



OUR PRODUCTS DEVELOP TOMORROW'S TECHNOLOGIES™

Service Manual

IR Heater Lamp Replacement

For **EXPLORAVAC**™ Systems
UNLIMITED



1. SAFETY



Read this manual and all associated equipment manuals before installing or operating this equipment. Failure to follow the warnings and instructions may result in injury or equipment damage.



IR pendant heaters are fragile. Handle with care. Broken heater lamps can be very sharp. Wear gloves and use eye protection.

2. OVERVIEW

This document provides the step-by-step procedure for how to replace a heater lamp in an infrared bakeout pendant, included with some ExploraVac UNLIMITED systems.

Because the lamps may be on only when the chamber is below 50 Torr, it is not possible to view their operation from the door of an open chamber. When baking out, confirm lamp operation through one of the viewing windows.

The pendants and heater lamps are fragile. The pendants and replacement lamps must be handled carefully at all times.

The replacement procedure should be performed on a clean, flat surface. A soft covering, such as lint free cloth or foam can help ensure that additional damage does not occur during the replacement procedure.

3. TOOLS AND SUPPLIES CHECKLIST

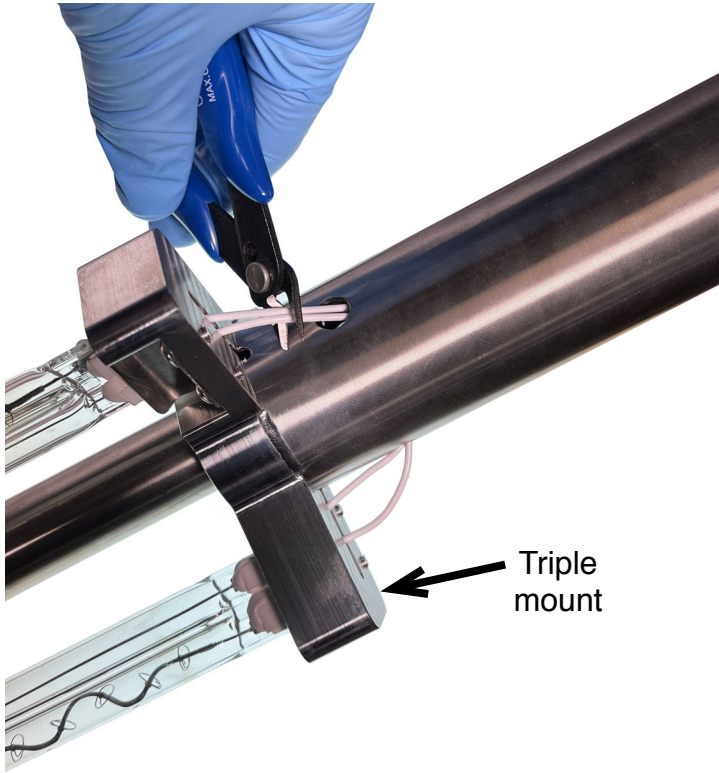
✓	Needed
	IR Heater lamp kit: Includes lamp and pkg. of 5 crimp pins. (order part number: P1013454)
	Gloves
	Safety glasses
	Wire stripper
	Diagonal wire cutter
	Utility knife
	Small flat screwdriver
	Wire terminal crimper
	3/32" hex wrench

STEP 1

Carefully place the pendant on a flat surface.

Get the wire cutters.

Cut the bad lamp's two wires above the triple mount.



STEP 2

Get the 3/32" hex wrench.

In the middle of the pendant (top of the lamps), loosen the bad lamp's two retaining clip socket head screws.

Make the retaining clip very loose.

Do not remove the retaining clip or screws.



STEP 3

At the bottom of the pendant, remove the two retaining clip screws.



STEP 4

Remove the bottom retaining clip and gently remove the lamp from the lower perch.

Slide the lamp out of the top retaining clip.

Keep the ceramic insulation. It will be reused.

Discard the bad lamp.



STEP 5

Hold the round cable connector to keep it from banging on the pendant or lamps.

Pull the cut cables out from the hole in the side of the pendant, close to the top flange.



STEP 6

Get the utility knife and the lamp from the replacement heater lamp kit (p/n: QIH480-2500LV1).

