



## NO QUESTION ABOUT IT.

The 2007 EPA diesel-emissions mandate was one of the most challenging engineering tasks Detroit Diesel has confronted, demanding more time, effort and resources than any other single program in the past several decades. The MBE 900 engine not only is far cleaner than its predecessors, it's stronger, too.



## UNALTERED MAINTENANCE SCHEDULES. UNMATCHED SERVICE AND WARRANTY.

### Maintenance Intervals (Miles)

Maintenance Item	Severe-Duty	Short-Haul	Long-Haul
Engine Oil and Filter Change*	6,000	15,000	20,000
Fuel Filter Change	18,000	60,000	60,000
Valve Lash Adjustment	24,000	75,000	80,000

\* Based on using Detroit Diesel approved lube oil.  
Severe-Duty: Less than 6,000 annual miles. Short-Haul: 6,000 to 60,000 annual miles. Long-Haul: Over 60,000 annual miles.

### Parts, Service and Warranty

Parts and service for the MBE 900 engine are available at more than 800 Detroit Diesel authorized service locations throughout North America. Factory certified technicians know your MBE 900 inside and out and are ready to help. For roadside assistance, technical support or locating the nearest service center, contact the Detroit Diesel hotline at 1-800-445-1980.

### Fire Truck, Bus and RV Warranty<sup>1</sup>

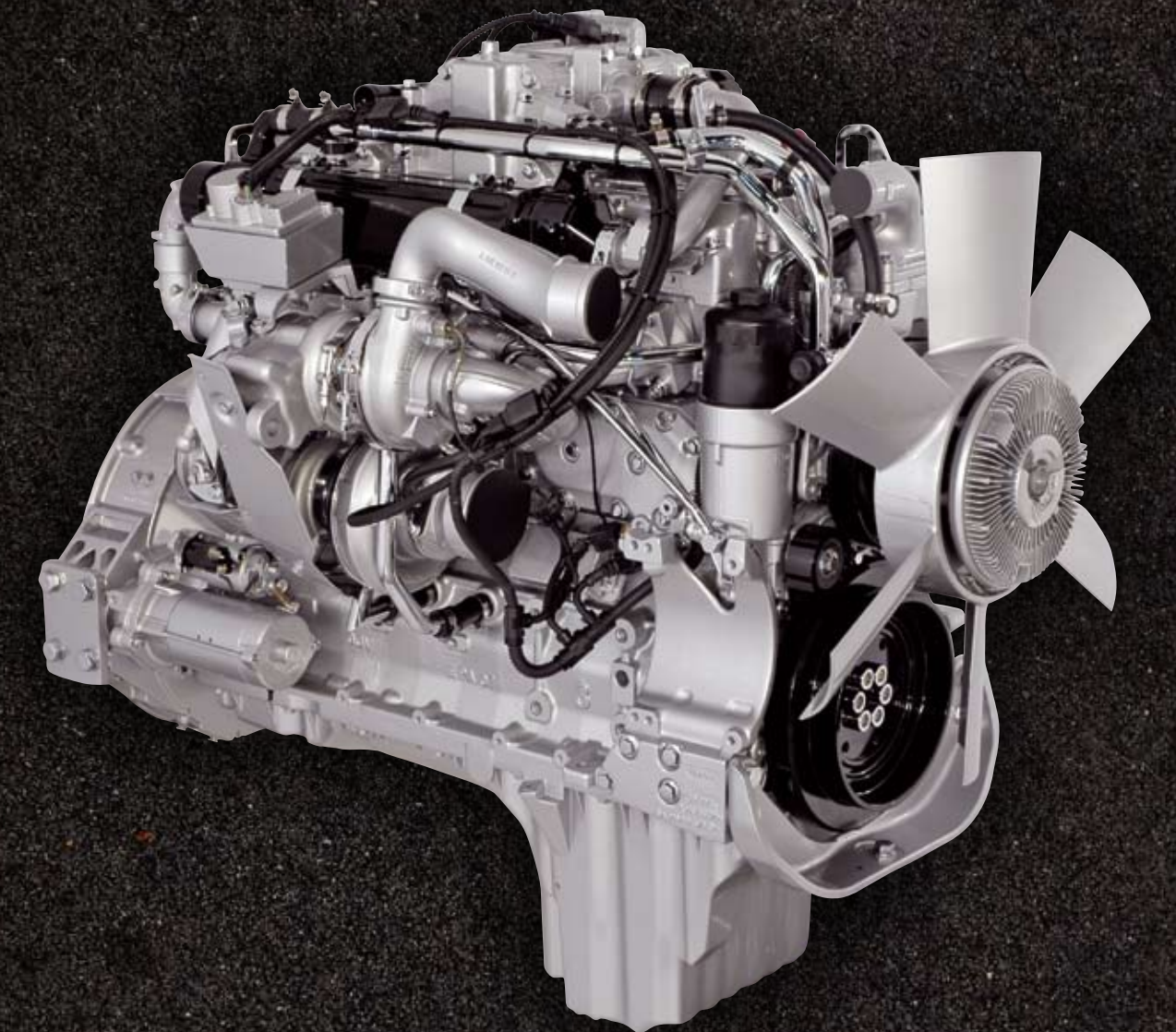
Application	Years	Miles
Fire Truck and EMS	5	150,000
School Bus and RV*	5	Unlimited*

