JOHN DEERE

PowerTech Diesel Engines

2.4L **2.9**L **3.0**L **4.5**L **6.8**L **8.1**L **12.5**L

John Deere engines. We have the horsepower.

At John Deere, we're committed to building engines that both OEMs and their customers can rely on.

That makes your choice of engine absolutely crucial. Because if the equipment doesn't start, if the equipment wastes fuel, if the equipment pulls up short on power–your reputation takes a hit.

That's why you should specify John Deere diesel engines in all your machines. We've set the industry standard for performance and reliability, all while meeting increasingly stringent emissions regulations.

The result: engines that enhance our reputation and yours. And for end-users, the result is a machine they can count on–which makes you a supplier they can count on.

A complete line of engines for a wide range of industries

Since the 1970s, John Deere engines have been used by OEMs all over the world, in construction machinery, agricultural and forestry equipment, air compressors, electrical generator sets, irrigation pumps, and more. Our dealer network consists of more than 4,000 John Deere dealers who are ready to provide engine service and support for your equipment.

The best off-road support in the business

John Deere engine distributors are specialists in complete off-road powertrain solutions, and are positioned to offer expert, responsive service, all over the world. With over 4,000 service locations worldwide, you're never far from the support you deserve.

Meeting emissions requirements: Yesterday, today, and tomorrow

At John Deere, we take our responsibility to the environment very seriously, and we were taking steps to monitor and reduce emissions before government regulations were ever set. We have never wavered in this commitment.

John Deere emissions technology includes air-to-air cooling, increased fuel injection pressure, a more efficient combustion bowl, guide seals, and more. Best of all, we've proven that you don't have to sacrifice performance to meet regulations. John Deere engines apply the appropriate level of emissions technology while improving performance, increasing reliability, and reducing maintenance costs.

Engine Model	EPA Emission Tier	Rated Speed	Intermittent Rating	
		RPM	kW	hp
4024 2-Valve				
4024T	2	2800	36	49
4024T	2	2800	45	60
4024T	2	2800	49	66
5030 2-Valve				
5030T	2	2800	56	75
5030T	2	2800	63	84
5030H	2	2800	74	99
3029 2-Valve				
3029D	1	2500	36	48
3029D	1	2500	43	58
3029T	1	2500	52	70
3029T	1	2500	59	79
3029T	2	2500	48	64
3029T	2	2500	53	71
4045 2-Valve				
4045D	1	2250	36	48
4045D	1	2500	52	70
4045D	1	2200	58	78
4045D	1	2500	60	80
4045D	1	2400	61	82
4045D	1	2500	63	84
4045T	1	2200	66	89
4045T	1	2200	73	98
4045T	1	2500	74	99
4045D	2	2500	55	74
4045D	2	2500	60	80
4045T	2	2500	63	84
4045T	2	2200	74	99
4045T	2	2500	74	99
4045T	2	2400	82	110
4045T	2	2500	86	115
4045H	2	2000	86	115
4045H	2	2200	93	125
4045H	2	2400	93	125
4045H	2	2200	104	140
4045H	2	2400	104	140

Engine Model	EPA Emission Tier	Rated Speed	Intermittent Rating	
		RPM	kW	hp
6068 2-Valve				
6068T	2	2200	101	135
6068T	2	2000	104	140
6068T	2	2200	112	150
6068T	2	2500	116	156
6068T	2	2400	123	165
6068T	2	2500	127	170
6068H	2	2000	129	173
6068H	2	2400	138	185
6068H	2	2200	149	200
6068H	2	2400	149	200
6068H	2	2000	157	211
6068H	2	2200	168	225
6068H	2	2400	168	225
6068H	2	2400	186	250
4045 & 6068 4-Valve				
4045H	2	2200	119	160
4045H	2	2200	129	173
4045H	2	2400	129	173
6068H	2	2200	186	250
6068H	2	2400	205	275
6081 2-Valve				
6081H	2	2200	149	200
6081H	2	2200	168	225
6081H	2	2200	186	250
6081H	2	2200	205	275
6081H	2	2200	224	300
6081H	2	2200	242	325
6081H	2	2200	261	350
6125 4-Valve				
6125H	2	2100	224	300
6125H	2	2100	242	325
6125H	2	2100	261	350
6125H	2	2100	280	375
6125H	2	2100	298	400
6125H	2	2100	317	425
6125H	2	2100	336	450
6125H	2	2100	354	475
6125H	2	2100	373	500
6125H	2	2100	392	525
6125H	2	2100	410	550
6125H	2	2100	448	600

For certain applications, non-certified and Tier 1 engines are available.

