

## Resettable Handwheels

Part Numbers: 2" – 3420 (Inch), 3430 (Metric)

2" – 3428 (Inch), 3429 (Metric)

2½" – 3440 (Inch), 3450 (Metric)

2½" – 3455 (Inch), 3459 (Metric)

2½" Complete, "Z" Axis – 3460 (Inch), 3465 (Metric)

Most expensive full size machine tools allow the machinist to reset the handwheel to "zero" (or any desired setting) at any time during a machining operation. Now that option is available on Sherline's miniature machine tools as well.

### Installation

The resettable handwheels easily replace any standard Sherline handwheel. Simply loosen the set screw on the standard handwheel and slide it off the shaft. Slide the new handwheel onto the shaft. Align the hole in the engraved collar with the set screw. With your other hand, push against the opposite end of the lead screw to eliminate all "play" (backlash) between the handwheel and column thrust and tighten the set screw.

The larger 2½" handwheel is normally used on the Z-axis of the mill or vertical milling column and works best when used with the thrust and bearing, because you are actually "lifting" the weight of the column with this handwheel when you crank it up (see Troubleshooting Steps on the following page). Handwheels turning on the horizontal axis are not subjected to this stress and work fine without thrust bearings. Later model Sherline mills and vertical milling columns include the Z-axis thrust bearing as standard. If you are upgrading an older mill or column that does not have a thrust bearing on the Z-axis, you will need to order P/N 3460 which consists of a handwheel, a bearing set and bored column thrust. If your existing handwheel has a thrust bearing in it, you will need to purchase P/N 3470 which includes a new resettable handwheel and a bored column thrust (You will use the ball bearing set from your old handwheel). Simply remove the bearings from your old handwheel, set them into the new bored column thrust and install it in place of the old column thrust.

### Resetting the Handwheel

At any time during your machining operation, you can now simplify your calculations by resetting the handwheel to "zero." To do so, gently hold the handwheel in position with one hand while releasing the lock nut with the other. Rotate the black anodized, laser engraved collar until the "zero" setting is aligned with the scribed mark on the mill,

lathe or thrust bearing collar. Then retighten the locking nut. Now you can crank in the exact amount of feed you want by reading the number directly off the handwheel.

### Handwheel Axis Orientation

The engraved numbers on the handwheel collars are oriented differently for ease of reading depending on the axis on to which they are mounted (See Figure 1). For example, if you mount a handwheel designed for the mill X-axis on the mill Y-axis the numbers will appear upside down (See Figure 2).

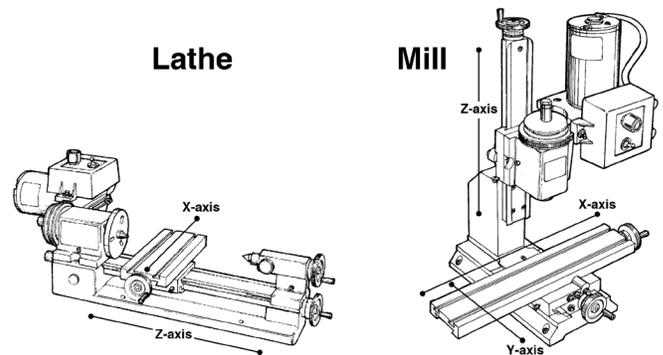


FIGURE 1—Indication of axis name and orientation for lathes and mills.

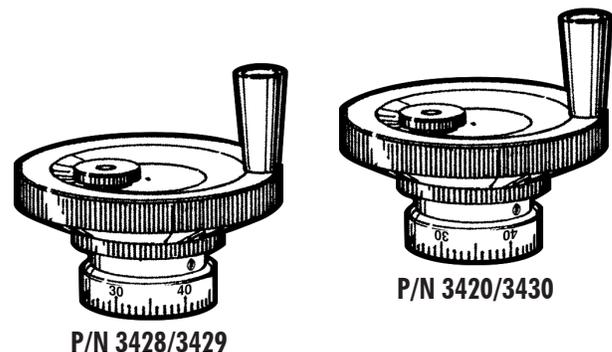


FIGURE 2—Please note the number orientation on the handwheels above. See the chart on the following page to determine which handwheel you need for the proper axis orientation.

### Installation Troubleshooting Steps

The screw hole in the center of the 2-1/2" handwheel is for an 82° cap screw (#45013), which is only used on the Z-axis column screw on our mills.

The center hole is not used on these handwheels at all when you install them in place of your regular handwheels on either the X- or Z-axis of your lathe, your tailstock, or the X- or Y-axis on your mill.

