



PTC Product Focus: [Routed Systems 3.0 is available](#)

Tip(s) of the Week: [BMX: Determine distance to tangency](#)

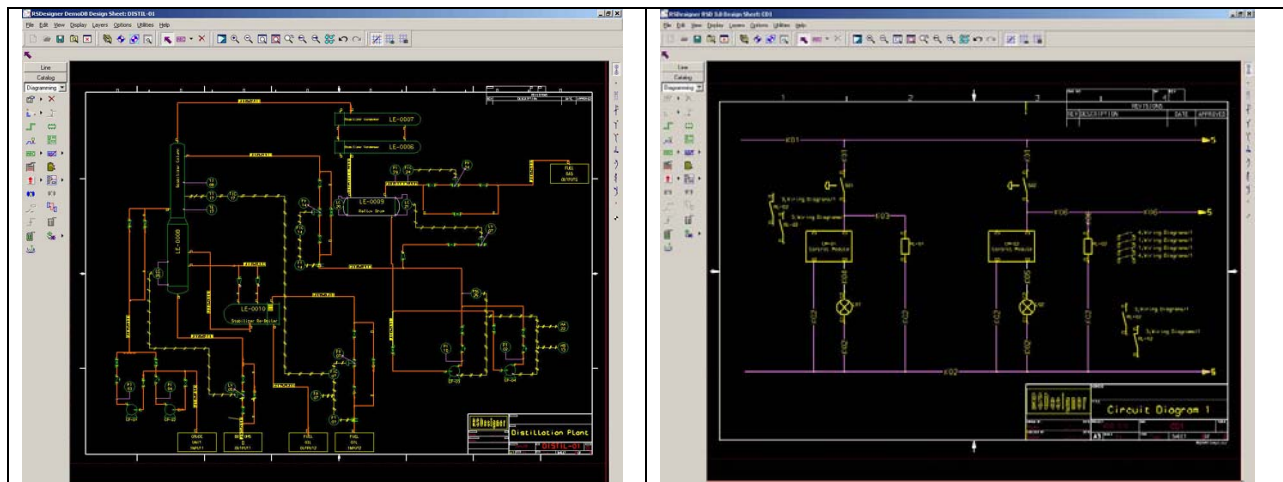
Training Schedule: [Training Schedule](#)

PTC Product Focus

RSD: Routed System Designer 3.0 is available!

Unlike general drafting tools, simple flowcharting packages, or add-on modules of CAD systems, RSD is purpose built for the high performance creation of a wide range of diagram types including wiring, process and instrumentation (P&ID), block, functional, and schematic diagrams.

It can be used as a standalone package, but with its' integration to Pro/ENGINEER, it allows the reuse of diagrams to drive 3D cabling and piping routing using the Pro/ENGINEER Piping Design and Cabling Design Options.



What is Routed System Designer?

RSD is a multi-discipline diagramming tool that can handling even the most complex diagramming tasks with hierarchical schematic organization, intelligent connection, and labeling capabilities.

What can RSD do?

All of your diagramming needs!

- Wiring diagrams
- P&ID (Process and instrumentation diagrams)
- Block diagrams
- Circuit diagrams

What's new in 3.0?

- An enhanced Automatic Wire Generation Tool further automates the creation of wiring diagrams. Wires are automatically drawn onto a sheet, significantly enhancing productivity.
- A new Java API allows users to extend reporting capabilities to improve collaboration throughout the organization.
- A new Shape Replacement Tool improves productivity by allowing instanced shapes to be either updated from a modified catalog or completely replaced. Instanced shapes may be replaced one at a time, on a single sheet or on a global design basis.
- An enhanced Variable Group Tool improves usability by consolidating all creation and manipulation functionality into one single common tool.
- A new Datable Explorer to enhance usability by providing a single tool to view, query and manage data tables within a central location.

Want more information on RSD 3.0?

Click [here](#) for a FAQ.