D = Naturally Aspirated
T = Turbocharged
H = Turbocharged and Air-to-Air Cooled

John Deere 2.4L and 3.0L Engines

The newest members of the John Deere engine family, our 2.4L and 3.0L engines offer a high-quality, cost-effective option for OEMs with lower-horsepower applications. These Tier 2/Stage II engines offer significant improvements in noise, vibration, heat rejection, and installation cost–plus all the reliability you expect in a John Deere engine.

Outstanding performance, quietly

The 2.4L and 3.0L engines offer 50-90 percent noise reduction compared to competitive models.

Lower installed cost

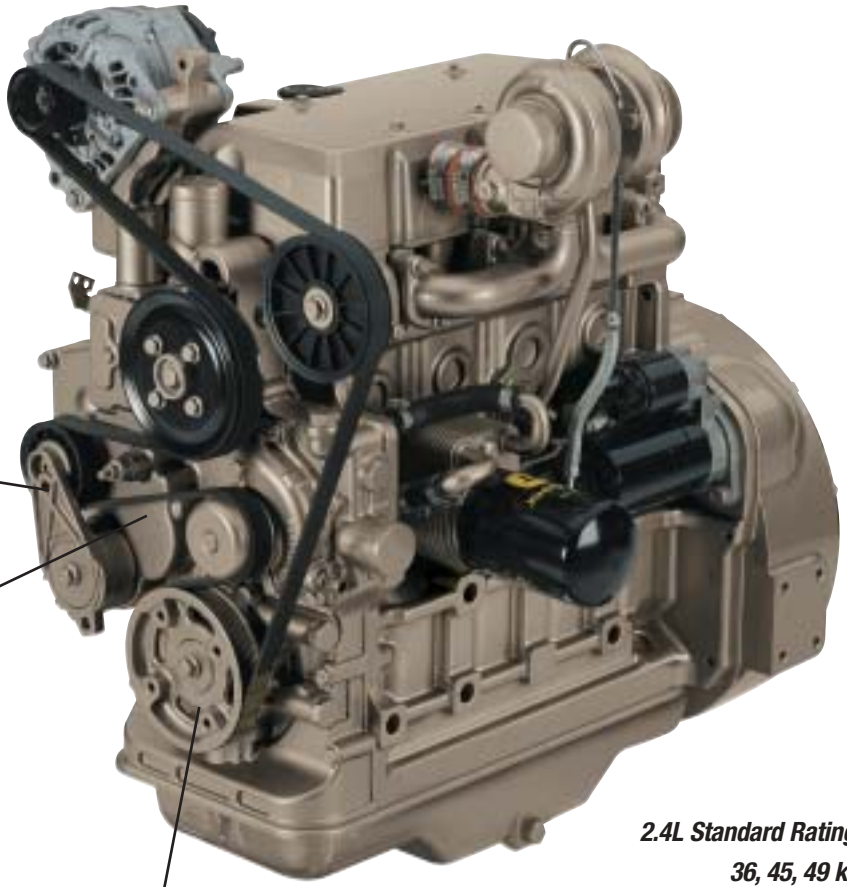
Lower noise and heat rejection can eliminate the need for costly sound attenuation, vibration isolation, and new cooling systems.

Cost-effective internal balancer shafts reduce vibration, operator fatigue, and need for instrument and control isolation. Two bearings per shaft on the 4-cylinder models.

Automatic belt tensioner and 6-rib poly-vee drive belt minimize maintenance and increase belt durability.

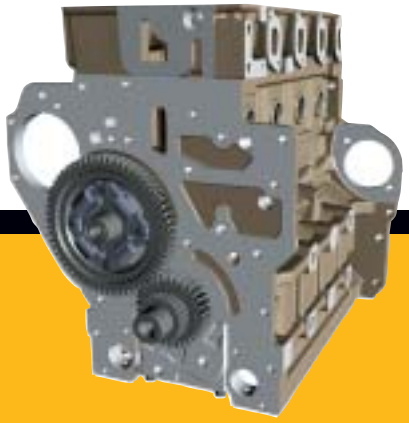
Fan drive operates independently of water pump and is available in two heights for confined enclosures. Multiple fan drive ratios are available for specific applications.

