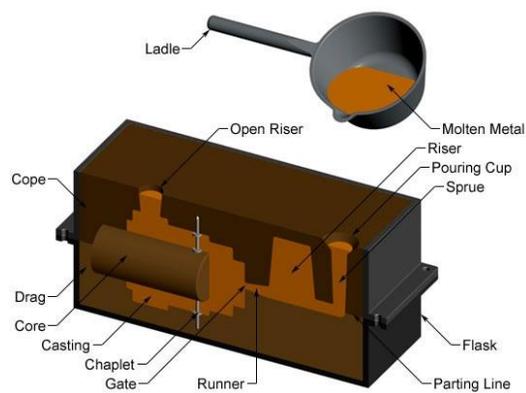
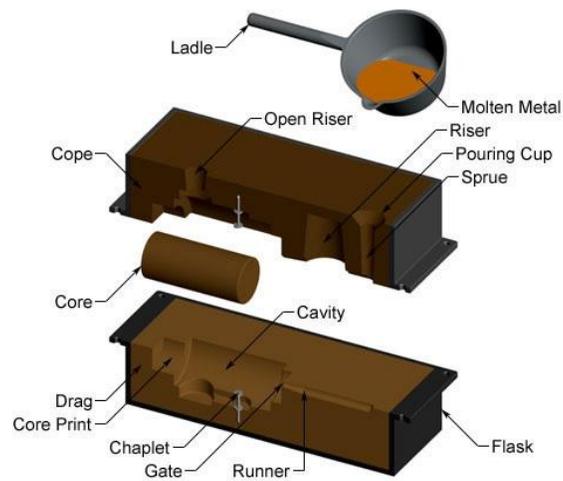




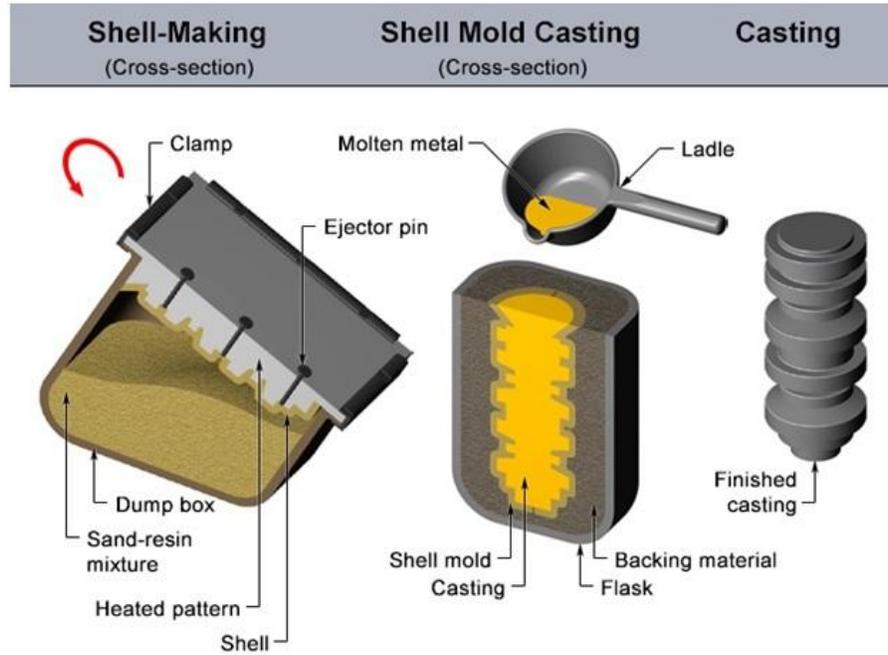
AGS-TECH Inc., Tel: 505-550-6501 and 505-565-5102, Fax: 505-814-5778,

Email: [sales@agstech.net](mailto:sales@agstech.net), Web: <http://www.agstech.net>