Slice the lamp package label.



STEP 7

The cardboard is crimped on both ends.
Peel it apart gently to reveal the new lamp.



STEP 8

Lay the new lamp parallel and near the pendant with the wires towards the top of the pendant.

Feed the new lamp's wires through the triple mount from the lamp side.

Then, thread them into the hole in the side of the pendant just above the triple mount.



STEP 9

Continue feeding the wires through the pendant tube until they emerge from the end.

Then, push the wires through the hole at the top of the pendant.



STEP 10

Continue feeding the wires through the holes at the center triple mount while pulling them through the hole at the top of the pendant.

Use care as the lamp gets close to the pendant.



STEP 11

The lamp filament must be facing out from the center of the pendant.

While holding the retaining clip out from the center triple mount, carefully slide the lamp end into the space between the clip and mount.

Hold the other end of the lamp to keep it from banging on the pendant.



STEP 12

Get the piece of previously removed ceramic insulation (Step 4).

Fold it over the free end of the lamp at the bottom of the pendant.



STEP 13

Slide the pendant into the bottom triple mount.

STEP 14

Get the retaining clip and two screws that were previously removed (Step 4).

Screw down the retaining clip with the two screws (3/32" hex wrench).

STEP 15

Screw down the retaining clip on the other end of the lamp (center of the pendant).



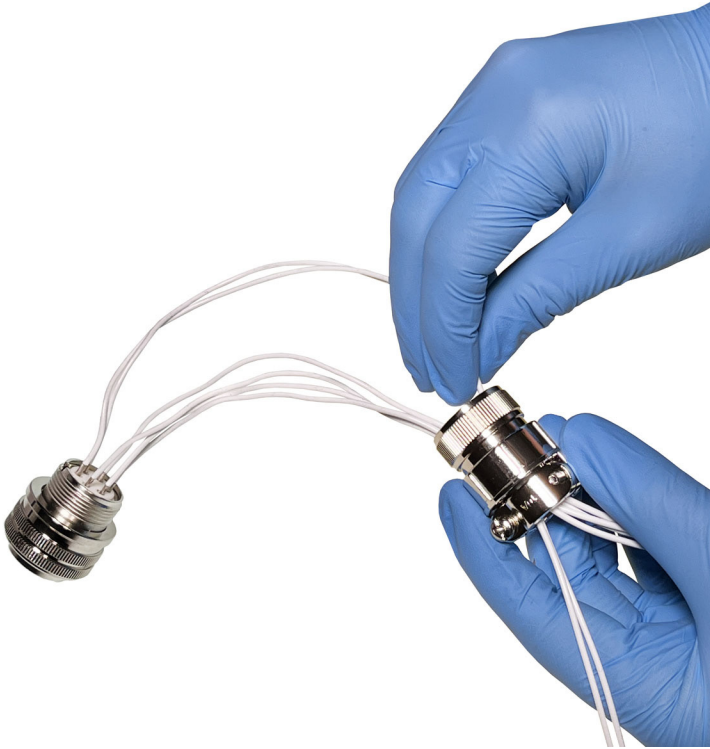
STEP 16

Unscrew the pendant wire connector from its center to reveal the ceramic insert.



