



Installing a Protective Glass Filter on the Microscope Lens

Purpose of the Lens Protecting Filter

Normal use of a microscope for inspection purposes does not require protection of the lens. However, when observing machining processes up close, the microscope lens should be protected from the flying metal chips and coolant generated by the machining operations. The microscope lens housing itself is not threaded for standard camera filters, but this kit provides an easy way to adapt it so it will accept standard 55 mm camera filters. The 1" ID x 3/16" cross section O-ring provided may seem small, but it will stretch over the bottom of the microscope lens housing. There is a V-groove on the lens housing that will locate the O-ring. Once the O-ring is in place it is exactly the right size so that the female/female adapter ring can be threaded onto the O-ring. The adapter threads will simply cut their way into the outer edge of the O-ring. Then the 55 mm UV filter can be threaded onto the adapter. It is a bit unconventional, but it works great. We would like to thank Jerry Kieffer for coming up with this clever and economical solution to protecting the lens.

Installing the O-Ring

NOTE: After 6/20/07 the O-ring will come pre-installed on your lens housing from Sherline. Refer to these instructions if case you ever need to reinstall a new one.

Remove the head of the microscope from its mount and place it on a pad on your workbench. Looking at the 1" ID O-ring, it might not look like it will stretch to over twice its diameter to fit over the end of the lens housing, but it will. Warm the O-ring in your hands and begin stretching it a little at a time. Eventually you will be able to stretch it large enough with your fingers so that you can slip it over the end of the lens housing. Roll it on until it pops into the V-groove near the end of the housing.

Installing the Adapter Ring

Put a small amount of oil or Vaseline on your finger and wipe it around the threads on the inside of the adapter ring. This will make it easier to thread it onto the O-ring. Once lubricated, make sure the adapter ring is square with the end of the lens housing and begin threading it onto the O-ring, pushing it on as you go. It will thread itself onto the O-ring and become quite firmly attached. Be careful not to

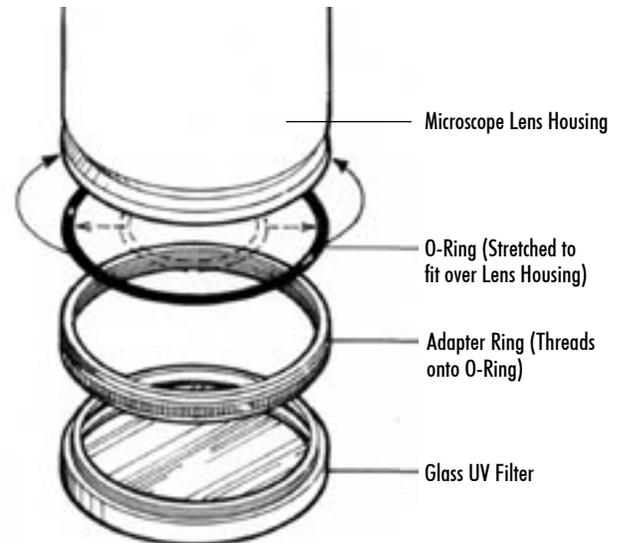


FIGURE 1—Components of the lens protection kit.

crush the somewhat fragile adapter ring when screwing it on. If you are worried that this might occur, you can screw the filter into the adapter ring first to act as support as you screw the adapter onto the O-ring, but keep in mind this can tend to get the filter screwed into the adapter so tight it can be difficult to remove later for cleaning.

Installing the Glass Lens Protector

The lens protector is a 55 mm glass UV camera filter. If it is damaged or scratched, it is easily replaced at any camera store, or you can order a replacement from Sherline. The filter screws on to the threads of the adapter ring and should be removed for cleaning. Do not overtighten.

Cleaning the Glass Lens Protector

To clean the lens protecting filter, unscrew it from the microscope. Run warm water over the lens to flush off chips and coolant. Then use warm, soapy water or lens cleaning spray and a soft lens cleaning tissue or lens cloth to remove any remaining coolant or oil. Make sure all chips are flushed off the glass before rubbing it with the cloth or you may scratch its surface.