

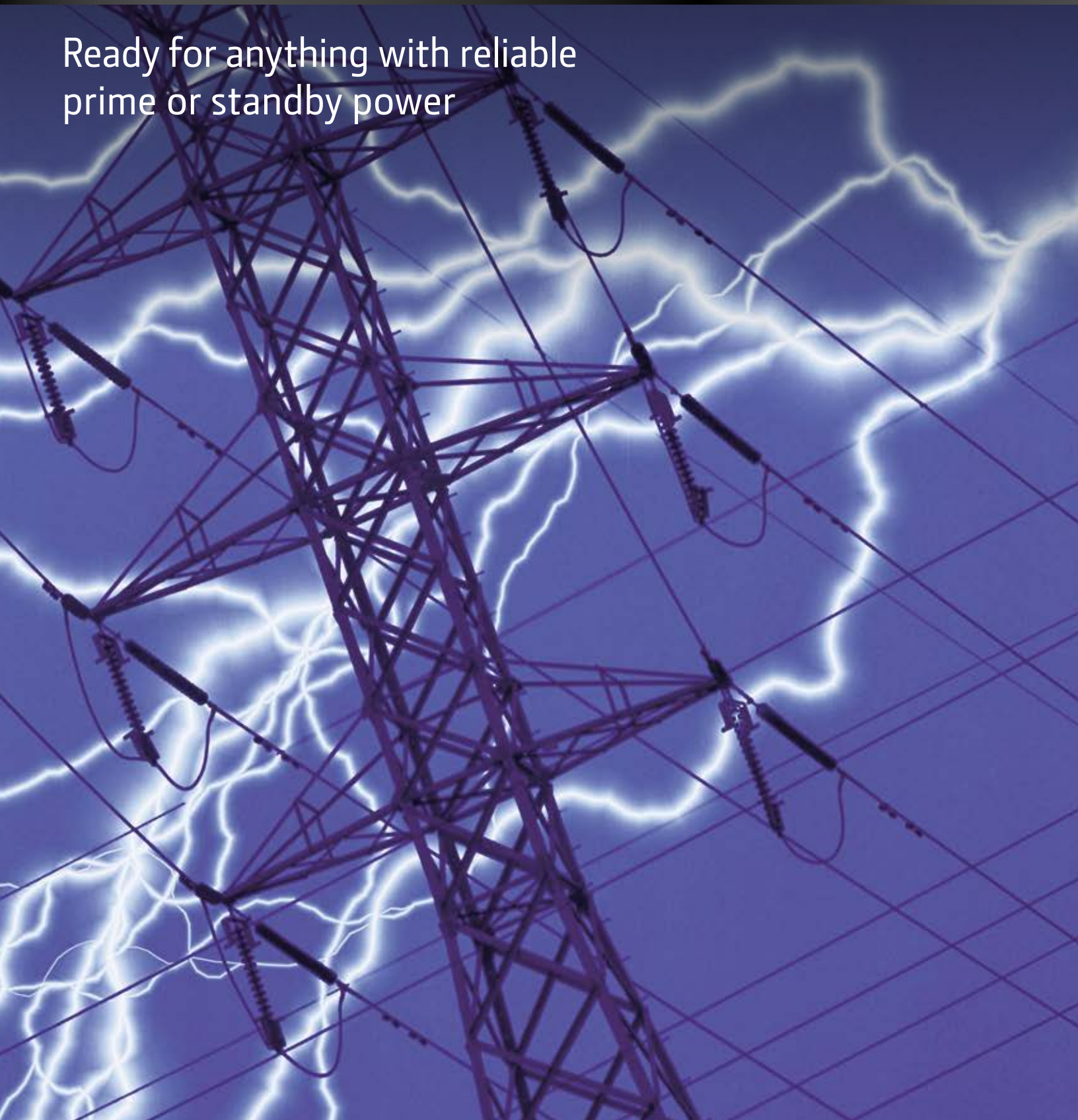
Generator Drive Applications

Diesel Engines



JOHN DEERE

Ready for anything with reliable
prime or standby power



John Deere generator power

- **Leading gen-set manufacturers trust John Deere PowerTech™ generator drive engines.**
- **John Deere is one of the very few engine manufacturers that doesn't make gen-sets. It makes us unbiased partners with gen-set OEMs.**
- **We listen closely to gen-set manufacturers to provide the features and services they need.**
- **We deliver the best power density and most compact engine design.**
- **Complete power range meets all worldwide emissions regulations and certifications — from non-emissions certified engines to Tier 4 and Stage III A.**
- **Reliable operation, low maintenance, long engine life, and unbeatable fluid economy lead to low cost of ownership.**
- **Extensive worldwide support network provides peace of mind.**



Reliable power anywhere



Ready when you need it

Prime or standby power

John Deere generator drive engines are ready when and where you need them! They provide fast response for standby situations and exceptional load recovery in all applications.

Without interruption

When it's your prime power source, you can't afford any interruptions. That's where John Deere generator drive engines earn their reputation for reliability and confidence. Even our maintenance intervals are extended with a 500-hour oil change.

In any condition

Are you operating in sub-zero cold or blistering heat? Don't worry. John Deere engines start in freezing temperatures thanks to advanced electronic high-pressure fuel systems and preheating options such as glow plugs, air heaters, or block heaters. We also offer a full line of cooling packages built to handle the hottest working conditions.

