

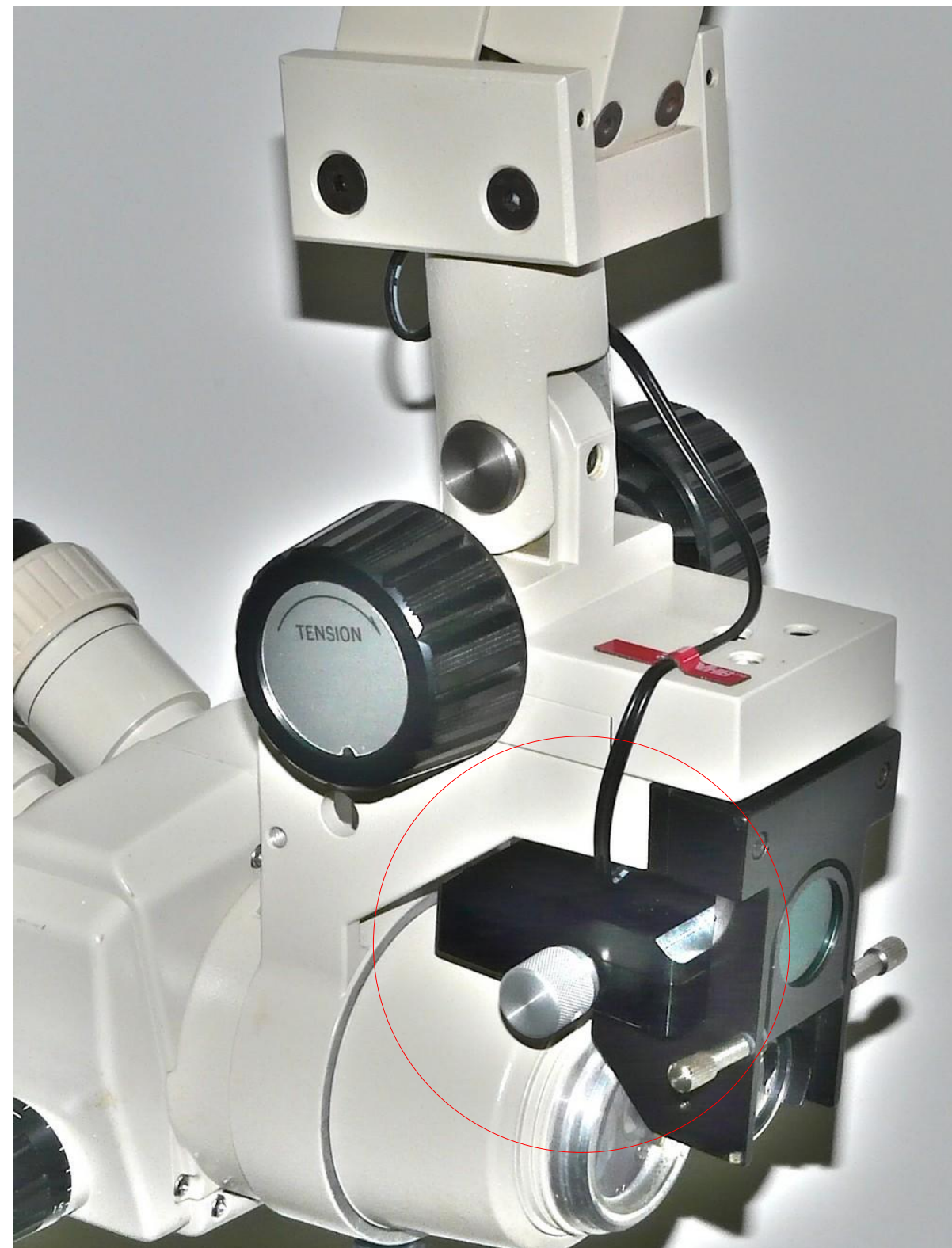
Nanodyne Replacement Illuminator for Wallach ZoomScope Colposcope Installation Instructions - Overview.



Original system. Fiber optic cable brings light from 50W Halogen bulb (at left side) through articulating arm to microscope. (OEM adjustment knob and lamp cover are missing in the photo)



Nanodyne illuminator installed on microscope. Battery pack (optional add-on with additional cost) on top of original lamp housing provides for cordless operation. AC to DC power supply also included for operation without the battery.



Close up of Nanodyne illuminator on the microscope.

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# Nanodyne Replacement Illuminator for Wallach ZoomScope Colposcope Installation - Included Items

## Additional Items Included But Not Shown:

- PN 10703 Hex Key 0.050 in.
- PN 11309 Hex Key 1/16 Short arm
- PN 10490 Hex Key 5/64 Short Arm
- PN 10709 Hex Key 3/32 Short Arm
- PN 11564 Hex Key 7/64 Long Arm
- PN 11721 Hex Key 1/8 Short Arm

Measured maximum light output (at 12 inches):

OEM Halogen unit 50W	480 fc
Nanodyne LED unit 4.3W	3270 fc

PN 11827 Power Cable - illuminator to Battery Module  
(not to scale - 48 inch long)

PN 11746 Wallach Power Module

PN 11697 Wallach illuminator Assy

PN 11711 Set  
Screw 4-40 Socket  
Head Custom Tip

**\*Note:**

The DC power supply (PN 11700) is included with all Wallach illuminators.

The battery system provides cord free operation at full power for about 20 hours. It is available at additional cost.

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



PN 11746 Wallach Power Module with Battery (optional add-on with additional cost)



PN 11700 Power Supply - Tri-Mag 18V 660mA Fixed Blade US Input 1.35mm ID x 3.5mm OD RA plug output, 6 foot.



Battery charger (optional add-on with additional cost)



PN 11000 Power Cord Extension 1.35mm ID x 3.5mm OD RA plug to jack 6 foot. (use if needed for more length)

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Nanodyne Replacement Illuminator for Wallach ZoomScope Colposcope Installation - Step 1, Remove Obsolete AC Power Connection.



(1) Remove 6 screws from back plate.



(2) Remove back plate. Disconnect or cut wires, remove nut (see red arrow) to free AC power cord. Then replace back cover.

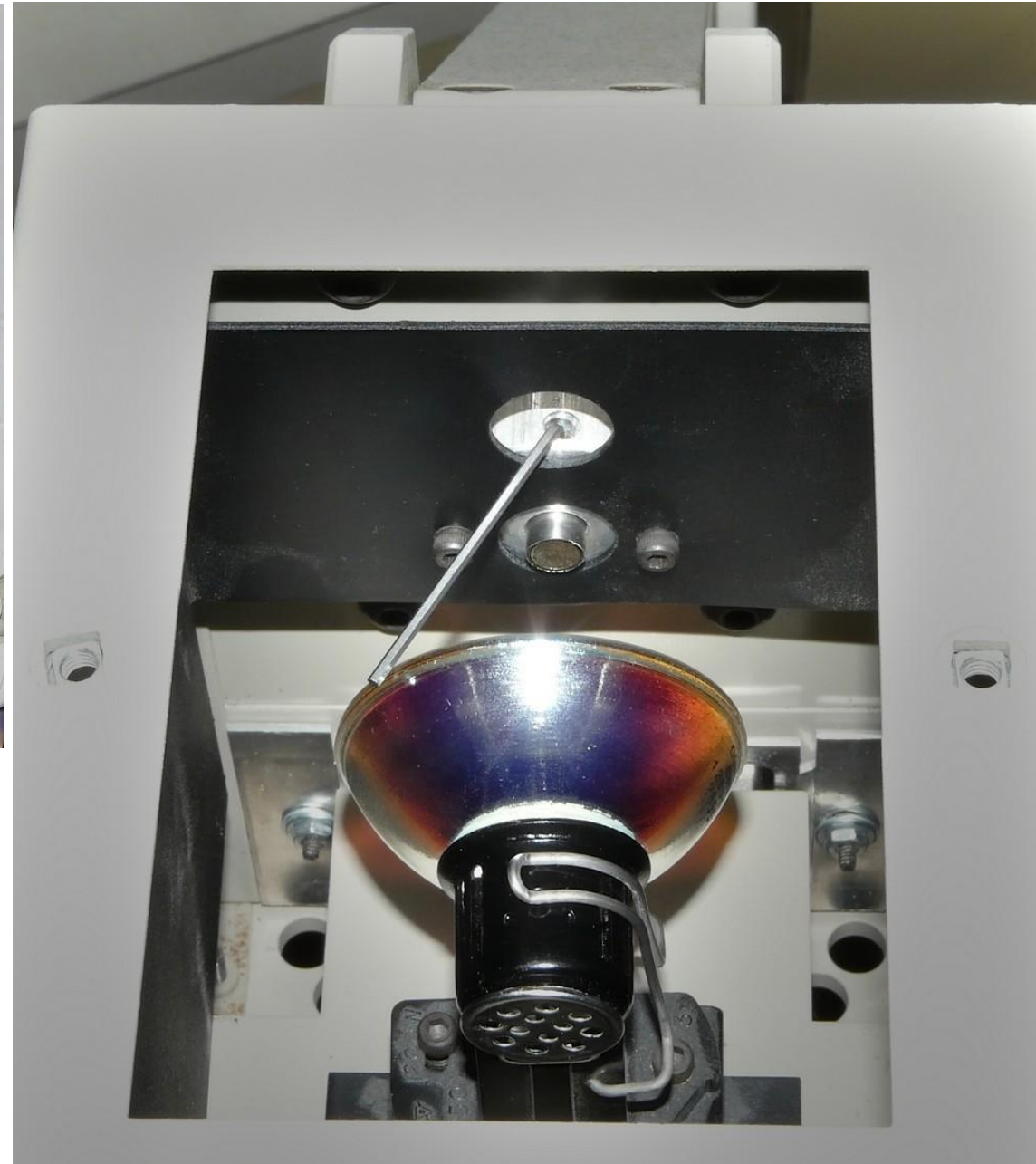
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Nanodyne Replacement Illuminator for Wallach ZoomScope Colposcope Installation - Step 2, Remove Fiber Optic Cable at Lamp End.

