



# NEWS RELEASE

20 July 2011

## Celebrating the greenest, meanest and leanest

- **Launch of state-of-the-art Ricardo High Performance Assembly Facility to build the “world’s greenest supercar engine”**
- **Advanced 600 square metre quality-focused lean production facility with capacity to assemble 4000 engines per year**
- **Creates and secures in excess of 40 high quality jobs at Ricardo and many more within the supply chain**
- **Production location for the advanced 600 horsepower M838T 90 degree V8 twin-turbo – designed and developed by Ricardo in collaboration with McLaren for the MP4-12C high-performance sports car**

Ricardo’s new High Performance Assembly Facility was formally declared open today at the Shoreham Technical Centre, UK, by local Member of Parliament Tim Loughton. This brand-new state-of-the-art production facility provides a near clean room production environment in which each and every process is carried out according to strict quality principles and within a comprehensive ‘no faults forward’ culture. The facility builds upon the established reputation of the Ricardo Performance Products group which is already well known for the production of the advanced Ricardo-designed transmissions for the iconic Ford GT and the Bugatti Veyron supercar, as well as numerous driveline systems and components for the highest levels of competitive motorsport.

“The launch of the new High Performance Assembly Facility is an important milestone in the development of Ricardo,” commented Ricardo UK managing director Martin Fausset. “As a company we have always prided ourselves in developing the very best in engineering product innovation based upon the most fuel-efficient and clean technologies. We have also been able to offer an extremely high quality low volume production service for products, such as the Bugatti Veyron dual clutch transmission, which have been designed and engineered by Ricardo. For the first time however in the case of the new McLaren engine, we have worked in partnership with our customer to develop a class-leading product – the world’s most fuel-efficient supercar engine – while simultaneously engineering and building a state-of-the-art assembly facility in which it will be produced.”



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Ron Dennis, executive chairman of McLaren Automotive and McLaren Group, added: “I am immensely proud of the teams supporting the launch of the McLaren MP4-12C: at McLaren and at our suppliers. This is the first car in our new range of bespoke high-performance sports cars and is ‘pure’ McLaren: every component from the switchgear to the carbon chassis to the innovative and revolutionary engine is designed for this car. That has been a huge challenge for us as we launch a new British car company, and one that has needed the full support from our technical partners in the projects. Ricardo has joined us in this story and together we have developed a new type of performance car engine; an engine that is already generating critical acclaim for its balance of segment leading power and efficiency as well as driveability. This partnership will also produce 100’s of skilled new jobs in manufacturing at a crucial time in the country’s economic cycle and I congratulate Ricardo in joining with us in this commitment to investment and innovation in the UK.”

## **Lean production, extreme performance**

At the core of the new facility – which has the capacity to produce 4000 engines annually across two daily shifts – is a ten station vertical conveyor based mini-line supported by incoming materials inspection and line-side delivery of components. Each station is equipped with a sophisticated ‘human-machine interface’ (HMI) providing guidance to each operator on the precise sequence of operations required at each stage. The tools and assembly equipment used at each station are instrumented and provide data – down to the level of the torque applied to each fastener – directly into a central warranty database for each engine built, and hence provide complete finished product traceability. Each line station is interlocked via its HMI to ensure that all operations and checks have been successfully completed and recorded before the line can be indexed and the engine moved forward to the next station. In addition to the main production line, the facility includes a cylinder head sub-assembly line, dress area and an end of line hot test cell that enabled the performance of every engine produced to be fully tested and validated.

The new Ricardo High Performance Assembly Facility was specified, designed, constructed and commissioned in just 18 months around the requirements of its lead customer, McLaren Automotive, for which Ricardo will act as the production supplier of the M838T engine. “This facility not only incorporates some of the very latest thinking and techniques in quality focused lean manufacturing, but recreates these for an extremely complex and high performance product within a low volume context,” explains Ricardo director of performance products, Mark Barge. “This is a highly significant achievement – not



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solely in terms of the level of production innovation applied in this new form of high performance assembly operation, but also in the incredibly rapid process by which this facility has been conceived, built and commissioned in parallel with the engine design process. We are now ramping up to full production levels on the M838T engine and in parallel at our Leamington facility, where we will manufacture the Ricardo transmission used with this engine in the competition GT3 version of the McLaren MP4-12C.”

## **The world’s greenest supercar engine**

Designed and developed by Ricardo in partnership with McLaren, the state-of-the-art M838T 90 degree, V8 twin-turbo engine – the world’s greenest supercar engine – is truly class-leading in many key respects. Using the latest materials and engine design technology, the engine delivers 600 horsepower and yet is sub 200kg and boasts emissions of just 279g/km CO<sub>2</sub> in the McLaren MP4-12C high-performance sports car. Its fuel consumption is also class-leading, reflecting the use of an unrelenting focus on the reduction of internal friction. The resulting highly downsized engine represents a new benchmark for high performance turbo-charged engine design, providing an exceptional driving experience with instant throttle response and feedback. The brand engineering aspects of the design and development support provided by Ricardo extended also to the definition and creation of a sound quality that will become immediately recognizable to McLaren’s very sophisticated customers.

“It was vital that we had an engine partner, not just a supplier, with turnkey engine competence across all aspects of engine delivery,” said Antony Sheriff, managing director of McLaren Automotive. “Ricardo has world-class engine engineering facilities and capabilities, a proven track record of reacting to challenging briefs and delivering high performance, high quality engine programmes, and a desire to move into production engine supply chain management and assembly for low volume, high quality, high-performance cars. Ricardo’s ambition is also represented by its new assembly facility. Its location just over an hour from our new McLaren Production Centre is an added bonus that supports engine to vehicle production engine supply logistics and adds yet more skilled manufacturing jobs to the south of England. Ricardo’s values of innovation and technology compliment McLaren’s mission of producing world-class high performance vehicles which are segment leading through the application of high performance and innovative technology. All of these factors combined to present an unrivalled engine partner to McLaren Automotive and the delivery of the all new M838T engine to the McLaren MP4-12C this summer.”

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## NOTES TO EDITORS:

**Ricardo plc** is a global, world-class, multi-industry consultancy for engineering, technology, project innovation and strategy. With almost a century of delivering value, we employ over 1600 professional engineers, consultants and staff. Our people are committed to providing outstanding value through quality engineering solutions focused on high efficiency, low emission, class-leading product innovation and robust strategic implementation. Our client list includes the world's major transportation original equipment manufacturers, supply chain organizations, energy companies, financial institutions & governments. Guided by our corporate values of respect, integrity, creativity & innovation and passion, we enable our customers to achieve sustainable growth and commercial success.

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