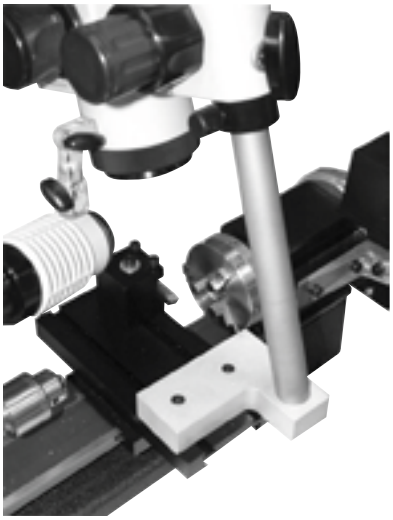


SHERLINE PRODUCTS

INCORPORATED 1974

Lathe Microscope Mount

P/N 2125 (Scope and mount) or P/N 2126 (mount only)

Sherline Lathe Microscope Setup Instructions

Remove all the individual microscope components and boxes from microscope box. The Sherline microscope mount is packaged separately along with an improved microscope illuminator pivot and an O-ring for securing the light fixture. The microscope comes with a very basic set of its own instructions for assembly as a stand-alone microscope for research or inspection purposes. For use on a Sherline lathe we have some specific recommendations and a few changes to their procedure. Keep the standard base and armrests that are packaged with the microscope, as they can be used to mount the same microscope head for other inspection jobs apart from use on the lathe. The only part you will need to transfer from the standard base is the locking collar.

Assembling the microscope

1. Attach the Sherline lathe microscope base to the rear of the lathe table using the two 10-32 screws and T-nuts provided. The column tube should angle toward the operator.
2. Remove the safety collar from the standard base and column and reposition it about 4 inches below the top of the Sherline column. Tighten the locking screw to hold it in place.
3. Mount the stereo body on the column, sliding it down until it hits the safety collar. Adjust the height of the safety collar until the objective lens is about 3.75" from where your cutting tool will touch the part and then retighten the safety collar locking screw. Tighten the knurled lockscrew behind the rack and pinion focusing system to hold the microscope in position.
4. Install the binocular head into the upper bayonet seal of the stereo body and tighten the upper knurled lock screw to hold it in place. (This screw will first have to be loosened so that the bayonet fitting can engage.)
5. The objective lens comes already installed in the lower bayonet ring. Loosen the lower lock screw and rotate it so the light holder extends to the operator's right. Then relock the screw.
6. Install a light bulb (found in the Styrofoam box) into the light condenser and then slip the unit into the holder. Plug the cord into the transformer and then plug the transformer into the wall. Turn on the light and adjust its position to assure it is pointed at your work area under the objective lens. (*See the section below on "Adjusting the light" for an optional improvement to the parts provided with the microscope.)
7. Install a pair of optical eyepieces from the Styrofoam box into the two tubes in the stereo head. Use the ones marked 8^{x}/23. The ones marked 14X are too powerful for use on the lathe, but they can be used if you use the microscope on its regular stand for inspection purposes. There is also a third 8x lens marked with a larger letter "x" after the "8". It has a glass linear measuring scale installed and may be used if you wish. (An alternate glass scale with a grid design is included in the small white plastic case in the corner of the Styrofoam box.)
8. Rotate the focusing knob until the number 0,6 aligns with the arrow. This is the widest field of view (least magnification). From there you can adjust to higher powers as needed for your particular job by turning the magnification knob. In most cases you will need only the lower powers.
9. Install a black plastic eye guard from the Styrofoam box onto the end of each eye tube. These protect the lenses from stains.
10. The largest white box contains two arm rests that are used with the standard base. It also contains a vinyl cover that can be placed over the microscope to keep dust off it when not in use.

Adjusting the light

Installing the Alternate Pivot Mechanism—A ball joint system is provided by the microscope manufacturer to adjust the position of the light source. You can use it or you can replace it with the square aluminum bar stock piece that Sherline has provided along with the mounting base. With the standard system, the thumbscrews are supposed to provide enough friction that the light source can be positioned by hand but will stay in place when released. Even when tight there is a lot of slop in the system. With the Sherline part,

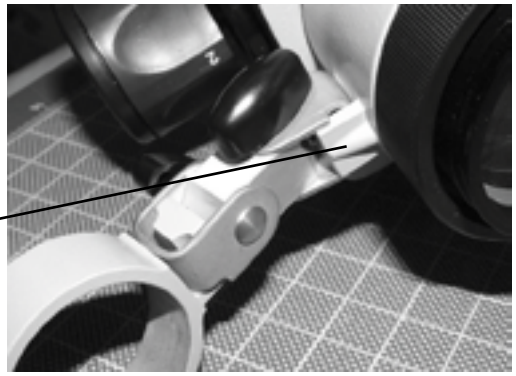


FIGURE 1—Shown here is the prototype for the light pivot. The final production versions have a radiused end rather than beveled corners. This solid mount gives a more secure mounting for the light than the one included with the lathe, but it is your option to install it or not.

the thumbscrews are loosened, the light is positioned and then the thumbscrews are tightened to lock it in place.

