

Nanodyne Replacement for Olympus BX50 Bottom Illuminator - Installation Instructions

Step 1. Refer to the photos below to determine which type of illuminator is required, or that you have the correct items if already purchased. The basic Nanodyne illuminator is the same for both, but there are different options for intensity control, and different mounting screws.



Top Illuminator for viewing the sample by reflected light off the surface.

If you are replacing this illuminator, you need PN 10394 Olympus BX50 Full Illuminator System (top illuminator). Please refer to installation document PN 10394 Olympus BX50 Top Illuminator Installation Instructions.

Important Note: This illuminator is intended to replace halogen (white light) illuminators. It is NOT intended as a replacement for mercury vapor (UV) lamps used for fluorescence.



Bottom illuminator for viewing by light transmitted through the sample.

This configuration uses a custom pot plate from Nanodyne that replaces the original slide pot intensity adjust with a more ergonomic rotary pot. The original photo preset controls are obsolete, and discarded.

Follow the instructions in this document to replace the lower illuminator with a Nanodyne system.

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Additional Items Included But Not Shown:

- PN 10457 Hex Key 2.5mm Short Arm (for M3 screws)
- PN 10455 Hex Key 3/32 Ball End L-Key Stubby (for 4-40 screws)
- PN 10275 SHCS M3 x 0.5 x 8mm (3pcs) - (in case your condenser lens is different from pictured - refer to full installation instructions for more details).

PN 10584 Olympus BX50 Pot Plate Cable Assembly

PN 11132 T2PIHP3 Main Assy T1 Adapter

PN 10267 SHCS M3 x 0.5 x 25mm (3 pcs)

PN 10382 Adapter Olympus BX50 Series

PN 10365 SHCS 4-40 x 3/8 (4 pcs)

Olympus BX50 Condenser assembly (Save from original lamp housing)

3M VHB tape to secure pot cable



PN 11163 Power Supply 5V 2.1A and PN 10734 Power Cable 1.35mm ID/3.5mm OD x USB A 6 ft.

The illuminator may be powered by plugging the cable into the power supply provided, or into a suitable USB port on a computer or other device.

Power supplies are subject to substitution without notice due to availability issues and changes in regulations.

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PN 10736 Rubber plug to block unused AC power receptacle.

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Sheet 3: Salvage the original collector lens assembly from the lamp housing.



Lift off the top of the lamp housing to access the condenser lens.

Loosen the screw as shown, using a 3mm hex key (not provided).

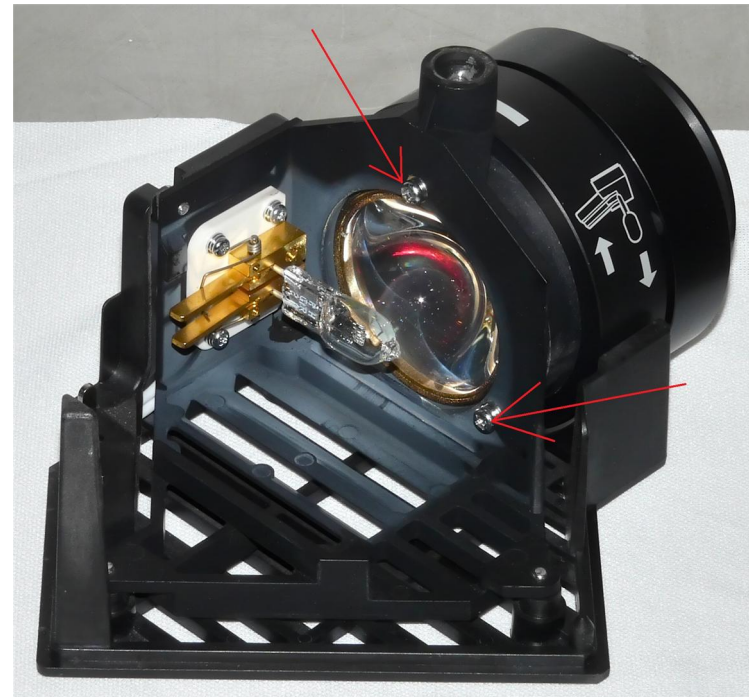
If your lamp housing is NOT as pictured above, and the condenser lens is attached with socket head screws rather than phillips, you probably have a top illuminator installed at the bottom. You can continue with the installation, but you will need to use the alternate 8mm long PN 10275 screws to attach the condenser lens to the Nanodyne adapter (PN 10382).

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Sheet 4: Salvage the original collector lens assembly from the lamp housing (continued from sheet 3), and attach adapter.



Don't let the collector lens fall out of the housing after removing the screws.



Ready to attach adapter to collector lens assembly.

