3D Printing Low Volume Production of Automotive Components

Raise3D Case Study
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Renner Auto designs and manufactures replicas of classic cars from the 1950s to the 1970s. These vehicles are manufactured using modern drivetrain and electronic systems, but many original or duplicate parts are not compatible. Renner purchased Raise3D Pro2 Plus to help prototype and install the 3D printed model on the car. Some examples of cars Renner has worked with include Porsche Speedster, Jaguar XJ13 and Ford GT40.

3D Printing Delivers High Levels of Details

The traditional subtractive process will result in higher parts costs, and in some cases, the details of the parts are less than required. By using 3D printing, Renner Auto can easily produce correctly matched components with a high degree of detail, including steering column indicators and hazard switch components. All these components are 3D printed with ASA filament, and the painted model is very similar to the original object.

Cost Effectively Production for Interior Parts

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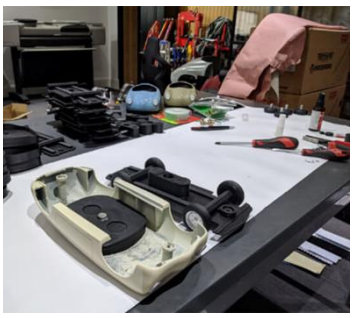
3D-printed gauge binnacle prior to trimming in leather.



The 3D-printed models offer clients the ability to see actual paint colors and swap interior trim options.

One of the major advantages of 3D printing is that it can be formed into any shape with rubber-like materials such as TPU. In Renner's project, many 3D printed TPU parts are used to produce seals and lids in low temperature environments. Traditionally, elastic materials can only be processed by injection molding, which requires complex technical knowledge and expensive equipment. But the use of 3D printing can complete the construction of elastic parts in one round of printing. With Raise3D Pro2 Plus, users can start the process with just a few clicks.

Fast and inexpensive 3D printing iterations ensure that steel parts are correct in the first place. Small models based on full-scale vehicle scans give users more freedom. Customers can use 3D printing and post-processing technology to customize the interior of the car.

Excellent Part Accuracy and Large Build Volume

A large print with just under 2kg of ABS filament.

Whether in prototyping or final part production, Raise3D Pro2 Plus's 60cm x 30cm x 30cm build scale helps Renner easily complete large models printing. The industrial-grade components of Raise3D Pro2 Plus provide Renner with smooth contours and precise dimensions. Raise3D Pro2 Plus is also equipped with a filament run-out sensor and a power loss recovery system, which is suitable for printing large parts that require more than 1 kg of filaments.

Raise3D also provides a well-adjusted filament template and smart selection for shrinkage compensation for highly accurate extrusion, helping Renner avoid size correction.

The Flexible Use of 3D Printer Gives More Return on Investment

3D printing is a handy tool for automotive modifications because of its material compatibility and flexible shaping. The numerous parts needed for customizing cars in the automotive industry results in a costly and slow traditional production process, especially for projects like Renner's.

It provides many alternatives to producing customized parts cost-effectively. For such applications, Raise3D's advanced FFF printing technology ensures the quality and capacity demanded by the business owner are met.

This case is shared by Bilby 3D (https://www.bilby3d.com.au/), which is Raise3D's distributor in Australia.

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For more information about Raise3D printers and services, browse our website, or schedule a demo with one of our 3D printing experts.