

PTC Email Newsletter

4.01.02

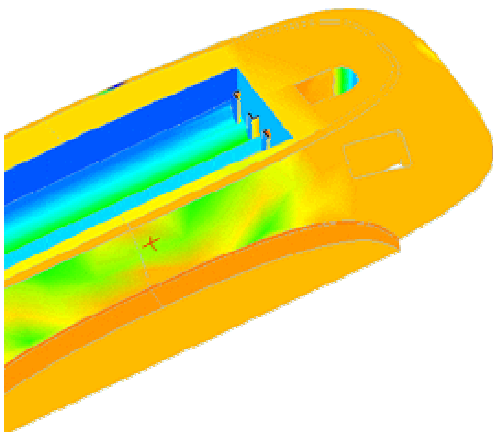
1. PTC Product Focus: [Pro/ENGINEER Computer Aided Verification](#)
 2. Tip of the Week: [Tweak Replace](#)
 3. [Upcoming Events and Training Class Schedules](#)
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Pro/ENGINEER Computer Aided Verification

Pro/ENGINEER Computer-Aided Verification provides the capabilities to digitally inspect and ensure the quality of machined parts and assemblies. It can create programs for CMM (coordinate measuring machines), based on the Pro/ENGINEER design model that automatically checks for collisions with the tooling. Or, for parts with free form geometry, it can automatically compare scanned point cloud data from a manufactured part to the geometry of the Pro/ENGINEER solid model.

Key Product Features:

Inspect Scanned Parts

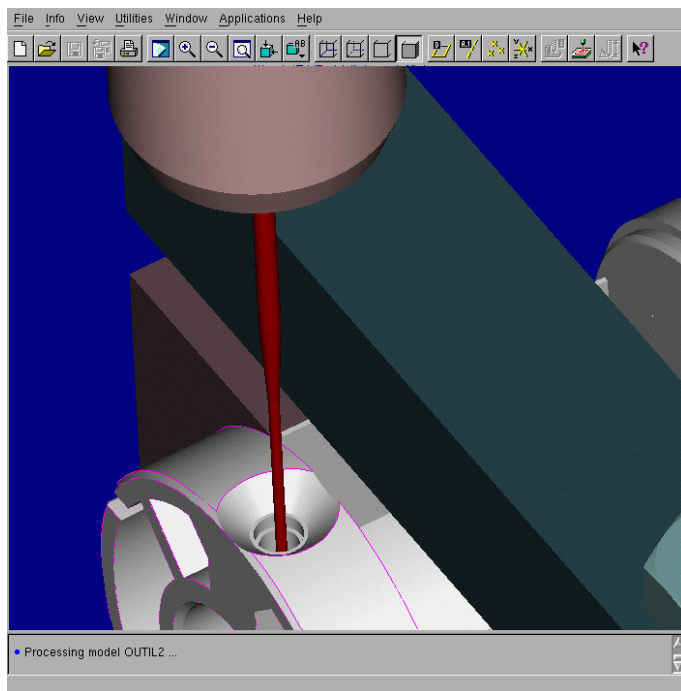


Pro/ENGINEER Computer-Aided Verification enables manufacturers to inspect parts, produced in-house or by a supplier, by automatically comparing scanned point-cloud data from the manufactured part to the Pro/ENGINEER solid model. The manufactured part is scanned using any scanning technology to generate x, y, z location information that defines the part. This point cloud can then be used to make a comparison with the theoretical model. The difference between the Pro/ENGINEER model and the point data can be generated either graphically, as a color deviation plot, or as a point file that shows the deviation between the design part and the manufactured part.

Specifically, part inspection functionality allows designers to:

- Compare the model to the point cloud data
- Filter point data for viewing flexibility
- Perform geometric deviations
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Create Inspection Programs



