MEASURING A GAP USING SLIP GAUGES

Principle:
Slip Gauges have a least count of 0.001mm. Hence if we have to try all possible stacks in steps of 0.001mm, we will have to try a large number of sizes. Hence we follow a technique of successive approximation, called bridging or the rule of halves.

Procedure:

1. Roughly measure the gap using a steel rule to the nearest mm.

2. Build up a stack of slips to 1.5 mm below the approximate size.

3. On to this pile, wring 1.0 mm. If this pile is too small, change 1.0 for 1.5 mm. If this pile is too large, change 1.5 for 1.25mm. Thus we obtain the size to the nearest 0.25mm.

4. Similarly, we keep changing the last slip gauge, each time aiming for the average of the two stacks, the last stack that went into the gap and that which did not go.

5. Continue till you reach the nearest 0.001mm.

6. Practise to learn the correct feel – it should be tight enough so that there is no perceptible wobble, but the blocks should slide quite easily through the opening. Be careful of openings with a good finish, the stack might wring to one surface and appear to fit snugly.

7. Also take care of the effect of heat transfer from the hands. When you feel that the stack has reached the correct size, lay both the part and the stck aside to normalize, preferably on a heat sink. After an hour or so, try the fit again, there is a chance that the fit will have changed by a small amount.

Tabular column:

Trial no	Slip Gauges used	Stack dimension	Result: GO/NO GO
1			
2			
…			