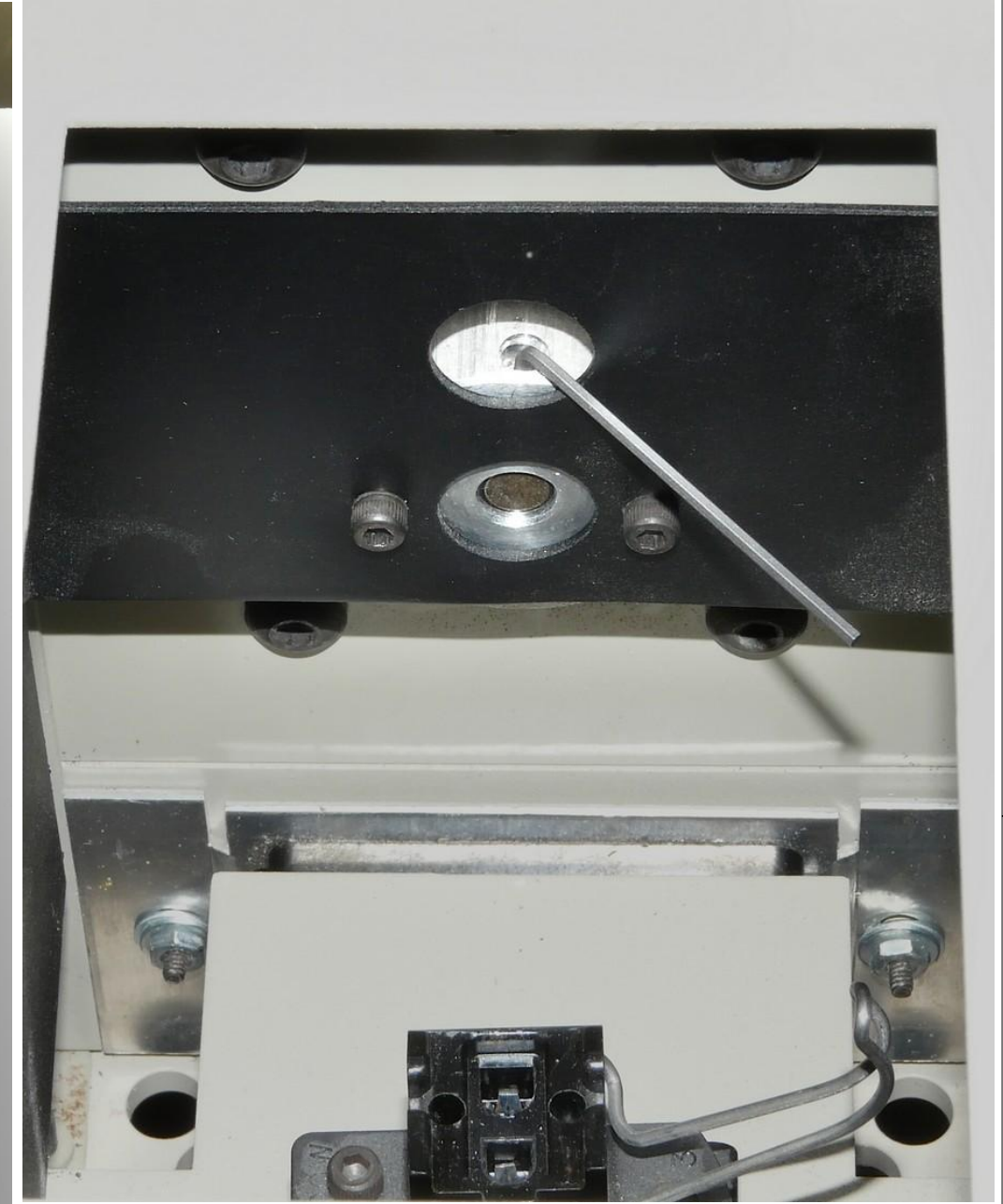


(1) The fiber optic cable runs from the lamp at the far left to the microscope at the far right, through the articulated arm.



(2) Remove the lamp cover (held by two thumb screws).

Use the 1/16 inch hex key to loosen set screw holding fiber cable at the lamp end. The key needs to be fully inserted as shown to engage the set screw (the lamp blocks the key from turning).

