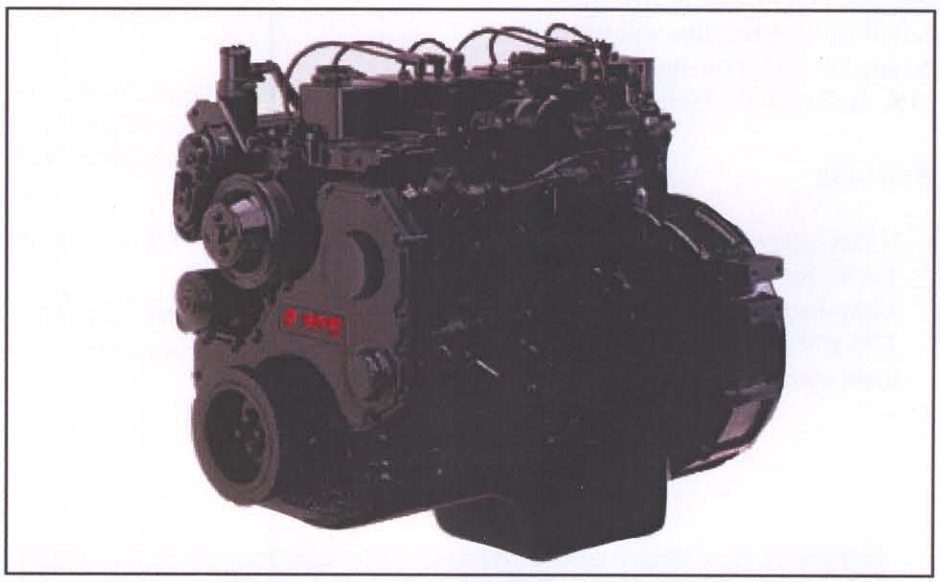
Natural Gas Buses Provide Clean Transit Abroad

Background

China and India are two of the world's most rapidly developing nations. Given the amount of effort that is required to develop both countries, there is strong potential for western industry to provide technology assistance. Transportation is one area that is seeing rapid growth, and with large and crowded urban areas in both China and India, there is an immediate need for modes of mass transit that are relatively clean. Natural gas transit buses already are advocated in many American cities as vehicles that contribute much less to smog formation than their diesel counterparts. Cummins Westport, Inc., (CWI) has developed the B Gas International (BGI) natural gas engine to support the increasing foreign demand for low-cost, natural gas engines. Furthermore, indigenous production needs and lower cost interests in Asia resulted in CWI developing the platform for local manufacture. The engine design, based on the PLUS technology, is tailored to meet market and customer needs while maintaining lower manufacturing costs. The Department of Energy supported the development of PLUS, which was applied to the B platform. The road infrastructures in India and China are not established for high vehicle speeds and smaller, lower horsepower engines meet the local driving conditions. This new engine is anticipated to replace the B5.9G currently used widely in Beijing.



Cummins Westport's B Gas International engine.

The Technology

The B Gas International is based on the block, crankshaft and other major components from the Cummins 5.9-liter B Series diesel engine. The cylinder block has multiple rebore capability. B Gas International also features a closed-loop, lean-burn electronic ignition control system that is commensurate with high efficiency, durability, and low emissions. Additionally, the Engine Control Module monitors engine sensors, controls fuel and ignition systems, and sets engine parameters.

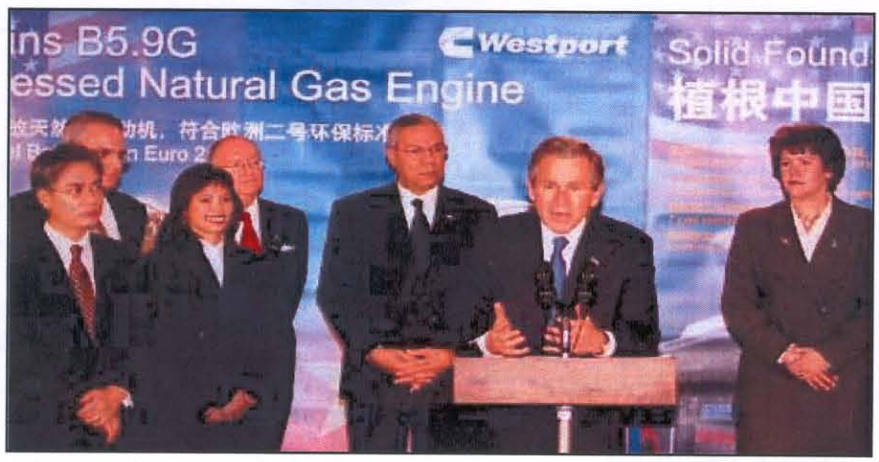
Commercialization

In 2006, Cummins Westport, Inc., will begin producing the B Gas International natural gas engines in both India and China. These engines will be offered in 3 ratings, from 150 to 230 hp. In India, Cummins India Limited's (CIL's) state-of-the-art Daman facility in the western part of the country

will manufacture the engines. In China, these will be produced by Dongfeng Cummins Engine Company Ltd. (DCEC) located in Xiangfan. Additionally, Cummins will begin producing the B Gas International at the CDC facility in the United States.

Benefits

- B Gas International achieves Euro 3 emissions standards: 0.075 g/bhp-hr particulate matter and 3.73 g/bhp-hr NO_x + non-methane hydrocarbons
- Engine is up to 14 dBA quieter than diesel
- Local production means buses can be tailored to the individual market's requirements
- Ideal for shuttles, buses, local pick-up and delivery trucks, step vans, yard spotters, recycling trucks, and street sweepers
- Highest power-to-weight ratio in its class
- Designed to run on CNG or LNG with a Methane number of 65 or greater



In 2002, President Bush recognized Beijing Public Transit and Cummins Westport for their success in CNG bus operations.

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