DETROIT DD16® ENGINE

FROM 475-600 Horsepower
FROM 1850-2050 lb-ft Torque
DISPLACEMENT 15.6 Liters
THE POWER OF EFFICIENCY.
Big jobs can be brutal. So it just makes sense to let a brute handle them. The Detroit DD16 engine provides as much as 600 horsepower and 2050 pound-feet of torque. Whether you’re hauling logs out of the forest, rocks from the quarry or just about anything down the highway, you’ll have the power and performance to get the job done. Effectively and efficiently. In fact, the DD16 is equipped with advanced technology to maximize fuel economy. Because, ultimately, built to drive your business.

The performance of a Detroit engine is also the result of industry-leading innovation, from the proprietary fuel system to our exhaust aftertreatment process. The DD16 truly offers a total package. And, when you also consider our comprehensive support network, you can operate your business with an added level of confidence. It’s no wonder so many people demand Detroit.

**PLENTY OF PULLING POWER**
The exceptional gradeability and wide, flat torque curve of the powerful DD16 make steep grades and mountainous terrain seem flatter, enabling steady climbs with less shifting.

**SILENT, SMOOTH AND COMFORTABLE**
Innovations such as a ribbed cast iron block, rear gear train, Amplified Common Rail Fuel System (ACRS™) and integrated Jacobs® Engine Brake lower in-cab noise and vibration to reduce driver fatigue.

**EFFICIENT TECHNOLOGY**
Detroit ACRS, DDEC® electronics and BlueTec® emissions technology help the DD16 use less fuel and meet emissions regulations.

**KEEP THE WHEELS TURNING**
Longest service intervals in its class and cartridge-style filters located above the frame rails ease maintenance, while unmatched parts availability and our best performing network provide peace of mind.

**BUILT FOR THE DURATION**
With proven reliability, big-bore durability and a B50 life of 1.2 million miles, the DD16 was designed and engineered to last for the long haul.
Detroit engines always have been known for legendary fuel economy, and the DD16 with BlueTec is no exception. It’s equipped with a variety of innovative technologies designed to save you money at the pump.

**MORE POWER. LESS WASTE.**

Our exclusive ACRS fuel system [a], turbo compounding and BlueTec emissions technology optimize the engine’s combustion efficiency, minimizing fuel consumption. ACRS optimizes combustion efficiency and works in unison with our sophisticated DDEC electronics [b] to deliver the exact amount of fuel you need at the right moment, leading to reduced fuel consumption and lower emissions. Plus, DDEC provides a complete offering of engine and driver performance reports to help you maximize the advantages of the DD16. Turbo compounding [c] helps your rig use less fuel without sacrificing power, making it the perfect solution for rising fuel prices. It recovers thermal energy from the exhaust stream, converting energy normally lost into useable power.

**OPTIMIZED DRIVETRAIN EFFICIENCY**

When it comes to maximizing the return on your Detroit-powered drivetrain, vehicle gearing is an important consideration. Spec’ing the right axles also is a critical factor in the fuel economy equation. To get the most out of each gallon of fuel, simply consult your local Detroit representative. Our engine experts and vast support network will ensure you get the perfect engine and drivetrain combination to meet your needs. With the Detroit Spec Manager tool, we’ll analyze your specifications and make sure that all performance and economy needs not only are met, but exceeded.

Here’s what you can expect for typical on-highway tractor-trailer applications of 80,000 lb. or less:

- For maximum fuel economy at 65 mph, gear for an engine speed of 1350 RPM.
- When you need extra performance, gear for an engine speed of 1450 RPM at 65 mph.
- For gearing recommendations specific to heavy-haul or vocational applications, please consult your local Detroit representative.
Choosing an engine is an important business decision. Whatever the job, your vehicles need to be productive to be profitable. That’s why we developed the DD16. It provides dependable power for big jobs, while operating as efficiently as possible.

**BIG AND STRONG**

With a displacement of 952 cubic inches (15.6 liters) and up to 600 horsepower, the DD16 is the largest, most powerful engine to ever roll off the Detroit assembly line. So go ahead. Take on even the most challenging jobs with confidence.

