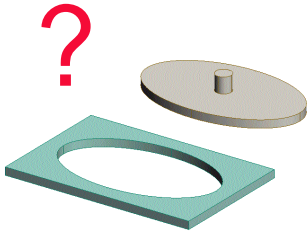




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Q: How do you assemble complex curved objects?

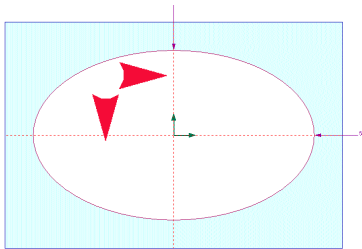
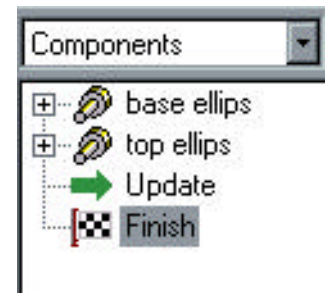


How would you assemble this?

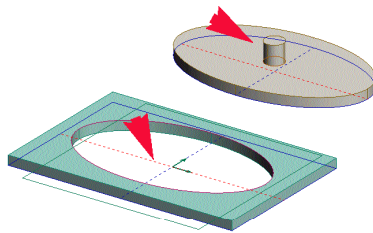
Assembling perfectly cylindrical objects in Pro/DESKTOP is easily accomplished with surfaces and the center axes command. If, however, you try to assembly surfaces of an object with curves that are not perfectly cylindrical, the center axes command will not work.

The answer to assembling objects with complex curves lies in the use of references other than surfaces during the assembly process. This will be demonstrated using a simple example of placing an elliptical part into an elliptical hole.

1. In the assembly have Pro/DESKTOP show the sketches & workplanes of the components you are trying to assemble. This is so you can use your sketch lines as references for assembling. Do this by double clicking the component name in the Component Object Browser to open the components property box. In the component properties box check the show workplanes & sketches box and click OK. Click on the select lines tool to see the component sketches. Do this for both components that you are trying to assemble.
2. Notice that when both of these components were created, center construction lines were added to both ellipses. This was done to aid in the assembly process. These construction lines can be selected and center axes will work on them. This example clearly shows why design intent needs to be captured in all designs.



When creating the components, center construction lines were added to the ellipses



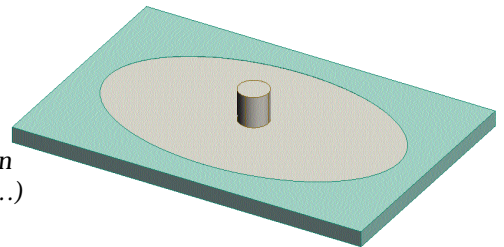
Select the center construction lines of each of the ellipses and center axes them. You must use Assembly>Center Axes from the menu bar. Right clicking will not present assembly options.

Capturing Design Intent

- Consider how a component will be assembled. Add any needed reference lines or workplanes.
- Consider how this design might be later modified. Try to make constraints that will make this easy.
- Consider any dimensional relationship and develop design rules to capture them.

3. Center Axes the major and minor center construction lines on the ellipses.
4. Align the tops of the two components and the assembly is complete.

You can also use edges or workplanes when making assemblies. The only restriction is that the selection must be of the same type (lines to lines, surface to surface etc...)



Special Thanks to Leslie Tankard for submitting this question.

Submit your questions to Steve by sending e-mail to prodesktopnet@yahoo.com

Learn even more by visiting the ProDesktop.net website