Remove the three phillips head screws to remove the collector lens. (one screw is hidden behind the bulb)



Attach the adapter to the collector lens using the three 25mm long M3 screws. Tighten with the included 2.5 mm hex key.



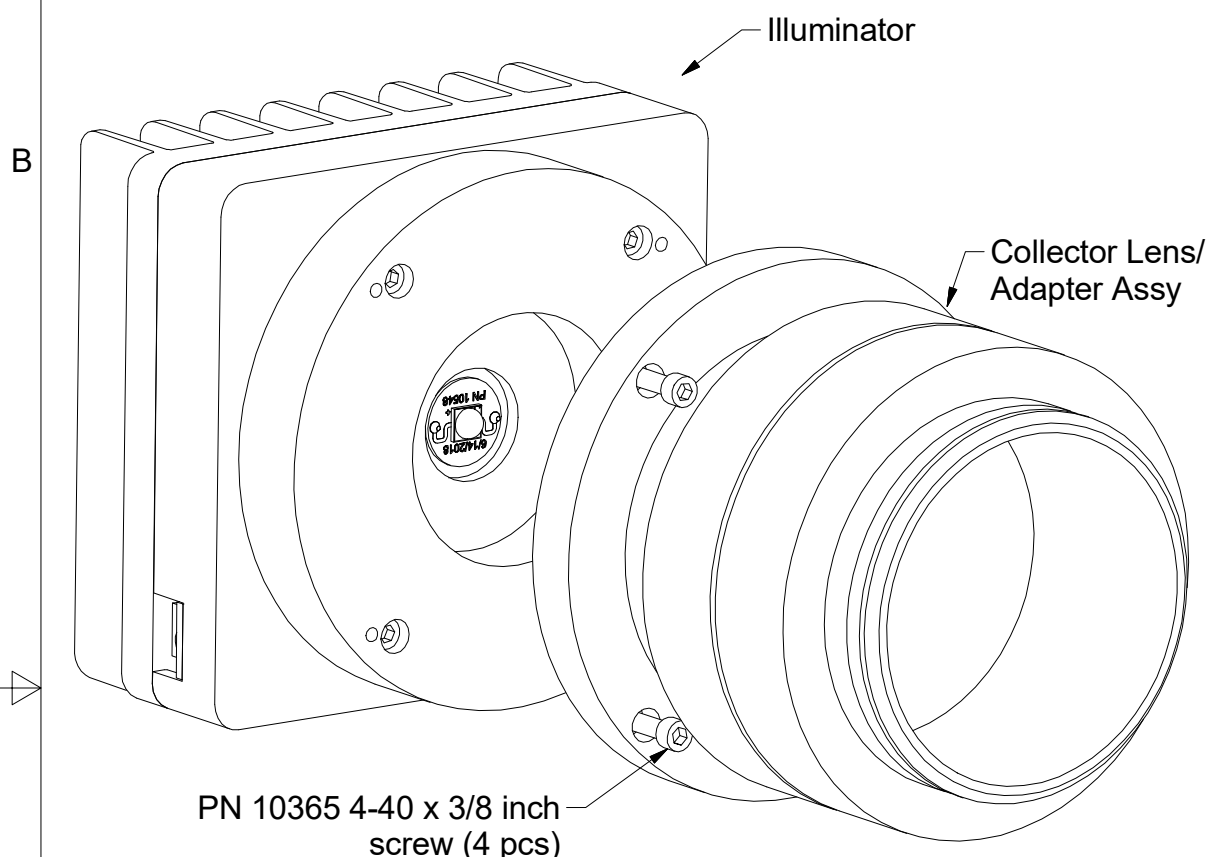
Collector lens/adapter assembly ready to attach to the Nanodyne illuminator.

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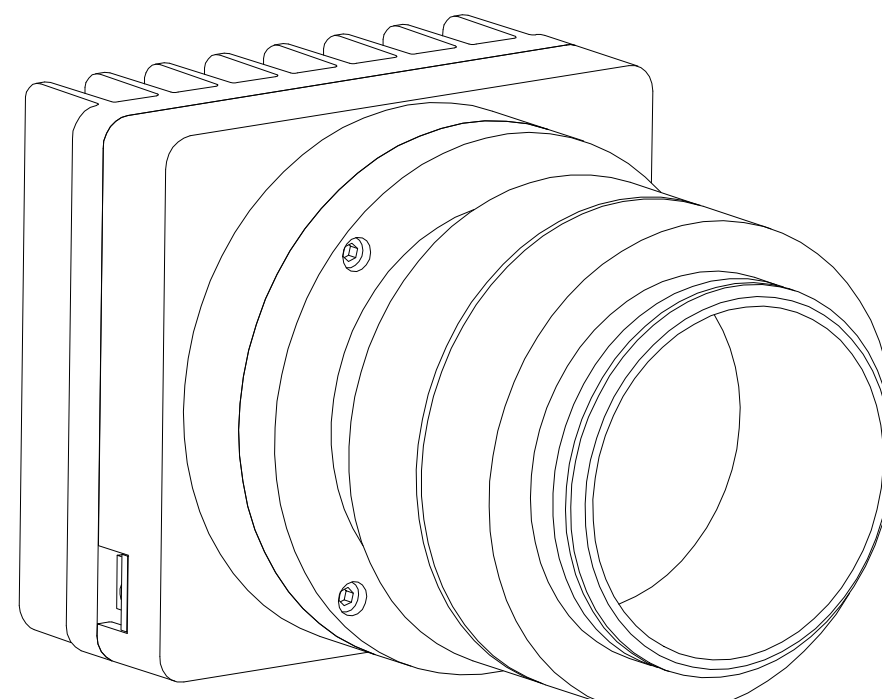
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Sheet 5: Attach adapter/collector lens assembly to illuminator.