NOTE: If the bulb does not light, before assuming it is burned out, check to be sure the rear cap of the light fixture is properly oriented. Unscrew the rear cap and check that the receptacle with the contact points is fully seated and the small molded boss is registered in its slot.

Installing the Optional O-Ring—The light fixture is a rather loose fit in its mounting ring. We have also provided a 1-1/8" ID O-ring that can be used to keep the fixture tight in its mounting ring. After slipping the light fixture into the ring, roll the O-ring onto the front end and up against the ring to keep the light in place.

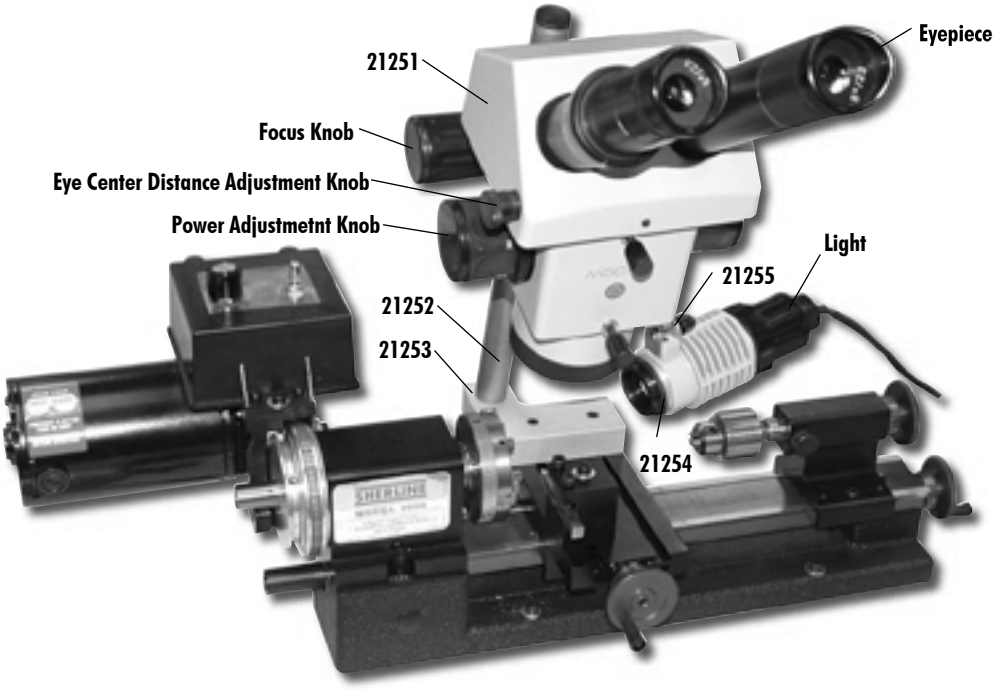
The Green Filter—The light comes with a green filter installed. It was originally provided to eliminate the yellowish tinge imparted by older style light bulbs. With the brighter bulbs now provided this should no longer be a problem. Some people find the green color distracting. To remove the green filter, unscrew the filter ring from the lamp housing. Use a pick or knife blade to remove the ring clip that holds the green glass filter in place. Reinstall the threaded ring as it helps register the O-ring to keep the lamp housing in place.

Using the microscope to view your part

1. Turn on the light and focus the microscope using the focusing knob on the left or right side of the stereo body.
2. Distance between the two eye tubes should be adjusted to the distance between your own two eyes so that you can see through both lenses at once. A smaller knob near the front on the left side of the binocular head makes this adjustment.
3. A ±5 diopter focusing adjustment is available on the left eye tube to adjust to your particular eyesight. Like using a pair of binoculars, first focus on the object using your right eye while adjusting the main focusing knob. Once in focus for your right eye, turn the diopter adjustment on the left tube to bring your left eye into focus.
4. The whole microscope is adjusted in and out to center it over your part by loosening the T-nuts and moving the mount on the table.
5. When changing parts, make sure the safety stop on the column is tightened. Then loosen the locking screw on the back of the microscope body and rotate the head out of the way. Retighten the locking screw to keep it from swinging back until you are ready to start cutting again.

Protecting the lens from chips

An adapter ring and glass filter to protect your lens during machining operations have been included with your microscope. Separate instructions for installation are supplied with the kit. Clean the glass filter periodically using soft, moist lens wipes like the ones used to clean eyeglasses.



PART LISTING

21251	Stereo Microscope, Complete
21252	Mounting Rod
21253	Mounting Base
21254	1/1-8" ID O-Ring
21255	Light Pivot
30561	Short T-Nut (2 Req.)
40690	10-32 x 3/4" SHCS (2 Req.)

NOTE: For clarit;y, the photos show the base of the microscope mount as silver. The actual production parts have a black anodized finish.