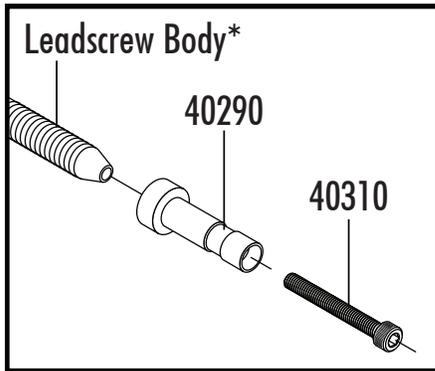


FIGURE 3—Leadscrew end detail

Figure 3 above shows the leadscrew detail. Screw #40310 is part of the leadscrew assembly. Do not remove this screw. It is not used to mount your new adjustable handwheels to your machine. The only screw that is used to secure the handwheel to the leadscrew is the set screw #40520 which is shown in the exploded view. Access to this screw is obtained through the access hole in the collar #34230, by turning the collar until the access hole is aligned with the set screw.

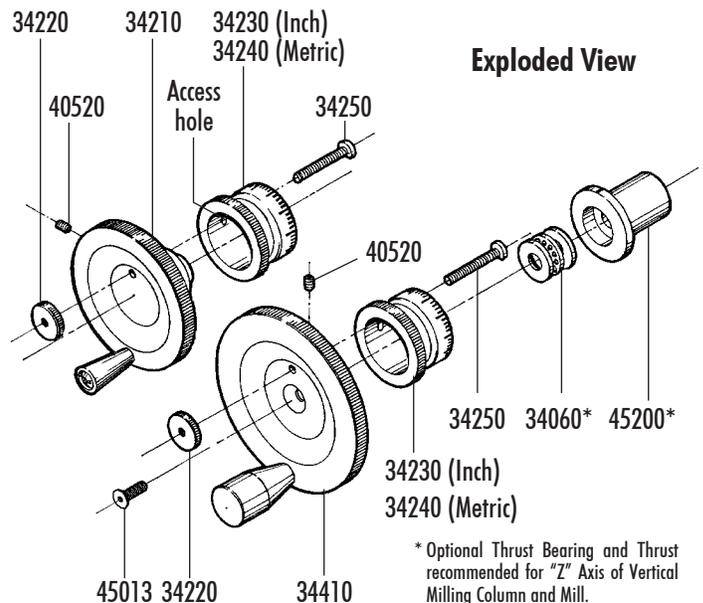
We also have a video that shows how to adjust the backlash on Sherline Lathes and Mills so you can assemble your machine more accurately (<http://sherline.com/sherline-videos/>)

Thank you,  
Sherline Products Inc.

P/N (in./met.)	Name	Axes orientations
3420/3430	2" Adjustable "Zero" Handwheel	Mill leadscrew (Y-axis) Lathe crossslide (X-axis)
3428/3429	2" Adjustable "Zero" Handwheel	Mill table (X-axis) Mill vertical feed (Z-axis) Lathe leadscrew (Z-axis) Lathe tailstock
3440/3450	2½" Adjustable "Zero" Handwheel	Mill leadscrew (Y-axis) Lathe crossslide (X-axis)
3455/3459	2½" Adjustable "Zero" Handwheel	Mill table (X-axis) Mill vertical feed (Z-axis) Lathe leadscrew (Z-axis)
3460/3465	2½" Adjustable "Zero" Handwheel w/ thrust and ball bearings	Mill vertical feed (Z-axis)

### Parts List

NO. REQ.	PART NO.	DESCRIPTION
1	34060	Thrust Bearing and Washers
1	34200	2" Handwheel Assembly, Inch (Met. P/N 3430)
1	34210	2" Handwheel body
1	34220	Handwheel Locking Nut
1	34230	Engraved Hndwhl. Collar, Inch (Met. P/N 3424)
1	34250	6-32 x 7/8" Pan Head Screw
1	34260	"Z" Axis Hndwhl Collar, Inch (Met. P/N 3427)
1	34400	2½" Handwheel Assembly, Inch (Met. P/N 3450)
1	34410	2½" Handwheel Body
1	34550	2½" Hndwhl Asby, "Z" Axis, Inch (Met. P/N 3459)
1	40520	10-32 x 3/16" Cup Point Set Screw
1	45013	82° cap screw (Mill Z-axis screw only)
1	45200	Bored Column Thrust
1	34600	2½" Hndwhl w/Thrust & Bearings (Met. P/N 3465)
1	34700	2½" Hndwhl w/ Bored Thrust (Met. P/N 3475)



\* Optional Thrust Bearing and Thrust recommended for "Z" Axis of Vertical Milling Column and Mill.

NOTE: Z-axis handwheels made after 1/01 include a hole through the center and a 5-40 screw that goes into the end of the leadscrew to help take load off the set screw.