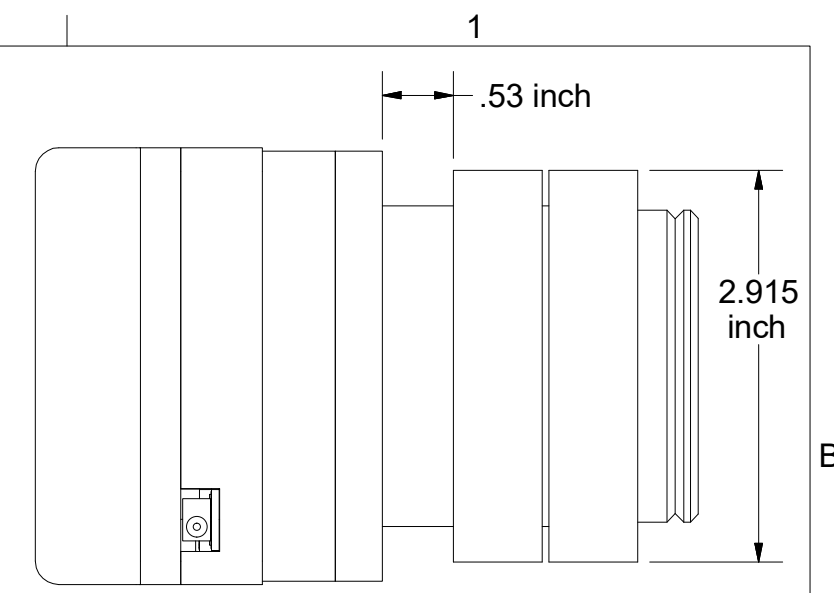


Exploded View

Attach the collector lens/Adapter assembly to the Illuminator using the four 4-40 x 3/8 inch screws. Direct access to the screws is partially obstructed by the 2.915 inch diameter of the collector lens, but using the ball end of the special hex key allows the key to be angled enough to clear the lens. That allows the four screws to be quickly snugged down. Then use the short end (which will fit in the 0.53 inch space between the Adapter and the full diameter portion of the lens) to secure the screws. See photos at right.



