SUPER CHARGE
Your Reverse-Engineering
with Point2CAD

Case Study

Weistec Engineering, located in Santa Ana, California, is an industry leader in research, development, and design. Ranging from the Mercedes C-Class to the SLS AMG, Weistec Engineering is not only the first company to calibrate a forced induction solution for M 156/159, they are the first to achieve this on the highly sophisticated Mercedes ECU. This major accomplishment has finally paid off as Weistec Engineering is proud to announce the "50 State Legal" status of the stage 1 M 156/159 Supercharger System.

What is Point2CAD?

Point2CAD is indispensable software for reverse-engineering physical parts into the SolidWorks environment. With Point2CAD, users can quickly and easily create parametric models of physical parts by probing geometries such as lines, arcs, slots, and splines. Using an arm is like using a mouse but with the added ability to capture data live in 3D. Users can even check their work and receive guidance for defining tolerances by checking the part's deviation live in SolidWorks.

Michael Weiss, the owner of Weistec Engineering, has been using Point2CAD since 2012. With Point2CAD and MicroScribe, he was able to reverse engineer several projects efficiently.

Traditional Method vs. Point2CAD

Prior to using Point2CAD, Weiss used 3D modeler software to create and transfer basic sketches over to SolidWorks to finish their reverse engineering. During this process, Weiss dealt with many tedious processes ("clean-up jobs"). Weiss stated, "3D modeler software did not allow me to set an origin and did not have proper tools and functions that SolidWorks has." Weiss was frustrated because of these limitations and the need convert the sketches over to SolidWorks with the proper normal vector. If the sketches would not import properly, Weiss "has to spend hours and hours to do a clean-up job." Additionally, he stressed, "The accuracy and consistency were not there."


With Point2CAD, Weiss is no longer concerned with these clean-up jobs. He claimed, "The nice thing about Point2CAD: I can utilize all the tools in SolidWorks while I get basic sketches using the arm." Since Point2CAD is an Add-In for SolidWorks, transferring sketches across software is eliminated. Not only that, Point2CAD allows Weiss to define origins and proper coordinate systems for his sketches. "Normally, I would rapid prototype a part that has been reverse engineered to test since casting is expensive and time-consuming. But now, I trust my CAD data more than ever. I skip the rapid-prototyping process," Michael emphasized.

Time-Saving

Recently, Weiss took on two projects where Point2CAD greatly saved time. One involved a Super Charger Inlet Tube. Using Point2CAD, he was able to grab splines, bolt patterns, and planes to get a perfect outline of the tube. Later, he finished his task by lofting and connecting these features together. He stated, "It took about 30 min to reverse engineer this [Super Charger Inlet Tube] whereas using 3D modeler software would have taken much longer."

In another project, Weistec was involved in the initial development phase of Mercedes SLS where he could borrow the car for only two days. Because of this limited time, they had to quickly reverse engineer the needed component and rapid-prototype it for test fitting. Weiss finished this project on schedule. He said, "I could not have done this without Point2CAD."
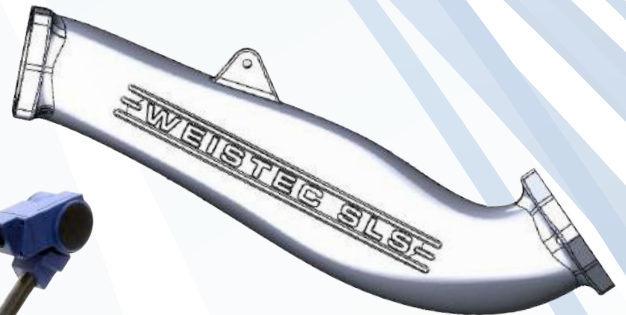
Economical Solution

Weistec was able to finish multiple reverse engineering projects using Point2CAD. He expressed, "I do not have a $100,000 arm or $30,000 reverse engineering software like other companies, but I get my job done accurately under $20,000 using Point2CAD and MicroScribe."