WOODWORK MACHINES

In Basic Technology, we use hand tools and some portable power tools and machines. These power tools can be used to cut, plane, drill holes, and shape items.

Some common woodwork machines are band saw, surface planer, thicknesser, drill press and circular saw.

Band Saw

The band saw is a machine used to cut curves and straight lines in thick and thin pieces of wood. In using the band saw, the wood to be cut is brought down on a table, in order to make contact with the teeth of the blade as it revolves. The required size is measured from the blade to the table. The band saw has relieved wood workers of the burden of slicing timber manually.

The Saw Guide

This gives support to the body of the blade. The guides must be set to steady the saw as near as possible to the front edge of the blade. The edges of the guides should support the width of the blade and leave the teeth free. The top guide is provided with a wheel, which takes the thrust of the saw under sawing conditions.

Surface Planer

The surface planing machine is used for removing marks and twists on the face of the wood. That is, it helps to produce flat surfaces and straight edges. The machine, in addition to surface planing, is used for rebating, chamfering, beveiling, tapering and tenoning.

Thicknesser

The thicknesser is a woodwork machine used for planing to a specific thickness. It is similar to the surface planer. The thicknesser is used to produce correct thickness by setting the cutter to the desired size. The wood passes between the two cutters. The cutters are adjusted to the desired size, in order to give the correct thickness after cutting.

Cutting blocks of the thicknesser are usually circular, with provision of two or four blades. They are attached with feed rollers or pressure bars. The feed table is fitted with two antifriction rollers, which control the feed speed of the work piece. The front table is pulled backwards from the cutter block, to allow the wood chip fly out. This helps to achieve perfect planing operations.

Circular Saw

The circular saw is used to prepare or resaw timber into suitable sizes for articles of joinery, furniture and some other items made of wood. This machine has a table resting on a column. The revolving knife protrudes above the table. The saw has an iron fence on one side of the table, which allows the wood to slide as the saw cuts along the line which is marked on the wood.

Drill Press

The drill press is used to drill holes in wood. However, it can be adapted to carry out other operations, such as mortising, shaping, sanding and boring. There are four main parts of a drill press irrespective of the design. These are the head, the column, the table and the base.

The head of a drill press consists of a spindle, which rotates in a vertical position, and is enclosed in ball bearings at both ends in a quill. The feed lever operates the quill and the spindle by a downward feed. The speeds of the rotating spindle can be adjusted on the cone pulleys on the drill press.

Drill press sizes are determined by the distance from the point to the column. This is usually the radius of the largest stock that can be held, while boring through the centre.

Wood Lathe

The wood lathe is used for turning wood. Two common methods of turning wood in wood lathe are:

- Turning between centres, and
- Turning on the face plate both inside and outside.

Some major parts of lathe machine include the head stock, the tool rest, live and tail stock centres. Others are the face plates, steady rest and turning tools.