





# 1 SCR200



The Renishaw SCR200 tip change rack is used with the Renishaw TP200 Analog Touch Trigger Probe system. The SCR200 requires additional components to monitor various signals from the rack and control inhibiting of the probe during tip changes.

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## **See Also**

***Installing the SCR200 Rack***

***Configuring the SCR200 Rack***

***Teaching the SCR200 Rack Location***

***Loading Components into the SCR200 Rack***

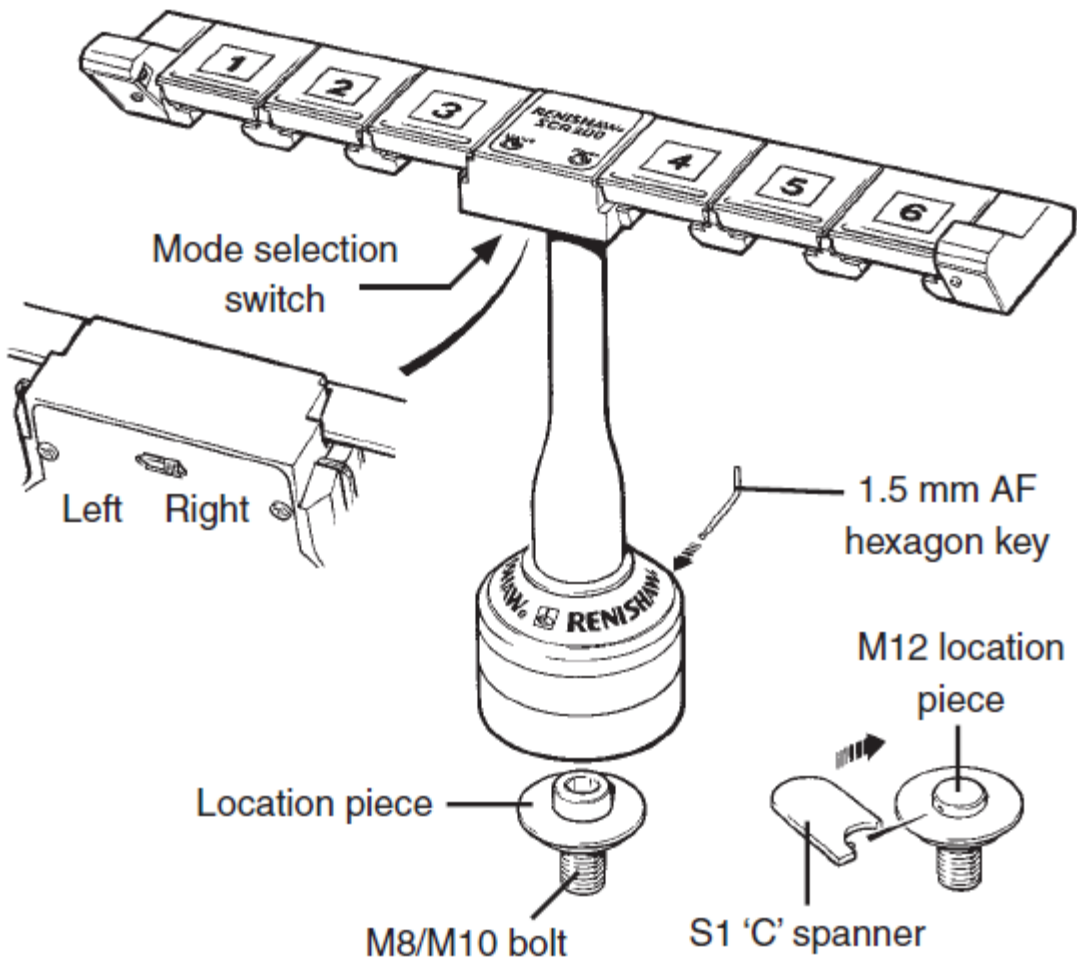
## 1.1 Installing the SCR200 Rack

Physical installation of the SCR200 rack is easy, and all tools required to mount the rack to the CMM Table are supplied in the kit.

A location for the rack should be chosen that allows for easy access, but clear from the main working area of the table. Be sure you chose a mounting point that will allow enough travel to fully seat a tip module in the rack without exceeding the machine volume limits. That rack will normally be mounted along one side or the rear of the machine with the open end of the ports facing 'in'.

