# P/N A0020 **Stop for compound slide** $49

## Free shipping in the US for first time customers!

---

**Product description/specifications:** This accessory is specifically designed for the compound slide of a benchtop lathe. The compound slide does not need to be modified. The stop can be attached on the backside of the compound slide by one nut.

The mechanical stop is set by a slide-lock-nut that allows sliding of the stop on a lead screw by pushing a button. Releasing the button locks the stop in position. Thus, one has not to hassle with set-screws and little Alan wrench keys.

**Typical application:** A *compound slide* is used to cut external and internal taper shapes (slopes) on a lathe. During this process, both the angle and the length of the cut must be precisely set. The length of the cut can be controlled with the "stop" both precisely *and* conveniently. If you experience difficulty with cutting precisely matched taper shapes, the stop will do the trick for you.

The following text is adapted from the LatheCity Books series, "*Working Safely with Benchtop Lathes I – Featuring the Sherline system, Vol. 1 – Basic Lathe Operations*", by U. Burghaus, ISBN-10: 0985136006. (Available from www.LatheCity.com at http://www.LatheCity.com/Books/ for $20):

When machining matching parts or combinations of slopes, the cuts must be fairly precise. Therefore, the angle, but also the length of the taper has to exactly match those for the desired sizes. Unfortunately, a digital readout (DRA) is typically not available for the compound slide. Using the compound slide's handwheel to set the length of the cuts perfectly is doable, but not very practical, particularly when one wants to make several matching pieces. In order to set the length of the cuts precisely, one may have the following options:

- *Sometimes the taper may go to a ring, groove, or edge of the work piece, which can be used as a positional mark*. This is reasonably precise.
- *Cut a marking line with a grooving tool.* This is, however, problematic in hard materials and in larger stock sizes on any benchtop lathe.
- *Set the end position of the compound slide such that the large/small diameter end of the taper coincides with the end of the compound slide movement.* Thus, one uses the end of the compound slide movement as a stop position. This is simple but not precise, and may damage the compound slide in the longer run.
- *Use a mechanical stop for the compound slide (, as described here, ) to precisely set the length of the cut.* This may also be considered a safety feature, since it prevents hazardous events, such as the lathe cutter hitting the rotating chuck.

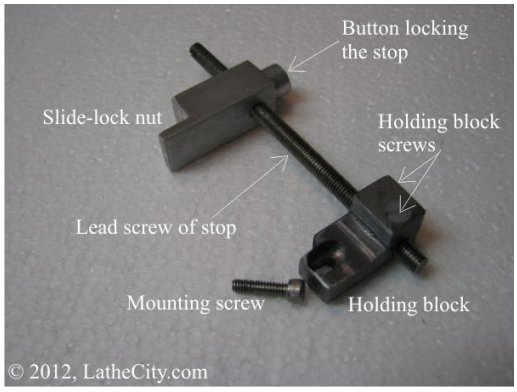

**Fig. 1:** Assembling the compound slide lock.

**Procedure:** Mount the mechanical stop on the backside of the compound slide of your lathe.

1) *Remove one of the rotating-base-lock-nuts of your compound slide.* Use the one closest to the hand wheel of the compound slide. Keep the nut in a safe place so you can reassemble the original set-up when needed. This nut is typically used to adjust the gib of the compound slide; in other words, it defines how easy or hard the compound slide is to rotate.

2) *Mount the holding block of the stop with the provided mounting screw.* The holding block will replace the nut and screw you have just removed. As before, the nut in the holding block can be used to adjust the gib of the compound slide. This adjustment typically needs to be performed only once and is not too critical. The holding block will rotate together with the compound slide. As always, don't over-tighten the nuts.

3) Typically, the slide-lock nut for the compound slide will be shipped assembled and mounted on the leadscrew. *Insert the lead screw of the mechanical stop (with the slide-lock nut) in the holding block (Fig. 1)*. Tighten the lead screw in the holding block using the holding block screws.

4) *Push the button on the stop to allow free movement of the stop along the lead screw*. Releasing the button locks the stop in position.