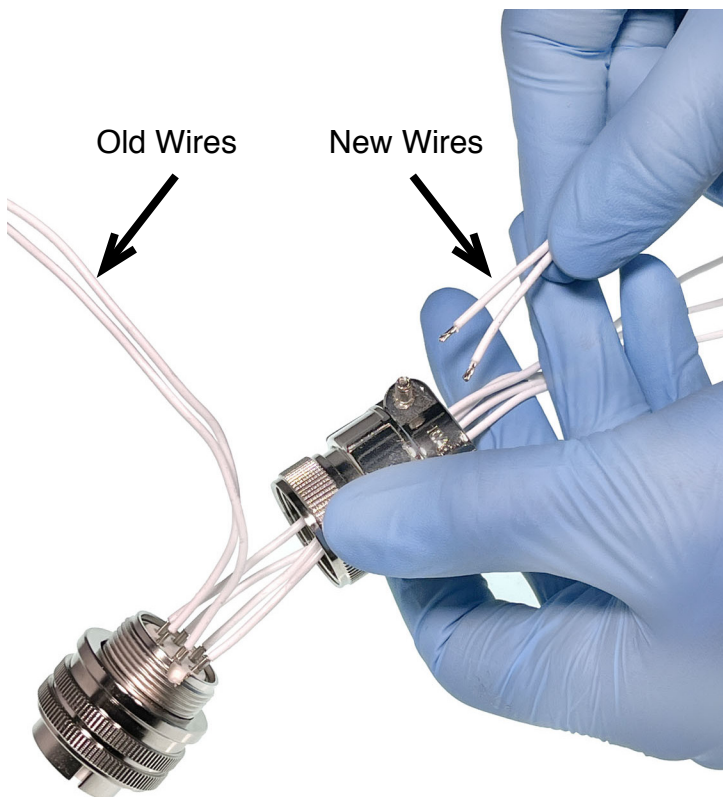
STEP 17

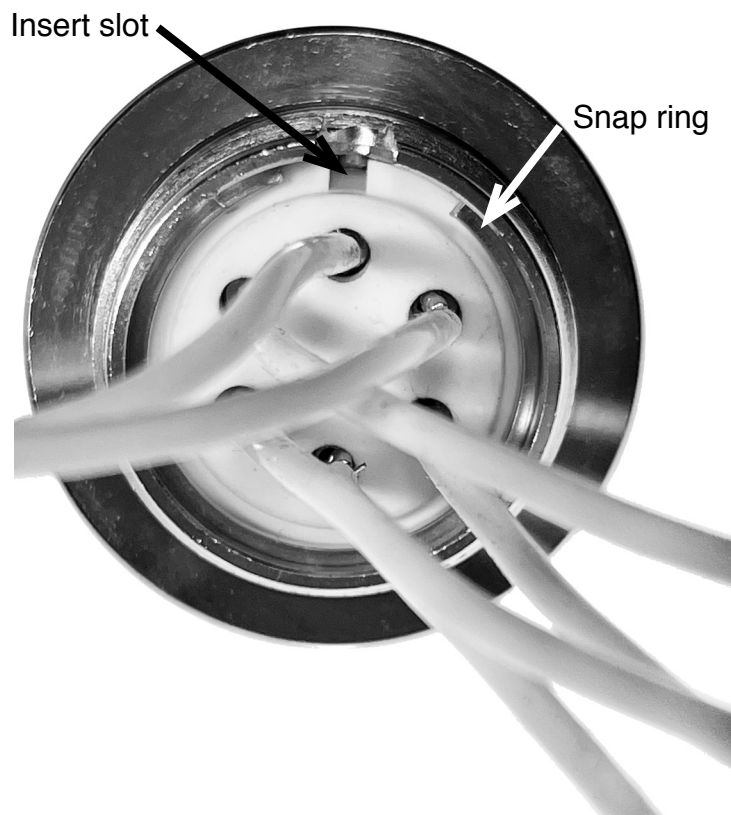
Pull the old lamp's two cut wires completely through the back of the connector.



STEP 18

Move the old wires out of the way and thread the new lamp wires through the back of the connector.