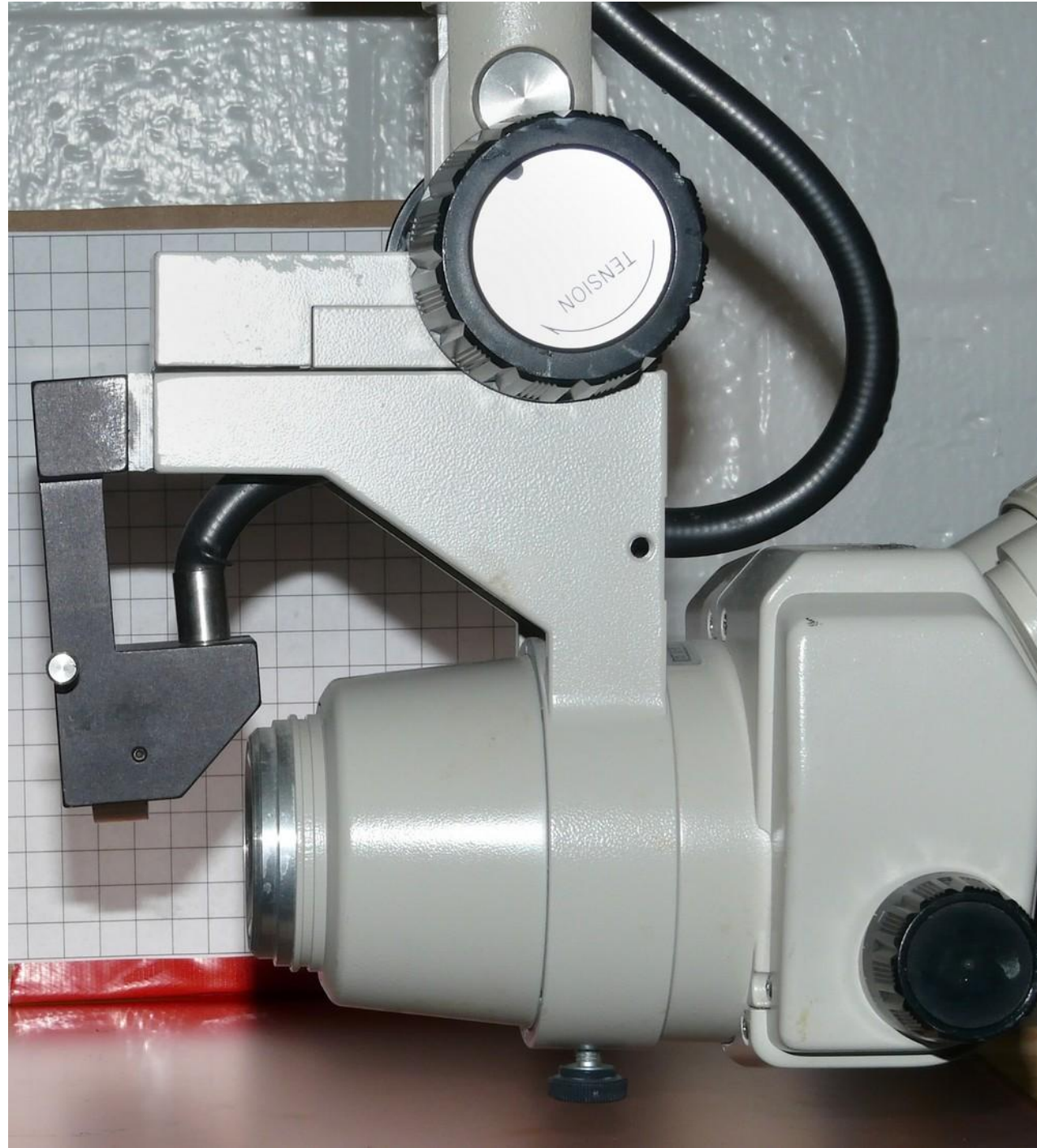


(3) Remove the lamp and loosen the set screw, freeing the fiber optic cable.

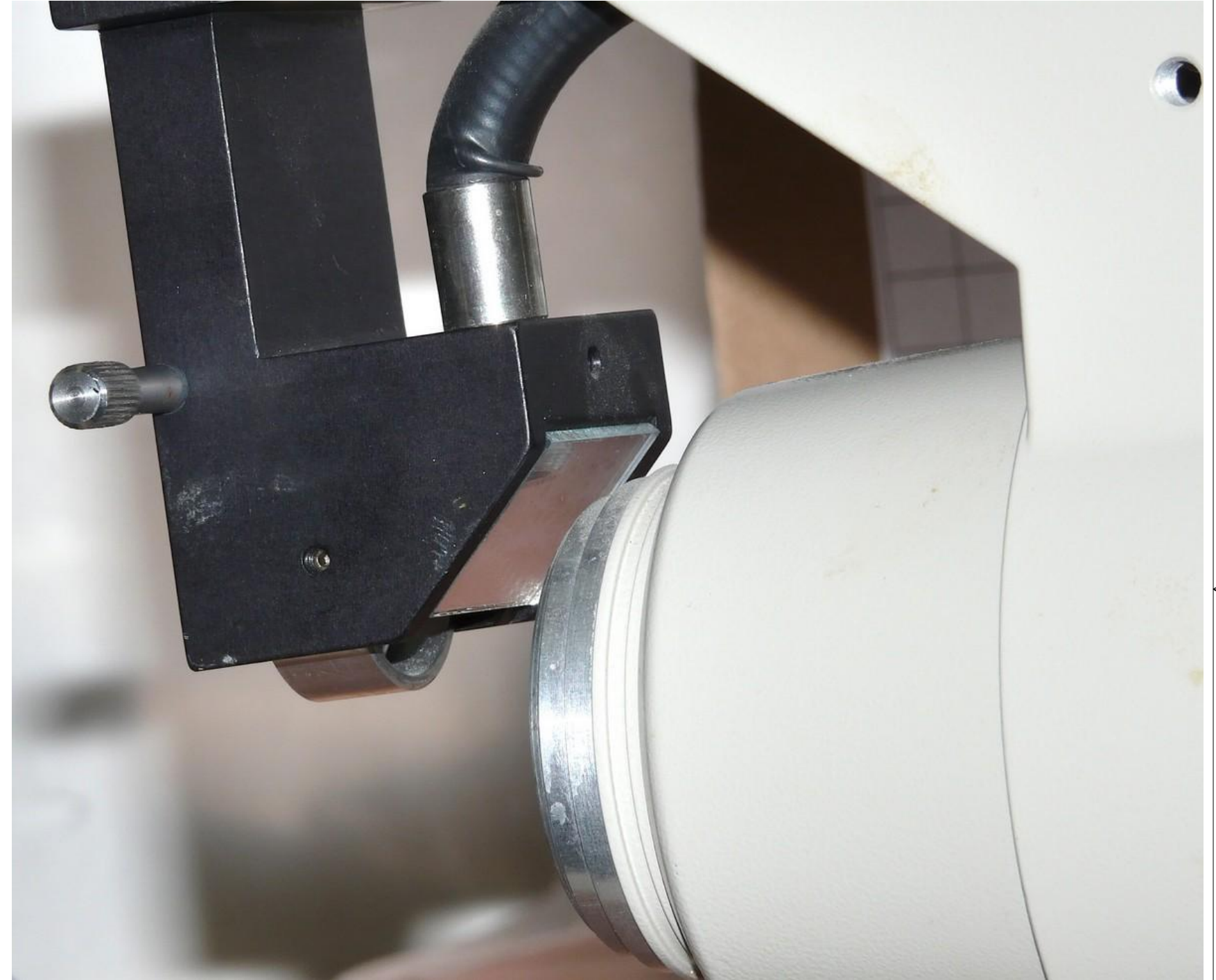
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Nanodyne Replacement Illuminator for Wallach ZoomScope Colposcope Installation Step 3, Remove Fiber Optic Cable at Microscope End.



(1) OEM fiber optic cable to be removed.

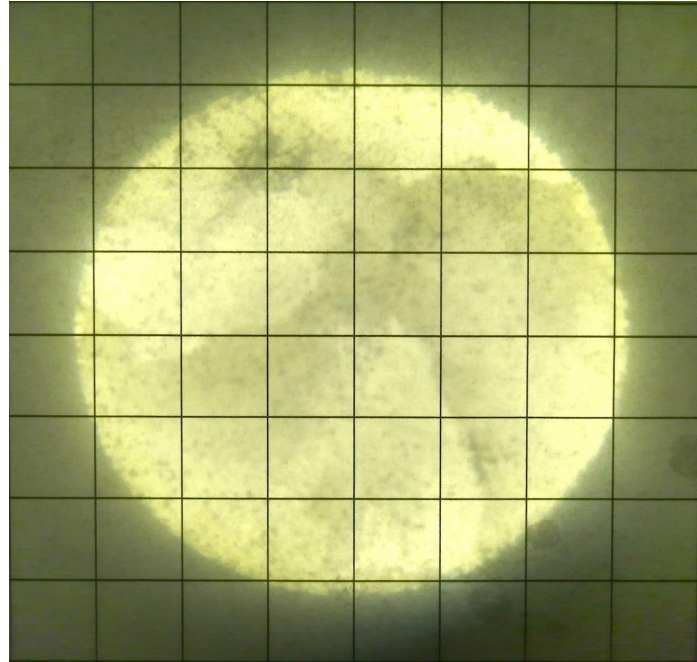


(2) OEM set up showing mirror and collector lens (partially visible under black "L"). These parts are retained for use with the Nanodyne system.

