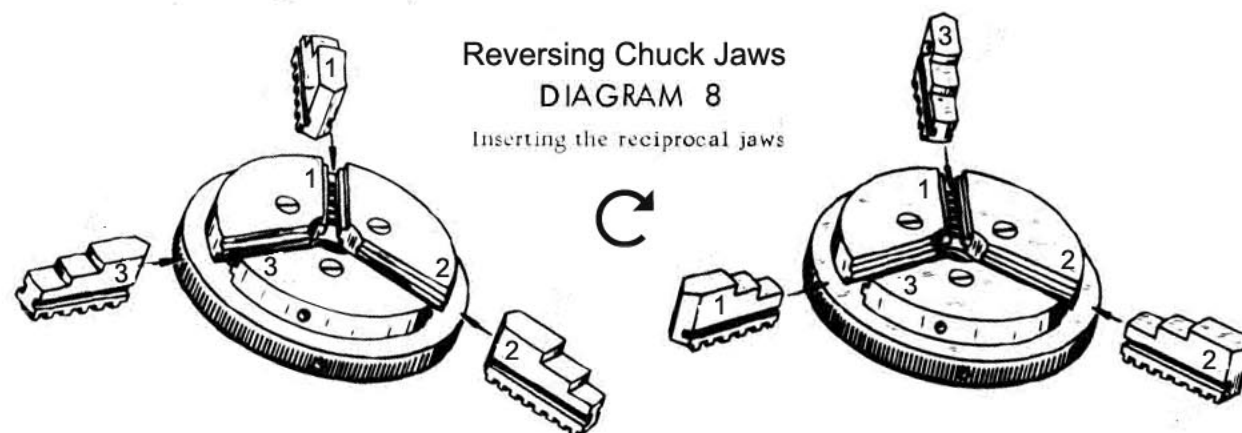


workpiece, but this, as you will surely appreciate, is of no importance to the cutting operation. Then : Switch on the motor, hold the workpiece firmly in one hand and move the tailstock sleeve forward with the other hand. In the same way, after reversing the workpiece, the centering hole is drilled at the other end. This method, without doubt, requires a certain amount of skill and the inexperienced operator will probably not meet with success at the very first attempt.

From the point of view of workshop practice this method can only be regarded as a make shift procedure. The correct way in practice of producing a centre hole requires the use of a three-jaw chuck. (Order No. 1001.) This is screwed on to the spindle head sleeve (in the same way as the face plate on the originally mounted lathe), the drill chuck (Order No. 1005) with the drill clamped in comes on the tailstock side, after the centre has been removed. In this case, then, the drill remains stationary and the workpiece is rotated.

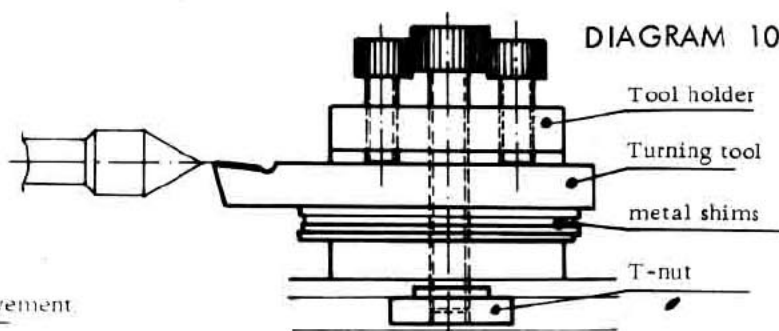
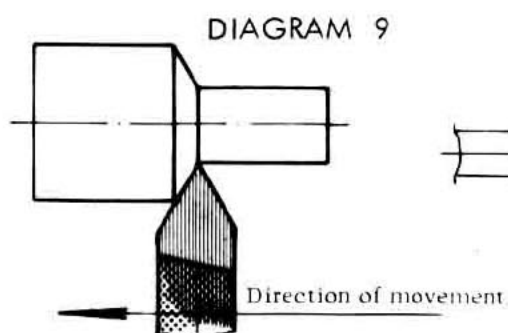
Longitudinal turning :

The originally mounted face plate together with its centre bit is re-mounted and the lathe dog firmly clamped to the workpiece by tightening up the fixing screw. The workpiece together with the lathe dog are then tensioned between the centres, so that the pin in the lathe dog rest in a slot in the face plate. Care should be taken that the centres do not grip the workpiece tightly, though of course without any play. Lubricate the centres with oil from time to time. You will note that the centre of the spindle stock rotates conjointly, whilst that of the tailstock remains stationary. Tensioning of the workpiece between the centres is achieved by advancing the tailstock sleeve. After tensioning, re-clamp the tailstock sleeve. In addition, care should be taken that the clamping screw in the spindle head, which secure the spindle head sleeve, are tightened up.



Mounting the tool holder :

The tool holder (Diagram 10) and its T-nut are inserted in the slot of the support and on this the turning tool is tensioned. The tip of the turning tool must locate at the height of the centres. If necessary several small metal shims are placed underneath the turning tool (Diagram 10). The turning tool holder is adjusted so that the turning tool is at right angles to the workpiece (Diagram 9).