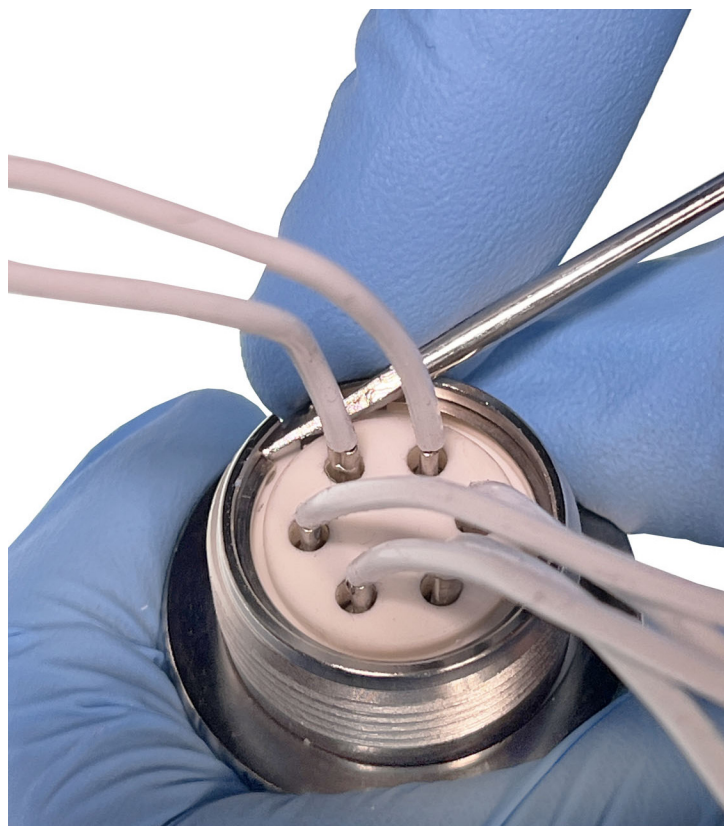
STEP 19

Examine the back of the connector.

Notice there is a snap ring that holds the ceramic insert in place.

It must be removed.

Also notice the notch in the ceramic insert. It is clocked to align with the notch in the connector's metal casing.



STEP 20

Get the small flat screwdriver.

Use it to push and rotate the snap ring so that one end of it is over the insert notch.



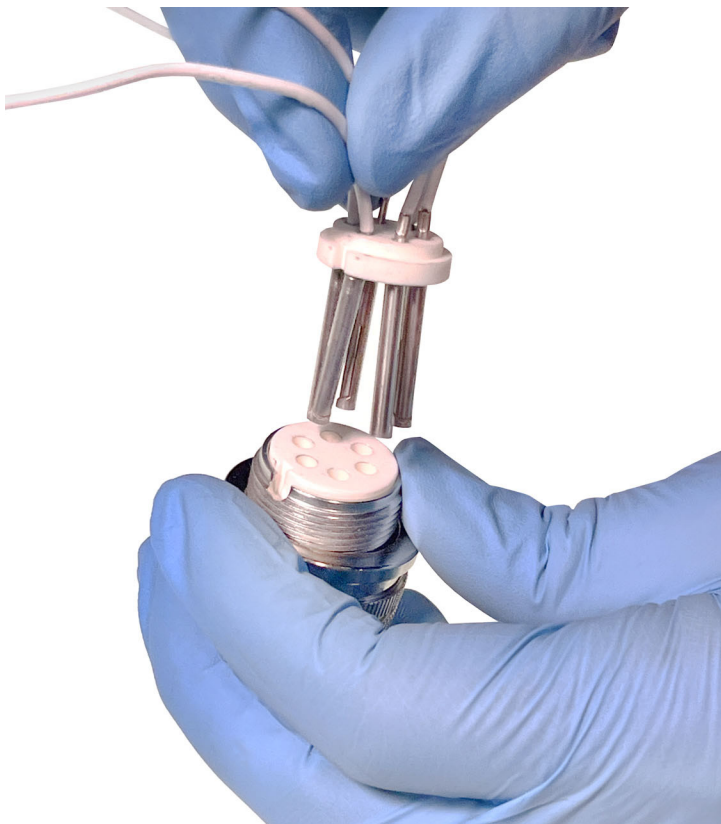
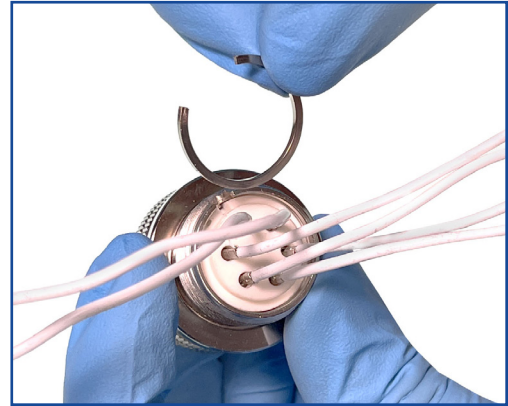
STEP 21

Place the screwdriver at the insert notch.

Push and lift the snap ring.