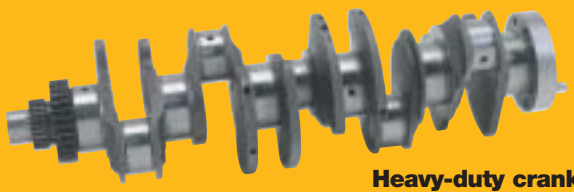
Optimized front gear train has just two high-contact-ratio gears for simplicity and noise reduction.



2.4L Standard Ratings
36, 45, 49 kW
49, 60, 66 hp

High-torque front of crankshaft PTO.





Heavy-duty crankshaft and large bearing area provide additional durability.

Low operating and ownership costs

Either-side service, a self-adjusting fan belt tensioner, and no required valve-lash adjustment are among the cost-saving features of these engines. Both promise competitive fuel economy as well.

Increased versatility through simplicity

The 2.4L and 3.0L engines feature clean design and multiple mounting points for application flexibility. The mechanically governed fuel injection system is mounted inside the block and head, eliminating external high-pressure lines and minimizing potential leak paths.

Multi-function component integration for easier service. Timing gear cover includes water pump housing, oil pump housing, governor housing, and sensors, while rocker arm cover includes intake manifold.

Multiple, easy-access locations for oil fill, dipstick, and oil filter.

Quick-acting glow plugs provide exceptional cold weather starting in temperatures as low as -15° F (-26° C). Block heater is optional.

Shorter, narrower cylinder block includes front and rear flanges. Flywheel housing optional for space, weight, and cost savings.

Durable cast-iron water pump is driven by poly-vee belt, resists corrosion and pitting.

SAE B auxiliary gear drive provides up to 50 hp (37 kW) intermittent power for gear-driven accessories.

Crankshaft flange accommodates pilot bearings up to 72 mm for side-load applications.

Hydraulic lifters adjust automatically, eliminating valve-lash adjustment, lowering valve train noise levels, and reducing operating costs.

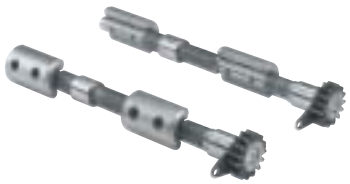
3.0L Standard Ratings
56, 63, 74 kW
75, 84, 99 hp

John Deere 2.9L and 4.5L Mechanical Engines

While many John Deere engine models have been re-engineered with electronic fuel systems, our 2.9L and 4.5L engines are meeting Tier 2 regulations while continuing to use the mechanical rotary fuel injection system. Power and torque ratings for these engines meet or exceed those of the Tier 1 models they replace.

In addition, by maintaining the mechanical fuel system, John Deere has ensured that the footprint of these models is similar to that of their Tier 1 counterparts. This makes the 2.9L and 4.5L engines easier to install, and means shorter development times as well.

Our mechanical fuel pumps are equipped with both viscosity-compensating light load advance and cold start advance, to improve cold start performance and reduce white smoke during the warm-up period.



Available engine-balancer shafts
for smoother engine operation (4.5L only).

Replaceable wet-type cylinder liners
are precision-machined for long life and excellent heat dissipation.

Dynamically balanced crankshaft
with induction-hardened journal surfaces for longer life.

Tier 2 Engines

2.9L Standard Ratings

48, 53 kW

64, 71 hp

Durable components and advanced technology give our 2.9L engines highly reliable power in the 3-cylinder class. These engines are available only with a turbocharger.

With their heavy-duty crankshafts and bearings, gear-type oil pumps and rugged connecting rods, our 4.5L engines are the standard of durability in the 4-cylinder class. We offer both turbocharged and naturally aspirated versions of the 4.5L engines.

Self-adjusting 8-groove poly-vee fan drive provides multiple fan ratios and more than twice the drive capability of comparable vee-belts. Fan heights can be matched to specific applications (4.5L only).

Internal and external ribbing give the cylinder block maximum strength.

Gear auxiliary drive capable of up to 37 kW (50 hp) can run hydraulic pumps, air compressors, and other gear-driven accessories. (Standard on 4.5L, optional on 2.9L.)

Tier 2 Engines

4.5L Standard Ratings

55, 60, 63, 74 kW

74, 80, 84, 99 hp

John Deere 4.5L and 6.8L Electronic Engines

2-Valve Models

Our new electronic fuel systems give these engines a whole new level of performance and efficiency. The benefits include higher injection pressures, variable timing control, precise control of fuel injection, improved cold weather starting, communication with other machine systems, and of course, emissions certification.

