



FREE EXCEL® ANGLE CALCULATOR

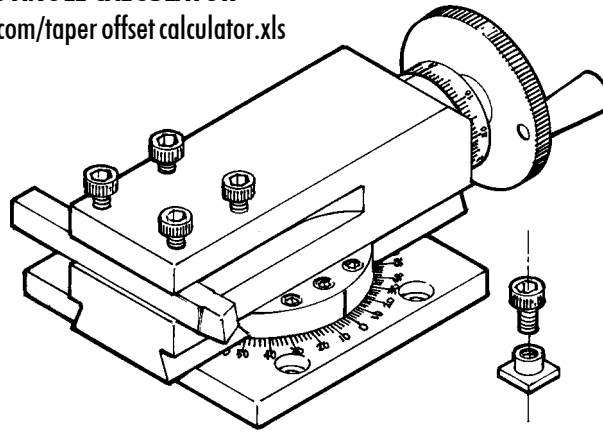
See www.sherline.com/taper offset calculator.xls

SHERLINE PRODUCTS

INCORPORATED 1974

CAUTION!

Do not overtighten the screws holding the tool or the compound. Distortion of the tool or damage to the crossslide table slots can occur.



COMPOUND SLIDE P/N 1270 (Metric 1280)

Use of the compound slide

A Compound Slide is used to cut angles or tapers that cannot be cut by “swinging the headstock”. (See the instruction manual under the section on taper turning.) The slide has 1.25" to 1.75" of movement (depending on angle). The cutting tool can be held on either side or across the end of the compound body.

Actual use of the compound is quite straightforward. Use a properly sharpened tool bit which lines up with the center of the part being cut as there is no adjustment other than shimming to raise or lower the tool. The tool is mounted “upside down” with the cutting tip downward and the compound is used on the “back” side of the part.

Four T-nuts are provided to hold the base of the compound to the table for a very secure mount without overtightening. Make sure the base is mounted square to the table so the laser engraved angle scale will provide accurate readings.

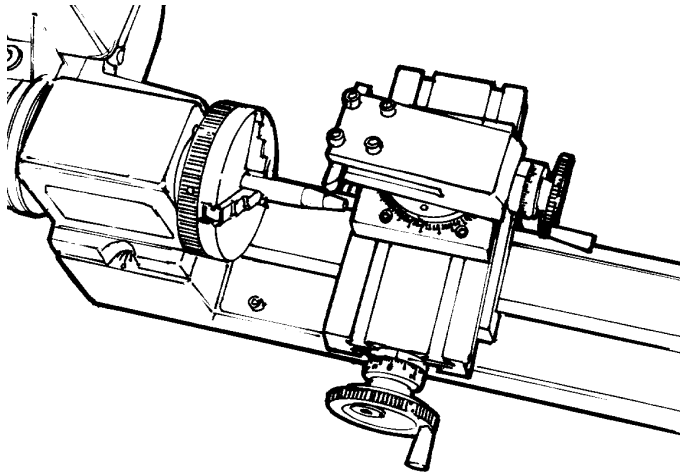


FIGURE 1—Cutting a simple taper with the compound slide eliminates the need to rotate the headstock.

Design considerations in improving the compound

Designing and manufacturing accessories for miniature machine tools often requires a different approach, and the compound slide is a perfect example of this. On a full-size lathe, the compound would normally be mounted on the crossslide and left in place. On a lathe the size of the Sherline,

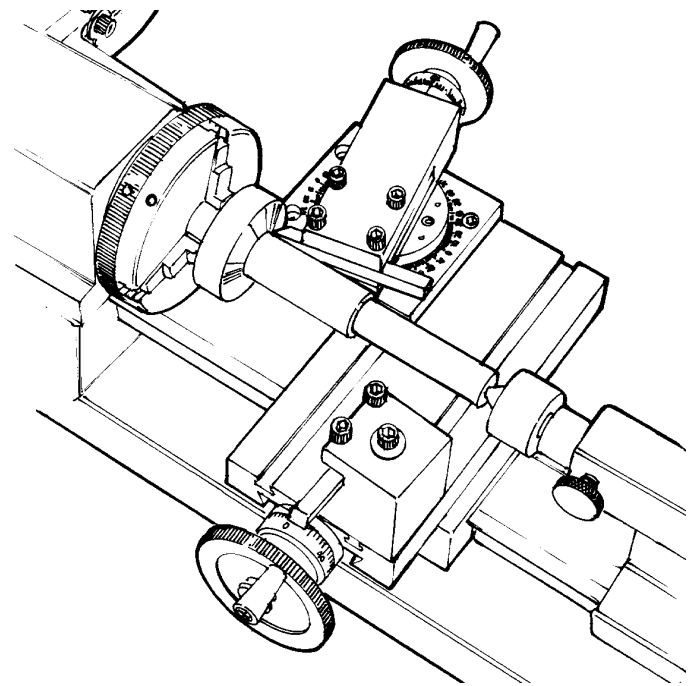


FIGURE 2—The compound can also be offset to allow cuts to be taken close to the chuck. It would be more difficult to hold this piece between centers and cut the taper by offsetting the headstock as might normally be done. Take light cuts when the compound overhangs the table like this.

the compound would not only be in the way for many operations, it would add substantially to the initial purchase price of the lathe. Mounting the compound to the front part of the slide limits its movement because of interference with the crossslide handwheel.

