Nanodyne Replacement Illuminator for Nikon Optiphot-2 Installation Instructions

These pictures show the microscope illuminator that our PN 10725 is intended to replace. The portion of the microscope pictured above was loaned to us by a customer to use for creating this installation procedure. You may need to adjust the handling of the microscope during the installation to accomodate a complete unit. It is NOT intended that you remove the main portion of your microscope from the base.

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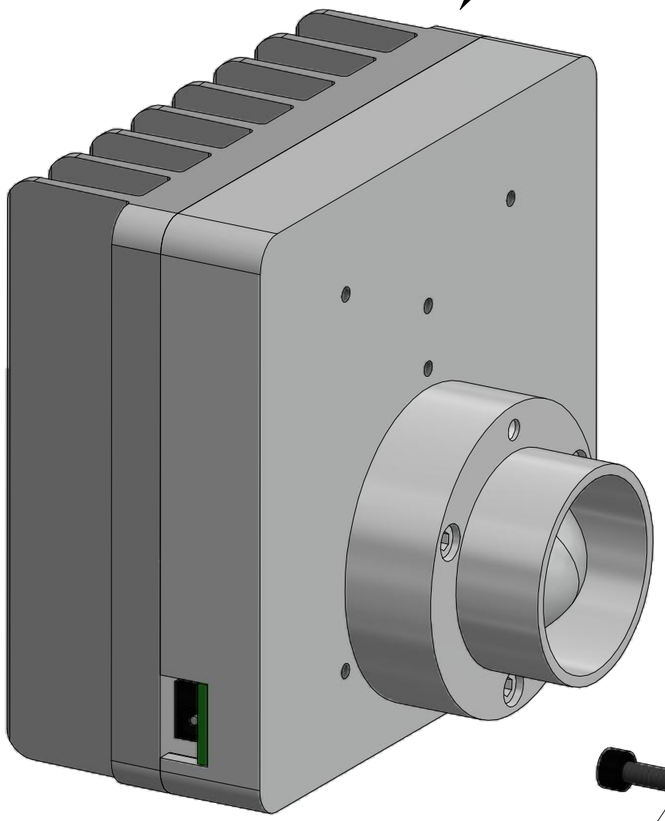
Nanodyne Replacement Illuminator for Nikon Optiphot-2 Installation Instructions: Included Items



PN 11145 T2PIHP3 Illuminator Assy w Offset Lens

PN 10695 SHCS
M3 x 0.5 x 12 mm
(3 pcs)

PN 10718 Adapter
Nikon Optiphot-2

2 pcs PN 10277 SHCS
M2 x 0.4 x 6 mm
(included with PN 10278)

PN 10467 Set Screw 8-32 brass tip

PN 11002 Pot Cable Assy
(16 in cable)

PN 10278 Slide Pot Assembly

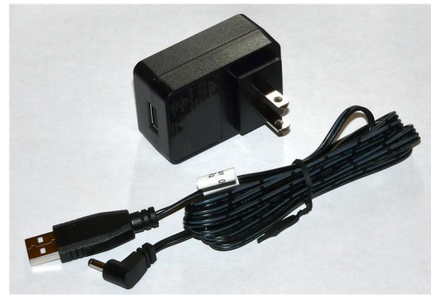
Pot Knob from old slide pot
(save from original microscope)

PN 10726 Optiphot-2 faceplate

PN 10736 Rubber plug to block unused AC power receptacle.

Additional Items Included But Not Shown:

PN 10460 Hex Key 4mm (to open microscope base)
PN 10566 Hex Key 2.5mm (to attach adapter to microscope)
PN 10490 Hex Key 5/64 inch (to attach illuminator to adapter)
PN 10456 Hex Key 1.5mm (to attach new slide pot to microscope)



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.

3M VHB tape to secure pot cable

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

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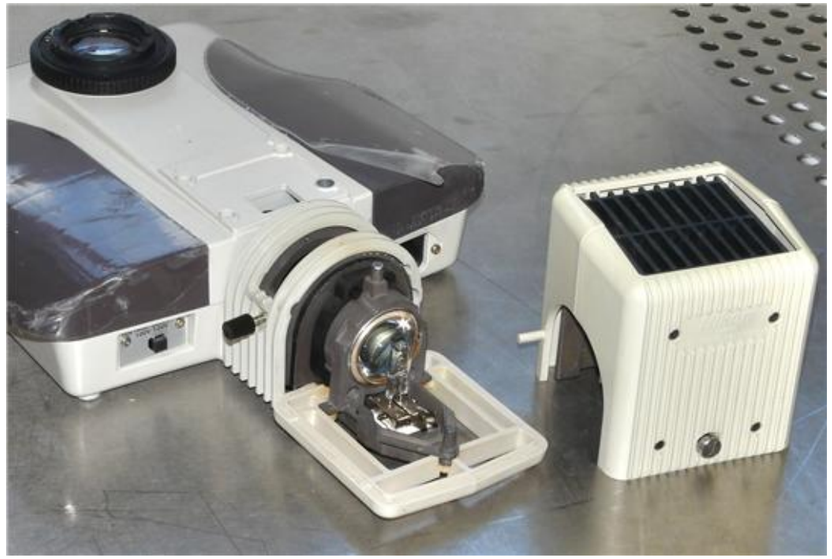
Nanodyne Replacement Illuminator for Nikon Optiphot-2 Installation Instructions: Step 1. Remove Old Lamp Housing



1. Remove cover from lamp housing by loosening the large stainless steel screw. A quarter fits the slot very well.

2. Remove the 3 screws holding lamp housing to microscope.

The microscope we obtained for these photos did not have the housing attached to the microscope, and did not have any attachment screws when we got it. We assume they are socket head cap screws using a 2.5mm hex key, but it is possible a different tool may be required.

3. Lamp housing removed from microscope.

After removing the 3 screws, the lamp housing can be pulled away, disconnecting the electrical contacts.

As we received it, the electrical contacts were hanging loose as shown. We assume your electrical contacts will be secured to the microscope.

In any case, the old electrical contacts are not used by our new illuminator.