\* Coverage is limited to 6,000 hours of operation.

### On-Highway Warranty Period for Trucks<sup>1</sup>

Item	Warranty Limitations (Whichever Occurs First)		Repair Charge to be Paid by Owner	
	Months	Miles / Kilometers	Parts	Labor
Engine	0 - 36	0 - 150,000 mi. 0 - 240,000 km	No Charge	No Charge
Accessories	0 - 24	0 - 100,000 mi. 0 - 160,000 km	No Charge	No Charge

<sup>1</sup> Refer to the Detroit Diesel warranty parchment for full warranty details, terms and conditions.



For more information, call 1-800-445-1980. [www.DetroitDiesel.com](http://www.DetroitDiesel.com)

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## DETROIT DIESEL: DRIVING TECHNOLOGY.

The Mercedes Benz 900 series engine (MBE 900) has been going strong since we introduced it to the NAFTA medium-duty truck market in 1998. With more than 150 years of Detroit Diesel and Mercedes Benz collective experience designing, testing and manufacturing diesel engines behind it, it's no wonder.

Through the years, customers have turned to our engines for reliability, fuel economy, weight advantage and ease of service. That's never changed. But, when Environmental Protection Agency's '07 requirements grew more stringent to protect the environment, Detroit Diesel combined our long heritage and industry-leading innovation with the resources of our parent company, Daimler – the world's largest commercial vehicle manufacturer. Together, we did more than just meet emissions standards. We took our engines to the next level.

With an investment of hundreds of millions of dollars and the work of the world's top engineers, Detroit Diesel produced a new line of engines that are the most advanced and environmentally-friendly generation of Detroit Diesel engines ever built. We've lowered oil consumption. Increased response times. Reduced emissions. And achieved SMART Fuel Systems.

After countless laboratory tests and more than 24 million miles in testing across our three engine lines, one thing is clear: Detroit Diesel isn't just meeting standards. We're driving technology.



### The MBE 900

The MBE 900 has been the premium engine choice for a wide range of medium-duty and vocational vehicle buyers, powering the needs of food and beverage distributors, pick-up and delivery, fire and rescue departments, school bus fleets, tow truck operators, construction companies and others. Nearly 600,000 MBE 900 engines are in service today, more than 100,000 in North America alone.

With the changes required to meet the EPA's 2007 diesel-emissions mandate, the new MBE 900 – now a full 7.2 liters – continues to serve its diverse customer base, offering a wide range of power ratings. With this broad spectrum of choices, buyers can spec the most economical and best matched components to fit their specific applications. Less money invested plus lower operational costs equal a better bottom line.