Types of turning tools :

Each kind of work requires a suitable tool for the purpose. Thus for rough turning, planing, face (transverse) turning, thread cutting, etc. the appropriately shaped turning tools must be selected.

Rough turning tools : The object in rough turning is to remove a large quantity of shaving in a short time.

Planing tools : By planing one attains a smooth surface of the workpiece. For this purpose a planing tool with a rounded off (chamfered) cutting edge is used. **Side cutting tools:** These are used for transverse turning and for the turning out of sharp angled corners.

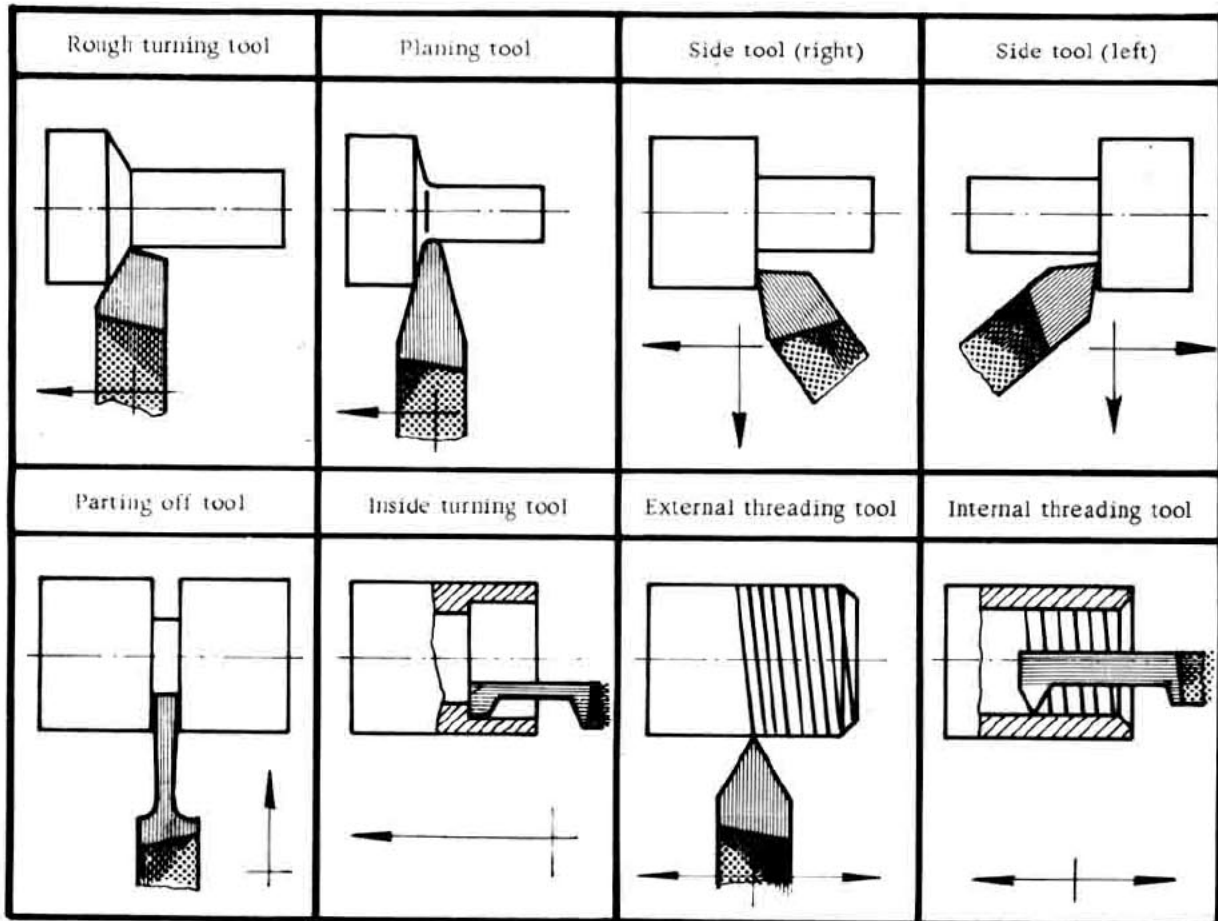


DIAGRAM 11

The initial shaving :

For turning we use the working speeds given in the table. After setting to these you start up the machine with the turning tool lifted. To turn off a thin shaving the turning tool is brought up to the workpiece so that its tip just touches the workpiece following which the support is moved to the right with the cutter tensioned. Movement of the support is done by rotating the handwheel on the longitudinal spindle. The support is moved until such time as the turning tool is located between the centre of the tailstock and workpiece. By rotating the handwheel on the transverse support the depth of shaving is adjusted. (Observe the division scale on the handwheel; by rotating the handwheel one division the turning tool is moved up 0.002"). The actual work movement takes place by rotating the linear spindle handwheel, whereupon the support carrying the turning tool moves up against the spindle head, so removing the shaving. Only after several smaller shavings have been removed in this way and one has become acquainted with the working of the machine, should one go over to bigger shaving depths.