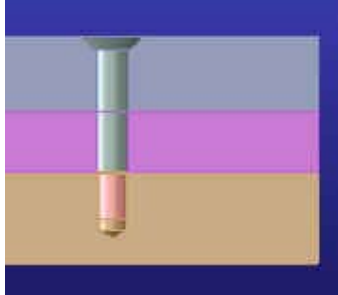


SolidGenius Tutorials

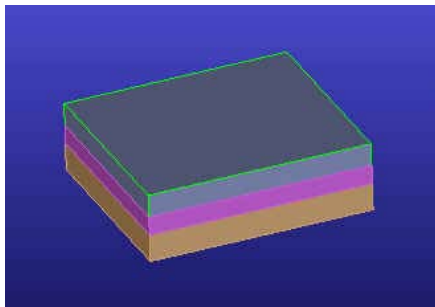
Example 3

Subject: How to make a screwed connection of 3 plates

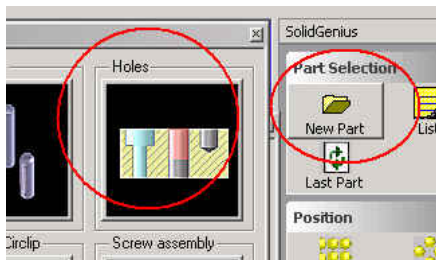


- Start SolidGenius

- Load package file “tutorial3_start.pkg” from the “Tutorials” folder under the SolidGenius installation directory – you will see 3 plates placed on top of each other



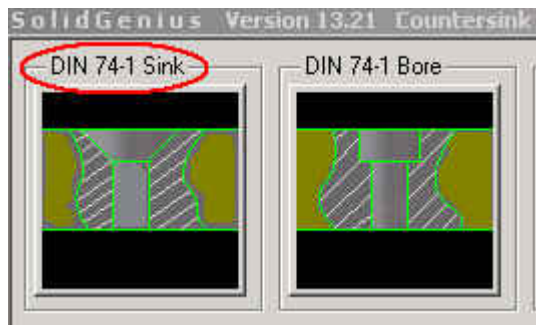
- Select [New Part] and [Holes]



- Select [Countersink Hole]

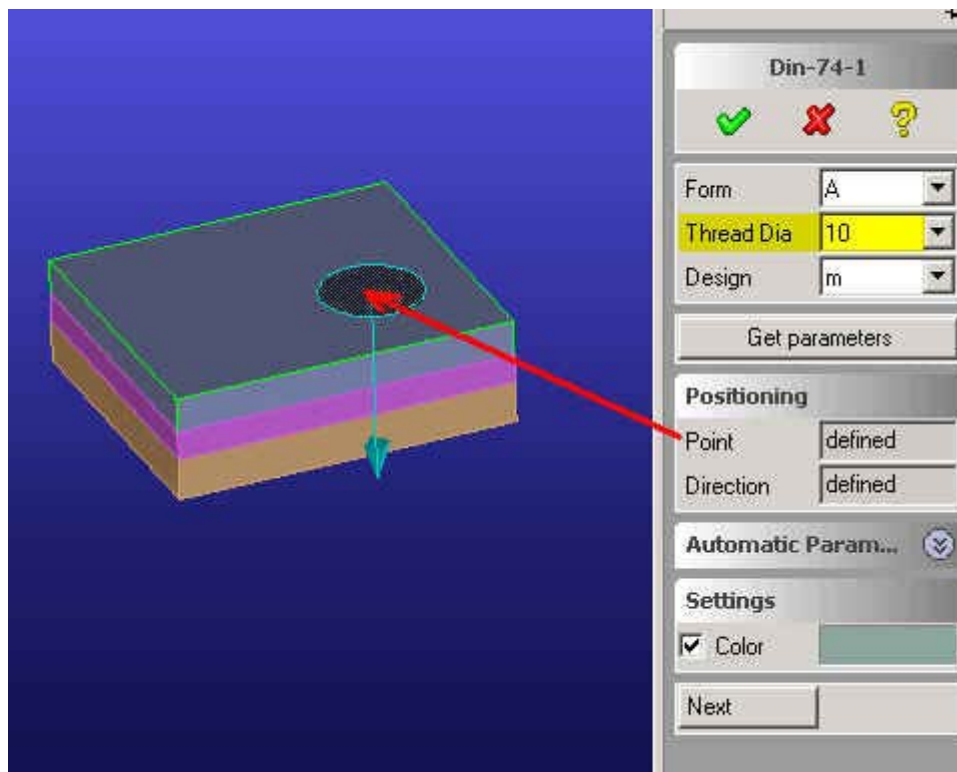


- Select [DIN 74-1 Sink]