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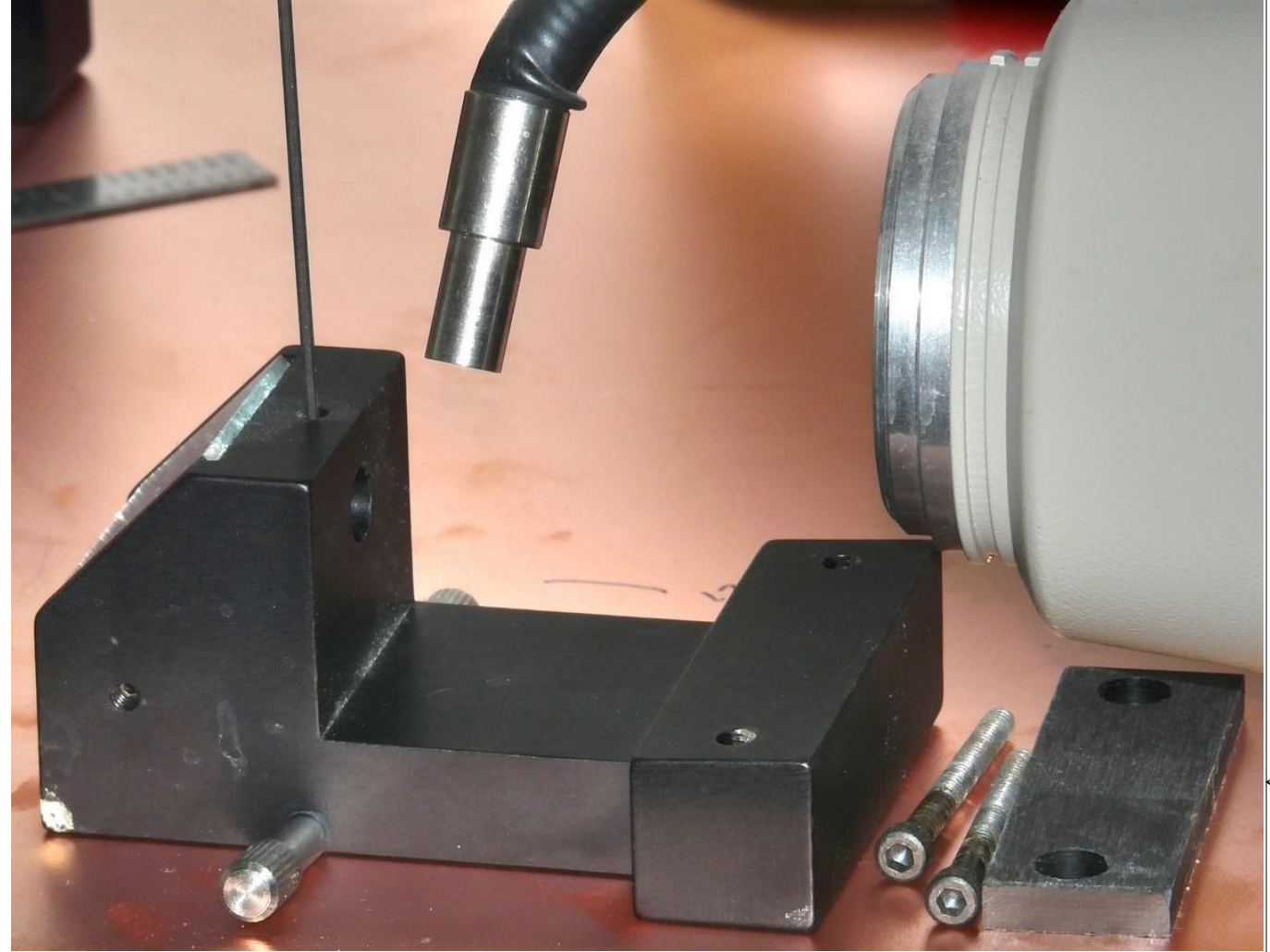
Nanodyne Replacement Illuminator for Wallach ZoomScope Colposcope Installation - Step 3, Remove Fiber Optic Cable at Microscope End (continued from previous sheet).



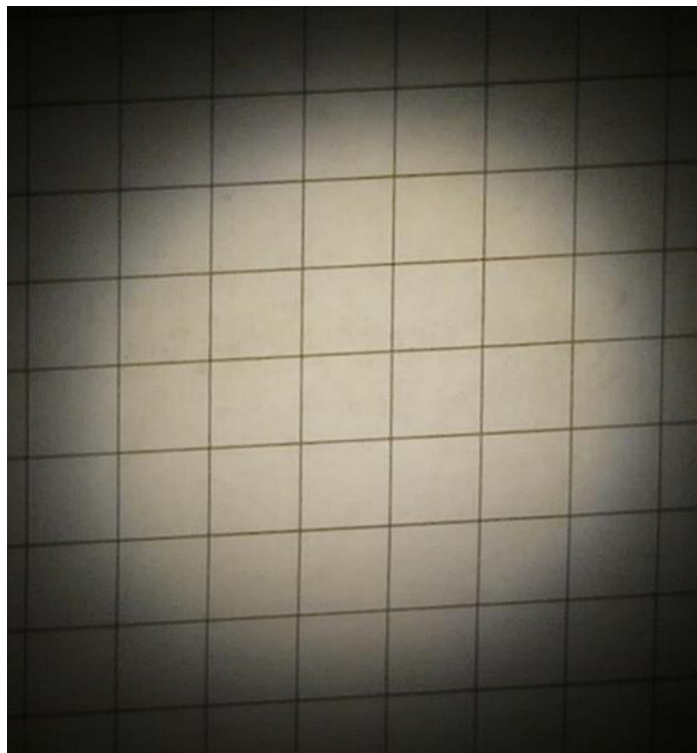
(1) The light pattern from the OEM fiberoptic cable was rather poor. Possibly due to damage or deterioration over time. We decided it best to eliminate the cable and place our illuminator directly at the microscope.



(3) Free the OEM lens/mirror/fiber cable assembly by removing the two 6-32 screws using the 7/64 inch hex key. Everything but the fiber cable will be re-used.



(4) Use the 0.050 hex key to remove the fiber cable from the lens/mirror assembly.



(2) Light pattern from Nanodyne illuminator.

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Nanodyne Replacement Illuminator for Wallach ZoomScope Colposcope Installation - Step 4, Remove Fiber Optic Cable From Articulated Arm.



(1) Remove the cover on the elbow of the articulating arm. It is held by the 4 screws.

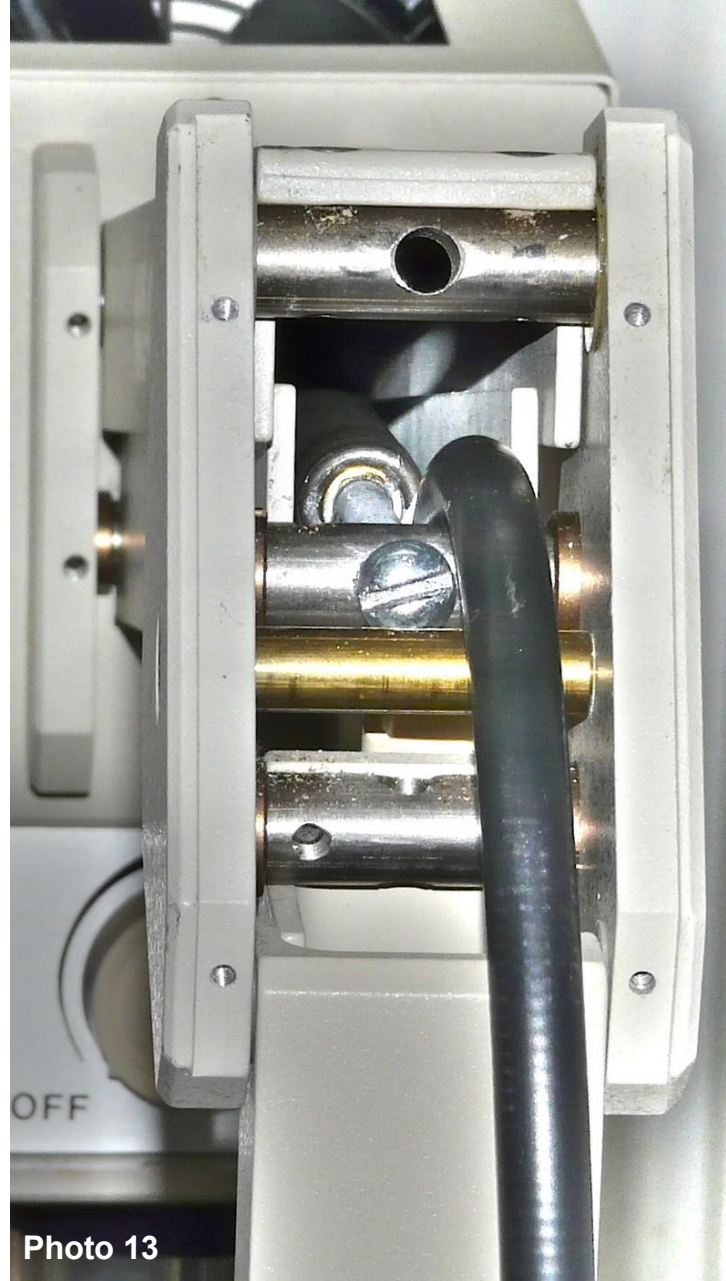
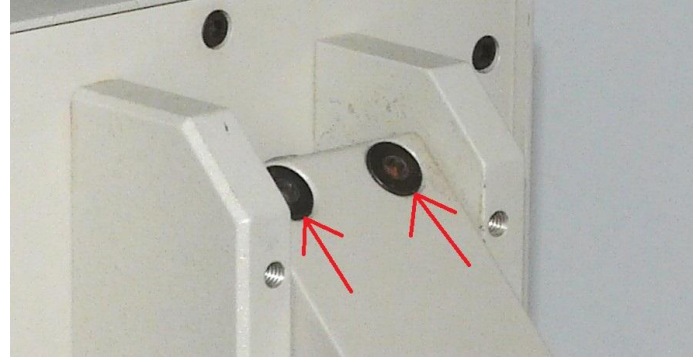


Photo 13

(2) From the elbow, pull the fiber cable up through the short arm (the part going to the microscope).



