



CROSSEN
ENGINEERING

LIGHTWEIGHT AUTOMOTIVE

Engineering lightweight metal composite parts for your automotive project

Does every gramme matter in the vehicles you manufacture? If so, Crossen Engineering will deliver the lightweight yet robust metal parts you need. We provide all the tooling, prototypes and full production metal forming required to take your part from drawing board to assembly line – and we do it all on one site.

Perfecting the design

Whether you are designing a new component or bringing an existing design into production, we will provide the design support you need, including helping to select the right metal for your requirements and offering guidance on how the metal forming process might impact the design.

Lightweight at any size

From the smallest bracket to the largest panels, we engineer light components that do not compromise on strength.

The right quantities at the right time

We manufacture prototypes and low volume production, quickly and cost-effectively, whilst having the capability to produce up to 200,000 units per week.

Automotive experience

We engineer parts for manufacturers including Nissan, Toyota, GM, Recaro, and McLaren. We have experience working directly with OEMs and tiered suppliers.



**SPECIALISTS IN METAL FORMED &
PLASTIC MOULDED COMPONENTS**



Case Study

Automotive metal forming that delivers strength and speed

Supercar manufacturer McLaren relies on exacting engineering standards throughout its cars in order to achieve the quality and performance expected by its customers. That philosophy extends to the construction elements of the vehicle that are usually hidden from view.

Here at Crossen Engineering, we worked alongside one of McLaren's tiered suppliers to engineer a lightweight solution to secure the door mechanism in their composite doors.



Reducing weight, adding strength

Our first significant involvement was to propose amendments to the design. We suggested areas of the bracket where metal could be removed to lower the weight without compromising on strength, and adjustments to the shape to ensure it was perfectly matched to the inside profile of the McLaren door.

Based on our metal forming experience, our design team also realised that – in its current form – the part would bend once in use. This observation was proven – correct! By a prototype we created. We proposed the addition of a ridge across a section of the bracket would be needed to add strength and ensure the part remained rigid.

We advised on material selection and ultimately made the part from a lightweight alloy, which adds all the strength and support needed to the door handle while weighing just 40 grammes. The design included two rivet nuts, which meant we supplied the bracket ready for the door handles to be screwed in and bonded to the rest of the door.

Let's discuss your automotive metal forming requirements

If you would like to know more about our service regarding lightweight metal forming and how we may assist you.