International Truck and Engine Corporation Reduces Aerodynamic Drag By 14% with Tractor-Trailer Integration Devices and Systems It Developed

DOE-Funded Effort Executed with Great Dane and Wal-Mart Focuses on Three Major Drag Sources

Washington, District of Columbia - November 14, 2006 International Truck and Engine Corporation has developed systems and devices that reduce the aerodynamic drag of Class 8 tractor-trailer applications substantially increasing fuel efficiency and potentially saving millions of gallons of diesel fuel. The Department of Energy funded the project jointly with International.

"The Energy Department estimates that Class 8 trucks consume as much as 12 percent of the U.S. petroleum supply and half of that is spent overcoming aerodynamic drag at highway speeds," said Patrick Charbonneau, vice president, government relations, International Truck and Engine Corporation. "The industry must continue to squeeze as much performance as possible from these heavy trucks while also limiting the drain on natural resources and, ultimately, the cost to customers. That’s what this initiative is all about."

During the two-phase program managed by the Truck Manufacturers Association on behalf of the Energy Department, International leveraged two decades of aerodynamics expertise and the same test methodologies used to develop its industry-leading aerodynamic tractors. International employed wind-tunnel and on-road testing and partnered with Great Dane Trailers to develop a full-scale experimental aerodynamic trailer for Wal-Mart.

International focused its development efforts on the three major sources of aerodynamic drag in the typical Class 8 tractor-trailer application – the tractor-trailer gap, trailer side and trailer wake. The tractor-trailer gap was addressed

with two alternative solutions involving partial gap closure and total gap closure. Various trailer-skirting options were developed and evaluated to improve the aerodynamic performance of the trailer side. For the trailer wake, International considered the impact of varying taper lengths, angles and shapes.

The final trailer configuration was built by Great Dane as an experimental aerodynamic trailer for Wal-Mart. It included automatically deployable trailer side skirts, a tapered aft section of the trailer and a reduced overall height. The trailer side skirts automatically deploy at 35 miles per hour (mph) to reduce aerodynamic drag, but stow below 35 mph to improve ground clearance.

The aft section of the trailer was tapered to match the optimal lengths and angles developed in the wind tunnel to reduce the wake behind the trailer. Additionally, the taper uses a fixed-trailer structure that is damage tolerant, but does not reduce the cargo door opening.

Finally, the frontal area of the trailer was decreased eight percent to further reduce aerodynamic drag. Loss of cargo volume was minimized by lowering the trailer load floor and installing a "maxi-lift" suspension to adjust the load floor to match normal dock heights for loading and unloading.

The experimental aerodynamic trailer demonstrated a seven percent highway fuel economy improvement. International also has completed early testing of a trailer forebody device and automatically deployable tractor side extenders. Both technologies impact air flow traversing the gap between the tractor and trailer. Initial on-road tests reveal an additional two-percent fuel-economy improvement. Future testing is planned to combine the best of the trailer gap technologies with those demonstrated on the Wal-Mart experimental aerodynamic trailer to yield additional fuel economy improvements.

About International Truck and Engine Corporation

International Truck and Engine Corporation is the operating company of Navistar International Corporation (NYSE: NAV). The company produces International® brand commercial trucks, mid-range diesel engines and IC brand school buses and is a private label designer and manufacturer of diesel engines for the pickup truck, van and SUV markets. The company is also a provider of truck and diesel engine parts and service sold under the International® brand. A wholly owned subsidiary offers financing services.

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