

THE DRIVE FOR SPEED

Honda Access shifts its customization options into high gear with 3D printing.

"The Stratasys 3D Printer not only offers quality prototypes with fine details, it also enables our company to enhance customer satisfaction by synchronizing the development cycle of both the vehicle and the OEM accessories we create. Its user-friendliness further allows our designers to be more creative."

— Hiroshi Takemori, senior design researcher, product planning department

Fog light garnish and beam light assembled to an actual car

Honda Access Co. Ltd. thrives on customization. A subsidiary of Honda Group and headquartered in Tokyo, Honda Access manufactures accessories for cars, motorcycles and other items worldwide. One of its specialties is customizing accessories to local buyers' preferences.

Accessories play an important role in differentiating global sales; hence, the available accessories for any given Honda model range anywhere from two to three hundred items.

"We have to take into account a range of considerations such as regional driver preferences and climate and road surface conditions when designing the accessories, offering distinct specifications according to a country's needs and demand," comments Hiroshi Takemori, senior researcher from the product planning department.

"Take the CR-V, for example. In the United States, the vehicle is marketed to parents who use the vehicle to pick up and drop off their children; but in China, it is positioned as the ultimate SUV and a status symbol. Since the vehicle body is built to the same standards worldwide, we use the accessories to give the car a little regional flavor."

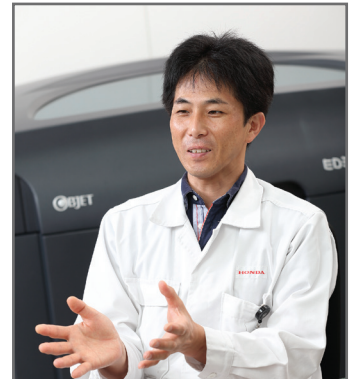
From CNC Machine to 3D Printers

Honda Access wanted to find a way to make all that customization more efficient. The company was using CNC machines in its product development cycle for trials and testing, but that process entailed excessive effort and cost.

Honda Group introduced 3D printing to Honda Access in 2006 as a trial project. Designers were invited to explore the possibilities of the technology for auto parts and car accessories. "There was a lot of buzz at the meetings about the possibilities of 3D printers and enabling realization of ideas in a very short time," Takemori recalled. He cited prototyping, fit and functional testing,



Hiroshi Takemori, senior design researcher, product planning department



Ryuichi Kanenobu, product planning department

and unsupervised builds as key benefits. "We realized that 3D printing would be extremely advantageous for product development."

Honda Access later purchased an Objet® Eden500V™ 3D Printer for its accuracy, speed, build size, easy support material removal and its ability to create fine details — factors critical to the company's product verification process.

Customization in a Cost-Effective Approach

Honda Access has since realized so many additional advantages to 3D printer ownership. The new 3D printer helped it improve its customization services. "3D printers allow us to synchronize the development schedule with that of the vehicle itself and create the accessory parts simultaneously, improving both the quality and speed of the prototype process," comments Takemori. "The technology has become indispensable for our business."

The overall design process has also improved. Previously, Honda Access used CNC machines to prototype parts (in-house or outsourced), which required full-time operators on-site to ensure safety from the machines' noisy rotating blades. Outsourcing the project often increased delays due to slower communications between Honda Access and the service bureaus, leading to potential delay of time to market.

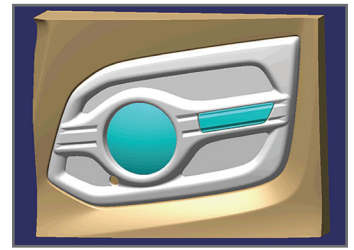
These issues have been eliminated since adopting 3D printing. The quality of the design improved significantly as designers can now examine the 3D forms in real time during the design process and modify the designs quickly. The Objet Eden500V 3D Printer's larger build size also allows designers to create large parts, such as wheels up to 14 inches in size.

Honda Access mostly uses the rigid opaque Vero™ family of materials and paints the printed part with a clear coat in post-processing, resulting in a texture that closely resembles the final product.

Customers First

Another benefit with Stratasys® is the customer service. Previously, it took three to four days until service technicians were dispatched, sometimes delaying the product development cycle. Now Stratasys engineers visit Honda Access once a week for about 30 minutes for routine checkup.

"We have been using the Stratasys 3D Printer for two years now with almost no trouble at all. It is extremely reliable and easy to maintain," says Ryuichi Kanenobu, a researcher from the product planning department.



CG image of Fog light garnish



3D model printed by Objet Eden 500V



Final product of Fog light garnish



Wheel prototype model printed by Objet Eden500V: divided into few pieces and assembled.

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