Mounting the compound to the rear of the crossslide not only eliminated this interference, it created two additional advantages. First, since cutting work on the “back” side means the surface of the work is moving “up” past the tool rather than down, the tool is mounted upside down with the cutting tip facing downward. This makes the tool less prone to “chatter”, because if the cut gets too heavy, the tool is lifted rather than digging in. Secondly, by mounting the tool

only in the upside down position, the slide can be made stronger because it is no longer necessary to leave room for the additional 1/4" spacer required to place the tool at the proper height when using it in the right side up position. This allows the area under the tool to be made thicker.

Adjusting the gib

The gib grips the dovetailed base of the compound slide tool post and controls both side-to-side play and freedom of movement. If the gib is too tight, the handwheel will be difficult to turn. If the gib is too loose, the tool post will have excess side-to-side play. To adjust the gib (see reference number 7 in the exploded view below), first loosen all three screws holding it down. (The center screw is used to lock the base in place, but it must be loose before the gib can be adjusted.) With one hand, grip the rotating base and the gib and squeeze the gib firmly against the dovetail of the slide tool post. While still holding it, tighten the screws on either end of the gib.

Try the handwheel and see that the slide moves freely. If it is too tight, loosen the two screws and adjust again, this time not squeezing quite as hard on the gib. Clean and lubricate the gib and dovetailed slide with light oil periodically.

Locking the base in position

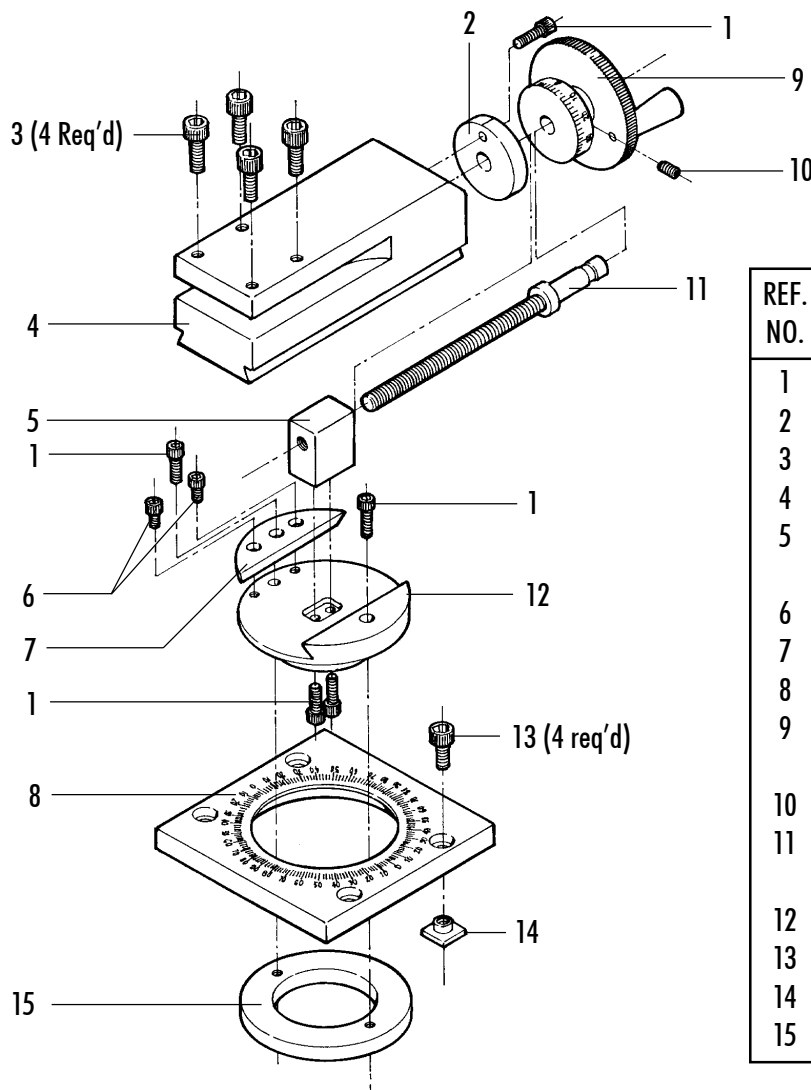
When the base is rotated to the desired angle, lock it in place by tightening the center screws on the gib and rotating base. Loosen both screws to rotate the base. When locking the base, do not overtighten the screws, as the design is quite efficient and provides a large amount of surface friction area on the clamp ring. Periodically lubricate the clamp ring and base with light oil for smooth rotation.

Riser Block Available

A riser block for the compound is available as P/N 1272. When using the riser block, the cutting tool is reverted to the normal orientation rather than using it upside down.

Joe Martin, President and Owner
Sherline Products Inc.

EXPLODED VIEW



PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
1	40530	5-40 x 3/8" SHCS
2	40280	Thrust collar
3	40670	10-32 x 1/2 SHCS
4	12760	Compound slide tool post
5	12740	Compound Nut
	12640	Compound Nut (Metric)
6	12710	5-40 x 3/16" SHCS
7	12770	Compound gib
8	12720	Compound base
9	40050	Handwheel (Y-axis)
	41050	Handwheel (Y-axis, Metric)
10	40520	Cup pt. set screw, 10-32 x 3/16
11	12780	Compound slide screw
	12680	Compound slide screw (Metric)
12	12730	Compound rotating base
13	10850	10-32 x 1/4" SHCS
14	30560	10-32 T-nut
15	12750	Clamp Ring