

Press Releases

09 May 2011

ORBITAL LIGHTS THE WAY FOR GREEN ENGINE DEVELOPMENT IN CHINA

Perth-based Orbital Corporation is enjoying success with China's second-largest manufacturer of passenger cars by delivering positive results on the critical second phase of Chongqing Changan's advanced engine development program.

The application of Orbital's patented FlexDI direct injection fuel system, combined with other advanced technologies, has cut fuel consumption of Changan's new Intelligent Compound Combustion System (ICCS) engine by up to 40 per cent while increasing engine torque by 10 per cent.

Orbital's Changan project manager Nick Coplin says FlexDI differs significantly from convention gasoline direct-injection systems.

"Conventional direct-injection systems inject fuel at extremely high pressure in order to achieve the small fuel droplet size needed to improve efficiency and reduce particulate emissions," he said.

"Orbital's FlexDI overcomes these issues by injecting the fuel at comparatively low pressure and utilising air pressure to atomise the mixture as it is delivered to the combustion chamber."

Orbital's Perth engineering teams began work with Changan on the project early in 2009, basing development on the Chinese car-maker's existing D20 four-cylinder engine.

Orbital was engaged to support the integration of its FlexDI technology into the ICCS engine with the aim of meeting China's stringent Stage III Fuel Consumption Regulations, which call for around 20 per cent fuel consumption reductions starting in 2012.

Recent Changan testing on the ICCS engine has shown a fuel consumption reduction of over 27 per cent at a typical part load driving point (2000rpm), and by over 40 per cent at engine idle.

The ICCS engine concept incorporates some of the most advanced technologies in the automotive world, including the latest low friction components, variable valve timing, variable valve lift, and exhaust gas recirculation, as well as Orbital's FlexDI direct injection.

Mr Coplin said manufacturers of other direct-injection engines recommend use of low sulphur premium fuels, which adds significantly to running costs.

"The availability of these fuels is often limited in some developing markets," he said.

"With FlexDI, a cleaner and more efficient combustion occurs without the need for higher quality fuels.

"Significant improvements in fuel consumption can still be achieved with FlexDI by using lean

burn in combination with a three-way catalyst after-treatment approach," he said.

Orbital's program with Changan has received partial support from the Australian Government through the recently concluded Green Car Innovation Fund.

Terry Stinson, CEO and managing director of Orbital Corporation Limited, said Orbital looked forward to the continued success of its collaboration with Changan.

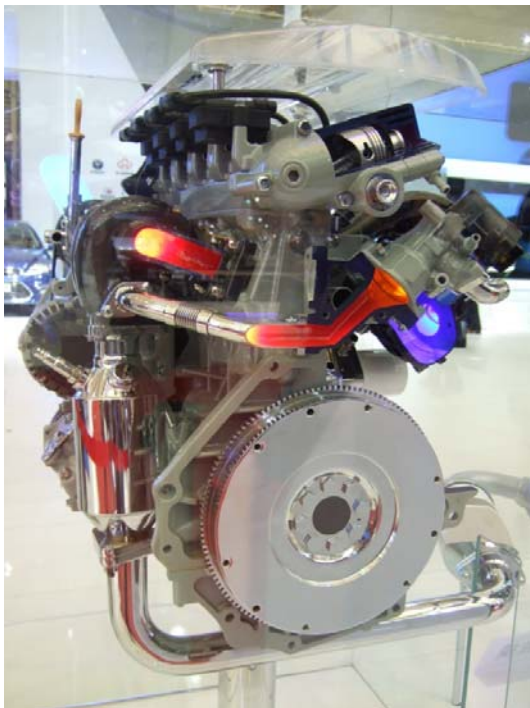
"Changan appear to be leading the way with advanced engine technology in China and Orbital is honoured to be part of the ICCS project," he said.

Dr Zhan, supervisor of the ICCS project and vice director of Changan Auto Research Institute said: "The Orbital FlexDI system, in tandem with other advanced engine technologies embedded in the ICCS engine, has the potential to provide best-in-class fuel consumption."

Orbital Corporation is Australia's leading engine technology developer, providing advanced services to both local and global manufacturers.

Orbital's LPG division, Orbital Autogas Systems, is the original equipment LPG engine system supplier to HSV and Ford's new ECOLPi range due for release later this year.

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The ICCS engine was displayed to the public for the first time at the Shanghai Auto Show in April.