READOUT SYSTEMS SOFTWARE NOTICE

ACU-RITE®

Acu-Rite Companies Inc.

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## Using a Bolt Hole Pattern to cut a radius with a DRO 200M

(Please insert this notice into your Readout Reference Manual)

If you need to cut a radius and you do not have the time to set-up a rotary table and do not wish to tie up a CNC milling center for a simple task, consider using your DRO 200M Digital Readout instead. By defining a partial bolt-hole pattern with many holes, you can step your way through a radius. Depending on the number of holes and the tool diameter used, the edge scalloping from the overlapping holes can be kept to a minimum. In the example, a machinist used a ½ inch diameter tool to cut a 90°, 1 inch radius, with 18 steps (19 holes). The resulting scallop along the radius is 0.0039" deep. The larger the tool diameter and the more "holes" used in your definition, the smaller the scallops will be. Conversely, the more holes you use, the longer it will take to complete the radius.

To program a bolt-hole pattern, press the **DEFINE** key, and enter the information as follows, pressing **ENTER** after each parameter:

EXAMPLE:

HOLES = (Number of holes desired)   HOLES =   19

X CENTER = Location of the bolt-hole pattern center in the X axis   X CENTER = 1.0

Y CENTER = Location of the bolt-hole pattern center in the Y axis   Y CENTER = 1.0

RADIUS = Radius of the bolt-hole pattern   RADIUS = .75
(DIAMETER will be displayed instead of radius if diameter is selected in setup)

ST ANGLE = The angle to the first hole in the pattern   ST ANGLE = 0

END ANGLE = The angle of the last hole of a partial circle pattern   END ANGL =90
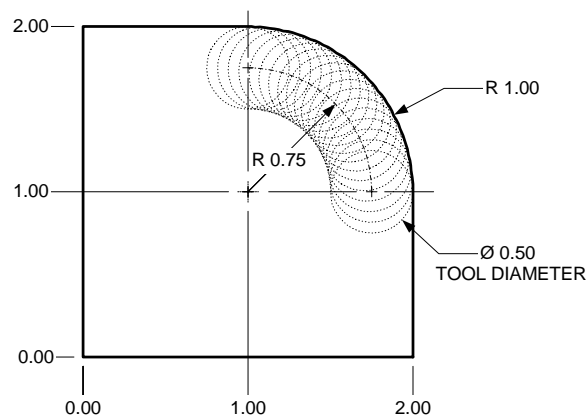
In this example, the center of the radius was entered for the center of the hole pattern. To arrive at the correct hole pattern radius, the tool radius was subtracted from the desired radius. The starting and ending angles of the radius were used as is.

By pressing **USE**, the DRO 200M will display the incremental position of the first hole. The machinist positioned the tool at the preset incremental zero in X-axis while keeping below the incremental zero in the Y-axis, set the tool to the desired depth, and then milled up to the incremental zero in the Y-axis.

Pressing **USE** again causes the DRO 200M to display the incremental position of the next hole. The machinist first moved to the new X-axis incremental zero, then the Y-axis. By repeating this process through the entire hole pattern, the machinist achieved the radius needed. When the last hole position was reached, the machinist milled off of the radius in the X-axis.

To switch back to your absolute display, press the **ABS/INCR** button.

If you have any questions or would like further information regarding this or other features, please call Acu-Rite Companies Inc. at (800)344-2311 and choose the Acu-Rite technical support option, or dial extension 1722 to speak with Chris Hanson, technical support representative.