After selecting an appropriate location, mount the conical base plate to the table using the supplied hardware (Cone face down). Be sure you use a mounting screw with the correct threads for your machine. The SCR200 base will now set down over the the base plate. Use the small set screw in the base to lock the rack in position. You will adjust the rack squareness to the machine during the **Teach Rack Location** phase of the installation.

The SCR200 rack requires additional control hardware and wiring. The configuration varies depending on exact requirements. Full details are available by contacting the Nikon CMM Service department, or your authorized Nikon / Renishaw integrator.



## 1.2 Configuring the SCR200 Rack

Note: If you are using an SCR200 rack with a system that is using the I++ protocol, configuration is done in the I++ Server software.

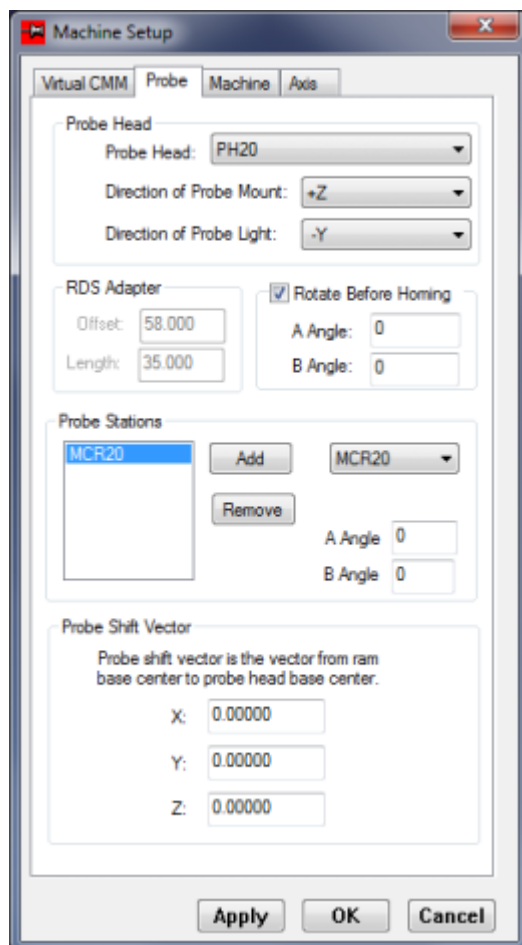
The following steps are required to configure the SCR200 rack for use.

- **Making the SCR200 available to CMM-Manager**
- **Assigning modules to a port (SCR200)**

### 1.2.1 Making the SCR200 available to CMM-Manager

The first step is to let CMM-Manager know that a rack has been installed. This is done from System > Setup > Machine Setup on the Ribbon bar.

Select the Probe tab from the Machine Setup dialog, select the type of rack you have installed, and click ADD to add the rack to the list of available racks. More than one rack may be installed at one time. Depending on the probing system, the racks may be mixed and matched.



Probe modules which utilize the SCR200 rack typically do not require the A and B angle to be set for docking.