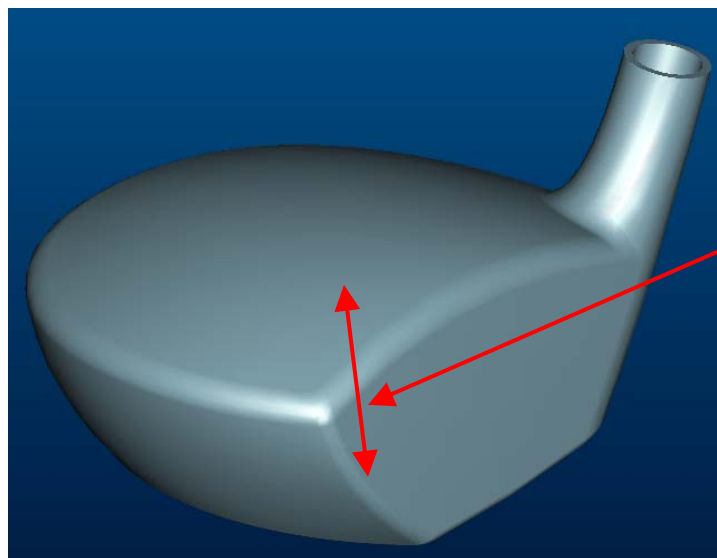
Tip(s) of the Week

BMX: Determine the distance to tangency

Introduction:

If you've got a highly stylized part with surfaces that curve in two directions, it can be cumbersome to determine the highest (or lowest) points on the respective surfaces. Below is an example of a golf club made almost entirely of surfaces and we'd like to know the location of the highest point on the top surface.

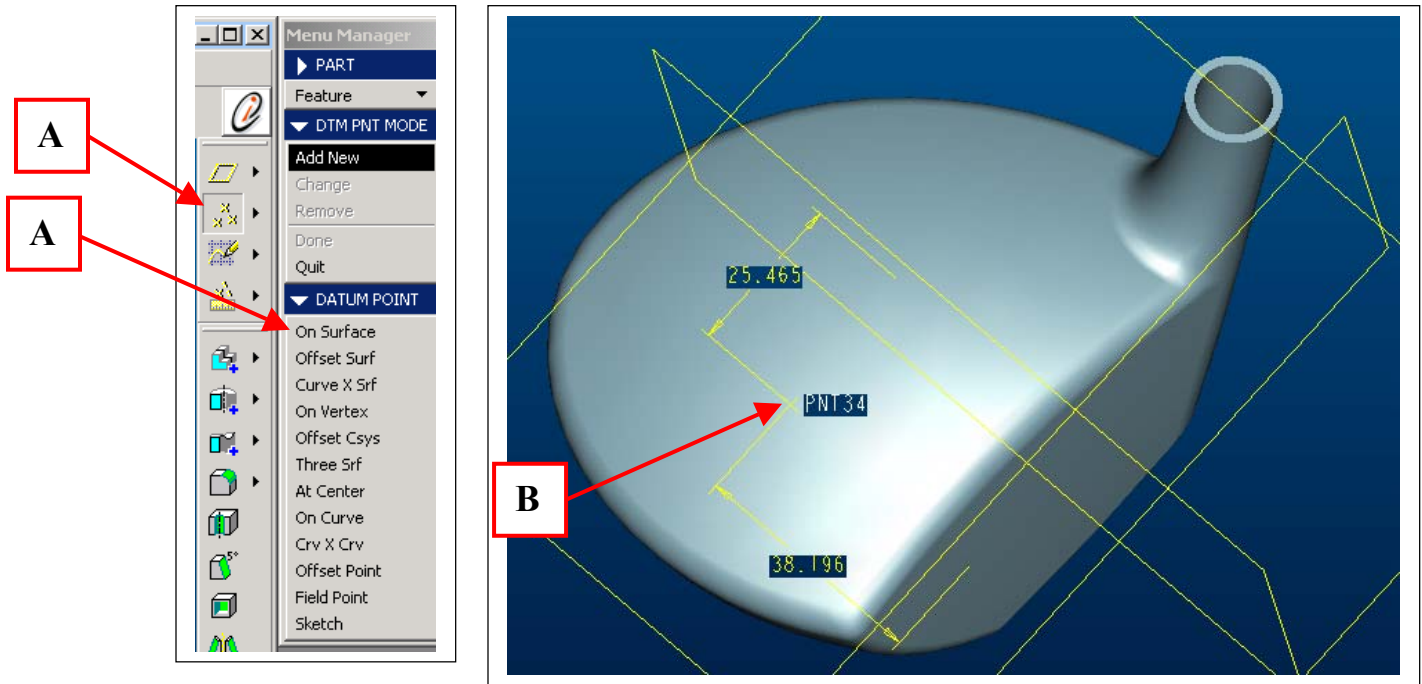
Using [BMX \(Behavioral Modeling Extension\)](#) and two quick features, we can have Pro/E accurately locate a datum point at the desired location...eliminating the guesswork! Let's begin.