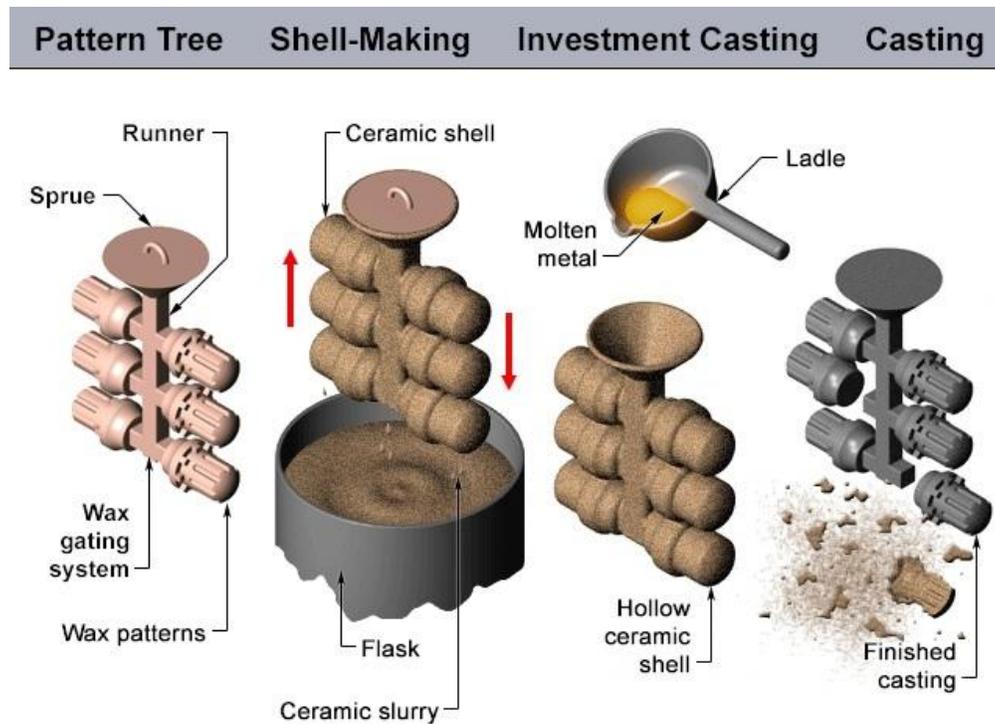
## SAND CASTING PROCESS:



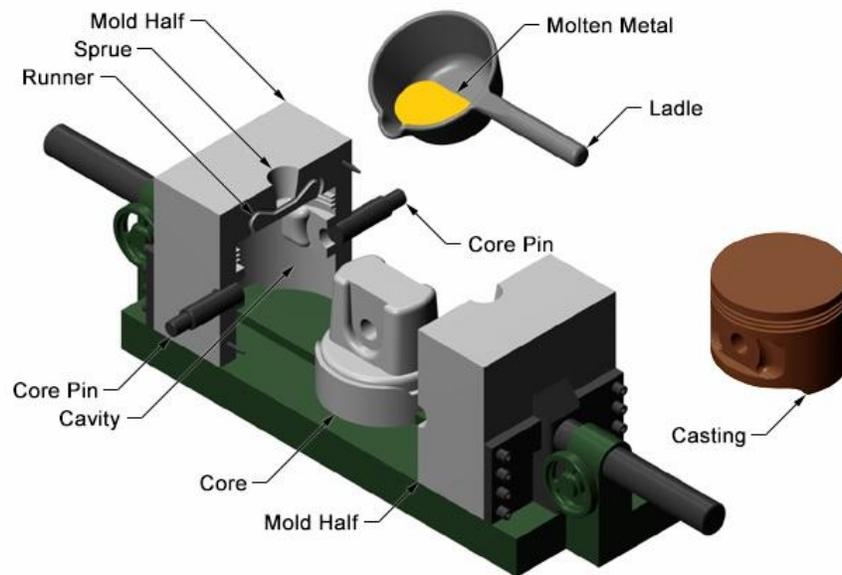
## SHELL MOLD CASTING:



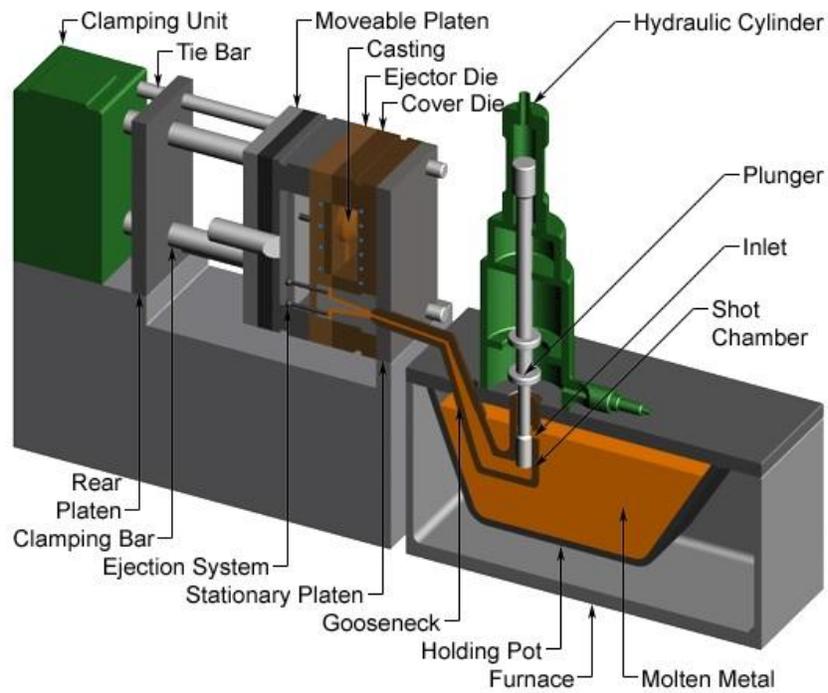
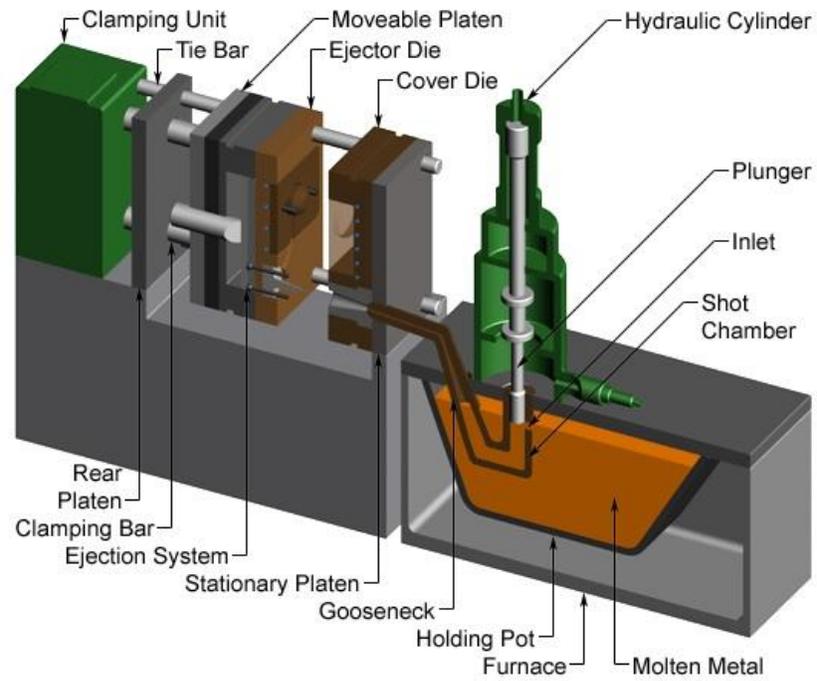
## INVESTMENT CASTING PROCESS:



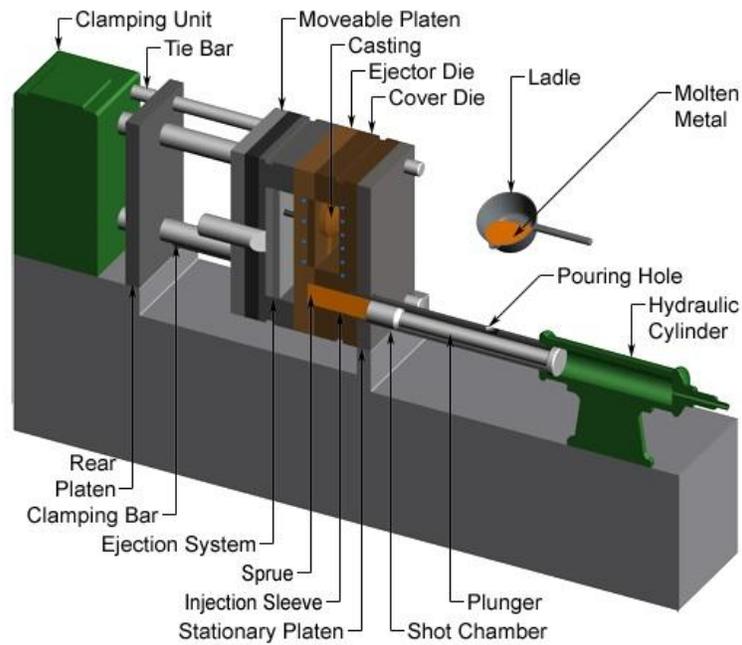
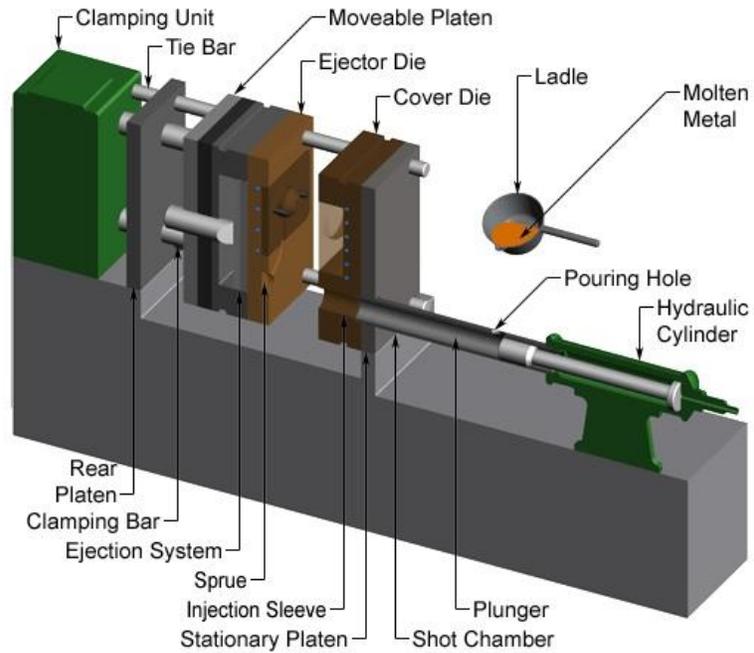
## PERMANENT MOLD CASTING:



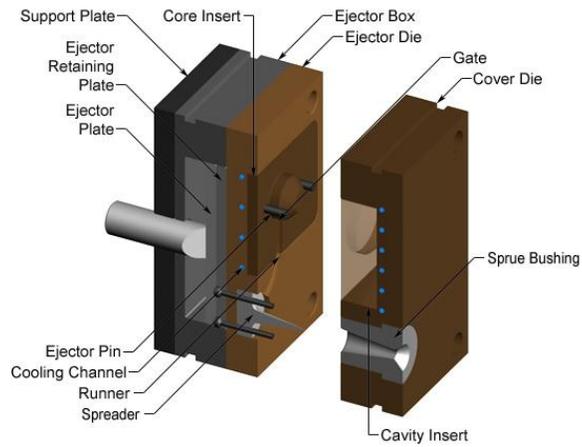
## DIE CASTING (HOT CHAMBER):



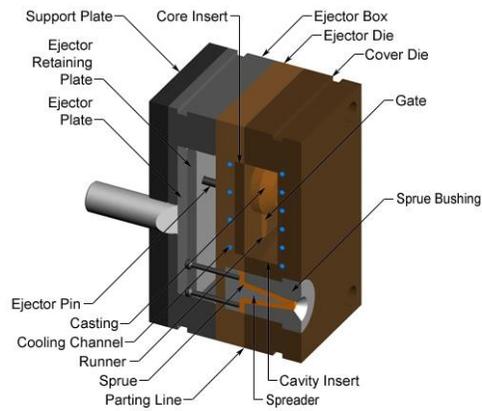
## DIE CASTING (COLD CHAMBER):



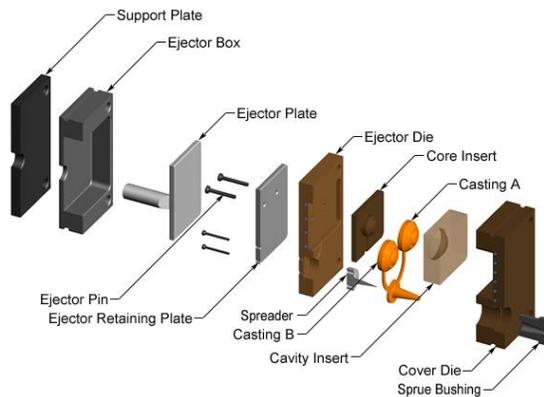
### Die assembly – Open (Hot chamber)