Detroit offers an innovative ACRS that gives the DD16 superior torque response for pulling heavy loads with confidence. As much as 2050 pound-feet of torque is delivered at only 1100 RPM, giving you the launch and acceleration you need to get the heaviest load moving. And, with a wide, flat torque curve, DD16 lets you hang in top gear longer for more efficient, quieter cruising.

**POWER WITH CONTROL**

DD16 provides the muscle needed to take on any challenge, but we’re not talking about wild, unbridled power here. Because, after all, what good is power without control? That’s why every DD16 features an integrated three-stage Jacobs Engine Brake to deliver better downhill control and quieter, more versatile engine braking. From dispatch to delivery, the DD16 offers the commanding pulling power and surefootedness that make even the heaviest loads more manageable.

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**DD16 Engine Power Ratings**

<table>
<thead>
<tr>
<th>Horsepower</th>
<th>RPM</th>
<th>Torque @ RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>475 HP</td>
<td>1800</td>
<td>1850 lb-ft @ 1100 RPM</td>
</tr>
<tr>
<td>500 HP</td>
<td>1800</td>
<td>1850 lb-ft @ 1100 RPM</td>
</tr>
<tr>
<td>500 HP</td>
<td>1800</td>
<td>2050 lb-ft @ 1100 RPM</td>
</tr>
<tr>
<td>530 HP</td>
<td>1800</td>
<td>1850 lb-ft @ 1100 RPM</td>
</tr>
<tr>
<td>560 HP</td>
<td>1800</td>
<td>1850 lb-ft @ 1100 RPM</td>
</tr>
<tr>
<td>560 HP</td>
<td>1800</td>
<td>2050 lb-ft @ 1100 RPM</td>
</tr>
<tr>
<td>600 HP</td>
<td>1800</td>
<td>1850 lb-ft @ 1100 RPM</td>
</tr>
<tr>
<td>600 HP</td>
<td>1800</td>
<td>2050 lb-ft @ 1100 RPM</td>
</tr>
</tbody>
</table>

**DD16 Engine Multi-Torque Power Ratings**

<table>
<thead>
<tr>
<th>Horsepower</th>
<th>RPM</th>
<th>Torque @ RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 HP</td>
<td>1800</td>
<td>1850/2050 lb-ft @ 1100 RPM</td>
</tr>
</tbody>
</table>

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**Horsepower and Torque Curve**

- **600 bhp @ 1800 r-min - 2050 lb-ft**
- **1751 lb-ft**
- **600 bhp**

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**ENGINE SPEED r-min**

**TORQUE lb-ft**

**POWER bhp**

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**ENGINE SPEED r-min**

**TORQUE lb-ft**

**POWER bhp**
## DD16 SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration</td>
<td>Inline 6 Cylinder</td>
</tr>
<tr>
<td>Displacement</td>
<td>952 cu. in. (15.6 L)</td>
</tr>
<tr>
<td>Compression Ratio</td>
<td>17:1</td>
</tr>
<tr>
<td>Bore</td>
<td>5.47 in. (139 mm)</td>
</tr>
<tr>
<td>Stroke</td>
<td>6.73 in. (171 mm)</td>
</tr>
<tr>
<td>Weight (Dry)</td>
<td>2880 lb. (1306 kg)</td>
</tr>
<tr>
<td>Electronics</td>
<td>DDEC®</td>
</tr>
<tr>
<td>Oil Capacity</td>
<td>45.5 qt (43 L)</td>
</tr>
<tr>
<td>Horsepower Range</td>
<td>475-600</td>
</tr>
<tr>
<td>Torque Range</td>
<td>1850-2050</td>
</tr>
</tbody>
</table>
DETROIT ENGINES ARE ON THE LEADING EDGE OF TECHNOLOGY. AND THAT'S THE BEST WAY TO STAY AHEAD OF EVERYONE ELSE.

VIRTUAL TECHNICIAN

Our factory-installed Virtual Technician™ onboard diagnostic system takes the guesswork out of engine repair. When a truck's check engine light illuminates, data is collected immediately, providing a technical snapshot of the engine's status before, during and after a fault code event. This information is sent to you and to the Detroit Customer Support Center (CSC), where a trained representative can diagnose the issue, recommend service and even contact the nearest authorized locations with parts in stock. The CSC can tell you if you need to pull over so you don’t cause further damage, whether or not can stay on the road. Simply put, it’s like having a technician in every truck.