### Tightening Emissions Standards

The EPA has been reducing diesel emissions for the past 30 years. The latest regulations, which took effect in 2007, demand changes in both fuel and engine technology. The new regulations will dramatically reduce oxides of nitrogen (NOx) by 55 percent and particulate matter (soot and ash) by 90 percent. We achieved the first target by optimizing the existing Exhaust Gas Recirculation system and the second by adding an Aftertreatment

System, comprised of a Diesel Oxidation Catalyst and a Diesel Particulate Filter.

## REFINED ENGINE COMPONENTS

### Exhaust Gas Recirculation (EGR)

The exhaust gas recirculation system has been optimized to dramatically cut NOx formation by routing a measured amount of exhaust flow to the cylinders to lower combustion temperatures. Lower temperatures result in lower NOx levels without the negative effects of retarding engine timing. The EGR valve has been moved to the top of the engine for improved serviceability.

### SMART Fuel System

The new SMART Fuel System adds to the performance and cleanliness of the MBE 900. It features electronically controlled injection nozzles capable of multiple injections per combustion cycle.

### Detroit Diesel Electronic Control (DDEC®) VI

Detroit Diesel set the benchmark for diesel engine electronics. Now, we're raising the bar with the sixth generation DDEC VI electronic engine management system. It employs a more powerful microprocessor, increased memory and enhanced diagnostics. The DDEC VI is capable of monitoring and managing all engine functions, including the Aftertreatment Systems required for emissions. DDEC VI is a key part of the strategy to achieve greater operating efficiency and cleaner exhaust emissions.

### Dual-Stage Turbocharger

The high-performance version of the new MBE 900 employs a dual-stage turbocharger to maximize throttle response and combustion efficiency. Controlled by the DDEC VI, the turbo automatically and precisely adjusts its boost across the operating range, delivering quick and forceful lift on the low end and superb drivability at any engine speed.

### High Tech Grid Heater

The MBE 900 is capable of starting unassisted in temperatures as low as 10 degrees Fahrenheit. For colder temperature operation, down to -13 degrees Fahrenheit, an optional high tech grid heater controlled by DDEC VI is available. The high tech grid heater pre-heats air in the intake system before it enters the engine during starting and initial warm-up. This device reduces cranking time in cold weather to increase starter life, reduces white smoke and offers peace of mind.

### Maintenance-Free Electrostatic Breather

A new electrostatic breather system removes oil from crankcase vapor before it's vented into the atmosphere. The system sends oil droplets back to the sump, where they continue to serve the engine, reducing oil consumption. And, it requires no maintenance.

MBE 900 Engine Power Ratings		
Standard		
190 HP @ 2200 RPM		520 lb-ft @ 1200 RPM
210 HP @ 2200 RPM		520 lb-ft @ 1200 RPM
230 HP @ 2200 RPM		620 lb-ft @ 1200 RPM
250 HP @ 2200 RPM		660 lb-ft @ 1200 RPM
High Performance		
260 HP @ 2200 RPM		800 lb-ft @ 1200 RPM
280 HP @ 2200 RPM		800 lb-ft @ 1200 RPM
300 HP @ 2200 RPM		860 lb-ft @ 1200 RPM
350 HP @ 2200 RPM*		860 lb-ft @ 1200 RPM

\* Fire, EMS and recreational vehicle applications only.

## REFINED FUELS AND LUBRICANTS

### ULTRA LOW SULFUR DIESEL (ULSD) Fuel and CJ-4 Oil

The MBE 900 is designed to run on ULSD fuel, which can contain no more than 15 PPM sulfur. The current maximum sulfur content for on-highway diesel fuel is 500 PPM. ULSD fuel is necessary to avoid fouling the engine's Aftertreatment System.

