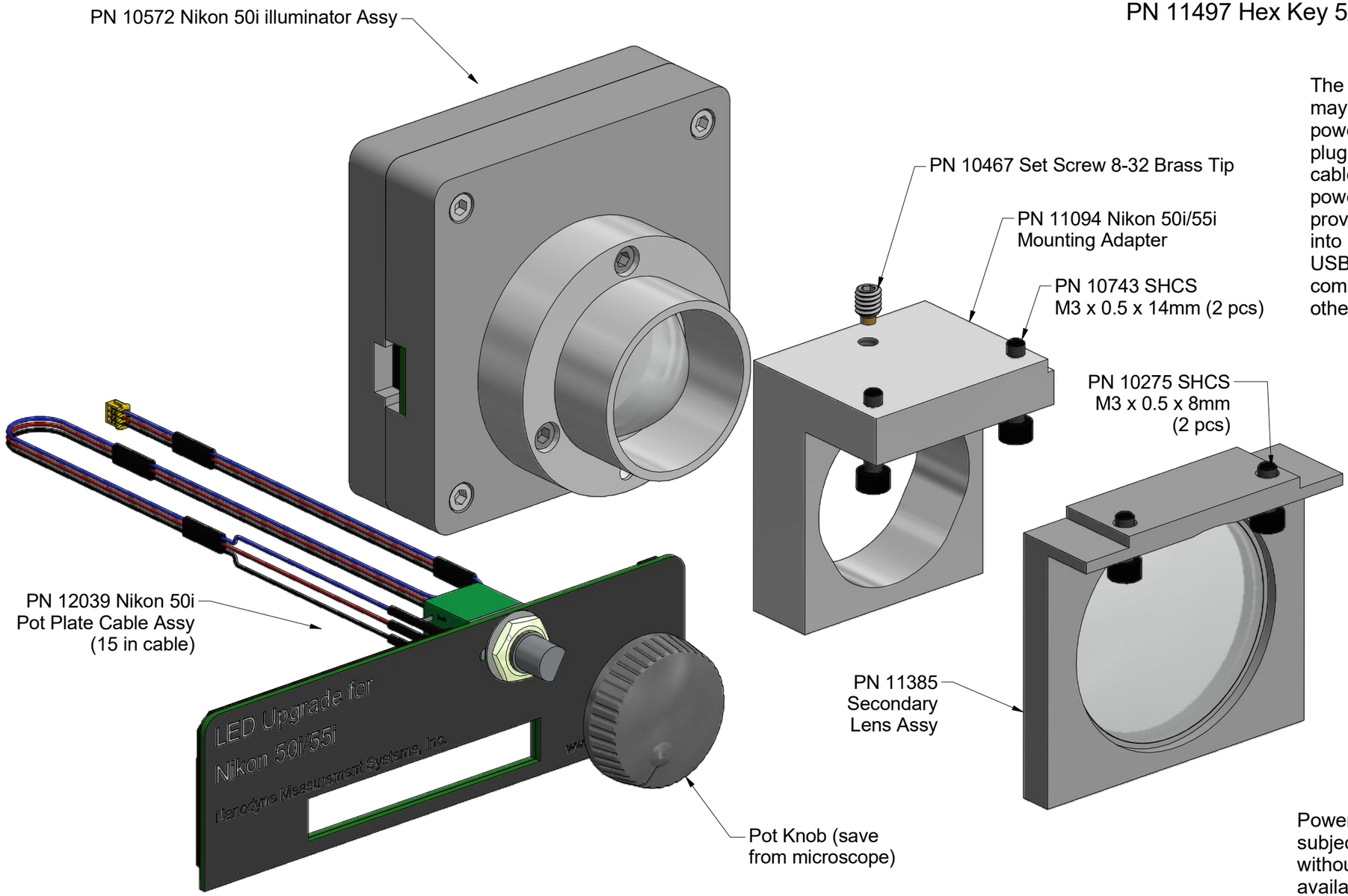
Nanodyne Replacement Illuminator for Nikon 50i Microscope Installation Instructions - Included Items



Additional Items Included But Not Shown:

PN 10456 Hex Key 1.5mm (for pot knob)
PN 10566 Hex Key 2.5mm long arm ball end (for M3 mounting screws in original illuminator collector lens assembly)
PN 11497 Hex Key 5/64 inch Ball End (for set screw)

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.

PN 10733 Power Supply - XP Power 5V 1A and PN 10734 Cable Assy 1.35mm ID x 3.5mm OD RA plug to USB A, 6 foot.

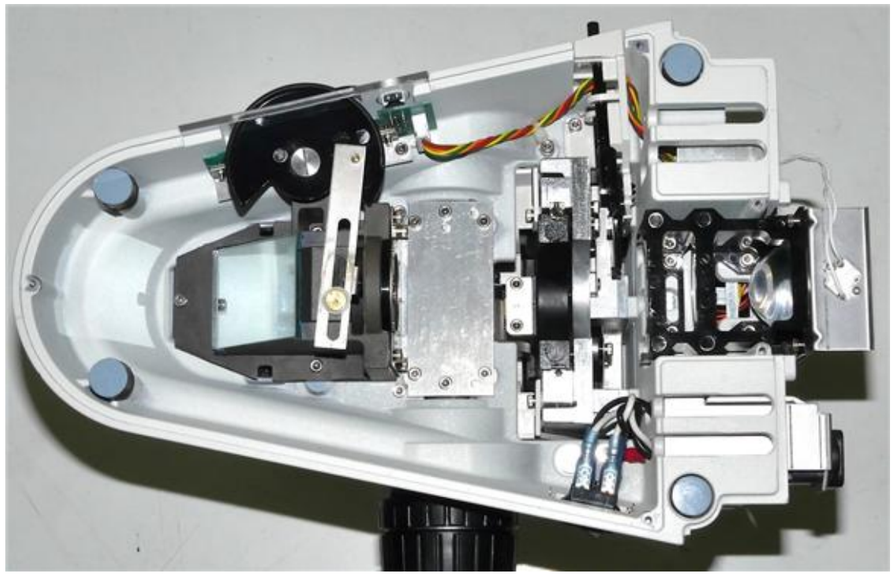
Tape to secure wires.

