

# John Deere Power Systems

Diesel Engines and Drivetrain Components

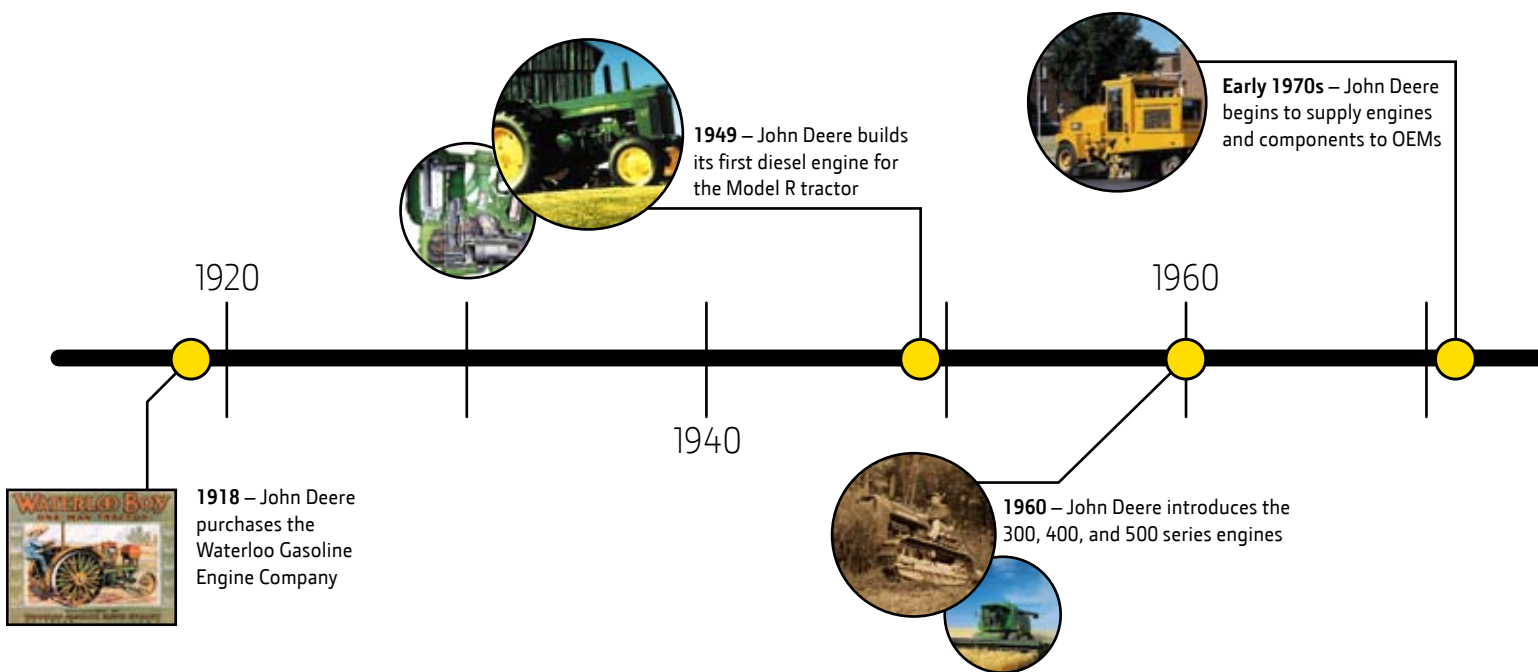


**JOHN DEERE**

Reliable power in any environment







# Continuous innovation

## Off-highway heritage

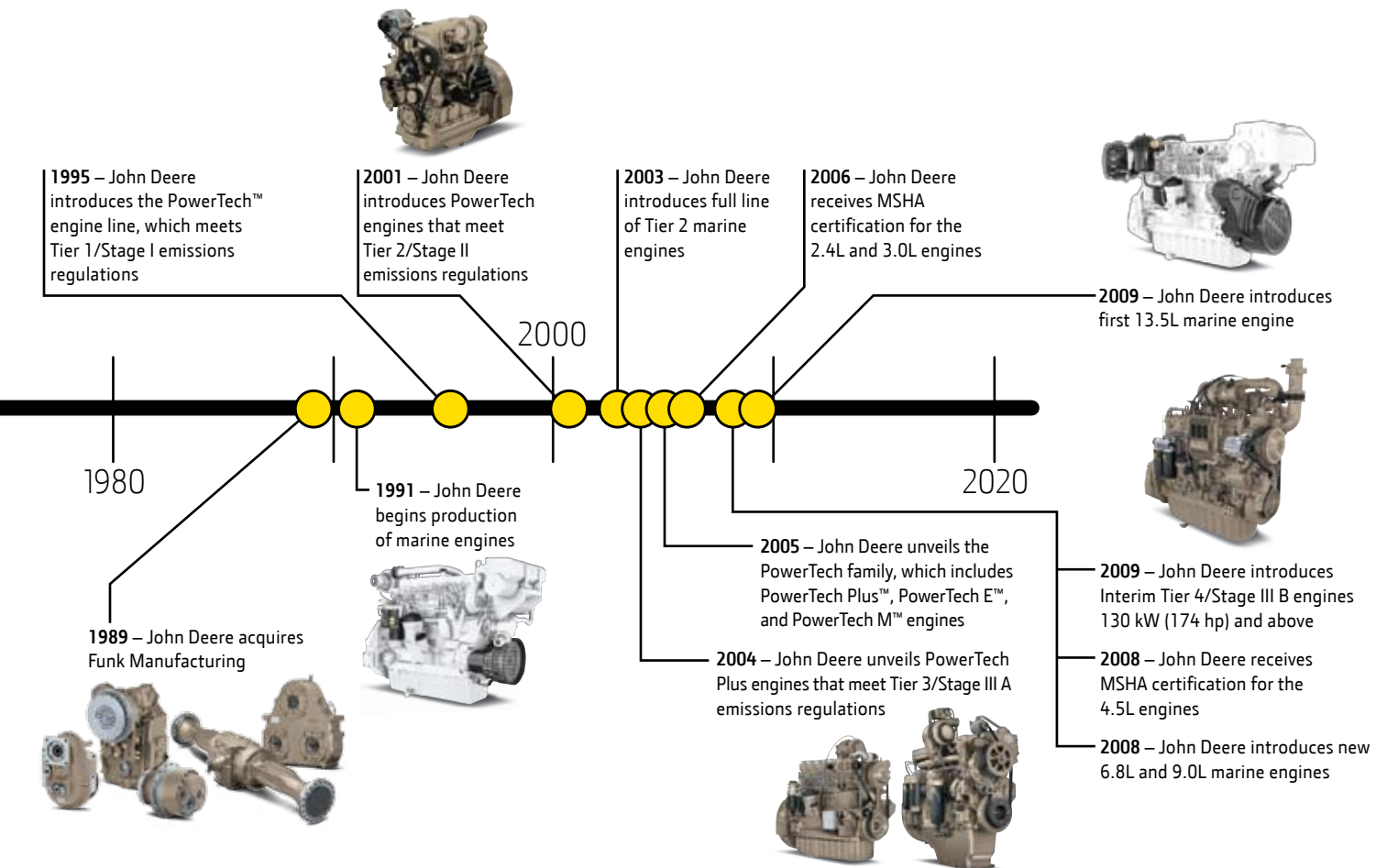
At John Deere, we have extensive off-highway engine and drivetrain component experience. Since 1949, we have designed and manufactured more than 6 million off-highway diesel engines.

It all began in 1918 when John Deere purchased the Waterloo Gasoline Engine Company. We built our first diesel engine in 1949 for our Model R tractor. By the 1960s, John Deere had developed a full line of 4- and 6-cylinder diesel engines for the agricultural and construction equipment industries.

Our reputation for reliable power continued to grow, and original equipment manufacturers (OEMs) began installing John Deere engines in off-highway equipment during the early 1970s.

In 1989, we expanded our commitment to drivetrain components by purchasing Funk Manufacturing (now known as John Deere Coffeyville Works) and added to our experience base for integrating complete John Deere drivetrains into off-highway equipment.

