Previously in this space we’ve discussed the use of G71 roughing canned cycles. Now let’s take a look at the G72, a facing canned cycle code. Remember that G71 is a canned cycle for longitudinal turning and G72 is a facing canned cycle. G70 is the finish turn canned cycle. We like using these canned cycles for a number of reasons. When programming the part shape we need only program the finish geometry and by using a G71 / G72 to rough turn, the finish turning operation can be finished with a G70 routine. This eliminates lines and lines of program code. Also with canned cycles, we can adjust the depth of cut and the finish turning stock very easily. This makes for quick fine-tuning at the machine.

Look at this sample part. Let’s rough turn this shape with a G72 roughing canned cycle. The machining routine takes facing cuts from the front face as outlined in the program.

Material size: 4.25” diameter
Rough face with an 80 degree diamond.

The program block N101 represents the starting point of the part shape.

The G72 canned cycle line uses P101 to look at block N101.

Notice the program line G0 X4.25 Z0.10, this block tells the control the size of the raw material. Want to use larger stock? Simply change the value in this line of the program. By increasing the X & Z values we can increase the material being faced off by adding cuts.

The block N102 represents the ending point of the part shape.

The G72 canned cycle line uses Q102 to look at block N102.

Be aware that the Fanuc 0T program control format does not allow for any reliefs or pockets. If you have a Fanuc 10, 11 or 15T control, the format allows for reliefs. The main format difference with a Fanuc 15T is that we only need a single line command for the G72 command.

Fanuc 15T output for G72

G72 P101 Q102 U.02 W.005 D01000 F.010

Please note, the D represents the depth of each cut and cannot (for some unknown reason) be programmed with a decimal point. This seems rather pointless to me - but there you are.

When programming with CAM programming packages there are a number of canned cycle codes not output by the software. Some of these software systems output the longhand method but not the canned cycle routine.

Use of canned cycle routines is a great benefit to programming part shapes. We should all be very enthusiastic about using these G70, G71 and G72 routines. It beats writing programs with lines and lines of codes.