

automatic or manual. It is expressed in mm/double stroke or simply mm/stroke because no cutting is done in return stroke.

Depth of Cut :- Depth of cut d is the thickness of the material removed in one cut, in mm.

Planer Machine

The planer or planing machine is a machine tool, which like the shaper produces flat surfaces in horizontal, vertical or inclined plane.

The fundamental difference is that the planer operates with an action opposite to that of the shapers, i.e., the work piece reciprocates past one or more stationary single point cutting tools.

Planers are meant for machining large sized work pieces, which cannot be machined by the shaping machines. The work table is moved back and forth on the bed beneath the cutting head either by mechanical means, such as a rack and pinion gear or by a hydraulic cylinder.

Classification of Planner

Planners are generally divided into 5 types —

- 1) Double housing planer
- 2) Open side planer
- 3) Edge type planer
- 4) Divide table planer
- 5) Pit type planer

Parts of planer

(11)

- 1) Bed :- Bed of a planer is larger in size and heavy in weight. It supports the column and all other moving parts of machine. It is made slightly longer than twice the length of the table may be moved on it. There is a V shaped ways on the bed which help to reciprocate on back and forth motion to the table.
- 2) Table :- Table supports the work and reciprocates along the bed. Table is made from cast iron. The top face of the table is accurately finished in order to locate the work correctly. T-slots are provided on the entire length of the table so that the work and work holding devices may be bolted upon it.
- 3) Column :- These are rigid box like vertical structural placed on each side of the bed and table. They are heavily ribbed to trace up severe force due to cutting. It also facilitate tool head mechanism. The cross rail may be made to slide up and down for accommodating different heights of work.
- 4) Cross rail :- It is rigid box like casting connecting the two columns. It may be raised or lowered on the face of housing and can be clamped at a desired position by manual or electrical clamping devices. It should remain absolutely parallel to the top surface of the table.