(3) Remove the two screws that secure the top half of the articulating arm at the lamp house. The arm may not support the microscope after removing the screws. Don't let it crash down and damage something (use 1/8 inch hex key).



(4) Arm with screws removed.



(5) The OEM set up has the fiber cable pinched between the arm and the tension spring. You can remove the screw in the tension spring (see photo 13) to make it easy to remove the fiber cable, but you might get carpal tunnel before you are done. We suggest just using brute force to pull the cable out. You might damage the cable, but it won't be needed anymore.

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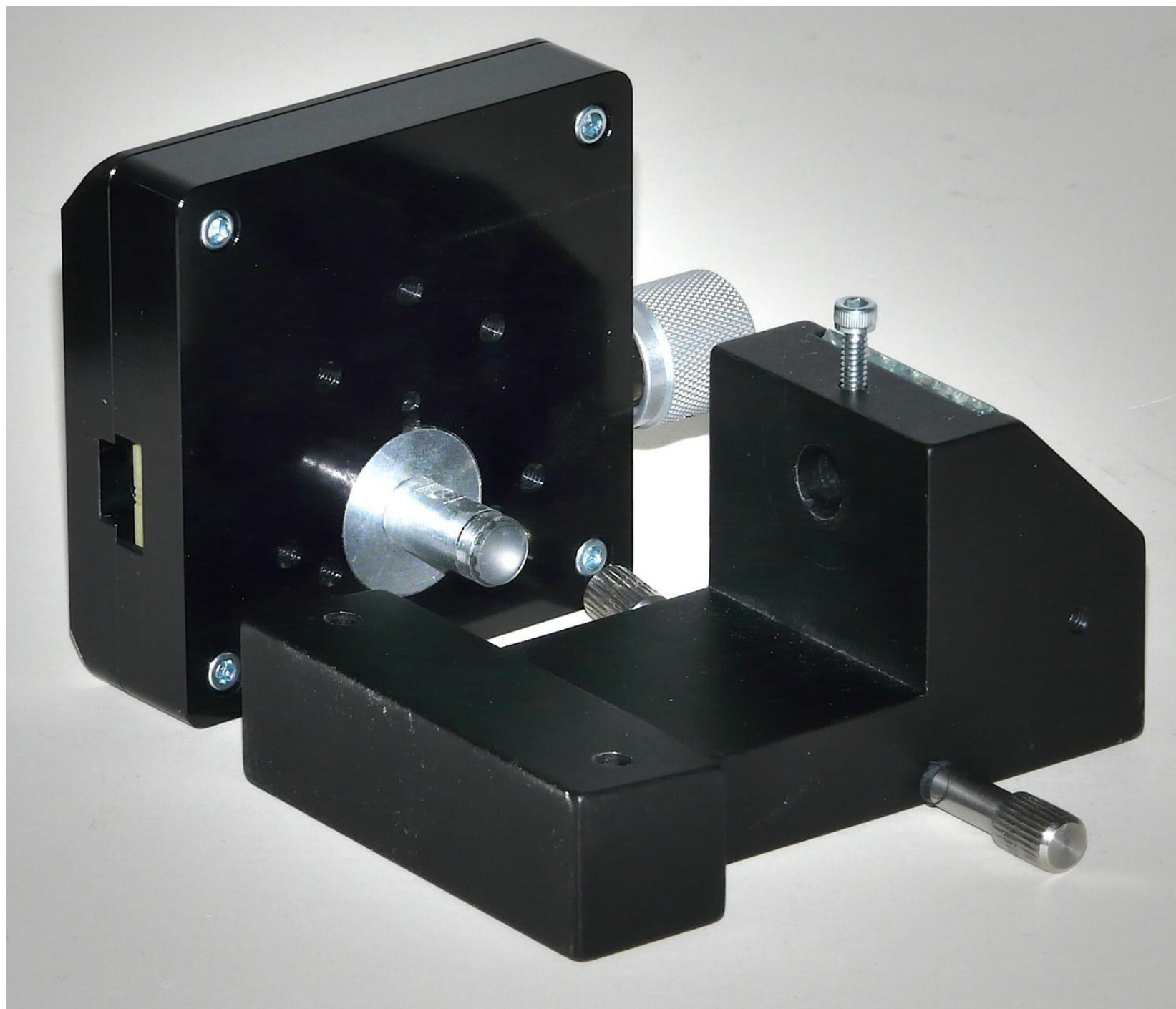
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2

1

Nanodyne Replacement Illuminator for Wallach ZoomScope Colposcope Installation - Step 5, Connect New illuminator to OEM Mirror Block.



(1) Nanodyne illuminator ready to install in old fiber optic cable hole. Replace the small OEM set screw with the new heavy duty one provided.



(2) Nanodyne illuminator installed in lens/mirror holder. Tighten set screw with 3/32 inch hex key to secure.

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4

3



2

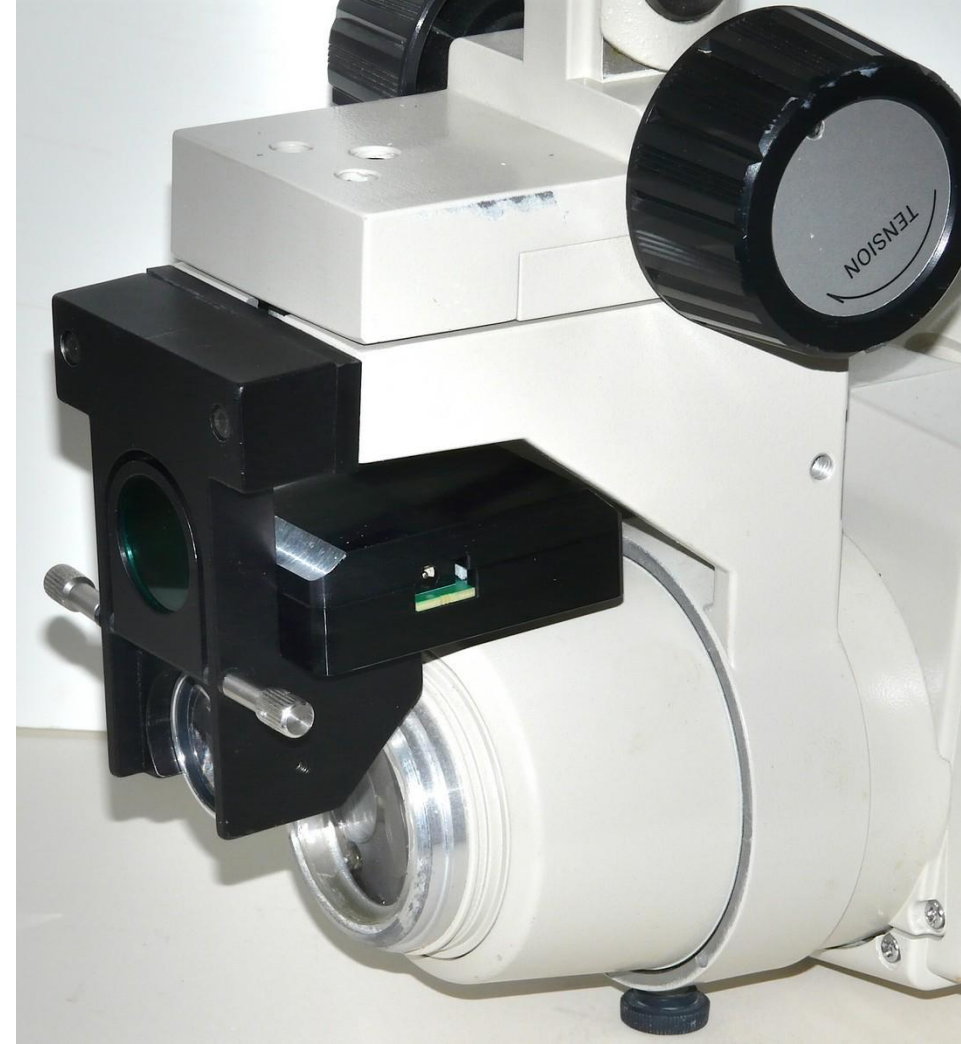
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Nanodyne Replacement Illuminator for Wallach ZoomScope Colposcope Installation - Step 6, Attach Mirror Block-illuminator Assembly to Microscope.