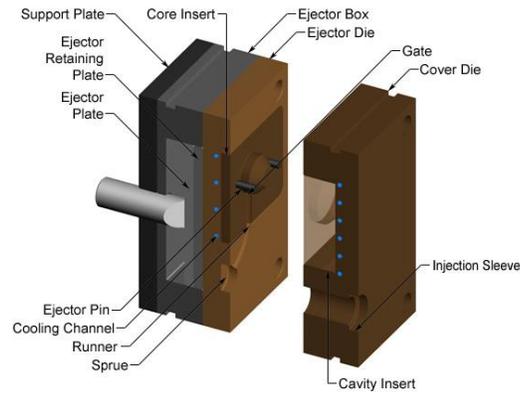
### Die assembly – Closed (Hot chamber)



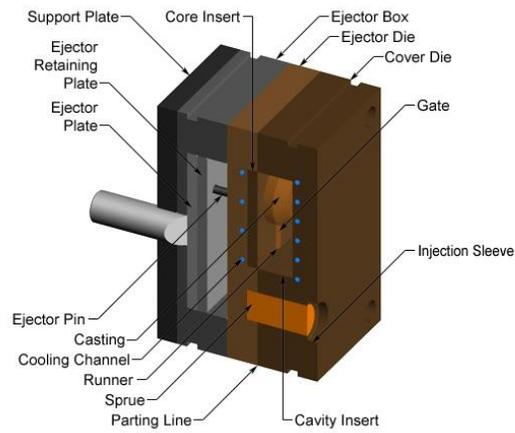
### Die assembly - Exploded view (Hot chamber)



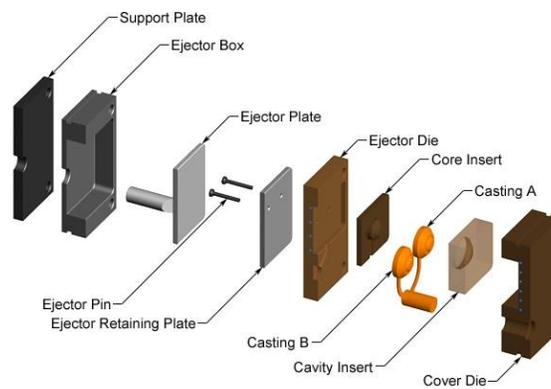
## Die assembly – Opened (Cold chamber)



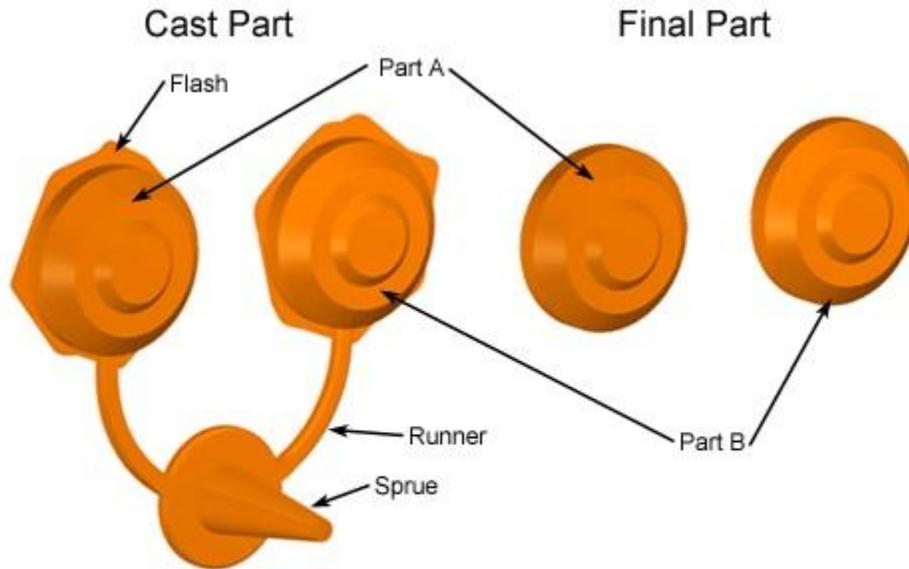
## Die assembly – Closed (Cold chamber)



