



NeoMetrix
Technologies, Inc.

Tech Brief 01-12-032

Reverse Engineering Classic Race Car



Figure 1 – Original Race Car

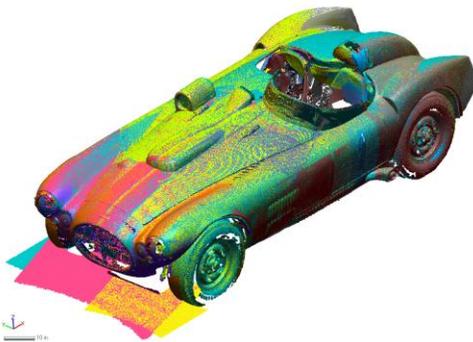


Figure 2 – Scan Data Aligned

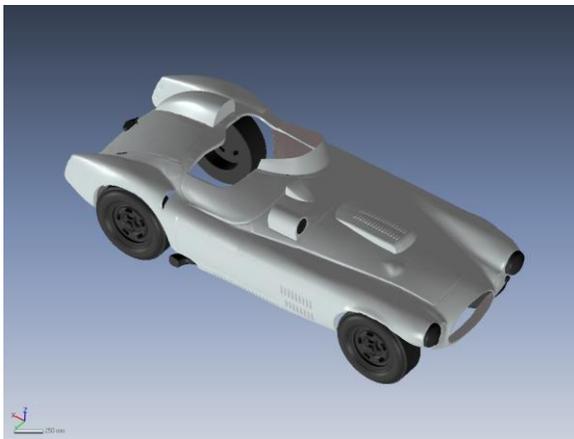


Figure 3 – Final Solid Model

Problem:

A customer wanted to recreate an exact replica Cunningham C4R using a buck to shape the metal. Unfortunately the only remaining cars are in private collections or museums.

Traditional Method:

The original car would be brought into the shop for patterns and templates to be drawn. Then they would use these to create a buck. Sheet metal would then be formed over the buck to create the outer panels of the car.

NeoMetrix Solution:

- Car scanned onsite inside a classic car museum with the Surphaser® 25HSX.
- Scan Data is registered, merged, and aligned in Rapidform XOR to produce a polygon mesh (Figure 2).
- Mesh is used to create surface and solid bodies in Geomagic and Rapidform XOR.

NeoMetrix Advantage:

- Final 3D CAD model significantly more accurate than data collected using traditional methods.
- Accurate model ready to be sent to mill for sections to be machine for the creation of the buck.