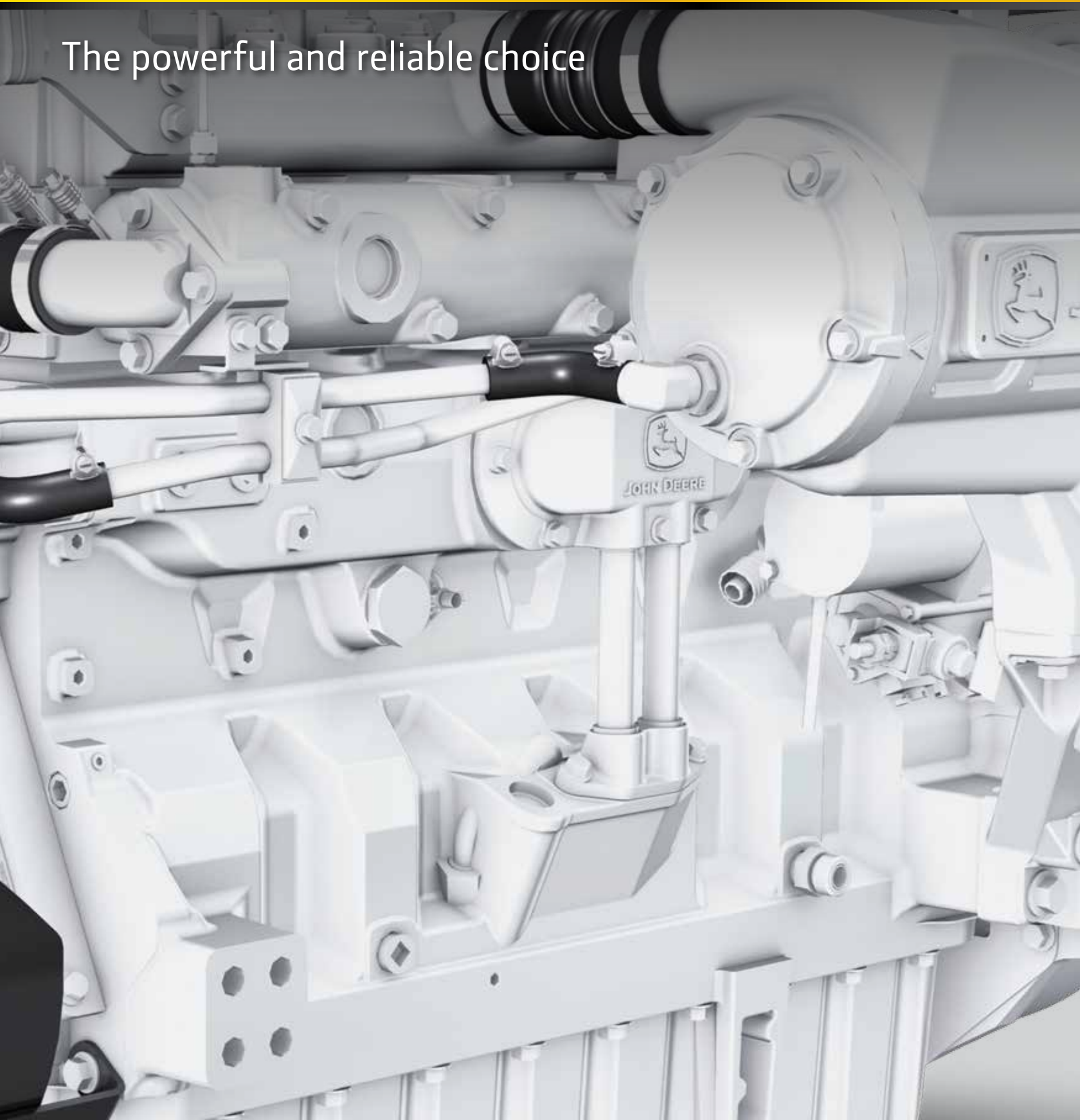
Marine Applications

Diesel Engines

JOHN DEERE



Marine applications

Nothing Runs Like A Deere™

John Deere PowerTech™ engines are as powerful in the water as they are on the land. Our marine propulsion and generator engines share the same reputation for performance and reliability that their agricultural and industrial counterparts have enjoyed for decades. They are also backed by a vast service network that will keep you operating — no matter where you go.