PN 10736 Rubber plug to block unused AC power receptacle.

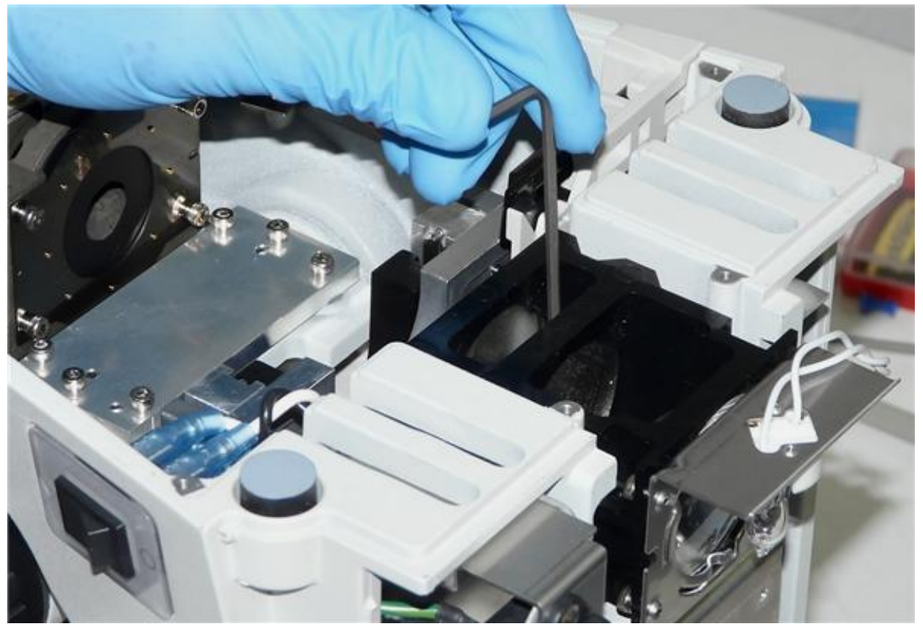
Power supplies are subject to substitution without notice due to availability issues and changes in regulations.

Han-Seung Yang 5/21/2021	
PN 10558 Nikon 50i Installation Instructions R2	REV 10
SHEET 1 OF 8	

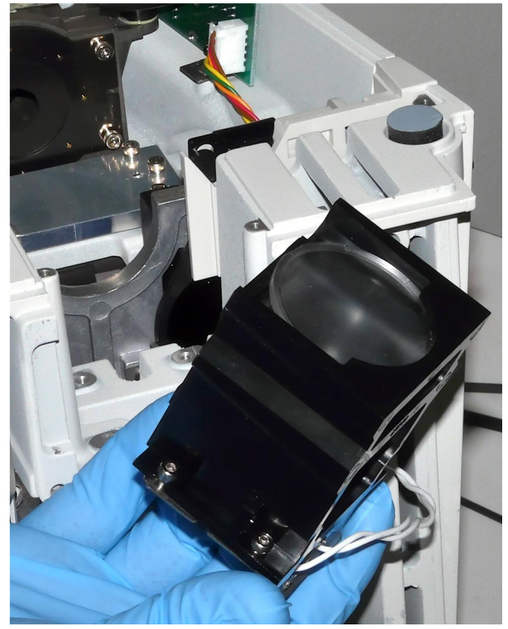
Nanodyne Replacement Illuminator for Nikon 50i Microscope Installation Instructions - Step 1. Remove old lamp and condenser lens assembly.



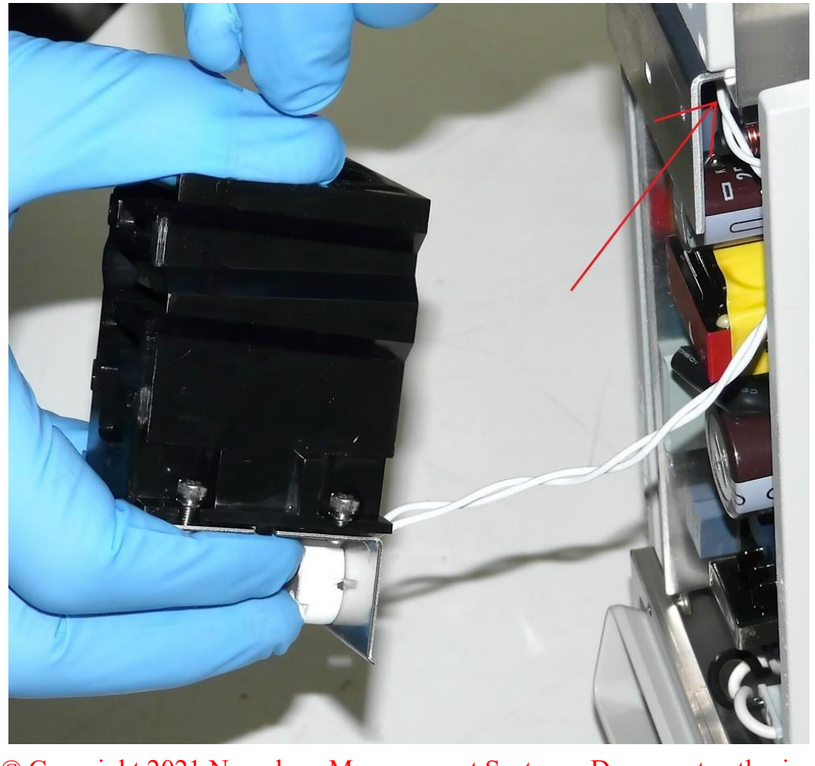
(1) Be sure the AC power is disconnected. Remove back and bottom covers.



(2) Remove the 4 screws holding the collector lens assembly.



(3) Remove the collector lens/lamp assembly.

