Article published on May 29th 2012 | Business

Broaching is one of the metal machining methods. The broaching operation is done by a multipoint steel cutting tool known as a broach or broaching tool. A broach consists of pieces of steel with chisel points layered along its surface. The tool is operated by a linear reciprocating movement relative to the work piece and in the direction of the tool axis. Depending on the specification of the chisel cutting points broaches can remove 0.05mm to 0.10mm per shave. Broaching is a high productivity tool especially in metalworking industry. Broaches can be used in finishing internal or external surfaces. External broaching is achieved when a broach is used to on the outside surface of work piece to create a shape with very accurate dimensions. Internal broaching on the other hand is used on the inner surface of the work piece to bring it to the required finish.

A broach tool is made of high speed steel consisting of a series of different cutting edges along its length. Feed of the tool is determined by the distance between successive cutting teeth. The total material removed is accomplished by the cumulative effect of the all teeth in action. The resultant surface of the cut is determined by the contour of the cutting teeth along the surface.

Broaches are available in different types depending on required surface finish. Progressive cut broaches have cutting edges with the same height but different width. When in action, metal is removed in progressively wider layers by each tooth. The last cutting edge removes a thin layer over the whole work surface. Rotor cut broaches are used to remove materials in holes in castings and forgings. The teeth are arranged along the periphery at different sections to enable clearance. Burnishing broaches are also used to finish holes but accomplish this by compression as opposed to cutting. They are used to make high glazed fished surfaces on steel work piece.

During broaching operation, the broach tool is moved linearly along the work piece. Broaching operation is widely used in metal industry. Due to demand for mass production, broaches facilitated by broaching machines which provide fixture and motions to broach and work piece. Broaching machines can be classified basing on working principles; under this category we have hydraulic broaching machine, mechanical broaching machine, electro-mechanical broaching machine and computer controlled broaching machine. Another criterion of classification is construction of the machine where we have vertical, horizontal and rotary broaching machine.

Generally, only three parameters are controlled by these broaching machines; the speed, feed rate and depth of cut. Broaching machines are popular in that they are able to accomplish a task fast, efficiently and accurately. In addition, broaching machines allows working on simultaneous work pieces while maintaining a high degree of accuracy.

Article Source:
http://www.articleside.com/business-articles/broaching-tools-and-operation.htm - Article Side

RyanHarris - About Author:

a Broaches can be used in finishing internal or external surfaces.The broaching operation is done by a multipoint steel cutting tool known as a broach or broaching tool.Fore buy all type of broaches please contact with Capital Tool Industries.

Article Keywords:
broaches, round broaches, spline broaches

You can find more free articles on Article Side. Sign up today and share your knowledge to the community! It is completely FREE!