(1) New illuminator assembly ready to attach to microscope (block under illuminator is just support for photo).



(2) Assembly attached to microscope (view 1).

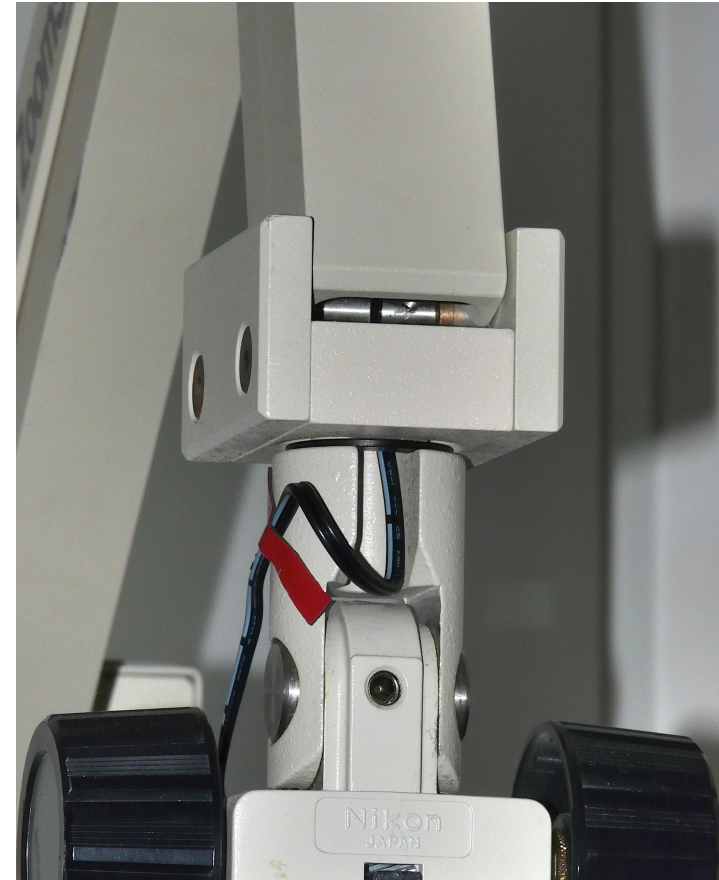
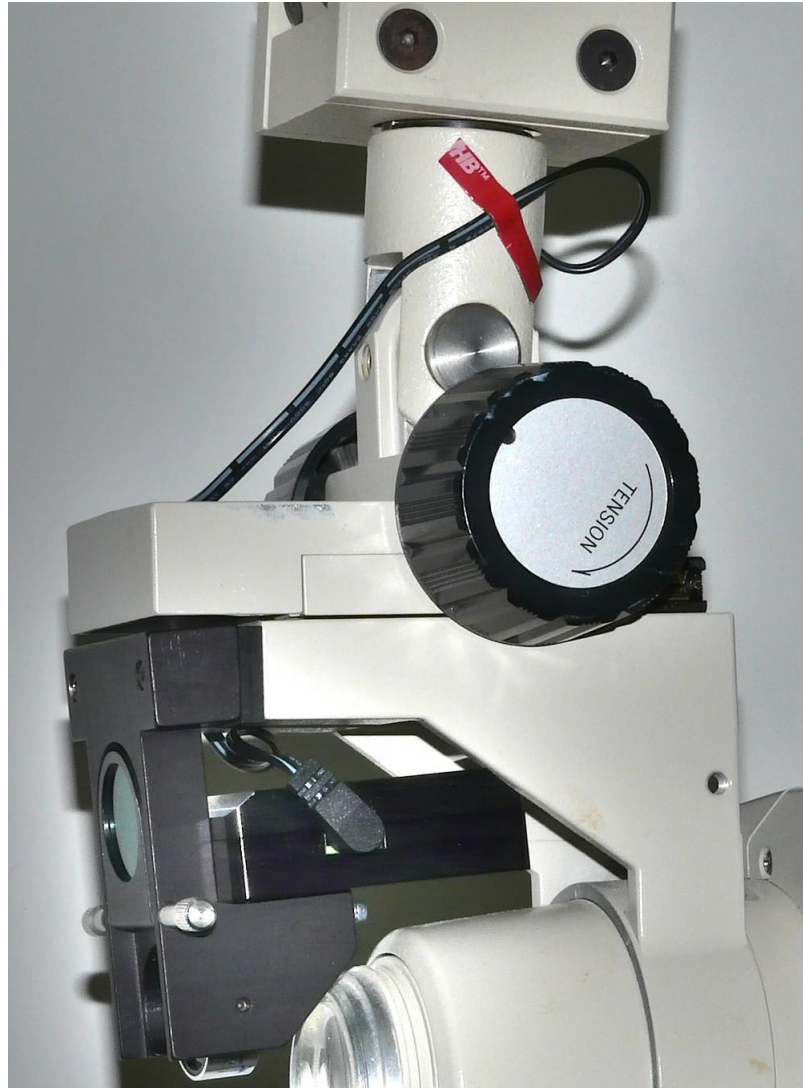


(3) Assembly attached to microscope (view 2).

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Nanodyne Replacement Illuminator for Wallach ZoomScope Colposcope Installation - Step 7, Route the New Power Cord.



(1) Connect the power cord to the illuminator, and route it as shown so it will not bind as the microscope is rotated.

(2) Route the power cable up through the short portion of the articulating arm as shown.

