

# MCOSMOS

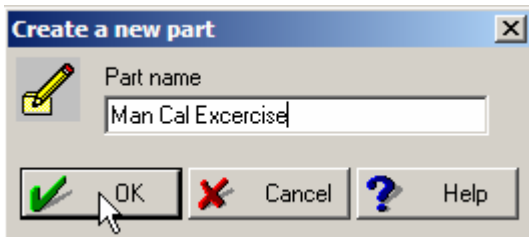
## Manual Calibration Exercise

Before we can begin taking measurements we calibrate the stylus. We are going to create a archived probe file that we will use during the rest of the exercises in this book. Please view the video file for this exercise and follow through in the book before attempting the exercise. This exercise is for a Manual machine or a CNC machine with a manually rotating probe head. If you have a CNC machine, but do not have an automatic rotating head, you must use the manual probe calibration exercise.

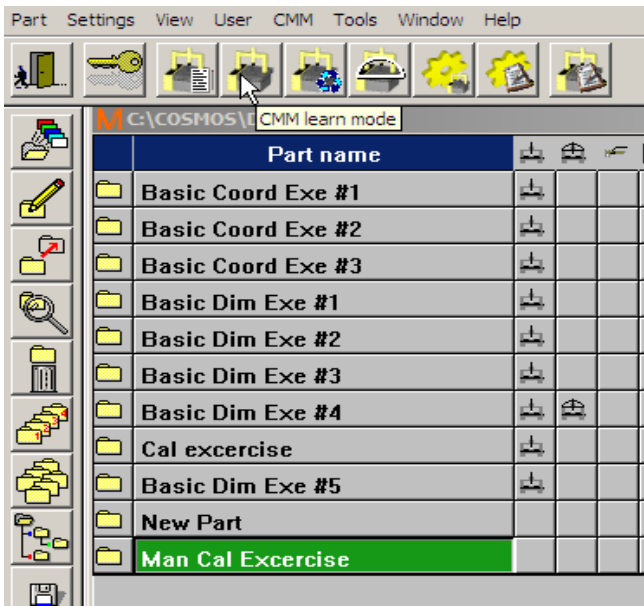
Step 1. From the Part Manager screen click the *Create a new part* icon as shown.



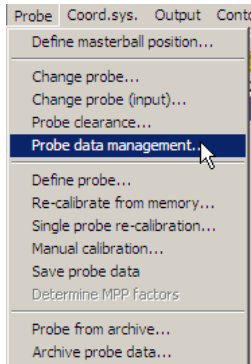
Step 2. Once this screen appears change the name from *New Part* to *Man Cal exercise* then select OK.



Step 3. The program should be highlighted in green as shown here. Now you need to click the Learn Mode icon as shown here.



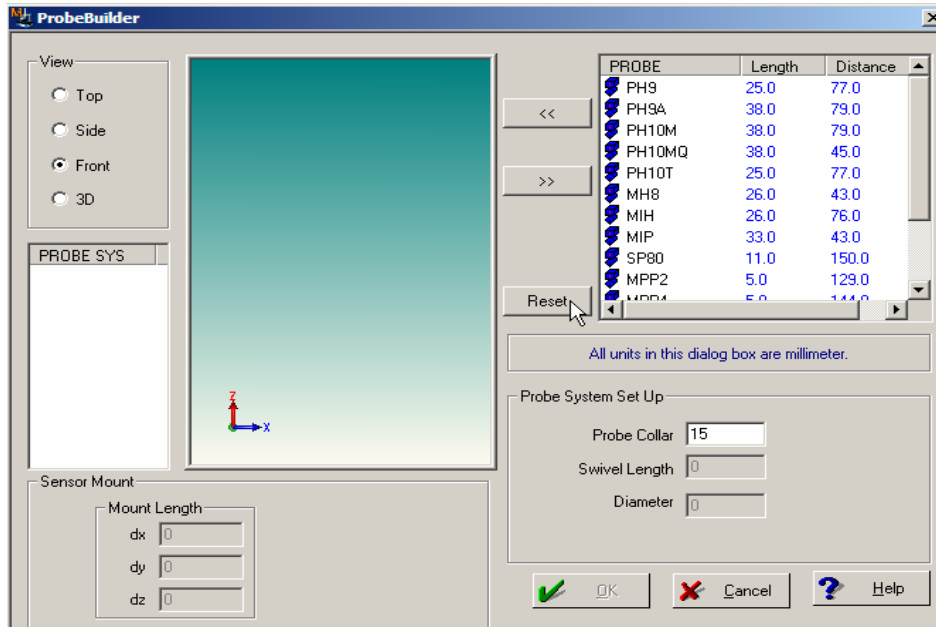
Step 4. Now you should be in Learn Mode. Let's begin by selecting the pull down 'Probe' and then select *Probe data management*.