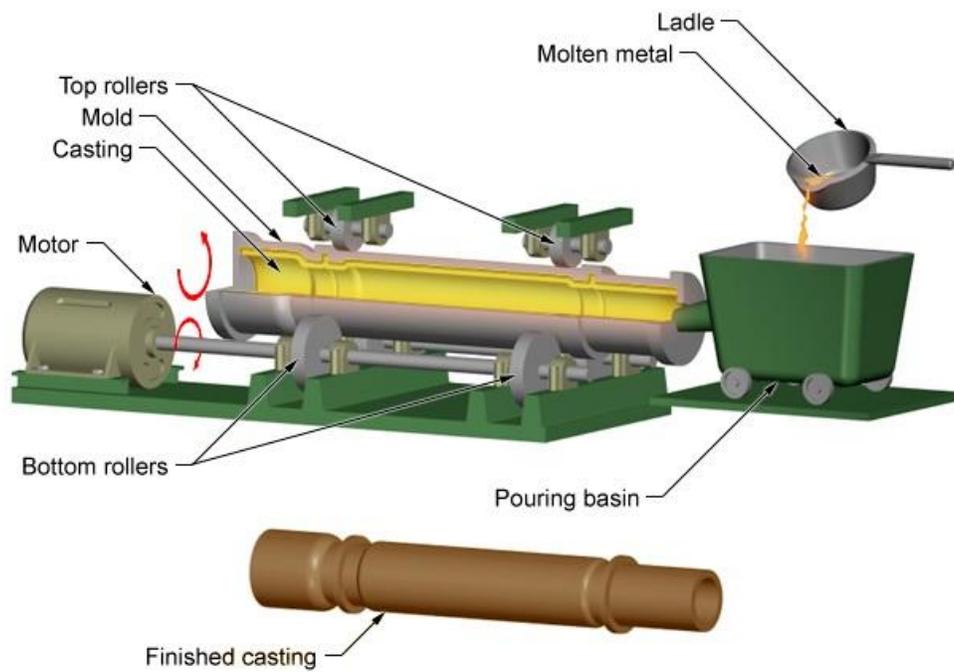
## Die assembly - Exploded view (Cold chamber)



## Die Cast Part

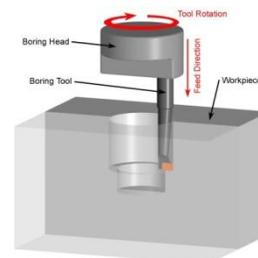
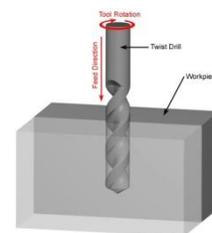
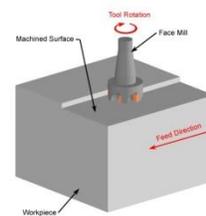
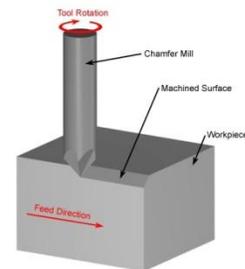
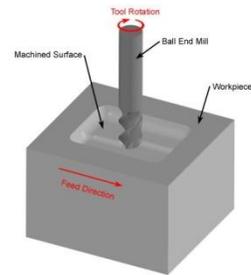


## CENTRIFUGAL CASTING:

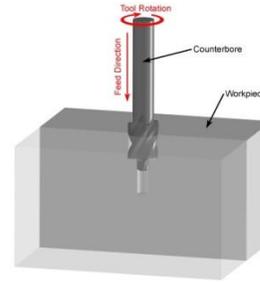


## MILLING OPERATIONS:

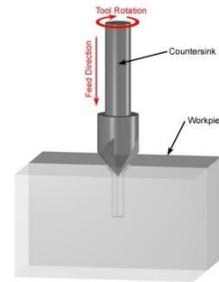
- End milling** - An end mill makes either peripheral or slot cuts, determined by the step-over distance, across the workpiece in order to machine a specified **feature**, such as a profile, slot, pocket, or even a complex surface contour. The depth of the feature may be machined in a single pass or may be reached by machining at a smaller axial depth of cut and making multiple passes.
- Chamfer milling** - A chamfer end mill makes a peripheral cut along an edge of the workpiece or a feature to create an angled surface, known as a chamfer. This chamfer, typically with a 45 degree angle, can be machined on either the exterior or interior of a part and can follow either a straight or curved path.
- Face milling** - A face mill machines a flat surface of the workpiece in order to provide a smooth finish. The depth of the face, typically very small, may be machined in a single pass or may be reached by machining at a smaller axial depth of cut and making multiple passes.
- Drilling** - A drill enters the workpiece axially and cuts a hole with a diameter equal to that of the tool. A drilling operation can produce a blind hole, which extends to some depth inside the workpiece, or a through hole, which extends completely through the workpiece.
- Boring** - A boring tool enters the workpiece axially and cuts along an internal surface to form different features. The boring tool is a single-point cutting tool, which can be set to cut the desired diameter by using an adjustable boring head. Boring is commonly performed after drilling a hole in order to enlarge the diameter or obtain more precise dimensions.