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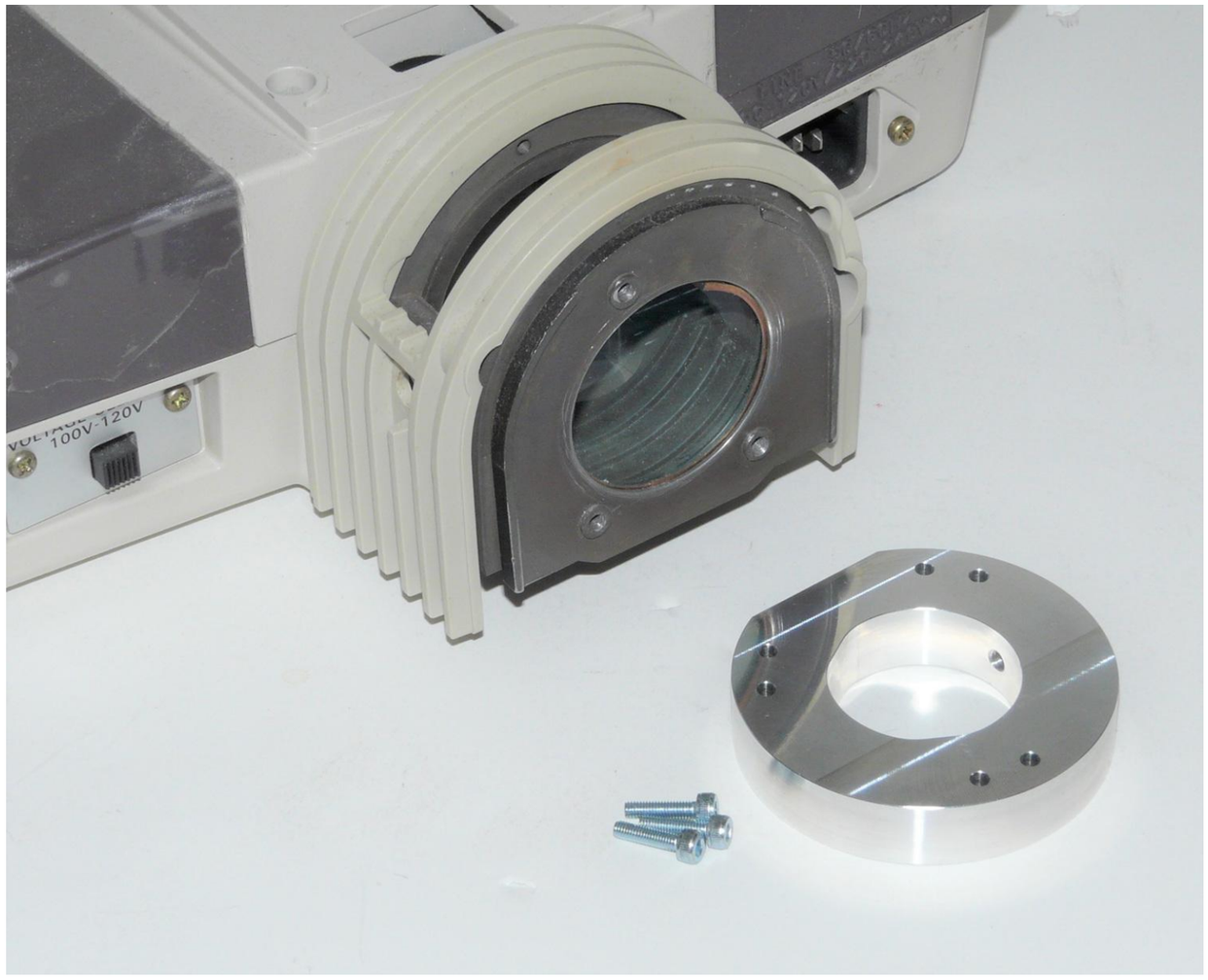
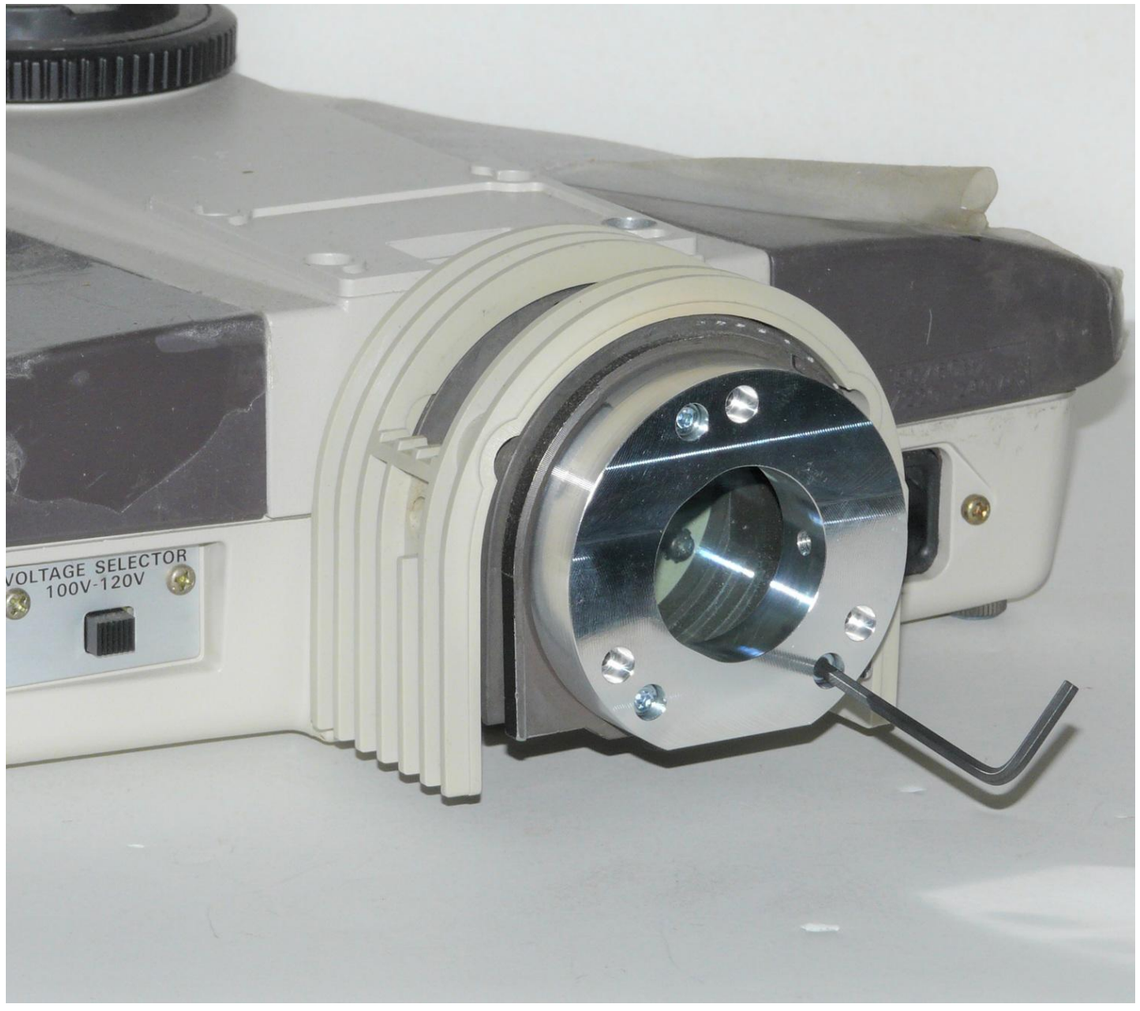
Nanodyne Replacement Illuminator for Nikon Optiphot-2 Installation Instructions: Step 2. Attach Nanodyne Adapter Ring