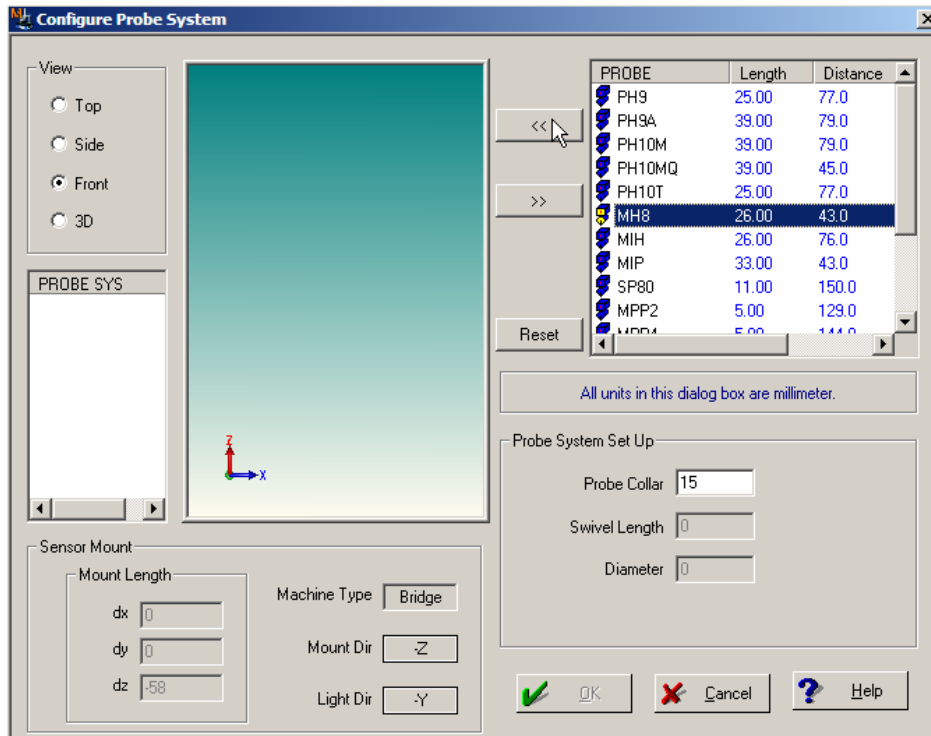
Step 5. When this screen appears click the **Probe Builder** button in the top right corner.



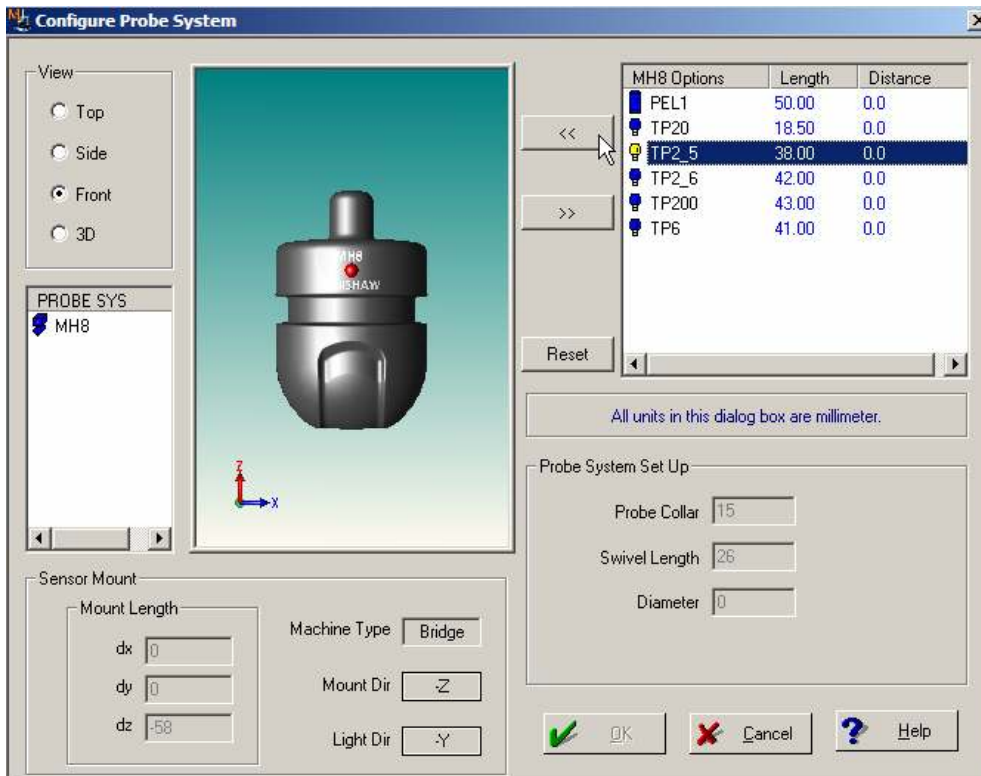
Step 6. When this screen appears click the **Reset** button that the pointer is on.



