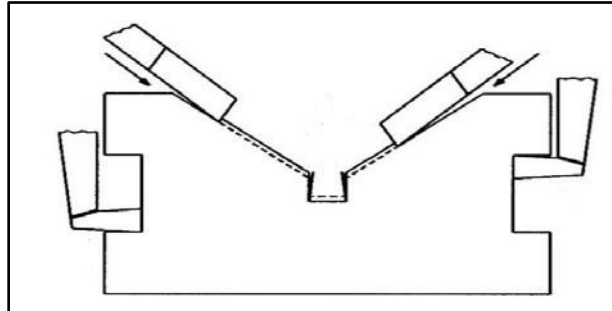


To perform V-cut machining on the given work piece by using shaper machine.

Apparatus:

Shaper machine, aluminum slab, cutting tool.

Diagram:



Theory

Shaping a Rectangular Job on Shaper

First of all, the vise should be set on the table with the jaws parallel with the stroke of the ram. Then the material may be placed in the vise and shaped to the required thickness. Next, the material must be turned so that this finished surface is against the solid jaw of the vise and then the metal shaped to the required width.

Machining a Thin Job on Shaper

Machining a thin job on shaper, the important point to be borne in mind is that it should be prevented from warping. For this purpose, first a light cut should be taken off each side to relieve the internal strain of the metal. Then more light cuts should be taken off each side, alternately, until the correct thickness is obtained

Cutting an Angle on a Large Job

When cutting an angle on a large job, using a shaper having a universal table, the universal table should be tilted (tool-head should not be swung to the required angle), because this makes it possible to use the automatic table feed. If the tool head is set at the required angle and there is an automatic down feed, then it will be necessary to use the hand down feed

Cutting a Dovetail Bearing on a Shaper

First the tool head of the shaper should be set at the same angle as that of the dovetail to be cut. The work, once set, should not be disturbed in shaping the angular and flat surfaces of the dovetail. The clapper box is tilted at an angle to allow the tool to clear the work on the return stroke

Shaping a V or Key Way Centrally in a Block

One method is to lay out the job and shape to scribed layout lines. A more accurate method of shaping a V is to set the vise jaws parallel to the stroke, set the tool-head at the required angle, and rough cut the layout lines. Next, take a cut from side of the V, then reverse the job in the vise.

With the table set in the same position, take a cut off the opposite side. Continue this until both sides of the V are cleaned up and the proper depth has been obtained. The V will then be in the center of the block. The same procedure may be used in shaping a keyway.

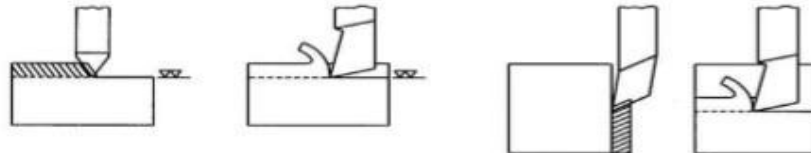
• **Operations Performed on Shaper:**

Horizontal cutting

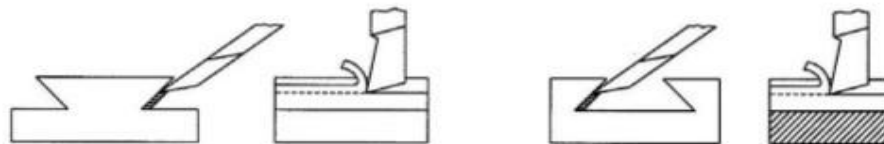
Vertical cutting

Inclined cutting

Irregular cutting



Horizontal cutting & Vertical cutting



Inclined cutting & Irregular cutting

Procedure

- Adjust length of stroke and place workpiece in vise
- Set tool head at 45° angle
- 1st create geometry on one face then move tool to opposite direction

Questions

Differentiate between shaper and planing machine?

Write different types of tools which can be used on shaper machine?

Write about the different operations which can be perform on shaper machine?

Comments

How to make shaper machine more time efficient?