When you choose John Deere, you get the support of one of the strongest engine and equipment companies in the world. See for yourself why more vessels are being powered by John Deere.

Clean engines — clean air

With John Deere PowerTech engines, everything runs clean and efficiently — above and below deck. John Deere marine engines offer closed crankcase vents that eliminate undesirable gases in the engine room and keep the bilge clean.

John Deere also protects the air outside your boat by complying with international, European, and United States emissions standards for regulated vessels. John Deere meets Environmental Protection Agency (EPA) Marine Tier 3 emissions regulations with a complete line of PowerTech engines for newly constructed vessels as well as repowered boats.

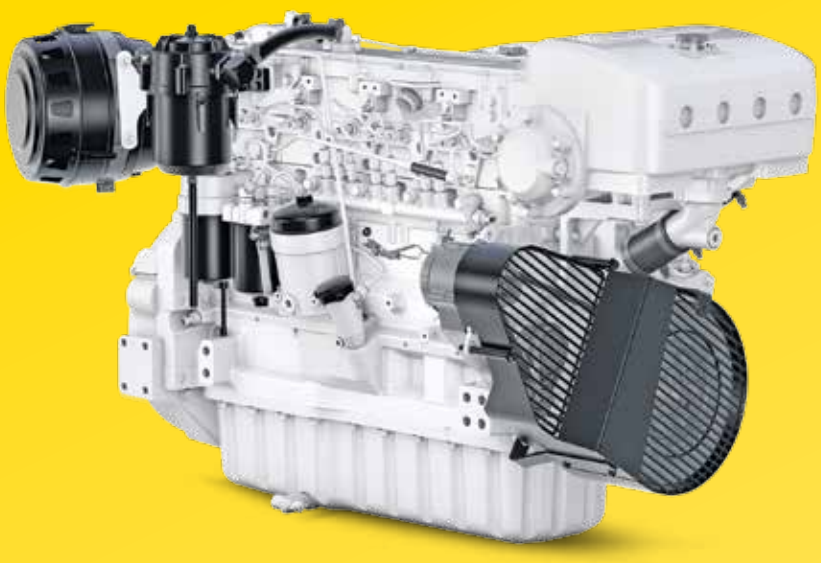
- EPA Tier 3 regulations for vessels flagged in the United States
- European Union Nonroad Mobile Machinery (NRMM – 97/68/EC as amended), whose standards are also recognized by the CCNR for sailing on the Rhine
- European Union Recreational Craft Directive (RCD – 94/25/EC as amended)
- Emissions certified engines over 130 kW (174 hp) meet regulations set out in Annex VI of the International Maritime Organization (IMO) MARPOL convention. Engine International Air Pollution Prevention (EIAPP) certificates issued by the U.S. EPA or American Bureau of Shipping (ABS) are available for select engine models. **Visit your John Deere dealer for details.**

Engines for non-regulated territories

In addition to the engines for various emissions regulations mentioned, John Deere offers engines for the non-regulated regions throughout the world.

Marine classification societies

John Deere has worked with various marine classification societies allowing the use of our engines in vessels designed and built to the society's requirements.



BUREAU VERITAS

Lloyd's Register

ABS TYPE APPROVAL PROGRAM

DNV

Propulsion engines — more power in the water

John Deere PowerTech engines are built for long life, reliable performance, fuel efficiency, quiet operation, ease of access to main parts, and simplified integration. They give you the power you need when you're on the water. Choose reliable John Deere engines from 56 to 559 kW (75 to 750 hp).