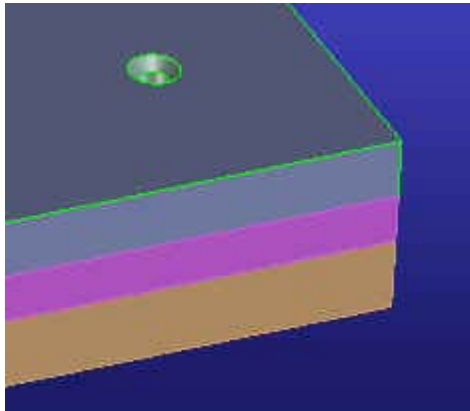
- Select thread diameter 10

Select a point on the upper plate (do not complete the function yet) ...

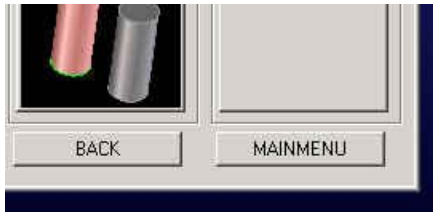


- Notice that whenever user selects a position point on an existing part, SolidGenius takes the part under the position point automatically as “Blank”. The selected faces normal direction is also automatically set as milling direction.

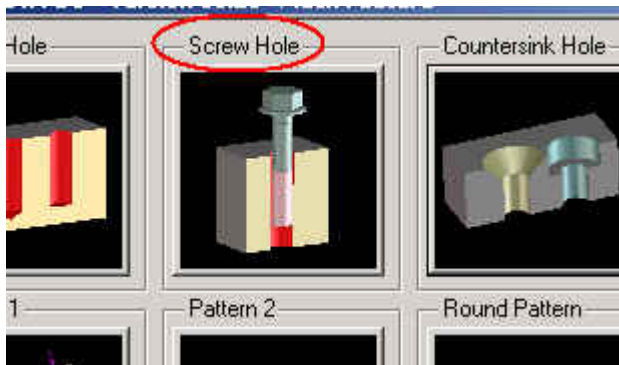
- Select [OK] to complete the dialog.
You should see the countersunk hole.



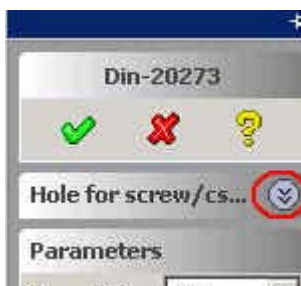
- Go back to the Holes Menu and



- .. select [Screw Hole] ...



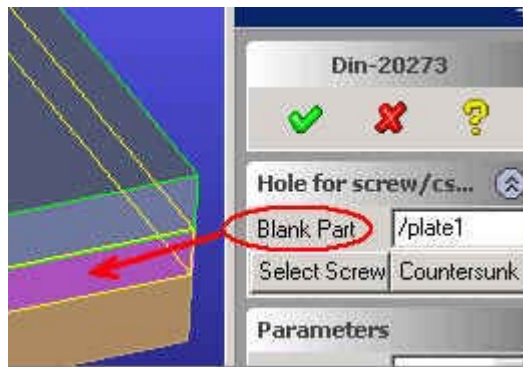
In the middle plate we want to create automatically a screw hole which is fitting to the existing countersunk hole. Select the small arrow next to the title [Hole for screw/countersunk] to open the optional parameters submenu



Optional parameters [Blank Part] [Select Screw] and [Countersunk] will be visible



