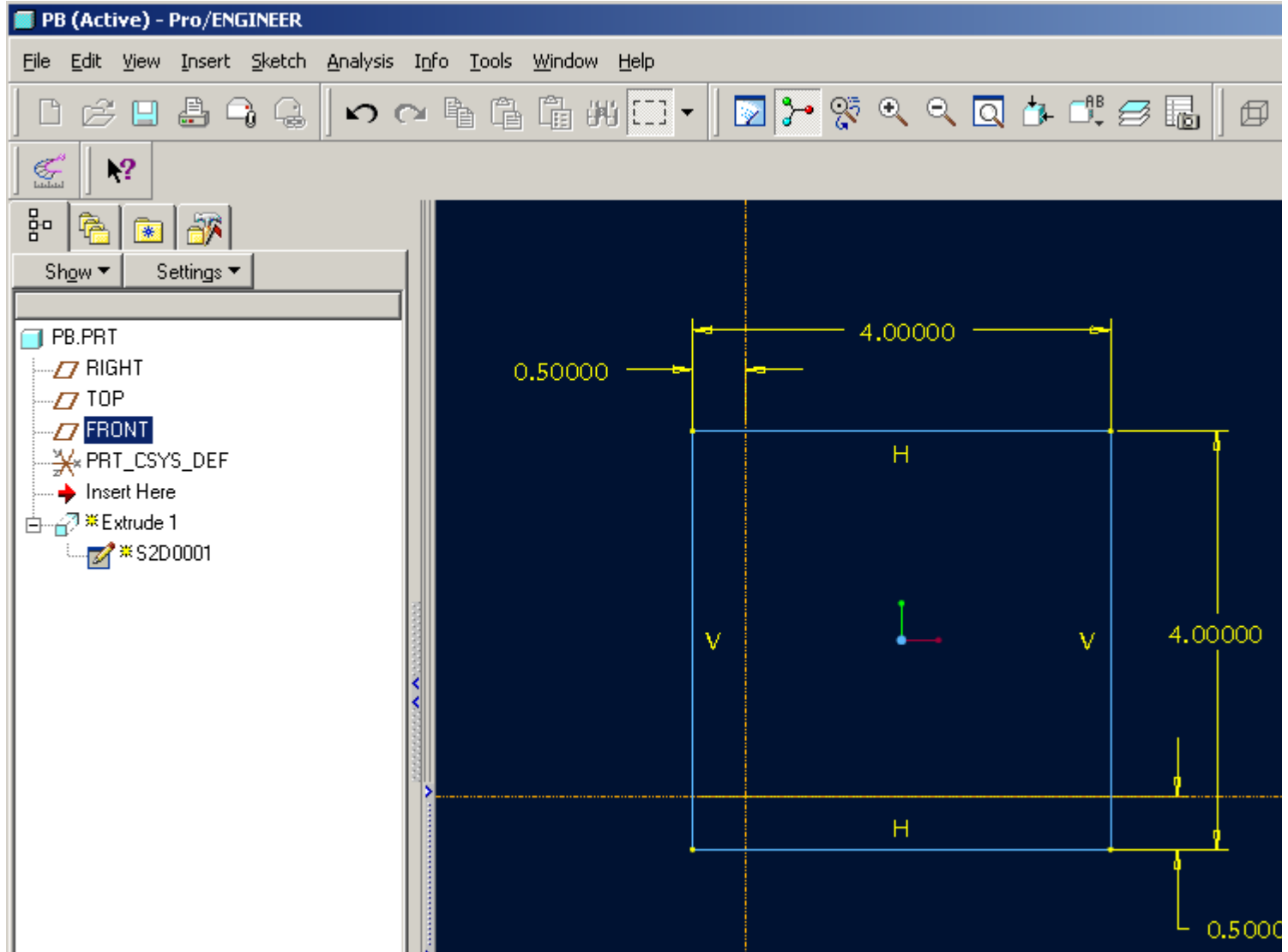


**Hole Patterns for Printed Circuit Board Models**

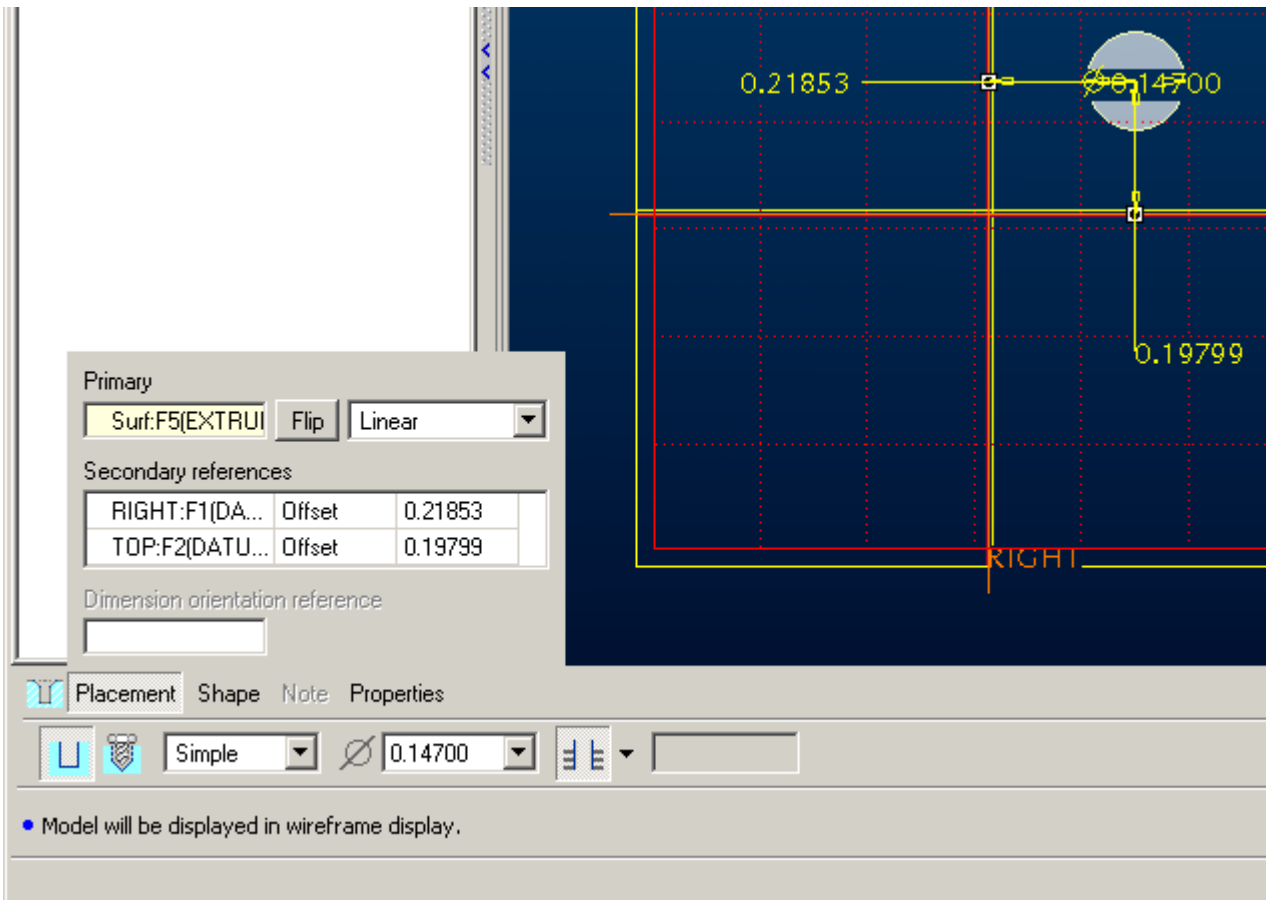
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Many times a PWB will be constructed with the mounting holes located at Z-zero, Y-zero coordinate system. To maintain the X0-Y0 mounting locations, the board outline will be shifted off-center from the Datum Planes as shown:



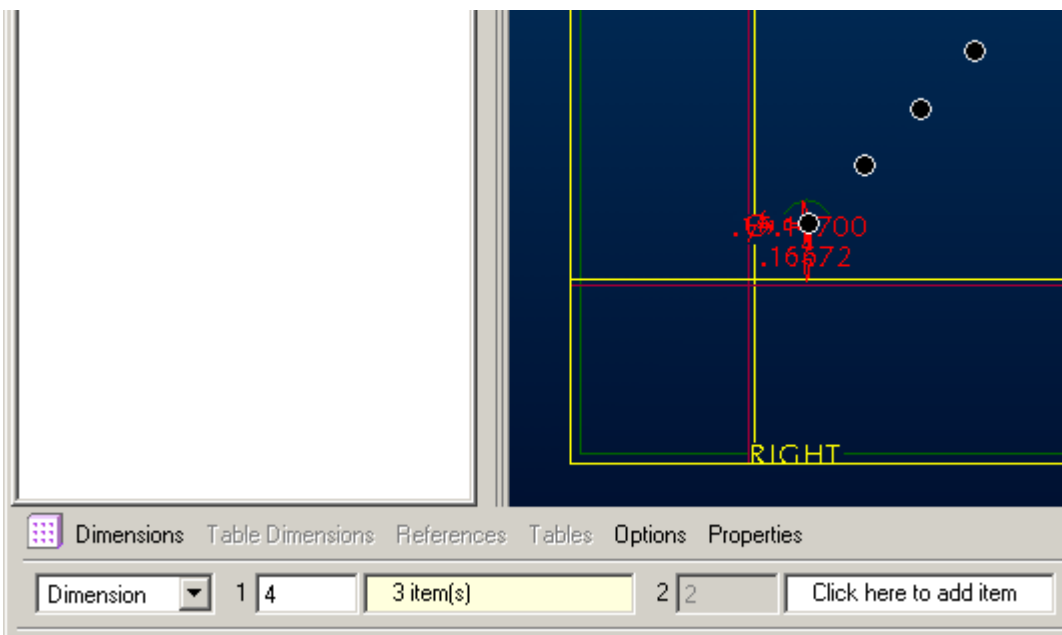
**Define the Table Pattern Leader**

Using the Hole command, place the first mounting hole on the pwb surface and offset slightly from the datum planes. Constrain the hole to the horizontal and vertical datum planes and define the hole diameter in the lower window. Change the hole depth to Thru ALL. The dimensional constraints do not need to be edited at this time.



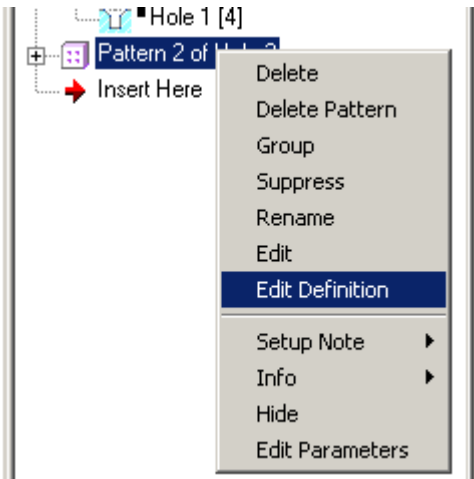
## Create the Hole Pattern

Select the hole and start the pattern command Edit > Pattern or by using the Right Mouse Button and selecting Pattern. While holding the Control Key, select the dimensional constraints locating the hole, starting with the Horizontal Dimension and then the Vertical Dimension, and finally, the Diameter Dimension. Change the Number of Pattern Members to 4 (and Enter Key) and Click the Green Checkmark to complete the pattern. This extra step will help fill the spreadsheet table when the pattern is changed to a Hole Table method.