Model designation key

6135SFM85

Emissions
50 – Non-emissions regulated
70, 75, 76, 85 – Emissions regulated

Indicates air intake system
DFM – Naturally aspirated
TFM – Turbocharged
AFM – Turbocharged and aftercooled, air-to-coolant
SFM – Turbocharged and aftercooled, air-to-seawater

Displacement in liters

Number of cylinders

A John Deere marine engine model designated as 6135SFM85 is a 6-cylinder, 13.5-liter turbocharged and aftercooled, air-to-seawater engine that is emissions regulated.

Propelled performance

John Deere engines give you an effective blend of pure power and rugged toughness. Our full, high-horsepower lineup offers the right engine for your needs — each of them with added torque at slower speeds. The result? John Deere engines build power faster and cruise at a higher speed with a lower rpm. Boost your vessel's performance in swells, tides, or currents with reliable power that's ready when you are.

4.5L
56 – 168 kW
75 – 225 hp

6.8L
115 – 298 kW
154 – 400 hp

9.0L
213 – 410 kW
285 – 550 hp

13.5L
272 – 559 kW
365 – 750 hp

Marine propulsion M ratings

Ratings are based on the ISO 8655 standard power rating and the SAEJ1228 crankshaft power rating.

The M rating definitions are provided as a guide to help in the selection of the engine that best fits the application requirements. It is recommended to consult a John Deere representative to verify the optimal rating for the specific application.

The **M1** rating is for marine propulsion applications that may operate up to 24 hours per day at uninterrupted full power and have load factors* greater than 65 percent.

Possible applications: Line hauls tugs and towboats, fish and shrimp trawlers/draggers, and displacement hull fishing boats.

The **M2** rating is for marine propulsion applications that typically operate between 3,000 to 5,000 hours per year and have load factors* up to 65 percent. This rating is for applications that are in continuous use and use full power for no more than 16 hours of each 24 hours of operation. The remaining time of operation is at or below cruising† speed.

Possible applications: Short-range tugs and towboats long-range ferryboats, large passenger vessels and offshore displacement hull fishing boats.

The **M3** rating is for marine propulsion applications that typically operate between 2,000 to 4,000 hours per year and have load factors* up to 50 percent. This rating is for applications that use full power for no more than 4 hours out of each 12 hours of operation. The remaining time of operation is at or below cruising† speed.

Possible applications: Coastal fishing boats offshore crew boats, research boats. Short range ferryboats and dinner cruise boats.

The **M4** rating is for marine propulsion applications that typically operate between 1,000 to 3,000 hours per year and have load factors* below 40 percent. This rating is for applications that use full power no more than 1 hour out of each 12 hours of operation. The remaining time of operation is at or below cruising† speed.

Possible applications: Inshore crew boats, charter fishing boats, pilot boats, dive boats, and planning hull commercial fishing boats.

The **M5** rating is for marine recreational propulsion and certification for light duty commercial Tier 3 applications that operate between 300 to 1,000 hours per year and have load factors* below 35 percent. This rating is for applications that use full power for no more than 30 minutes out of each 8 hours. The remaining time of operation is at or below cruising† speed.