1. Adapter ring and mounting screws ready to install.



2. Attach the adapter ring using the three 12mm long M3 screws, using the 2.5mm hex key.

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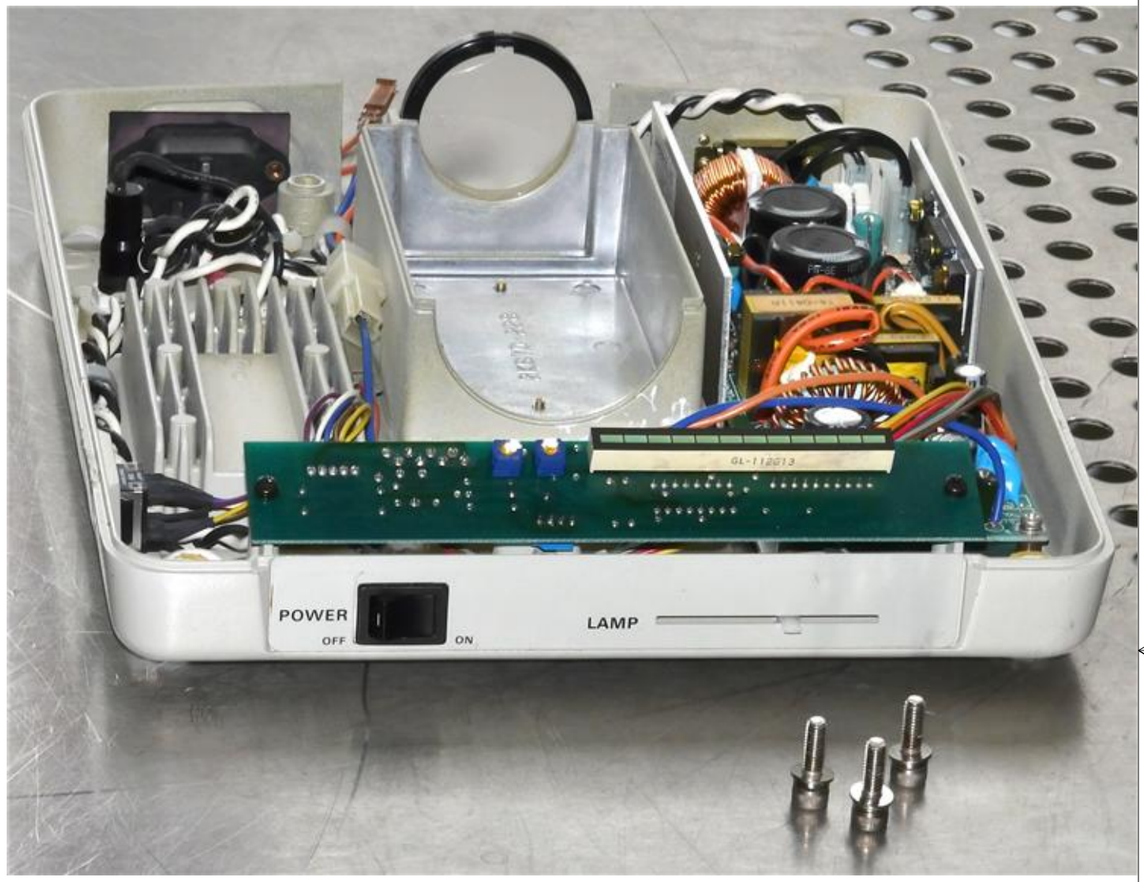
Nanodyne Replacement Illuminator for Nikon Optiphot-2 Installation Instructions: Step 3. Remove Bottom Cover

1. Use the 4mm hex key to remove the 3 socket head screws from the bottom of the base.



2. Remove the bottom cover from the base. Pull the plastic knob (not shown) off the lever of the slide pot and save it to put back on the new pot.

The power connector for the lamp was missing on the microscope in these photos.

You may need to disconnect it to remove the base, or just cut the lamp wires if you don't want to keep the old circuitry. We assume the missing connector would be near the red arrow in the photo above.

