



EMS Scans Gulfstream II Aircraft

3D Scanning large objects like aircraft can be a real challenge because of their complex shape and size. Long range scanners and photogrammetry systems are the typical methods to scan such large objects but their accuracy and resolution are typically not very good for reverse engineering applications.

The Problem

When an aircraft engineering company needed to completely scan the outside of a Gulfstream II aircraft very quickly they had a real problem. They didn't have access to any of the 3D CAD data of the aircraft and didn't own a 3D scanner.

The Solution

EMS was contracted to 3D scan the Gulfstream II aircraft for them. The aircraft was located in Arizona and needed to be 3D scanned and 3D CAD modeled as soon as possible. Two EMS engineers traveled to Arizona with their Surphaser 3D scanner. The Surphaser long range scanner offers unmatched detail and resolution in a long range scanner. In just over one day the engineers had most of the 80 foot aircraft 3D scanned. Because the Surphaser scans 260 x 270 degrees and up to 60 feet in a single scan they could 3D scan large amounts of the aircraft at one time.

By placing the scanner on the concrete floor and then on some movable scaffolding, the engineers could easily scan the top and bottom of the aircraft. Once they had all the scan data the engineers spent the second day aligning the scan sets and ensuring they had all the data they needed for the 3D CAD modeling.

The engineers then returned to Florida where they spent the next two weeks modeling the aircraft in full detail. Using RapidForm software the engineers created surface and feature solid model CAD data. This data was then transferred directly into SolidWorks using RapidForm's "Live Transfer" command. The LiveTransfer command recreates the entire RapidForm model feature by feature in SolidWorks allowing the model to be edited in SolidWorks by the end user.

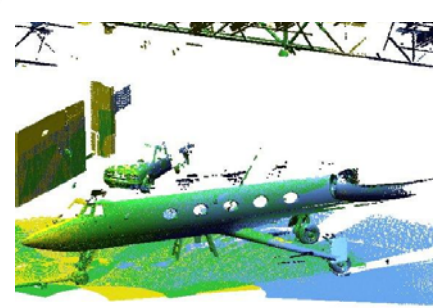
Conclusion

When it comes to 3D scanning and CAD modeling large complex objects EMS has the experience, equipment and know how to perform these tasks quickly and deliver high quality CAD data.

To learn more visit www.ems-usa.com



Scanning top of aircraft



Raw scan data from the Surphaser 3D scanner



Completed 3D CAD model of entire aircraft