What's the distance from the base to the highest tangency point?

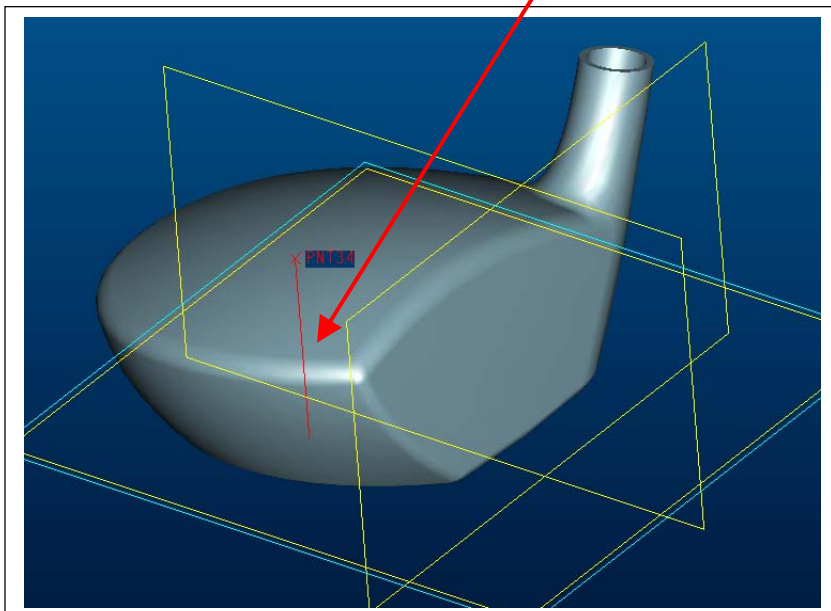
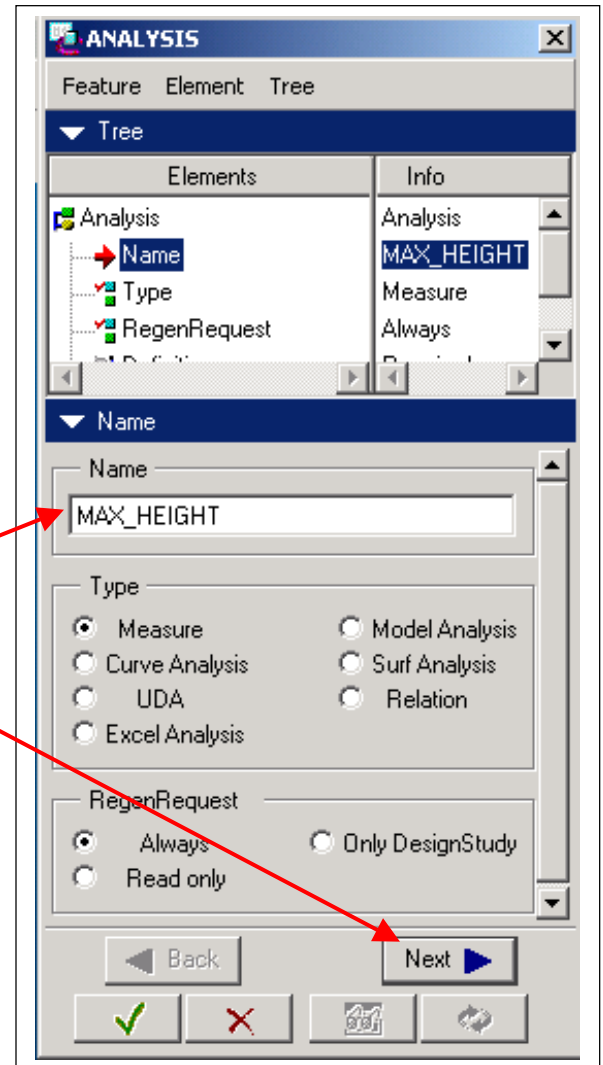
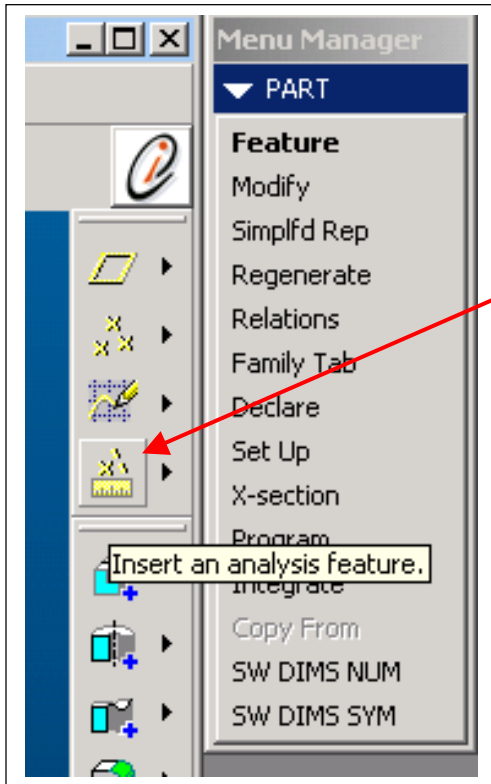
Step: 1 Create a datum point on the surface

