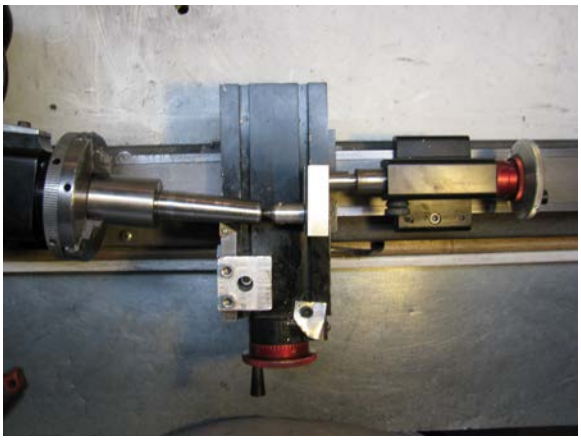
Benchtop Tailstock Accessories

Morse #0 Adjustable Tailstock Center

For current prices see our website.

Tailstock accessories for benchtop lathes: the adapter has a Morse #0 taper on one side and a dead center on the other side. Both steel pieces are mounted on a thick aluminum or steel plate. In order to adjust the dead center to tailstock spindle distance the plate has a T-slot keyway and the dead center comes with a T-nut. Aluminum and steel versions are available. In the meanwhile we use a steel hex bar for the front end. Versions for Sherline (MT0), UNIMAT (pin end), and China import lathes (MT2) are available. Live center pins, tilt pins, ball end pins have been made as custom designs.

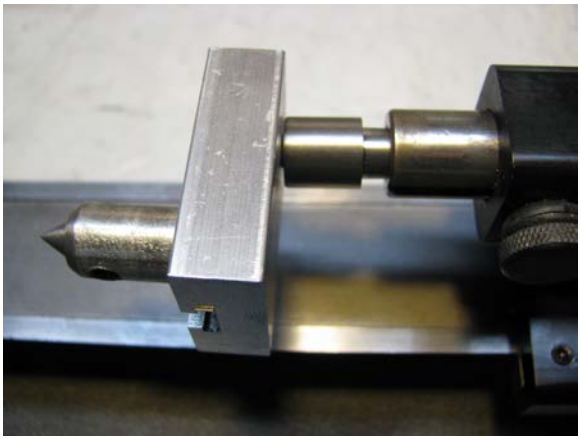


Typical application: Accessory for benchtop / tabletop lathes. Adapter mounts in a Morse #0 arbor, e.g., in the tailstock spindle of a small tabletop lathe and connects to a dead center (pin).

Cutting taper in longer and/or larger diameter stock without a center is dangerous and basically impossible. This adjustable tailstock center compensates for the offset when cutting taper by rotating the headstock. One may shim the plate to square it with the backend of the work piece – typically not required. Note that this accessory is designed for cutting small taper angle as those common on machine taper. The dead center can be moved in and out of the center line. Therefore, very small and large adjustments of the dead center's position are possible.

Procedure: Extend the tailstock spindle by about ¼". For best fit, *slightly* (and carefully) slam the taper in the spindle *by hand*. To remove the taper, pull back the spindle. Typically, taper arbors/spindles have an internal draw bar, which will push out the taper.

Slide the dead center along the T-slot until it aligns with the center hole of your work piece. Tighten the dead center using a spindle bar.



Safety Notes, Trouble Shooting, Limitations, and Disclaimer: General safety rules for machine/power tools are in place. For an extended list of safety notes, consult the literature or go to our website. You can download free of charge a safety booklet, which is also typically included (free of charge) for first-time customers.

Use protective closing including, most importantly, safety glasses for metal work.

The adapter may start to rotate in the tailstock spindle. Do not try to stop the rotating adapter with your hands. Make sure that the adapter is properly inserted in the Morse arbor – the quill typically needs to be moved out somewhat. The tailstock needs to be locked.

This accessory is designed for small taper angle as those common on machine taper. For large angle settings (>5°) unstable and dangerous working conditions may appear. Don't use this accessory for large taper angles. A typical application may be machining MT2 or MT1 ends in longer stock rods.

The pate used to mount the dead center cannot be tilted, i.e., use this design for small taper angles on not too long metal rods.

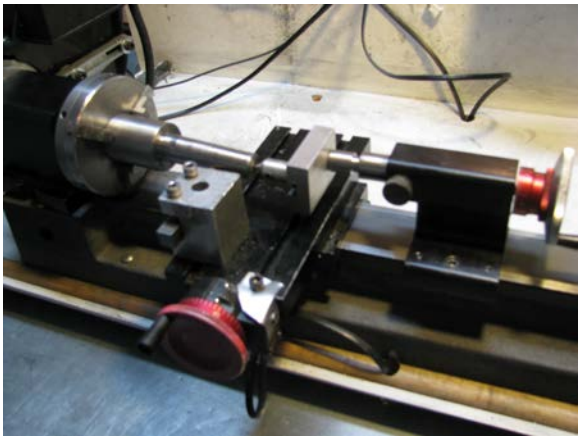
Be aware of that you may generate significant side forces on the tailstock. The MT0 used to mount that plate in the tailstock is only about 0.7". Therefore, don't overdo it with the size of the work pieces. In addition, working on hard to machine materials such as stainless steel will generate larger forces and is in any case not recommended on a small benchtop lathe. Similarly, the screws and bold end holding the dead center and MT0 must be tight. Large forces on the adapter may loosen these screws which may result in a sudden change of the position of the dead center.

RPM maximum are 2800. The adapter is tested only on Sherline standard lathes.

We do not warrant that any accessories can be used for any particular application. Usage of accessories or damage caused by unprofessional use is at the risk of the customer. Neither LatheCity nor its owner shall be liable for damage arising from unprofessional use or misuse of LatheCity accessories.

Returns in resalable conditions are accepted within 30 days after shipment. All shipping costs will be covered by the customer. No restocking fees, no questions asked. No returns of custom designs or customized designs. No returns of bulk orders. Note that the return rate of LatheCity products is below 2%.

General sells and business terms as given on our web site are active.



Further technical notes

Morse taper: Please note the length and end style of Morse taper varies, depending on application and lathe model. Our version is tailored

towards small benchtop lathes. The standard version we offer has a taper length of ~0.7" for short benchtop tailstock spindles. Other sizes are available on request as custom designs. A Morse #0 taper has per definition a larger end with an O.D. of ~0.36".

We machined versions with a round or hex adapter for the tool steel pin. The round version has an auxiliary hole for a spindle bar in order to tighten the adapter on the T-slot. The hex version can be tighten with a wrench key. Don't over tighten the adapter.

A setscrew is not required to hold the tool steel pin, one also does not use a setscrew to fix a Morse type adapter in a tailstock. The tool steel pin has a tight fit into the adapter. If you need to replace the tool steel pin then unscrew it from the T-slot, remove the T-nut, stick a spindle bar through the adapter and tap it. In so doing, the tool steel pin can be pressed out.

Pricing: This is a rather specialized application. Job-shops easily charge $60/work hour + materials + tooling. Machining that piece takes longer than 60 min. Our price is fair and reasonable, in our opinion. We offered a low budget version for $30 some time ago. However, that one does not allow for moving the dead center through the center line of the lathe which restricts its application rather severely. The current version is an improved design which allows one to machine very small and larger taper angles in short and longer stock rods.

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