



Supercar requires super model making

Case Study

Ogle Models + Prototypes is a company that is used to working with blue-chip companies for product development applications - thanks to its successful and enviable reputation for building superior prototypes and production quality models. However, when the model making team at Ogle was approached by Jaguar in the summer of last year, the project that they were asked to collaborate on was one of the most exciting - and challenging.

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THE JAGUAR C-X75 CONCEPT

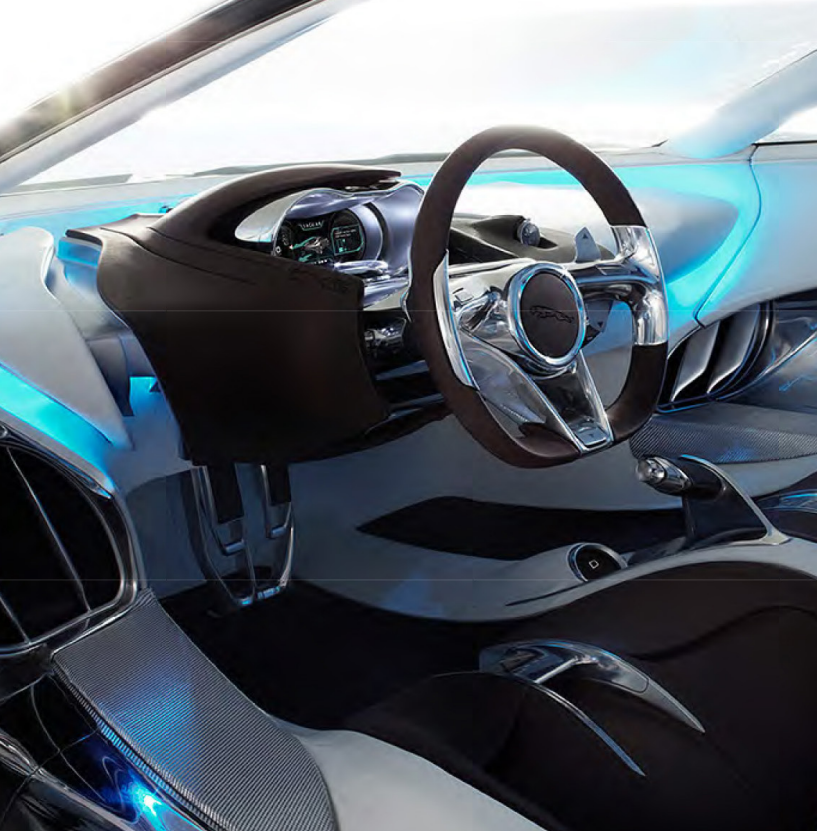
The unveiling of the Jaguar C-X75 at the Paris Auto Show in October 2010 was the culmination of the auto manufacturer's development of this innovative supercar. Created to celebrate the 75th anniversary of Jaguar, the C-X75 fuses the past and the future in a car that affords both unprecedented automotive innovation and inherent elegance while delivering supercar performance. The styling of the car is relevant to today's supercar market with deliberate references to some of the best Jaguar marques of the past. Beneath the surface, however, is a technological breakthrough that sees the first electric car supported by micro-gas turbines, which charge the batteries and give the C-X75 a top speed of 205 mph and a combined range of 560 miles.

Although the car is not intended for the production line, Jaguar has stated the intent is to point to the future – an intelligent use of new technologies to supply sustainable and relevant high-performance cars.

THE OGLE BRIEF

Following initial discussions with Jaguar, Ogle Models + Prototypes was commissioned by the auto maker to produce the interior gear change console for the C-X75 together with a full set of the exterior front and rear lenses. A collaborative project, the Ogle team worked seamlessly with Jaguar personnel – including the project manager, designers and design engineers and the very talented internal C-X75 workshop team – to successfully fulfil the remit within Jaguar's rigid deadlines.





This project is a great demonstration of the breadth and depth of Ogle's capabilities for producing first-rate models for challenging applications. Getting down to the real 'nitty gritty' – the console was to be produced in three individual parts to meet Jaguar's requirements.

The first, and most complicated model to produce, was the central part of the console, which houses the gear changer. The requirement was for it to be machined in Aluminium but the design also demanded that it must be able to move in two directions, over a distance of 8mm.

Furthermore, within the gear changer itself, the brief included a spring loaded flip catch, a rotary knob and LED's. Other LED's would also be fitted to the console, requiring the wiring to be hidden by machining slots and holes through the console.

The front part of the C-X75 console, which would be fully visible within the car, was to be machined in Aluminium with a highly polished finish. And finally, the rear part of the console, which was the most straightforward of the three parts, was to be covered in leather at a thickness of 3 mm.

Jaguar supplied only A surface data for the entire console, meaning that Ogle was responsible for breaking the data up into three parts and generating the B surface data for each. This necessitated avoiding any clash issues with other parts in the car. Ogle was able to demonstrate its holistic approach to this sort of product development and apply its extensive skill set to meet the demanding nature of the project. The Ogle team utilised its 3D CAD knowledge to achieve the right results for Jaguar whilst ensuring the models could be manufactured right first time.

After finalising the 3D CAD models, the rear console model was machined in 0.6 density model board with an offset value of 3 mm to allow for the leather cover. The front console had pockets machined in the B Surface to allow for the LED's and wiring to be fitted. The most difficult part to produce was the gear changer, this was because all of the required features had to be accommodated in a small area.

The optimum solution was to manufacture the main part of the gear change in Aluminium in two parts – with the bottom part incorporating the sliding mechanism (made from Acetal to avoid the Aluminium rubbing together) and springs; and the top part

was built to fit the rotary knob, the spring loaded Flip catch and the LEDs. The top and bottom parts were then screwed together and clad in leather.

The other part of the C-X75 project for which Ogle was commissioned involved the production of a full set of lamp lenses for the car. Jaguar supplied the CAD data to Ogle and the lenses were CNC machined from Perspex material – to allow high temperatures to be applied, which would be the case for a show car lamp when they are turned on with little airflow to keep the temperature down.

The lenses were fully machined and finished to exact Jaguar specifications. The culmination of the project was when the three parts of the console were successfully assembled and fitted into the C-X75. The result was a satisfied customer with the results visible for all to see on an exemplary supercar.

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