- a) Select icon for “Insert a datum point”, select ON SURFACE.
- b) Pick on the surface where you think the highpoint might be and accept the default values for the dimensions to the point (we’re going to let BMX optimize the dimensions later).



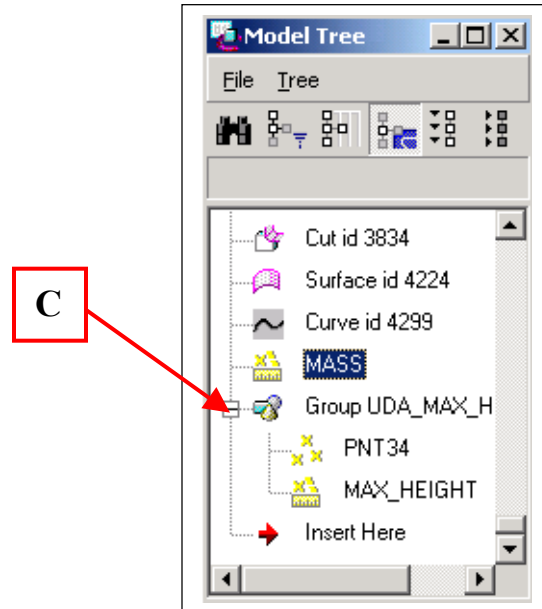
Step #2: Create a BMX “Analysis Feature” for the measurement

- Select icon for “Insert an analysis feature” and give it a name.
- Select MEASURE, then NEXT.
- For type, select DISTANCE, and then select the datum point you created and the bottom datum plane to get the measurement value.
- Click on close in the measure dialog box and then the green “Check” to complete the feature.



Step #3: Create a group to use as a UDA (User Defined Analysis).

