Tech Sheet

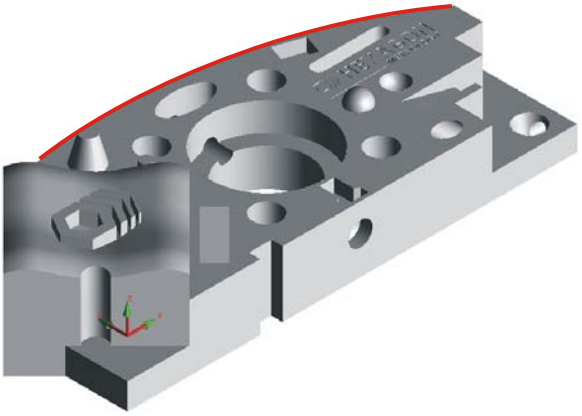
Measuring a Small Arc

Steps to measure a circle with less than 90 degree's of arc:

1. Measure the small arc as a Measured Circle (a measured circle is used in this example although Auto Circle will also work).

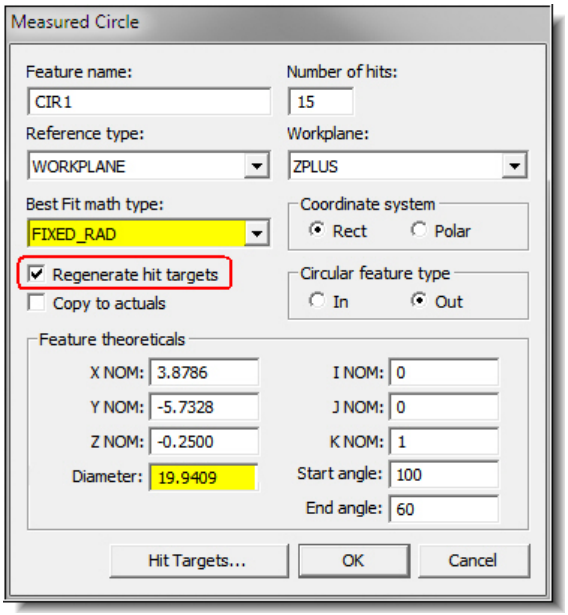
    - Measure the circle on-line or
    - Pick it from the Model or
    - Key in the values

2. In this example, the back arc on the Hexagon Demo Block will be used.



3. Edit (F9) the circle.

    - Add additional hits.
    - Change the "Best Fit Math Type" to "**FIXED RAD**".
    - Key in the **Nominal Diameter**.
    - Check ☑ **Regenerate Hit Targets**
    - Press **OK**.
    - When prompted "Ok to equally space hits?" answer YES.



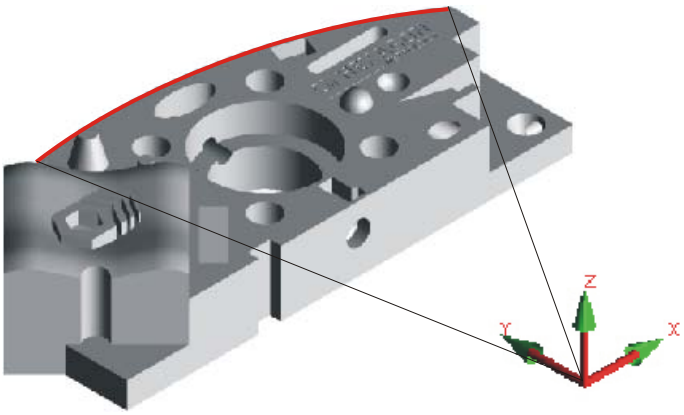
4. Execute the feature Ctrl E to update the measured data.

5. Dimension the location  of the Fixed Radius circle. This will verify the location of the radius.

6. Enter the location Nominals and Tolerances.

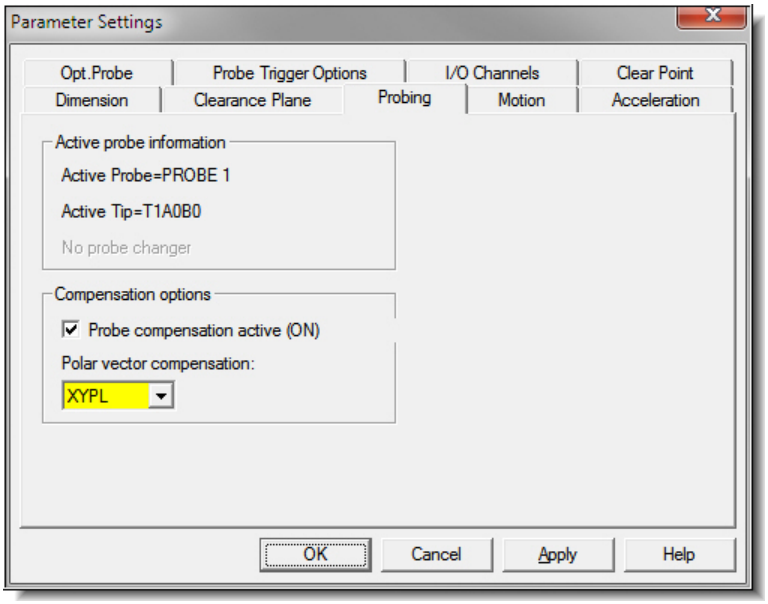
	IN	LOC4 - CIR1					
AX	MEAS	NOMINAL	+TOL	-TOL	DEV	OUTTOL	
X	3.8797	3.8786	0.0100	0.0020	0.0011	0.0000	
Y	-5.7321	-5.7328	0.0100	0.0020	0.0007	0.0000	