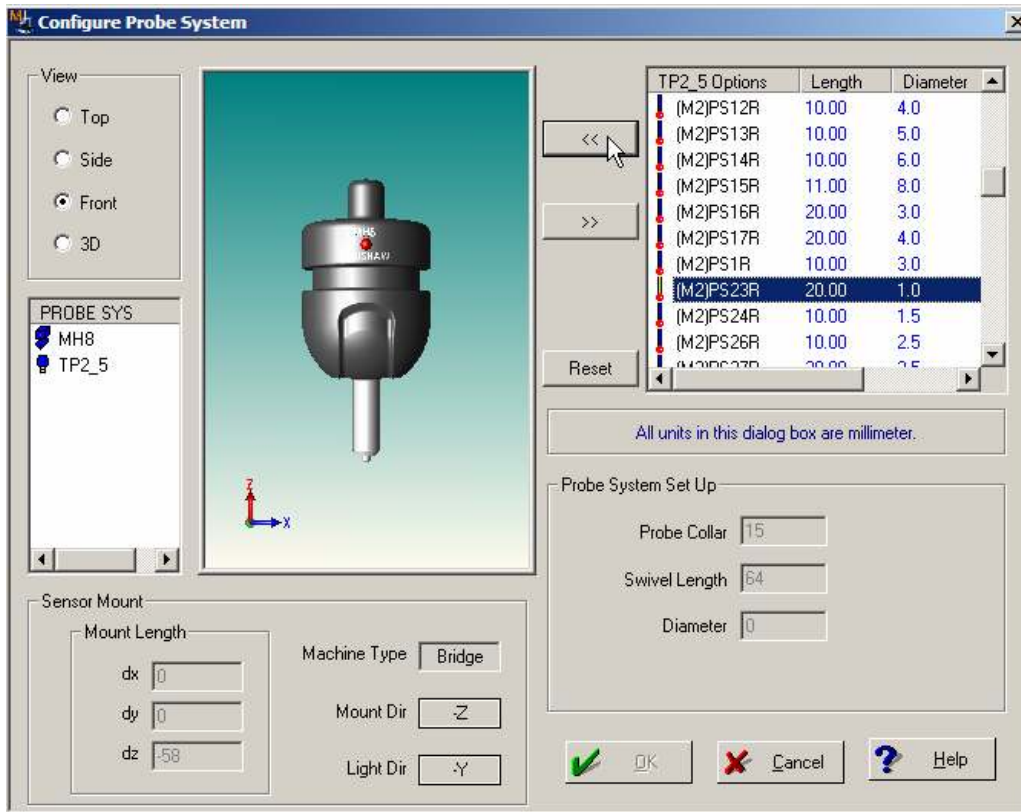
Step 7. When this screen appears highlight the probe head that you have and then click the **arrow** button that the pointer is on.



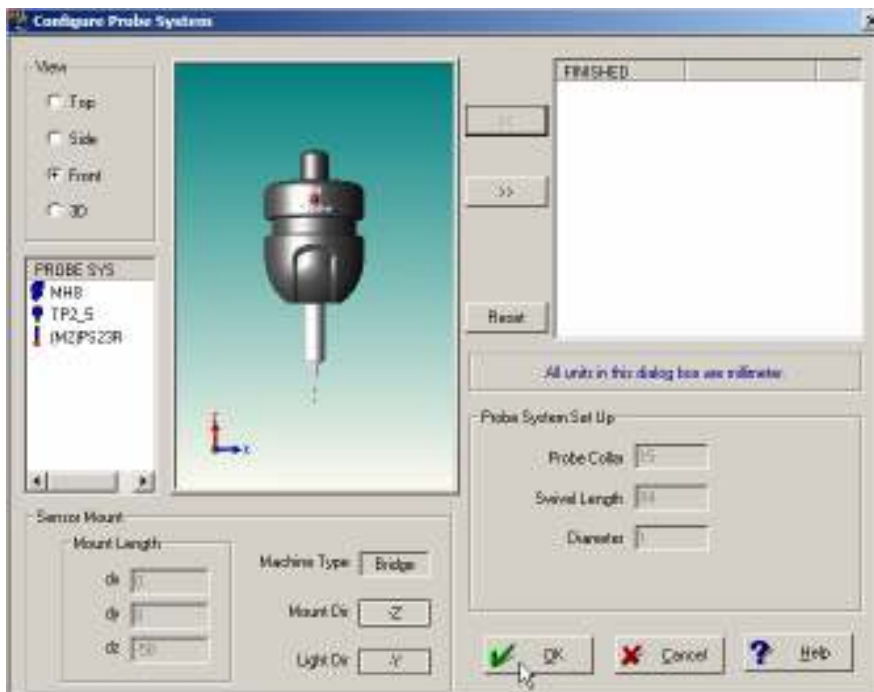
Step 8. If you have a head that requires touch probe highlight it and then click the **arrow** button that the pointer is on.



