L engines can be serviced wherever you see the John Deere sign.

Every day, John Deere engines go to work in literally thousands of machines around the world. All of this John Deere engine power is backed by two parts distribution centers, 20 regional parts depots, and more than 4,000 service locations worldwide. In total, we have manufacturing, distribution, and service facilities in more than 100 countries.

So when you buy a John Deere **POWERTECH 10.5** L or **12.5** L engine, you not only get the latest engine technology, you also get a world of engine support.

JOHN DEERE **POWERTECH®** **ENGINES**

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THE EMERGING POWER IN DIESEL TECHNOLOGY

SAFETY live with it

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