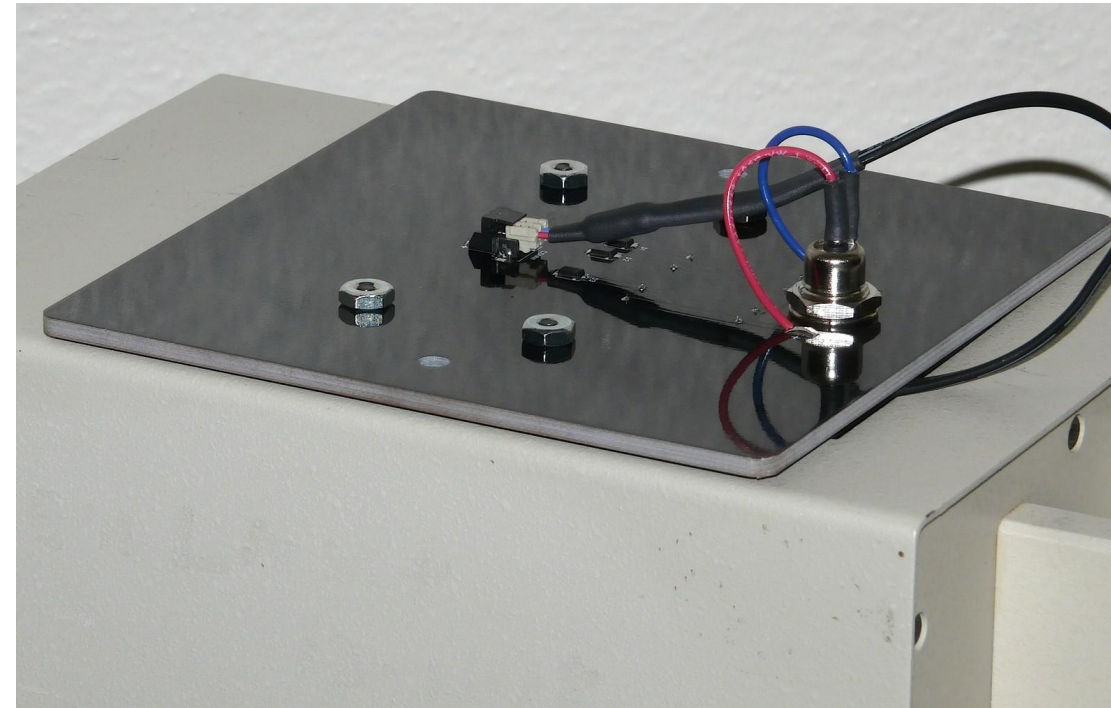
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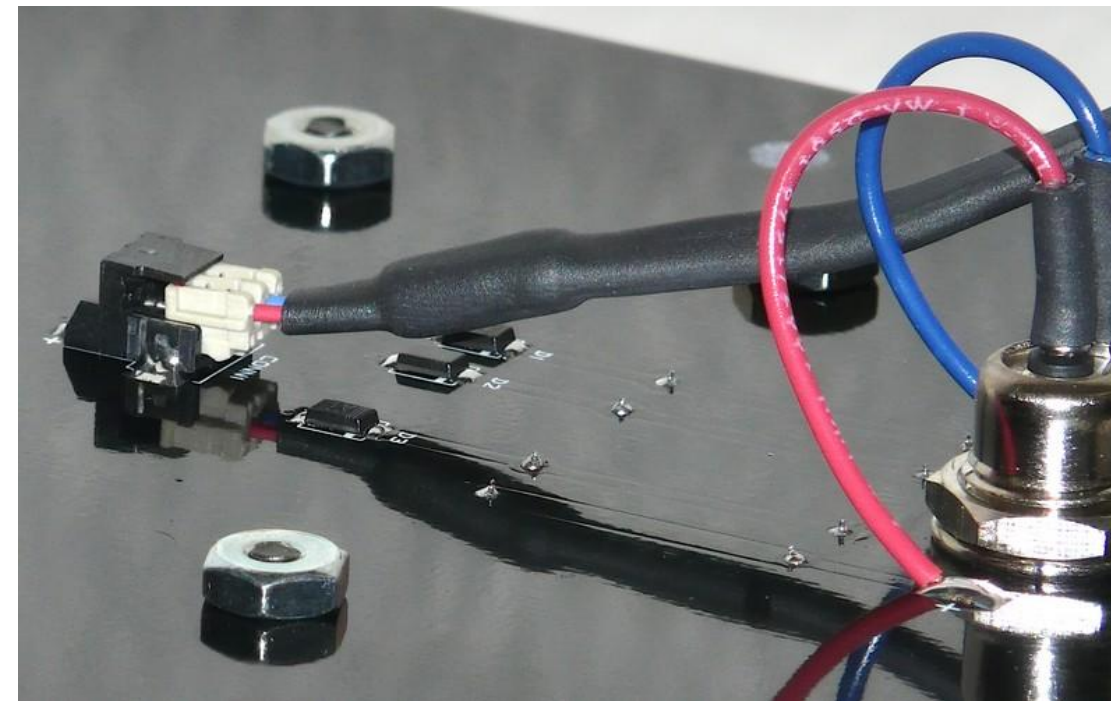
Nanodyne Replacement Illuminator for Wallach ZoomScope Colposcope Installation - Step 8, continued, Route the New Power Cord.



(1) Route the power cable up the long articulated arm, and feed it through the hole for the fiber optic cable, into the lamp housing.



(2) Plug the power cable into the connector on the bottom side of the power module (cable is aligned, but not connected).

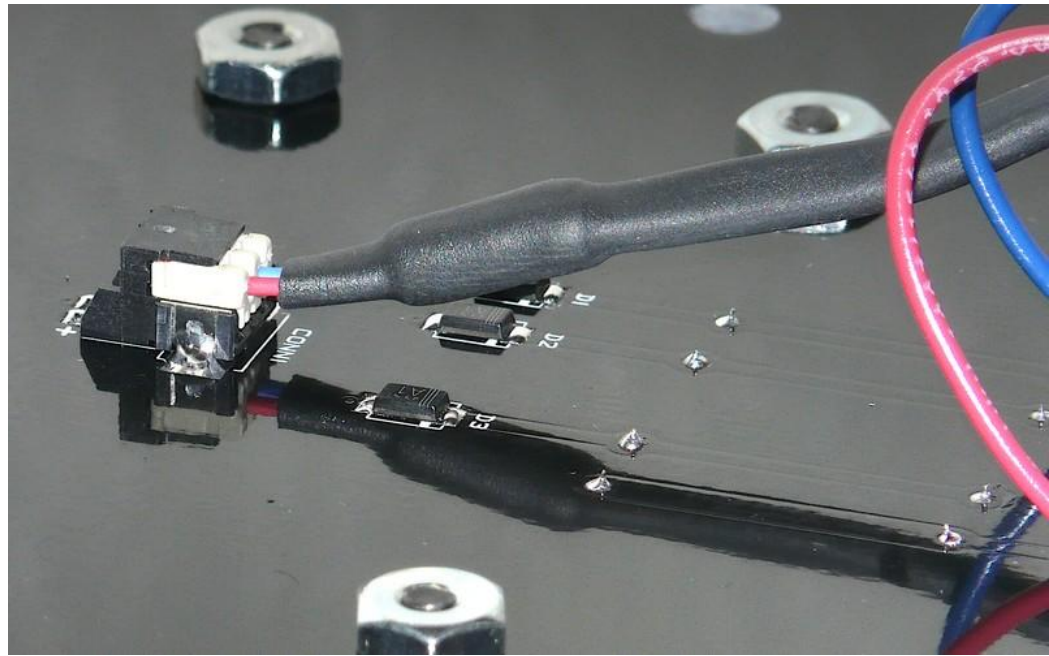


(3) Power cable aligned, not connected close up.

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Nanodyne Replacement Illuminator for Wallach ZoomScope Colposcope Installation - Step 8, Secure Arm, Replace Cover, Attach Battery.



(1) Power cable properly connected.

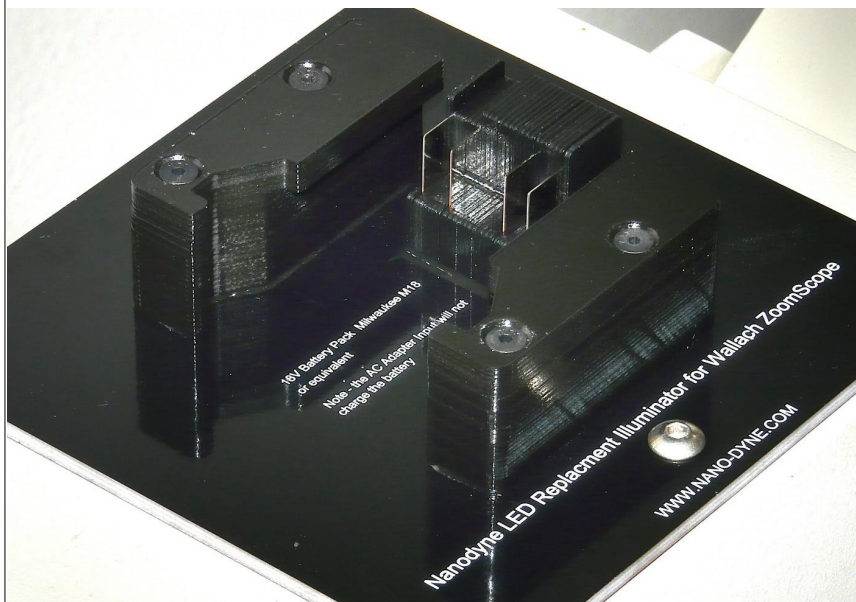
\* Note: Battery set up is an optional add-on with additional cost. If you just use standard DC power set up, please see next page.



(2) Replace the 2 screws in the articulating arm. Manipulate the angle of the short arm if needed to line up the holes.



(3) Turn the power module right side up and secure to the lamp house with the two 10-32 button head screws. Use the 1/8 inch hex key to tighten.



(4) Close up - Battery connector.



(5) Power module with battery.



(6) Battery charger.

