

READOUT SYSTEMS PRODUCT NOTICE

ACU-RITE®

Acu-Rite Companies Inc.

June 8, 2005

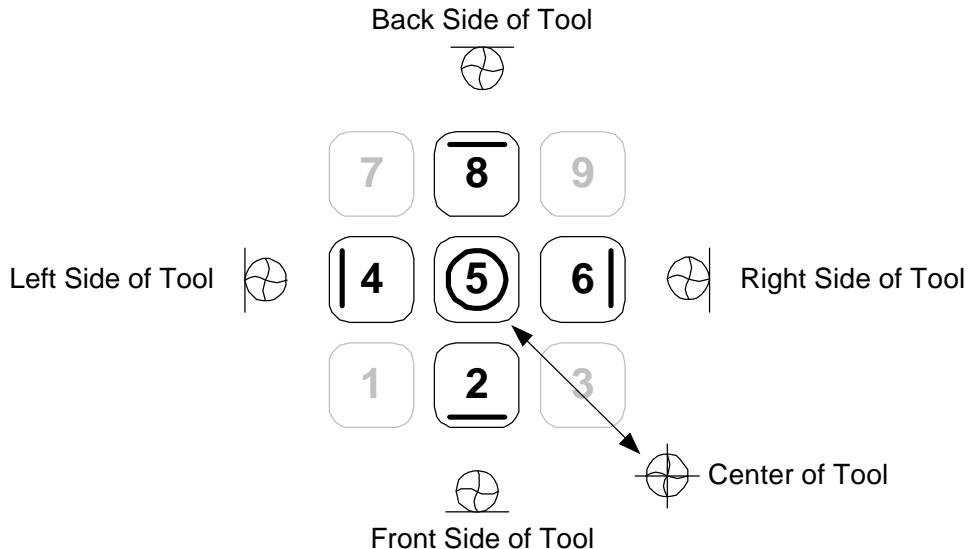
Using Tool Offsets

(Please insert this notice into your DRO 200M Reference Manual)

The DRO 200M has the ability to offset the displayed position from the centerline of the tool to the edge of the tool. To use this offset feature, first program your tool diameter by pressing the TOOL DIA button, entering the diameter, then pressing ENTER. Then press the **2**, **4**, **6**, or **8** key to select your offset.

When a tool offset is in use the non-moving axis display changes to show the offset while the other axis moves, then resumes its numerical display when motion stops. The non-moving display changes to a dot with a line, where the dot indicates the tool and the line indicates the edge of the tool the offset favors. For example; a dot with a vertical line to the right indicates an X-Axis right offset. You will notice that the keypad has a line on the **2**, **4**, **6**, and **8** keys, and a circle on the **5** key. When in the normal DRO mode, you can press these keys to select the offset you need.

Pressing the **5** key selects the center offset and will prevent the offset indicators from displaying.



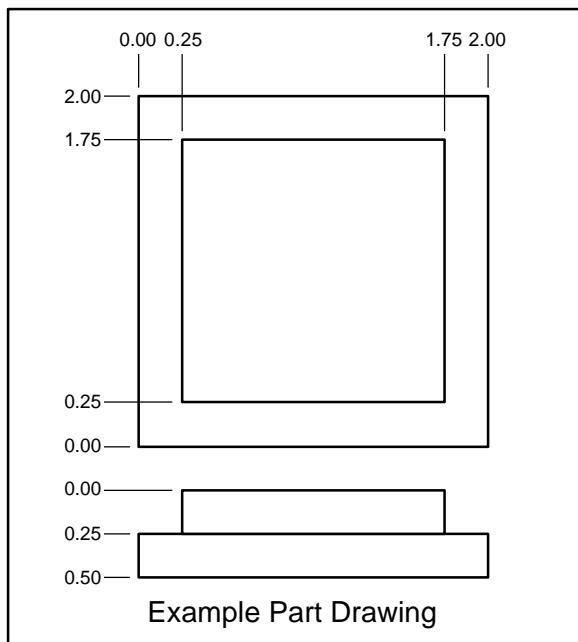
The chart below indicates the various key presses and their effective offset:

TOOL OFFSET =								
KEY PRESS =								
DISPLAY REACTION =	DISPLAYS COORDINATES NON MOVING COORDINATE BLANKS AND DISPLAY SHOWS CHOSEN OFFSET							
DISPLAY OFFSET INDICATOR IN NON- MOVING AXIS =	X-AXIS							
	Y-AXIS							

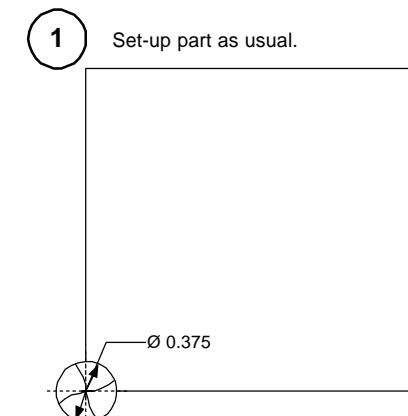
Using the tool offset feature has several advantages.