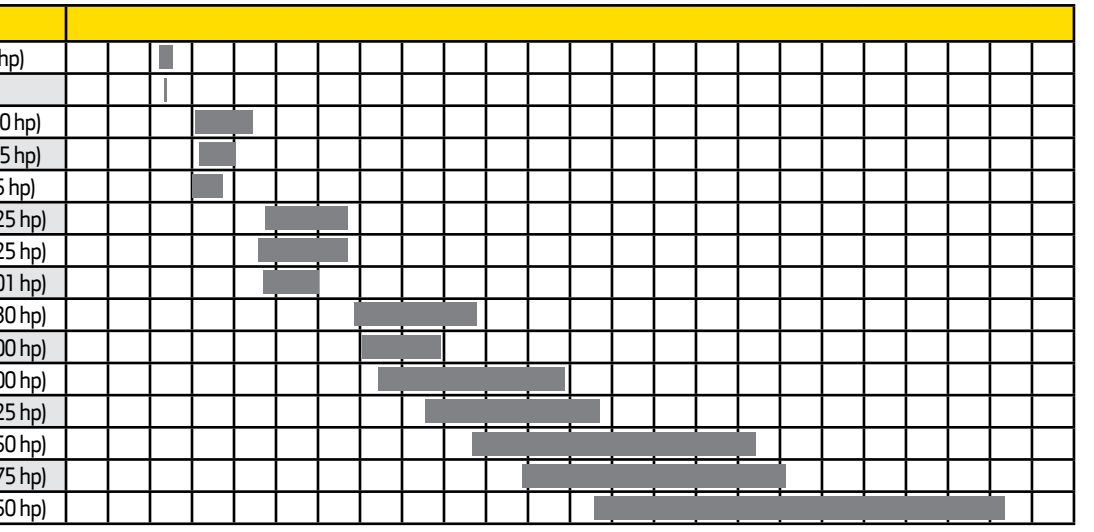
Possible applications: recreational boats, tactical military vessels and rescue boats.

* Load factor is the actual fuel burned over a period of time divided by the full-power fuel consumption for the same period of time. For example, if an engine burns 160 liters of fuel during an eight-hour run, and the full-power fuel consumption is 60 liters per hour, the load factor is 160 liters / (60 liters per hour x 8 hours) = 33.3 percent.

† Cruising is any operating time where the engine speed is more than 200 rpm less than the maximum attainable engine speed.

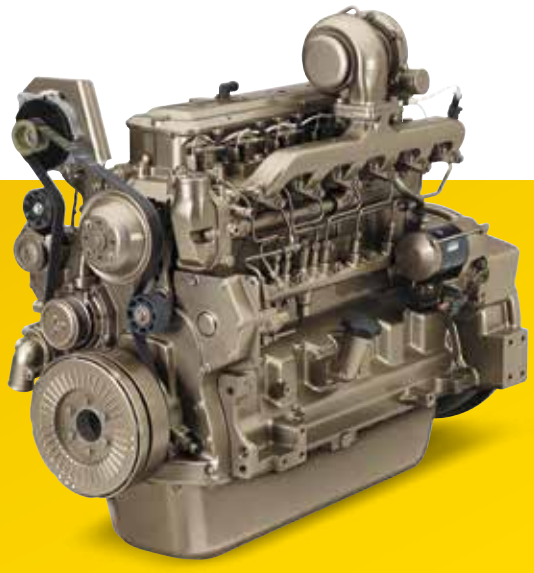
Marine Engine Propulsion Power Ratings

Engine	Power Rating
4045DFM50	56 – 63 kW (75 – 85 hp)
4045DFM70	60 kW (80 hp)
4045TFM50	78 – 112 kW (105 – 150 hp)
4045TFM75	80 – 101 kW (107 – 135 hp)
4045TFM85	75 – 93 kW (100 – 125 hp)
4045AFM85	119 – 168 kW (160 – 225 hp)
6068TFM50	115 – 168 kW (154 – 225 hp)
6068TFM75	118 – 150 kW (158 – 201 hp)
6068AFM75/85	172 – 246 kW (230 – 330 hp)
6068SFM50	176 – 224 kW (236 – 300 hp)
6068SFM75/85	186 – 298 kW (249 – 400 hp)
6090AFM75/85	213 – 317 kW (285 – 425 hp)
6090SFM75/85	242 – 410 kW (325 – 550 hp)
6135AFM85	272 – 429 kW (365 – 575 hp)
6135SFM85	317 – 559 kW (425 – 750 hp)



Ratings are subject to change. Please contact your John Deere marine dealer for details.

