

# DETROIT<sup>™</sup> DD16<sup>®</sup> ENGINE

BDC for Manuals - specs - Bolt torques  
<https://barringtondieselclub.co.za/>

FROM  
**475-600**  
Horsepower

FROM  
**1750-2050**  
lb-ft Torque

DISPLACEMENT  
**15.6**  
Liters



**DETROIT<sup>™</sup>**  
DEMAND PERFORMANCE<sup>™</sup>

# MORE THAN A BRAND. IT'S A BREED.

## THE DETROIT™ DD16® ENGINE – A BIG BORE WORKHORSE

You've never been one to settle for the satisfactory, the average or the conventional. You're bred from a different pedigree – one that goes big at every chance – one that takes things to a whole new level – and one that enjoys the ride as much as the destination. And you are the reason why Detroit makes the DD16 with BlueTec® emissions technology – the biggest, toughest, most powerful engine to ever roll out of our plant in Detroit, Michigan.

This big bore engine is both powerful and trustworthy – your best friend on the open road or anywhere you work. With as much as 600 horsepower and 2050 pound-feet of torque, the DD16 is not only brawny, it delivers the fuel efficiency and reliability every trucking operation needs to stay productive and profitable. So when you need to get things done, no questions asked, demand it all. Demand the Detroit DD16.

DD16 SPECIFICATIONS	
Configuration	Inline 6 Cylinder
Displacement	952 cu. in. (15.6 L)
Compression Ratio	17:1
Bore	5.47 in. (139mm)
Stroke	6.73 in. (171mm)
Weight (Dry)	2880 lb. (1306 kg)
Electronics	DDEC® 10
Oil Capacity	47 qt. (45.7 L)
Horsepower Range	475 – 600
Torque Range	1750 lb-ft – 2050 lb-ft

## THE DD16 DIFFERENCE

### LESS LUGGING, MORE TUGGING

The powerful DD16's exceptional gradeability and wide, flat torque curve 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 System (ACRS™) and integrated Jacobs® Engine Brake lower in-cab noise and vibration to reduce driver fatigue.

### LEAN AND GREEN

Detroit's ACRS, DDEC® 10 electronics and BlueTec emissions technology help the DD16 use less fuel and meet emissions regulations.

### QUIET CONFIDENCE

The integrated three-stage Jacobs Engine Brake offers three levels of engine braking for controlled descents and reduced wear on the service brakes, tires and other components.

### 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 Detroit's best performing network provide on-road peace of mind.

### BUILT FOR THE LONG HAUL

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.



# BETTER ECONOMY

## THIS BIG BOY IS LEAN ON FUEL

In the past, running a big bore meant paying big-time fuel bills. But in today's economy, everyone is trying to do more with less. Needless to say, waste is not an option. Detroit engines have always been known for legendary fuel economy and the DD16 with BlueTec is no exception – offering a variety of innovative technologies to save you money at the pump.

### More Power, Less Waste.

**ACRS™** Detroit's exclusive ACRS fuel system, turbo compounding technology 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 10 electronics to deliver the exact amount of fuel you need at the right moment – leading to reduced fuel consumption and lower emissions. Plus, DDEC 10 provides a complete offering of engine and driver performance reports to help you maximize the DD16's advantages. Turbo compounding 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 normally lost energy into useable power.



BlueTec emissions technology treats exhaust gases downstream of the engine – relying less on EGR and requiring fewer regenerations. The efficiencies gained by these innovations deliver fuel economy you wouldn't expect from an engine this size. So go ahead, keep the pedal on the floor.

## GEARED FOR YOU

You have expectations. And with a drivetrain that's properly optimized to fit your application, the DD16 helps you meet them. Vehicle gearing is an important factor in the fuel economy equation. 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 1375 RPM
- When you need extra performance, gear for an engine speed of 1475 RPM at 65 mph
- For gearing recommendations specific to your vocational applications, please consult with your local Detroit representative

When you are ready to spec your DD16, our engine experts and vast support network will ensure you get the perfect engine and drivetrain combination to meet your needs. With access to the Detroit Spec Manager tool, we'll analyze your specifications and make sure that all performance and economy needs are met. And then some.



**THE MOST POWERFUL DETROIT ENGINE EVER** When trucking is more than just a job, only the best will do.

This is your livelihood we're talking about here. And with so much on the line, you can't trust any old engine under your hood. That's where the DD16 comes in, an engine that isn't just designed to get the job done – it's designed to conquer. With more power and better fuel efficiency than ever before available from Detroit, the DD16 truly delivers it all.