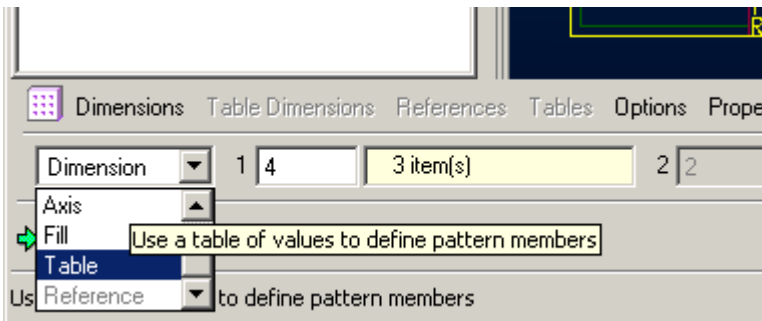


## Change the Hole Pattern to a Table

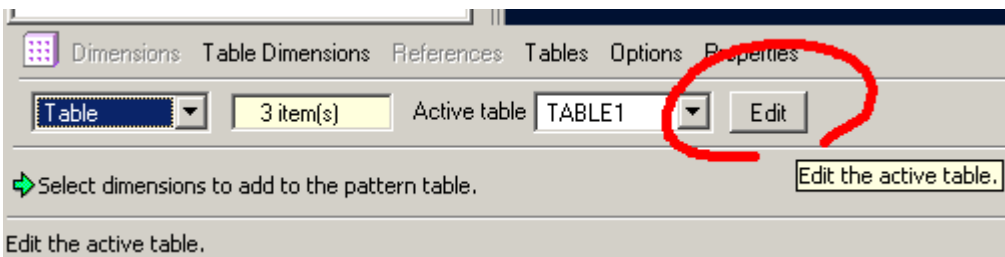
Final step is to convert the Pattern to a Table Pattern. Select the Pattern and Edit Definition.



Change the first pull-down selection from Dimension to Table.



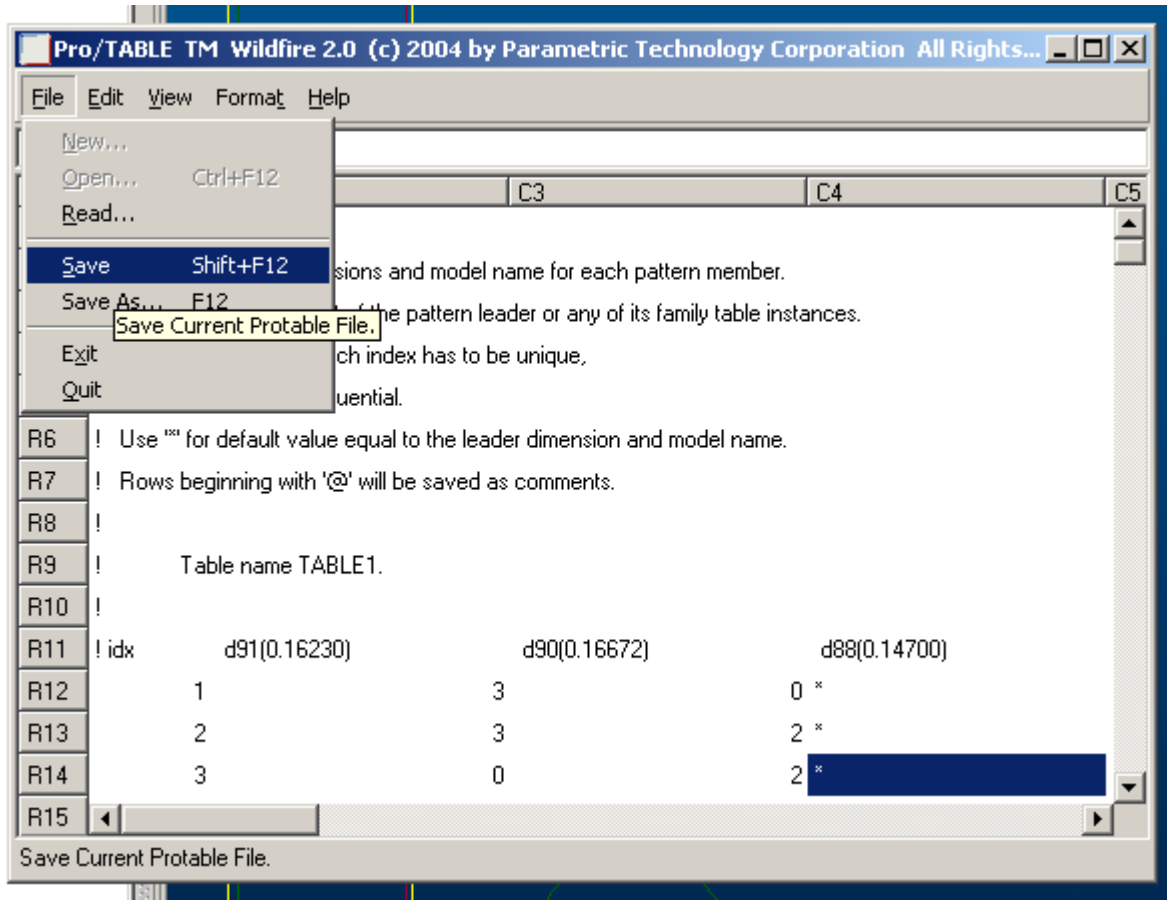
Confirm the Warning popup by selecting Yes and select the Edit button (far right) to begin editing the table.



