

SHERLINE PRODUCTS

INCORPORATED 1974

Power Feed

P/N 3001 (110VAC, 60 Hz only)

Reducing the diameter of a long shaft or a long part can be a tedious task requiring a lot of turning on the feed screw. Obtaining a good finish on such a part requires slow, steady movement on the cutting tool, something hard to achieve when feeding the tool by hand. The Sherline power feed was developed to eliminate this problem. A clutch mechanism permits quick disengagement of the motor so that you can hand feed the cutter whenever you desire. The power feed is from right to left at a constant (nonadjustable) speed of approximately 1 inch per minute. This speed was carefully selected and is appropriate for virtually all jobs you might want to do, making an expensive variable speed control unnecessary.

It is important to realize that the feed is an independent drive with a constant speed; whereas the spindle speed can vary. If spindle RPM lowers, the cut becomes heavier, which in turn lowers spindle RPM even more. As you can see, the result could bind up the machine and bring it to a stop. Always bear this in mind when using this unit. Disengage the feed drive if the spindle speed starts dropping from too heavy a cut. Then either increase the motor speed or take a lighter cut (approximately .015" in aluminum).

Mounting Instructions

1. Remove the headstock, the flat head socket screw under the headstock, and the socket head cap screw under the base. (Take note if there is a washer on this screw. Normally, on a 4000-series lathe there is no washer, while on a 4400-series lathe there is one washer. If there is a washer present, it needs to be in place when reinstalled.)
2. Grease the shaft with flats on both ends (P/N 15090) and slide it into the protruding leadscrew support tube situated directly below the main spindle pulley. Ensure the end with a small flat enters first. Now slide the shaft with a single flat (P/N 15430) into the leadscrew support tube. To guarantee that the shaft is "home," turn it one or two revolutions while applying gentle inward pressure to the end of the shaft (See Figure 1).

NOTE: If insertion or movement of the engagement lever is difficult, try loosening the two screws on the bottom of the machine that hold the bed to the base. Move the bed slightly until a good fit occurs.

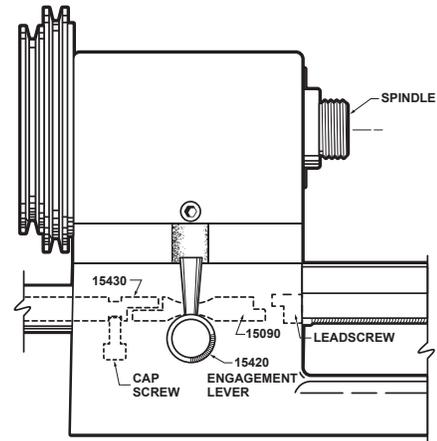


FIGURE 1—Leadscrew engagement shafts in place inside the leadscrew support tube.

3. Replace the screws removed in Step 1, making sure that the point of the cap screw underneath goes into the machined groove of the fixed shaft. Check that the shaft from Step 2 is free to rotate. If the shaft binds, first double check to make sure the end of the cap screw is registered in the groove of the fixed shaft and then add an extra washer under the screw head underneath if needed so the screw doesn't go in quite as deep. Retighten the flat head socket screw in the bed and replace the headstock.

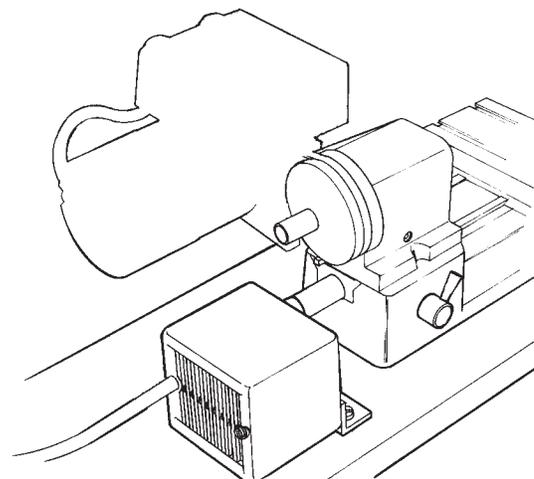


FIGURE 2—Power feed installed on base.

4. Pull out the black plug button on the side of the lathe base (below headstock) and slide the shaft of the engagement lever (P/N 15420) into the hole, handle facing upward. It may be necessary to rotate the shaft about 30° backwards and forwards to get it to engage properly.
5. Engage the shaft of the power feed unit and mount with bolts or sheet metal screws to the same base as the lathe so the shafts line up.

CAUTION: The motor on the power feed tends to run hot. It is not unusual for it to become too hot to touch during extended use. This is normal; however, be careful when touching the motor case after use. If you need to remove it from your lathe to install the thread cutting attachment, for example, make sure it has cooled thoroughly before attempting to handle it.

Adapting the Leadscrew Engagement Lever for Use with Digital Readout (DRO)

If you are using the leadscrew engagement lever with the Power Feed (P/N 3001) in conjunction with Digital Readout (DRO), you will need to adapt your lathe so the leadscrew engagement shafts will properly engage the leadscrew. Following are various methods to accomplish this task.

1. Upgrade from the standard manual parts to DRO specific parts. When purchasing a DRO for use with a machine using the power feed attachment, be sure to mention that you have this attachment.
 - A. Replace the sliding shaft (P/N 15090) with the DRO sliding shaft (P/N 81509). The DRO sliding shaft is about 1/16" longer than the standard sliding shaft. (See Figure 1 on the previous page for reference.)
 - B. Replace the standard handwheel thrust collar on the Z-axis with the DRO handwheel and thrust collar.
2. The engage/disengage location of the engagement lever may be right on the edge. You can do some slight adjustments to move it in either direction by moving the base position.
 - A. There are two 10-32 screws (P/N 40510) that hold the lathe base onto the lath bed. They are located underneath the lathe base.
 - B. Loosen both of these screws (do not remove them).
 - C. Once they are loose, you will be able to move the lathe base slightly to the left and right of the lathe bed. This will move the engagement lever hole that is in the base. Move the base to the left and then see if the sliding shaft disengages from the leadscrew.

- D. If so, tighten the two screws down (snug only so you don't strip the threads out) and try it again.
3. Add an additional washer, for a total of two, between the leadscrew and the leadscrew support. This will move the leadscrew towards the headstock by about 1/16" inch, allowing the sliding shaft to fully engage the leadscrew with the Power Feed.
4. Video instructions describing each of these methods are available at the following YouTube link: https://youtu.be/nHmT_u7itGM.

Thank you,
Sherline Products Inc.

Parts List

REF. NO.	PART NO.	DESCRIPTION
1	15090	Sliding Shaft
1	15410	"O" Ring
1	15420	Engagement Lever
1	15430	Fixed Shaft
2	40510	SHC Screws, 10-32 x 3/8"
1	40520	Cup Pt Set Screw, 10-32 x 3/16"
1	45090	Sheet Metal Screw, #4 x 1/4"
1	45100	Power Feed Bracket
1	45110	Power Feed Cord w/Switch (U.S.A.)
1	45120	Power Feed Motor Case
1	45130	Power Feed Motor (110V.)
1	45140	Power Feed Coupler

NOTE: Due to a large increase in the price of 240 Volt power supplies, we are no longer able to offer a 240 Volt version of this product as of 4/07. If this accessory is being purchased for use outside the USA where current other than 110 VAC, 60 Hz is used, an adapter that converts the local electrical current to 110-120VAC, 60 hz must be supplied by the customer.