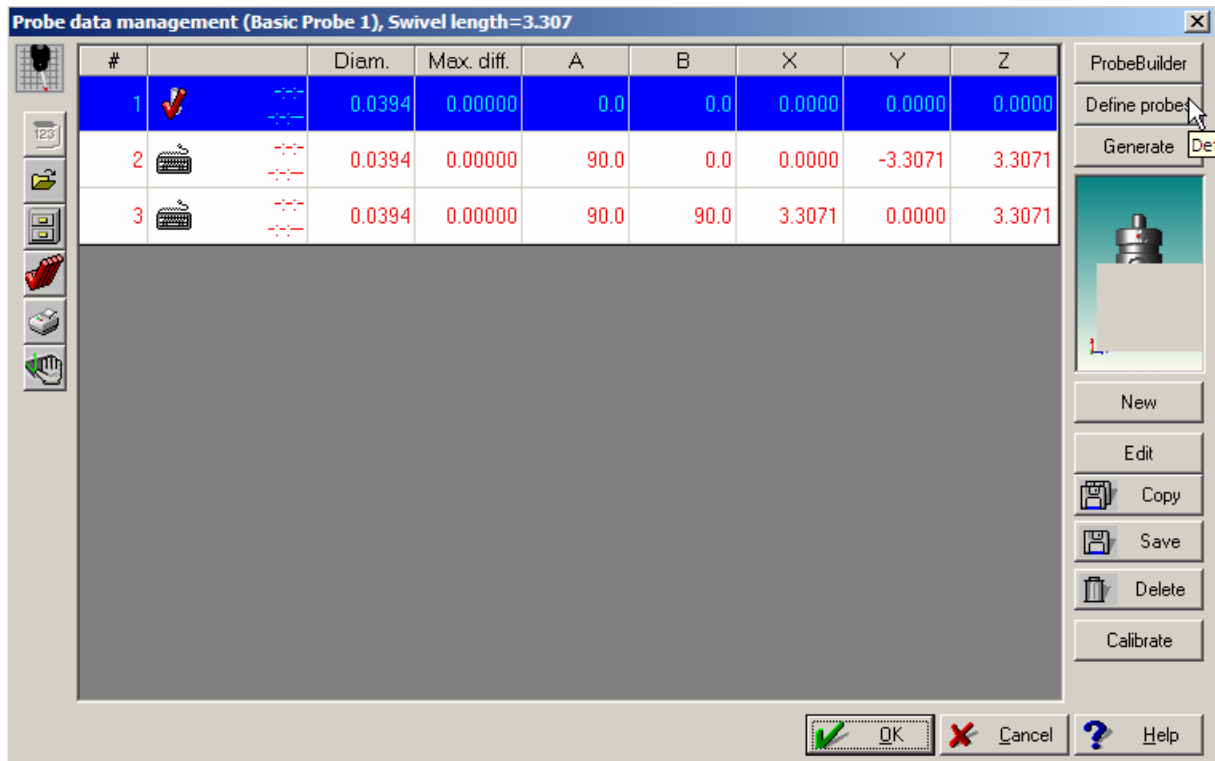
Step 9. Now we must select the stylus that we are going to use and then click the **arrow** button that the pointer is on.



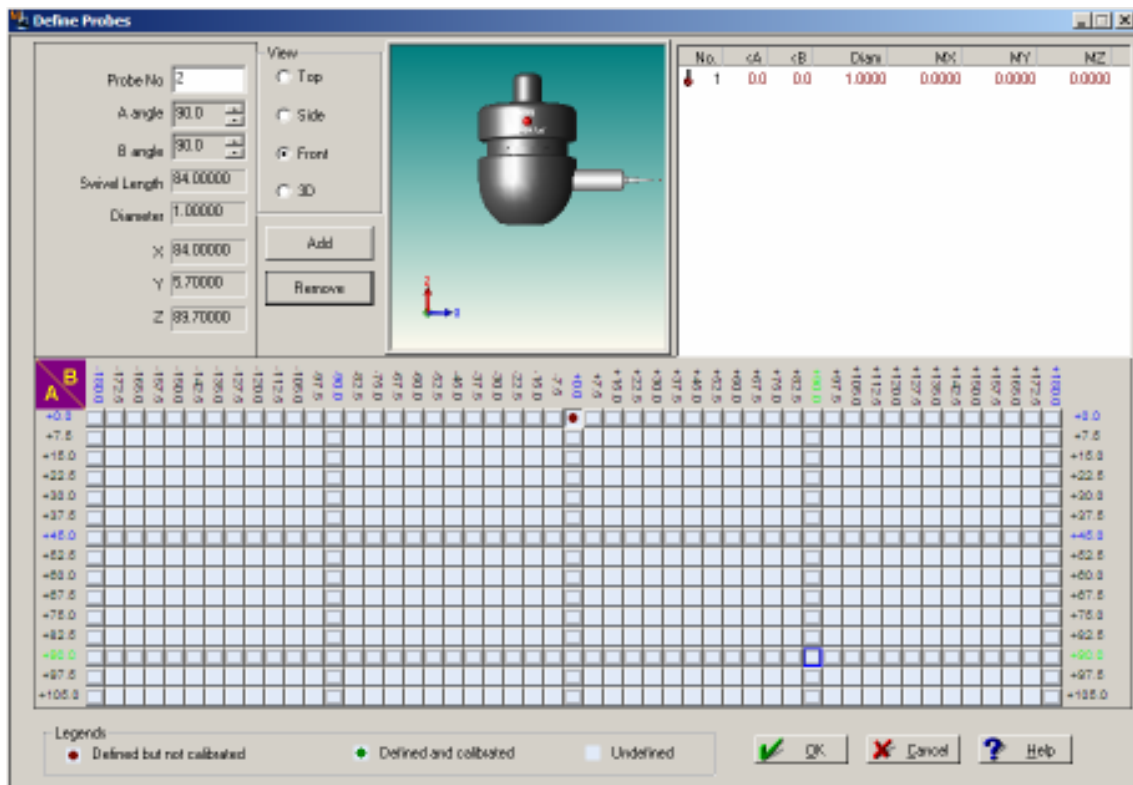
Step 10. Your picture should look similar to your probe setup on your CMM. Now click OK please.