Completed Illuminator assembly



Completed Illuminator assembly Side View



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Sheet 6: Safety Warnings

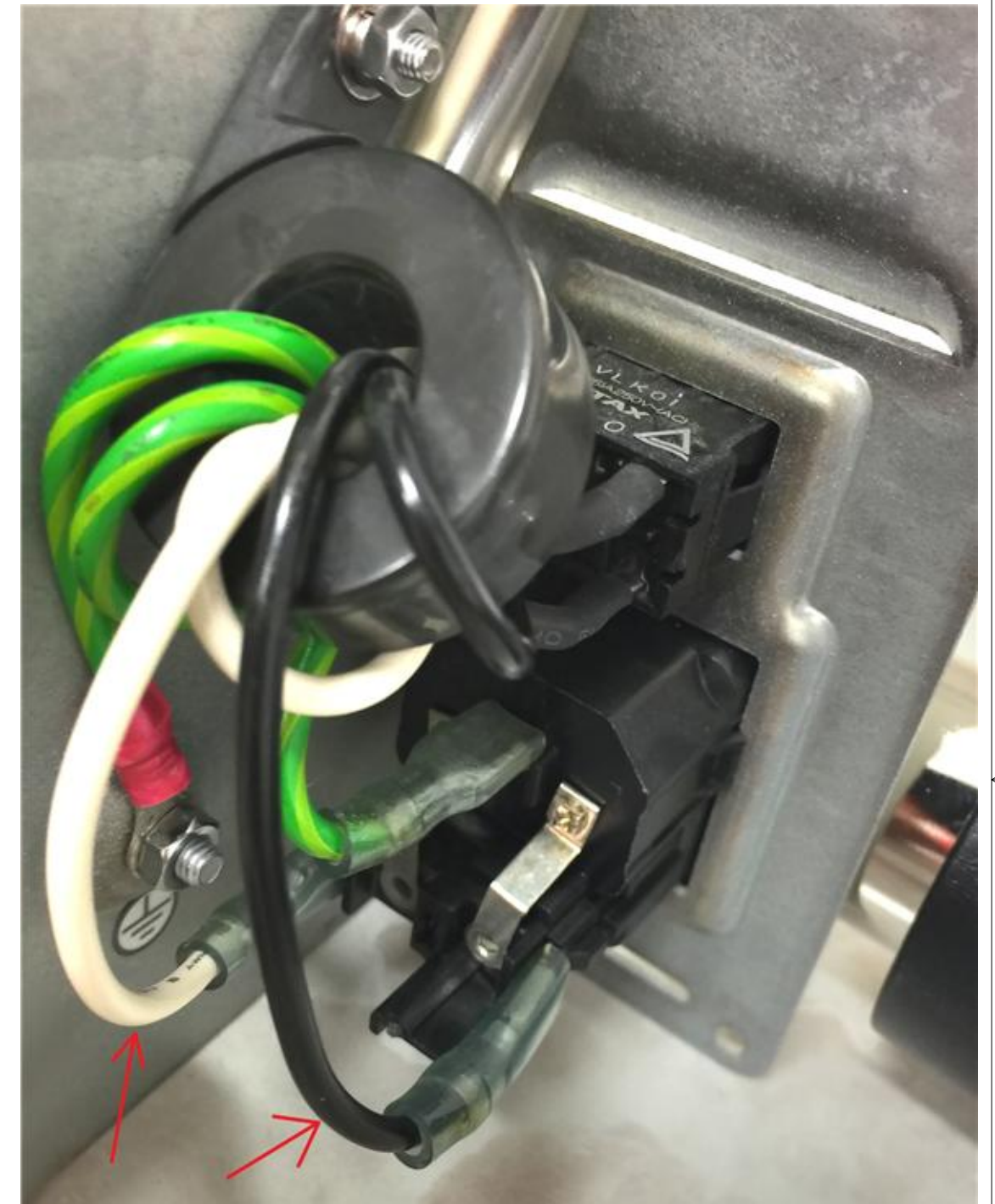
The original 120/220VAC powered illuminator circuitry is completely obsolete by the Nanodyne equipment which is powered by a universal input wall plug power supply with low voltage DC output.

We recommend completely removing the original power supply circuitry to eliminate any possibility of an electrical or fire hazard in case someone mistakenly connects AC power to the microscope in the future.

AT THE VERY LEAST, remove the power leads (red arrows in photo at right) from the AC input connector. They should be cut short so there is no possibility they could contact the power inlet, or insulated with heat shrink tubing or electrical tape.



Installing PN 10736 rubber plug in AC receptacle to deter connection of obsolete AC power cord.



Inside view of obsolete AC power input.

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Sheet 7: Remove back cover, original Olympus intensity adjustment plate.



Remove the back cover of the microscope. Disconnect the cable connecting the power supply to the circuit board attached to the intensity control panel, then push out the intensity control panel (it is attached with a tape-like adhesive). Be sure to follow the safety precautions described on sheet 6 regarding the obsoleted original AC line operated power supply.

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Sheet 8: Install Nanodyne intensity adjustment plate and illuminator.