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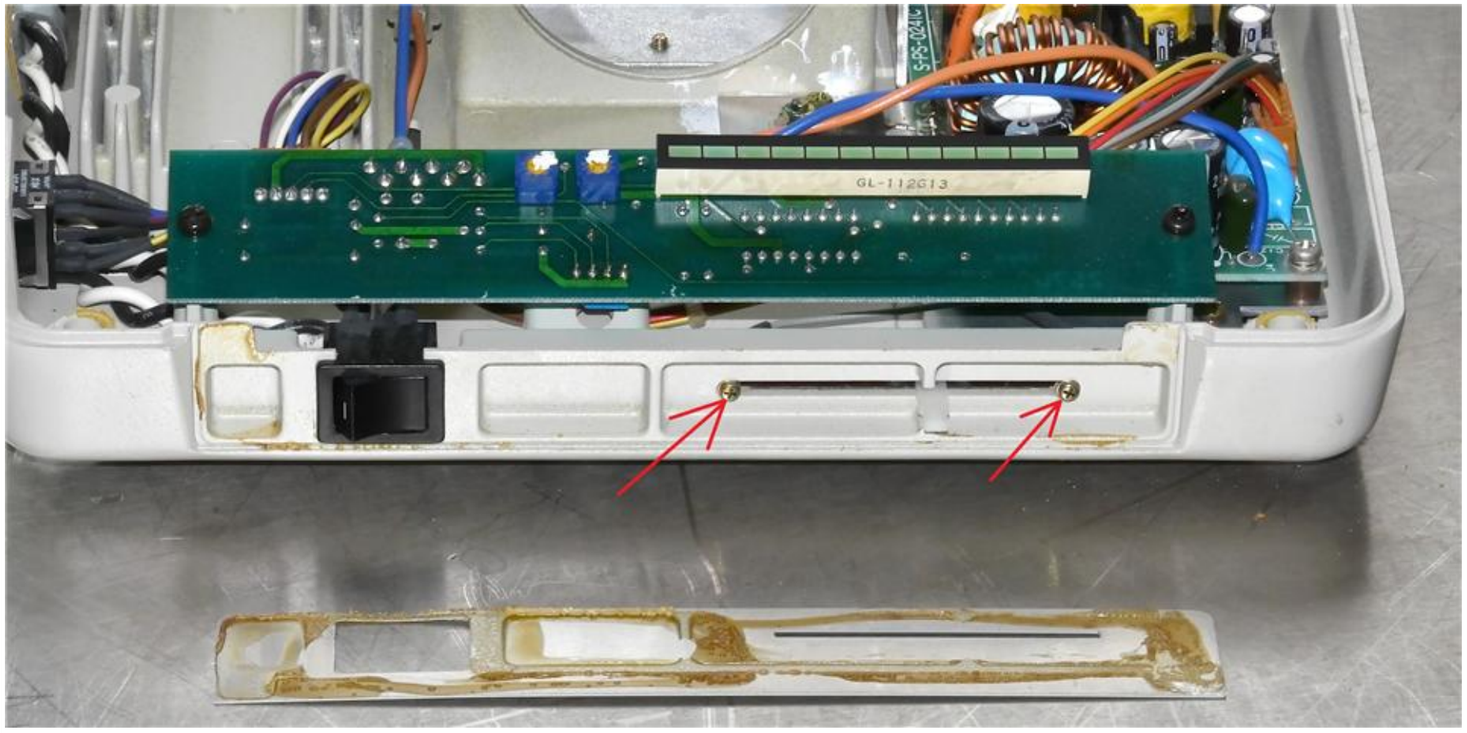
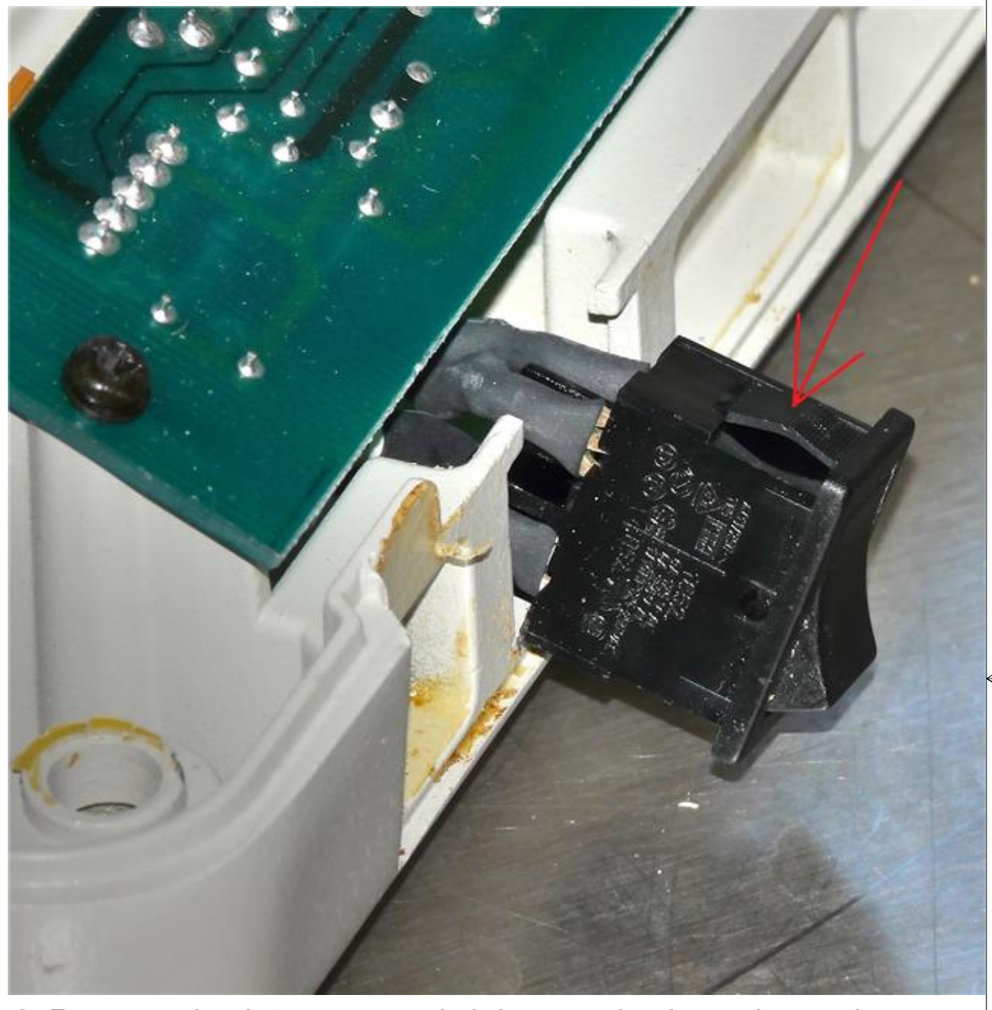
Nanodyne Replacement Illuminator for Nikon Optiphot-2 Installation Instructions: Step 4. Remove Original Adjustment Pot and Switch



1. Pry off the face plate, then remove the two screws. The adjustment pot is now connected only by two wires that will be removed later.