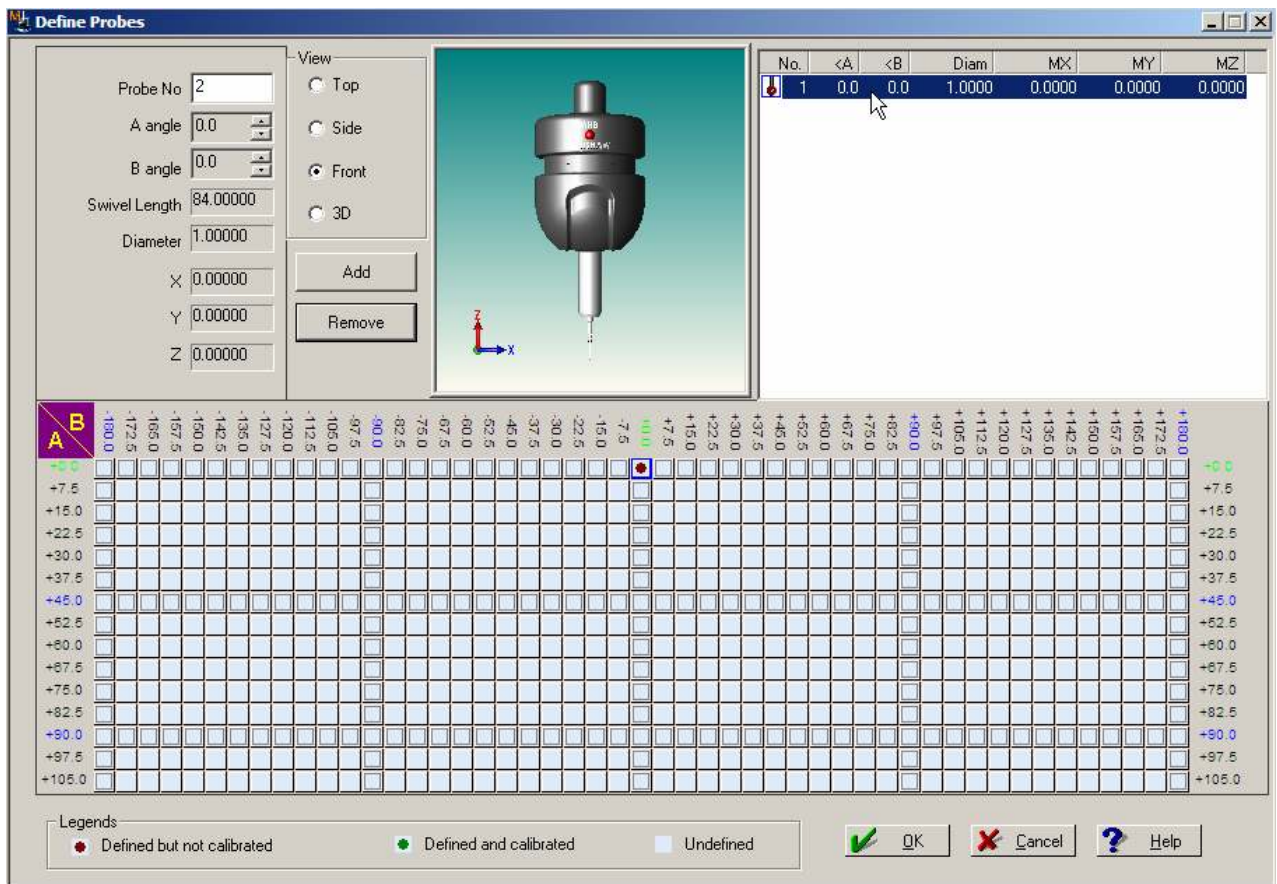
Step 11. This screen should still be up, click the Define probes button in the top right corner.



