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Upgraded digs for new diesels

Detroit Diesel and **Freightliner** officials recently outlined how Detroit Diesel's 3.2 million-ft² (297,290-m²) complex in Redford, MI, will be reshaped as a comprehensive zone for testing and producing commercial vehicle powertrain components.

"We're getting rid of old and underutilized equipment," Carsten Reinhardt, President and CEO of Detroit Diesel, said in summarizing the $275 million project.

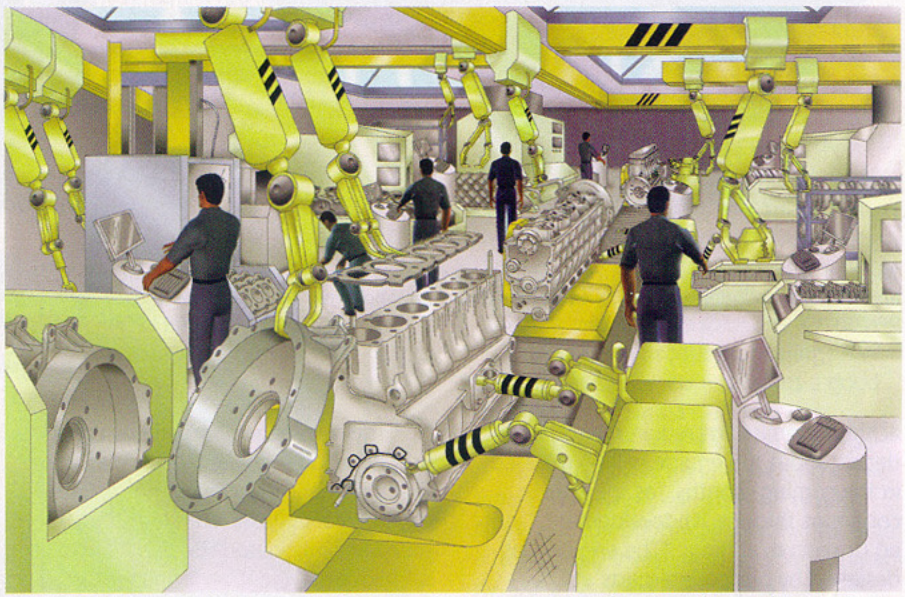
The new equipment to replace the old covers a wide plant swath. On the testing side, approximately $22 million will be spent over the next three years to regroom a 250,000-ft² (23,000-m²) engineering laboratory for testing of current production engines—Series 60, MBE 900, and MBE 4000—as well as new engines. Lab enhancements include upgrading the test cells to meet 2007 and 2010 emissions measurement requirements as well as improving those performance test cells to increase overall operating efficiency.

Production revisions at the 65-year-old facility include a new 15,000-ft² (1400-m²) assembly line and testing zone for the MBE 900. Available in the marketplace since 1998, the MBE 900 is currently produced at **DaimlerChrysler**'s Mannheim, Germany, engine facility. (Freightliner and Detroit Diesel are part of DaimlerChrysler's Commercial Vehicles Division.) Redford facility workers will build the medium-duty engine for the North American market in 2007, with European and Asian engine versions remaining the supply domain of the German plant.

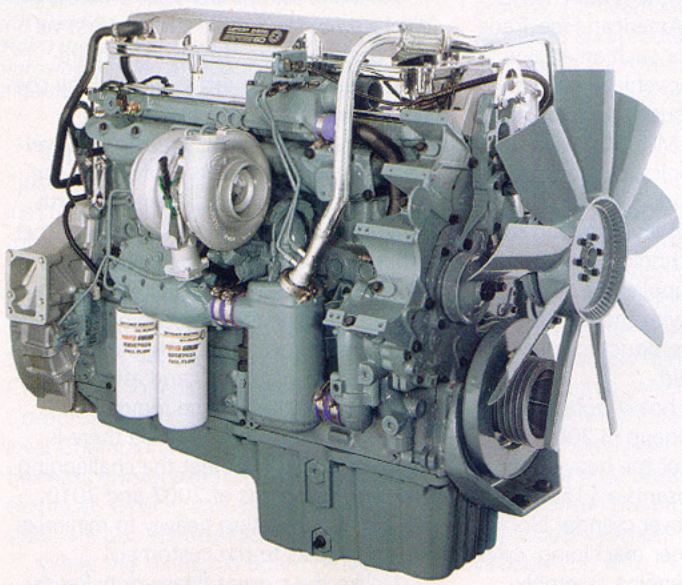
The six-cylinder, 7.2-L engine—with ratings of 170 hp (127 kW) and 420 lb·ft (569 N·m) to 300 hp (224 kW) and 860 lb·ft (1166 N·m)—eventually will take a Redford facility production spotlight.

"We will move from four displacements—4.3, 4.8, 6.4, and 7.2 L—to one in 2007. The 2004 ratings range from 170 hp and 420 lb·ft to 330 hp and 1000 lb·ft. These ratings cover a range from the lowest MBE 904 [the four-cylinder version] to the highest MBE 926 [the six-cylinder version]," said Ed Crawford, Director of Design-Engineering for Detroit Diesel.