The original hole, the Table Pattern Leader, is shown in line number R11 and the additional holes are listed below. The first column is the first selected dimension, the Horizontal placement. The second is the Vertical placement, and the third column is the Hole Diameter.

Edit the hole locations as needed except for the Table Pattern Leader, which will be modified later. Note: An asterisk in any column will use the default dimension from the master. In this case, we are keeping the hole diameter at .147.

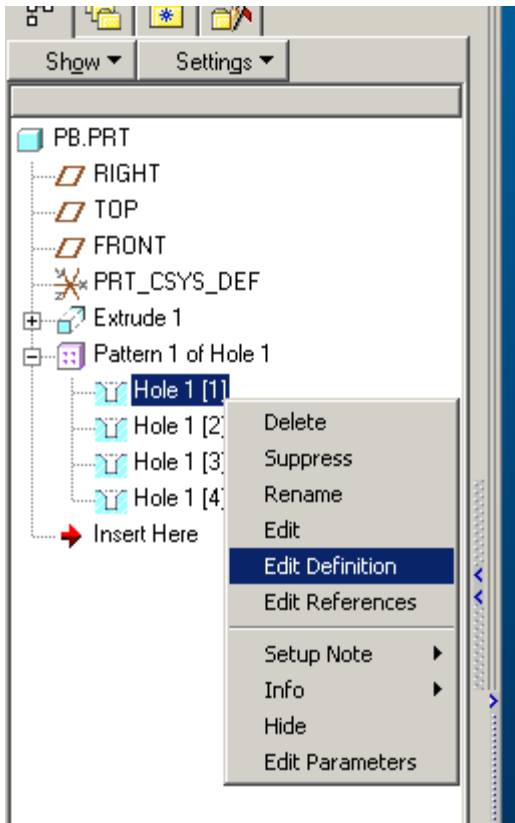
Select File Save and Exit and the pattern should update.



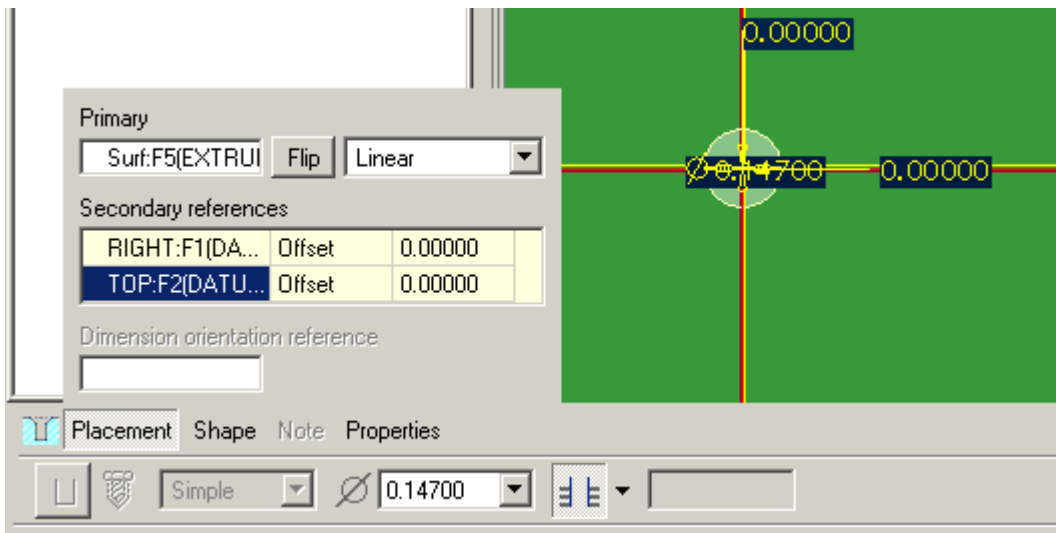
Apply the changes by selecting the Green Checkmark in the bottom right.