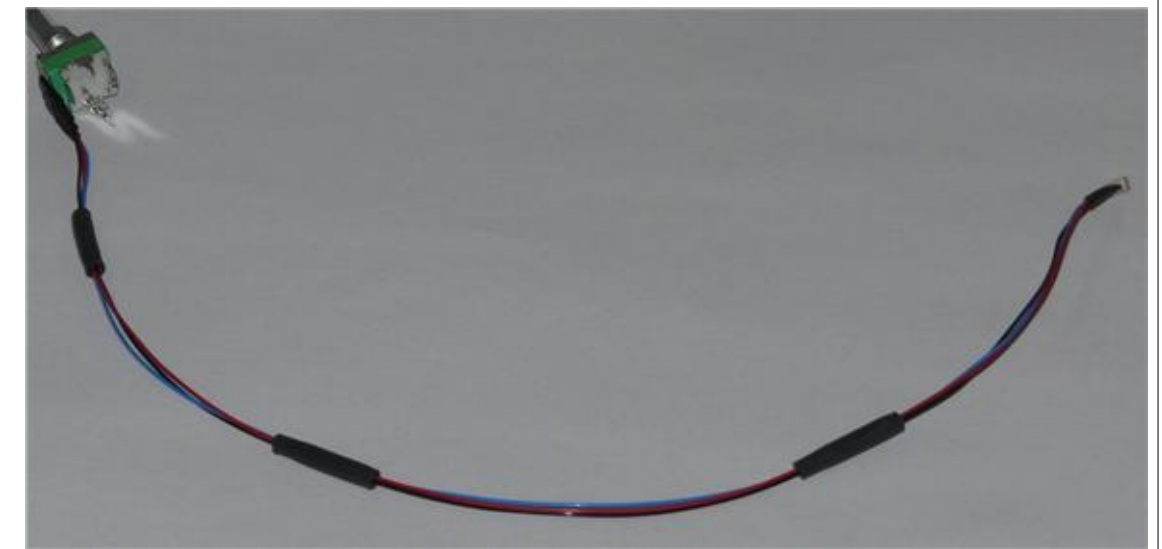


Remove the release film from the adhesive tape on the back of the new adjustment plate, and press it firmly into place. (The film can be difficult to remove. A sharp tweezers or X-Acto knife and magifier will help a lot if you are having trouble.)

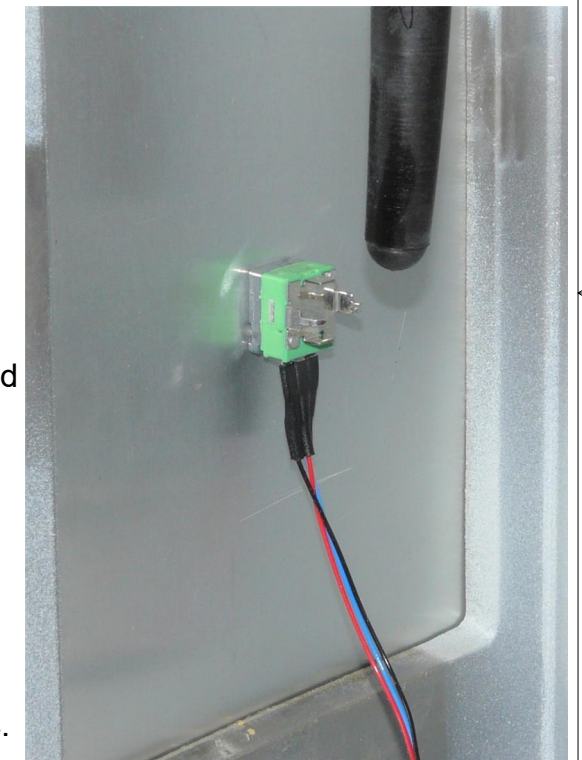


Routing of adjustment cable to illuminator.

Note: The back cover of the microscope must be in place, but not screwed down before installing the illuminator.



PN 10843 Pot Cable Assembly



Attach PN 10843 Pot Cable Assy to PN 10583 Pot Plate using PN 10241 Pot 7mm Washer and Nut.

Assembly procedure for this sheet:

Position the back cover in place without screws.

Attach the illuminator by inserting the condenser lens and tightening the mounting screw on the microscope in the same manner as the original illuminator.

Pull the microscope cover back to allow routing the adjustment cable as shown and connect the cable to the Nanodyne illuminator. (see also the photo on the last sheet)

Fasten the back cover to the microscope.