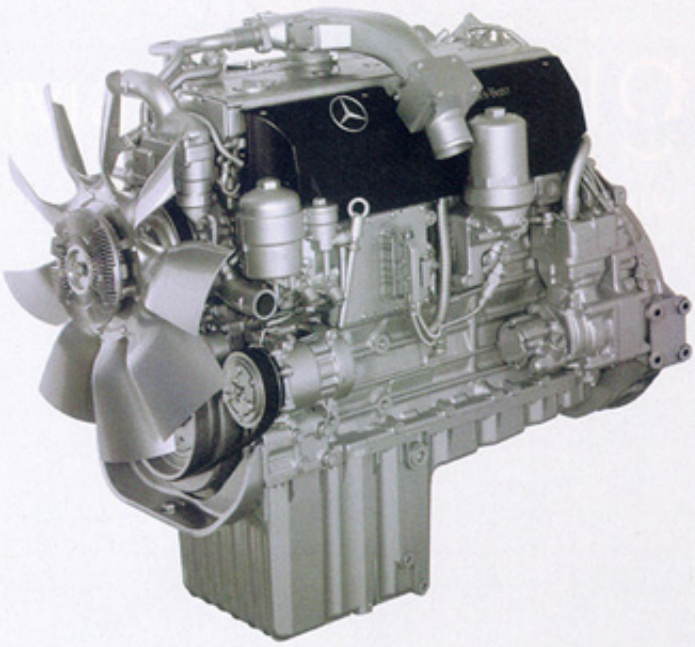
The approximate $4 million MBE 900-related investment provides a framework for producing an engine that will utilize exhaust gas recirculation (EGR) and a particulate filter as the primary means of



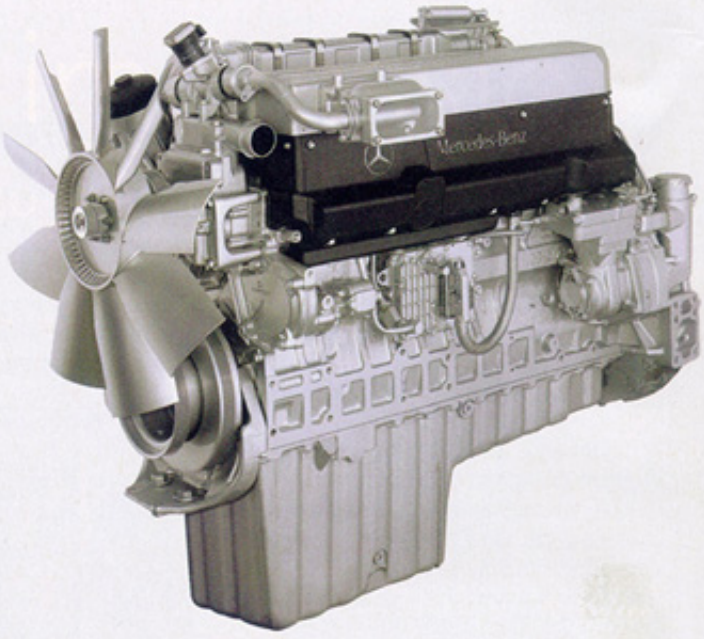
Detroit Diesel production upgrades include a final assembly line for a new heavy-duty engine.



The Series 60 engine, a fully integrated electronic heavy-duty diesel engine, is a popular choice in the Class 8 market. A next-generation heavy-duty engine will be joining the lineup in the coming months.



The MBE 900 engine powers trucks spanning a wide variety of applications, including beverage, utility, construction, and fire/ emergency.



Introduced into the North American market in 2001, the MBE 4000 has been used for a wide variety of applications serving the on-highway and vocational markets.

achieving emissions requirements. More details about the engine will be released in the coming months "as the engine continues through its development," noted Crawford, adding, "The engine was designed by our counterparts at DaimlerChrysler in Stuttgart, Germany, with input from us on the requirements of the NAFTA (North American Free Trade Agreement) market for such an engine."

A power choice for vehicles such as school buses, transit buses, and construction applications, the MBE 900 will accent fuel efficiency, electronics, durability, and emissions characteristics. "We are currently in the process of investigating several different filter technologies to ensure that whatever filter supplier we select for 2007 will provide us with the most technologically advanced product for our customers," Crawford said.

A next-generation heavy-duty engine joins the production lineup in 2007. The new production line for the heavy-duty engine program represents a $150 million investment and will cover cylinder block machining, cylinder liner machining, cylinder head machining, engine assembly, and testing. Block casting is likely to be done overseas.

"The next-generation engine provides us with a common yet flexible platform that will enable us to meet not only today's global emission standards, but tomorrow's anticipated standards as well," said Jim Gray, Program Manager for NAFTA Heavy Duty Engine (HDE) Program.

An inline six-cylinder with a 14.8-L displacement will represent the first version of the engine. Emissions requirements will dictate certain technology considerations.

"The engine will be specifically developed in each market to conform to the required emission regulations. In North America for 2007, we will employ higher exhaust gas recirculation, closed crankcase breather, and particulate filters. In addition, the heavy-duty engine is being developed to accommodate additional NOx-reduction strategy and aftertreatment devices that will be required in 2010," said Gray. "And while there is new technology to meet the challenging emission standards of 2007 and 2010, we are also investing heavily to minimize life-cycle costs to the customer."

Unlike the current heavy-duty Series 60 engine—which is the first fully integrated heavy-duty diesel engine with electronic controls—the next-generation engine will provide a framework for covering a broad range of power applications from a common engine concept.

"It is also being developed to incorporate many improvements previously made to existing engines as standard base engine features at today's emission levels and customer expectations," Gray said. The Series 60 will be sold in tandem with the all-new heavy-duty engine for an extended period.

Production floor renovations include the installation of an 85,000-ft^2 (7900-m^2) axle gear set assembly zone. The approximate $31 million investment means the **Axle Alliance** (part of the Freightliner Group) will produce gear sets for North America within the Redford facility rather than shipping the parts stateside from a European facility. Axle Alliance will continue to build front and rear axles for heavy- and medium-duty commercial vehicles.

Detroit Diesel's Redford complex also gains new tenants as **Sterling Trucks** and **Western Star Trucks** (Freightliner companies) relocate headquarters from Willoughby, OH.

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