Freightliner Cascadia®
Aerodynamically optimized truck features Detroit Diesel BlueTec Emissions Technology

Western Star 4900
With Detroit Diesel BlueTec Emissions Technology

Thomas Built Saf-T-Liner
With natural gas drive s

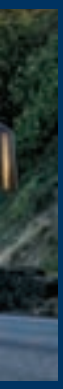
Developed by Daimler. Proven around the world.

BLUETEC®
EMISSIONS TECHNOLOGY

Daimler Trucks North America's solution to rising fuel costs and more stringent emissions standards is BlueTec® Emissions Technology. This clean diesel technology, developed by Daimler, reduces commercial vehicle emissions and yet remains cost-efficient, practical and timeless. Since the launch of BlueTec in 2005, more than 280,000 of our trucks and buses worldwide employ the innovative BlueTec technology. With millions of miles and years of experience delivering clean diesel power to the world, BlueTec has proven to:

- increase performance from every drop of diesel
- reduce more pollutants from exhaust gases
- improve profitability from every mile covered

A reliable family of engines for a revolutionary emissions system. It's a perfect match. BlueTec Emissions Technology combines Detroit Diesel's proven family of engines with a complete emissions system including EPA 2007 components DPF (Diesel Particulate Filter) and DOC (Diesel Oxidation Catalyst), with SCR (Selective Catalytic Reduction) to efficiently meet 2010 emissions requirements. BlueTec Emissions Technology treats the exhaust gases rather than requiring complex changes under the hood. The resulting emissions – nitrogen and water – are safe elements already in the air we breathe.



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Freightliner Business Class® M2 112
Liquefied Natural Gas Truck
Powered by the Cummins-Westport ISL-G engine

CleanDrive vehicles today. Fewer emissions tomorrow.

The strategy behind CleanDrive technologies is to drastically reduce fuel consumption and exhaust emissions in commercial vehicles of all classes. We will do so using a variety of technologies, from combustion engines and hybrid drives to alternate fuels.

Today, there are already 225,000 vehicles equipped with Daimler CleanDrive Technologies on roads all over the world. Tomorrow, our goal is to be the driving force of sustainable mobility.

Natural gas drive: Clean and quiet.

In regional haul and vocational applications, the natural gas-powered Cummins Westport ISL-G engine is an alternative to the diesel engine. Natural gas, in the form of compressed natural gas (CNG) or liquefied natural gas (LNG) has CO_2 and nitrogen oxide values below those of diesel fuel. It's quieter. And, in terms of future resource security, North America has an abundance of natural gas reserves, which helps reduce dependence on foreign oil. With the rising cost of diesel, the comparatively inexpensive price of natural gas reduces operating costs. Add federal and state tax incentives offered and natural gas truly becomes a smart business decision. Here are some of our innovative vehicles that help support future sustainability.

Freightliner Business Class M2 112: In 2009, Freightliner Trucks introduced a liquefied natural gas-powered drive vehicle that set new standards in the industry: the M2 112 LNG. This environmentally friendly truck, featuring the Cummins-Westport ISL-G engine, helps improve air quality and complies with the stringent emissions limits.

Freightliner also offers a compressed natural gas (CNG) truck, available in a variety of axle configurations for nearly every local haul and vocational application. Customers feel confident knowing that Freightliner offers the only factory-installed and warranted natural gas solution in a conventional truck.

Thomas Built Saf-T-Liner® HDX CNG: Launched more than ten years ago, the Thomas Built Saf-T-Liner HDX CNG bus is versatile, customizable, and easy on the environment. Greenhouse gas emissions are up to 22% lower than diesel. It's eligible for federal miles-per-gallon credit and qualifies for federal tax credit, which makes the HDX CNG good news for bottom lines.

FCCC CNG Walk-in Van Chassis: Introduced in 1996, this compressed natural gas chassis offers a significant reduction in emissions and is appropriate for any commercial transportation where reliability matters, particularly those businesses in major metropolitan areas.

Freightliner Business Class M2 112
Compressed Natural Gas Truck

Thomas Built Saf-T-Liner C2[e] Hybrid Bus
With hybrid drive system

Freightliner Business Class M2 106 Hybrid
With parallel-electric hybrid system

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Hybrid: Two drives are better than one.