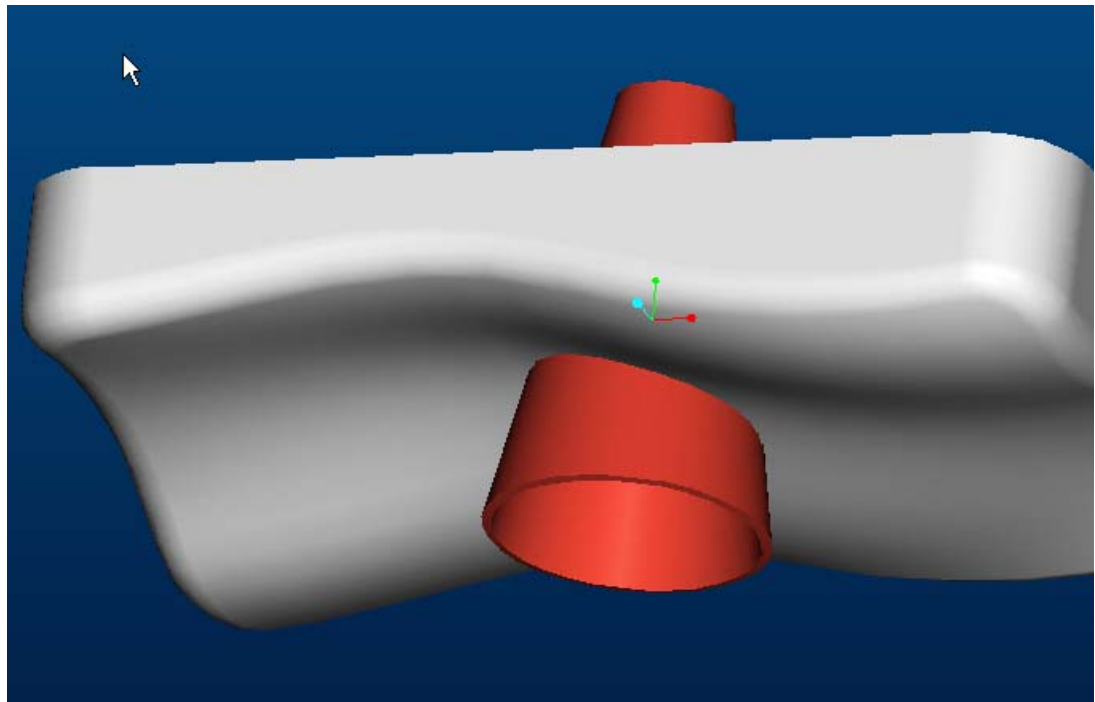
CMM programmers use Pro/ENGINEER Computer-Aided Verification to create inspection programs from Pro/ENGINEER design models. Probe paths for the operation are generated by specifying geometry and tolerance information directly from the

Pro/ENGINEER solid part or drawing. The probe path can be replayed and automatically checked for collisions with tooling and the model. The inspection program is output to a file and passed to the CMM through the DMIS (dimensional measurement inspection standard) 3.0 language. Any CMM controller that is DMIS 3.0 compliant can use the output directly. Most other controllers can be supported through translators.

Specifically, inspection program creation functionality allows designers to:

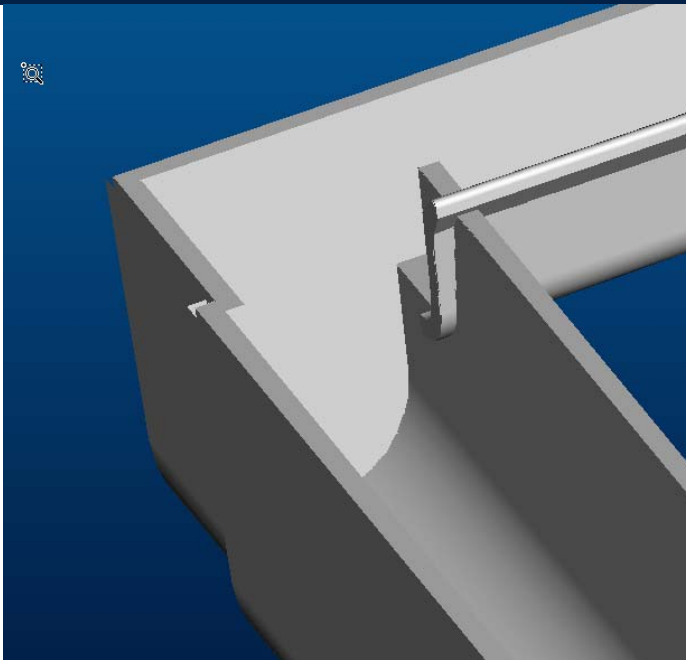
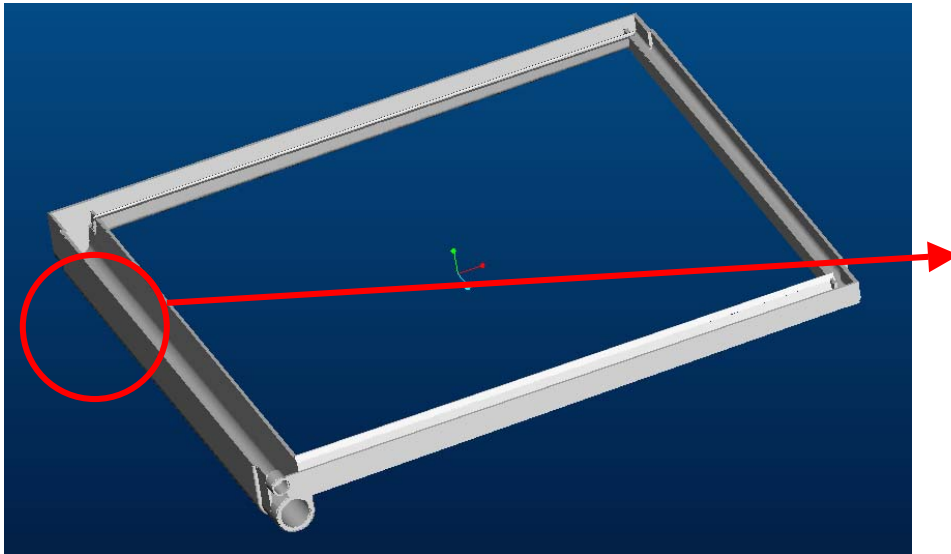
- Leverage the existing Pro/ENGINEER solid model
- Directly reference the geometric dimension and tolerance information
- Quickly generate programs for part families