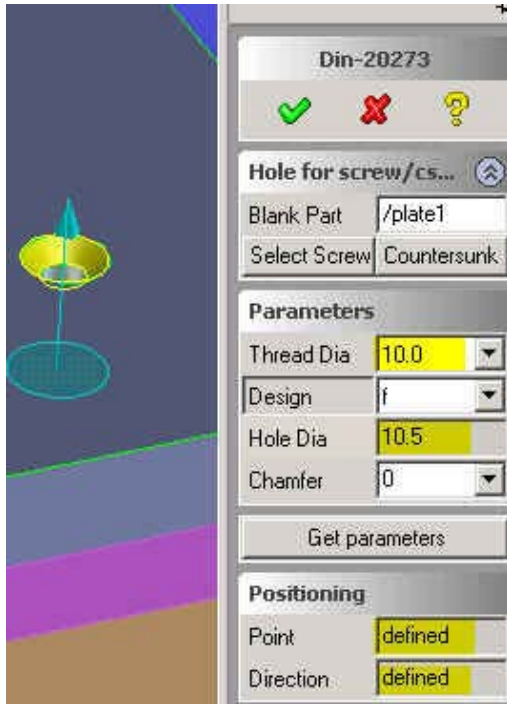
-Select option [Blank Part] and select the middle plate



-Select option and [Countersunk] and select the conical face of the countersunk hole



Notice how SolidGenius took the center and the direction automatically and selected the screw hole diameter fitting to the countersunk hole.



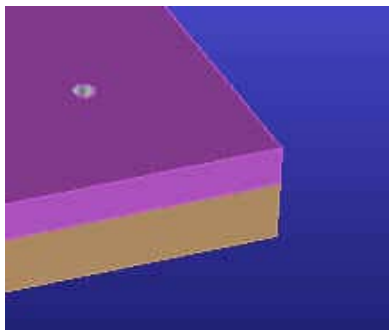
- Select [Design] and change the tolerance value from [f]fine to [m]medium



- Complete the dialog by pressing [OK] button



- You should see a screw hole in the middle plate.



Before we create the threaded hole in the lower plate, we want to add the screw and measure the thread hole depth automatically from the screw.

- Go to the main menu, select [Screws] and select [DIN 934] to call the nut dialog.

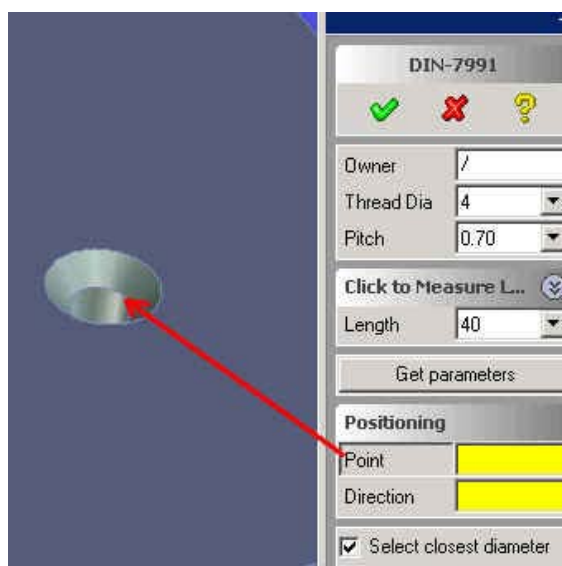


- Select [DIN 7991]

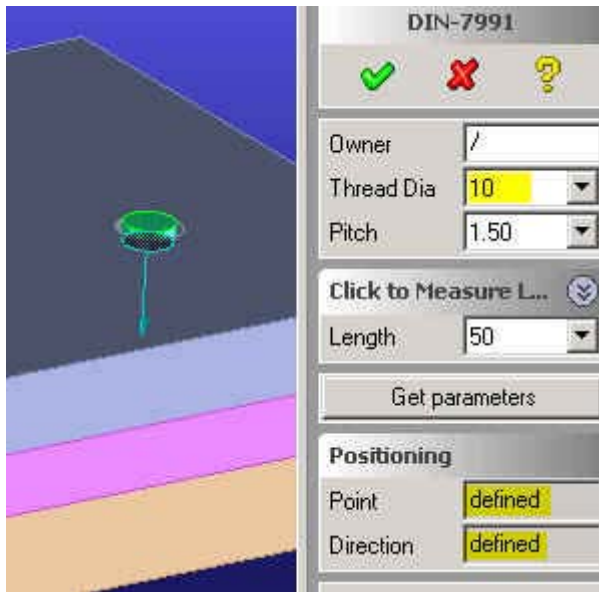


- Without setting any parameters, simply select the lower circular edge of the countersunk hole as screw position.