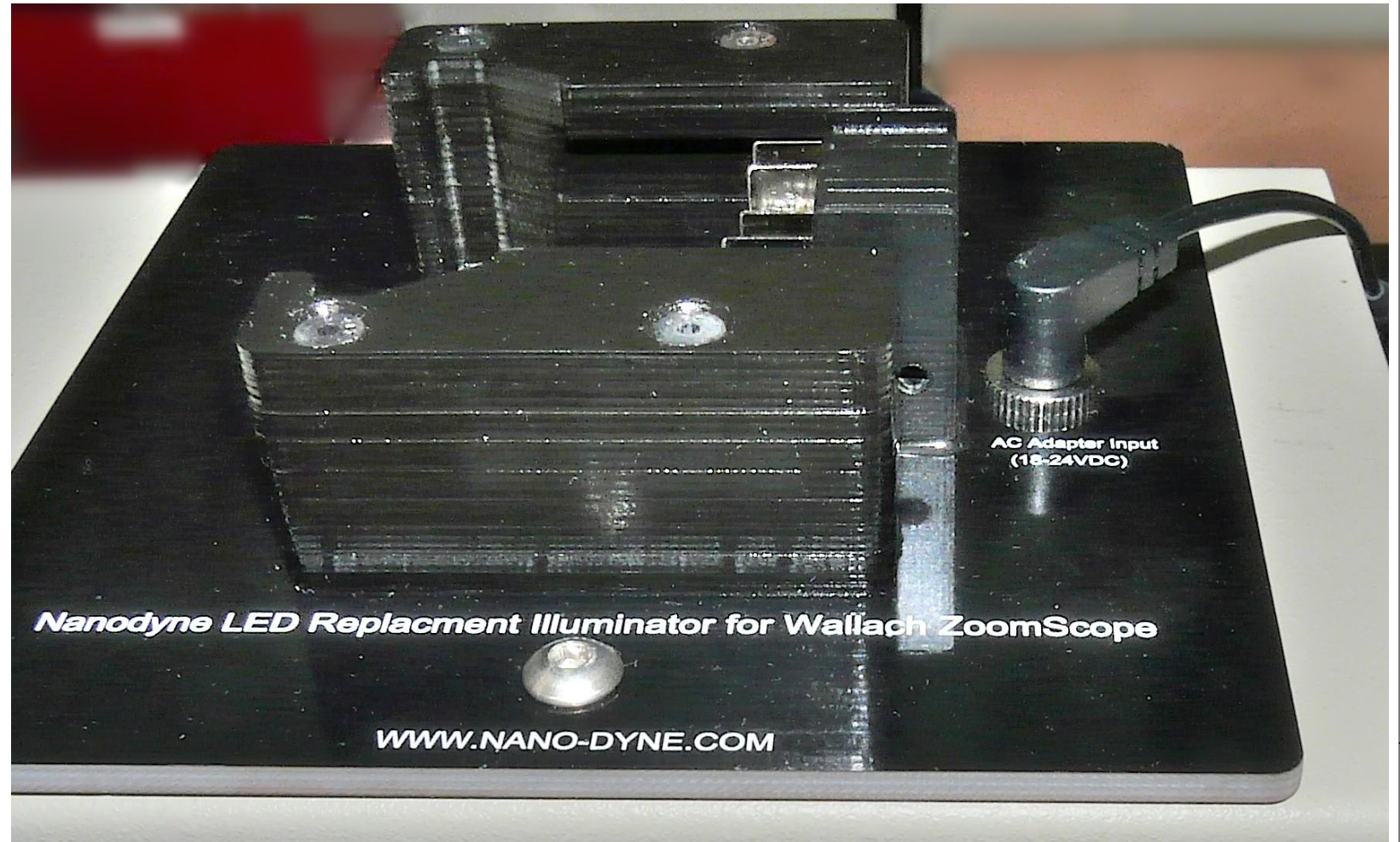
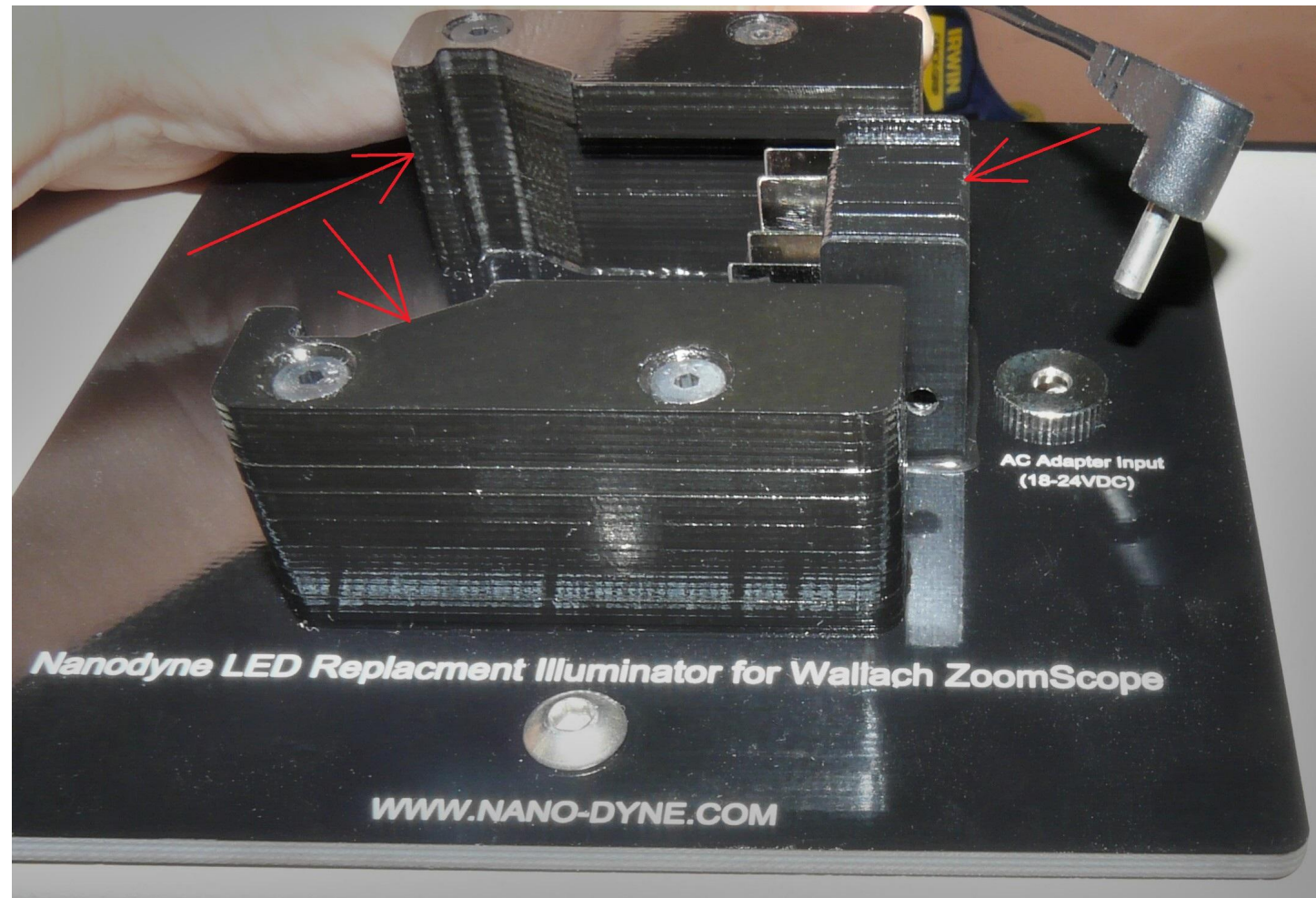


(7) Completed unit.

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Nanodyne Replacement Illuminator for Wallach ZoomScope Colposcope Installation - Operation Without Battery.



(1) If you did not order the illuminator with the battery system, you will not have the 3 battery connection parts identified above by red arrows.

Connect the power supply provided to an AC outlet and plug in the end of the power cable to the AC Adapter Input as shown above.

The AC adapter input may be connected with the battery in place, but it will not charge the battery. Power will be drawn from which ever source has the highest voltage. This will be the battery when fully charged, changing to the AC adapter when the battery is partially or fully discharged.

(2) Now it is ready to operate without the battery.

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