Today, John Deere provides diesel engines for agriculture, construction, forestry, mining, generator drive, and marine applications.



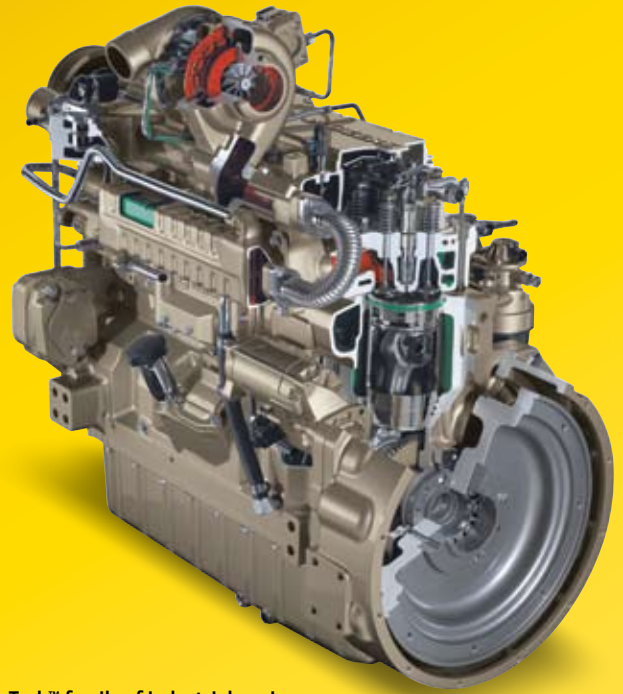




## John Deere advancements

### First off-highway technology application

John Deere developed the first off-highway engines that used turbochargers, air-to-air charge air cooling, and electronic engine controls.



PowerTech™ family of industrial engines  
30 – 448 kW (40 – 600 hp)

### Modular drivetrain components

John Deere hydraulic pump drives were the first to be built with a modular design that allows pump drives to be configured to customers' exact specifications. This modular approach also extends to other drivetrain components. Our axles are highly configurable, and our electronically controlled transmissions can be customized with specific shift patterns and characteristics.



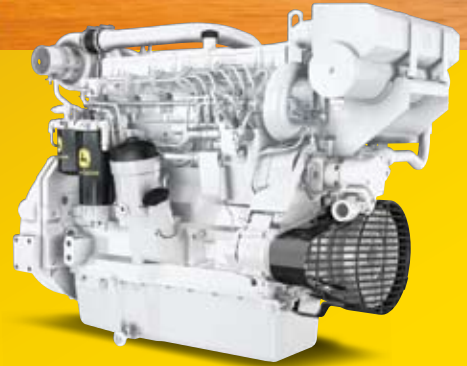
HMD transmissions, powershift transmissions,  
planetary gear drives, axles, and pump drives





## More power in the water

Commercial and recreational boat owners have been relying on John Deere engines for more than 30 years.



**PowerTech marine engines**  
56 – 559 kW (75 – 750 hp) propulsion engines  
40 – 389 kW (54 – 522 hp) generator drive engines



**PowerTech industrial generator drive engines**  
50 Hz: 31 – 456 kW (41 – 612 hp)  
60 Hz: 35 – 460 kW (47 – 617 hp)

## Maximum power in minimum space

Engine technologies such as four-valve cylinder heads help us achieve maximum power density for standby and prime power generation.



