

Apollo Tyres presents the Commercial Vehicle Design Series

Building upon its extensive history in developing pioneering solutions, Daimler Trucks North America (DTNA) is previewing the latest technologies on a new Innovation Truck. The Innovation Truck features advanced technologies directly from DTNA's development labs. It takes Freightliner Trucks' most aerodynamic solution – the Cascadia™ – and adds a sampling of cutting-edge advancements that will further enhance fuel economy.

Aerodynamics

Building on the highly successful Cascadia platform, the Innovation Truck reflects greater refinement in aerodynamics with the addition of rear wheel fairings to smooth the airflow around the rear wheels, under body panels that smooth air flow under the chassis, a roof deflector to direct air over the trailer, and a front air splitter incorporated into the front bumper to pass air around the truck.

The Innovation Truck also replaces the mirrors with side view cameras to further reduce drag. The camera system improves the field of view, eliminates blind spots, and reduces the typical "fish eye" effect. Together these enhancements improve the airflow over, under, and around the vehicle – resulting in further fuel savings. "What makes the Innovation Truck so aerodynamic is not just its shape, but the entire package – from bumper to tail lights," said Boeckenhoff.

Mechatronic Systems

Mechatronics integrates the electronic and mechanical worlds into systems that help to improve vehicle function and driver interaction. One such system is the RunSmart Predictive Cruise™ system. This system offers significant fuel savings by combining the latest in GPS technology with digital mapping to provide a 3D profile of the road ahead. The truck evaluates the upcoming road profile

CASCADIA

INNOVATION TRUCK



more than one mile in advance and determines the most fuel efficient vehicle speed. "The RunSmart Predictive Cruise system showcases our commitment to shape the future of transportation," said Boeckenhoff. "And with Freightliner, the future starts right now."

Chassis Systems

Further pushing the aerodynamic envelope, the Innovation Truck integrates a Dual Ride Height system that, at highway speeds, lowers the tractor height, reducing under chassis drag. This system utilizes a proprietary front air suspension in conjunction with Freightliner's popular rear air suspension.

The Innovation Truck is configured with a single drive axle that is complemented with a load management system that can transfer weight to the drive axle in low traction situations. This configuration also reduces weight and cost.

Tire pressure monitoring is another important part of keeping a truck as fuel efficient as possible, and the Innovation Truck features the newest option – a wireless SmarTire tire pressure monitoring system integrated with a Lectronix T7000 navigation/infotainment unit. This system not only more accurately reports tire pressure, but it also features an integrated display that simplifies pressure checks.

Power Systems

The ParkSmart™ HVAC System featured on the Innovation Truck is now available for the Cascadia. The system provides an integrated system solution for emission-free cooling and highly efficient heating without engine idling. Operating from a second bank of batteries, the ParkSmart system provides 8-10 hours of cooling and up to 34 hours in the heating mode, using a diesel-fired coolant heater.



You can count on us to carry the loads of tomorrow.