

## Benchtop Tailstock Accessories

### Lathe Chuck (3/4-16) to Morse #0 Adapter

Tailstock accessories for benchtop lathes: the adapter has a Morse #0 taper on one side and a 3/4-16 thread on the other side.

**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 lathe chuck.

**Indexing tool:** The adapter comes with glue on protractor (angle) scales that can be glued on the backside of a lathe chuck. That system forms a low budget indexing tool for e.g. precisely and fast boring of holes at different angles using e.g. the lathe-mill attachment. See figure below. The holes will be automatically centered assuming that the milling column is properly squared.

The angle scales fit to most Sherline chucks including 3 and 4 jaw chucks as well as 2.5" and 3.1" chucks.

**Headstock drilling:** The adapter can, in principle, also be used for headstock drilling. Here the work piece is mounted in the tailstock and the cutting tool in the headstock. Use e.g. a Jacobs chuck and drawbar in the headstock as well as this adapter and a lathe chuck in the tailstock. In so doing, somewhat larger diameter drill bits can be used on a small lathe. **However, don't over-do it!** Mounting a huge work piece in a Morse #0 adapter connected to a lathe chuck can result in unstable (dangerous) working conditions. **The lathe tailstock can be damaged beyond repair.**

Similarly, the applications of this adapter for milling will be limited.

**The main purpose is the use as an indexing tool.**

**Procedure:** Extend the tailstock spindle by about 1/4". For best fit, *slightly* (and carefully) slam the taper adapter 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. Mount a lathe chuck on the other end of the adapter.

**Safety Notes, Trouble Shooting, 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 clothing including, most importantly, safety glasses for metal work.

The adapter may start to rotate. 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.**

Do not reverse the lathe rotation direction or one may unscrew the lathe chucks. The

spindle should rotate towards you (front side of the lathe bed).

When using large drill bits it's not too hard to jam the drill bit in the work piece, i.e., use the correct RPM and plenty of cutting oil. The larger the diameter, the smaller the RPM. Use a small feed of the drill bit and remove chips frequently. When pulling back the tailstock make sure not to pull the work piece out of the chuck.

Headstock drilling can be dangerous and can destroy the tailstock of the lathe beyond repair. Don't use unprofessionally too large drill bits on a benchtop lathe.

We do not warrant that any accessories can be used for any particular application. Usage of accessories or damage caused 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.

**Pricing:** Morse tapers are difficult to cut. We explain how this can be done (also on a small lathe) in vol. 1 of the LatheCity book series. However, it's tricky. In addition, the threads need to be centered perfectly.

We reserve the right to change the product price any time – the current price list is on our website.

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

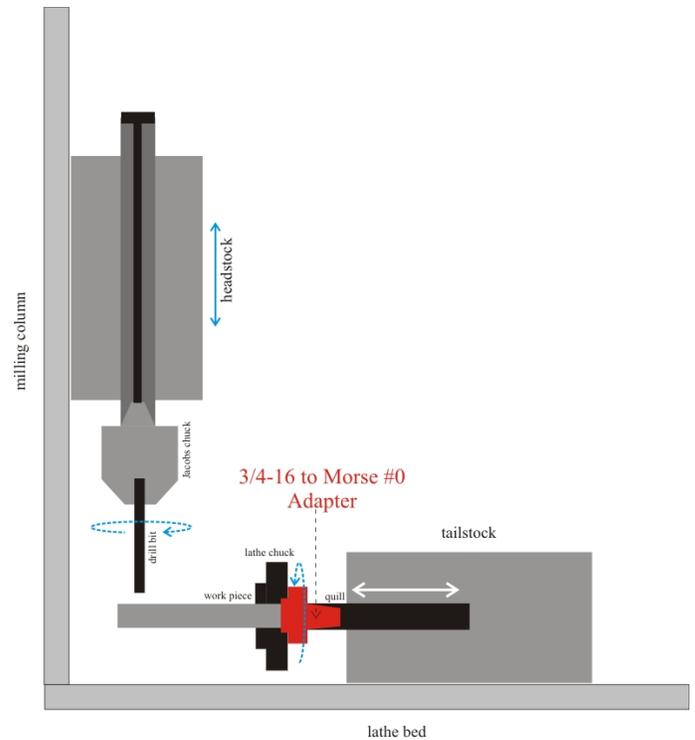


Fig.: Adapter (red) used as a tailstock indexing tool.

### 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 ~0.8" 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".

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