

# Engine Maintenance and Support



Protect your productivity with  
genuine John Deere parts and service





**JOHN DEERE**



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# Genuine John Deere parts

## You can't see the difference, but your engine can

There's a reason why John Deere engines have such a strong reputation — quality. And you can protect the quality of your John Deere engine by choosing only genuine John Deere parts for all your maintenance needs.

Some manufacturers say they provide John Deere parts, while others claim their parts meet or exceed John Deere specifications. However, these imitators can't compete with the continuous improvements of genuine John Deere parts. Even though the changes might be microscopic, the advancements make a big difference in retaining the performance and reliability of your John Deere engines.

To keep your engines running at top performance, and to protect your engine warranty\*, use only genuine John Deere parts. Find the parts you need now through your nearest John Deere dealer or engine distributor. Or find what you need at [JDParts.JohnDeere.com](http://JDParts.JohnDeere.com).

Save time and money by choosing the right part to get the job done right — the first time. Choose genuine John Deere parts.

## John Deere cylinder liners

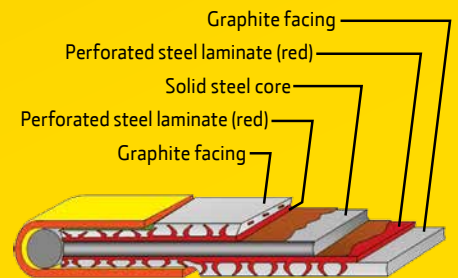
The even distribution of graphite found in a John Deere cylinder liner provides constant material properties, creating even surface wear. Uneven wear will cause the combustion gases to leak into the crankcase, significantly reducing engine power.



Even graphite distribution

## John Deere head gaskets

The five-layer design of a John Deere head gasket enhances its internal sealing performance. Excluding any layer increases the risk of leaks, power loss, and engine wear.

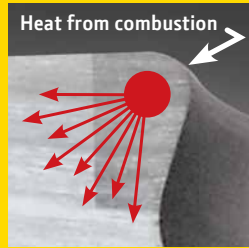


\* Only genuine John Deere parts and John Deere remanufactured components shall be used in performing warranty service. If other parts are used to perform warranty service, the warranty claim will be denied.

## John Deere pistons and rings

The design and material composition of a John Deere piston increases its strength, durability, and lifespan. Reduce service intervals and increase productivity with John Deere pistons and piston rings.

The shape and fiber reinforcement of a John Deere piston bowl rapidly dissipates heat and prevents bowl cracking. A cracked piston bowl increases power loss and the potential for catastrophic engine failure.



Fiber-reinforced bowl lip showing heat dissipation

The bore offset of a John Deere piston reduces vibration noise, mechanical stress, and surface wear. Reduced surface wear increases service life and decreases oil consumption and power loss.



John Deere offset bore Center bore

Thick phosphate coating on a John Deere piston ring significantly reduces surface wear and provides continued sealing. A worn seal increases fuel and oil consumption and power loss.



Phosphate coating



# Genuine John Deere parts



## John Deere camshafts

Camshaft lobes are one of the most critical elements that govern engine performance. The lobes of a John Deere camshaft deliver optimal combustion and reduced wear. Choosing a camshaft that does not meet John Deere specifications will result in increased power loss and fuel consumption, and excessive emissions.



## John Deere exhaust filters

Designed to meet the demands of rugged off-highway applications, John Deere exhaust filters integrate seamlessly into your application to achieve optimum performance. The John Deere exhaust filter reduces the nitrogen oxides (NOx) created in the engine and thus requires less diesel exhaust fluid (DEF) to treat NOx. The result is improved total fluid economy, which takes into account diesel fuel and DEF.





## John Deere crankshaft damper

Dampers reduce harmful engine vibration when torque is applied, which extends belt life and reduces gear wear. John Deere recommends changing the crankshaft damper at 4,000 to 5,000 hours or five years, whichever comes first in your application. Contact your local John Deere dealer for details.



## John Deere engine overhaul kits

Your engine is the lifeblood of your machine, and its components are integral to keeping your equipment running at peak performance. When it comes time to overhaul your engine, choose a kit that provides the same quality and performance your engine had when it left the factory.

