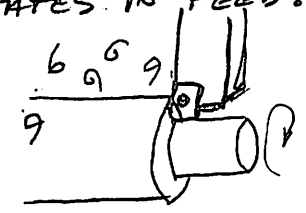
PORTABLE CUTTING FEEDS

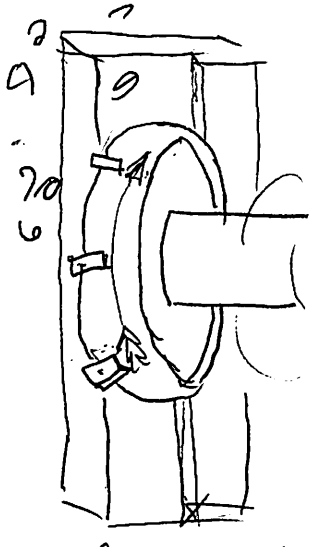
THE KEY TO UNDERSTANDING CUTTING FEED RATES IS TO USE THE PERSPECTIVE OF "CHIP LOAD PER CUTTING EDGE" IN TERMS OF DISTANCE/REVOLUTION. THAT WAY YOU CAN HANDLE CUTTING FEED RATES FOR SINGLE POINT TURNING ON A LATHE OR MILLING CUTTERS THAT HAVE MULTIPLE CUTTING EDGES THAT REMOVE MATERIAL EACH TIME THE TOOL ROTATES IN FEED.

EXAMPLE: LATHE



CHIP LOAD SORT OF POINTS TO LATHE WORK. IT IS USUALLY PROGRAMMED IN .000/REV ALREADY AND THAT WOULD BE WITH RESPECT TO A SINGLE CUTTING EDGE. IN THIS CASE, IF THE FEED RATE IS .008 IPR (INCHES PER REV) THEN THAT IS THE CHIPLOAD ON THE INSERT

EXAMPLE: MACHINING CENTER



MANY MACHINING CENTERS FEEDRATES ARE PROGRAMMED IN "INCHES PER MINUTE". IT IS IMPORTANT TO UNDERSTAND THIS OUT FRONT. IN IPM MODE (INCHES PER MINUTE) IF YOU REDUCE THE SPINDLE RPM, THE TOOL IS STILL FEEDING AT THE SAME SPEED SO CHIPLOAD INCREASES.

IF YOU WANT TO SEE WHAT THE CHIPLOAD PER CUTTING EDGE IS: (FOLLOW EXAMPLE BELOW)

*A 4" FACEMILL WITH 6 CUTTING INSERTS IS PROGRAMMED TO 716 RPMS & 25 INCHES PER MINUTE:

- 1ST CONVERT IPM TO IPR: IPR * RPM = IPM SO IPM/RPM = IPR: 25 IPM / 716 RPM = .035 INCHES PER REVOLUT.
- 2ND THERE ARE 6 CUTTING INSERTS SO CHIP LOAD IS .035/6 OR .0058 INCHES PER REV PER TOOTH.