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# **1 PARTS OF THE LATHE MACHINE**

(i) Head stock

(ii) Cross slide

(iii) Carriage

(iv) Compound rest

(v) Tail stock

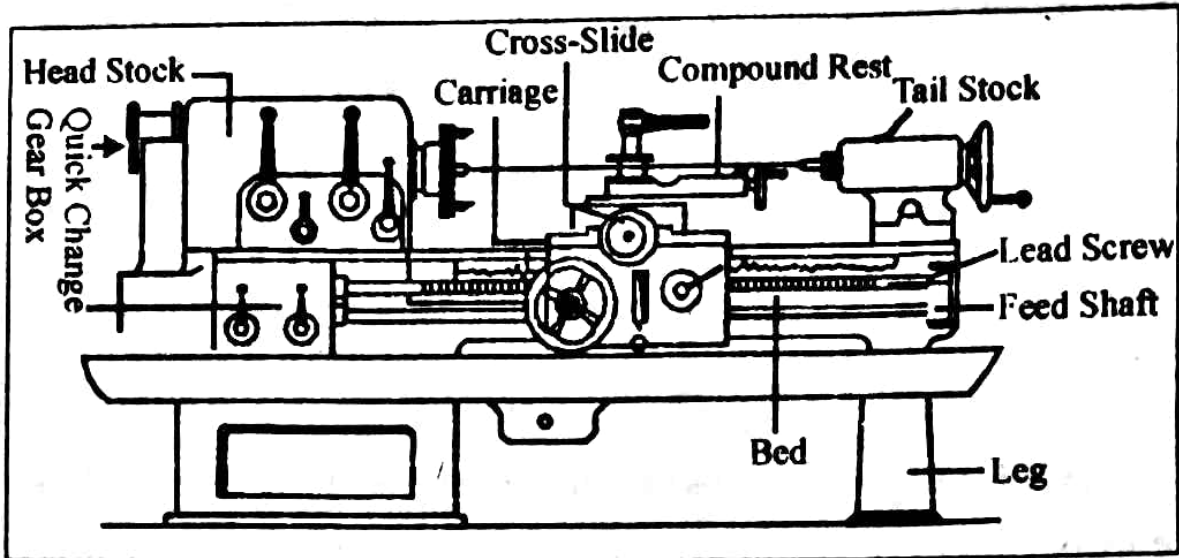
(vi) Bed

(vii) Feed shaft

(viii) Lead screw

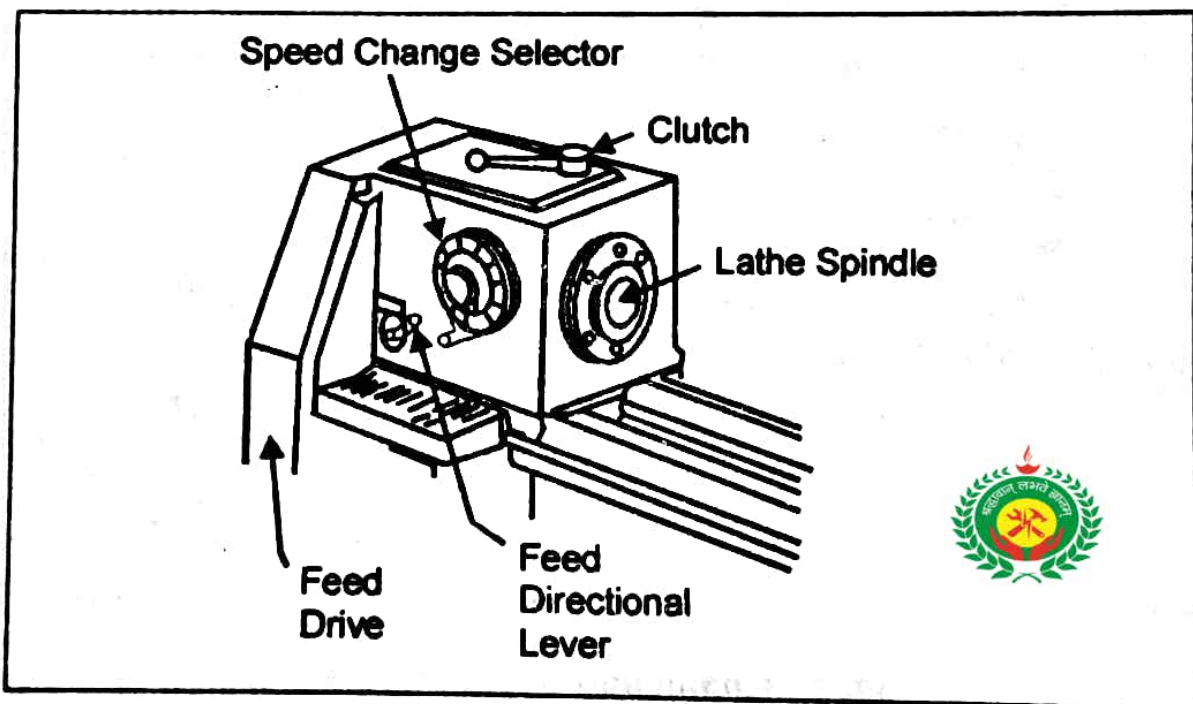
(ix) Quick change gear box

(x) Tool post



**Fig. 1 : Lathe Machine**

(i) **Head Stock** : This main part of the lathe machine is located at its left. The chuck that is fitted on the edge of the spindle, holds the job.



**Fig. 2 : Head Stock**

(ii) **Cross Slide** : The cross slide is placed on the saddle perpendicular to the machine. This is operated by hand with the cross feed screw. The tool is operated by the cross slide parallel to the axis of the machine.

(iii) **Carriage** : The main function of the carriage is to slide backward and forward on the lathe bed along with the saddle, cross slide, compound rest, tool post and support the various lathe operations.

