

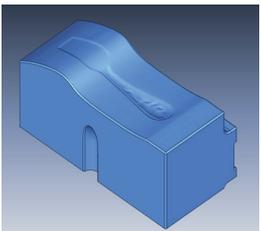
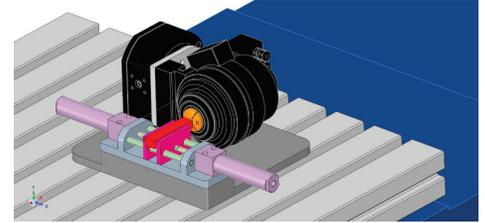
**ANSYS**<sup>®</sup>

## SpaceClaim + Interactive CAD Solutions

*"It wasn't until I started modeling in SpaceClaim that I realized what a good job it does. The more I used it, the more I liked it."*

**– Robert Conley**

## SpaceClaim: Interactive CAD Solutions



### About Interactive CAD Solutions:

- Interactive CAD Solutions (interactivecadsolutions.com) is a mechanical engineering design house
- Specializing in CAD, drafting, reverse engineering, finite element analysis, rapid prototyping, sheet metal design, and stereolithography services
- Clients include corporations such as Peerless Tool & Machine, Lunt Silver Works, and FuelCell Energy

### Goals:

- Fix dirty and bad geometry
- Prep CAD files for analysis
- Speed up workflows

### Results:

- Cost to reverse engineer a CAD neutral file is typically 1/3 the cost.
- Defeat features models for FEA in hours rather than days
- Reduce time for typical projects from weeks to days

### Spaceclaim Fills a Hole Then Earns a Role With Interactive CAD Solutions

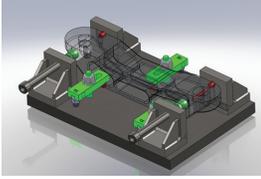
Interactive CAD Solutions (interactivecadsolutions.com) is a mechanical engineering design company that specializes in CAD, drafting, reverse engineering, finite element analysis, rapid prototyping, sheet metal design, and stereolithography services, but owner Robert Conley puts it all under the umbrella of turning customer ideas and designs into functional components that can be quickly produced and marketed. "People come to me when they can't solve their problem any other way."

Its success is driven by Conley's focus on service and his deep experience including thirty years of experience in the design of three-dimensional objects, six years in the operation of CNC machines as a First Class Inside Machinist and twelve years in the maintenance, repair, and operation of propulsion plant machinery and auxiliary mechanical systems as a U.S. Navy Machinist Mate and as a Shipyard Test Director.

His Lebanon, Connecticut-based company provides services that make the most of a wide range of software tools including CAD, CAM, design automation and FEA. Since about four years ago, that mix has included SpaceClaim. "I started with ANSYS SpaceClaim because I had some parts in AutoCAD™ packages and they came in to SolidWorks™ with a couple thousand holes in the surfaces. I bought SpaceClaim to remove all the holes – for that reason alone."

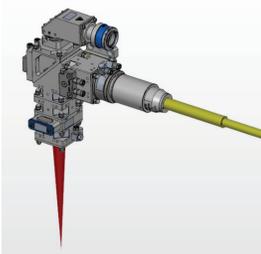
### From Filling a Hole to Trusted Go-To Tool

While he started with a very defined role for SpaceClaim in his suite of tools, it quickly grew. "It wasn't until I started modeling in SpaceClaim that I realized what a good job it does. The more I used it, the more I liked it." An early discovery was how easy reverse engineering was with SpaceClaim. "I used to use Geomagic for everything. It was very time consuming. About four years ago, someone showed me how to bring an STL file into SpaceClaim. Once I started playing with it, I discovered you could highlight the mesh, put a plane into the mesh, pull the surface up to the mesh, and it's quick. Deviation between the mesh and the solid model can be analyzed directly within SpaceClaim. When it comes to reverse engineering, my first choice is always SpaceClaim."



His customers appreciate the difference in speed and ease as well. “When I do reverse engineering, I offer customers a parametric model or a STEP file from SpaceClaim. When they ask for the difference, I tell them the parametric model is four times as expensive.”

His broad capabilities across several CAD packages means he can be flexible. “I’m driven by my clients.” When he has his choice and speed is a factor, SpaceClaim is his go-to tool. “When I have a proposal that needs to be done by tomorrow, I do the proposal in SpaceClaim and it takes about three hours, whereas in other tools it would take a couple days. There is no feature tree in SpaceClaim, so I don’t have to wait for the model to rebuild after changing a feature.”



A typical project would be a client with a plastic injection mold that broke – something they no longer have the model for. He’ll scan it, reverse engineer it and machine it. When he uses SpaceClaim for this kind of work, it will take two days versus a couple weeks with anything else. When asked if speed is the primary reason he loves



SpaceClaim, he responds, “oh, yes. Definitely the speed.” Further, importing 2D DXF and DWG can be used to create 3D CAD models without having to constrain and dimension the sketch, typically used for downloaded CAD models where only 2D geometry is available from the vendor. “I get paid for a project, not to translate a vendor supplied CAD model.”

SpaceClaim also wins raves from Conley for its sheet metal functionality. He appreciates the full range of sheet metal tools, but also that famous SpaceClaim speed. “As soon as I get a CAD file that I want to flatten out, I can put it in SpaceClaim, click on a face, flatten and I’m done.”

That isn’t to say that hole removal has been completely passed by. He recently needed to work on a large assembly that had a million holes. He fixed it with SpaceClaim in two days. “That’s one of the things I love the most about SpaceClaim. I click on a circle that’s open on both ends, I click on ‘fill’ and I’m done. I shut both ends and I’ve got a solid.”

**ANSYS, Inc.**

[www.ansys.com](http://www.ansys.com)

[ansysinfo@ansys.com](mailto:ansysinfo@ansys.com)

866.267.9724