For the long haul

The John Deere name has always been synonymous with durability. It explains why you find so many John Deere engines continuing to do their job years after they were put into service. Check out the heavy-duty features found on all John Deere generator drive engines by visiting JohnDeere.com/gendrive.



Ready to install



Application choices

Select from a wide range of John Deere generator drive engine models with displacements from 2.9L to 13.5L and a variety of options. Our power ranges overlap across engine displacements so you can choose exactly the right fit for your application.

- 12V or 24V electrical systems
- Left or right side service points
- Multiple fan heights and speed ratios
- Factory-installed cooling systems

Power density

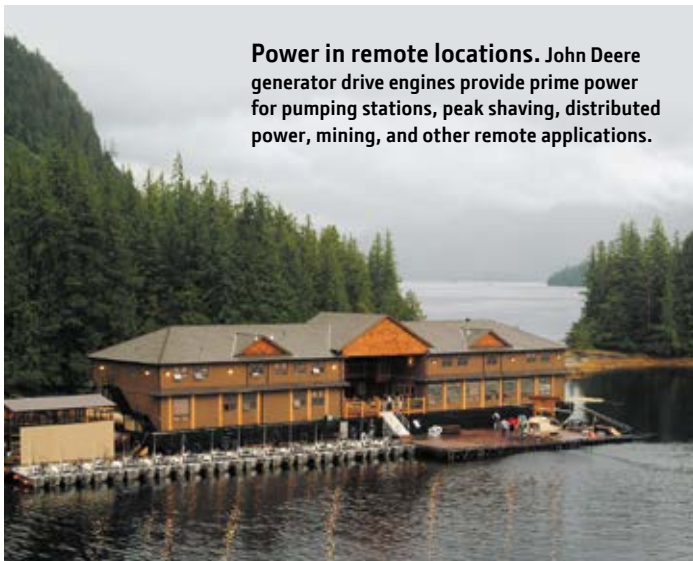
Imagine a 4-cylinder engine that performs like a 6-cylinder! One of the secrets of John Deere engines is their ability to generate maximum power in a minimum of space. We use engine technologies such as four-valve cylinder heads to achieve maximum power density. Through these advancements, our current 4.5L, 6.8L, and 9.0L engines perform in applications where larger displacement engines are traditionally required. Our power density also results in smaller canopies, less weight on the trailer, and lower fuel costs.

Installation flexibility

Install John Deere engines using the engine block's front or side mounts. It's your choice. We also offer many options to ensure perfect integration and provide single-side service points for easy access. Have a unique space or noise requirement? With our multiple fan heights and speed ratios, you can build generator sets for tight places or quiet operation.