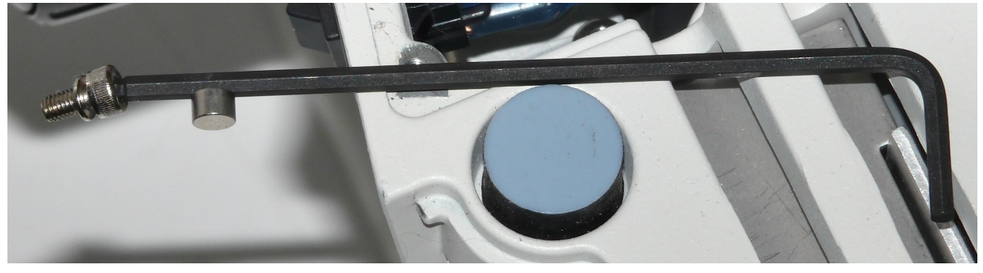


(4) The Lens/Lamp assembly is still attached by the lamp wires to the power supply. (red arrow)

It will not be used with the Nanodyne illuminator. It can be removed by pullung the connector loose from the power supply socket (not visible in this photo - hidden behind the metal bracket). A needle nose pliers will be needed to do this.

Alternately, the entire power supply could be removed, at it will not be needed either.

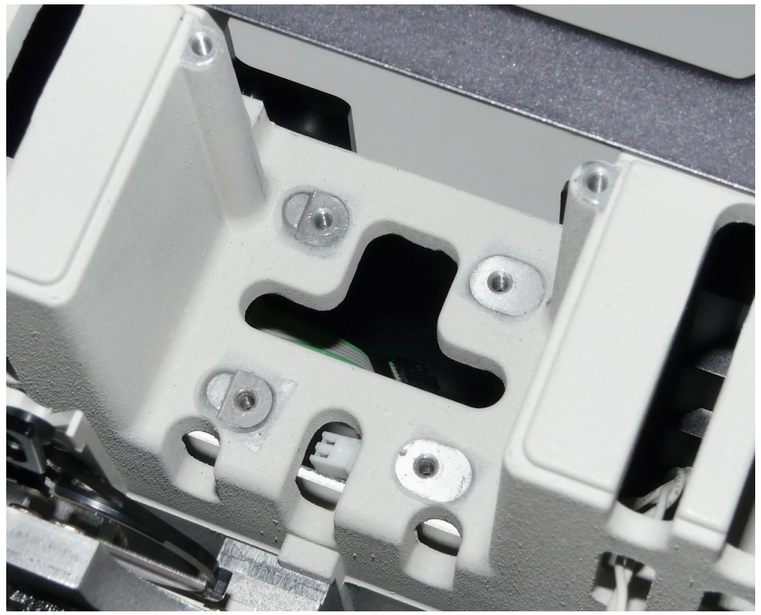
A third option is to cut the lamp wires. If this is done it is critical that the AC power is internally disconnected from the power supply to prevent shock or fire hazard in case AC power is connected to the microscope by a user unfamiliar with the upgrade.



(1) "Trick" to hold screw to wrench. Use a small powerful magnet to hold the screw to the hex key for places you can't reach with your fingers.

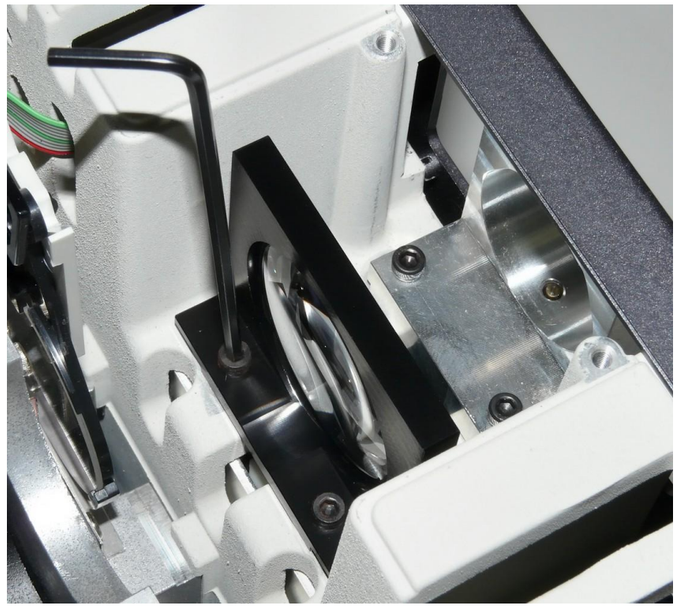
Han-Seung Yang 5/21/2021	
PN 10558 Nikon 50i Installation Instructions R2	REV 10
SHEET 2 OF 8	

Nanodyne Replacement Illuminator for Nikon 50i Microscope Installation Instructions - Step 2. Install Mounting Adapter, Secondary Lens Assembly and illuminator.



(1) After remove of collector lens/lamp assembly.

(2) Install the mounting adapter as shown above.



(3) Install the secondary lens assembly as shown above.

Note that these photos show a 55i microscope. there are some differences, but the Nanodyne parts shown here install the same on both.

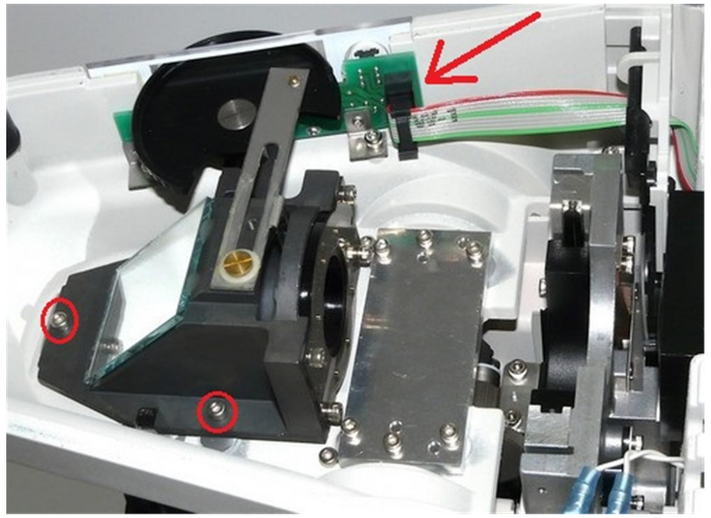
(4) Install the illuminator as shown at left.