**PowerTech MSHA-rated engines**  
37 – 74 kW (49 – 99 hp)



# Precision manufacturing

## Global production

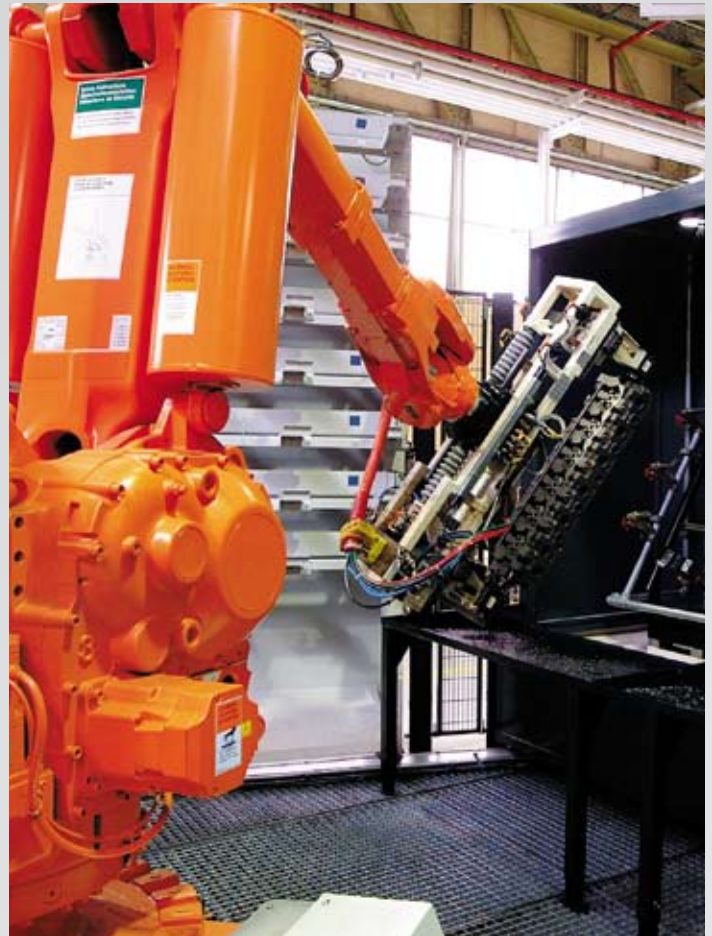
We've built over 6 million diesel engines in the United States, France, Mexico, India, and Argentina. Thousands of drivetrain component configurations are built in the United States and Mexico. A rigorous quality management process is followed at each factory to ensure consistent product quality.

## Personalized options

Every engine is built to your specifications from a wide selection of engine options — everything from engine power, flywheels, and fan drives to engine paint color. By working with our drivetrain application engineers, you are able to select from a wide array of options to best meet your requirements.

## Precision processes

Every component is fine-tuned before it leaves the factory. For example, fuel injection nozzles are individually bar-coded so they can be calibrated to a specific cylinder. Our Smart Tool system applies the proper torque to individual components based on the engine model being built. We even grind unique profiles on gear teeth to ensure quiet, efficient operation and a long life. No detail is too small at John Deere.







## Reliability tests

Every engine that comes off the assembly line is tested for torque rise, rated power, emissions performance, and electronics verification. Our pump drives are configured from modular components that are individually tested and verified. When we deliver an engine or drivetrain component, we are confident of its quality and reliability.



## Real-world performance

### Thousands of applications

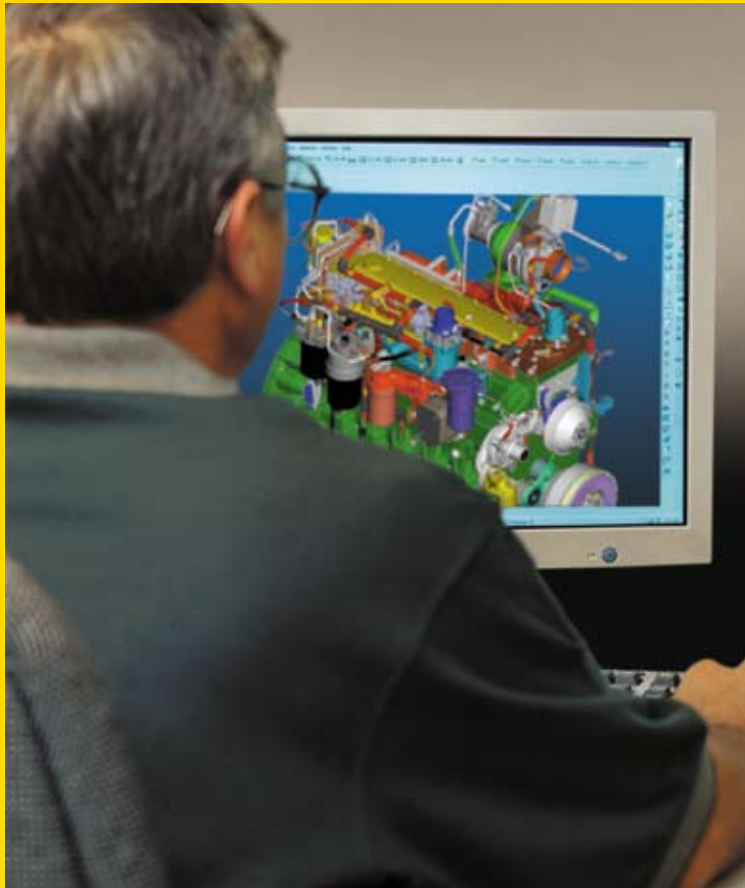
John Deere is a leader in developing world-class diesel engines and drivetrain components, integrating them into tough applications, and distributing them to our customers worldwide for use in off-highway agricultural, construction, forestry, and mining applications. John Deere engines also power generator sets, compressors, and marine applications (propulsion and auxiliary).

