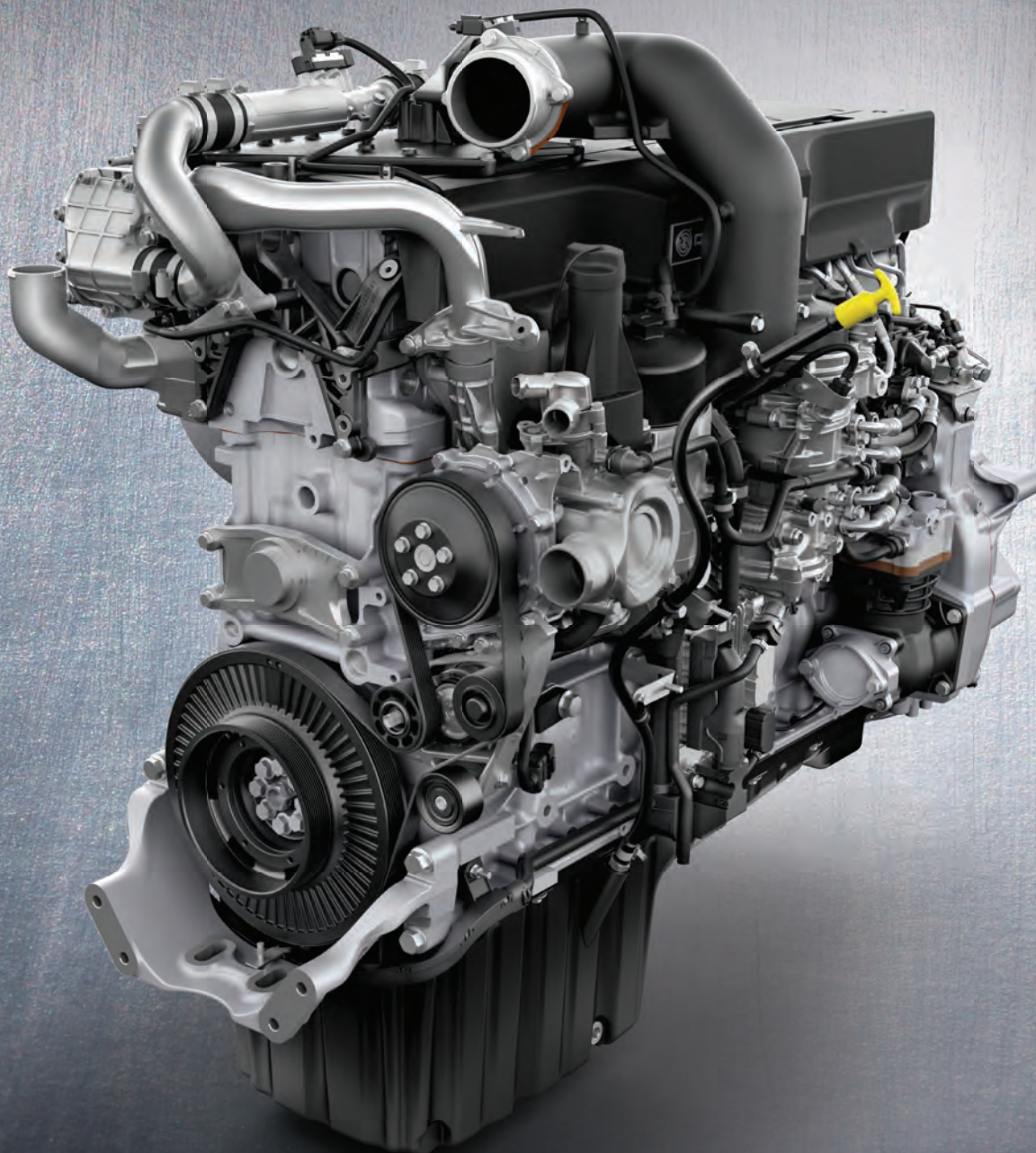


# DD13<sup>®</sup> Engine Fire and Emergency Model

FROM  
**470-525**  
Horsepower

FROM  
**1650-1850**  
lb-ft Torque

DISPLACEMENT  
**12.8**  
Liters



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



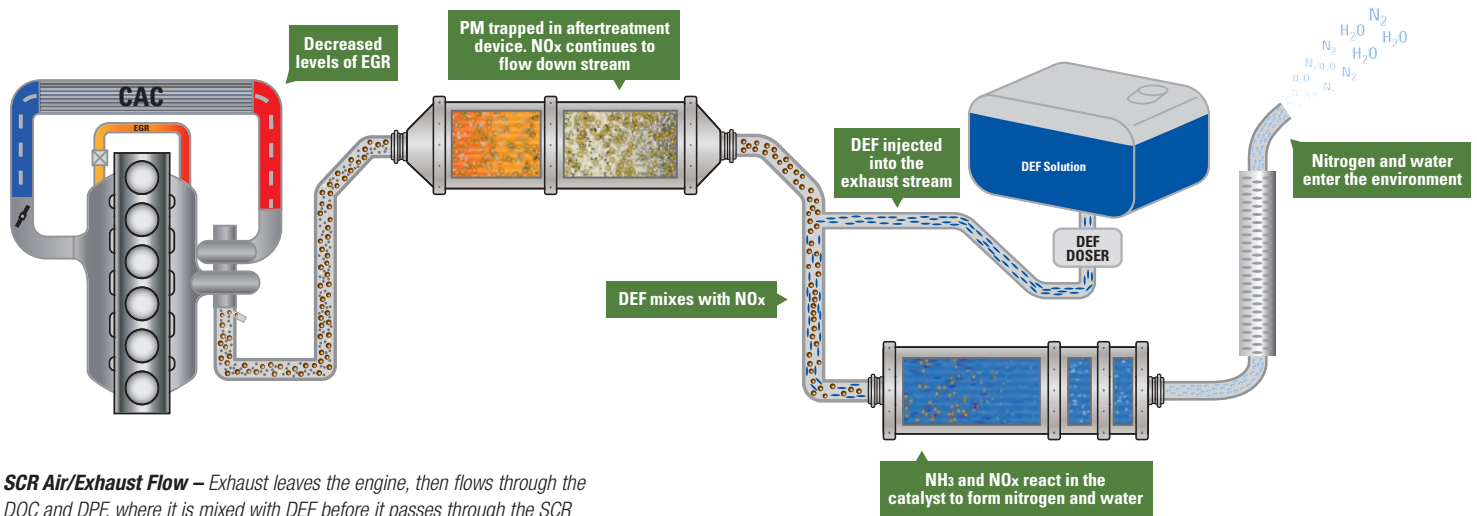
DETROIT<sup>™</sup> DD13<sup>®</sup> ENGINE IS EXCLUSIVE  
TO PIERCE<sup>®</sup> CUSTOM APPARATUS.

## DD13: WITH SCR EMISSIONS TECHNOLOGY.

### How SCR Technology Works

The Detroit DD13 engine uses a completely integrated emissions system that combines exhaust gas recirculation (EGR), diesel particulate filter (DPF), diesel oxidation catalyst (DOC) and selective catalytic reduction (SCR) to efficiently meet current emissions standards. Exhaust gases are treated downstream of

the engine instead of requiring complex changes to the engine. It does this by injecting a small amount of diesel exhaust fluid (DEF) into the exhaust stream which reacts with the NO<sub>x</sub> in the SCR catalyst, forming nitrogen and water. The nitrogen and water, safe elements in the air we breathe, are released into the environment.



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

### GHG17

The DD13 engine is 2016 OBD (OBD16) Certified and is compliant with 2017 Greenhouse Gas (GHG17) regulations.

### Operating an SCR-Equipped Fire and Emergency Truck is Simple

There is one thing to keep in mind when operating an SCR-equipped fire and emergency truck: Watch the DEF gauge to see when it's time for a refill.

### 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 are also 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.