Auxiliary power that's ready when you are



John Deere PowerTech™ engines are engineered to run vessel auxiliaries such as pumps, winches, deck cranes, and hydraulics. With displacements from 4.5 liters to 13.5 liters and power ratings from 74 to 448 kW (99 to 600 hp), fitting your application has never been easier. We also offer a choice of options and accessories.

We've got you covered when it comes to emissions

John Deere provides a full line of PowerTech engines that meet U.S. Environmental Protection Agency Marine Tier 3 emissions regulations.*

Complete your work with confidence

See your John Deere marine dealer or engine distributor for complete specifications on our full line of reliable, fuel-efficient John Deere auxiliary drive engines. Log on to www.JohnDeere.com/dealer to find the service dealer nearest you.

Ratings: Constant Speed

Engine model	Displacement		Rated power		Rated speed
	L	cu in	kW	hp	rpm
4045HF285	4.5	275	129	173	1800
4045TF285	4.5	275	78	105	1800

Ratings: Variable Speed

Engine model	Displacement		Rated power		Rated speed
	L	cu in	kW	hp	rpm
4045TF285	4.5	275	74	99	2200
6068HF485	6.8	514	187	250	2200
6090HF485	9.0	548	280	375	2200
6135HF485	13.5	824	448	600	2100

Specifications are subject to change without notice.

* Not available in all countries.

Generator drive engines — the strong silent type

For reliable power from 40 to 416 kW (54 to 558 hp), John Deere generator drive engines deliver quiet, smooth operation that never lets you down. You may even forget they are aboard until you turn on the lights or plug in an appliance. This quiet reliability is why John Deere is a preferred provider of generator drive engines worldwide. They are available in 1500 rpm for 50 Hz and 1800 rpm for 60 Hz configurations.

Quiet operation and low vibration

We strive to design engines that go almost unnoticed. This is why all the moving parts are dynamically balanced. The torque available at low rpm helps with fast load response.

- Water-cooled exhaust manifold for cooler, quieter performance
- Engine isolators with optional mounting supports
- All 4-cylinder models have internal balance shafts to eliminate vibration

PowerTech radiator-cooled generator drive engines
40 – 416 kW
54 – 558 hp

Marine generator engine ratings

The marine generator engine rating is the power available under normal varying electrical load factors* for an unlimited number of hours per year in commercial applications. This rating incorporates a 10 percent overload capability, and conforms to ISO 8528 prime power. Average load over a 24-hour period shall not exceed 67 percent of the prime rating, of which no more than two hours are between 100 percent and 110 percent of the prime rating.

This rating is used for applications that required constant speed in auxiliary applications.

* Load factor is the actual fuel burned over a period of time divided by the full-power fuel consumption for the same period of time. For example, if an engine burns 160 liters of fuel during an eight-hour run, and the full-power fuel consumption is 60 liters per hour, the load factor is 160 liters / (60 liters per hour x 8 hours) = 33.3 percent

Marine emergency power gen-sets

John Deere Power Systems provides radiator-cooled, dry-exhaust manifold PowerTech™ gen-set engines that carry marine society approvals.

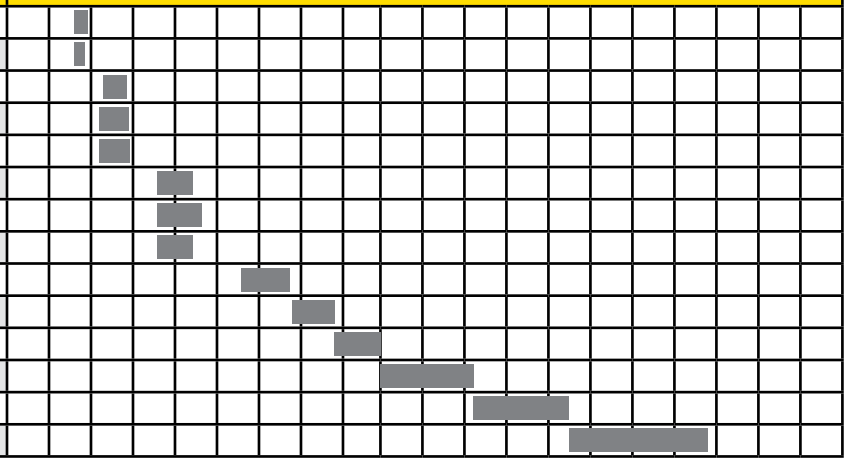
Ratings: Marine Emergency Power Gen-Sets