Some manufacturers offer engine overhaul kits for John Deere engines. However, only John Deere engine overhaul kits contain genuine John Deere components that are manufactured and tested to the latest John Deere specifications. Unlike lower quality kits, John Deere kits wear consistently, preventing flakes and preserving the efficiency of your machine.

### John Deere engine overhaul kits include:

- Rod, main, and thrust bearings
- Thrust washers
- Oil pan split gasket
- Factory assembled piston/liner kits
- Liner packings
- Front and rear seals
- Gasket rings
- Snap rings

### John Deere expanded kits include:

- Contents of the genuine John Deere engine overhaul kit
- Rod bolts and bushings
- Piston pins
- Camshaft bushings

### John Deere engine overhaul kit warranty:

Our engine overhaul kits come with a 1-year/1,500-hour warranty (whichever comes first) determined from the date of purchase. Coverage includes both parts and labor when installed by a John Deere dealer, otherwise coverage is for parts only. See your John Deere dealer for details.



# John Deere remanufactured engines and components



## Built for the most demanding applications: yours.

It's a fact of life in the industry. An important part breaks down or wears out. You need to replace it fast. Should you get a brand new part or should you get a remanufactured part with like-new performance and spend a lot less?

With input costs continuing to rise, it pays to look into John Deere remanufactured components. You'll find all the vital parts you need to get back to work quickly and economically — including engines, engine components, and more.

## It's not rebuilt. It's remanufactured.

Remanufactured is not the same as rebuilt or repaired. The distinction is critical. A rebuilt engine or component is disassembled only to the point of failure, and rebuilt using the same, new, or aftermarket part. When an engine or component is repaired, only the defective parts are examined and replaced.

A remanufactured engine or component is far different. With John Deere Reman™, you know exactly what you're getting: engines and components that deliver like-new performance, but at affordable prices you'll appreciate.

We completely disassemble the product, thoroughly clean and inspect each part for wear or damage, replace if necessary, and assemble using the same processes we use to produce new engines and components.

## Get genuine John Deere performance

John Deere Reman products deliver the same level of performance and reliability as new engines and components, making them the highest quality remanufactured products out there. We guarantee all engines and components are manufactured to stringent John Deere standards and produced to original John Deere specifications. They're even designed by our engineers and built by our certified technicians — using only 100 percent John Deere parts.

## Spend less and get back to work sooner

You'll get like-new performance while spending 30 to 40 percent less than new, making John Deere Reman your best low-cost repair alternative. Choosing Reman over an in-house or outside repair can save you even more money by reducing your downtime up to 50 percent. And when compared to other repair options, the price is very competitive.

For additional information about John Deere Reman, visit [JohnDeere.com/Reman](http://JohnDeere.com/Reman).



## Raise your standards

All John Deere Reman engines and components undergo vigorous testing to make sure they meet or exceed all current John Deere performance standards. In fact, we test Reman products with the same tests we use on new products, so you can be sure they'll meet your high standards on the job.

## The John Deere Reman process

The following steps illustrate the stringent process used to remanufacture all John Deere Reman engines and engine components.

- All parts are first completely disassembled and thoroughly cleaned by either a bake or chemical cleaning process.
- The block, crankshaft, and cylinder head are inspected for cracks using a Magnaglo® process.
- All parts are dimensionally verified against the latest John Deere parts specs. Any part not meeting original factory specifications is either recycled or brought back to specification.
- All wear-type parts such as pistons, liners, bushings, bearings, gaskets, and O-rings are replaced 100 percent of the time with new John Deere parts.
- The product is assembled by highly trained technicians to exact John Deere criteria.
- Finally, each product must pass a thorough inspection and testing process to ensure it meets or exceeds John Deere specs.

Not available in all countries.

### Engines

- Complete engines
- Complete block assemblies
- Basic engines
- Short blocks

### Electrical

- Starters
- Alternators
- Generators

### Engine Components

- Connecting rods
- Cylinder heads
- Water and oil pumps
- Crankshafts
- Turbochargers
- Camshafts

### Fuel

- Pumps
- Nozzles

Components listed above are in our current product offering. John Deere Reman components will vary by machine and model, and our product line is currently expanding to meet increasing demand. Check with your John Deere dealer for availability of Reman components for your engine.



# Recommended maintenance products

## Protect the engines you depend on with the products you depend on

We know engines are big investments. With every engine you purchase comes groundbreaking technology, long-lasting parts, and a dealer support network to stand by you day in and day out. But as important as those things are, your engine must be properly maintained to deliver the performance you expect. That's why we offer industry-leading maintenance products to help your engine deliver top-notch performance year after year.