The accuracy of the stop position depends on the backlash of the lead screw/stop, which in turn mostly depends on the pitch of the lead screw. We do use a fine thread-steel lead screw. The backlash should typically be smaller than the pitch.

5) *Start cutting your parts.* An example is given below.

**Safety:** This accessory is not a cutting tool. However, this manual does not replace professional training, manuals that came with your lathe, or literature about lathe work or machining. General safety rules for machine/power tools are in place. For an extended list of safety notes, consult the literature or visit our web site, where a safety guide is available free of charge (http://www.lathecity.com/ Books/Safety-Booklet-Lathe-City.pdf). Make sure that the stop does not hit the rotating lathe chuck.

We do not warrant that any accessories can be used for any particular application. Usage of accessories or damage caused on equipment is at the risk of the customer.

**Spare parts:** We do not sell any parts of the compound lock separately. The lead screw and screws are standard sizes available in hardware stores.

**Pricing.** If the price seems a bit high, this is due to the tricky manufacturing process behind the mechanical stop. For customers seeking the ultimate in precision and convenience, this accessory is, however, very useful.

**For what systems can LatheCity accessories be used?** Our parts are designed for benchtop lathe and mill systems such as Sherline's systems, but they may also work on other lathe models. We offer accessories that attach to a lathe spindle, tailstock, and/or T-slot table.

Screw-on type accessories fit on a ¾-16 threaded spindle, at least ~0.5" long. The length of the threaded spindle is not that important, but the thread size is.

Tailstock accessories are for a Morse #0 taper, which has (per definition) a larger

diameter of 0.356". The taper length is not too critical.

Various T-slot tables are in use. We provide ¼" square nuts, 3/32" thick. However, if one has the right square nut, the accessories will be useful also for other T-slot tables as long as the bolt to fix the piece on the T-slot has a diameter no larger than 3/16. Otherwise, the hole drilled through would have to be enlarged—a simple process to undertake.

You can easily measure your system or find the required information in the manual of your lathe/mill.

In our quest to keep prices low while maintaining durability, most pieces are made from aluminum (Al). In addition, the aluminum adapters guarantee that the threads of the lathe spindle will not be damaged. If you have ever wondered about the rusting pieces that have been made by other vendors out of "stainless steel," you can rest assured that aluminum adapters do not have this drawback. We do not coat the adapters with a (black) oxide since this has no function, but increases the costs. Typically all surfaces are milled, but small scratches may be apparent even on new adapters. These are tools and not jewelry or furniture. *We do test all pieces for at least a year before offering them for sale.*

**Don't hesitate to contact us if you have any question regarding compatibility of our products with your system.**

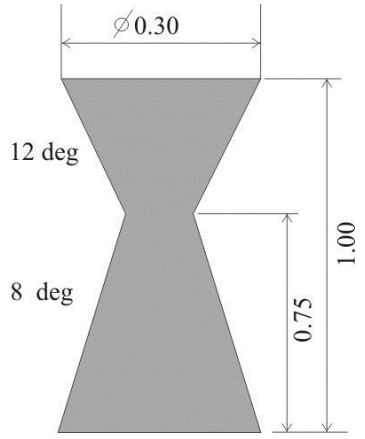


**Fig. 2:** Taper shape for example project.

☺ **Example project:** For machining the shape shown in the Fig. 2, proceed as follows when using Sherline's lathe and compound slide.

1) *Switch off the lathe!* Chuck work piece. Mount compound slide at the end of the cross-slide (i.e. at the backside of the work piece). Use inverted right hand (RH) cutter since you will cut the work piece at the backside (see LatheCity Vol. 1).

2) *Set the 8° angle by rotating the compound slide base towards you.* Lock rotating base of compound slide as usual.

3) *Move compound slide by 2/3 of the maximum slide length toward the lathe spindle.* In other words, make sure that you can pull the compound slide backwards by at least 0.75".