Engine model	Displacement		Rated power		Rated speed
	L	cu in	kW	hp	rpm
6068HF275	6.8	514	111	149	1500
6068HF279	6.8	514	139	186	1500
6068HF275	6.8	514	149	200	1800
6068HF275	6.8	514	170	228	1800
6068HF275	6.8	514	191	256	1800
6090HFG86	9.0	548	253	339	1500
6090HFG86	9.0	548	304	408	1500
6090HFG86	9.0	548	258	346	1800
6090HFG86	9.0	548	315	422	1800
6090HFG86	9.0	548	345	463	1800

Not available in all countries.

Marine Engine Generator Drive Power Ratings

Engine	Power Rating
4045DFM50	40 – 48 kW (54 – 64 hp)
4045DFM70	40 – 46 kW (54 – 62 hp)
4045TFM50	57 – 71 kW (76 – 95 hp)
4045TFM75	55 – 73 kW (74 – 98 hp)
4045TFM85	61 – 74 kW (82 – 99 hp)
4045AFM85	89 – 110 kW (119 – 148 hp)
6068TFM50	89 – 115 kW (119 – 154 hp)
6068TFM76	89 – 110 kW (119 – 148 hp)
6068AFM75/85	139 – 166 kW (186 – 223 hp)
6068SFM85	168 – 195 kW (226 – 262 hp)
6090AFM75/85	195 – 222 kW (261 – 297 hp)
6090SFM75/85	222 – 278 kW (298 – 373 hp)
6135AFM85	278 – 334 kW (373 – 448 hp)
6135SFM85	334 – 416 kW (448 – 558 hp)



Ratings are subject to change. Please contact your John Deere marine dealer for details.

Marine applications

Effortless engine power

Easy to install

John Deere marine engines can be configured for propulsion, generator set, and auxiliary applications. Our full range of reliable, fuel-efficient engines have the power to meet your needs. We also offer a choice of options and accessories to fit any application.

The simple and clean design of John Deere marine engines allows direct access to connection and service points for the cooling system, fuel supply, lubrication system, and exhaust system.

- Compact design for easy installation
- Front PTO with electronic clutch to drive pumps and accessories
- SAE flywheel and housing options
- Wet or dry exhaust elbows
- Keel cooled or heat exchanger cooled

Easy to operate

Prewired instrument panel provides electronic control of engine functions and instant access to engine diagnostics.

- Includes tachometer, oil pressure, voltmeter, water temperature, and hour meter gauges
- Electronic information display is bright and easy to read
- Multilanguage text display

Easy to maintain

- Internal coolant passages minimize leaks by eliminating hoses and fittings
- Dipstick and oil fill on either side
- Poly-vee belt drive increases durability
- Washable, dry-type air filters can be serviced quickly and easily
- Replaceable wet liners, precision-joint connecting rod/cap joint, and replaceable valve seats make rebuilding easy
- Gear timing maintenance-free during entire life of engine

PowerView™ Display

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.

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.

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.