So take a good look at your maintenance options. You'll find that simply choosing the right products can improve your productivity now, and protect your engine for the long run.

### John Deere coolants

Cool-Gard™ II is designed to protect your cooling system for up to six years or 6,000 hours! This remarkable coolant/antifreeze protects against corrosion, cavitation, and deposits under the harshest conditions.

Advanced oxidation stability provides long-lasting protection against heat, so you can cut back on downtime and save on service costs. You'll spend more time turning profits and less time worrying about maintenance expenses.

Available in concentrate or ready-to-use 50/50 pre-mix. A 20/80 pre-mix formula is available exclusively for marine applications.

Not available in all countries.



### John Deere Diesel Exhaust Fluid

John Deere Diesel Exhaust Fluid (DEF) is compatible with all engines using selective catalytic reduction (SCR) aftertreatment technology. This includes John Deere diesel engines and equipment, off-road and stationary equipment, and on-road trucks and automobiles. John Deere DEF may also be used in marine applications accepting a 32.5 percent urea concentration.

With John Deere DEF, you can be confident you are getting a high-quality product that will provide unsurpassed performance while protecting your equipment investment. Available in a variety of sizes, John Deere DEF is easily integrated into your maintenance-fluid routine.

Not available in all countries.



## John Deere oils

Plus-50™ II premium engine oil lasts up to 500 hours\* in your John Deere engine. And it isn't just the best oil for your John Deere engines. It's recommended for all engines in your operation, including diesel, gasoline, and natural gas powered vehicles in both on-highway and off-road applications.

Compare the annual oil change totals and costs between John Deere and the competitor's offerings at [JohnDeere.com/OilChangeCalculator](http://JohnDeere.com/OilChangeCalculator).

Plus-50 II is also strongly recommended for all John Deere Tier 4 and older engines to help ensure top performance and extended drain intervals. Plus, it's so good, it's guaranteed to meet or exceed the oil requirements of your engine. Check out our warranty at [JohnDeere.com/oil](http://JohnDeere.com/oil).

Reference the engine operation manual for details specific to your application.

Not available in all countries.



\* 500-hour drain interval applies to John Deere diesel engines when the following criteria are met: 1. Engine is equipped with an extended drain interval oil pan, 2. Machine operates with Plus-50 II engine oil API CJ-4/SN, 3. Machine uses a John Deere engine oil filter, and 4. Machine uses only ultra-low sulfur diesel fuel.



# Recommended maintenance products



## John Deere engine fluid analysis

Take the guesswork out of machine maintenance with the John Deere Fluid Analysis program. John Deere oil, fuel, and coolant analysis kits are available to test all brands of fluids and equipment. Routine fluid analysis will help you avoid unexpected downtime, optimize your drain intervals, make more informed decisions, and save money.

When you participate in the John Deere Fluid Analysis program, your fluid sample is sent to a global, independent laboratory to measure their remaining useful life. If your sample indicates a serious problem, you'll be notified by email, or through a free mobile app for iPhone® and Android®.

To find the Webtrieve™ mobile app for your fluid analysis results, visit the Apple iTunes store or Google Play store and search for "ALS Tribology." Learn more at [JohnDeere.com/fluidanalysis](http://JohnDeere.com/fluidanalysis).

iPhone, and iTunes are U.S.-registered trademarks of Apple Inc. Android is a trademark of Google Inc. Not available in all countries.



## John Deere diesel fuel solutions

Don't let problematic fuel slow you down. Treat fuel right from the start to ensure top engine performance year-round.

### Fuel-Protect diesel fuel conditioner

Uphold diesel fuel performance and maintain peak engine efficiency year-round. Available in summer and winter formulas, Fuel-Protect encourages smoother starting and consistent performance while helping to eliminate problems caused by storage conditions and variances in fuel.

Not available in all countries.

### Fuel-Protect keep-clean solution

Formulated to restore and maintain performance in engines with modern high-pressure diesel fuel systems. Fuel-Protect keep-clean solution may be used in all makes of diesel engines to prevent deposits from forming in injectors in high-pressure fuel systems. Works well with Fuel-Protect diesel fuel conditioner and FUELSAVER.

Not available in all countries.