Application assistance

It's like having a direct line to an application engineer. Our experienced technical team works closely with you to make sure John Deere engines are compatible with your gen-sets. John Deere also offers application-approved cooling packages for our full line of engines. These preconfigured units can save you hours of engineering time and help you get generator sets to market faster.



Power in remote locations. John Deere generator drive engines provide prime power for pumping stations, peak shaving, distributed power, mining, and other remote applications.



Power at a moment's notice. From computer centers to hospital operating rooms, John Deere-powered standby generator sets protect critical applications, ensure uninterrupted productivity, and offer peace of mind.

Our solutions to different regulations

We offer a wide power range of generator drive engines from 31 to 563 kW (42 to 755 hp). John Deere engines comply with all nonroad emissions regulations for the U.S. Environmental Protection Agency (EPA) and the European Union (EU).

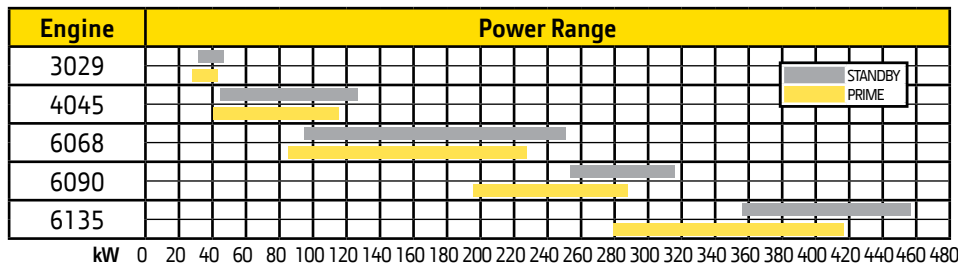
Standby power. The EPA allows emergency standby applications to use Tier 3 products that do not require aftertreatment. The European Union (EU) does not regulate emergency standby applications.

Emergency stationary provision. The New Source Performance Standard (NSPS) provision of the EPA requires that Tier 3 engines for standby power be limited to emergency use and no more than 100 hours per year for required maintenance and testing. Owners/operators must record the use of the engine during all operations, including hours operated during emergencies and non-emergencies.

Prime power. Since January 1, 2011, prime power applications were required to meet Interim Tier 4 emissions regulations in North America and Stage III A in Europe. Final Tier 4 emissions regulations for prime power applications will be fully implemented by 2015.



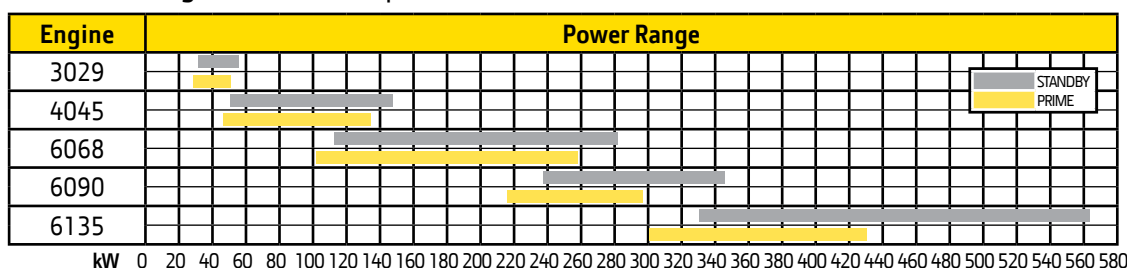
Gen-Set Ratings 50 Hz (1500 rpm)



50 Hz engines

Our current engine range meets emissions regulations introduced by the European directive 97/68/EC, TA-Luft, and CCNR. Non-emissions certified engines are also available for non-regulated markets.

Gen-Set Ratings 60 Hz (1800 rpm)



60 Hz engines

We offer a wide choice of engines that fully meet EPA emissions regulations. Non-emissions certified engines are also available for non-regulated markets.