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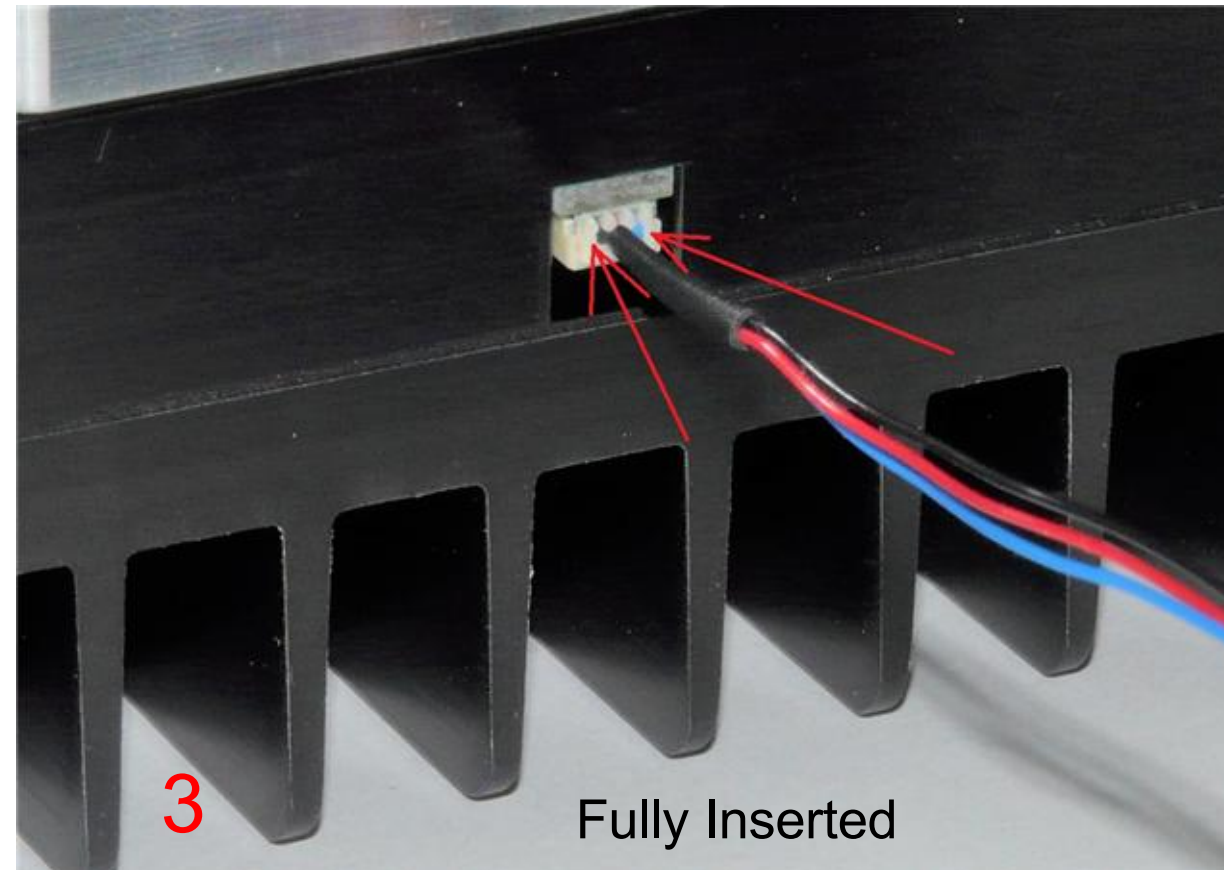
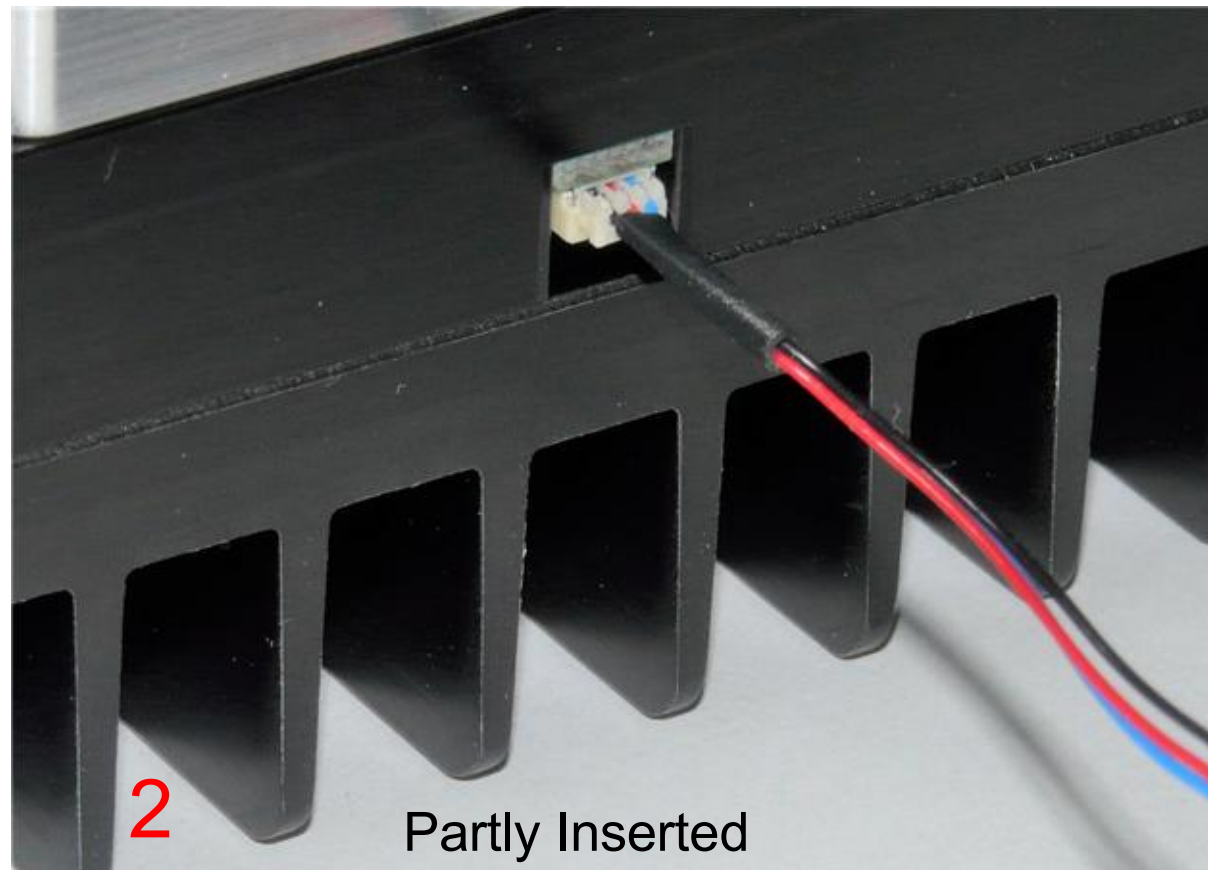
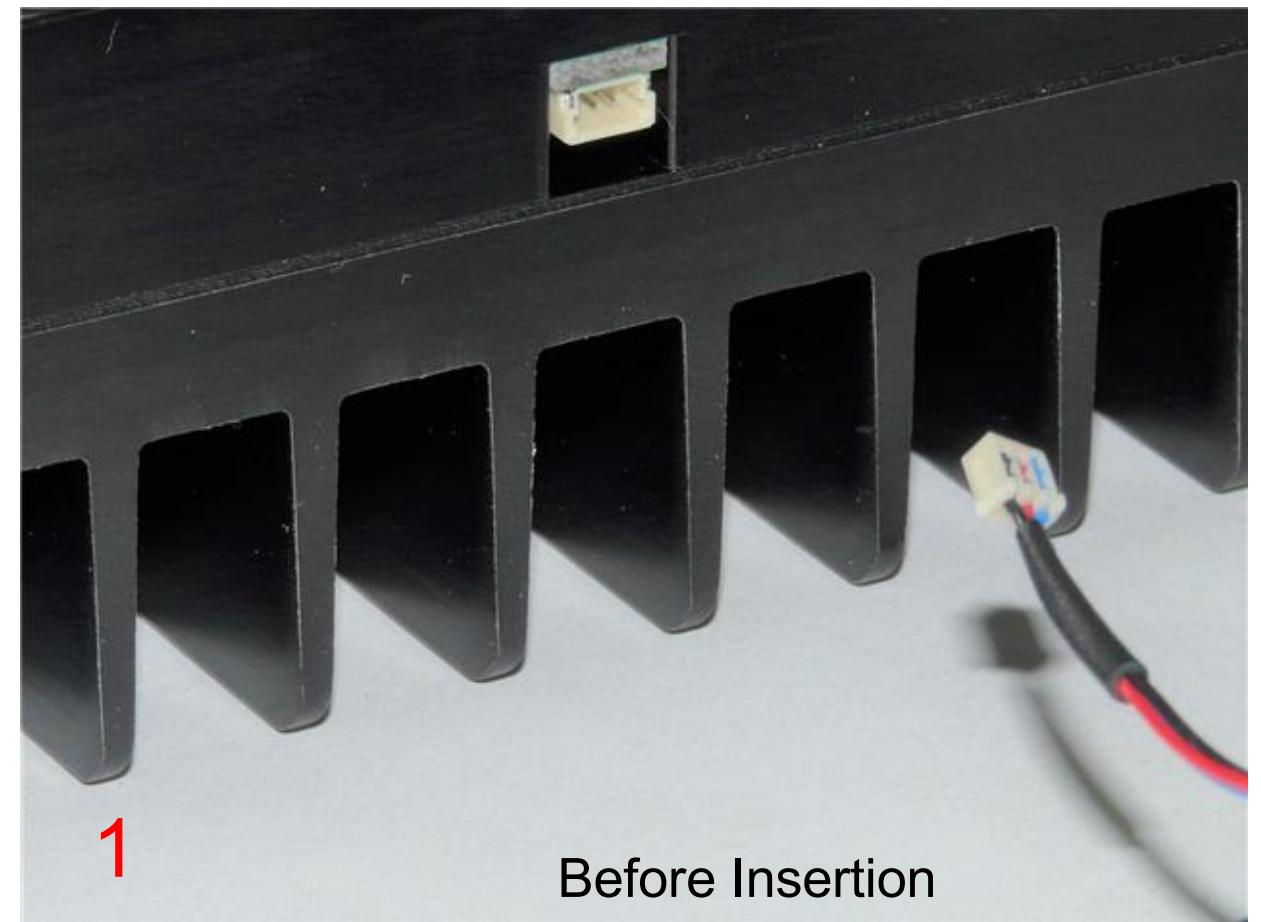
Connect the plug at the end of the Pot Cable Assembly to the mating socket of the illuminator, as shown in the pictures on this page. NOTE THAT THE PLUG IS KEYED TO ONLY GO INTO THE SOCKET ONE WAY, AS SHOWN.