CJ-4, a low ash oil formulation, is required in current engines. CJ-4 oil contains less than 1.0 wt. % sulfated ash. Use of high ash engine oils reduce the cleaning interval on the Diesel Particulate Filter (DPF) system.

## REFINED EXHAUST SYSTEM

### Exhaust Aftertreatment System

The biggest change to our engines is the addition of an exhaust Aftertreatment System, which replaces the muffler assembly in the exhaust system. The unit's defining components are a Diesel Oxidation Catalyst and a Diesel Particulate Filter that oxidize – or burn – soot. During normal highway operation, exhaust temperatures alone usually are high enough to burn off accumulating soot, a process known as "passive regeneration." In low ambient temperatures, however, or in some stop-and-go applications, the system needs a little help to regenerate or clean itself. This process is called "active regeneration."

### Doser

The Aftertreatment System uses a "doser" to initiate active regeneration. When the amount of soot inside reaches a certain level, the doser injects a measured amount of diesel fuel into the exhaust flow, which reacts with the catalyst to raise the temperature to a point that enables regeneration.

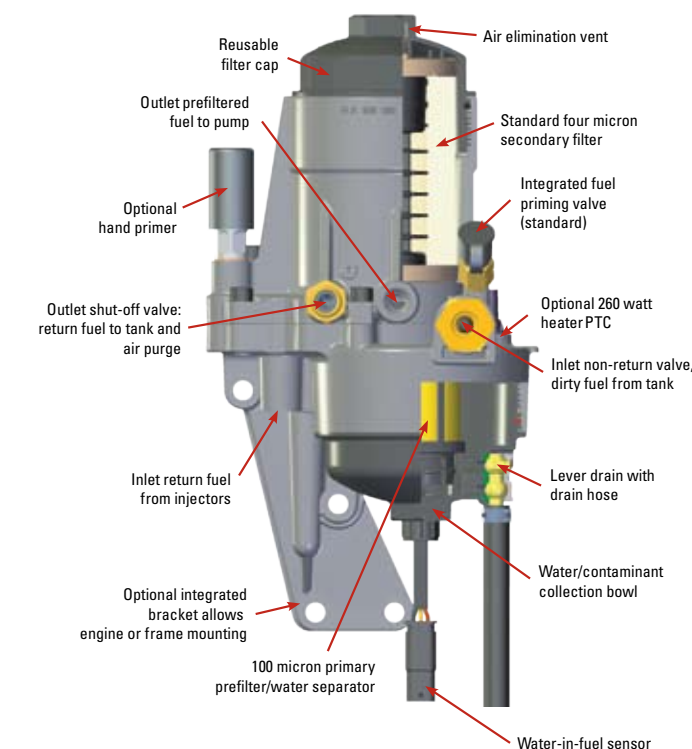
There are two types of active regeneration: in-transit and stationary. In-transit regeneration occurs when the truck is in motion. When the truck's driving cycle is insufficient for in-transit active regeneration, stationary active regeneration is required. This is performed when the truck is parked and monitored by the driver or a service technician.

### Intake Throttle

The intake throttle also assists in the regeneration process. When necessary, this device limits the amount of air entering the engine, raising the exhaust temperature and facilitating regeneration.

### Multi-Functional Fuel Filter

The MBE 900 now features an all-new multi-functional fuel filter containing primary and secondary filtration, a fuel priming valve and a fuel-water separator in one compact assembly as standard equipment. The unit also may be ordered with a hand priming pump, a water-in-fuel sensor and/or a fuel heater as optional equipment.



### Engine Brakes

The MBE 900 engine has two engine brake options available: a compression brake and an exhaust brake. Both engine brake options offer quiet operation, increased service brake life, improved driver safety and increased resale value.

MBE 900 Engine Brake Options	Single Stage	Dual Stage
	Compression Brake	155 HP @ 2500 RPM
Exhaust Brake	140 HP @ 2500 RPM	130 HP @ 2500 RPM
Both	180 HP @ 2500 RPM	160 HP @ 2500 RPM