2. Remove obsolete power switch by pressing in on the retainer clips (one shown, one hidden on opposite side). Use a small screwdriver or similar tool to press on the clips while pulling the switch out.

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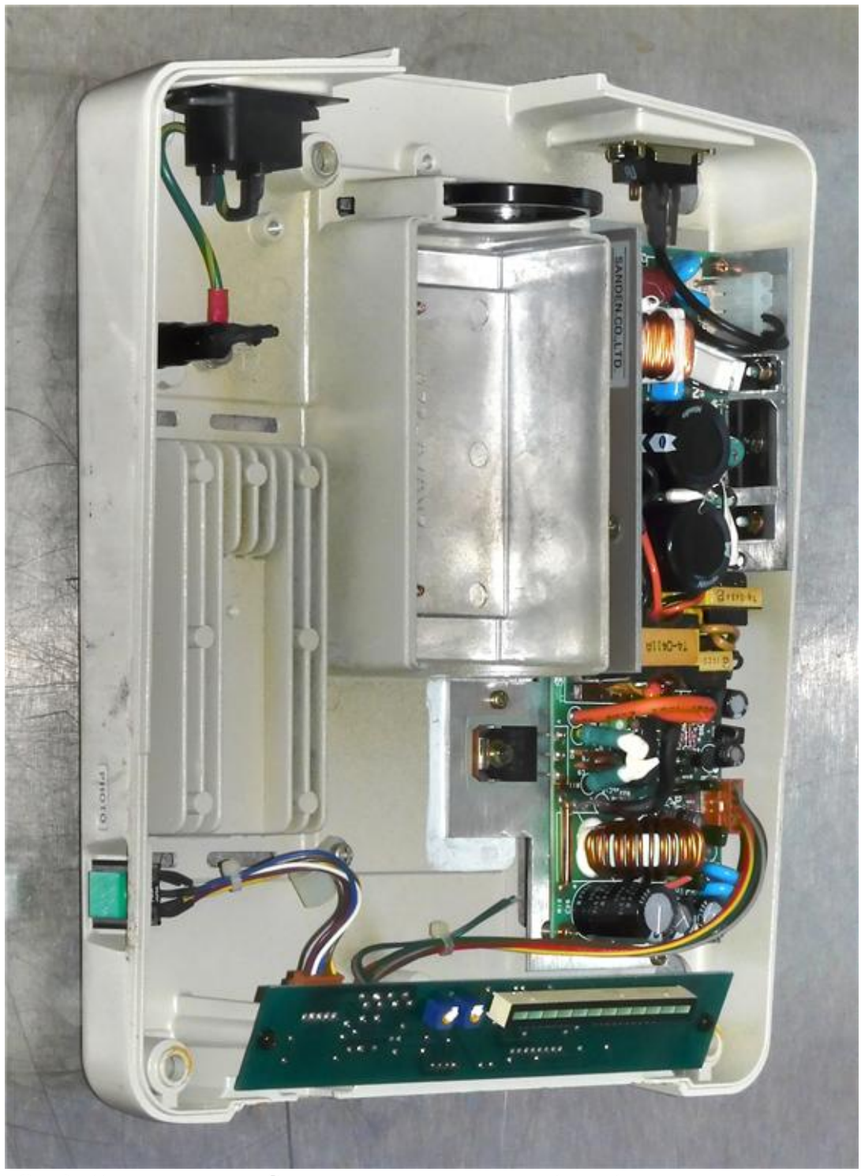
Nanodyne Replacement Illuminator for Nikon Optiphot-2 Installation Instructions: Step 5. Remove Old Pot and AC Wiring

1. Bottom cover prior to removing unwanted items.



2. Bottom cover after removing unwanted items.

Using a wire cutter, cut the green and gray wires to remove the adjustment pot.

Cut the orange and blue lamp power leads close to the power supply board.

Pull the AC power connector off of the power supply (white and black leads at upper right corner).

Clip the rest of the AC power leads close to the AC power receptacle, fuse holder and power switch. The plastic cable retainers may be removed as shown, or the wires cut in more places as required.

Note that the power switch should already have been pulled out of its position, and be hanging by the wires in the above photos.

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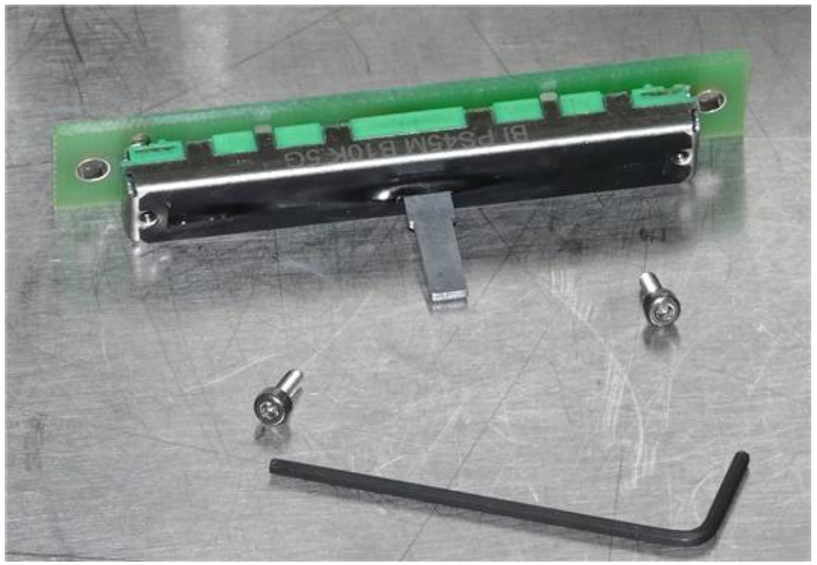
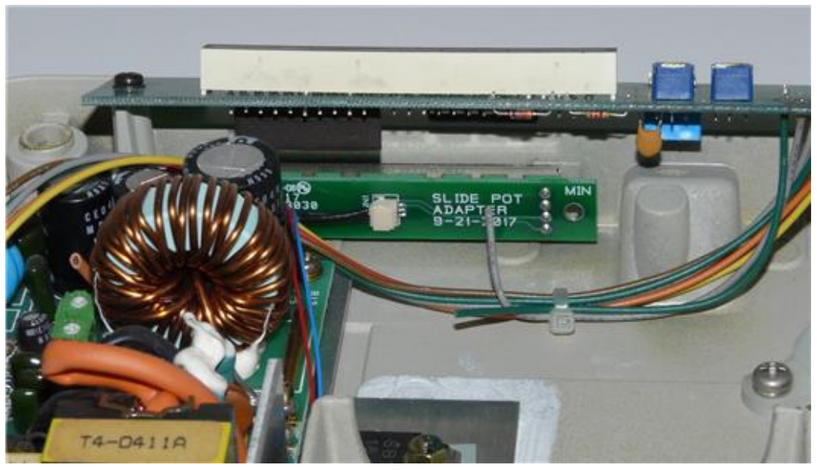
Nanodyne Replacement Illuminator for Nikon Optiphot-2 Installation Instructions: Step 6. Install New Intensity Adjust Pot