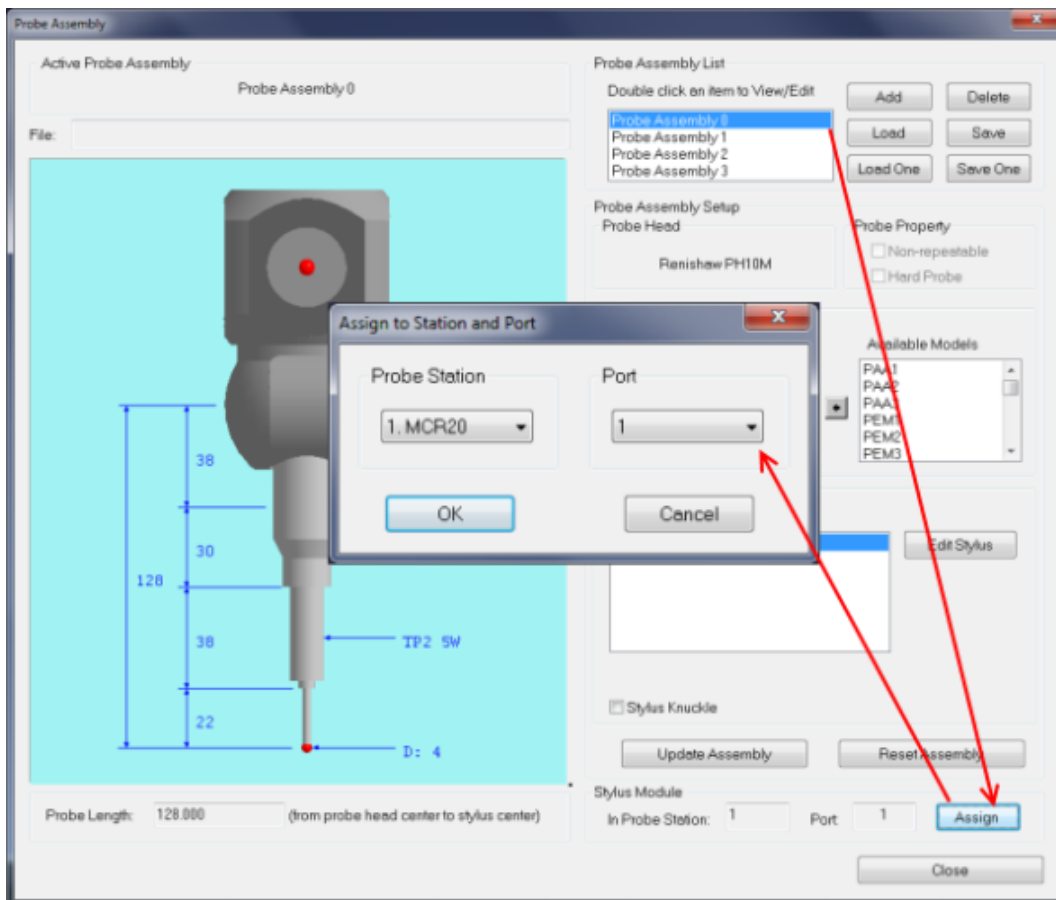
Once you have added any racks to the Machine Setup, click Apply to save the changes, then click OK to close the dialog.

## 1.2.2 Assigning Components to a Port (SCR200)

Next we need to assign the port to use to store the various tip modules. Not all ports must be filled and not all tip modules must be assigned a port.


Note: If a tip module is not assigned to a port and that tool is requested during a program the user will be prompted to manually place that tip module on the tool


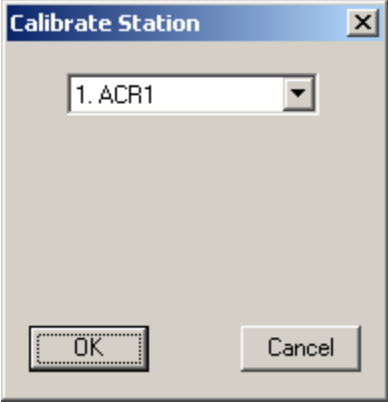

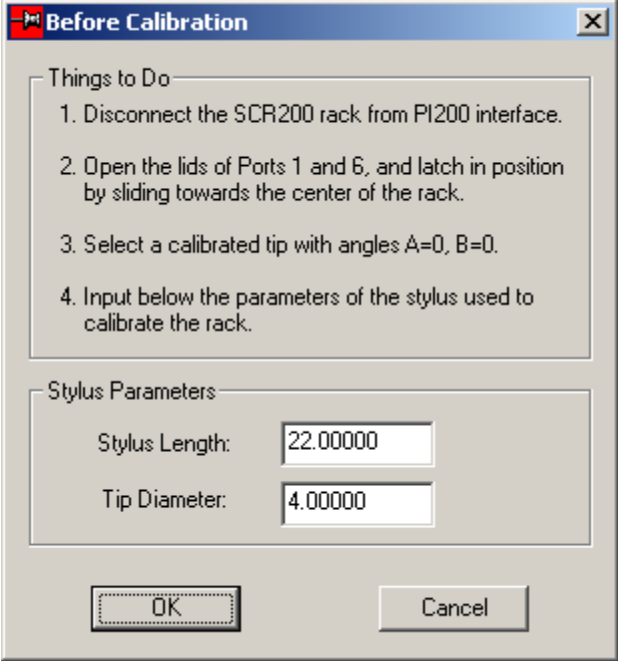
After creating definitions for all of the available tools using the Probe Assembly dialog, select each tool in turn, click assign, then select the probe station and the port that will be used to store that tip. Click OK on the Assign Station and Port dialog then continue through the rest of the tools in the same manner.