# DETROIT™ ENGINES:

DETROIT IS RECOGNIZED AS AN INDUSTRY STANDARD IN THE CUSTOM CHASSIS FIRE TRUCK BUSINESS FOR MORE THAN THREE DECADES. THROUGH THE YEARS, FIRE DEPARTMENTS ACROSS THE COUNTRY HAVE RELIED ON OUR ENGINES FOR THEIR PERFORMANCE, RELIABILITY AND SUPERIOR PUMP CONTROL.

That's still true today. Combining our long heritage of innovation with the vast resources of our parent company, Daimler, we produced a new line of engines that are the most advanced and environmentally friendly generation of Detroit engines ever built.

With billions of dollars of investment, the work of the world's top engineers and millions of miles of real-world experience, the Detroit™ DD13® engine has proven reliable where it really counts.

## Power Ratings

### DD13 ENGINE POWER RATINGS

470 HP @ 1625 RPM	1650 lb-ft @ 975 RPM
505 HP @ 1625 RPM	1750 lb-ft @ 975 RPM
525 HP @ 1625 RPM	1850 lb-ft @ 975 RPM

### DD13 SPECIFICATIONS

Configuration	Inline 6 Cylinder
Displacement	781 cu in (12.8 L)
Compression Ratio	18.4:1
Bore	5.20 in (132 mm)
Stroke	6.15 in (156 mm)
Weight (Dry)	2447 lb (1110 kg)
Electronics	DDEC®
Service Fill (Oil and Filter Change)	40 qt (38 L)
Horsepower Range	470-525
Torque Range	1650-1850
Rear-Engine Power Take-Off	Optional



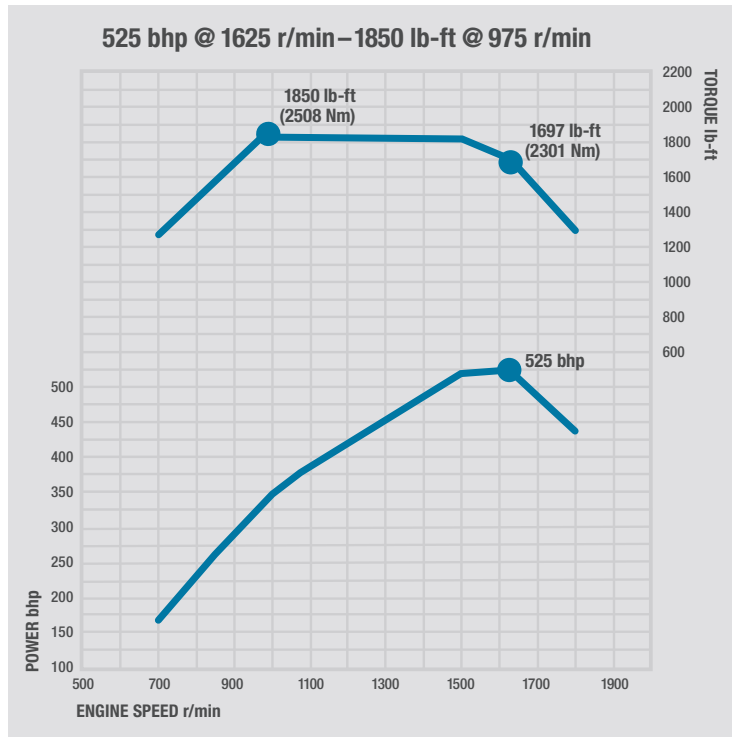
# DEMAND IT ALL

## ECONOMY

Smart, fuel-efficient design makes the most of every gallon

- Excellent fuel economy
- Pulls strong down below 1000 RPM so drivers can spend more time in top gear
- 2nd Generation Amplified Common Rail System (ACRS™) optimizes each injection event to minimize fuel consumption
- Advanced cooling system allows decreased fan on-time, minimizing fuel consumption
- SCR virtually eliminates excessive, fuel-consuming regenerations

