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**ILMOR PLAN FUTURE DEVELOPMENTS FOR FIVE-STROKE ENGINE**

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**Northampton, UK** - With its first prototype Five-Stroke having achieved an impressive fuel consumption figure of 226g/kWh, engine designer and manufacturer Ilmor Engineering is planning a second phase development engine for real-world in-vehicle testing. Ilmor is keen to find a development partner to bring this exciting concept a step closer to production, and to this end is currently in discussion with automotive OEMs and Tier One suppliers, who are showing considerable interest.

Targets for the new engine, which could be suitable for installation for either hybrid or conventional installation, are a Brake Specific Fuel Consumption (BSFC) of better than 215 g/kWh, a 20% reduction in weight over existing production engines of a similar output, and a power density of 150bhp/L. Following testing on Ilmor's dynamometers and detailed analysis of the first prototype powerplant, developments are planned to cylinder capacity, valvegear design, turbo selection, and ancillaries to achieve these figures. No modifications are planned which would require any unconventional or new manufacturing processes, its simplicity and reliance on tried and tested technology being one of the key benefits of the Five-Stroke engine.

**The five-stroke concept**

The patented 5-stroke concept utilises two fired cylinders operating on a conventional 4-stroke cycle, which alternately exhaust into a central expansion cylinder, whereupon the burnt gases perform further work. The additional low pressure expansion cylinder decouples the expansion and compression processes, and enables the optimum expansion ratio to be selected independently of the compression ratio.

The engine concept, which was invented by Gerhard Schmitz, has been developed by Ilmor into a working engine using a rapid prototype cast cylinder head, a machined from solid cylinder block and separate electrically powered oil and water pumps. Two overhead camshafts operate the conventional coil spring valvegear with the HP camshaft running at 0.5 x crank speed and the LP camshaft running at 1 x crank speed. The engine is turbocharged to 3 bar abs.

**About Ilmor Engineering**

Formed by Mario Illien, Paul Morgan and Roger Penske in 1984, engine design, development and manufacturing specialist Ilmor Engineering is world renowned for its multiple successes in Indycar and F1 racing. Motorsport still forms an important part of Ilmor's business - including through Honda supplying the engines for the entire Indycar grid - but today the company also has projects in the OEM automotive, defence (UAV), aerospace, and marine industries. Ilmor offers design services from individual components to whole engine, development of existing engines, dynamometer/emissions testing, and multi-axis machining.

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For more information or high-res images please contact Steve O'Connor at the above address.