Insert it into the mounting adapter as shown, and secure by tightening the set screw (underneath, when oriented upside down as in the photo).

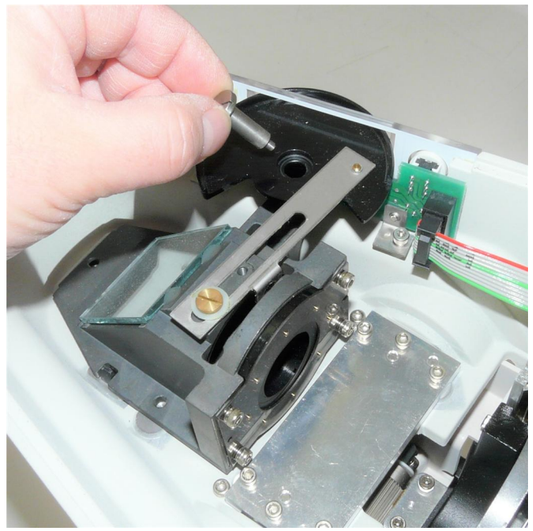
The photos at right show the installation in the normal orientation.

Han-Seung Yang 5/21/2021	
PN 10558 Nikon 50i Installation Instructions R2	REV 10
SHEET 3 OF 8	

Nanodyne Replacement Illuminator for Nikon 50i Microscope Installation Instructions - Step 3. Remove diaphragm and diagonal mirror.

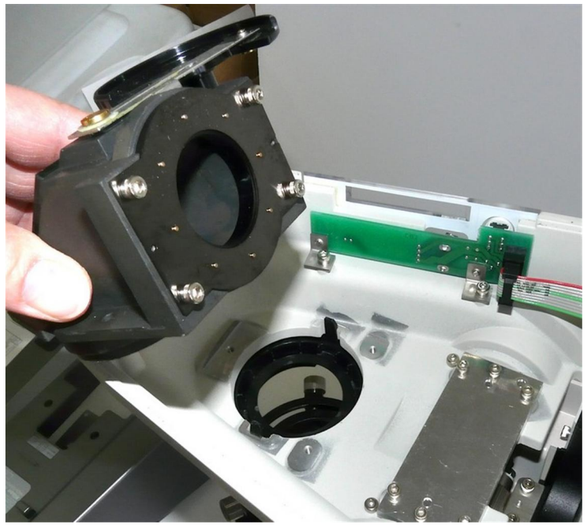


(1) Access to remove OEM intensity control pcb (red arrow) is blocked by diaphragm wheel and mirror assembly. Remove the 3 screws holding the mirror assembly (2 circled, 1 hidden).

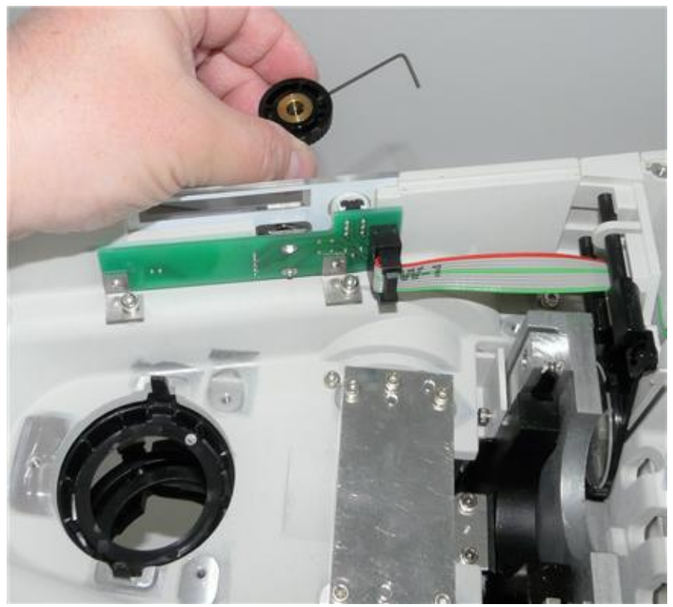


(2) Remove the screw holding the diaphragm wheel.

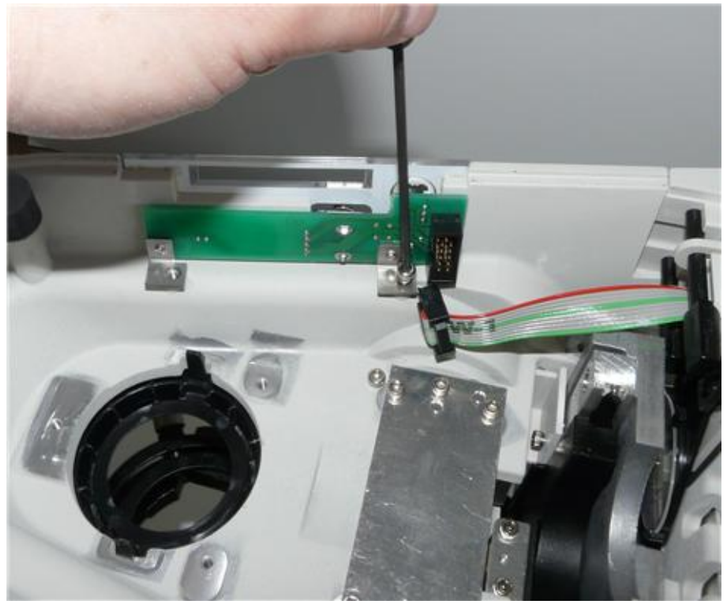
(3) Slide the diaphragm control wheel away from the slot in the side of the microscope.



