



# Federal Broach & Machine

## Broaching Machines & Broach Cutting Tools





## Types of broaches manufactured by Federal

- **Keyway Broach (Cutterbar)** – Used to cut a keyslot on any type of part, internal, external, or surface
- **Internal Broach** – Finishes the internal hole configuration of a part. This broach can be designed to finish round holes, such as pinions, flattened rounds, oval, polygonal, square, hexagonal and so on
- **Spline Broach** – Also an internal finishing tool which generates a straight sided or involute spline broach. If the spline is an internal gear, a form shaving tool can be manufactured. This may be as a solid tool or an assembly with a roughing body and a side cutting shell
- **Helical Broach** – This type of broach tool is identical to the above spline broach but has a helical spline form
- **Blind Spline Broach** – This tool broaches splines, internal or external, which cannot be generated by passing a broach completely over or through the part. This tool generates the form using a series of progressive dies. The broach is punched on to the part and stripped off



## Types...continued

- **Surface Broach** – These broaches normally generate flats or special forms on the surface of parts. These forms could be flat, concave, convex spline, cam form, turbine blade slots and so on. Usually, these tools are mounted in holding fixtures
- **Pot Broaches** – Broach a form on the outside of a part. These tools generally are used to produce spline or cam forms. A pot broach assembly consists of individual tools or rings, each with a single complement of cutting teeth. These components are stacked and assembled inside a holder. As a set, the tools/rings generate the desired form



## Machine Types Manufactured by Federal

- **Horizontal Broach**
- **Vertical Pull Down Broach**
- **Vertical Rising Table Broach**
- **Vertical Surface Broach**
- **Pot Broach (Gears)**
- **Blind Spline Broach**
- **Drift Broach (Spline Shaving)**
- **Aircraft Broach**



Vertical Push Up Broach



Helical Vertical Rising Table



Pot Broach



Aircraft Broach



Helical VRT Broach



## Broach Cutting Tools manufactured by Federal

- **Flat Broaches**
- **Keyways**
- **Form Broaches**
- **Pot Broach Inserts**
- **Blind Spline Dies**
- **Round Broaches**
- **Spline Broaches**



Helical Broach



Pot Broach



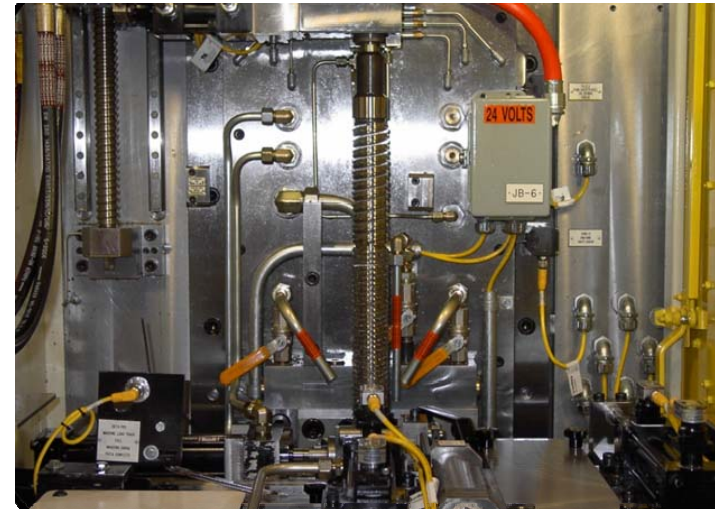
Spline Broach



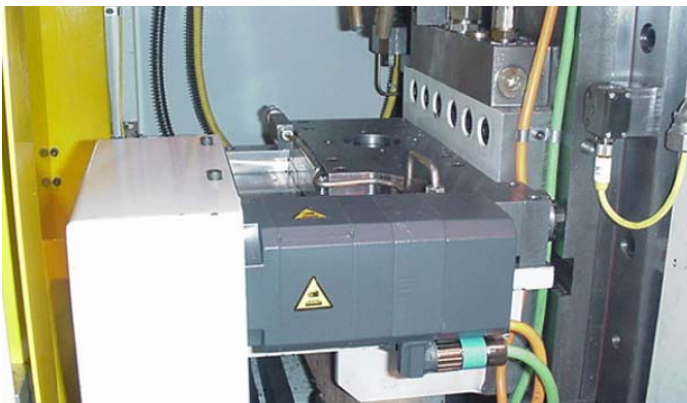
## Automation & Workholding



Blue Steel Gravity Conveyance



Automatic Load / Unload Fixture w/ Integrated Part Blow-off System



Single Station Shuttle Table Fixture



## Services

- Retool
- Remanufacture
- Broach Resharpener
  - Harrison, MI
  - Queretaro, MX



## Contact

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