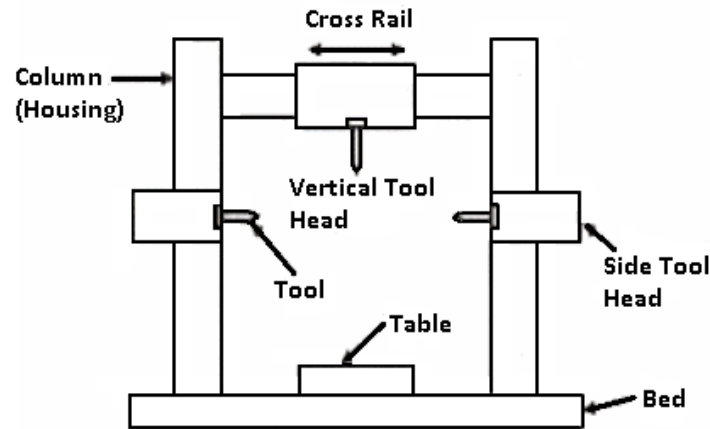


Planer Machine and Types of Planer Machine

The planer machine is similar to a shaper machine. It is intended to produce plane and flat surfaces by a single point cutting tool.

A planer machine is very large and massive compared to a shaper machine. It is capable of machining heavy workpiece, which cannot be fit on a shaper table.



PLANER MACHINE

The fundamental difference between a shaper and a planer is that

- In a planer, the work which is supported on the table reciprocates over the stationary cutting tool. And the feed is supplied by the lateral movement of the tool, whereas
- In a shaper, the tool which is mounted upon the ram reciprocates. And the feed is given by the crosswise movement of the table.

Types of Planer Machine

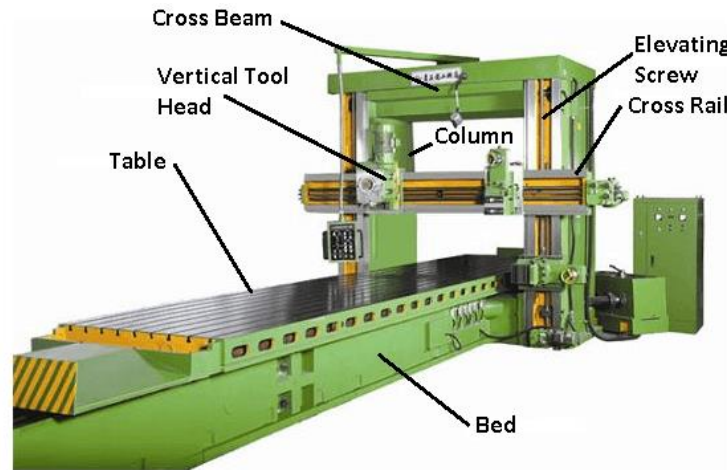
Different classes of work necessitate designing the different types of planer machine to suit various requirements of our present-day industry.

Following are the different types of planer machine which are most commonly used:

1. Standard or Double housing planer.
2. Open side planer.
3. Pit planer.
4. Edge or plate planer.
5. Divided table planer.

1. Standard or Double Housing Planer:

The standard or double housing planer is most widely used types of planer machine in workshops. A double housing planer has a long heavy base on which a table reciprocates on accurate guide ways.



DOUBLE HOUSING PLANER

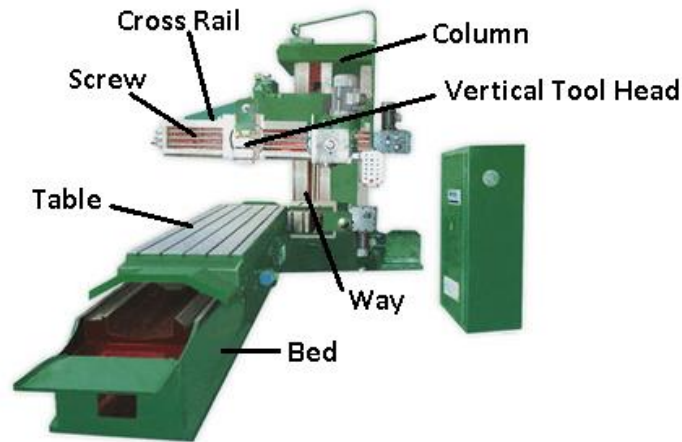
- The length of the bed is little over twice the length of the table.
- Two massive vertical housings or uprights are mounted near the middle of the base, one on each side of the bed. To ensure the rigidity of the structure, these two housings are connected at the top by a cast iron member.
- The vertical faces of the two housing are accurately machined so that horizontal Cross rail carrying two tool heads may slide upon it.
- The tool heads which hold the tools are mounted upon the Cross rail.