### FUELSAVER™ antimicrobial agent

Combat performance-robbing bacteria and fungus that may invade your fuel or storage tank. FUELSAVER is an effective antimicrobial agent and EPA-approved biocide and fuel additive. Engineered for today's biodiesel and ultra-low sulfur fuels, it's capable of killing microbes throughout all components of your fuel system. Works well with Fuel-Protect diesel conditioner and Fuel-Protect keep-clean solution.

Not available in all countries.





## Recommended maintenance products



### John Deere filters

John Deere filters are a necessary complement to our top-of-the-line maintenance fluids. They're proven to protect your engine from harmful particles invading your system while extending the life of your engine. We design our filters with high-quality media that can catch particles as small as one-fifth the width of a human hair! You'll be sure to notice a longer service interval and overall better protection.



### Fuel filters

When it comes to your fuel, water is the No. 1 enemy. That's why John Deere fuel filters are designed not only to trap water, they're designed to repel it. Our filters have coated media that keep water out, preventing rust and microbial growth that could damage your fuel and lead to poor fuel economy.





## Oil filters

John Deere oil filters are expertly engineered to catch small particles like dirt and other contaminants before they pollute your engine. Dirty oil will slow you down, leading to less productivity and shorter service intervals. That's why John Deere filters are tested to make sure they capture more dust than lesser-quality filters.

It is recommended to pair John Deere oil filters with Plus-50 II premium engine oil. Don't conduct an oil change without this winning combo and there's no stopping you for 500 hours!\*

Compare the annual oil change totals and costs between John Deere and the competitor's offerings at [JohnDeere.com/OilChangeCalculator](http://JohnDeere.com/OilChangeCalculator).



## Air filters

John Deere air filters are another high-quality line of defense against contaminants invading your engine. They reduce engine wear by removing dust, dirt, and other pollutants from intake air. They are highly efficient when it comes to trapping unwanted particles.



\* 500-hour drain interval applies to John Deere diesel engines when the following criteria are met: 1. Engine is equipped with an extended drain interval oil pan, 2. Machine operates with Plus-50 II engine oil API CJ-4/SN, 3. Machine uses a John Deere engine oil filter, and 4. Machine uses only ultra-low sulfur diesel fuel.

# Recommended maintenance products

## John Deere grease

John Deere grease is specially formulated to meet the demanding lubricating needs for tough off-road and on-road conditions. The right high-quality John Deere grease saves you money through longer engine life, reduced downtime, and lower engine operational cost. John Deere grease keeps everything running smoothly.

### Good

Multi-Purpose Lithium Grease:

- Ideal all-season grease for light- to medium-duty applications

### Better

Multi-Purpose HD Lithium Complex:

- Use for wheel bearings, U-joints, and other grease points requiring heavy-duty grease where a lithium grease is recommended

### Best

Multi-Purpose SD Polyurea Grease:

- The best John Deere multi-purpose grease; ideal for high temperatures and extreme pressures
- Use for U-joints, wheel bearings, and other grease points requiring severe-duty grease

Extreme-Duty Synthetic Grease:

- For high- and low-temperature applications
- Multi-purpose extreme-duty grease
- Incidental food contact (H1) registered

### Special-Purpose Grease

Special-Purpose HD Moly

- For construction, mining, and heavy industrial equipment
- For use where shock load and sliding contact are continuous
- For high-temperature and extreme-pressure conditions

Special-Purpose HD Water-Resistant

- Excellent for machines working in high-moisture conditions
- Formulated to prevent corrosion and water washout

Not available in all countries.



## John Deere batteries

John Deere StrongBox™ and Performance batteries are built to power through tough working conditions that not all batteries are strong enough to face.

Whether you choose from our line of standard-duty Performance batteries or our heavy-duty StrongBox line, we have the battery for every need. And, although our batteries are branded John Deere, they fit most any brand of vehicle or equipment. Plus, they are backed by an excellent warranty to keep your equipment moving.

### StrongBox premium batteries

You depend on your engine — and your engine depends on your battery. That's why John Deere designed the toughest, most dependable battery you can put in your machine — StrongBox.

What makes StrongBox better?