Tips will be loaded into the correct ports later.

## 1.3 Teaching the SCR200 Rack Location


 Before attempting this procedure, you must have added an SCR200 Probe Rack in Machine Setup.

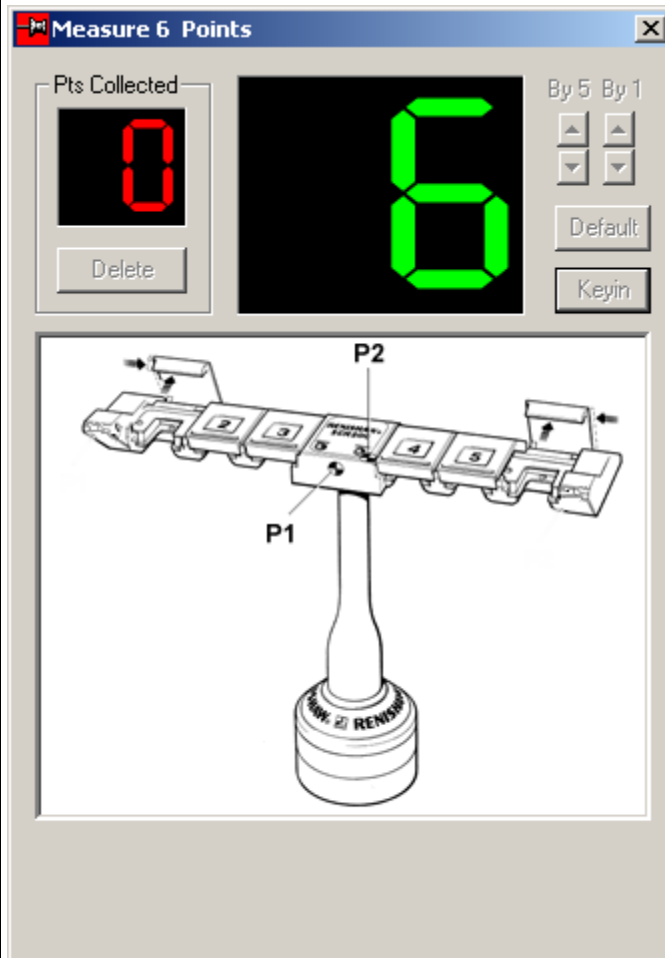
Step	Action
1	<p>Select <b>Probe Tab</b> ▶ <b>Rack Group</b> ▶ <b>Calibrate</b> in the Ribbon Bar (or click the Calibrate Station button in the Probe Station dialog)</p> <p> The Calibrate Station dialog pops up.</p> 
2	<p>Select the SCR200 probe rack to calibrate from the dropdown list and click <b>OK</b>.</p> <p> The Before Calibration dialog pops up.</p> 

3	<p>Follow the procedures listed in <b>Things to Do</b> to prepare for calibration.</p> <p> The <b>Stylus Parameters</b> are automatically retrieved from the active Probe Assembly, and may be overridden by typing the values in the input boxes:</p> <ul style="list-style-type: none"><li>• <b>Stylus Length</b> - the length of the stylus module, from the mounting surface to the stylus ball center.</li><li>• <b>Tip Diameter</b> - the diameter of the stylus tip.</li></ul>

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Click the **OK** button.


 A measurement counter illustrating points P1 and P2 on an SCR200 Probe Station appears.

