

Turning Between Centers

Topics

Safety

Mandrels

Bushings

Tools

Advantages and Disadvantages

Optional Projects



Turning Between Centers

Safety

Safety glasses, safety shields and safety boots should be worn for your personal protection. Make sure you understand all of your equipment prior to using it.

Always shut down equipment and remove power sources before making belt changes on speeds.

Make sure you have adequate lighting in your work area.

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Mandrels

Mandrels come in two basic sizes, Type A and Type B. Pen blanks and their associated bushings will only fit one or the other mandrel depending on what the manufacturer has decided to use. Pen bushings will be designated with either an A or a B at the end of the identification. B type mandrels are often referred to as 8 mm mandrels.

Mandrels come in several configurations, some thread into the MT holder, some are held in place with a set screw and the newest style of mandrel is a collet type.

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Bushings

Originally bushing design was meant to be placed on either an A or B type mandrel. Bushings were designated by either an A or B at the end of the product code or reference numbers. An example is a 10A set of bushings which is for the Round Top Euro 7mm pen kit. The Round Top Euro 8mm kit uses the 3B bushings.

Bushing kits come in either 2 pieces, 3 pieces or 4 pieces, all depending on the type of pen and the manufacturer.

New mandrel less bushings have either 2 or 4 bushings depending on the pen body.

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Tools

There are a number of tools required to turn between centers.

- Mandrel A or B (multiple designs)
- Bushings mandrel or mandrel less
- Mandrel Savers
- Wrenches
- Dial indicators
- 60 degree live center
- 60 degree carbide tipped lathe center

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Advantages

- Less error in set up with minor run out
- Less tooling required
- Faster set up, tailstock is the only adjustment required
- Bushings do not need a specific mandrel
- Accurate turning capability
- Bushings are premium quality
- Tailstock is the only adjustment required
- Same preparation of pen blanks
- Can be home made with the right tooling

Disadvantages

- Expensive bushings
- More bushings required possibly
- Expensive measuring tools *
- Not readily available in all pen styles

* not necessarily required

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Optional Projects

Game Calls – duck, goose and deer



Pepper Mills



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Resources

U.S.A.

Grizzly Industrial <https://www.grizzly.com/>

Little Machine Shop <https://littlemachineshop.com/>

Craft Supplies USA <https://www.woodturnerscatalog.com/>

Berea Hardwoods <http://www.bereahardwoods.com/>

Wood Craft <http://www.woodcraft.com/>

Penn State Industries <http://www.pennstateind.com/>

Lee Valley www.leevalley.com/

The Classic Nib <http://www.classicnib.com/>

The Golden Nib <http://thegoldennib.com/>

Harbor Freight www.harborfreight.com/

Canada

Princess Auto www.princessauto.com/

William Woodrite www.penblanks.ca/

Lee Valley www.leevalley.com/

Woodchuckers <http://www.woodchuckers.com/>

Busy Bee Tools <http://www.busybeetools.com/>

All Pen Making Forums have excellent resources available.