Virtual Technician’s optional Visibility Package is a fleet management system that offers access to the Ground Traffic Control website. This groundbreaking system captures latitude, longitude, time and odometer readings for your trucks. With pinpoint accuracy, the system records vehicle stops, speeds, routes, mileage traveled by state, excessive idling, fuel consumption and other onboard events. The Visibility Package helps you manage your business more efficiently.

DDEC

Detroit DDEC is a suite of innovative features that allow you to better manage fuel economy, engine performance, driving efficiency and maintenance. You can utilize this technology to better control speed, assist in passing, optimize idle efficiency, and even reward your drivers for reaching fuel economy targets. With DDEC, there also are several options available to fleet managers that will help drivers better control engine idling, shifting techniques and aftertreatment management. To learn more, contact your local Detroit dealer, distributor or representative.

BLUETEC

The DD16 features BlueTec® selective catalytic reduction (SCR) emissions technology, which was introduced to meet EPA 2010 emissions standards. This comprehensive system works in concert with exhaust gas recirculation and has been improved, while still meeting today’s emissions standards.

BlueTec includes the diesel oxidation catalyst (DOC), diesel particulate filter (DPF), diesel exhaust fluid (DEF) and an SCR catalyst to remove particulate matter and nitrogen oxide from the exhaust. The system cleans emissions downstream, helping the engine run more efficiently, which improves fuel economy. Most of the harmful exhaust is converted into nitrogen and water before being released from the tailpipe.

GHG14

The DD16 is 2013 OBD (OBD13) Certified and is compliant with 2014 Greenhouse Gas (GHG14) regulations.

1-Box™ Emissions Package:

- Combines DOC, DPF, SCR catalyst and DEF doser in the same package
- Enables lower exhaust back pressure for better fuel economy
- Provides optimal packaging solutions for a variety of truck configurations
- Enhancements to the new 1-Box make it lighter and more efficient
- Reduced number of parts for easier serviceability
- Liquid only DEF dosing for improved reliability and a less complex system

Detroit and DTNA engineers have developed several ways to package these components on the truck.
SERVICEABILITY

UPTIME IS ON YOUR SIDE. DETROIT SERVICEABILITY HELPS YOU ACHIEVE A LOWER COST OF OWNERSHIP.

As in most businesses, time is money. And this is especially true when it comes to the downtime of your truck. If your rig is in the shop, it’s not making you money. That’s why you’ll appreciate the fact that the DD16 can go up to 50,000 miles between oil drain, oil filter and fuel filter change intervals. That’s the longest scheduled maintenance interval in its class.

EASE OF MAINTENANCE

The DD16 is engineered to make maintenance quick and easy, so you can get back on the road and keep your cost of ownership in check. Engine subsystems are built modularly to simplify parts replacement and maintenance. All of the routine maintenance items like the cartridge-style filters are conveniently located above the frame rails, along with the oil fill. This makes it easy to replace the filters when it’s time and helps reduce downtime during routine servicing. The two-filter design of the fuel filter module also contributes to simplified serviceability. And it notifies you when filter loads are approaching levels where a change will be necessary.

When you need genuine parts and expert service, Detroit’s support network will get you back on the road fast. Rest assured, you are supported by the Detroit network, including hundreds of authorized service outlets, an award-winning technician training program, an extensive parts distribution network and expert engine support from our technical support center. Detroit combines all this to give you the genuine parts and expert service you need to demand it all.

FACTORY-BACKED WARRANTY

Detroit engine owners enjoy comprehensive warranty coverage, including a fast, hassle-free process and expedited parts and service for critical downtime situations.

**Standard Warranty**

<table>
<thead>
<tr>
<th>Item</th>
<th>Warranty Limits (Whichever Occurs First)</th>
<th>Repair Charge (Paid by Owner)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Months</td>
<td>Miles / Kilometers</td>
</tr>
<tr>
<td>Engine</td>
<td>0-24</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Injectors</td>
<td>0-24</td>
<td>200,000 mi / 320,000 km</td>
</tr>
</tbody>
</table>