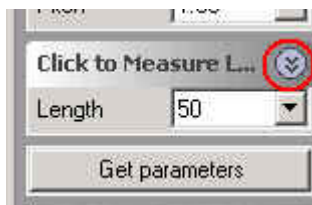
You **don't have** to catch the midpoint of the edge by using [CTRL-SHIFT] !
It is enough simply click the circular edge !



Notice how SolidGenius took the center and the direction automatically and selected the screw diameter fitting to the hole.



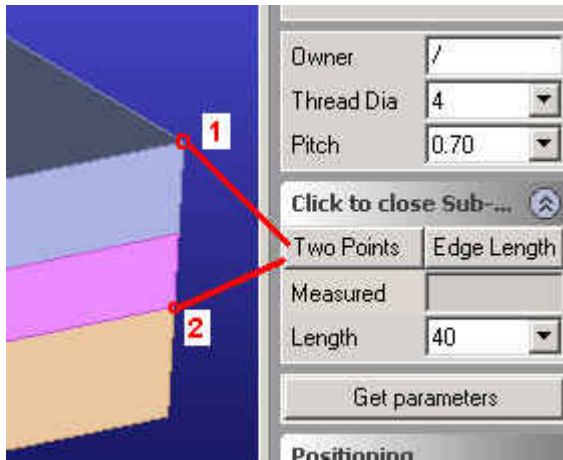
Since there is not enough information SolidGenius could not set the length value correctly. To set the correct length of the screw, open the optional length submenu by pressing the little arrow at the title 'Click to measure length'



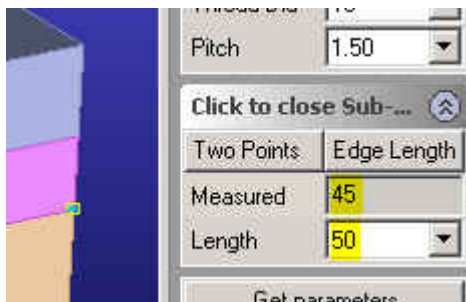
Optional functions [Two Points] and [Edge Length] for easy length calculation will be visible



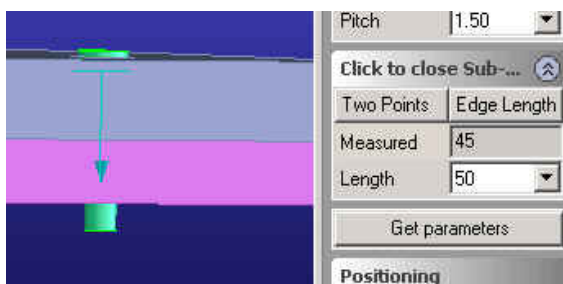
- ... select [Two Points] and select the points marked [1] and [2] to measure the rough length.



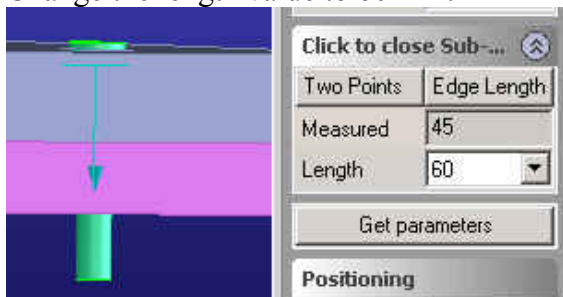
Notice how SolidGenius measures the length between 2 points as 45 mm and selects the next available length value (50 mm) from the drop down list automatically.



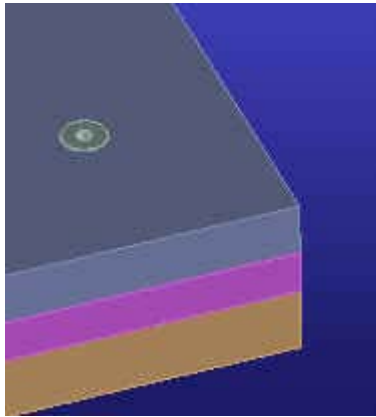
Switch off the lowest plate to see the green colored screw feedback to check the length of the screw visually.



