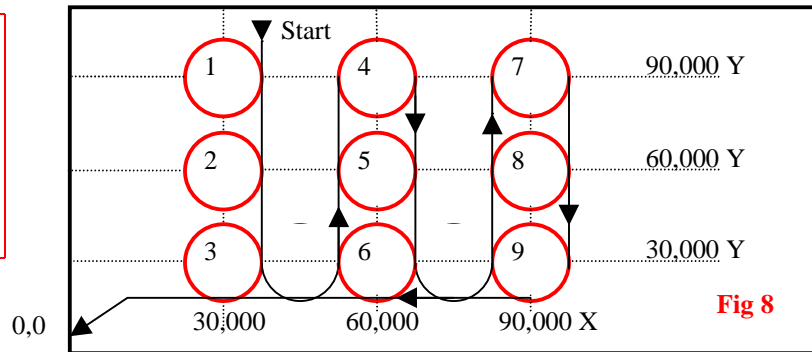


## Application Example

### ➤ Constant Velocity Contouring

**Figure 8** is an example of **Constant Velocity Contouring** is used to maintain a uniform heat level while traversing a circuitous path as in cutting or welding. This partial listing will scribe 9 holes in a clockwise direction at a constant velocity of 85,000 steps per second. Figure 8 traces the tool path from Start, around each arc and finishes at 0,0.

**Constant velocity:**  
As a circle, arc or line segment is traced, the vector sum of the paired velocities at any point will be a constant value.



AA

AC1000000,1000000

VL85000,85000

CV85000

CD40000,90000;

CR30000,90000,-6.2831853;

MT40000,60000;

CR30000,60000,-6.2831853;

MT40000,30000;

CR30000,30000,-6.2831853;

CR50000,30000,3.1415926;

MT60000,90000;

CR70000,90000,-9.4247779;

\* Axes-All mode, accept multi-axes commands

\* Set accelerations to 1,000,000 steps/sec/sec on X and Y

\* Set X,Y velocities to 85,000 steps/sec

\* Constant Velocity of 85,000 steps/sec

\* CD, start contour definition of lines and arc segments

\* Enter upper left circle (1) at X40000, Y90000

\* Center of circle is at X30000, Y90000. Radius is 10,000 units

\* Stay on tangent to next entry X,Y

\* Center of mid left circle (2)

\* Stay on tangent to next entry X,Y

\* Center of lower left circle (3)

\* Exit arc to head back up to top center

\* Now at left edge of upper center circle (4)

\* 3 pie turns, exiting down toward center circle

The complete example is available as an Application Note from OMS

MT120000,30000;

CR110000,30000,-7.8534816;

MT10000,20000;

CE

MT40000,120000; GO CX

AA

AC300000,300000

VL85000,85000

MT0,0; GO

\* Move to entry X,Yy of lower right circle (9)

\* Exit aimed toward left edge for gentle ramp down

\* Continue to this point at the constant velocity

\* End contour definition

\* Next commands set up to execute the defined path

\* Ramp up tangent to 1<sup>st</sup> circle(Start); execute contour

\* Return to Axes-All mode

\* Re-establish acceleration values to move home quickly

\* Re-establish velocity values

\* Go back to the 0,0 home position