Partially insert the plug into the mating socket of the illuminator by holding the wire next to the plug with your finger (photo 2).

Use your fingernails, if you have them, or tools like a tiny screwdriver or tweezers pushing on the side of the plug to fully insert it (photo 3).

The socket cannot be fully engaged by pushing on the wires, as the wires would just collapse.

To disconnect it if needed, pull the wire straight out by firmly gripping the black heat shrink tubing.



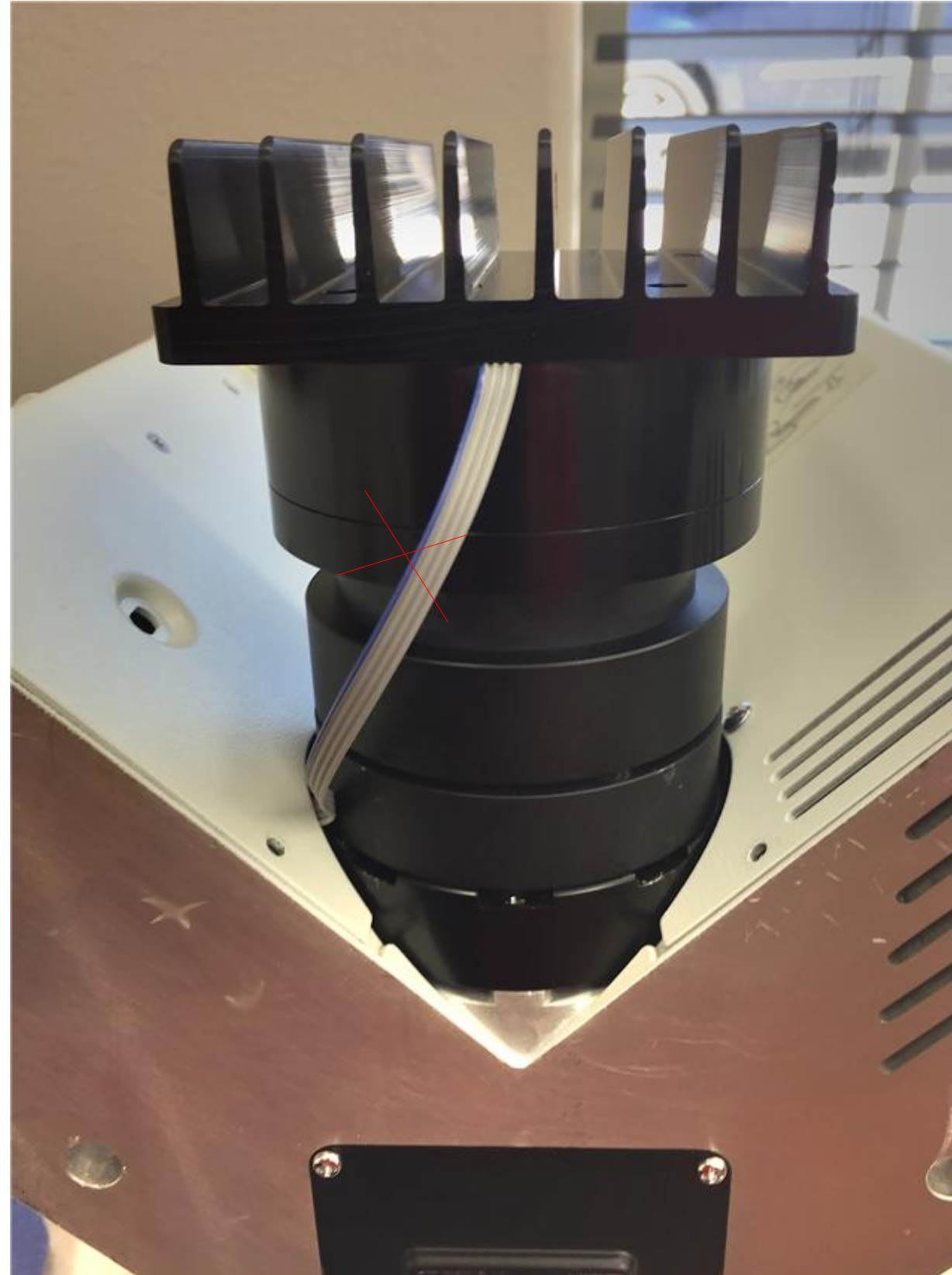
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Sheet 10: Final steps.

Route the adjustment cable between the condenser lens and microscope cover as shown. The clearance is tight, but adequate. The edges of the cover are probably rounded, but if yours has sharp edges where the cable is routed they should be rounded with a file or sandpaper to avoid cutting through the insulation on the cable.

After fastening the cover in place and attaching the new power supply, the unit is ready to use.

Note: Pot Cable assembly (red X) in the photo is out dated. We are now using PN 10843 Pot Cable Assy (shown in page 8).



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