4) *Lock the forward movement of the compound slide at that position using your new compound slide-lock-nut.*

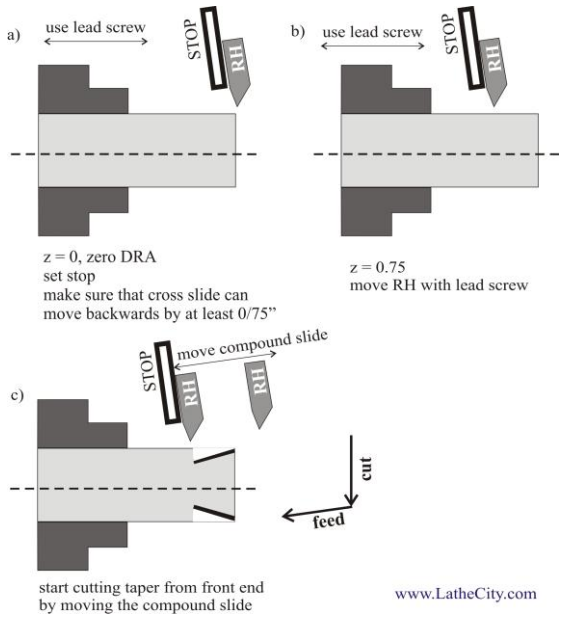


**Fig. 3:** Example project.

5) *Align RH cutter tip with the front edge of the work using the lead screw of the lathe, Fig. 3a.* (If you have a digital readout or wheels with zero adjustment then zero at that position.)

6) *Move cross-slide towards spindle by 0.75" using the lead screw (Fig. 3b).* (The run or length of your taper amounts to 0.75", see Fig. 2).

Afterwards, don't touch the lead screw anymore. The cross-slide position along the lathe bed remains fixed. Since the compound slide is locked, you cannot overshoot this end position even if chips block the view.

7) *Make sure that the cutter clears the work, i.e., pull the compound slide backwards using the wheel of the compound slide*. Switch on the lathe. Start cutting the taper from the end with the smaller diameter (closest to the spindle) by moving the compound slide with the compound slide handwheel forward, see Fig. 3c. (Don't use the lead screw of the lathe.) Adjust cutting depth with the cross-slide position. The compound slide moves towards the stop. The cuts stop when the compound slide just touches the stop.

8) *The taper is finished when you start to touch the taper end with the larger diameter with the tip of the cutter*.

This is one way of completing our example.

Follow a similar procedure for cutting the 12° angle. Here, you would need to rotate the compound slide away from you.

For more detailed examples, see vol. 2 of the LatheCity book series, which describes typical lathe accessories. And thank you for purchasing your compound slide stop from LatheCity. We hope you have many good projects using your new accessory.

Uwe Burghaus
(Lathe City)

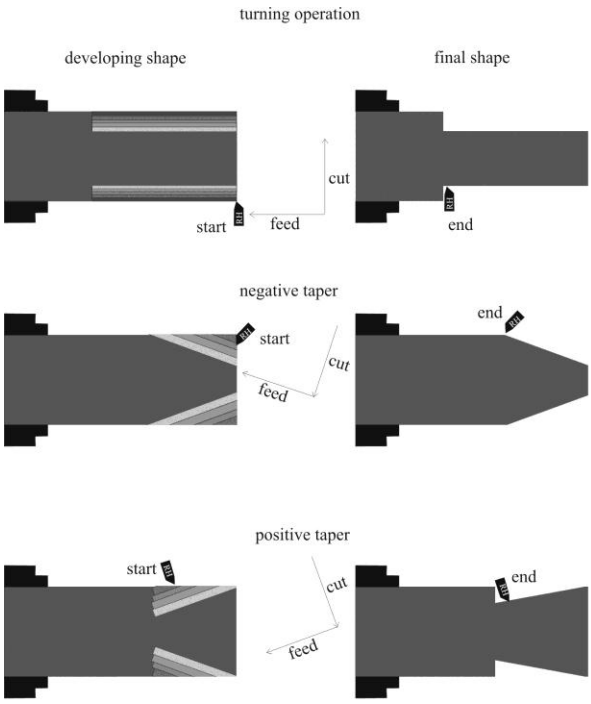


**Fig. 5:** The basics: cutting taper shapes (from LatheCity Books, Vol. 2).