The electronic systems also enable you to monitor coolant temperature, air inlet temperature, and oil pressure, and to reduce power or shut the engine down in critical situations, thus preventing costly engine damage. The electronic control unit features automatic self-diagnosis and stores error codes for convenient retrieval later. (Mechanical pumps still available.)

Both the 4.5L and 6.8L engines offer outstanding customer value; the difference is that the 6.8L models offer more horsepower and torque. All these models allow you to custom-fit your product with a variety of electronics packages.

Available engine-balancer shafts for smoother engine operation (4.5L only).

Forged steel connecting rods with unique 45 degree design permit use of larger crankshaft, forged steel connecting rods for increased durability.

Dynamically balanced crankshaft constructed of heat-treated ductile iron for maximum strength.

Standard gear auxiliary drive produces up to 37 kW (50 hp) for gear-driven accessories.

6.8L 2-Valve Standard Ratings
101, 104, 112, 116, 123, 127, 129, 138, 149, 157, 168, 186 kW
135, 140, 150, 156, 165, 170, 173, 185, 200, 211, 225, 250 hp

Front and side mounting points for easy installation and application flexibility.

Either-side service (dipstick and oil filter) makes installation and maintenance much more convenient.

Self-adjusting 8-groove poly-vee fan drive provides multiple fan ratios and more than twice the drive capability of comparable vee-belts. Fan heights can be matched to specific applications.

500-hour oil change interval saves you money on oil, filters, and labor.

Electronically controlled rotary injection pump distributes precise amount of fuel to each cylinder. Electronic controls monitor engine speed and load to determine fuel timing.

4.5L 2-Valve Standard Ratings
82, 86, 93, 104 kW
110, 115, 125, 140 hp

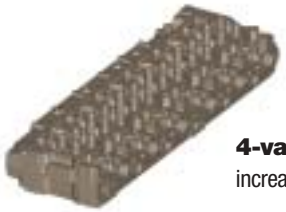
4-Valve Models

The 4-valve versions of our 4.5L and 6.8L engines have been designed with Tier 3 compatibility in mind. These models deliver increased power (up to 25 percent) in a smaller package, so you can get the power you need without moving up to a larger engine–a significant cost savings.

The increased torque value of these engines lets your machine power through the tough spots, while the increased low-speed torque improves load-starting capabilities in mobile applications.

Other features:

- Glow plugs and pilot injection for superior cold weather starting
- Improved fuel economy
- Engine mounting identical to 2-valve engines
- Variety of electronics packages: multiple throttles, torque curves, speed settings, cruise control, isochronous governing, stand-alone or vehicle-integrated control panel options



4-valve cylinder head provides increased air flow for superior performance.

High-pressure common rail fuel system lets fuel pump send constant pressure to a common rail, continuously supplying each injector with pressurized fuel.

Engine burns cleaner with centered, **vertical injectors.**

Exhaust port liners provide best-in-class heat rejection.

4.5L 4-Valve Standard Ratings
119, 129 kW
160, 173 hp

6.8L 4-Valve Standard Ratings
186, 205 kW
250, 275 hp

John Deere 8.1L Engines

Our 8.1L Tier 2 engines offer exceptional levels of power and fuel economy, and feature the high-pressure common rail (HPCR) fuel system that provides higher injection pressures, variable timing control, and more precise control of fuel injection.

In the HPCR system, fuel is pumped into a common rail at a constant pressure, and is available when each electronic injector opens. The injectors in this system are vertical and centered over the pistons for improved fuel combustion.

Fuel delivery in the HPCR system is controlled by an electronic control unit that maximizes fuel efficiency by regulating fuel delivery for various loads and speeds.

Directed top-liner cooling reduces liner temperatures as much as 130 degrees, improves power cylinder durability and head gasket life, and reduces oil consumption and emissions.

Electronic controls monitor critical engine functions and can reduce power or shut the engine down to prevent potential damage. These controls eliminate the need for costly engine warning components.

SAE J1939 standard communication link lets the engine interface with other vehicle systems: transmission, hydraulics, accessory drives, etc., reducing the installed cost.

Performance connector enables operator to program multiple power curves, and droop or isochronous governor regulations.

8.1L Standard Ratings
149, 168, 186, 205, 224, 242, 261 kW
200, 225, 250, 275, 300, 325, 350 hp

John Deere 12.5L Engines

The largest engine in the John Deere family, the 12.5L series was developed with Tier 2 requirements in mind. Externally, the only change is a new center air intake manifold. Our 12.5L engines employ electronic unit injectors for higher injection pressures, and a new turbocharger for better air flow. Both features improve engine performance and help meet emissions regulations.