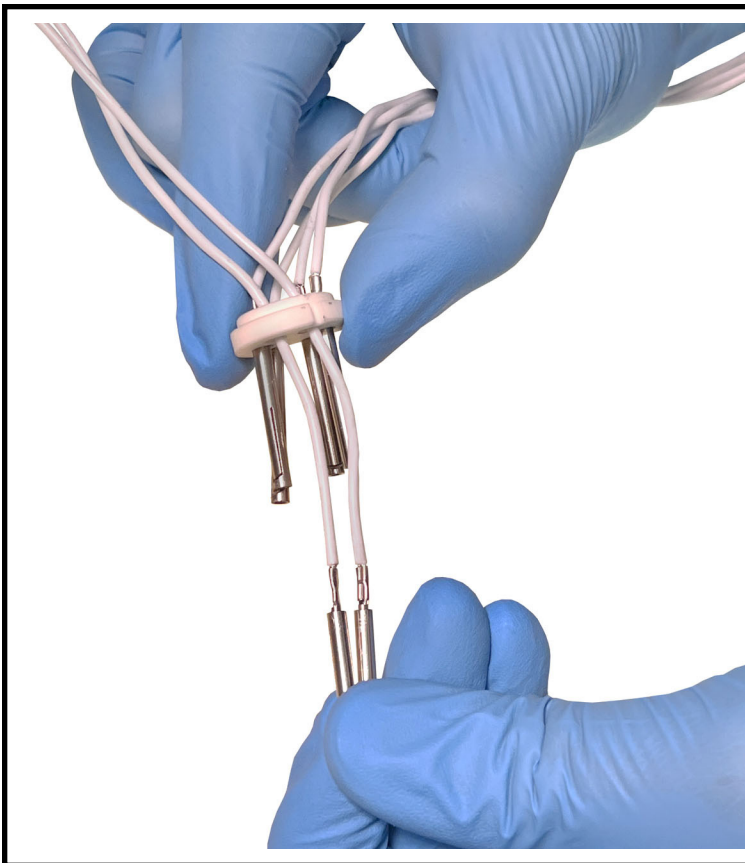
Work the screwdriver around the insert until the snap ring can be removed by hand.

The snap ring will be reused. Don't lose it.



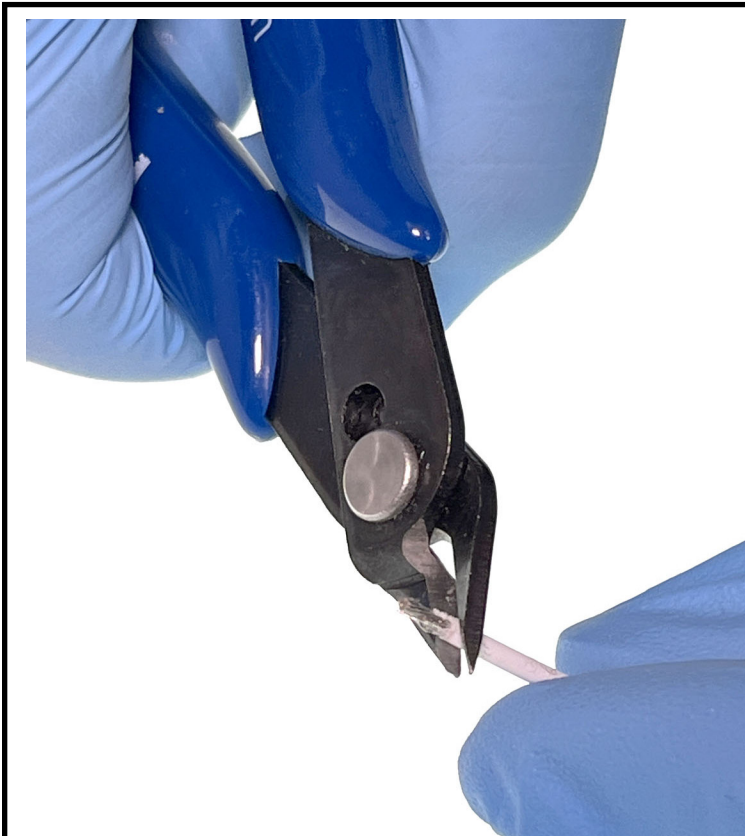
STEP 22

Pull the insert with the pins out of the connector.



STEP 23

Pull the two old lamp cables completely through the ceramic insert and discard them.