1. Figuring the tool position compensation necessary to place the cutting edge at the correct location is no longer necessary.
2. The display shows the actual edge location allowing the machinist to verify tool position against the part drawing.
3. Marking up the print with target positions is avoided.
4. Errors due to miscalculations are avoided.
5. Machining time is reduced.
6. Scrap is reduced.

The following example demonstrates the procedure used to machine a square boss in a square block. The same basic principal applies to all bosses, frames, slots, and pockets.

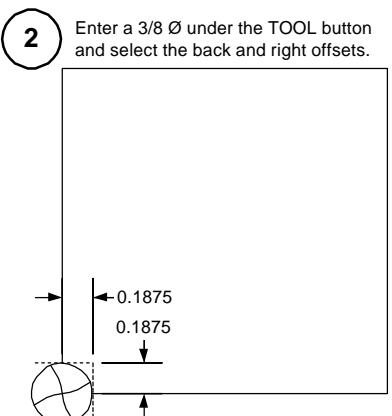


1 Set-up part as usual.



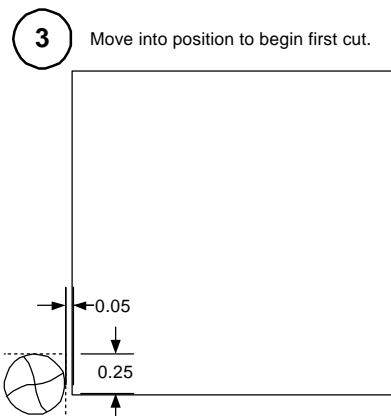
3/8" dia tool starting at
Position : X= 0.0, Y=0.0
Display shows: 0.0000 X
0.0000 Y

2 Enter a 3/8 Ø under the TOOL button
and select the back and right offsets.



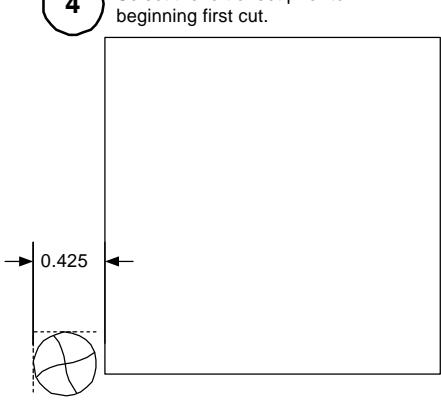
Press the **6** and **8** Keys
Display shows: 0.1875 X
0.1875 Y

3 Move into position to begin first cut.



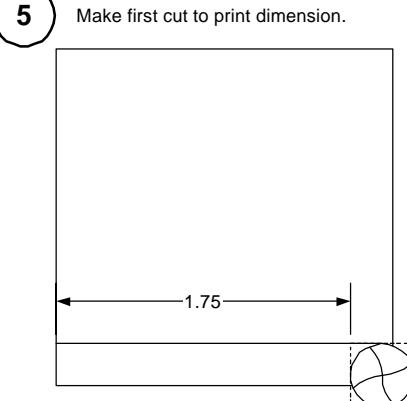
Move until - 0.0500 X
Display shows: 0.2500 Y

4 Select the left offset prior to
beginning first cut.



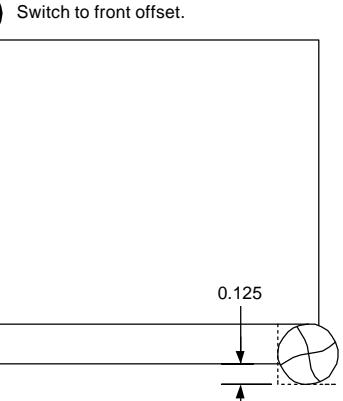
Press the **4** Key
Display shows: - 0.4250 X
0.2500 Y

5 Make first cut to print dimension.



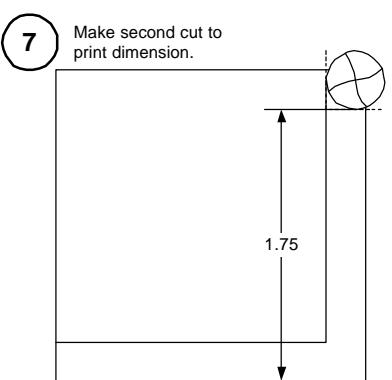
Move until
Display shows: 1.7500 X
0.2500 Y