## Horsepower and Torque Curve



## SERVICEABILITY

Lower your cost of ownership with easier serviceability

- Long scheduled maintenance intervals keep you out on the road longer
- The fire and emergency model of the DD13 is practically identical to the truck model which means unmatched parts availability at your local Detroit service location
- Common serviceability with other Detroit engines ensures trained technicians are available when you need them

## Standard Warranty

Item	Warranty Limits (Whichever Occurs First)		Repair Charge (Paid by Owner)	
	Months	Miles/ Kilometers	Parts	Labor
Engine	0-60	0-100,000 mi 0-160,000 mi	No charge	No charge
Injectors	0-24	0-100,000 mi 0-160,000 mi	No charge	No charge
Fire Commander warranty is two year/unlimited mileage				

Detroit also offers extended warranty options for the DD13. Please see your local sales outlet for details.

## Maintenance Intervals

Item	Mi / km / 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 160,000, at 800,000 and then every 800,000 thereafter.		
Diesel Particulate Filter	A check engine light will illuminate when ash requires removal			
	Miles	390,000	400,000 to 500,000	500,000 to 550,000
	Hours	10,000	10,250 to 11,000	11,000 to 11,500
DEF Pump Filter	Replace filter every 3 years or 500,000 (800,000 km) miles, whichever comes first.			

\* Recommended based on using Detroit's 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.

## PERFORMANCE

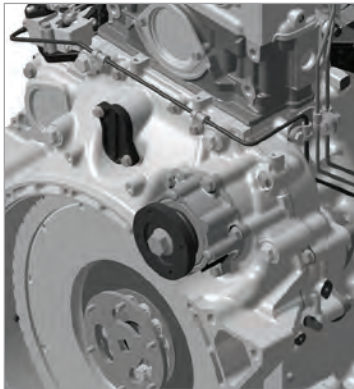
- Fire departments can rely on Detroit performance for a better overall driving experience
- Three-stage integrated Jacobs® brake offers quiet engine braking and provides superior braking horsepower for extended service brake life
- Sturdy rear gear train and ribbed cast iron block minimize noise, vibration and harshness
- Proven asymmetric turbocharger — now built in Detroit — has fewer moving parts for proven performance

## DD13 REPTO FEATURES

- Drive ratio of 1.22
- Output torque capability 650 Nm drive flange (Spicer 1350)

## DD13 REPTO ADVANTAGES

- Enhanced durability due to integration into base engine structure
- Lighter, more cost effective REPTO system can be integrated due to rear geartrain design
- Significantly higher torque output capability than transmission mounted PTOs to power 1,500 gpm pumps – like the Pierce® PUC™
- Reduced installed weight due to aluminum flywheel housing versus cast iron design
- Provides power source for excellent pump and roll configurations



## FIRE COMMANDER II

Detroit pioneered electronic pump controls with the release of the first DDEC system. Since then, nobody has been able to match the precise control achieved with the Detroit Fire Commander.

Taking advantage of the updated electronics in the DDEC system, the Fire Commander II puts even more control at your fingertips. The Fire Commander II also includes a pump inlet and discharge display, engine fault display, new buttons with a more exact feel and a hot exhaust display to alert the operator in the event of an active regeneration during pump operation. More control means you can focus on what matters most: fighting the fire.



## FIRE COMMANDER II FEATURES:

- Default power up in pressure mode (can be changed to power up in RPM mode)
- Automatic regulation of pump discharge pressure
- Manual control of pressure or engine RPM settings
- Field programmable presets
- Diagnostic capabilities
- No variation in pressure or RPM when changing modes
- Automatically limit PSI increase when operating in RPM mode
- Recognition of “no water” condition with automatic response
- Interlock signal recognition and throttle-ready LED
- Return to engine idle with push of a button
- Accumulated engine and pump hours
- 2-year unlimited warranty

# DETROIT SUPPORT. ANYWHERE.

- Unmatched parts availability
- Factory-certified technicians
- Live technical support
- Hundreds of authorized service outlets in North America