Hybrid technologies are an important part of the DTNA strategy for sustainable mobility. They combine a diesel engine and electric motor, which can be operated together or individually, depending on vehicle type and driving situation. A serial hybrid system used for urban transit buses, for example, has completely different demands and technical parameters than other truck applications. In this case, the diesel engine drives a generator, and energy from the generator feeds an electric drive motor.

Lessons learned from practical trials gave rise to common developments, which is why Daimler engineers opted for the parallel hybrid drive in trucks regardless of vehicle size. With parallel hybrid drives, the vehicle can be powered by the diesel engine or electric motor, separately or in tandem.

FCCC hybrid-electric walk-in van: In partnership with Eaton,® Freightliner Custom Chassis Corporation has been producing hybrid-electric walk-in vans for years and delivering the goods to businesses in major metro areas. They offer over 40% improvement in fuel economy, unmatched efficiency and industry-leading reliability.

FCCC hydraulic hybrid walk-in van: In partnership with Parker Hannifin, Freightliner Custom Chassis Corporation has developed a hydraulic hybrid walk-in van chassis designed for increased productivity and profitability. The vehicle significantly reduces fuel consumption by 50-70% and improves fuel economy over traditional diesel-powered vehicles with automatic transmissions in stop-and-go applications. Its advanced engine-off strategy stores hydraulic energy to power the vehicle without the engine, resulting in quieter, smoother operation with no emissions or fuel consumption.

Thomas Built Hybrid Saf-T-Liner® C2[e]: Based on Eaton's hybrid electric parallel system, powered by both a diesel engine and an electric motor/generator, this bus is more fuel efficient and has a longer brake life than a traditional, diesel-only school bus.

Freightliner Business Class M2 106 Hybrid: The Freightliner M2 106 Hybrid with the Eaton parallel-electric hybrid system is perfect for high stop-and-go and high-idling applications. Available for city delivery, utility, and urban tractor applications, the M2 106 Hybrid operates using the diesel engine alone, or in combination with the hybrid-electric motor. The hybrid motor provides additional power to launch the vehicle and improves fuel economy in stop-and-go operations. And, the hybrid-electric system recovers the energy normally lost during braking – up to 44kW, or 60 hp – and stores that energy in its lithium ion batteries.

Add the optional 5 kW auxiliary power generation (APG) unit and realize additional savings. The APG unit provides AC power for lights, tools or refrigeration units using only the power stored in the lithium ion batteries. This stored energy can also power electric-only operation for electronic Power Take-Off (ePTO) use, such as running a utility lift. Using ePTO significantly reduces idle time and provides fuel savings of up to 60%.

Fuel savings by application:

- City delivery 20-40%
- Utility 40-60%
- Delivery tractor 15-30%

CCC's ecoFRED Motorhome
With hybrid-electric power

FCCC Walk-in Van Chassis
With all-electric drive system

Freightliner Business Class M2 106 Hybrid
With parallel-electric hybrid system

We push the boundaries of innovation.

DTNA's Freightliner Cascadia Innovation Truck was developed to highlight not only existing technologies, but to reveal a look into what customers can expect from DTNA in the near future. The truck features the most advanced technologies directly from our development labs:

- Advanced aerodynamics developed through significant testing in DTNA's wind tunnel.
- Run Smart Predictive Cruise™ system combining the latest GPS technology with digital mapping for 3D profiles of the road ahead and significant fuel savings.
- Dual Ride Height system to reduce cost/fuel use per mile by lowering the tractor height at highway speeds reducing under-chassis drag.
- Wireless SmarTire tire pressure monitoring system integrated with a Lectronix T7000 navigation/ infotainment unit to more accurately report tire pressure and maximize fuel efficiency.
- EPA 2010-compliant DD15 engine with Detroit Diesel's proven BlueTec Emissions Technology.
- ParkSmart™ HVAC system integrating emission-free cooling and highly efficient heating, without engine idling.

It's all part of DTNA's ongoing effort to shape future transportation by pushing the boundaries in engineering and technology.