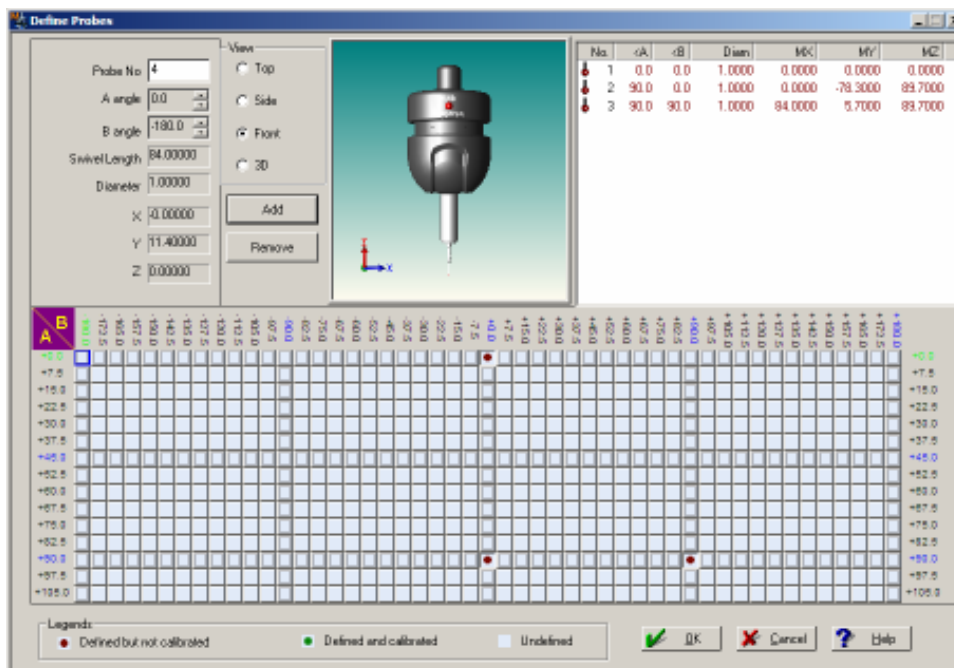
Step 12. When this screen appears highlight stylus 3 as shown and then click the **Remove** button that the pointer is on. Repeat this on stylus 2 until the screen only shows stylus number one.



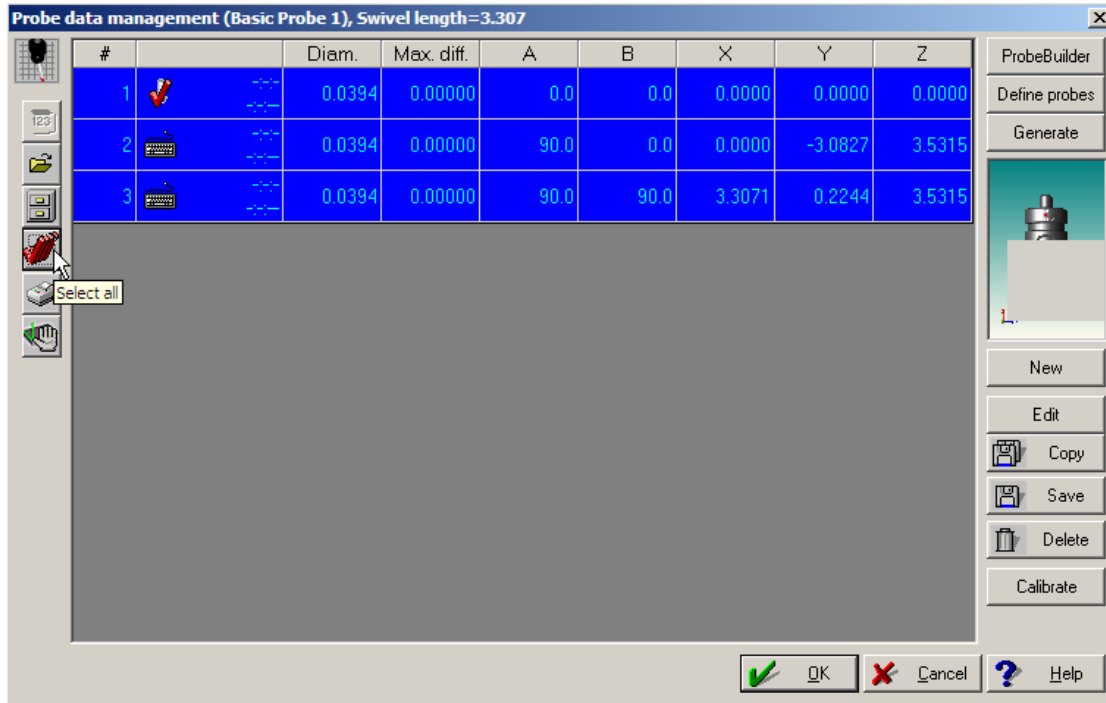
Step 13. Click on stylus number 1 so the screen appears as shown.



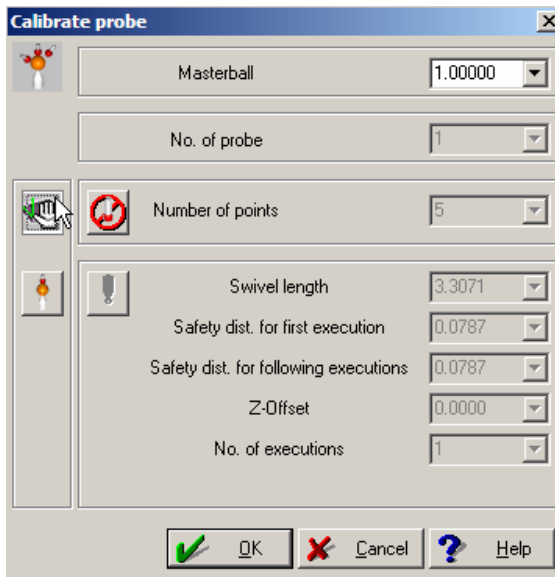
Step 14. Now we need to define some rotations. Please watch the video as I go through the 2 ways to do this. Once we have all the probes defined, select OK in the bottom right corner.