Worldwide locations

North America, South America, Brazil, and Caribbean
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JOHN DEERE ENGINE MANUFACTURING
ISO 9000
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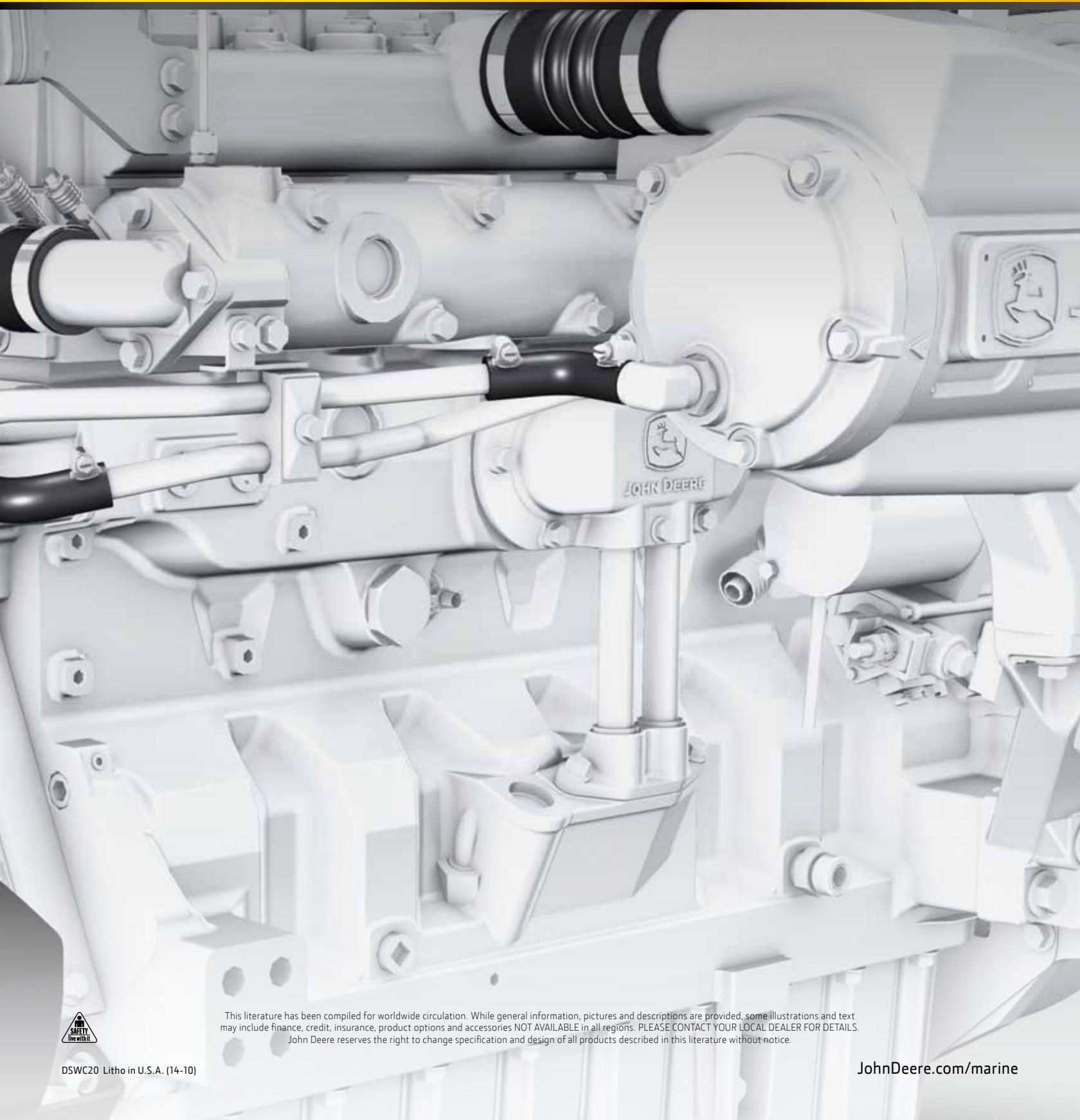

DSWC20 Litho in U.S.A. (14-10)

JohnDeere.com/marine