### Off-highway integration

Our engineers and distributors work closely with customers to help select and integrate the right engine into each application. We also bring a wealth of off-highway experience in drivetrain components and engine electronics systems. Being able to integrate engines, drivetrain components, and electronic controls is even more important today with increasingly demanding emissions regulations.







## In the trenches

Our engineers go beyond the computer drawings to make sure the components they design perform as expected. Real-world experience helps us understand how we can help customers integrate our components into equipment.





## Global support

### The power of a worldwide support network

With John Deere, you never have far to go to find expert assistance and advice. The more than 4,000 service locations throughout the world give you peace of mind that you can get service when and where you need it.

### Genuine John Deere parts and service

Whether your engine powers an agricultural, construction, forestry, consumer/commercial product or OEM machine, you don't want to compromise when it comes to quality and reliability. For honest value and reliable performance, demand the best — genuine John Deere parts and service.

- New service parts and overhaul kits
- Oils, coolants, filters, and other maintenance needs

### Remanufactured components

John Deere Reman™ engines, engine components and drivetrain components are remanufactured to exact John Deere standards, providing like-new performance. "Rebuilt" products are typically disassembled and repaired only to the point of failure. With John Deere Reman, the core is completely disassembled, each part is thoroughly cleaned and replaced if necessary, inspected for any potential cracks, then assembled using the same processes when it was produced new to meet or exceed the latest OEM specifications.



**JOHN DEERE  
REMAN**

### Fast parts delivery

You can count on genuine John Deere parts. Our worldwide parts distribution system has overnight delivery available in most areas of the world. For even faster service, our dealers keep many maintenance and replacement parts in stock to get you back to work immediately.





## Repairs done right

John Deere service personnel are highly trained technicians who stay on top of changing technologies and service methods through factory schools and hands-on training.

## A warranty you can count on

Equipment operators can't afford downtime or unexpected repairs. That's why we offer 2-year/2,000-hour and 1-year/unlimited-hour warranties. These warranties take effect the day the engine begins operation. In addition, an extended 5-year/5,000 hour warranty is available under certain conditions. Be sure to register your engine for warranty support at [www.JohnDeere.com/enginewarranty](http://www.JohnDeere.com/enginewarranty)



Log on to [www.JohnDeere.com/dealer](http://www.JohnDeere.com/dealer) to find the service dealer nearest you.



## Balance of power

### Improving performance

John Deere leads the industry with many new off-highway engine and drivetrain power advancements. A prime example is the development of event-based shifting on several of our electronically controlled transmissions. This technology integrates engine and transmission electronic controls to make shifts barely perceptible by the operator regardless of load on the engine. From engine cylinders, to advanced electronic systems and modular drivetrain components, John Deere engineers never stop refining and improving performance.