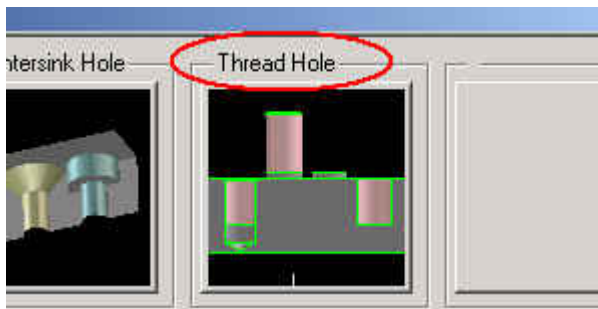
Change the length value to 60 mm.



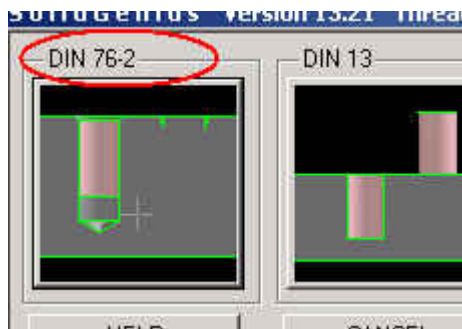
Accept the dialog by pressing [OK]
You should see the correctly placed screw.



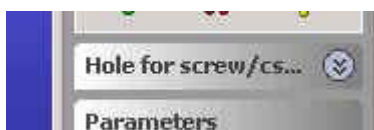
Now we want to create the threaded hole in the lowest plate.
Go back to the main menu, select [Holes] and [Thread Hole]



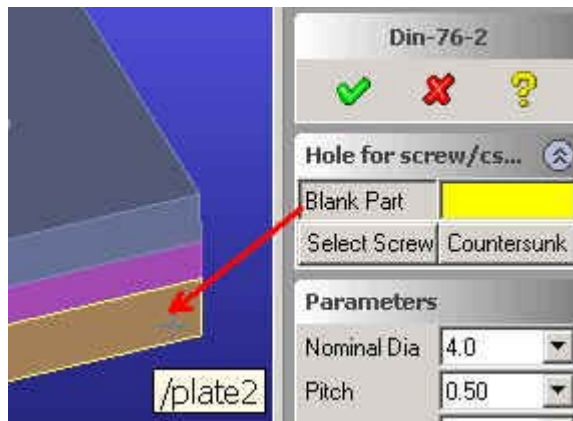
Select [DIN 76-2]



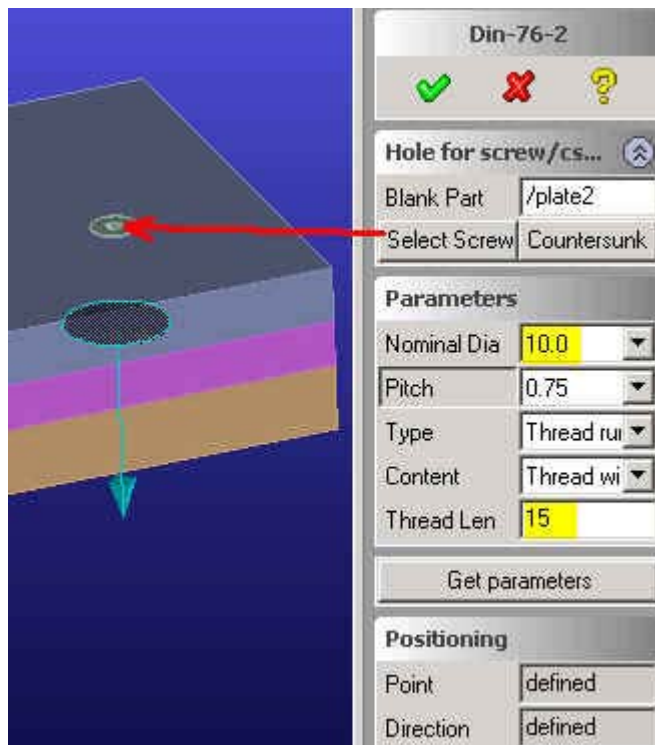
- Open the optional parameters submenu by pressing the little arrow next to the title "Hole for screw/csunk".



Select option [Blank Part] and select the lowest plate.



This time we will use the existing screw for position, direction and length calculation. Select option [Select Screw] and click the existing screw.



Notice how SolidGenius calculated the necessary threaded hole depth by calculating the inserted length of the screw.

- Accept the dialog by pressing [OK]. We are finished now !

Check the result.

