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Cummins-Peterbilt SuperTruck Achieves 10.7 MPG in Latest Test

COLUMBUS, IN -- (Marketwired) -- 02/18/14 -- Cummins Inc. (NYSE: CMI) and Peterbilt Motors Co., a division of PACCAR (NASDAQ: PCAR), announced today that the latest version of their SuperTruck demonstration tractor-trailer achieved 10.7 mpg last month under real-world driving conditions.

Developing a truck that could meet or exceed 10 mpg when fully loaded was considered unlikely, if not impossible, just a few years back, with most trucks averaging between 5.5 and 6.5 mpg. However, with advances in engines, aerodynamics and more, SuperTruck has proven that 10 mpg is attainable.

SuperTruck averaged a 75 percent increase in fuel economy, a 43 percent reduction in greenhouse gas (GHG) emissions and an 86 percent gain in freight efficiency in 24-hour, head-to-head testing against a 2009 baseline truck -- all significant improvements.

The Cummins-Peterbilt SuperTruck was on display today for President Barack Obama's announcement of firm deadlines for the next generation of national fuel-efficiency and GHG emissions standards for heavy-duty commercial vehicles.

The goal of the SuperTruck program, initiated by the U.S. Department of Energy (DOE), is to improve long-haul Class 8 vehicle freight efficiency. The program focuses on advanced and highly efficient engine systems and vehicle technologies that meet prevailing emissions and Class 8 tractor-trailer vehicle safety and regulatory requirements. In addition to the benefits of reduced fuel consumption and petroleum usage, the improvements in engine system efficiency will deliver a significant reduction in GHG emissions.

Cummins has partnered with Peterbilt Motors Co. for the SuperTruck project. The project objectives have included development and demonstration of a highly efficient and clean diesel engine, an advanced waste heat recovery system, an aerodynamic tractor and trailer combination and a lithium ion battery-auxiliary power unit, to reduce engine idling.

The Cummins-Peterbilt SuperTruck uses the Peterbilt® Model 579, with best-in-class aerodynamic efficiency. The engine, based on Cummins industry-leading ISX15, converts exhaust heat into power delivered to the crankshaft, and has electronic control software that uses route information to optimize fuel use. The SuperTruck also includes chassis

refinements, improvements in the aerodynamics and other significant advances in the engine. Lightweighting throughout the tractor-trailer also enables increased freight efficiency.

Eaton Corp.® (NYSE: ETN), also part of the Cummins-Peterbilt SuperTruck project team, is developing a next-generation automated transmission that improves fuel efficiency in heavy-duty trucks. Eaton's contribution includes the design, development and prototyping of an advanced transmission that facilitates reduced engine-operating speeds. Cummins and Eaton jointly designed shift schedules and other features to yield further improved fuel efficiency.

This demonstration of the Cummins-Peterbilt SuperTruck has exceeded DOE goals for freight efficiency -- a key trucking metric based on payload weight and fuel efficiency expressed in ton-miles per gallon. The SuperTruck achieved an 86 percent improvement in freight efficiency and a 75 percent fuel economy improvement over a 24-hour test cycle in December 2013. The program goal was a 68 percent freight-efficiency increase over a 2009 vintage baseline vehicle of the same weight traveling along the same route.

"We are honored that the Cummins-Peterbilt SuperTruck has been chosen to be on display for President Obama's announcement," said Wayne Eckerle, Cummins Vice President - Research and Technology. "The SuperTruck clearly demonstrates the technologies that can deliver significant fuel-efficiency improvements over the next decade and beyond as we continue to develop for cost and performance attributes that will make them strong commercial successes."

Landon Sproull, Peterbilt Chief Engineer, agreed.

"The work we're doing on SuperTruck is very much in keeping with Peterbilt's global reputation for industry-leading design, innovative engineering and fuel-efficient solutions," he said. "I think it's been a terrific opportunity for us to look into the future and demonstrate what's possible."

"Eaton's collaboration with Cummins and Peterbilt on the SuperTruck program reflects our commitment to develop highly integrated and optimized powertrains to help reduce fuel consumption and emissions," said Thomas Stover, Chief Technology Officer - Eaton Vehicle Group. "The critical need to increase the fuel efficiency will require the role of the transmission to grow significantly within the sphere of powertrain optimization, and as a leader in power management solutions, Eaton is at the forefront of innovation in this important area."

The Class 8 Peterbilt Model 579, powered by a Cummins ISX15 engine, achieved 10.7 mpg during testing last month between Denton, Texas, and Vernon, Texas. The 312-mile route was the same one used two years ago, when the first version of the Cummins-Peterbilt SuperTruck averaged just under 10 mpg.

The testing in both instances was conducted on a round-trip basis, to negate any wind advantage that might have been gained by traveling one way, and each tractor-trailer had a combined gross weight of 65,000 lb running at 64 mph. A longer, 500-mile route between Denton and Memphis, Texas, was also used to demonstrate the vehicle's fuel-efficiency improvement over a 24-hour test cycle.

The increase in fuel economy for the Cummins-Peterbilt SuperTruck would save about \$27,000 annually per truck based on today's diesel fuel prices for a long-haul truck traveling 120,000 miles (193,121 km) per year. It would also translate into a more than 43 percent reduction in annual GHG emissions per truck. The potential savings in fuel and GHGs are enormous, given that there are about 2 million registered tractor-trailers on U.S. roads today, according to the American Trucking Association.

Cummins is a prime contractor leading one of four teams under the DOE's SuperTruck project, one of several initiatives that are part of the 21st Century Truck Partnership. The partnership is a public-private initiative to further stimulate innovation in the trucking industry through sponsoring by government agencies, companies, national laboratories and universities. Cummins, Peterbilt and their program partners will have invested \$38.8 million in private funds over the four-year life of the SuperTruck program when it draws to a close later this year. The project received critical support in matching grants from the DOE's Vehicle Technologies Program.

About Cummins

Cummins Inc., a global power leader, is a corporation of complementary business units that design, manufacture, distribute and service engines and related technologies, including fuel systems, controls, air handling, filtration, emission solutions and electrical power generation systems. Headquartered in Columbus, Indiana (USA), Cummins employs approximately 48,000 people worldwide, and serves customers in approximately 190 countries and territories through a network of more than 600 company-owned and independent distributor locations and approximately 6,500 dealer locations. Cummins earned \$1.48 billion on sales of \$17.3 billion in 2013. Press releases can be found online at cummins.com or cumminsengines.com. Follow Cummins on Twitter at <http://twitter.com/cumminsengines> and on YouTube at <http://youtube.com/cumminsengines>.

About Peterbilt Motors Co.

Based in Denton, Texas, Peterbilt Motors Co. combines a global reputation for industry-leading design, innovative engineering and fuel-efficiency solutions with superior quality to engineer a truck that stands as the "class" of the industry. Through its 270-plus North American dealer locations, Peterbilt also provides a comprehensive array of aftermarket support programs to complement its full lineup of on-highway, vocational and medium-duty products, including alternative-fuel vehicles. Customers enjoy industry-leading service and support, including preventive maintenance plans, expedited QuickCare services, automated parts inventory replenishment and 24/7 complimentary Customer Assistance through 1-800-4-Peterbilt. For more information about Peterbilt, visit www.peterbilt.com. Peterbilt is a PACCAR Company, traded publicly on the NASDAQ as PCAR.

The following files are available for download:

- [PDF](#)
- [SuperTruck Image](#)

Source: Cummins Inc. and Peterbilt Motors Co.