These tools may be feed either by power in Cross rail or vertical direction. In addition to these tool heads, there are two other tool heads which are mounted upon the vertical face of the housing.

They can also be moved either in a vertical or horizontal direction to apply feed. The planer table may be driven either be mechanical or hydraulic devices.

2. Open side Planer:

An open side planer has housing only on one side of the base. And the Cross rail is suspended from the housing as a cantilever. This feature of the machine allows the large and wide work piece to be clamped on the table and reciprocated over the cutting tool.



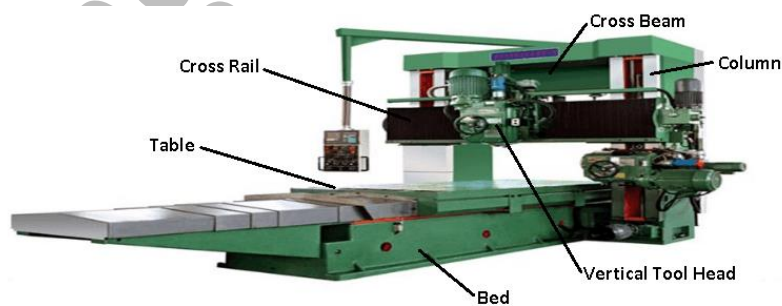
OPEN SIDE PLANER

One side of the planer being opened, large and wide jobs may project out of the table and reciprocate without being interfered by the housing. In a double housing planer, the maximum width of the job which can be machined is limited by the distance between the two housing. As the single housing has to take up the entire load, it is made extra-massive to resist the forces.

Only three tool heads are mounted on this machine. The constructional and driving features of the machine are the same as that of a double housing planer.

3. Pit Planer:

A pit type planer is massive in construction. It differs from an ordinary planer. In this the table is stationary and the column carrying the Cross rail reciprocates on massive horizontal rails mounted on both sides of the table.



PIT PLANER

These types of planer machine are suitable for machining a very large work which cannot be supported on a standard planer. This machine design saves much of floor space.

The length of the bed required in a pit type planer is little over the length of the table, whereas in a standard planer the length of the bed is near twice the length of the table. The uprights and the Cross rail are made sufficiently rigid to take up the forces while cutting.

4. Edge or Plate Planer:

The design of a plate or edge planer is totally unlike that of an ordinary planer. It is specially intended for squaring and beveling the edges of steel plates. Also used for different pressure vessels and ship-building works.



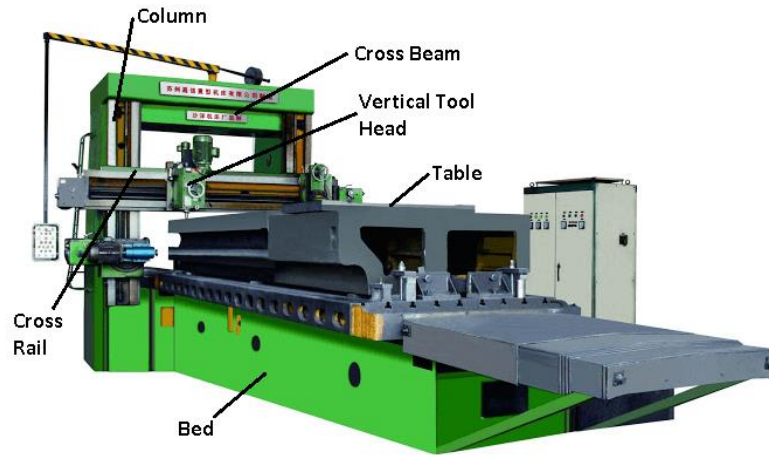
One end of a long plate which remains stationary is clamped with the machine frame by a large number so air operated clamps. The cutting tool is attached to a carriage which is supported on two horizontal ways of the planer on its front end.

The operator can stand on a platform extending from the carriage. The carriage holding the tool reciprocates over the edge of the plate. The feed and depth of cut are adjusted by the tool holder which can be operated from the platform.

5. Divided Table Planer:

This type of planer has two tables on the bed which may be reciprocated separately or together.

This type of design saves much of idle time while setting the work. The setting up of a large number of identical work pieces on the planing machine table takes quite a long time. It may require as much time for setting up as may necessary for machining.



DIVIDED TABLE PLANER

To have continuous production on the table is used for setting up the work, while the other reciprocates over the cutting tool finishing the work. When the work on the second table is finished, it is stopped and finished jobs are removed.

Fresh jobs are now set up on this table while the first table holding the jobs now reciprocates over the tool. When a heavy and large job has to be machined, both the table are clamped together and are given reciprocating movement under the tool.