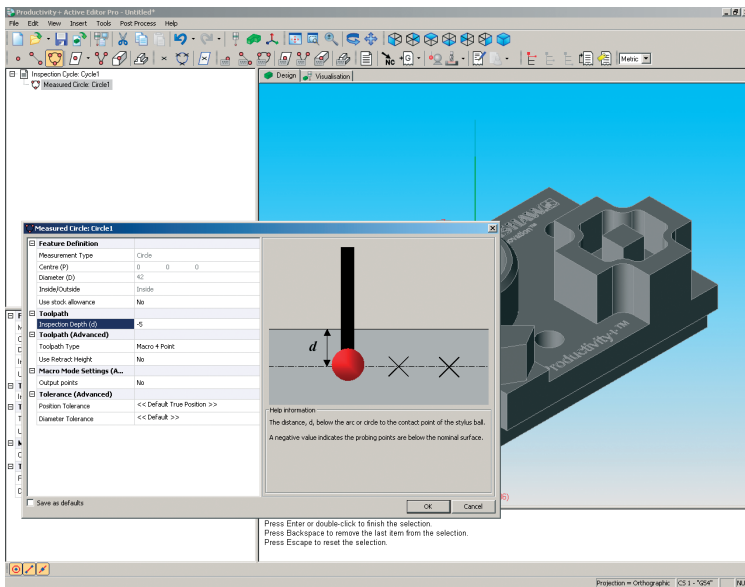


## Checking the program

Once you have created a probing routine with Productivity+™ Active Editor Pro, it is possible to visualise it for collision detection. This module takes users through the collision detection process.

Having completed this module you will be able to:

- Run Visualisation to detect probe collisions with the component

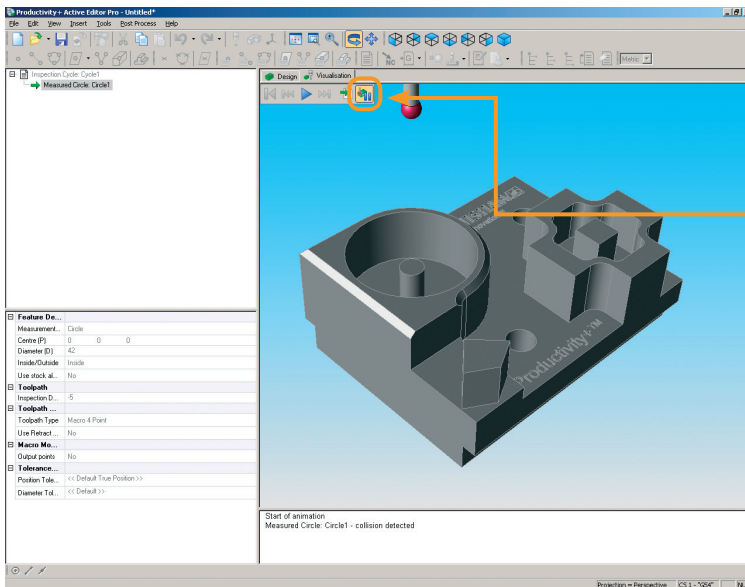


## Collision detection

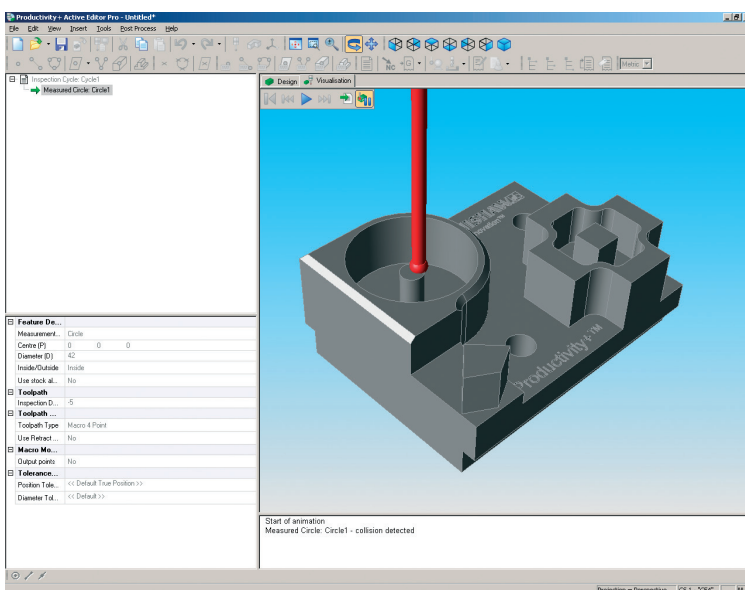
Before a generated program is run on a machine tool the probe path can be simulated on the PC to ensure that the probe and stylus do not collide with the component.

### Example 1

Select the Measured Circle icon and navigate the cursor to select the top edge of the large bore. Double click (or single click and Enter) to open the dialog box. Set the inspection depth to -5, and the Toolpath Type to Macro 4 Point. Select OK.

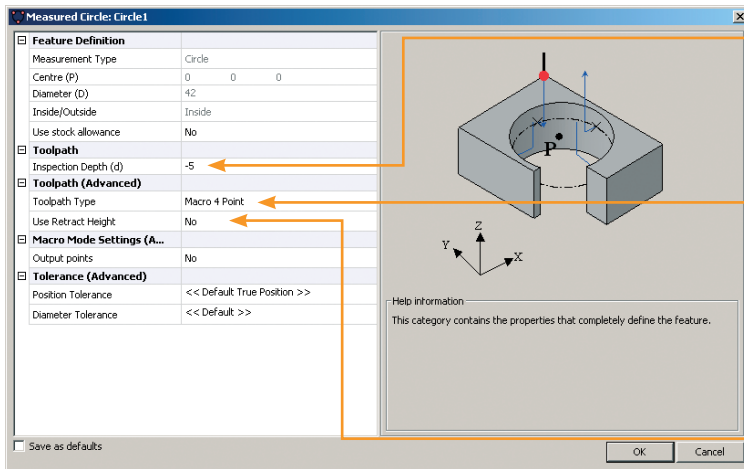


Click on the Visualisation tab to the top of the Model Viewer window. A stylus image appears. (Actual image is dependant on probe/stylus set-up.) Press the Play icon in the Visualisation tab toolbar (ensuring that the 'Pause on collisions' icon is highlighted).



