G83 *Peck Drill Cycle*
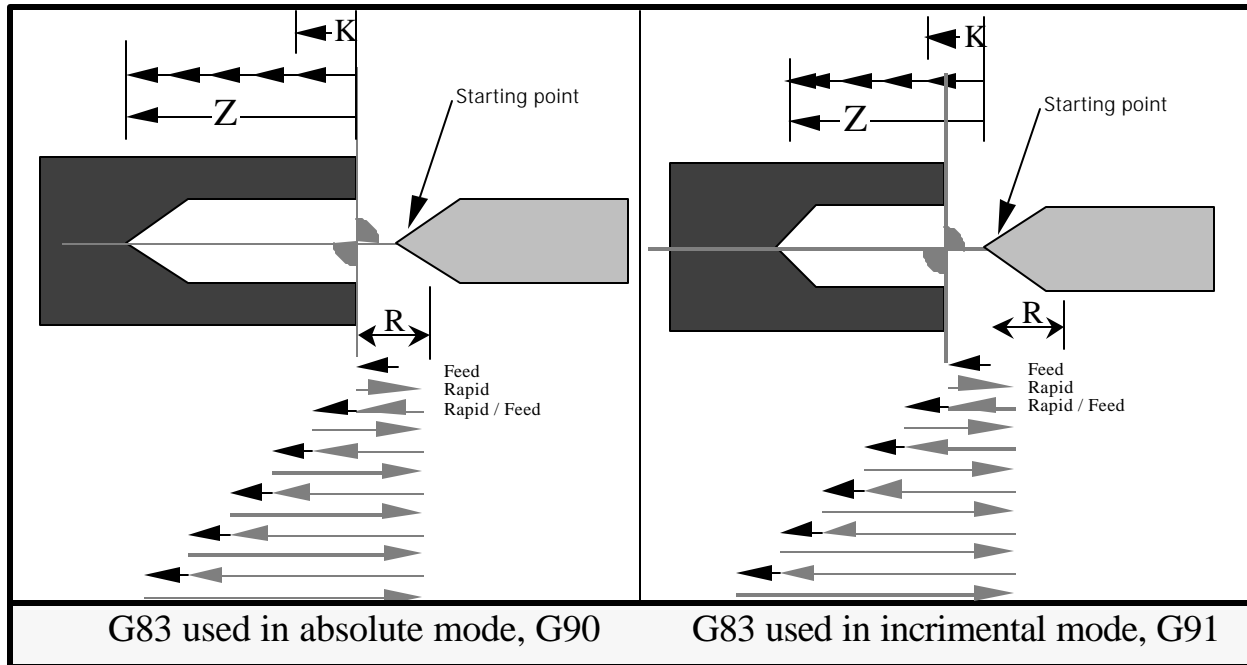
G83 is a one shot command. It is used to peck drill to a specific distance in Z and then rapid back to the starting point. The format is:

G83 Zn Kn Fn Rn Ln Cn

G83 used in absolute mode, G90   G83 used in incrimental mode, G91

In G90, absolute mode: **Z** specifies the end of the point of the hole from the part Zero.
In G91, incremental mode: **Z** specifies the distance the tool will travel from the starting point .

Start location: Position the drill where you want the first drill peck to start. After the first peck the drill will rapid out to the R location, and then back to where it started less the C value.

**K** specifies the depth of cut per peck.
F is the drilling feedrate in inches per rev or minute depending on whether you are in G94 or G95.
R is the retraction plane, the tool will rapid back to this location at the end of each peck. *Default is the starting point of the cycle*
L is the rapid travel feed rate for the retraction move, noted in IPM. *Default is 200ipm*
C is the clearance distance left when the drill returns to the cut. *Default is .02"*

G83 Example
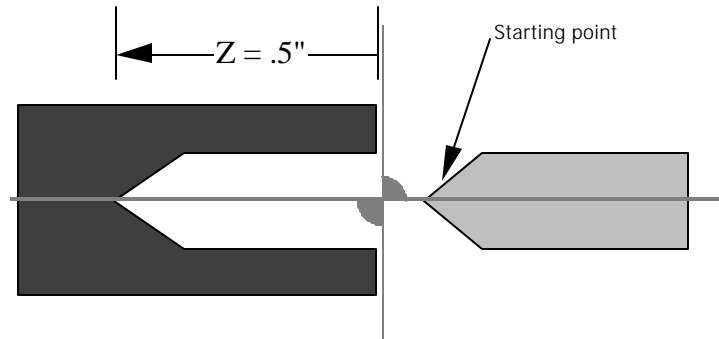
To drill a part .5" deep at a feed of .003" per revolution, and .1" pecks. The program would be:

G90 G94F300	Puts the control into absolute mode
T1	Calls tool #1 offset
X0Z.01	Positions tool at x=0, Z=.01
G95	Sets ipr mode
G83Z-.5K.1F.003R.5C.05L300	**Z** Drills the hole .5" deep
	F at .003 ipr
	K with .1" pecks
	R retract to .5 in Z to clear the chips
	L peck moves done at 300IPM
	C return to the cut less .05" after peck

G83 *Peck Drill Cycle*

In the next example we have added a second drill that will peck drill a smaller hole at the bottom of the first. Notice that the drill will start a little off the bottom of the first hole and then retract clear off the hole to remove chips and get coolant before the next peck.

Starting point
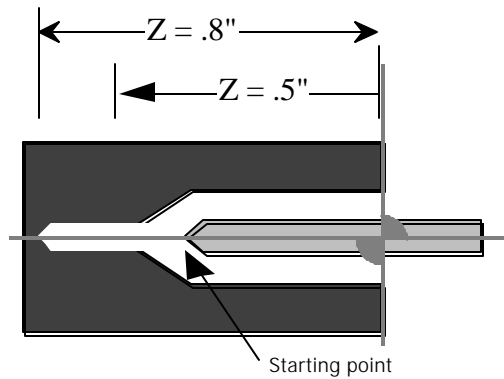
G90 G94F300	
T1	First drill (large one)
X0Z.01	
G95	
G83Z-.5K.2F.003R.5C.05L300	
G00Z1	
T2	Second drill (small one)
X0Z1	
Z-.4	
G83Z-.8K.1F.002R.5C.05L300	