1. New adjustment pot, mounting screws, and 1.5mm hex key.

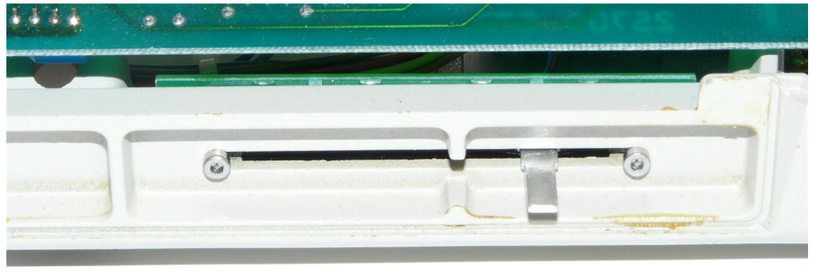
Connect the potentiometer cable to the pot pcb if it did not come connected.

(See photo below left, sheet 10 for details)



2. Inside view of the mounted adjustment pot.

Be sure the text on the circuit board is oriented as shown, or the off position of the slider will be to the right, rather than to the left.



3. Front/outside view of the mounted adjustment pot.

The new faceplate can now be installed. Be sure there are no thick lumps of glue from the old faceplate on the mounting surface.

4. Peel the release film off the new faceplate and press it lightly into place. Be careful to align it so the pot lever does not rub.

Then press the plate firmly into place. Avoid pressing too hard were there is nothing underneath to support it. Then press the knob from the old pot onto the new one.

5. Route the adjustment cable between the power supply heat sink and the inner wall of the bottom cover casting as shown.

For a neat final installation (see sheet 10, item 1), secure any excess cable inside the microscope, pushing it to the left in front of the power supply. There should be 4.75 inch of cable coming out of the microscope. Secure the cable inside the microscope with the 3M VHB tape or tie wraps so it cannot get into the light path and make a shadow on the image.

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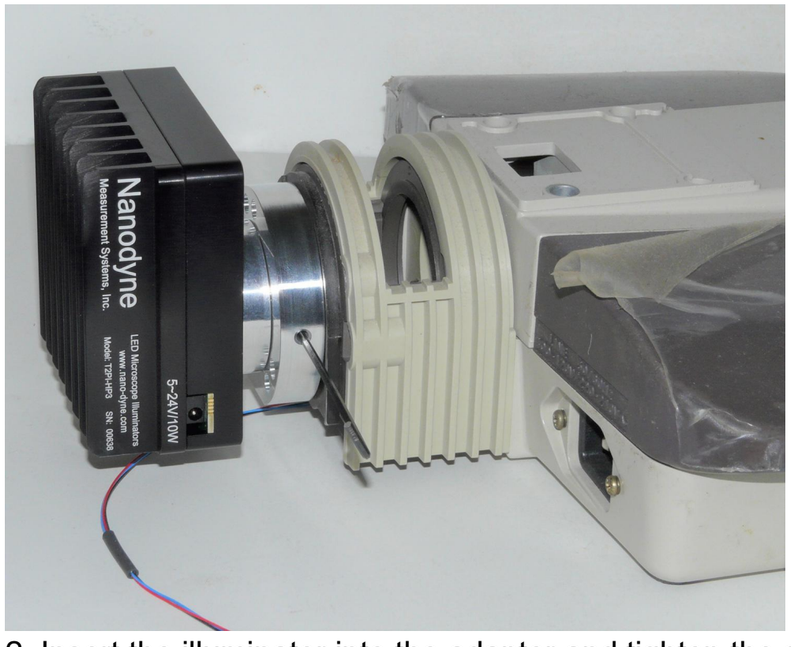
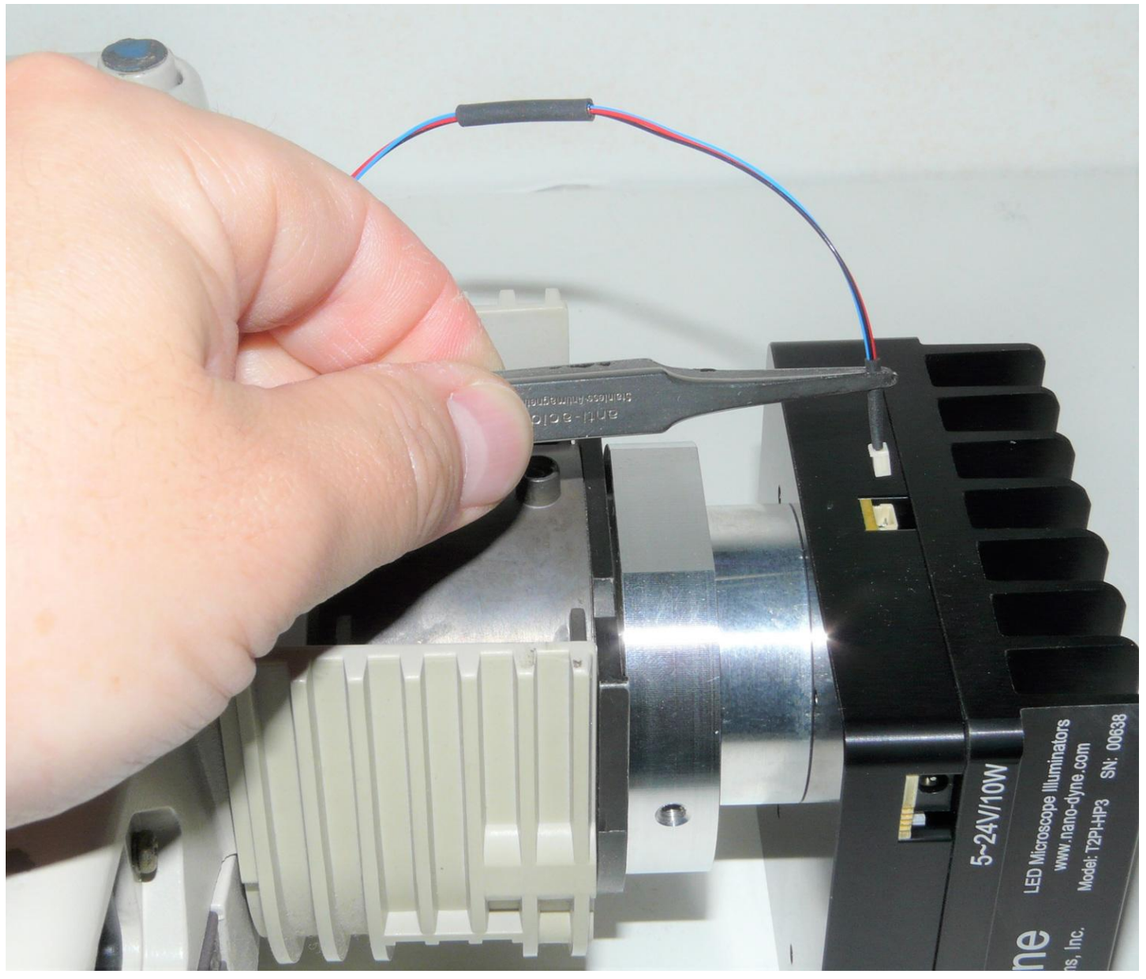
Nanodyne Replacement Illuminator for Nikon Optiphot-2 Installation Instructions: Step 7. Attach Bottom Cover and Install New Illuminator

