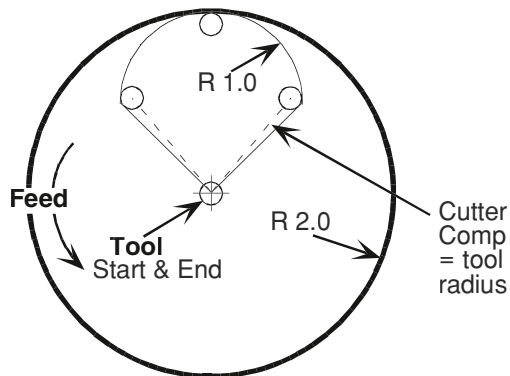


CNC Programming Hole Sub-Program

Although Absolute programming, **G90**, is most commonly used, sometimes a sub-program in Incremental (Relative) programming, **G91**, can make the job simpler. For instance, a universal sub-program for holes can be used for any size hole. Only the tool size information and the hole radius must be changed. Since it indexes from the hole center, every hole can be accurately located.

This example using **G03** is a climb-cutting program. It incorporates **G41**(left) cutter compensation which is applied prior to lead-in and removed after lead-out. The offset value **D** is in the control's offset register, dependent on the tool diameter. The **Z** moves are in **G90**, as always.



This program template assumes a material thickness of .750.

```
O2500;  
(Hole sub-program)  
G91 G0 G41 D1 X1. Y1.;  
G90 G1 Z-.755 F100;  
G91 G3 X-1. Y1. I-1.;  
J-2 F200;  
X-1. Y-1. J-1. F100;  
G90 G0 Z.25 ;  
G91 G40 X1. Y-1.;  
M99;
```

Name of sub-program
Operator information
Radius offset and tool positioning
Z-down (ABS)
Radial lead-in
Cut the hole
Radial lead-out
Z-up (ABS)
Cancel radius offset, move to center
End of sub-program