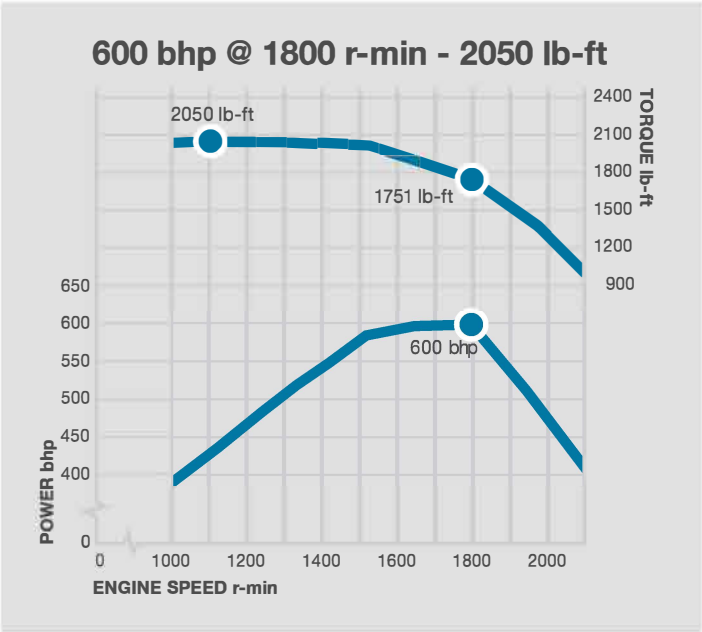
**Bigger Really is Better.**

With a displacement of 952 cubic inches (15.6 liters) and up to 600 horsepower, the DD16 is the largest, most powerful on-highway engine to ever roll off the Detroit assembly line. So go ahead, take on even the most challenging jobs with confidence. Detroit's innovative ACRS gives the DD16 superior torque response – reaching 90% of peak torque in just 1.5 seconds to snatch weighty 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 makes even the heaviest loads more manageable.

**Horsepower and Torque Curve**



DD16 ENGINE POWER RATINGS	
475 HP @ 1800 RPM	1750 lb-ft @ 1100 RPM
500 HP @ 1800 RPM	1750 lb-ft @ 1100 RPM
535 HP @ 1800 RPM	1750 lb-ft @ 1100 RPM
500 HP @ 1800 RPM	1850 lb-ft @ 1100 RPM
550 HP @ 1800 RPM	1850 lb-ft @ 1100 RPM
600 HP @ 1800 RPM	1850 lb-ft @ 1100 RPM
500 HP @ 1800 RPM	2050 lb-ft @ 1100 RPM
550 HP @ 1800 RPM	2050 lb-ft @ 1100 RPM
600 HP @ 1800 RPM	2050 lb-ft @ 1100 RPM

DD16 ENGINE MULTI-TORQUE POWER RATINGS	
475 HP @ 1800 RPM	1750/1950 lb-ft @ 1100 RPM
500 HP @ 1800 RPM	1850/2050 lb-ft @ 1100 RPM

# SERVICEABILITY

## KEEPING THE WHEELS ROLLING

Like 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 cost of ownership in check. Engine subsystems are modularly built 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.

ITEM	MI/HR*	SEVERE-DUTY	SHORT-HAUL	LONG-HAUL
Engine Oil and Filter Change*	Miles	25,000	35,000	50,000
	Hours	640	895	1,280
Fuel Filter Change	Miles	25,000	35,000	50,000
	Hours	640	895	1,280
Valve Lash Adjustment	Miles	Adjust at 100,000, at 500,000 and then every 500,000 thereafter.		
	Hours	Adjust at 2,565, at 12,825 and then every 12,825 thereafter.		
Diesel Particulate Filter	Miles	A "check engine light" will illuminate when ash requires removal. Normal DPF ash cleaning intervals are 300,000 miles to 400,000 miles.		
	Hours	A "check engine light" will illuminate when ash requires removal. Normal DPF ash cleaning intervals are 9,000 to 10,250 hours.		
DEF Pump Filter	Miles	150,000	175,000	250,000
	Hours	3,840	4,475	6,400

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 30,001 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.

\*Based on using Detroit's lube oil and oil analysis program.

\*Miles or Hours, whichever occurs first.

### SUPPORT YOU CAN TRUST

For those times 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 800-plus 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.

### Standard Warranty Coverage.

Every DD16 engine comes with a thorough warranty plan that is designed for a B50 life of 1.2 million miles. Yet another reason Detroit is the best choice for those who demand it all. Contact your local Detroit representative for extended warranty options.

