

## SITUATION

Aftermarket manufacturers are unable to fully take advantage of OEM CAD data because of the slight variations between the CAD data and the as-built part, especially for body panels. Furthermore, automakers offer their own competitive in-house brands as an alternative to third-party companies.

United Covers, Inc., an aftermarket parts manufacturer, had invested in a touch probe system in order to obtain the surface data necessary for their line of custom fender trims. However, the amount of data the touch probe obtained was not sufficient to accurately represent the free-form shape of the fender. As the profit margin continued to shrink, UCI needed to find an affordable and reliable solution of measuring and manufacturing parts to fit within the tight tolerances their customers expected.

## SOLUTION



CHRYSLER 300



FITTING A TEST SLA TO THE BUMPER OF A CHRYSLER 300

## RESULTS



3DScanCo provided the ideal solution for UCI – an affordable and accurate method of obtaining surface data to use for manufacturing aftermarket parts. UCI has since been able to leverage cutting-edge 3D scanning technologies to generate prototype replacement parts, which are then transformed into a final product. 3DScanCo has been partnered with UCI since 2006, enabling them to go direct to production with many new designs, bringing their offerings to over 130 factory-style and 300 custom-style applications of aftermarket parts. United Covers, Inc. trusts 3DScanCo for all their scanning, reverse engineering, and design needs.






UCI contracted 3DScanCo to find a solution for obtaining accurate CAD data for a variety of vehicles. Because every car of the same model differs slightly, 3D laser scanning offered the ideal and affordable solution for capturing surface data. 3DScanCo used the Konica Minolta VIVID 9i along with photogrammetry to accurately scan the desired areas for a variety of cars, including a Chrysler 300. The resulting scan data, accurate to within 0.002 inches, was reverse engineered into a CAD model using a combination of industry standard software.

UCI manufactured an exact-fit prototype using the CAD data supplied by 3DScanCo, which was hand-fit against the car to ensure a proper union. Furthermore, 3DScanCo performed quality inspection on the two parts and generated a colormap comparison report, which visually confirmed the prototype part fit to the required tolerances.

## TECHNOLOGY

-  Konica Minolta VIVID 9i
-  Photogrammetry

## TECHNIQUES

-  3D Scanning
-  Reverse Engineering
-  Quality Inspection

## APPLICATIONS

- Automotive Industry
- Fit Engineering
- Aftermarket parts