Ready for any market

John Deere generator drive engines keep your gen-sets in compliance, and they keep your customers confident. Wherever your generator sets go, they will be ready to meet local emissions regulations in most countries.



Broad engine lineup

John Deere offers a complete range of generator drive engines in displacements from 2.9L to 13.5L. We offer a wide choice of engines that fully meet emissions regulations. Non-emissions certified engines are also available for non-regulated markets and emergency stationary applications.

These engines are the result of talking one-on-one with gen-set manufacturers, and designing engines to their specifications for customers across North America and around the world.

Jet fuel capable

Some John Deere generator drive engines are jet fuel capable and are available in dual frequency 1500 rpm (50 Hz) and 1800 rpm (60 Hz) with the same software and hardware.

Advanced electronic controls

John Deere uses proven electronic controls in almost all our power ranges. They help provide load recovery, clean power, better diagnostics, engine monitoring, and ease of synchronization when operating more than one set in parallel. Electronic controls also make it easy to switch between frequencies for manufacturers who export gen-sets to other regions.

The chart below shows U.S. Environmental Protection Agency (EPA) and European Union (EU) emissions regulations for nonroad mobile machinery.

Nonroad mobile machinery constant speed engines emissions regulations

		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
2004/26/CE EU	<18 kW	Not regulated in EU										
	19-36 kW			Stage II				Stage III A				
	37-56 kW			Stage II					Stage III A			
	57-74 kW			Stage II					Stage III A			
	75-129 kW			Stage II				Stage III A				
	130-559 kW			Stage II				Stage III A				
	>560 kW	Not regulated in EU										
EPA	<18 kW	Tier 2				Tier 4						
	18-36 kW	Tier 2				Interim Tier 4				Tier 4		
	37-55 kW	Tier 2				Interim Tier 4				Tier 4		
	56-74 kW	Tier 2				Tier 3			Tier 4			
	75-129 kW	Tier 2		Tier 3					Interim Tier 4			Tier 4
	130-559 kW	Tier 2	Tier 3						Interim Tier 4		Tier 4	
	>=560 kW	Tier 1	Tier 2						Interim Tier 4			Tier 4

Integrated Emissions Control system

John Deere has integrated new technologies with field-proven solutions to meet each regulatory tier. A single electronic control unit (ECU) controls the engine and entire Integrated Emissions Control system.

Turbocharging

John Deere engines use fixed geometry turbochargers sized for specific power ranges, wastegate turbochargers (WGT) to develop more airflow at lower engine speeds, and variable geometry turbochargers (VGT) to tailor the amount of recirculated exhaust gas that mixes with fresh air. Some models use a fixed turbocharger and VGT or wastegated turbocharger in series to deliver higher power density, improved low-speed torque, and improved high altitude operation.



Cooled exhaust gas recirculation (EGR)

Cooled EGR is a proven technology that reduces nitrogen oxides (NOx) by mixing measured amounts of exhaust gas with incoming fresh air to lower the engine's peak combustion temperature.

Exhaust filters

Some engine models use an exhaust filter to provide a simple and reliable solution for reducing particulate matter (PM). This is the best available control technology (BACT) for reducing PM in nonattainment areas.

Selective catalytic reduction (SCR)

John Deere engines feature an SCR system that utilizes a urea-based additive, sometimes referred to as diesel exhaust fluid (DEF). The ammonia in the urea mixes with engine exhaust gases in the SCR catalyst to reduce NOx — converting it to nitrogen and water vapor. This is the best available control technology (BACT) for reducing NOx in nonattainment areas.