**2.) Tip of
the Week:
Tweak
Replace
Trimming
Protrusions
by
replacing
one
surface
with
another**

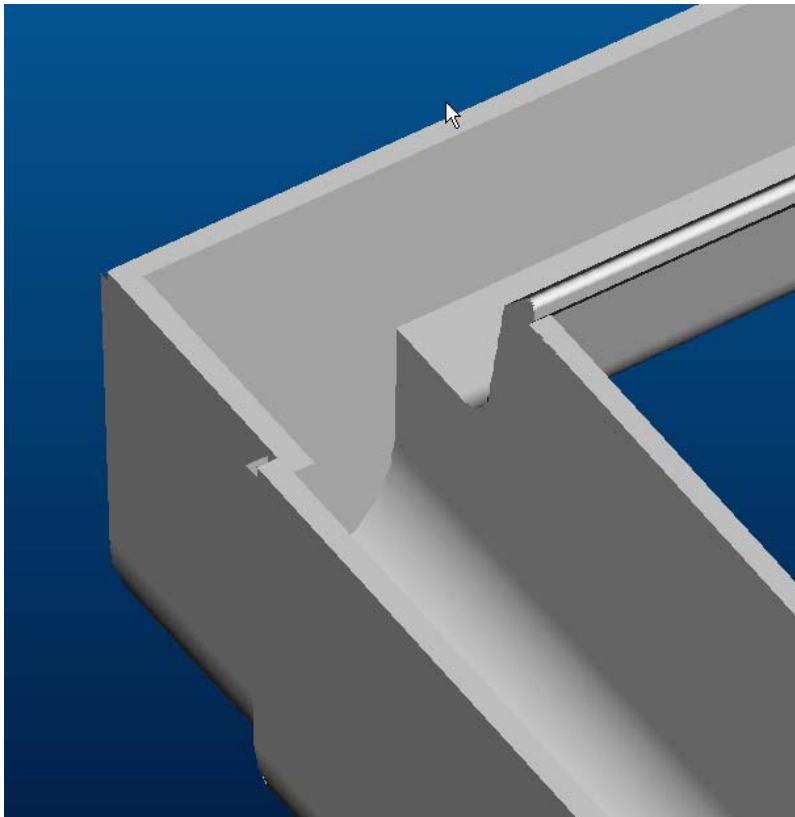


The Replace feature is an often-overlooked piece of functionality, but it is worth knowing about as an additional instrument in the modeling tool belt. Here is a real world case where it came in handy. This injected molded part has two variable section sweep protrusions, a couple of drain channels, that intersect each other. The customer then needed to

trim both channels, but the geometry did not lend itself to any sort of extruded cut.



Obviously there are many other ways to make this cut, but the replace feature worked great. The option is available under the Feature/Create/Tweak menu. Simply pick the surface to be replaced (in this case, the ends of the overextended channels) and then the surface to replace it with, and the protrusion is automatically cut (or extended!) up to that surface. Try it, it works wonders.



3.) Upcoming Events and Training Class Schedules

Training Classes:

| Date | Location | Hosting Company | Class | Days |
|-------------|-----------------|------------------------|---|-------------|
| 4/01/2002 | Dallas, TX | PTC | Introduction to Pro/ENGINEER | 5 |
| 4/08/2002 | Dallas, TX | PTC | Pro/INTRALINK Administrator | 5 |
| 4/08/2002 | Dallas, | PTC | Fundamentals of Pro/MECHANICA Structure/Thermal | 5 |

| | TX | | Training | |
|-----------|---------------|-----|------------------------------------|---|
| 4/15/2002 | Dallas, TX | PTC | Introduction to Pro/ENGINEER | 5 |
| 4/22/2002 | Dallas, TX | PTC | Fundamentals of Drawing | 5 |
| 4/22/2002 | Dallas, TX | PTC | Fundamentals of Sheetmetal Design | 3 |
| 4/25/2002 | Dallas, TX | PTC | Large Assembly Management Training | 2 |
| 4/29/2002 | Dallas, TX | PTC | Designing with Surfaces | 3 |
| 4/29/2002 | Dallas, TX | PTC | Complex Milling | 3 |

[OTHER COURSE LOCATIONS](#)

Note: This weekly PTC email will continue to be used for the following:

- 1) Inform you on events related to PTC products. (user groups, conferences, training schedules, etc.)
- 2) Educate you on products that are available at PTC
- 3) Tips and Techniques using PTC products