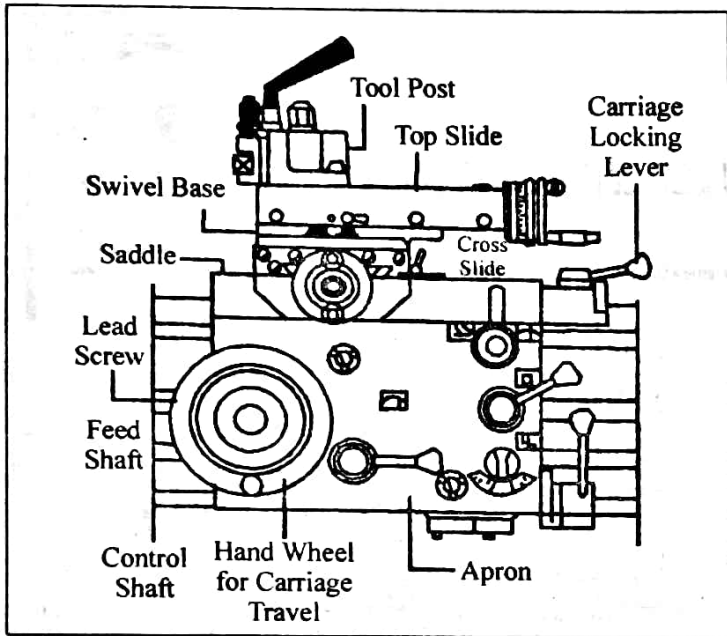


Fig. 3 : Carriage

(iv) **Compound Rest** : The compound rest is fitted on the upper level of the cross slide at the front. There is round base plate beneath it in the form of the base. Graduations from 0° to 45° are marked on the base plate from left to right. This plate is known as swivel plate. The compound slide is located on its upper part.

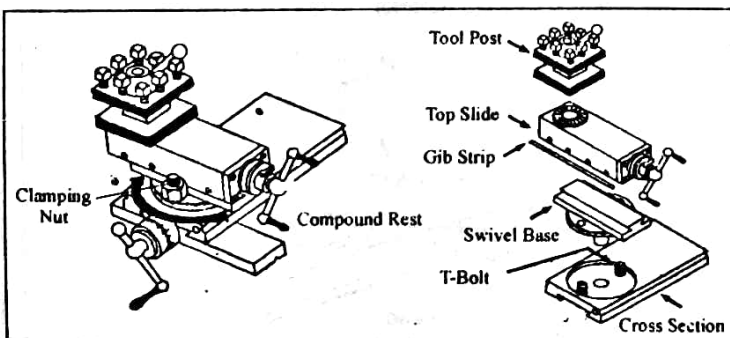


Fig. 4 : Compound Rest and its Parts

(v) **Tail Stock** : The main function of the tail stock is to provide solid support to the job that is to be turned. There is a dead centre to balance the longer jobs. The tail stock moves forward and backward on the lathe bed to turn the jobs of varying lengths between the live centre and the dead centre.