ITEM	WARRANTY LIMITS (WHICHEVER OCCURS FIRST)		REPAIR CHARGE (PAID BY OWNER)	
	MONTHS	MILES / KILOMETERS	PARTS	LABOR
Engine	0-24	Unlimited	No charge	No charge
Injectors	0-24	200,000 mi 320,000 km	No charge	No charge
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



# TECHNOLOGY

## DDEC

Detroit Diesel Electronic Controls (DDEC) is a suite of innovative features that enable you to better manage fuel economy, engine performance, driving efficiency and maintenance. In addition to our Virtual Technician onboard diagnostic system, you can utilize technology to better control speed, assist in passing, optimize idle efficiency and even reward your drivers for reaching fuel economy targets. With DDEC, you can maximize efficiency, and profitability.

## VIRTUAL TECHNICIAN

Virtual Technician is a factory-installed onboard diagnostic system that puts you in control of your business 24/7. When a truck's check engine light illuminates, data is immediately collected, providing a technical snapshot of the engine's status before, during and after a fault code event. This information is sent to you and our Customer Support Center, where a trained representative can diagnose the issue, recommend service and even contact the nearest authorized locations with parts in stock. Additionally, Virtual Technician's optional Visibility Package offers access to the Ground Traffic Control website. This groundbreaking system captures latitude, longitude, time and odometer readings. With pinpoint accuracy, the system records vehicle stops, speeds, routes traveled, mileage by state, excessive idling, fuel consumption and other on-board events. Put simply, Virtual Technician takes the guesswork out of engine repair, helping you to manage your business more efficiently.

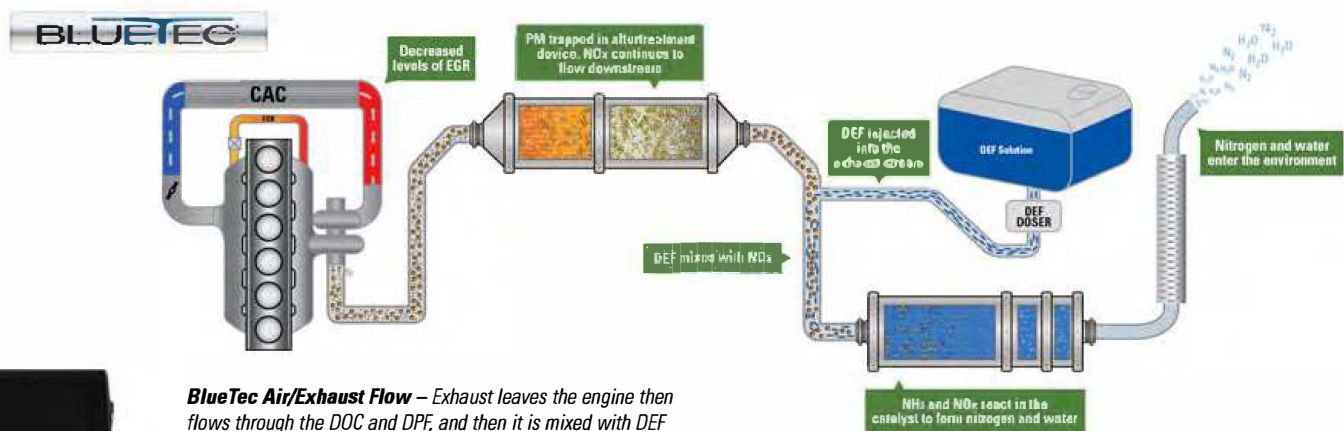


## DD16: WITH BLUETEC EMISSIONS TECHNOLOGY.

### How BlueTec Emissions Technology Works

BlueTec is a complete emissions system that combines exhaust gas recirculation (EGR), diesel particulate filter (DPF), diesel oxidation catalyst (DOC) and selective catalytic reduction (SCR) to efficiently meet the EPA 2010 emissions standards. BlueTec treats the exhaust gases downstream of the engine instead of requiring complex

changes under the hood. It does this by injecting a small amount of diesel exhaust fluid (DEF) into the exhaust stream which reacts with the NOx in the SCR catalyst, forming nitrogen and water. Lastly, the nitrogen and water, safe elements in the air we breathe, are released into the environment.



**BlueTec Air/Exhaust Flow** – Exhaust leaves the engine then flows through the DOC and DPF, and then it is mixed with DEF before it passes through the SCR catalyst. Finally, it exits the tailpipe as nitrogen and water.

## 1-BOX™

Only available with Detroit's  
BlueTec Emissions Technology

### 1-Box™ Emissions Package:

- Combines DOC, DPF, SCR catalyst, DEF doser in the same package
- Enables lower exhaust back pressure for better fuel economy
- Enables optimal packaging solutions for truck configurations

*Detroit and Daimler engineers have developed several ways to package these components on the truck.*





# DETROIT SUPPORT. ANYWHERE.

- Unmatched parts availability
- Factory-certified technicians
- Live technical support
- More than 800 authorized service outlets in North America