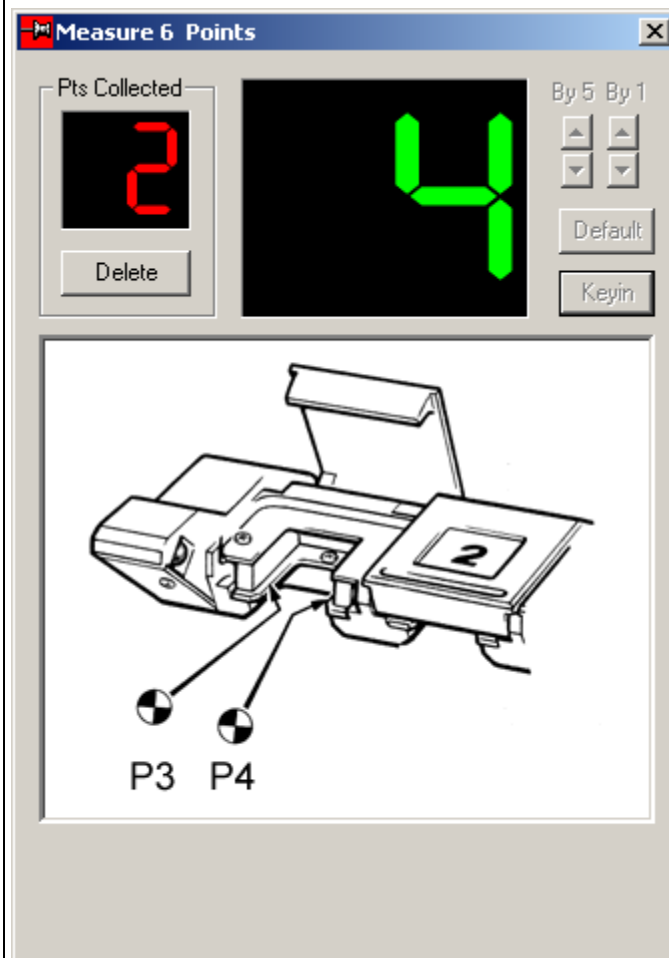


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Measure the following points:

- P1 on the front surface.
- P2 on the top surface, making sure not to touch the label.

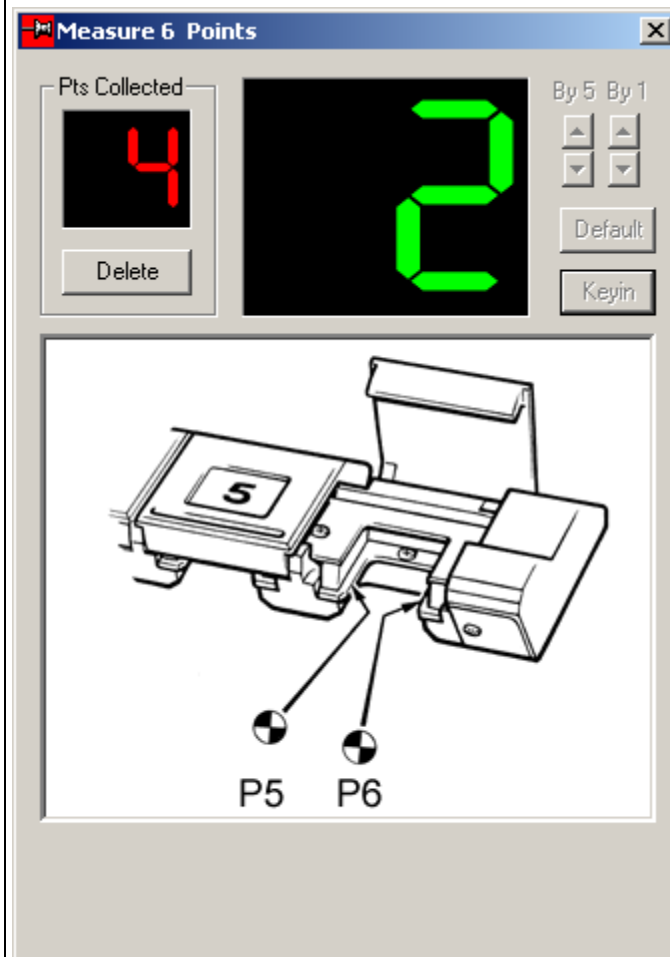
 The counter illustration changes to show points P3 and P4:



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Measure points P3 and P4 using the stylus shank to gauge the edges of the module retention plate in Port 1.

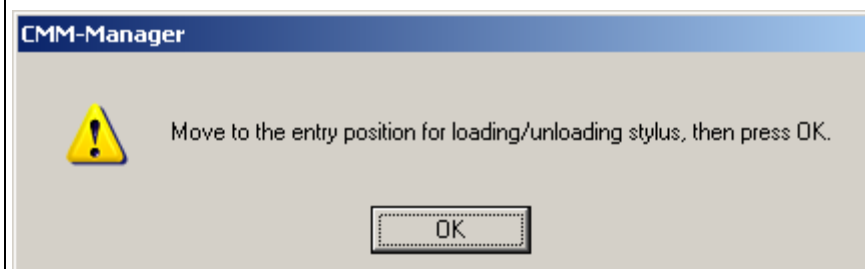
 The counter illustration changes to show points P5 and P6:




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Measure points P5 and P6 using the stylus shank to gauge the edges of the module retention plate in Port 6.

