



Electronica EL400 Arc Contouring Function

Congratulations on the purchase of your Electronica EL400 series mill kit. This article addresses how to perform the Arc Contouring function. This function allows the operator to cut an arc of holes. Similar in some ways to Arc Hole Circle, the user designates a series of holes along a semi-circle, or arc. But unlike the Arc Hole function, which designates a specific number of holes located along an arc, the arc contouring feature allows the user to program how *far* the holes are spaced from each other, and the function subsequently calculates how many holes must be utilized to fill in or "cut the arc". Further, the arc contouring function allows the operator to designate whether the holes are along the middle of, inside, or outside the arc radius, otherwise known as center, internal or external cutting.

In order to indicate the correct direction, the EL400 display assumes you have set your scales up as follows: As you cut from left to right on your workpiece (the mill table slides left) the X axis scale should count positive. As you cut from front to back on your workpiece (the mill table slides forward) the Y axis scale should also count positive. While the function will ultimately work with a non-std setup, the following explanations might appear contradictory if the assumed scale directions are not adhered to.

DRO PROS also recommends changing the Zero Beep settings. See the "EL400 Zero Beep" library article, which allows you to reduce the sensitivity of the display beeping as you approach each point.

1. To access the Arc Contouring function, push the Arc Contouring button. It's on the top row, second from the left in the cluster of eight function buttons. The correct button has a picture of an arc on it. The x axis display window will immediately read "ArC Cnt", then switch to "EntCnt0" automatically. Also note that "fn" should light on the bottom of the display window in red.
 2. On the keypad, enter the x coordinate value of the center of the arc, followed by the "ent" key. The display window will now read "EntCnt1".
 3. On the keypad, enter the y coordinate value of the center of the arc, followed by the "ent" key. The display window will now read "rAdiUS".
 4. On the keypad, enter the desired radius value of the arc, followed by the "ent" key. The display window will now read "Str AnG".
 5. On the keypad, enter the desired starting angle of the arc, followed by the "ent" key. The x axis display window will now read "End AnG".
 6. On the keypad, enter the desired ending angle of the arc, followed by the "ent" key. The x axis display window will now read "tooL di".
 7. On the keypad, enter the tool diameter, followed by the "ent" key. The display window will now read "int CUt".
 8. On the keypad, push the #6 key to cycle to the desired type of cut. The available choices are interior "int CUt", exterior "EXt CUt", and middle or center cut "Mid CUt". When the correct choice is selected, push the "ent" key. The x axis display window will read "MAX CUt", and the y axis window will read "0".
 9. On the keypad, enter the maximum desired cut or step size. Push the "ent" key. The display windows will both have an extra leading decimal on the far left of the window. This is a visual reminder you are in the function mode.
 - The "distance to go" to step position 1 is displayed on the x and y axis windows.
 - To proceed to step position 1, move your mill such that the x and y windows "zero out".
 - To sequentially advance to the next step position, push the #6 key.
 - To sequentially return to the previous step position, push the #4 key.
 - To advance to the step position of your choice, push the #2 key, then enter the desired step position number on the keypad, followed by the "ent" key.
 - To check which step position the display is currently indicating, push the #8 key. To return to the normal screen, push the #8 key a second time.
 10. To exit the Arc Contouring function, push the "C" button.
- Congratulations, you've now accomplished Arc Contouring!