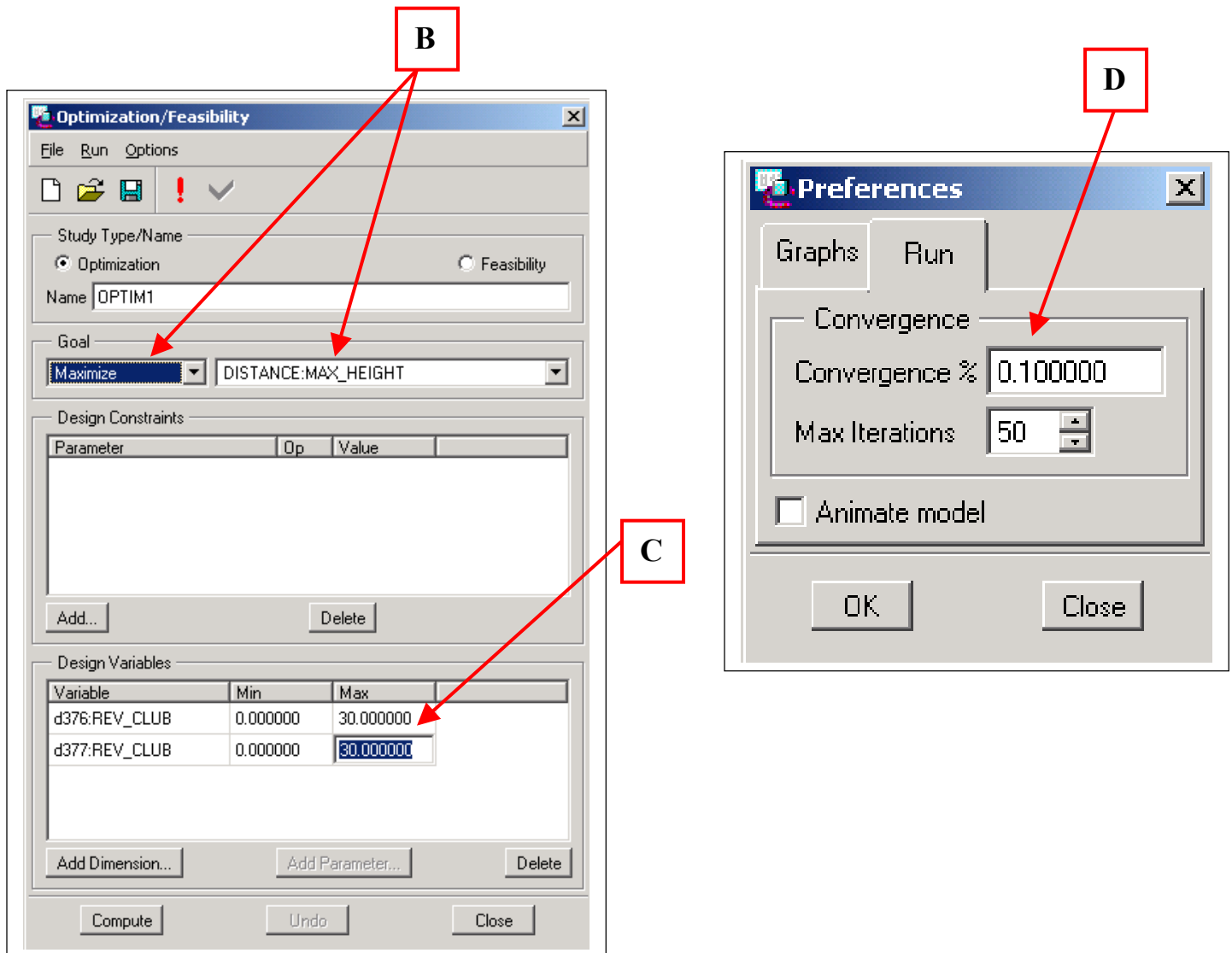
- a) Select FEATURE, GROUP, LOCAL GROUP, give it a name
- b) Select both the Datum point you created and the Analysis feature.
- c) Now you should have a group feature in your model tree that contains both the point and the BMX analysis.



Step #4: Perform a BMX Optimization to solve for max height.

- a) On the top menu bar, select ANALYSIS, FEASIBILITY/OPTIMIZATION.
- b) Set Goal to MAXIMIZE and parameter to DISTANCE:MAX_HEIGHT
- c) For design variables, select the datum point you created and enter in the min and max values you'd like Pro/E to optimize through.
- d) Optional: To adjust the accuracy of the solution, go to OPTIONS, PREFERENCES, and then enter the desired value for "Convergence".
- e) Click COMPUTE and watch Pro/E optimize your goal of "Maximum height".

When finished, simply click CLOSE, and CONFIRM to keep the changes Pro/E made. You're done!

