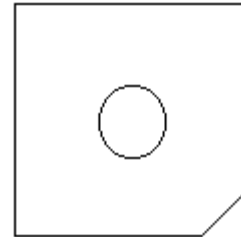


Work (Torch to Punch) and Diameter (Kerf) Inch Offset Procedure

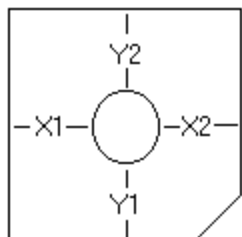
This procedure should be used to properly adjust the G55 offset to ensure the punch hole to torch cut accuracy as well as cut to cut accuracy is correct

1. Load the ram with a punch and die set of your choice (normally 0.5" – 1.0" in diameter) using the procedure for your model of equipment. Ensure the die clearance is correct for whatever material thickness you are using
2. Load and execute your offset square program. This will generate a part similar to the one shown. Follow the instructions listed in the program to set part location on the material and set the cutting speed for the material being used

```
N1G00M85
N3M55
N4G54
N5G70
N6G90
M42
N7G161
N9M00
(JOG TO THE CENTER OF SQUARE)
PRESET(0,0)
M75
X0.0Y0.0
M85
M89
M65
YVUNSYNC
N12G55G00X2.25Y2.25
M00(VERIFY CUT SPEED IN NEXT BLOCK)
N14M17F250.0
N15G01X2.0Y2.0G41D01
Y-1.5
X1.5Y-2.0
X-2.0
Y2.0
X2.0
X2.25Y2.125G40D00
N18M18
M80
M01
N21G54
YVSYNC
N22M31
N23M30
```



- Using the following reference, measure the distance from the edge of the punched hole to the cut edge. Remember, the most accurate part of the cut is the bottom edge. Measuring in millimeters will simplify adjustment in step 8



X1 _____ $(X1-X2)/2= X \text{ Difference}$
 X2 _____ X Difference _____
 Y1 _____ $(Y1-Y2)/2= Y \text{ Difference}$
 Y2 _____ Y Difference _____

While determining the difference value to input, keep the following in mind:
 When adjusting the X on ALL models, a positive (+) value will make X1 smaller
 When adjusting the Y on ALL models, a positive (+) value will make Y1 smaller

- If the X and Y differences are less than 0.010" (+/- 0.25 MM) and the part measures 4.00" (+/- 0.010") or 101.60 MM (+/- 0.25 MM), you are finished. If the results are off, continue with step 5
- Press **Menu Select** hardkey
- Press **Parameter** softkey
- Press **Work Offset** softkey
- You will be adjusting the G55 (Offset 2) values in X and Y, using the differences calculated in step 3 & 4. If your machine has an A or V axis, make this value match Y. Move the cursor over the G55 value that requires adjustment. Add or subtract your difference to the current value, type in the new value and press **Enter**
- Make another part using the program listed above. Your hole should now be centered. If not, repeat steps 3-8. If so, and the part is 4.00" (+/- 0.010"), you are complete. If not, proceed to step 10
- To adjust the cut size of your parts, a diameter (kerf) offset is used. This value could be a number between 1 and 32 as set by your programs. Typically, on an outside cut, the larger the offset amount the larger the part will be. To increase the part size, increase the offset. Subtract to make the part smaller. To access the offset value press **Parameter** softkey then **Tool Compensation** softkey. Press **+** or **-** softkey to access the proper value between 1 and 32.

Note: With an inside cut, the offset is reversed (larger offset = smaller hole)

When adjusting the parts size, X & Y should be close (+/- 0.010") to each other. If they differ from each other greatly, you should check your consumables and/or torch to make sure you are getting a straight (less than 5 degree) cut. If the cut quality is good, you should check for mechanical looseness in all axis

End of Procedure