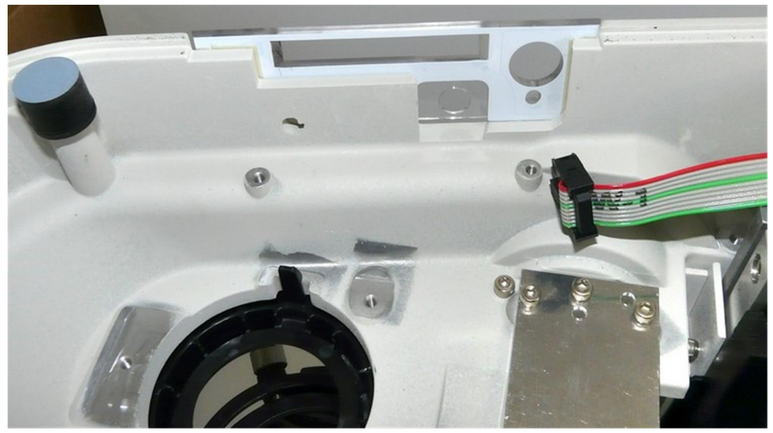
(4) Remove the diaphragm/mirror assembly to access the intensity control PCB.



(5) Remove the knob from the intensity adjust pot.



(6) Unplug the cable from the intensity adjust PCB and remove the 2 screws holding it in place.

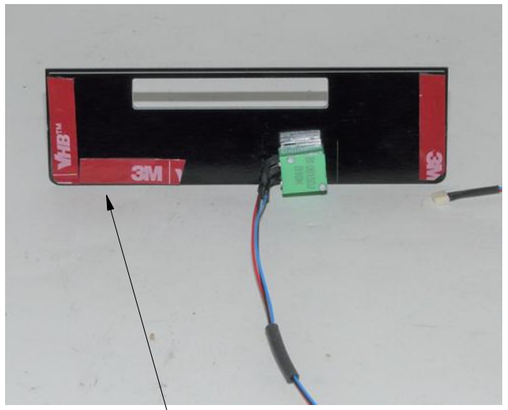


(7) Original intensity control pot PCB removed.

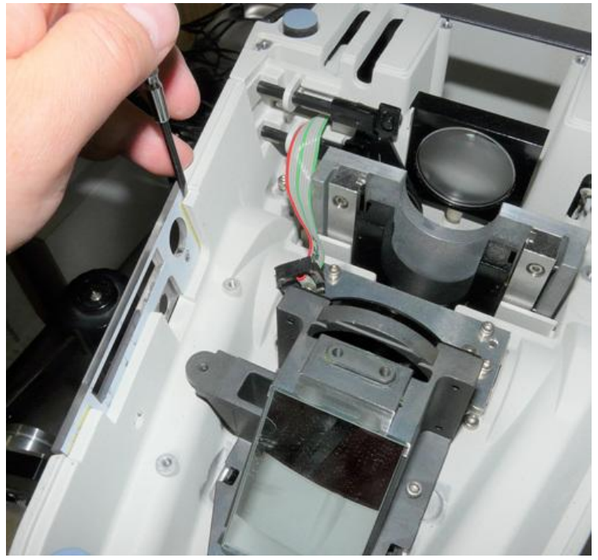
Note - Photos on this page are from a model 55i installation. The only difference is that the ribbon cable shown here will be a twisted bundle of wires on your 50i microscope.

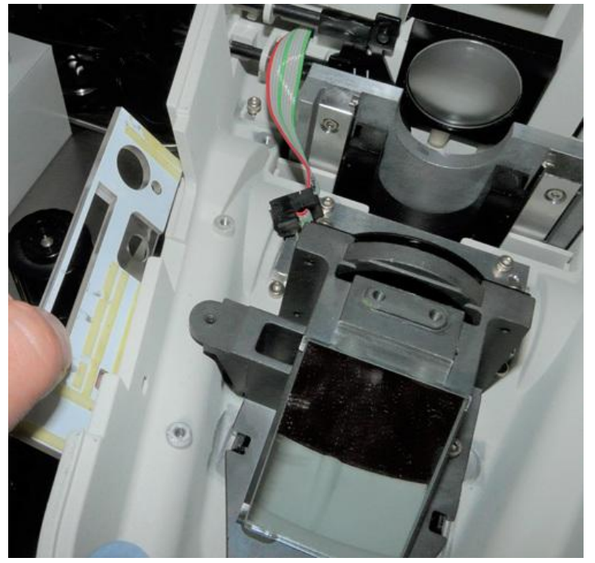
Han-Seung Yang 5/21/2021	
PN 10558 Nikon 50i Installation Instructions R2	REV 10
SHEET 4 OF 8	

Nanodyne Replacement Illuminator for Nikon 50i Microscope Installation Instructions - Step 4. Install Nanodyne Intensity Control PCB

