

(RGS3)

50 increment handwheels:
Each division (0.02mm) will Raise or Lower File Rest by 0.01mm.
One complete handwheel revolution Will raise or lower by 0.5mm.

40 increment handwheels:
Each division (0.025mm) will Raise or Lower File Rest by 0.0125mm.
One complete handwheel revolution Will raise or lower by 0.5mm

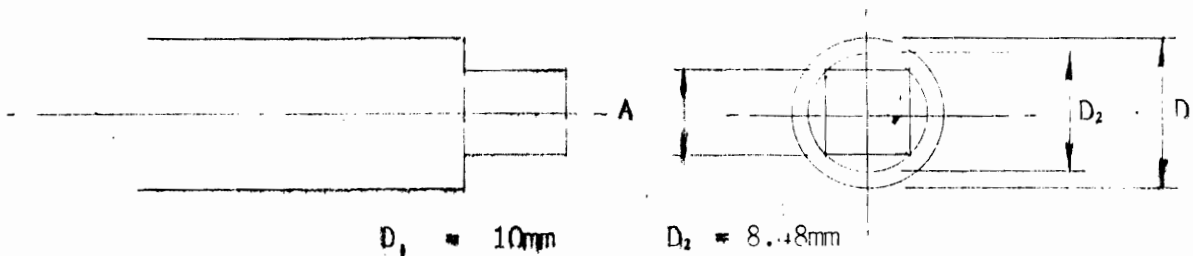
Roller Filing Rest

The vertical travel of the roller filing rest is a trigonometrical function of the movement of the crossslide feedscrew:

$$\begin{aligned} \text{Let change in height} &= x \\ \text{Distance moved by crossslide} &= y \\ (\text{1 turn} &= \text{1mm}) \\ \text{Therefore } x &= \frac{y}{\tan 30} \\ \text{or } x &= \frac{y}{.5774} \end{aligned}$$

Project

To file a 6mm square on a 10mm diameter bar using the roller filing rest.



Ex.1

$$\begin{aligned} \text{Material to be removed} &= \frac{D_1 - A}{2} \\ &= \frac{10 - 6}{2} \\ &= 2\text{mm} \\ \therefore x &= 2\text{mm} \\ \text{Distance moved by crossslide (y)} &= \frac{x}{\tan 30} \\ y &= \frac{2}{.5774} \\ \text{Movement of crossslide feedscrew} &= 3.46 \text{ turns} \\ &\text{or 3 turns and 18.4 divisions.} \end{aligned}$$

Ex. 2

Turn end of bar to D_2 (across corners dimensions).

$$\begin{aligned}\text{Material to be removed} &= \frac{D_2 - A}{2} \\ &= \frac{8.48 - 6}{2} \\ &= 1.24\text{mm} \\ \therefore x &= 1.24\text{mm}\end{aligned}$$

$$\text{Distance moved by crossslide (Y)} = \frac{x}{\tan 30} = \frac{1.24}{.5774}$$

Movement of crossslide feedscrew = 2.14 turns
or 2 turns and 5.6 divisions.