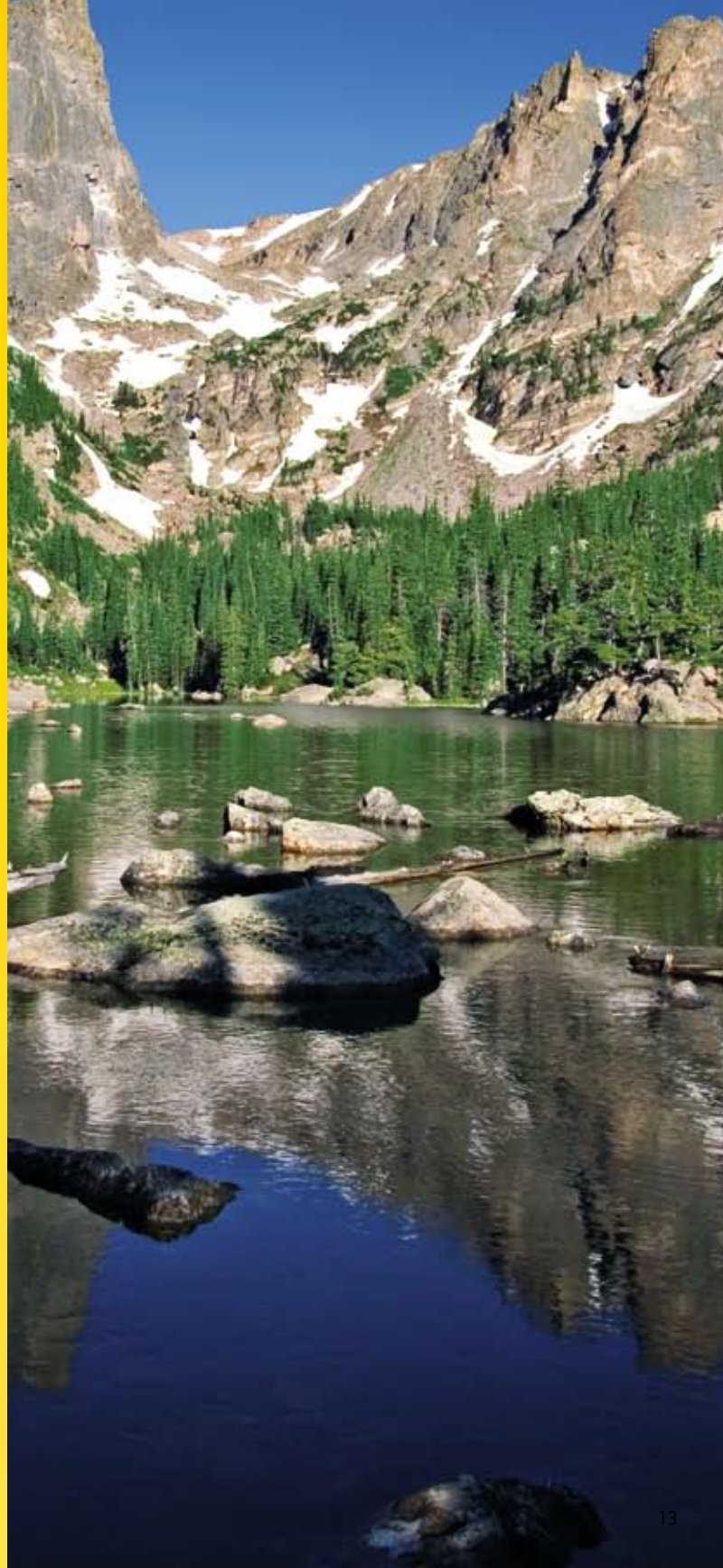
### Saving fuel

Because fuel is one of the largest operating expenses for equipment owners, fuel economy will continue to be an important part of the power equation. That's why we work hard to squeeze every drop of fuel efficiency from our engines. No matter how you measure it, at full load or partial load, third-party tests prove that John Deere PowerTech Plus engines deliver best-in-class fuel economy.



## Protecting the environment

John Deere takes its responsibility to the environment very seriously. We have been working on lowering engine emissions since 1967, when John Deere first installed emissions testing equipment — years before government standards were set in the United States and Europe. Today, we utilize the latest technologies to meet stringent emissions regulations in all applications.