- Dry charged from the factory for initial storing
- Through-the-wall, welded intercell connectors are 25 percent larger than in other batteries, withstand vibration, and provide quick starts

- Super radial grid design with inboard lug permits electrical current to flow more efficiently, and provides higher cranking amps
- Extra-heavy plates give extra reserve power
- Microporous plastic envelope separators eliminate electrical shorts and keep positive material from touching the negative plate
- Epoxy-anchored plates make StrongBox batteries four times stronger than hot-melt anchored plates and reduce vibration

### Performance batteries

High quality with a lower price tag. The John Deere Performance battery line is a reliable and economical alternative to the premium StrongBox line. When you don't need the premium features of StrongBox, but still want a battery that performs better than most batteries on the market, rely on Performance batteries. They are available for a variety of applications, including agricultural, commercial, auto, light truck, sport utility, and marine.

Some StrongBox batteries may be activated at the factory for convenience. The StrongBox dry-charged process ensures that batteries remain in a state of suspended-life animation until they are activated with electrolyte, at which time they are "born" as brand new wet-charged batteries. The freshly activated battery is in fact a brand new wet-charged battery. Data is on file that shows dry-charged batteries stored for 50+ years still performed as new after an activation followed by a boost charge.





# Customer support

## The power of a worldwide support network

The proven John Deere dealer network is prepared to fully support you and your engines. John Deere engine distributors and service dealers are your best source for service, knowledge, and engine parts. Experience the power of a worldwide engine support network only from John Deere.



To find the nearest John Deere dealer or engine distributor near you, visit [JohnDeere.com/dealer](http://JohnDeere.com/dealer).

## Qualified John Deere technicians

Only John Deere service technicians have the expertise to ensure top performance of your John Deere engine. They receive ongoing training about changing engine technologies and the latest diagnostic and service techniques.

## Fast parts delivery with JDParts.JohnDeere.com

You can count on genuine John Deere parts to keep you up and running. Our worldwide parts distribution system has overnight delivery available in most areas of the world. And with JDParts, shopping for replacement parts or maintenance products is as easy as opening your computer or using your smartphone. No matter what time it is or where you are, you have access to the parts you need in just a few clicks. Shop [JDParts.JohnDeere.com](http://JDParts.JohnDeere.com) and receive your order as early as the next day.



## Warranty plans you can count on — and extend

When you purchase a John Deere engine or engine parts, you're buying the ability to get work done. That's why our OEM industrial and marine engines come with a 2-year/2,000-hour warranty with unlimited hours in the first year. We also offer warranties on new and remanufactured John Deere parts. Use genuine John Deere parts to perform warranty service and avoid having a warranty claim denied.

Be sure to register your engine to take full advantage of the John Deere service and support network. Scan this code to register online, or visit [JohnDeere.com/warranty](http://JohnDeere.com/warranty).



Extend your peace of mind and avoid unexpected repair costs with the protection of a John Deere OEM engine extended warranty plan. Our extended warranty plans protect the engine as well as distributor-installed components and accessories that bear the John Deere name.

Act now — extended warranty plans must be purchased before your engine's standard warranty coverage expires. Contact your John Deere dealer for plan pricing and details, or visit [JohnDeere.com/OEMExtendedWarranty](http://JohnDeere.com/OEMExtendedWarranty).



## Application integration support

John Deere Power Systems is one of the few companies that integrate entire powertrain systems — from the engine and electronics to the drivetrain components. Our highly trained distributors have experience integrating engines, drivetrain components, and electronics into a wide variety of applications. We also provide equipment manufacturers with product and engineering support to maximize performance and fuel economy while meeting emissions regulations.

## John Deere PowerSight™

Monitor, protect, and maintain all the John Deere-powered equipment on your jobsite — from anywhere, at any time. John Deere PowerSight brings together the advanced technology solutions provided by JDLink™, machine health prognostics, remote diagnostics and programming, and John Deere PowerAssist™ to help you stay on top of maintenance, preempt downtime, and reduce operating costs.

- Maximize uptime, utilization, and revenue
- Monitor machine health and fuel consumption
- Simplify maintenance scheduling and documentation
- Increase uptime through alerts
- Track rental fleet machines and their hours of use
- Document machine and operator productivity
- Recover stolen machines through GPS tracking
- Download data through application programming interface (API) for further analysis

Visit [JohnDeere.com/powersight](http://JohnDeere.com/powersight) for more information.

Product offerings may vary by country.



# Worldwide locations

## North America, South America, Brazil, and Caribbean

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