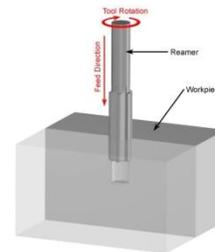
- **Counterboring** - An counterbore tool enters the workpiece axially and enlarges the top portion of an existing hole to the diameter of the tool. Counterboring is often performed after drilling to provide space for the head of a fastener, such as a bolt, to sit below the surface of a part. The counterboring tool has a pilot on the end to guide it straight into the existing hole.



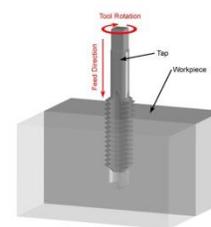
- **Countersinking** - A countersink tool enters the workpiece axially and enlarges the top portion of an existing hole to a cone-shaped opening. Countersinking is often performed after drilling to provide space for the head of a fastener, such as a screw, to sit flush with the workpiece surface. Common included angles for a countersink include 60, 82, 90, 100, 118, and 120 degrees.



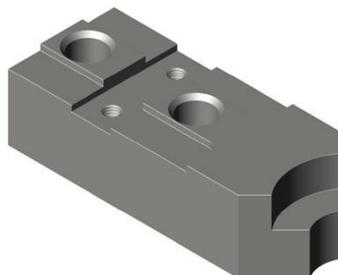
- **Reaming** - A reamer enters the workpiece axially and enlarges an existing hole to the diameter of the tool. Reaming removes a minimal amount of material and is often performed after drilling to obtain both a more accurate diameter and a smoother internal finish.



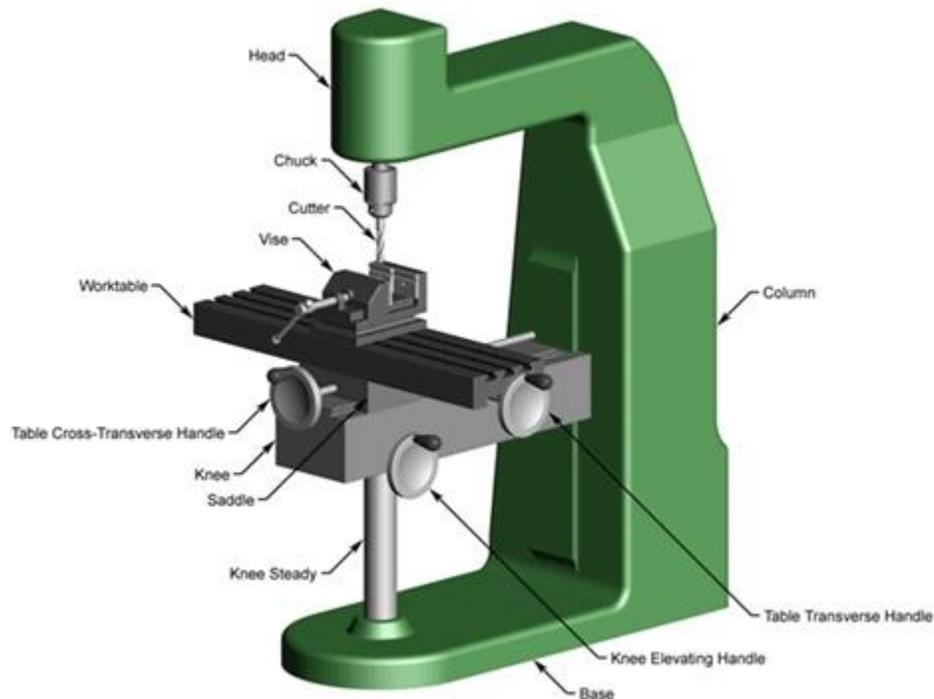
- **Tapping** - A tap enters the workpiece axially and cuts internal threads into an existing hole. The existing hole is typically drilled by the required tap drill size that will accommodate the desired tap. Threads may be cut to a specified depth inside the hole (bottom tap) or the complete depth of a through hole (through tap).