Upon expiration of the 24-month warranty coverage, but within 500,000 mi / 800,000 km of use, the warranty continues to apply as follows:

| Major Components | 25-60 | 500,000 mi / 800,000 km | No charge | Not covered |

**Maintenance Intervals**

<table>
<thead>
<tr>
<th>Item</th>
<th>Severe Duty</th>
<th>Short-Haul</th>
<th>Long-Haul</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Oil and Filter Change*</td>
<td>25,000</td>
<td>35,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Hours</td>
<td>640</td>
<td>895</td>
<td>1,280</td>
</tr>
<tr>
<td>Fuel Filter Change</td>
<td>25,000</td>
<td>35,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Hours</td>
<td>640</td>
<td>895</td>
<td>1,280</td>
</tr>
<tr>
<td>Valve Lash Adjustment</td>
<td>Adjust at 100,000, at 500,000 and every 500,000 thereafter.</td>
<td>Adjust at 2,565, at 12,825 and every 12,825 thereafter.</td>
<td></td>
</tr>
<tr>
<td>Diesel Particulate Filter</td>
<td>A check engine light will illuminate when ash requires removal. Normal DPF ash cleaning intervals are 300,000 to 400,000 miles.</td>
<td>A check engine light will illuminate when ash requires removal. Normal DPF ash cleaning intervals are 9,000 to 10,250 hours.</td>
<td></td>
</tr>
<tr>
<td>DEF Pump Filter</td>
<td>150,000</td>
<td>175,000</td>
<td>250,000</td>
</tr>
<tr>
<td>Hours</td>
<td>3,840</td>
<td>4,475</td>
<td>6,400</td>
</tr>
</tbody>
</table>

* Based on using the Detroit lube oil and oil analysis program.
Severe duty is up to 30,000 annual miles and a vehicle that averages less than 5 miles per gallon (mpg).
Short-haul is between 30,000 and 60,000 annual miles and a vehicle that averages between 5.1 and 5.9 mpg.
Long-haul is over 60,000 annual miles and a vehicle that averages greater than 6 mpg.
† Miles/Hours, whichever occurs first.
UPTIME IS MONEY. THAT’S WHY SERVICEABILITY IS ESSENTIAL TO ACHIEVE A LOWER OVERALL COST OF OWNERSHIP.

EXTENDED SERVICE COVERAGE

Detroit engine extended service coverage (ESC) takes care of tomorrow’s costs at today’s pricing, extending your factory on-highway coverage for up to five years/500,000 miles, or seven years/250,000 miles for vocational coverage. So, whether you need your engine serviced three years from now, or a major repair right now, your engine ESC helps protect your investment.

From covering basic engine components to complete coverage, including aftertreatment, our ESC packages fit your needs and your budget by providing:

- Service at hundreds of Detroit authorized service locations
- Repairs performed by certified technicians
- Unmatched availability of Detroit Genuine Parts
- Coverage throughout the U.S. and Canada
- The ability to purchase without a late fee for up to 12 months, or for a nominal $400 late fee between 13-18 months
- Ability to transfer coverage to a subsequent owner, enhancing resale value

DETROIT GENUINE PARTS

Authorized Detroit service outlets are staffed with factory-trained technicians who exclusively use Detroit Genuine Parts. Our technicians (graduates of our award-winning training program) know your powertrain inside and out. They’re the experts who will make sure that, with normal maintenance at regular intervals, all components continue to perform at optimum power and efficiency for years to come. You can find expert technicians at hundreds of authorized Detroit service locations. Whether it’s a new or remanufactured part, Detroit Genuine Parts precisely fit your engine, axles and transmission, giving you the performance, reliability and durability you count on from Detroit.

Detroit Genuine Parts are covered by a factory-backed nationwide warranty, so you never have to worry about unexpected repair costs.
EMPOWERED BY DETROIT

Here at Detroit, we’ve built our reputation by building high-quality products that perform beyond expectations. Today, you’ll find our engines in Freightliner and Western Star trucks on roads and at job sites around the globe.

The secret to our success goes beyond the engines we build. Our people and our continuous pursuit of innovation are powerful driving forces. Our engineering and manufacturing expertise are world class. Our service network is expansive and responsive. That’s why we continue to grow and evolve. That’s also why we now offer a full line of products: engines, axles, transmissions and advanced technologies. That’s right. The company that makes the heart of the truck now gives you the arms, legs and backbone to go with it. So, if you demand it all, demand Detroit.