

## **Cummins Westport Inc. Background Information**

Cummins Westport Inc.—a joint venture between Cummins Inc. and Westport Innovations Inc. — delivers high-performance alternative fuel engines for the global market. Based in Vancouver with offices worldwide, Cummins Westport Inc. engines are manufactured by Cummins, with warranty, service, and aftermarket support provided by the Global Cummins Distributor and Dealer network.

### **Engine Summary**

Cummins Westport Inc. offers heavy duty natural gas vehicle engines from 150 to 320 horsepower and a propane vehicle engine with 195 horsepower. With over 16,000 engines in service worldwide Cummins Westport engines are designed to meet the most stringent emissions regulations and provide efficient and reliable service. Certified with catalyst, they meet or exceed the toughest USA Environmental Protection Agency (EPA), California Air Resources Board, and EURO emissions standards.

In 2007 Cummins Westport introduced the cleanest heavy duty production engine ever built.

The 8.9-liter ISL G combines Cummins EGR technology with stoichiometric spark ignited combustion, and simple three-way catalyst to meet the 2010 EPA emission standards with NOx emissions of 0.2 gm/bhp-hr three years ahead of schedule. The ISL G will also be certified to EURO 5 EEV standards in 2008.

The ISL G natural gas engine is available in 250, 260, 280, 300, and 320 hp ratings. These ratings are designed to match transmissions commonly used in target truck and bus applications.

Low emissions, improved efficiency, over 30% more torque at idle, and maintenance free exhaust aftertreatment are major ISL G benefits. A one step change to meet 2010 emissions levels will also reduce vehicle engineering and training costs.

The ISL G is capable of operating on compressed or liquid natural gas, as well as biomethane that meets fuel specifications. Biomethane fuel, also known as biogas or landfill gas, offers customers a carbon dioxide (CO<sub>2</sub>) neutral option.

Target applications are heavy duty refuse and dump trucks, medium duty trucks, vocational applications and urban transit, shuttle, school and articulated buses.

The ISL G will replace the L Gas Plus and C Gas Plus natural gas engines in North America. The six-cylinder, 250-280 horsepower, 8.3-liter C Gas Plus engine will continue to be offered in EURO regulated markets through 2009.

The Cummins Westport B Gas Plus, a 5.9-liter six-cylinder natural gas engine, will be available to the North American market through 2009. Certified to EPA and CARB 2007 and EURO 5 EEV standards, the B Gas Plus features "Plus" system drive by wire and enhanced controls and electronics, delivering up to 230 horsepower. This reliable performer is perfect for shuttle buses and medium duty trucks. The original B5.9G engine, used in more than 2,400 Beijing buses, was replaced in 2005 by the B Gas International, which features many of the improvements found in the B Gas Plus. The B Gas International has been designed for local assembly in both China and India, to provide a low cost, high quality natural gas engine for domestic vehicle manufacturers.

The Cummins Westport B LPG Plus is a 5.9-liter six-cylinder propane engine, delivering 195 horsepower. This advanced version of the original B 5.9 LPG engine was introduced in May 2003, features improved controls, electronics, and reliability and is certified EPA and CARB 2007.