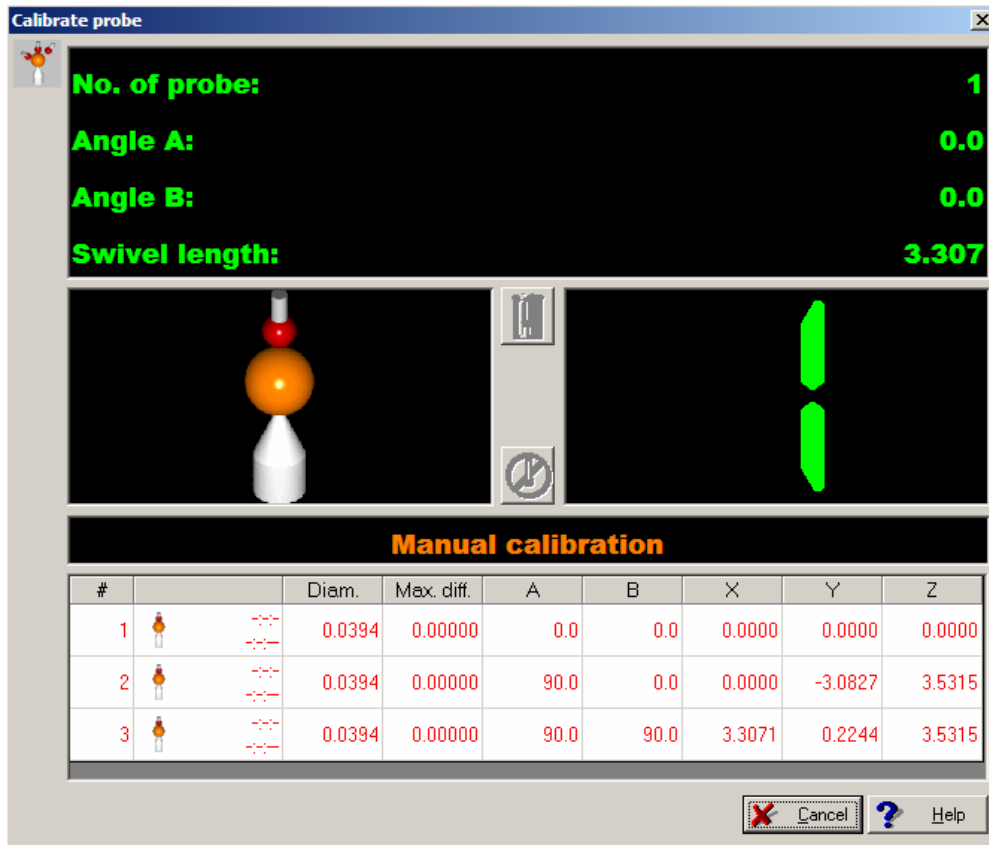
Step 15. Click the stylus you want to calibrate as shown here to select all the stylus definitions. Then click Calibrate in the bottom right corner.



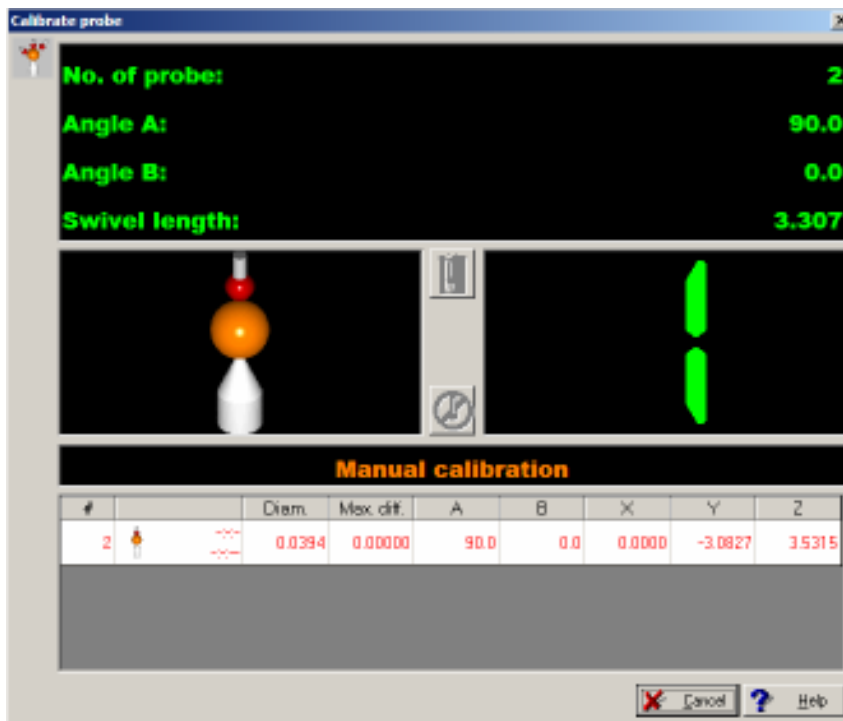
Step 16. When this screen appears, select the manual button as shown and then click OK.