The stylus collides with the component indicated by the probe and stylus turning red and stopping at the collision point.

Click on the Design tab to enable editing of the program. There are a number of options for editing the program and avoiding the collision.



### Option 1

Amend the inspection depth (from -5 to -2). This is perhaps the easiest and least restrictive method.

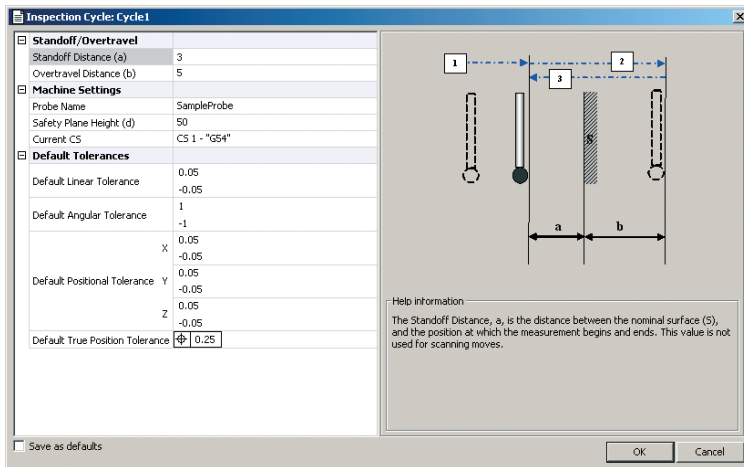
### Option 2

Change Toolpath Type to, for example, Shortest Distance, Linear or Circular. However, use of these options can restrict some reporting features offered by the software.

### Option 3

Change Use Retract Height field to Yes. This causes the probe to retract upwards during movement to stay clear of the component.

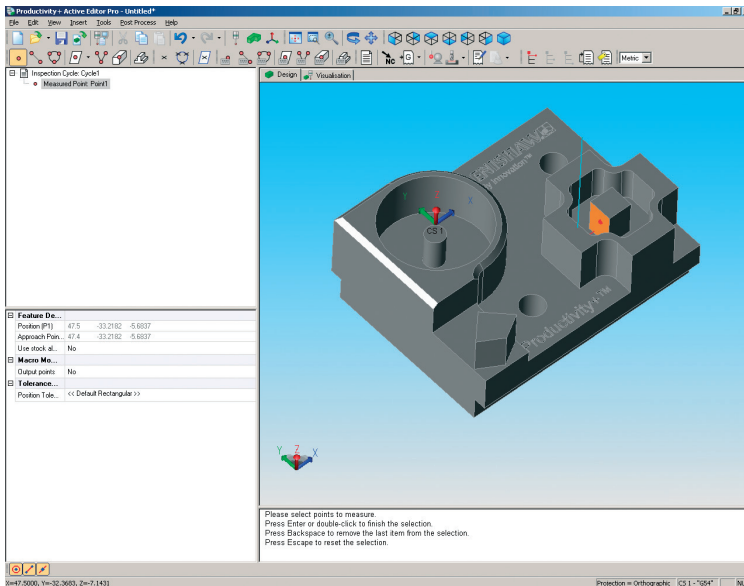
Select one of the options from above, make the recommended change to the Measured Circle feature and run Visualisation again. The probe will complete the routine without collision.



## Example 2

Delete the circle element from the process tree and double click (or single click and Enter) on InspectionCycle:Cycle1.

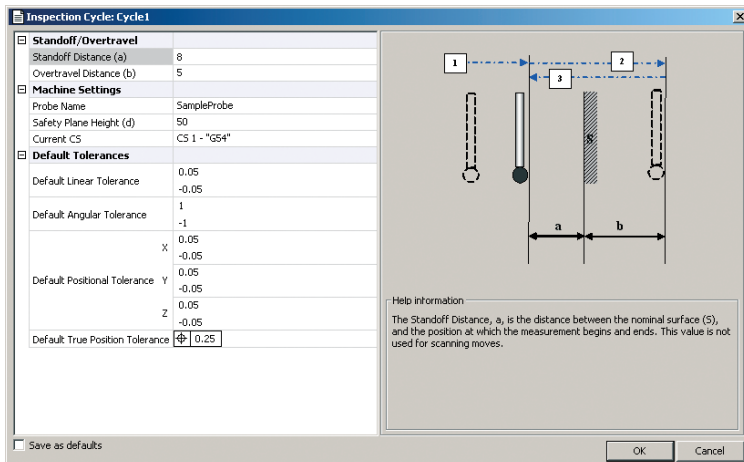
Change the value in the Standoff Distance (a) field from 3 to 8. Select OK.



Select the Measured Point icon and double click (or single click and Enter) on the face shown. Select OK from the resulting dialog box.

In the Model Viewer window you can see that the probe path appears to go through the model.

Run Visualisation: the probe collides with the top face of the component.



Open the InspectionCycle:Cycle1 dialog (double click or single click and enter). Change the Standoff Distance (a) field back to 3.

Run Visualisation again: no collision.

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