Engine technology summary

Engine	Emissions Regulations	Turbocharging	Cooled EGR	Exhaust Filter	PM Aftertreatment	SCR
PowerTech M	Interim Tier 4 and Stage III A	Fixed	No	No	No	No
PowerTech E	Tier 3 and Stage III A	Fixed	No	No	No	No
PowerTech Plus	Tier 3	VGT	Yes	No	No	No
PowerTech PWX	Interim Tier 4	WGT	Yes	Yes	DOC/DPF	No
PowerTech PVX	Interim Tier 4	VGT	Yes	Yes	DOC/DPF	No
PowerTech PSX	Interim Tier 4	Series	Yes	Yes	DOC/DPF	No
PowerTech EWX	Final Tier 4	WGT	No	Yes	DOC/DPF	No
PowerTech PWL	Final Tier 4	WGT	Yes	No	DOC	Yes
PowerTech PVS	Final Tier 4	VGT	Yes	Yes	DOC/DPF	Yes
PowerTech PSS	Final Tier 4	Series	Yes	Yes	DOC/DPF	Yes

Turbocharging: Fixed = fixed turbocharger, VGT = variable geometry turbocharger, WGT = wastegated turbocharger, Series = series turbochargers
 Cooled EGR: cooled exhaust gas recirculation
 DOC: diesel oxidation catalyst
 DPF: diesel particulate filter
 SCR: selective catalytic reduction

Ready for results

Fluid economy

Generate more power with less fuel. Low-friction pistons, 4-valve cylinder heads, and advanced electronic controls are just some of the tools we use to help you build efficient generator sets. John Deere Final Tier 4 engines use an optimized SCR system that maximizes total fluid economy of fuel and diesel exhaust fluid (DEF).

Quiet operation

John Deere generator drive engines have low noise and vibration. This helps manufacturers build quiet gen-sets with less isolation of the canopy.

Real reliability

Built on a foundation of sturdy, compact engine blocks, and enhanced with technological advancements and innovation. John Deere engines are known throughout the world for their reliability and durability.

They feature heavy-duty components like wet-type cylinder liners, top-liner cooling, steel pistons, gear-driven auxiliary drives, and sealed water pumps. Visit JohnDeere.com/gendrive for complete specifications.

Total quality

From our continuing research and development efforts to our rigorous manufacturing processes, every component of a John Deere engine is scrutinized for quality. The total result is a generator drive engine that delivers performance, fuel efficiency, reliability, emissions compliance, and easy installation — a combination of engine qualities that you can't find just anywhere. We are ISO 9001 and 14001 certified and have expertise partnering with gen-set manufacturers worldwide.

Low cost of ownership

John Deere generator drive engines quietly do their job generating electrical power. The fuel efficiency of John Deere prime power engines minimizes the number of times you have to fill the tank. It all adds up to a low cost of ownership. It's exactly why John Deere has received the attention and loyalty of so many generator set manufacturers and customers.





Customer support

The power of a worldwide support network

The proven John Deere dealer network of over 4,000 service locations 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 engine distributor or service dealer, visit 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, as well as the latest diagnostic and service techniques.

Fast parts delivery

You can count on genuine John Deere parts to keep you up and running. Our worldwide parts distribution system has overnight delivery 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 quickly.

Superior engineering

There's a reason John Deere engines and equipment have such a strong reputation — quality. Other companies claim their repair parts meet or exceed OEM specifications. But the only real way to ensure performance is to use engine parts designed by John Deere for John Deere engines. Demand the quality and support of John Deere parts and service to keep your equipment running like new.

A warranty you can count on

Equipment operators can't afford downtime or unexpected repairs. That's why we offer a 2-Year/2,000-Hour Warranty, with unlimited hours in the first year, on our OEM industrial and marine engines. This warranty takes effect the date that the engine component is delivered to the first retail purchaser. In addition, extended warranties are available under certain conditions. Be sure to register your engine and take full advantage of the John Deere service and support network.

Scan this code to register online, or visit JohnDeere.com/warranty.



Shop JDParts.JohnDeere.com

With JDParts, shopping for replacement parts or maintenance products for your OEM engine just became as easy as opening your computer or using your smartphone. No matter the time of day or your location, JDParts gives you access to the parts you need in just a few clicks.

- Order online through your dealer 24/7/365
- Pick up orders as early as the next day from your John Deere OEM service dealer
- Available home delivery
- Access to complete parts catalog with product images
- Access to local John Deere OEM service dealer pricing and inventory

Not available in all countries.



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