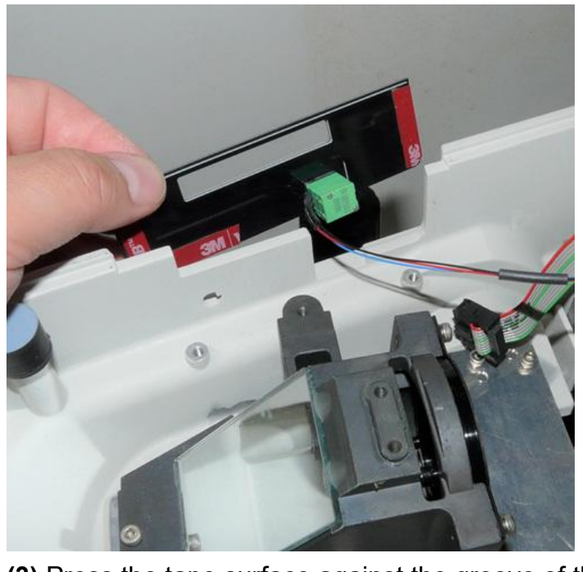


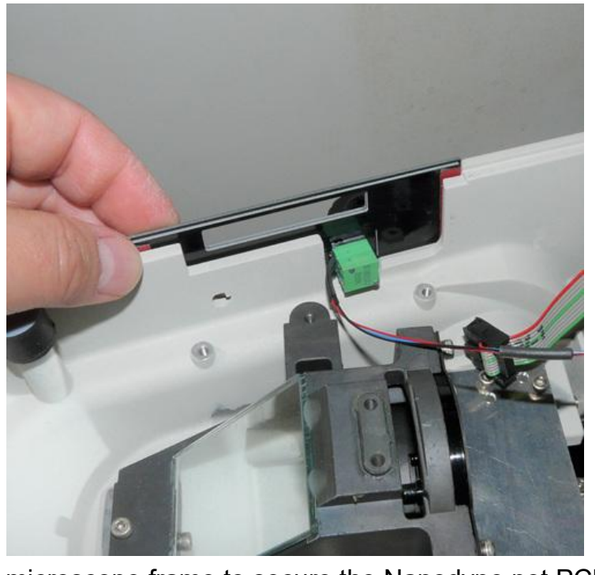
(1) Remove the release film from the tape on the Nanodyne pot PCB.

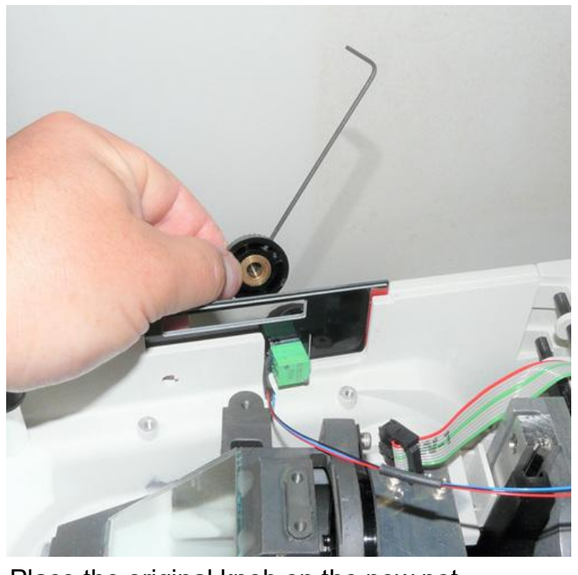


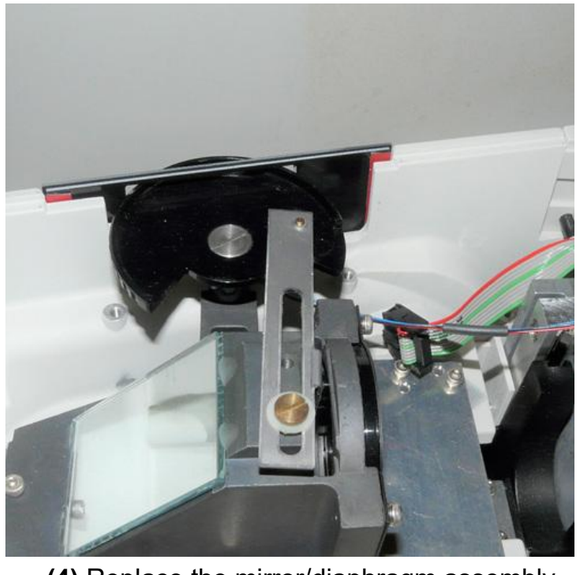


(2) Pry OEM face plate out of the microscope frame.









(3) Press the tape surface against the groove of the microscope frame to secure the Nanodyne pot PCB. Place the original knob on the new pot.

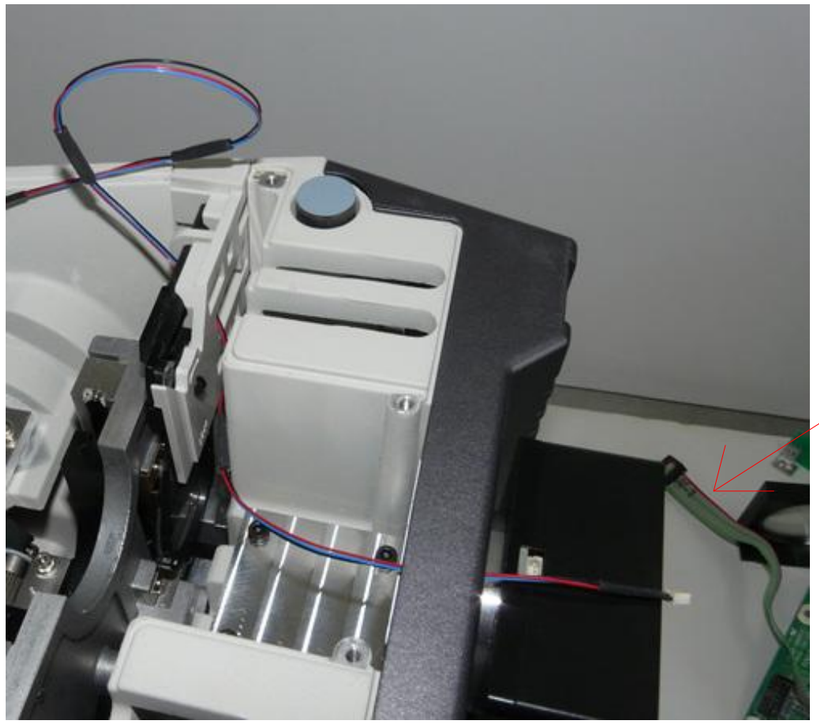
(4) Replace the mirror/diaphragm assembly.

New with this version:
The R2 pot PCB moves the pot cable connector out of the way of the OEM hex key tool, so it may be kept in its built in storage port in the microscope.

Note - Photos on this page are from a model 55i installation. The only difference is that the ribbon cable shown here will be a twisted bundle of wires on your 50i microscope.