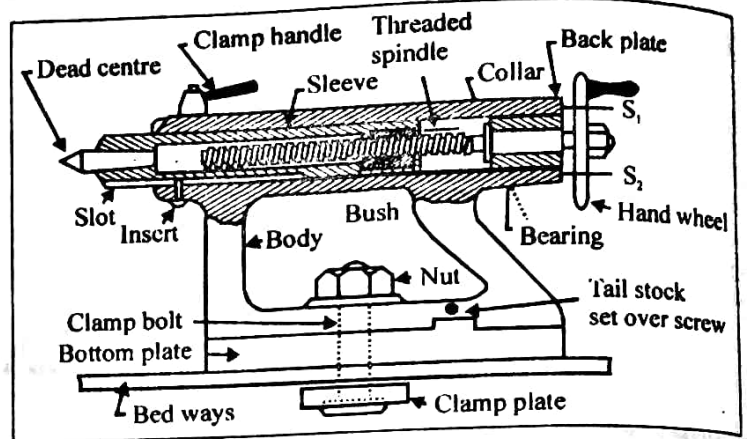


Fig. 5 : Tail Stock and its Parts

(vi) **Bed** : This part of the lathe machine rests on its legs. This is the part on which bed ways are made over which the carriage and tool posts move backward and forward. The bed of the lathe machine is made of cast iron. The bed is of the following four types:

- (a) Flat bed
- (b) V- bed
- (c) Combination bed
- (d) Gap bed

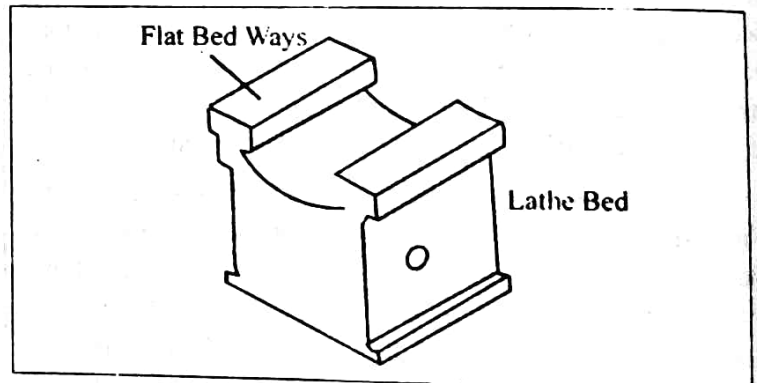


Fig. 6 : Flat Bed

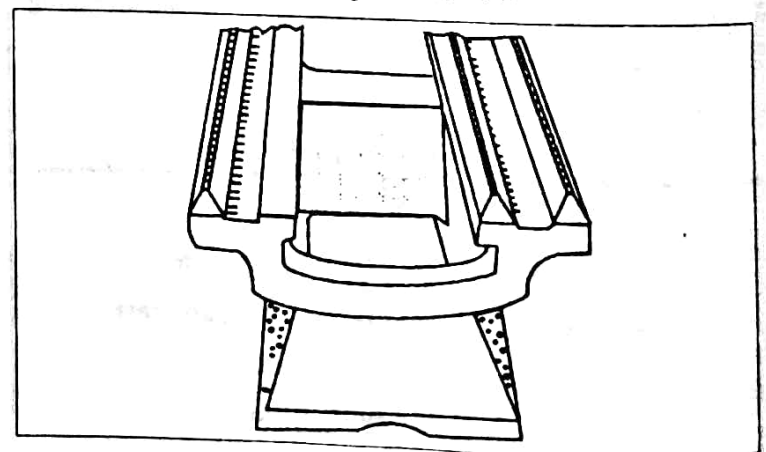


Fig. 7 : V - Bed