6 Switch to front offset.



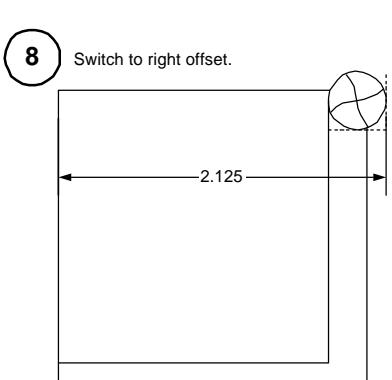
Press the **2** Key
Display shows: 1.7500 X
- 0.1250 Y

7 Make second cut to
print dimension.



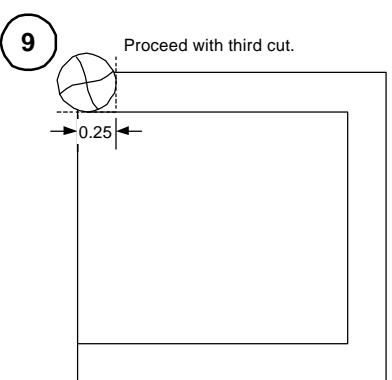
Move until
Display shows: 1.7500 X
1.7500 Y

8 Switch to right offset.

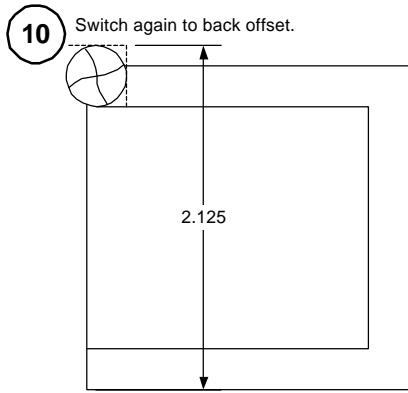


Press the **6** Key
Display shows: 2.1250 X
1.7500 Y

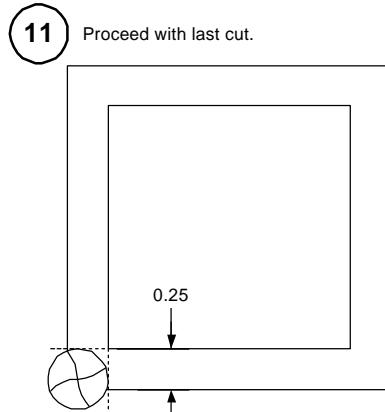
9 Proceed with third cut.



Move until
Display shows: 0.2500 X
1.7500 Y



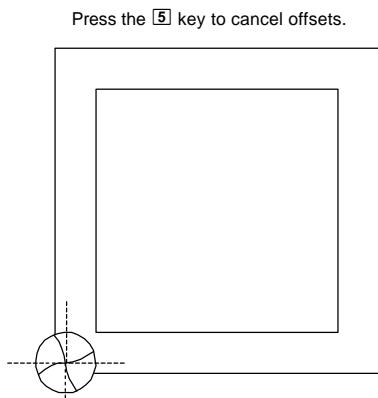
10 Switch again to back offset.



11 Proceed with last cut.

Press the **8** Key
Display shows: 0.2500 X
2.1250 Y

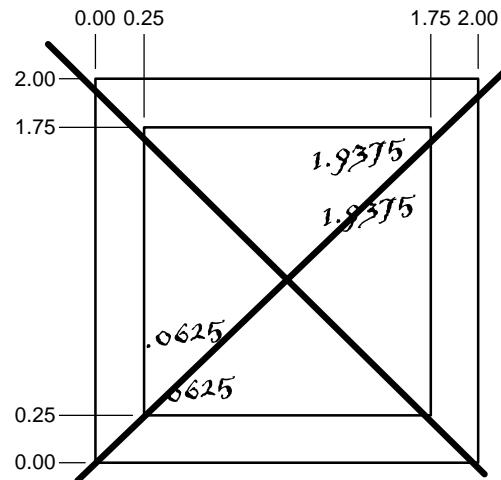
Move until
Display shows: 0.2500 X
0.2500 Y



Press the **5** key to cancel offsets.

Press the **5** Key
Display shows: 0.0625 X
0.0625 Y

Back to Center Offset



A calculator requires a minimum of 23 key presses and the display does not show edge locations.
The DRO200M requires 13 key presses and shows edge locations.

If you have any questions, feel free to contact Chris Hanson, Product Specialist at (800) 344-2311 Ext. #1722.

Acu-Rite Companies Inc.

One Precision Way • Jamestown, NY 14701 • 1-800-344-2311 • Fax: (716) 661-1888 • www.acu-rite.com