1. Replace the bottom cover. Secure with the original screws using the 4mm hex key.



2. Insert the illuminator into the adapter and tighten the set screw with the 5/64 inch hex key as shown above.



3. Connect the Pot Cable to the illuminator as shown above.

NOTE THAT THE PLUG IS KEYED TO ONLY GO INTO THE SOCKET ONE WAY, AS SHOWN.

See sheet 11 for detailed instructions.

Per the recomendation on pot cable extension from sheet 8, item 5, there is an excess of pot cable length shown in these pictures.

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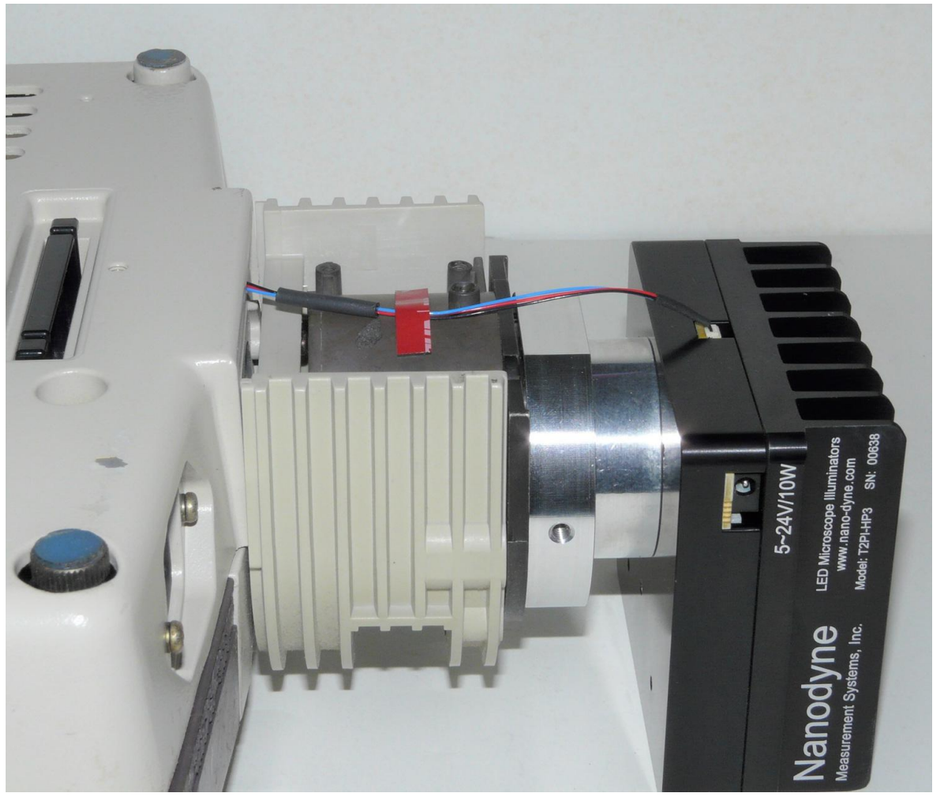
Nanodyne Replacement Illuminator for Nikon Optiphot-2 Installation Instructions: Step 8. Secure Pot Cable, Install Rubber Electrical Blocking Plug



1. Secure the loose cable with tape as shown above.

3. Install the silicone rubber blocking plug in the obsolete AC power receptacle.

3. Connect the power supply cable to the illuminator as shown above.

Plug the power supply into an AC outlet and the unit is ready to operate.