### Milled Part



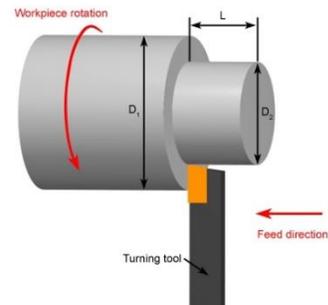
## Manual vertical milling machine



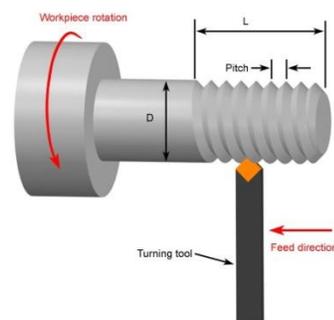
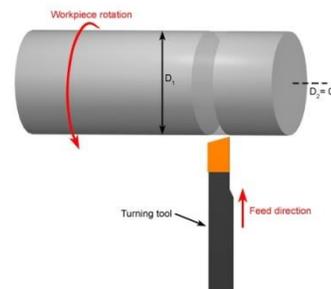
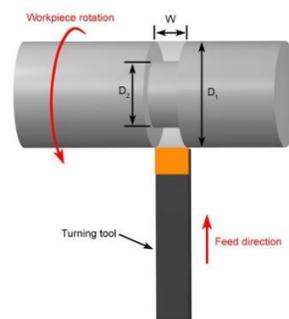
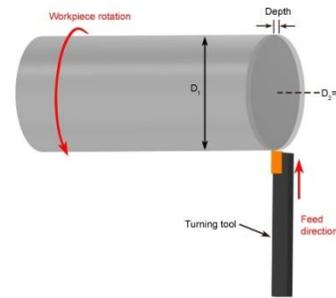
## TURNING OPERATIONS:

### • External operations

- **Turning** - A single-point turning tool moves axially, along the side of the workpiece, removing material to form different features, including steps, tapers, chamfers, and contours. These features are typically machined at a small radial depth of cut and multiple passes are made until the end diameter is reached.

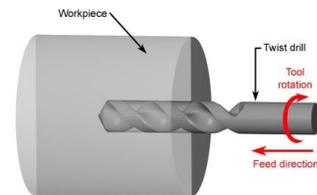


- **Facing** - A single-point turning tool moves radially, along the end of the workpiece, removing a thin layer of material to provide a smooth flat surface. The depth of the face, typically very small, may be machined in a single pass or may be reached by machining at a smaller axial depth of cut and making multiple passes.
- **Grooving** - A single-point turning tool moves radially, into the side of the workpiece, cutting a groove equal in width to the cutting tool. Multiple cuts can be made to form grooves larger than the tool width and special form tools can be used to create grooves of varying geometries.
- **Cut-off** (parting) - Similar to grooving, a single-point cut-off tool moves radially, into the side of the workpiece, and continues until the center or inner diameter of the workpiece is reached, thus parting or cutting off a section of the workpiece.
- **Thread cutting** - A single-point threading tool, typically with a 60 degree pointed nose, moves axially, along the side of the workpiece, cutting threads into the outer surface. The threads can be cut to a specified length and pitch and may require multiple passes to be formed.

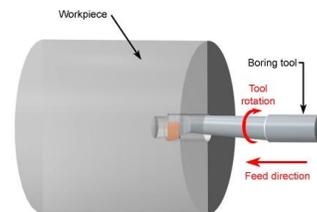


- **Internal operations**

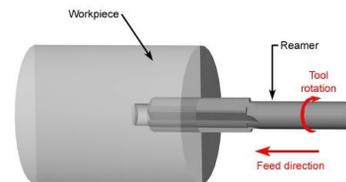
- **Drilling** - A drill enters the workpiece axially through the end and cuts a hole with a diameter equal to that of the tool.



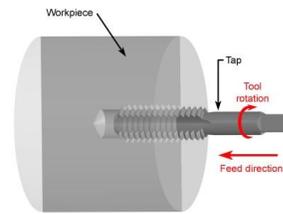
- **Boring** - A boring tool enters the workpiece axially and cuts along an internal surface to form different features, such as steps, tapers, chamfers, and contours. The boring tool is a single-point cutting tool, which can be set to cut the desired diameter by using an adjustable boring head. Boring is commonly performed after drilling a hole in order to enlarge the diameter or obtain more precise dimensions.



- **Reaming** - A reamer enters the workpiece axially through the end and enlarges an existing hole to the diameter of the tool. Reaming removes a minimal amount of material and is often performed after drilling to obtain both a more accurate diameter and a smoother internal finish.



- **Tapping** - A tap enters the workpiece axially through the end and cuts internal threads into an existing hole. The existing hole is typically drilled by the required tap drill size that will accommodate the desired tap.



### Turned Part



### MANUAL LATHE

