Tuesday

Filing Operations

Parth Johri
2K20/B17/33

Types of files:->

1.) Hand file:->
→ Rectangular in section and tapered in thickness but parallel in width. The faces carry double cut teeth and one of the edges single cut. The other edge, known as soft edge, does not have any teeth and this file is also known as safe edge file.

2.) Flat file:->
→ It is rectangular in section and tapered for ⅔ length in width and thickness towards the top. The faces carry double cut teeth and the edges carry single cut teeth.

3.) Square file:->
→ This file is especially used to remove the material from the inside corners which are at right angles.

4.) Three Square file:-> It is of equilateral triangular in section and tapers toward the tip. The faces are double cut and the edge sharp. These files are used to file angular hole and recesses. Used for sharpening wood saws.

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5.) Round file:-

→ It is tapered for 1/3 length with double cut or large course grades. It is used for filing out round elliptical and curved openings.

6.) Hay-Round file:-

→ It is in the form of a semi-circle that is used to remove the material from the semi-circular cross section components

Fitting Operations

1.) Chipping

Removing the metal with a chisel is called chipping and is normally used where machining is not possible. While chipping safety goggles must be put on to protect eyes from the flying chips to ensure safety of others, a chip guard is placed in position

2.) Filing

There are several methods of filing, each with a specific purpose with reference to the file -

① Holding the file :- for heavy work and to remove more metal a high pressure is used. for light pressure is applied.

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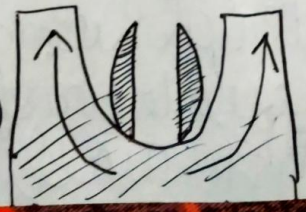
② Filling Internal curves :- A part of half round file only makes contact as shown during filing operation

③ Cross filing :- It is the most common method of filing. Cross filing is carried out across the diagonals, to produce medium surface finish. It is used when large amounts of metal is to be removed by cross filing rounding the surface is removed

④ Straight filing :- When a short length of workpiece is required to have a flat surface, straight filing is used. file works in during cross filing maybe removed to produce a relatively smoother surface.

⑤ Draw filing :- It is done to get finely finished surface. It provides a smoother surface finish than straight filing. A smooth or dead smooth flat file is used for this.



a) filing Internal Curve

b) Cross filing

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6. Sawing Operation:-

→ Metal sawing is done by hack saw. A hacksaw is a fine tooth saw with a blade under tension in a frame, used for cutting materials such as metal or bone. Hand held hacksaws consist of a metal arch with a handle, usually a pistol grip with pins of attacking a narrow disposable blade. A screw or other mechanism is used to put the thin blade under tension. The blade can be mounted with the teeth facing toward or away from the handle, resulting in cutting action on either the push or pull stroke. On the push stroke, the arch will flex slightly, decreasing the tension on the blade.

7. Punching Operation:-

→ Punching in metal working is the process of using a punch ~~beter~~ press to push a punch through the material and into a die to create a hole in the work piece. A scrap slug from the hole is deposited into the die in the process. Depending on the material being punched this slug may be recycled and reused to discarded. The hole walls will

Show furnished area, rollover, and die break and must often be further processed. Punching is often the cheapest method for creating holes in sheet metal in medium to high productio

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Drilling Operation:-

Drilling is a cutting process that uses a drill bit to cut or enlarge a hole in solid material. These drills bit is a multipoint and cutting tool. It cuts by applying pressure and rotation to the work piece, which forms chips at the cutting edge.

Marking Measurings:-

Accurate working in the first step and the methods and instruments used are common in all fitting works. Measurements are taken either from a finished edge or frame centre line.