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Nanodyne Replacement Illuminator for Nikon Optiphot-2 Installation Instructions: Pot Cable Connection Details

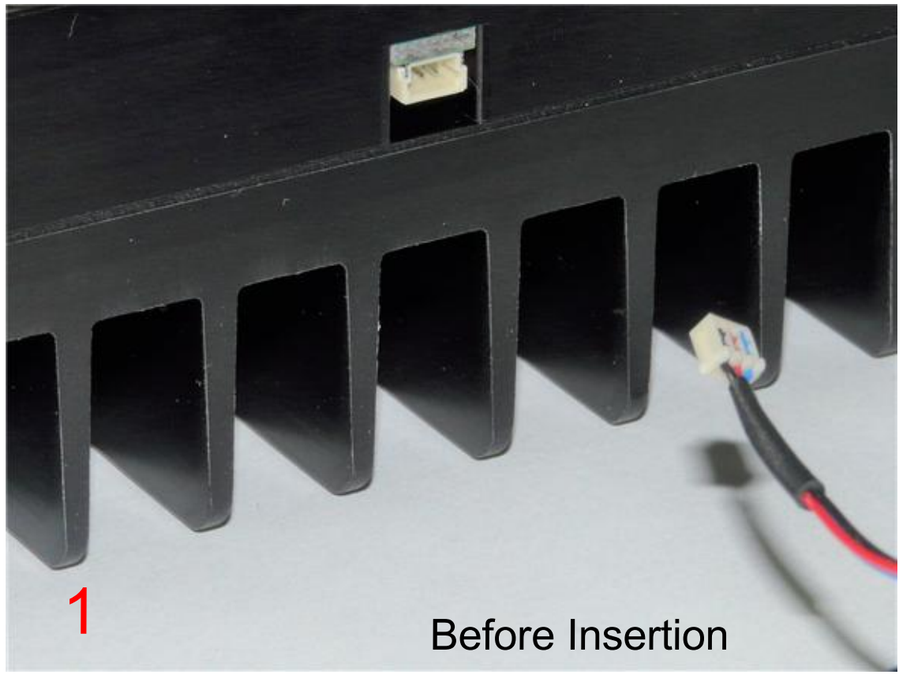
NOTE THAT THE PLUG IS KEYED TO ONLY GO INTO THE SOCKET ONE WAY, AS SHOWN.

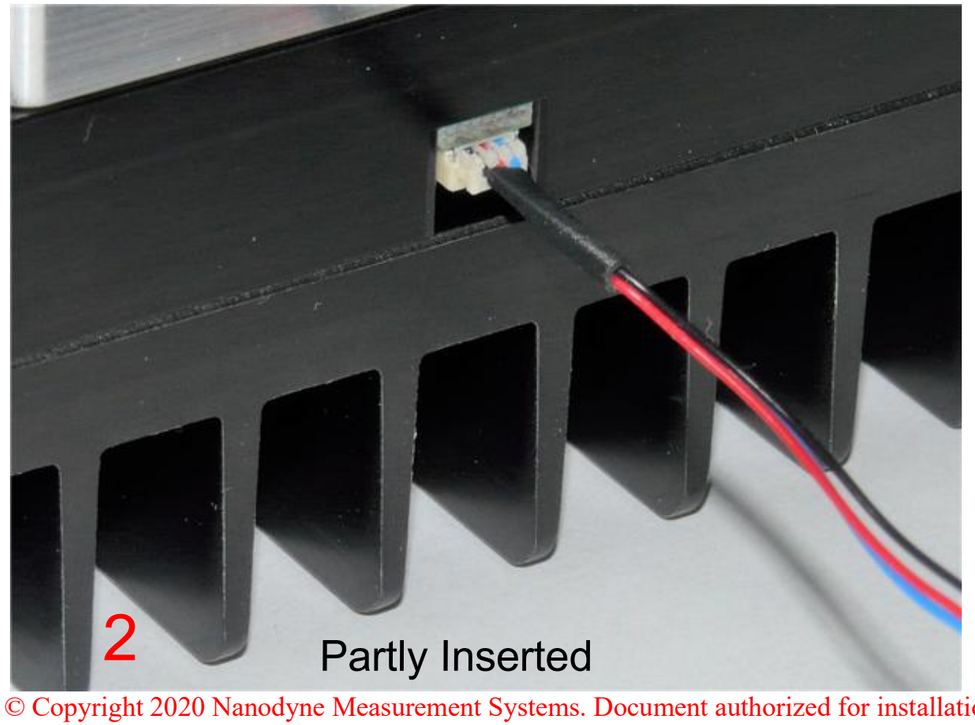
Partially insert the plug into the mating socket of the illuminator by holding the wire next to the plug with your finger (photo 2).

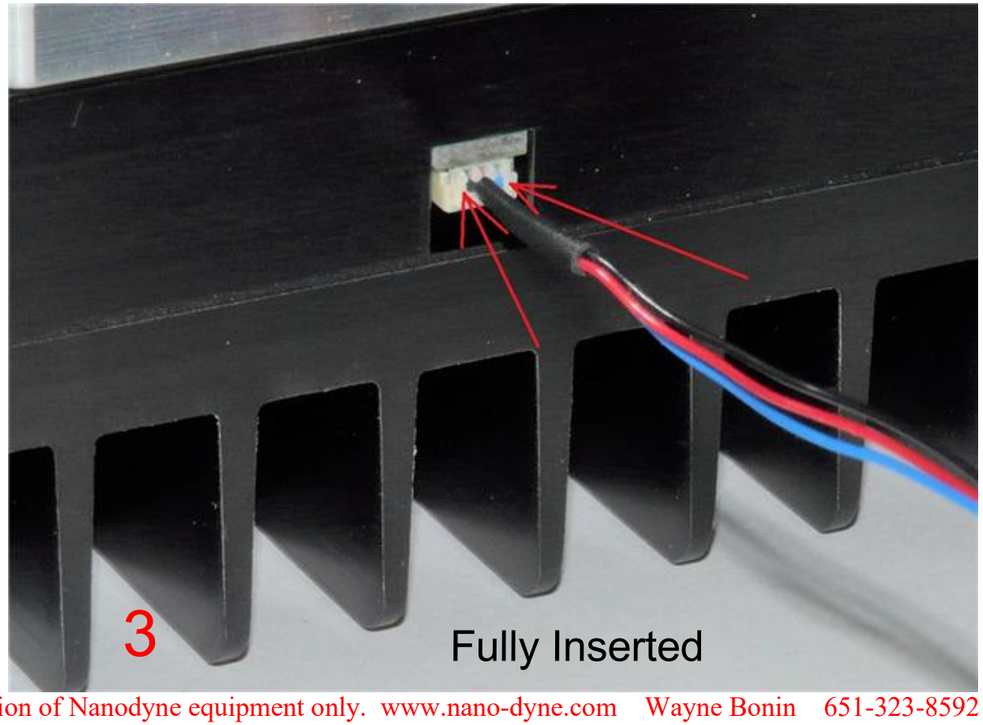
Use your fingernails, if you have them, or tools like a tiny screwdriver or tweezers pushing on the side of the plug to fully insert it (photo 3).

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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