 The **Move to the entry...** message box appears.



8	<p>Move the probe to the desired entry position, where the path for changing probe is clear, and click the <b>OK</b> button.</p> <p> The calibration is completed; the probe station status changes to calibrated.</p>
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## 1.4 Loading Components into the SCR200 Rack

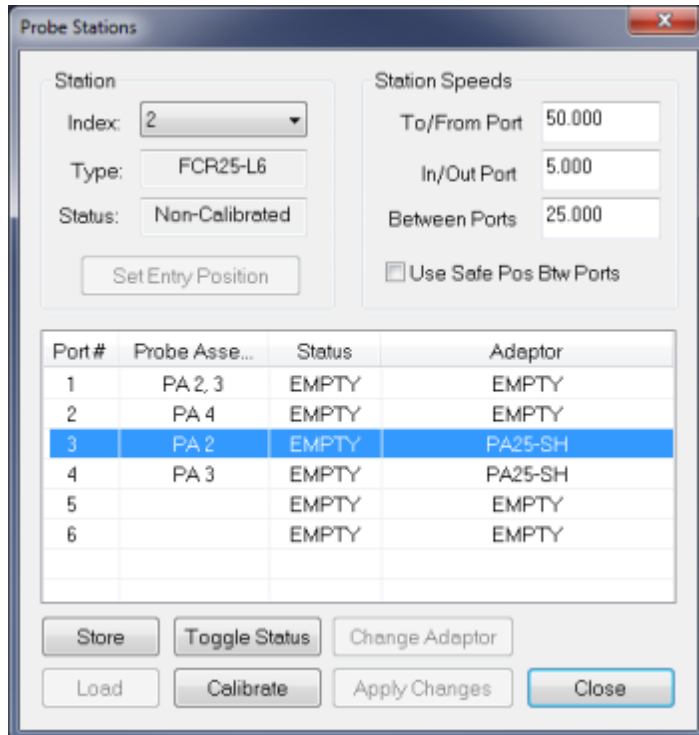
It is recommended that modules and tips are initially loaded into the rack by the machine. If the user manually places the component into the rack, it may not be in the correct position or orientation for pickup. If the machine places the component, it will be correctly positioned for pick up when next used.

Before the rack is loaded with tools it must first be configured properly and it's location taught. For detailed instructions see the following topics.

- **Configuring the SCR200 Rack**
- **Teaching the SCR200 Rack Location**

Once the proper setup is complete we can begin loading the rack.

From the Ribbon Bar, select Probe > Rack > Configure. The following dialog will be displayed.



Port #	Probe Asse...	Status	Adaptor
1	PA 2, 3	EMPTY	EMPTY
2	PA 4	EMPTY	EMPTY
3	PA 2	EMPTY	PA25-SH
4	PA 3	EMPTY	PA25-SH
5		EMPTY	EMPTY
6		EMPTY	EMPTY

Select the Probe Station (rack) to be used. The Station speeds will usually have reasonable default values for the tool docking process.

In the table, highlight the Port # to be used to store a tool.

Note: The values which are pre-configured in this table were set in the topic ***Assigning components to a port***

Click [STORE]. The user will be prompted to manually attach the component to the tool. After clicking OK, the machine will move to the rack and store the tool in the proper port.

Continue through the list storing the tools in their proper locations. Be sure to do this for all racks when multiple racks are used.

Once this process is complete, you may click Apply Changes and then Close this dialog.

To begin using the machine, from the Ribbon Bar select Probe > Probe group > Get Probe Assembly. Select the desired probe from the drop-down list and click OK. The machine will then go and automatically load the proper tool.

Any other Get Probe Assembly commands used in a program will cause the machine to automatically do a tool change.

**WARNING:** When writing a program, be sure there is a clear path to the probe rack when selecting a new tool. It may be necessary for the programmer to add their own clearance moves to ensure a collision free tool change.