7. Create an Alignment and set origin on Fixed Radius circle.



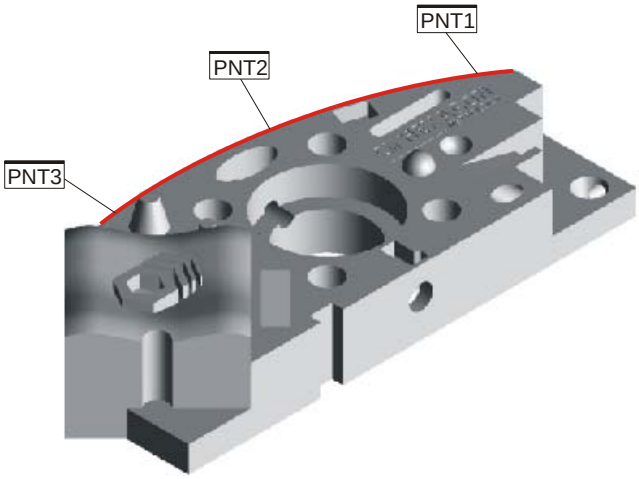
8. Open the Parameter Settings Dialog F10. Select the Probing Tab and enable polar compensation for the active workplane.

Note: Skip this step when using CAD and use Vector points rather than Measured points.

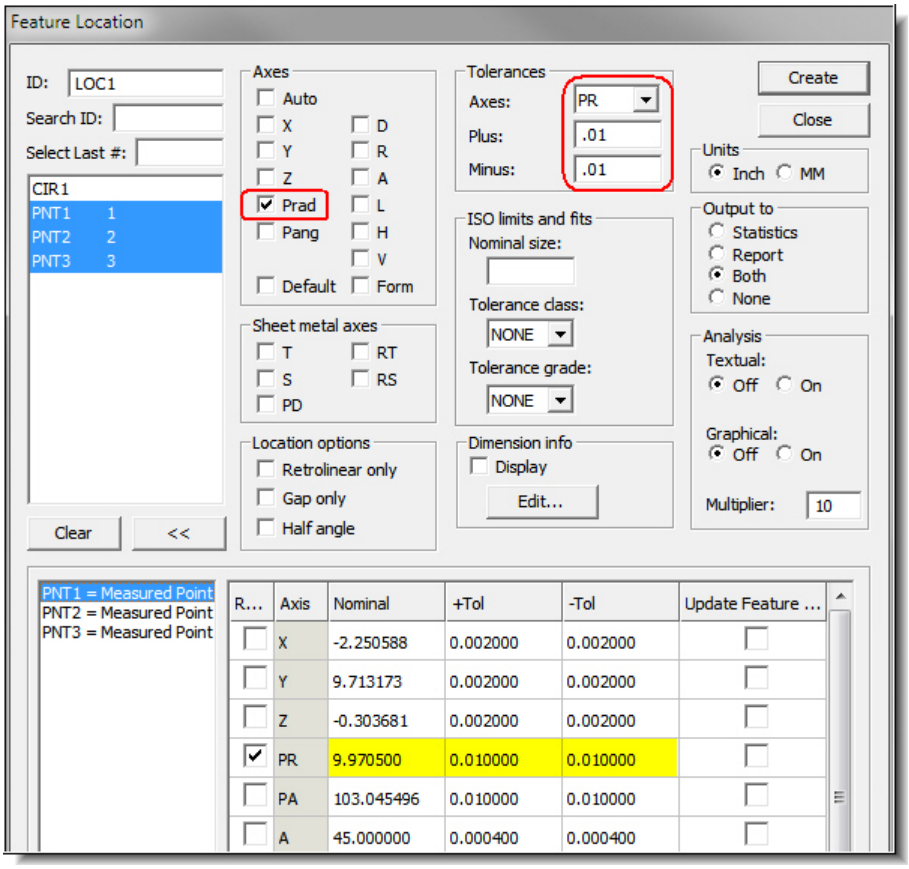


9. With the joystick, measure 3 or more individual Measured Points on the Radius.

Note: If you are using CAD, use Vector Points and pick from model.



10. Dimension the individual points using Location dimension and select the "☑ Prad" check box (Polar Radius). This will verify the size of the radius.



11. Enter Nominals and Tolerances for the Polar Radius'.

⌖	IN	LOC1 - PNT1					
AX	MEAS	NOMINAL	+TOL	-TOL	DEV	OUTTOL	
PR	9.9720	9.9705	0.0100	0.0100	0.0015	0.0000	
⌖	IN	LOC2 - PNT2					
AX	MEAS	NOMINAL	+TOL	-TOL	DEV	OUTTOL	
PR	9.9716	9.9705	0.0100	0.0100	0.0011	0.0000	
⌖	IN	LOC3 - PNT3					
AX	MEAS	NOMINAL	+TOL	-TOL	DEV	OUTTOL	
PR	9.9701	9.9705	0.0100	0.0100	-0.0004	0.0000	

12. Open the Parameter Settings Dialog F10 and turn off polar compensation.