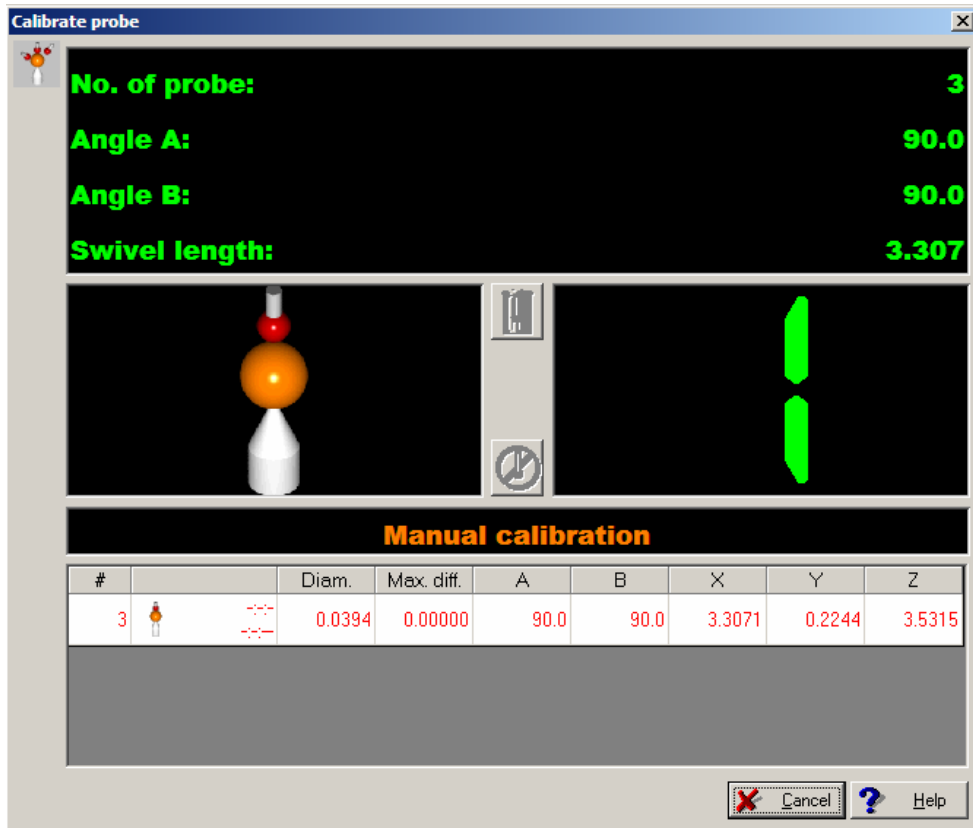
Step 17. When this screen appears you need to measure 5 points on the Master ball or calibration sphere.



Step 18. When you finished the 5 hits, rotate the head for the stylus #2 and measure again.

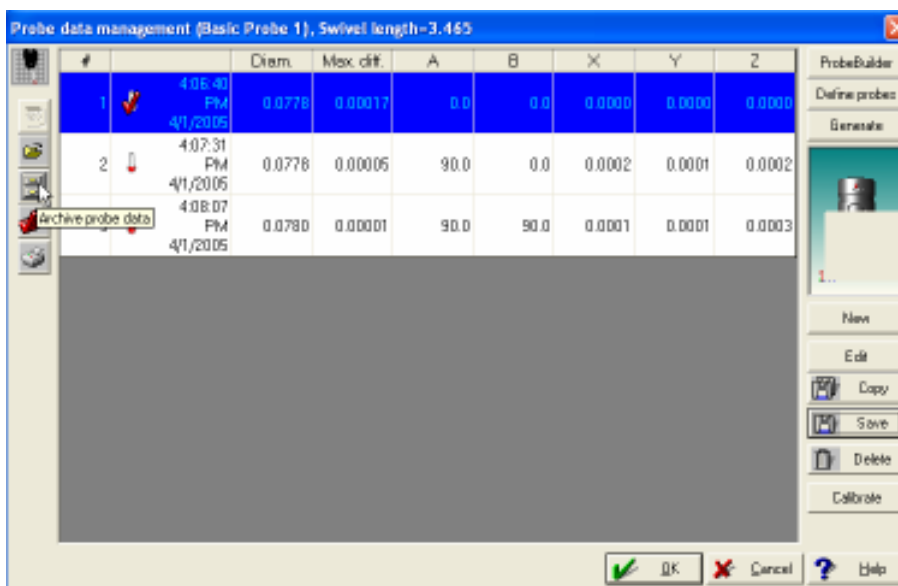


Step 19. When you finished the 5 hits, rotate the head for the stylus #3 and measure again.

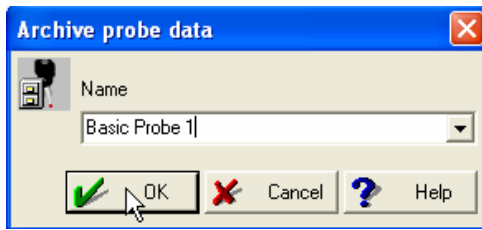


Step 20. The machine should have calibrated all three-stylus positions. After it's done this screen will appear.

Now we need to save the calibration data and archive it so we can recall it later. Please follow along on the video.



Step 21. Enter the name as shown here for the probe name. Select OK when finished.



Step 22. Now you can select OK to this screen, we are done calibrating.

