

# CNC-Single Point Keyway Broaches

## A CNC Broaching Alternative

Broaching keyways on CNC machines today is as common as turning a part. It will eliminate part handling and improve your control when you design your process to incorporate short effective nibbling broaches that take the place of much longer tools and sometimes timely set up on secondary machines.

**Blind hole and through hole** CNC keyway broaching with standard tools that are off the shelf, will give you a profitable alternative and save you time.

Blind hole or through hole CNC keyway broaching is achieved through the use of single point nibbling cutters that are designed with two separate cutting surfaces at 180° apart. The one piece construction is created on a high speed tooling blank that is a common size round shank with ground timing flats to align the keyway for timing to the part it is broaching. These tools will offer long tool life, and can be easily sharpened many times for extended tool life. Ideally designed for either CNC lathe or CNC vertical machining centers, these tools can get the job done quickly and effectively:

- For a CNC lathe, the tool is mounted directly into the turret on centerline while a setscrew-locking holder will lock the tool in place and position.
- For a CNC vertical machining center, a collet will hold the tool shank and provide timing orientation.

With the spindle locked, the broach can be brought inline with the pre-prepared bore diameter and chamfer lead of the part to start broaching

### The advantages:

- Complete the part on one machine
- Only way to keyway a blind hole
- Cut down on set-up time
- Improve your process
- Become more flexible with machining
- Manage small lot production
- Use cost effective standard tooling
- No bushing guide required
- No hydraulic press or pull required
- No additional operator needed

Keyway Range-  
1/8 - 1/2"  
4mm - 12mm



We offer a choice of tooling below that accommodates the most frequently made keyways in our markets today for both US and export consumption. We can easily accommodate other keyway sizes as well as those listed. Call us for recommendations on your specific job needs.

Size	EDP No.	Tolerance (inches)	Shank Diameter (inches)	Overall Length OAL (inches)	Max. LOC (inches)
1/8	69008	.1265	.625	3.75	1.50
4mm	69004	.159	.625	3.75	1.50
5mm	69005	.198	.625	3.75	1.50
6mm	69106	.238	.875	4.50	2.00
1/4	69116	.252	.875	4.50	2.00
5/16	69120	.314	.875	4.50	2.00
8mm	69108	.317	.875	4.50	2.00
3/8	69224	.377	1	4.50	2.00
10mm	69210	.396	1	4.50	2.00
12mm	69212	.4745	1	4.50	2.00
1/2	69232	.502	1	4.50	2.00

the keyway at a speed of 10 - 30 in/min and an in-feed of .003 -.005 depth per pass, using a flood coolant for lubrication during the cut. The in-feeding cycle is repeated until the desired depth of the keyway is achieved. Chips can be removed from the bottom of the hole in a couple of ways:

- If the hole is a blind hole bore, remove the chips by either prior trepanning the bottom of the keyway area and allow chips to fall away
- Or pre-drill a hole from the outside to the inside of the part at the bottom of the keyway location.
- With a through hole, you can broach right through, but do not disengage with the part, and simply de-burr the keyway upon completion.

### Things That You Should Know:

- Standard tooling will come with common shank diameters.
- The keyway size and length or depth of cut will determine the shank size.
- Strength and rigidity in the set-up will give you longer tool life.
- Consider using the larger shank size to process your jobs.
- Keyway production will achieve excellent finishes and better accuracy.
- You can design and create your own special tool with our help. Call or see our website chapter on Single Key Broaching.

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