

3D Scanning a Lamborghini Rear Wing

When you mention exotic supercar only a couple of company names come to mind. One of them is Lamborghini. Since 1963, Lamborghini has been making some of the most beautiful and fastest cars on the planet.

The Problem

A company that manufactures aftermarket accessories for high end supercars like carbon fiber wings, spoilers, ground affects and more needed to make some changes to their current design. The original wing and feet had been made by hand and a new version of the Lamborghini has a slightly different rear deck. This change makes it so the wing feet don't fit correctly anymore. At a cost of \$18,000 for the rear wing customers expect a perfect fit. In addition, at 190 MPH it's imperative that the wing fits correctly and doesn't vibrate as it must create significant down force to keep the car in control.

The Solution

Since there was no CAD data, EMS 3D scanned the current wing, feet and rear deck of the new Lamborghini with their Z Scanner Z800 laser scanner. To 3D scan the wing and feet easier EMS removed the wing and feet and placed them on a table for scanning. A special method to target the wing for accuracy was used so not to damage the very expensive wing.

Once the scan data was finished, EMS created a hybrid model consisting of surfaces and solids. Because the wing is a very organic shape surface modeling was required. However, the feet where more prismatic so solid modeling was the right approach. This was all done in the RapidForm 3D scanning software which is the only product to do both types of modeling.

Once the wing and feet were 3D scanned and the changes to the CAD model where completed. The next step was for EMS to work with their CNC machining partner to machine master patterns to lay up the carbon fiber and resin. Each wing and set of feet are hand made and when finished weigh only a few pounds but are very rigid and strong.

Conclusion

When it comes time to do 3D scanning of all types of automobiles, EMS has the experience to deliver a high quality model and pattern for manufacturing.

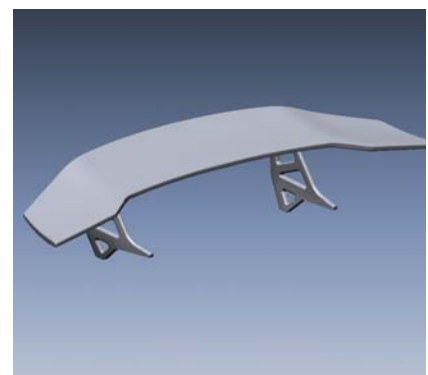
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Lamborghini ready for 3D scanning



3D Scanning the rear wing and feet



Finished CAD model ready for CNC machining