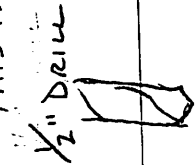


**★ PORTABLE CUTTING SPEEDS**

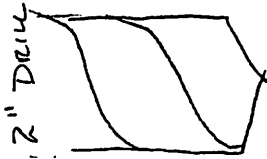
- IF YOU KNOW A CUTTING SPEED THAT WORKS FOR A CUTTING TOOL MATERIAL IN PIECE PART MATERIALS THEN YOU CAN CALCULATE FOR DIFFERENT CUTTING TOOL SIZE

\* EXAMPLE: WE LIKE TO USE CARBIDE DRILLS TO DRILL CAST IRON AT 275 SURFACE FEET PER MINUTE.

THIS IS A KNOWN - NOW WE CAN CALCULATE FOR DIFFERENT DRILL SIZES.



$$275 / (.5 * .262) = 2099 \text{ RPM'S}$$



$$275 / (2 * .262) = 525 \text{ RPM'S}$$

\* SINCE WE KNOW SURF. FT. PER MIN. WE WILL SOLVE FOR RPM

THE SPEED FORMULAS

$$\text{RPM} * (\text{DIA. (INCHES)} * .262) = \text{SURFACE FEET PER MINUTE (FRONTWARDS)}$$

$$\text{SURFACE FEET PER MINUTE (BACKWARDS)} / (\text{DIA. (INCHES)} * .262) = \text{RPM}$$

NOTE: THIS WORKS WITH TOOL SPINNING IN MACHINING CNTR AND WITH WORKPIECE SPINNING ON A LATHE

\* HERE IS ANOTHER PROBLEM: A 6" FACEMILL IS PROGRAMMED TO 477 RPM'S AND THE INSERTS ARE CUTTING GOOD. WE WANT TO PROGRAM THE 2" FACEMILL TO RUN THE SAME RELATIVE SPEED.

$$6" \text{ FACEMILL: } 477 \text{ RPM'S} * (6 * .262) = 750 \text{ SFM}$$

$$2" \text{ FACEMILL: } 750 \text{ SFM} / (2 * .262) = \text{RELATIVE RPM FOR RUNNING 2" FACEMILL}$$

750 SFM / (2" * .262) = 1431 RPM	ANSWER = 1477 * (6" * .262) = 750 SFM
----------------------------------	---------------------------------------