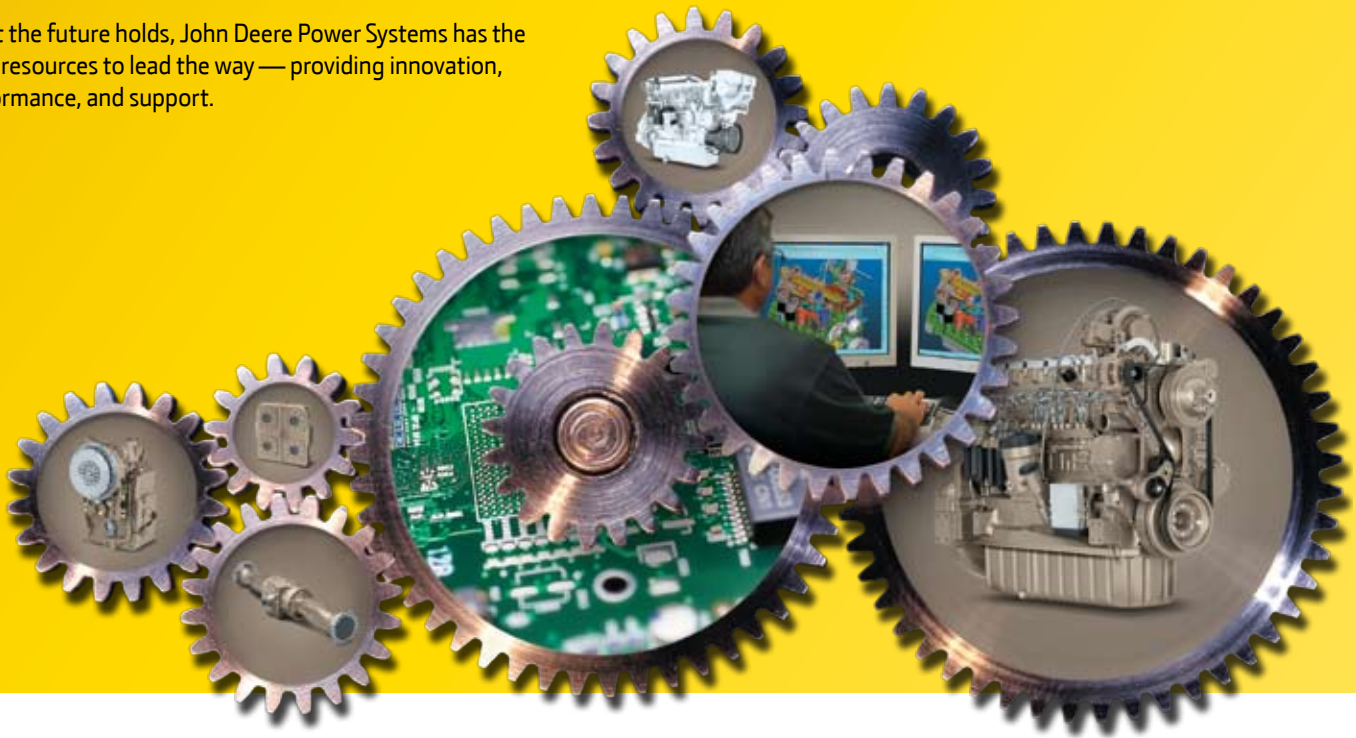


## Bringing it all together

### System integration

Getting the most out of your equipment relies on successful integration of all components. John Deere can help integrate your entire powertrain system from the engine and electronics to the drivetrain components. Because these parts are built to work together, John Deere is able to deliver maximum performance and fuel economy while meeting emissions regulations.

No matter what the future holds, John Deere Power Systems has the experience and resources to lead the way — providing innovation, precision, performance, and support.



More than 170 years ago, John Deere said, “I will never put my name on a product that does not have in it the best that is in me.” When people still believe in your vision after 170 years, that’s a legacy. That’s John Deere.

*John Deere*

# Worldwide locations

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