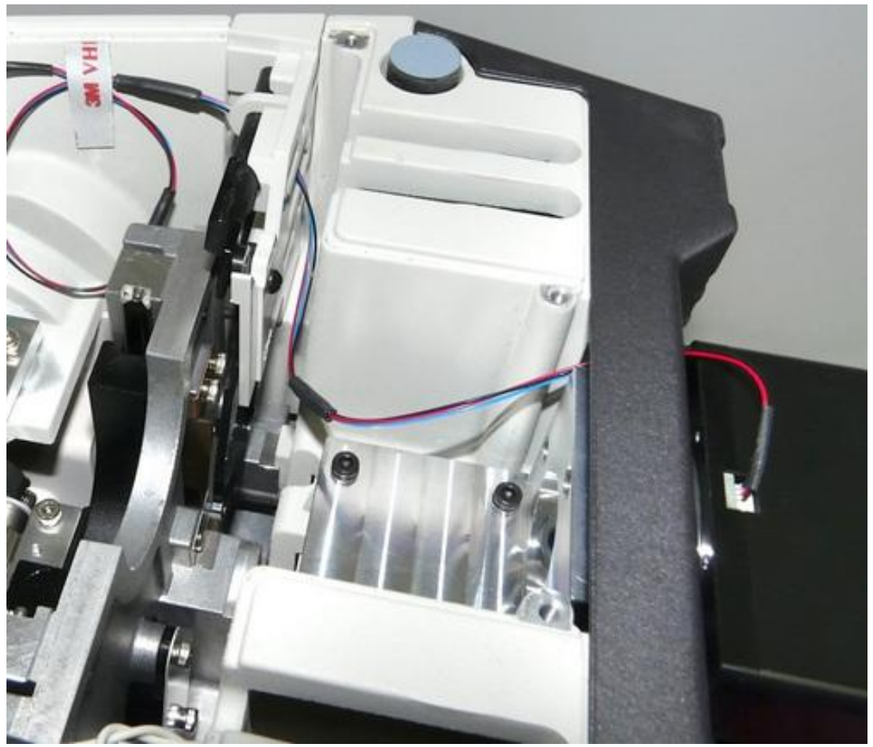
Han-Seung Yang 5/21/2021	
PN 10558 Nikon 50i Installation Instructions R2	REV 10
SHEET 5 OF 8	

Nanodyne Replacement Illuminator for Nikon 50i Microscope Installation Instructions - Step 5. Route pot cable and connect to Nanodyne illuminator.



(1) Remove the old pot cable (red arrow). To keep it intact you will need to remove the screw holding the filter assembly. We recomend just cutting it as required to remove it.

(2) Route the pot cable as shown, except route it through the same hole in the filter assembly that the old cable went through (close to the far side of the microscope).



(3) Connect the ends of the pot cable as shown. See the next sheet for detailed instructions. Loop the excess cable length and secure with the VHB tape as shown.

(4) Replace the bottom cover.

Note - Photos on this page are from an old model 55i installation. (The mounting adapter shown here is obsolete)

It shows the new pot cable as you will install it, except the cable should go through the same hole close to the far side of the microscope like the original cable did.

Han-Seung Yang 5/21/2021	
PN 10558 Nikon 50i Installation Instructions R2	REV 10
SHEET 6 OF 8	

Nanodyne Replacement Illuminator for Nikon 50i Microscope Installation Instructions - Step 5. Connect the Pot Cable to the Illuminator.

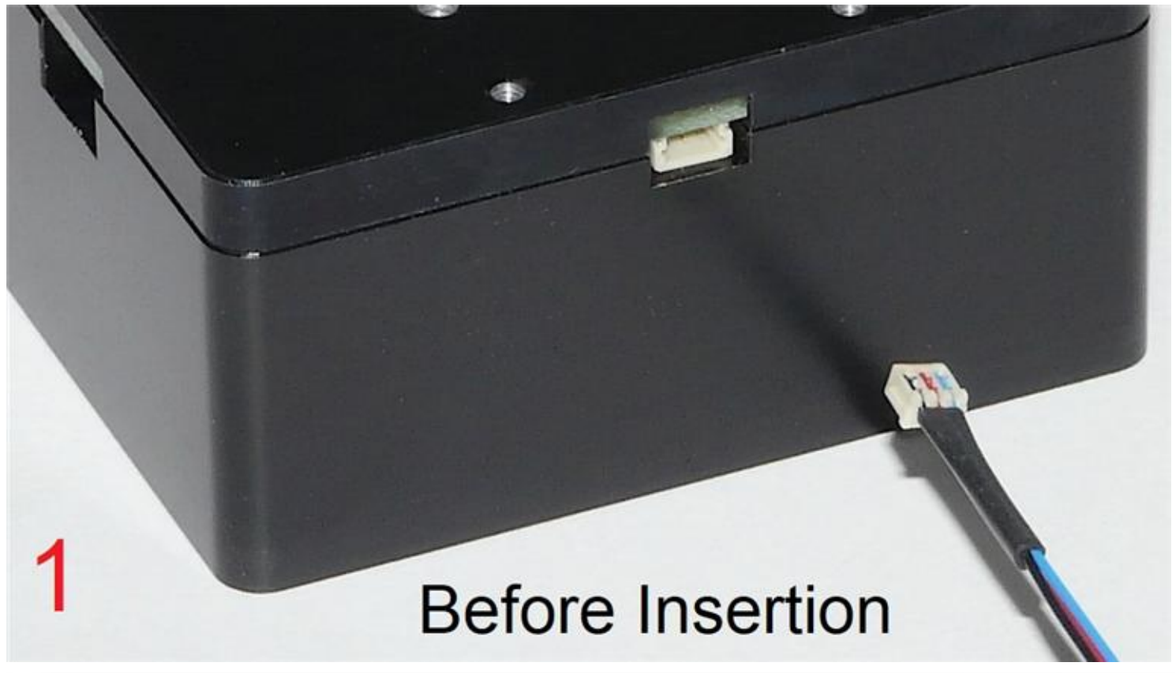
Connect the plug at the end of the Pot Cable Assembly to the mating socket of the illuminator, as shown in the pictures on this page. NOTE THAT THE PLUG IS KEYED TO ONLY GO INTO THE SOCKET ONE WAY, AS SHOWN.