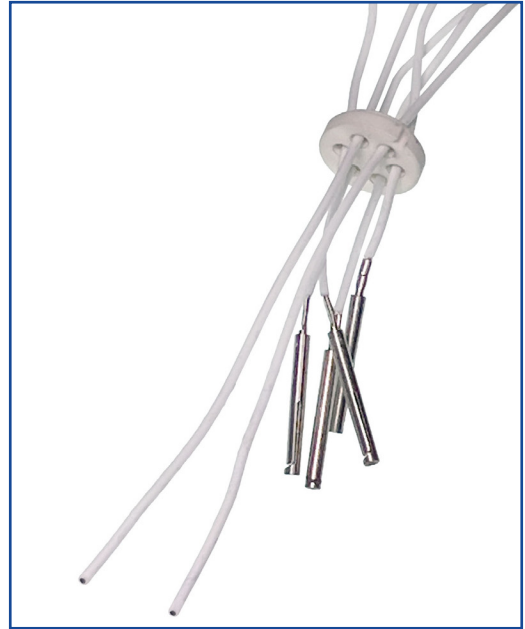
STEP 24

Get the wire cutters.

Cut off the stripped ends of the new lamp wires.

STEP 25

Push the two new lamp wires through the vacant insert holes.



STEP 26

Get the wire strippers.

Strip off 3/8 inch from each wire.

Do not twist the strands together.



STEP 27

Get the two pins from the heater lamp kit.

Slide a pin on to one of the newly stripped wires. Push it all the way to the insulation.

It is a tight fit. It can help to rotate the pin as its being put on.

As many as two wire strands may not fit into the pin. These may be snipped off with the wire cutters later.

Repeat for the other wire.



STEP 28

Get the wire crimper.

Crimp each of the pins onto the wires.

STEP 29

Crimp each pin twice.

Use the wire cutters to snip off any strands which escaped the pin.



Snip loose strands

Double Crimp

STEP 30

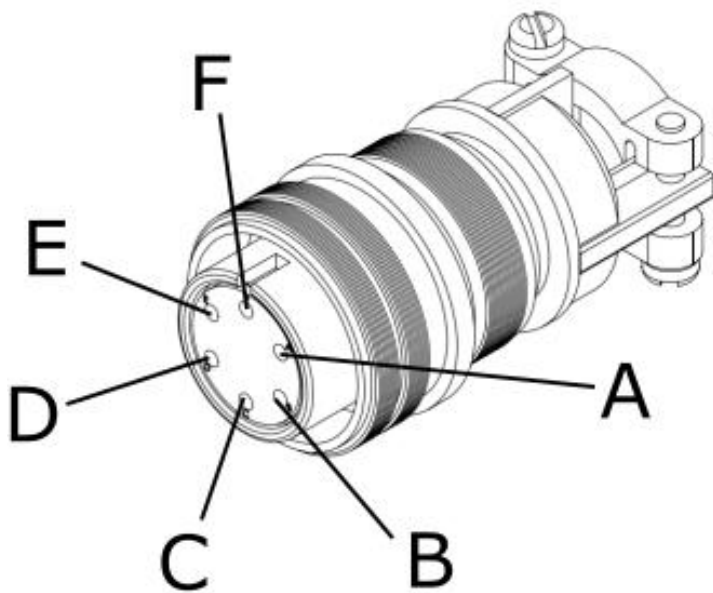
Connector Pinouts:

Lamp 1: pins A & B

Lamp 2: pins C & D

Lamp 3: pins E & F

Note: The wires are not polarized. Either pin can go in either hole.





STEP 31

Take the two pins that were just crimped and insert them into the connector.

Here, lamp 3 is being replaced. The new pins go into holes E & F.

Note: The insert, connector, and metal connector casing each have a clocked notch for alignment. This is useful for placing the pins in the correct holes.



STEP 32

Insert the rest of the pins into their appropriate holes.

STEP 33

Slide the insert over the wires and into the back of the connector.



Get the snap ring.

Start one end of it in the insert groove. Push the other end into the groove to lock it in.

No tools are required.



STEP 35

Screw the connector back together.

The procedure is complete.

Wipe the entire pendant assembly with Isopropyl alcohol (IPA).

The pendant can now be used normally.



Ideal®
vacuum



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