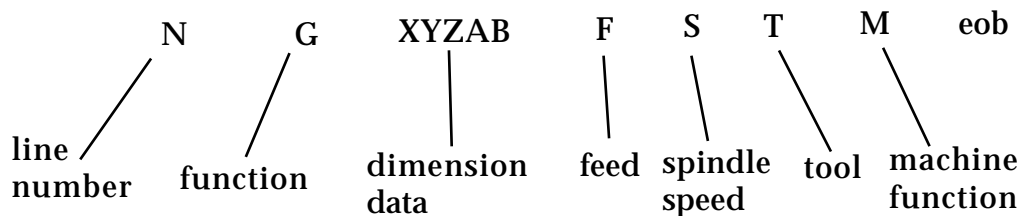# G-Codes to Know

G-Code   The universal language of CNC (almost). Industry has standardized on this basic set of codes. The code has many undefined numbers that have been used by various manufacturers for canned cycles and special functions. Recently, tools have been developed that don't use G code, but some other coding. At PEARL these include the Roland Camm3 and the LaserCamm. The Anilam 1100 doesn't directly use G-code, but has a natural language based programming language. The Anilam Crusader and 1400 have both a natural language based code as well as G-Code.

Basic format

```
       N      G      XYZAB      F      S      T      M      eob

  line                                                   machine
  number   function   dimension   feed  spindle  tool   function
                      data              speed
```

Good G-Codes to Know

        G00 rapid position
        G01 Linear cut
        G02 Arc cw
        G03 Arc ccw
        G04 dwell
        G40 cutter comp cancel
        G41 cutter comp left
        G42 cutter comp right
        G28 return to machine reference point
        G92 absolute zero reset

Good M-Codes to know

        M03   spindle cw
        M04   spindle ccw
        M05   spindle off
        M06   tool change
        M02   end of program
        M30   end of tape

Knowing these codes will help you determine what your program is doing. It will also let you try programming at the most primitive level. A complete list of G-codes specific for each machine is available.

revision history
ver 1   12/93   John Wadsworth   original text