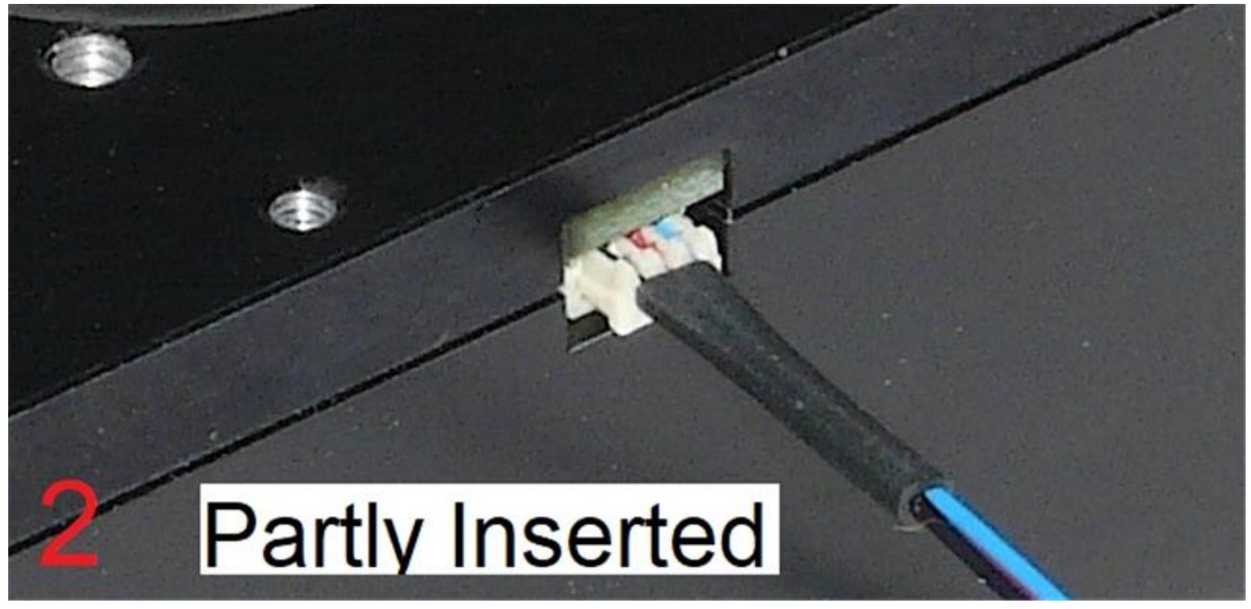
Partially insert the plug into the mating socket of the illuminator by holding the wire next to the plug with your finger (photo 2).

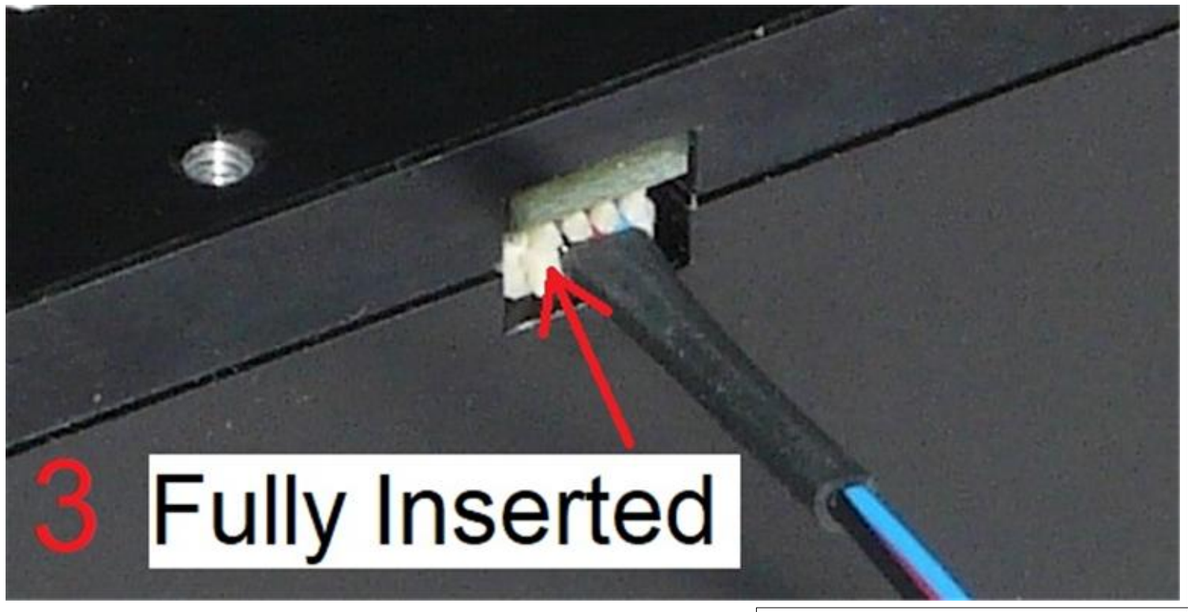
Use your fingernails, if you have them, or tools like a tiny screwdriver or tweezers pushing on the side of the plug to fully insert it (photo 3).

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.







Han-Seung Yang	5/21/2021
PN 10558 Nikon 50i Installation Instructions R2	REV 10
SHEET 7 OF	8

Nanodyne Replacement Illuminator for Nikon 50i Microscope Installation Instructions - Step 6. Electrical Safety; Connect new power supply.

(1) Install the rubber electrical blocking plug as shown below.

(2) Connect the power supply cable to the power supply and illuminator, then plug the power supply into an AC outlet. The Illuminator is now ready to operate.

SAFETY:

Completely removing any connection to the now obsolete AC power receptacle is highly recommended as the old original power supply is no longer needed, and could cause problems if ever connected the AC power, as it is likely defective and could present a fire or shock hazard. The old power supply can be completely removed, or just remove the internal connections to the AC receptacle and insulate them.

Installing PN 10736 rubber plug in the AC receptacle will help deter connection of an AC power cord in the future by operators not familiar with the new illuminator.

Han-Seung Yang 5/21/2021	
PN 10558 Nikon 50i Installation Instructions R2	REV 10
SHEET 8 OF 8	