



28th February 2011

Lotus Engineering Unveils Supercharged Production Range Extender

The new production Range Extender that has been designed by Lotus Engineering together with Fagor Ederlan will be exhibited at the 81st International Motor Show in Geneva.

The production Lotus Range Extender is an extremely compact, lightweight, low-cost engine and generator, designed specifically for hybrid electric vehicles. The initial concept engine was fitted to the Jaguar Limo Green research vehicle and this new version has been redesigned by Lotus Engineering and Fagor Ederlan to optimise performance and develop the engine for series production.

The production Lotus Range Extender will be offered in two versions with the top of the range 50 kW supercharged variant on show in the cutaway hybrid Evora 414Evolution exhibit. The 1.3 litre, three cylinder Lotus Range Extender engine offers high efficiency and low mass, which will enable the downsizing of expensive batteries, whilst maintaining vehicle efficiency and range of hybrid electric vehicles.

The Lotus Range Extender is designed to offer a fast route to market for original equipment manufacturers requiring a dedicated range extender for series hybrid vehicles. Designing the engine specifically for hybrid applications has provided a number of opportunities to significantly reduce the mass of the engine. This mass optimisation has resulted in an engine weight of 58 kg for the supercharged version and 51 kg for the naturally aspirated variant.

The supercharged engine uses a belt driven centrifugal supercharger to produce 50 kW peak electrical power at 3500 rpm, with the naturally aspirated version producing a maximum 35 kW. The engine is optimised to generate power at engine speeds between 1500 and 3500 rpm allowing a lightweight simple 2 valve per cylinder engine architecture and eliminating the need for a complex 4 valve per cylinder design.

As well as an Integrated Exhaust Manifold, the Lotus Range Extender engine has an innovative new Integrated Intake Manifold that gives a significant reduction in weight and package size.

The generator supplied by Fagor Automation, is driven directly off the crankshaft to reduce weight, package size and cost. The engine, generator and power electronics are controlled using a Lotus controller to improve communication and efficient running of the systems. The engine architecture and engine management system are designed to offer flex-fuel capability to allow the engine to run on renewable alcohol fuels.

Lotus Engineering cutaway hybrid Evora 414Evolution exhibit

The cutaway hybrid Evora 414Evolution exhibit will be displayed at the 81st International Motor Show in Geneva and demonstrates Lotus Engineering's technical expertise in: Lightweight Architectures, Efficient Performance, Driving Dynamics and Electrical and Electronic Integration. The production Lotus Range Extender forms part of the Lotus Engineering series hybrid drivetrain,

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which is displayed in the cutaway hybrid Evora 414 Evolution exhibit along with the new intelligent HALOsonic system.

Robert Hentschel, Director of Lotus Engineering, said "Lotus Engineering is one of the world's most dynamic automotive engineering consultancies. We are rapidly expanding into new regions and investing heavily in facilities, personnel and our world leading technologies. One example of this investment in technology is the cutaway hybrid Evora 414 Evolution exhibit, which showcases the advanced series hybrid drivetrain, with production Lotus Range Extender and intelligent HALOsonic technology. It is anticipated that these technologies will, in conjunction with our technical partners, be in production vehicles in the near future".

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Notes to Editors

For high resolution images of the Lotus new product range, full product details, technical specifications and videos please visit our dedicated media site www.lotusnewera.com using the following details:

User name: media
Password: lotus

About Lotus

Group Lotus plc, is based in Norfolk, UK, and has three operating divisions: Lotus Cars, Lotus Motorsport and Lotus Engineering.

Lotus Cars builds world class, high performance sports cars including the award-winning Evora, the iconic Elise, the stunning Exige, the road / track orientated 2-Eleven.

Lotus Motorsport operates the motorsports activities of Lotus and includes the strategy to return the Lotus name to a great number of series including Endurance racing with GT2, GT4 and LMP2, single seater racing with GP2, GP3 and IndyCar. Lotus has also returned to F1 with Genii Capital and this partnership sees the Renault F1 Team renamed as 'Lotus Renault GP' from the start of the 2011 F1 racing season onwards.

Lotus Engineering provides comprehensive and versatile consultancy services to many of the world's OEMs and Tier 1 suppliers and is an internationally recognised automotive engineering consultancy. Global facilities include those in the US, Malaysia, China and offices in Germany and Japan, with rapid expansion in new territories. Lotus is a global high-tech company, expanding rapidly and committed to driving forward technology for both Lotus Cars and its Engineering clients, spearheading research into such areas as hybrids, electric vehicles and renewable fuels. Lotus New Era was unveiled in Paris on 30th September 2010 featuring the new Esprit, Elan, Elite, Elise and Eterne.

About Fagor Ederlan

Fagor Ederlan Group is a leading automotive group focused on Chassis and Powertrain Engineering, which offers integral solutions to the market in all its product range. All the major automotive producers and Tier 1 suppliers are clients of the Fagor Ederlan Group. This allows Fagor Ederlan to share and understand the challenges of the market, giving a personalised response to each customer's demands.

A clear service approach has lead to a large international market presence. Fagor Ederlan is a global supplier with 15 manufacturing sites and production alliances in the main market regions of: Western and Eastern Europe, Mercosur, Asia and Nafta.

Fagor Ederlan is a cooperative company with more than 3.500 employees and operates within the Mondragon Corporation. The essential objective of Fagor Ederlan is employment generation, always within a frame of sustainability and social commitment.

For more information about Lotus please contact:

PR Department; Group Lotus plc, Potash Lane, Hethel, Norfolk, UK, NR14 8EZ
 Tel: +44 (0) 1953 608264; Email: pr@lotuscars.co.uk

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