The electronic control unit in the 12.5L engines includes a 10 percent bulge below rated speed, fuel temperature compensation, onboard diagnostics, and expanded engine protection.

Heat rejection and fuel consumption ratings on the Tier 2 12.L engines are equal to or better than their Tier 1 counterparts.

Clean, modern design eliminates leak paths by reducing the number of fittings, lines, gaskets, hoses, clamps, and O-rings.

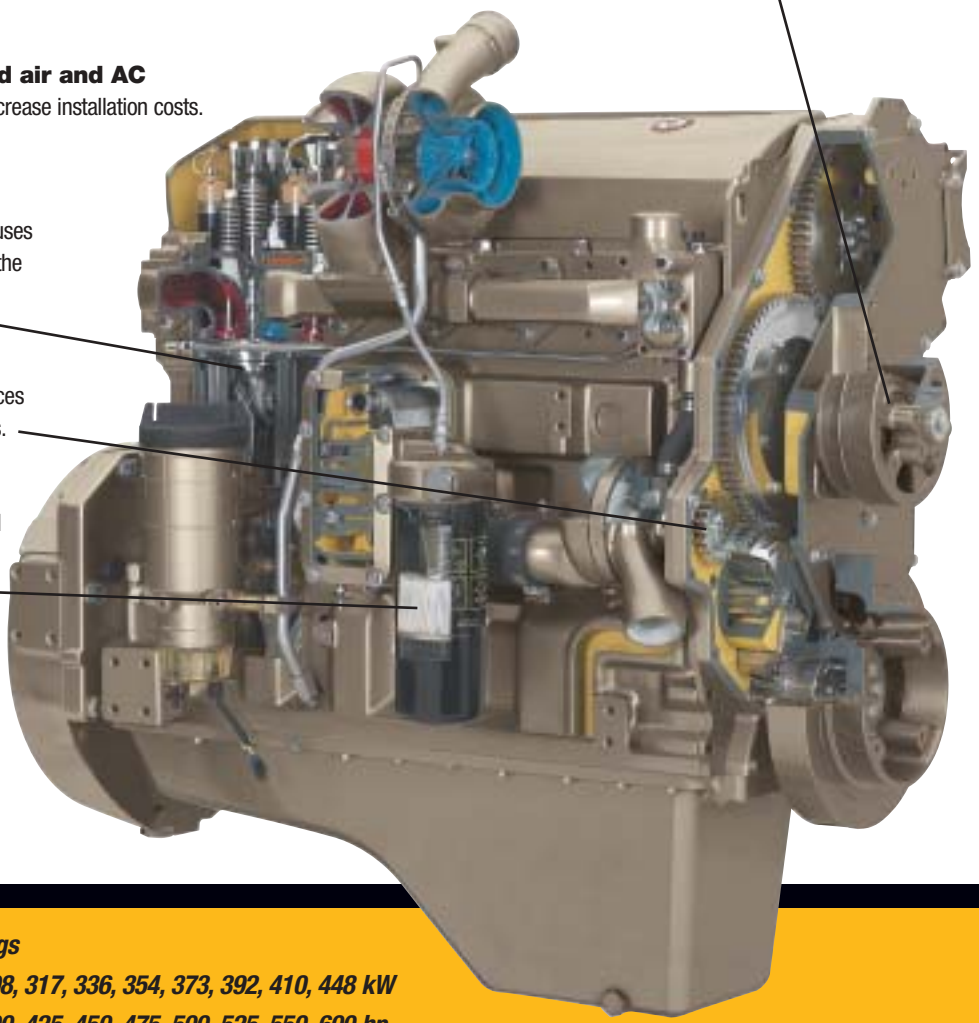
Multiple fan drive ratios and heights offer versatility for a variety of applications.

Factory-installed air and AC compressors decrease installation costs.

Articulated 2-piece piston uses high-strength steel crown to manage the higher horsepower.

Standard gear auxiliary drive produces up to 57 kW (80 hp) for gear-driven accessories.

Combination-type oil filter provides full flow and bypass oil filtration, trapping both large and small contaminants in a single unit.



12.5L Standard Ratings

224, 242, 261, 280, 298, 317, 336, 354, 373, 392, 410, 448 kW

300, 325, 350, 375, 400, 425, 450, 475, 500, 525, 550, 600 hp