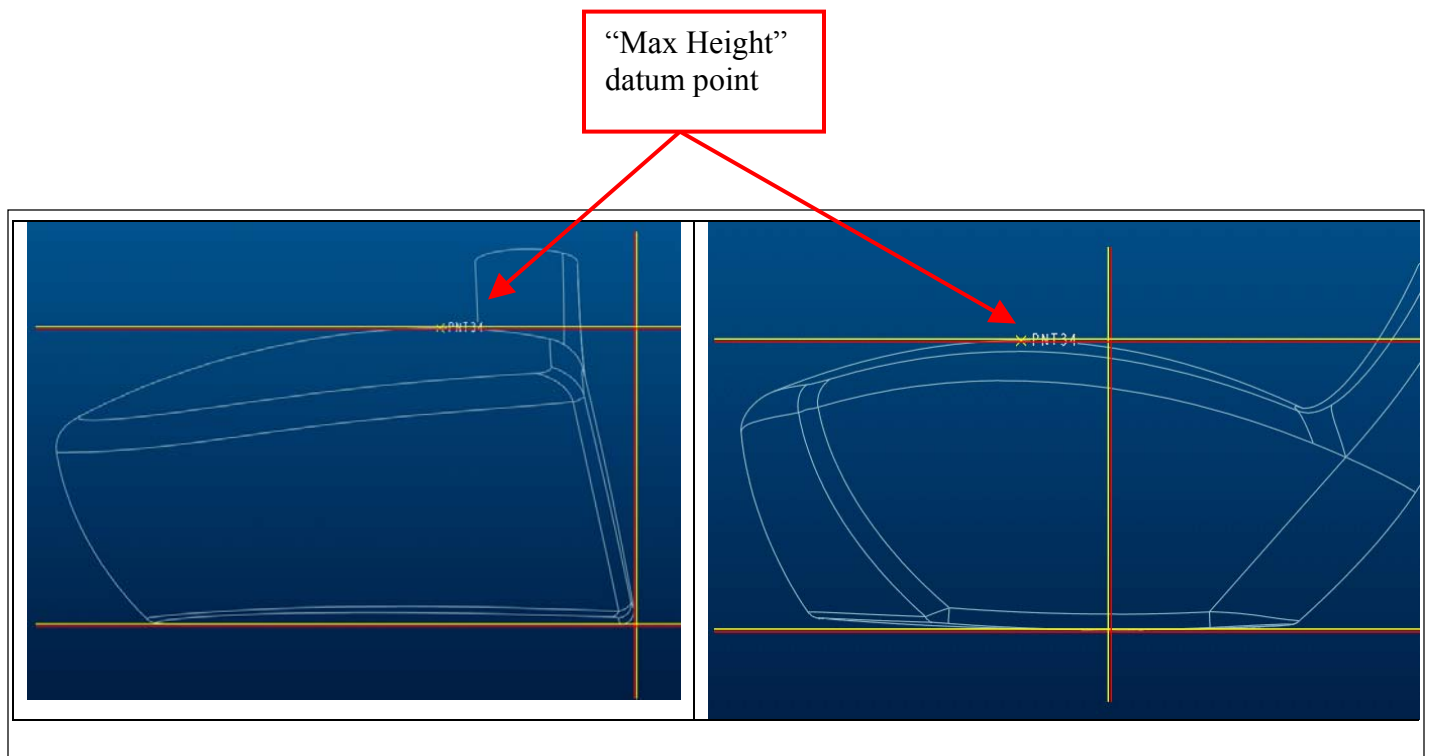


Summary:

Now you can see in the pictures below that we've got a datum point that has been optimized to be at the exact location of highest tangency parallel to the base in both curvature directions! This is just one more example of how you can utilize BMX optimization capabilities in your everyday designs as a huge time saver (this example takes 3 minutes to setup and run!).

For additional examples, look here:

- [Automate Geometry Creation](#)
- [Design Exploration](#)
- [Automate Measurements](#)
- [Automate Complex Relations](#)
- [Sensitivity Study](#)
- [Optimization/Feasibility Study](#)
- [Motion Animation](#)
- [Motion Envelope](#)
- [Interference Detection](#)
- [User Defined Analysis](#)



Training Class Schedules

Please visit the [PTC Education Services](#) website for the latest training information including course descriptions, schedules, locations, and pricing.

- Attend a course at any PTC Center and receive a **free** copy of Pro/E 2001 Student Edition!

2002 05/20	Fundamentals of Pro/MECHANICA Structure/Thermal Training	Phoenix (AZ)	Request Registration
2002 05/29	Designing With Surfaces	Phoenix (AZ)	Request Registration
2002 06/03	Introduction to Pro/ENGINEER	Phoenix (AZ)	Request Registration
2002 06/10	Fundamentals of Sheetmetal Design	Phoenix (AZ)	Request Registration
2002 06/13	Large Assembly Management	Phoenix (AZ)	Request Registration
2002 06/17	Pro/MOLDESIGN Training	Phoenix (AZ)	Request Registration
2002 06/20	Core Pro/ENGINEER Release 2001 Update	Phoenix (AZ)	Request Registration
2002 06/24	Fundamentals of Design	Phoenix (AZ)	Request Registration
2002 07/08	Introduction to Pro/ENGINEER	Phoenix (AZ)	Request Registration
2002 07/15	Pro/INTRALINK Administrator Training	Phoenix (AZ)	Request Registration
2002 07/22	Creating Milling Sequences	Phoenix (AZ)	Request Registration
2002 07/29	Drawing for Designers	Phoenix (AZ)	Request Registration
2002 08/01	Interactive Surface Design in Pro/ENGINEER	Phoenix (AZ)	Request Registration
2002 08/05	Fundamentals of Pro/MECHANICA Structure/Thermal Training	Phoenix (AZ)	Request Registration

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