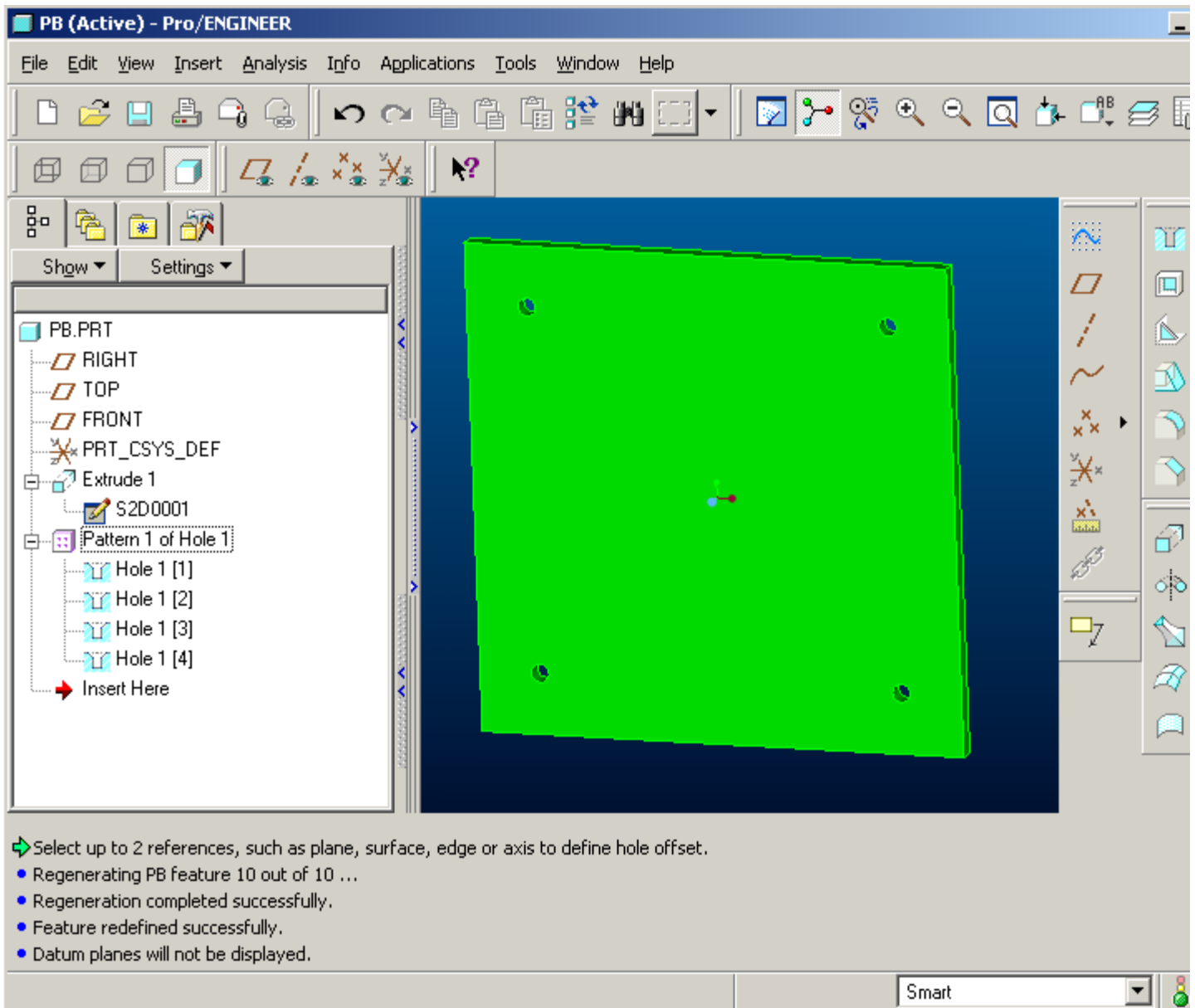
### Modify the location of the original hole

Open the Pattern in the Tree and select the original hole to Edit Definition.



Modify the dimensional constraints to locate the hole at 0.0 0.0 and complete the edit.





**Finished.**