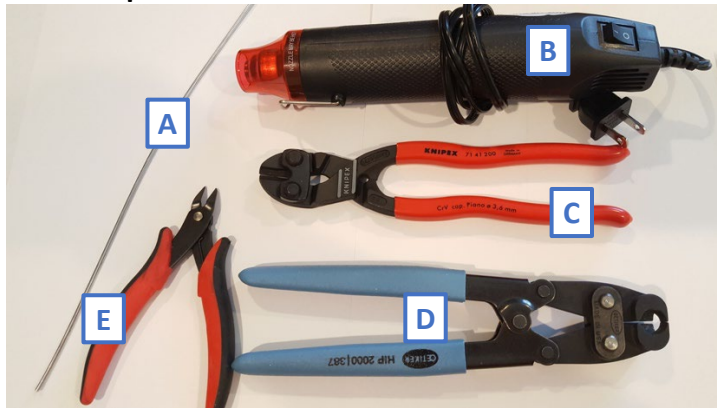


## phx42 v1 Probe Assembly

### Tools and Parts

#### Probe Repair Toolkit #4040



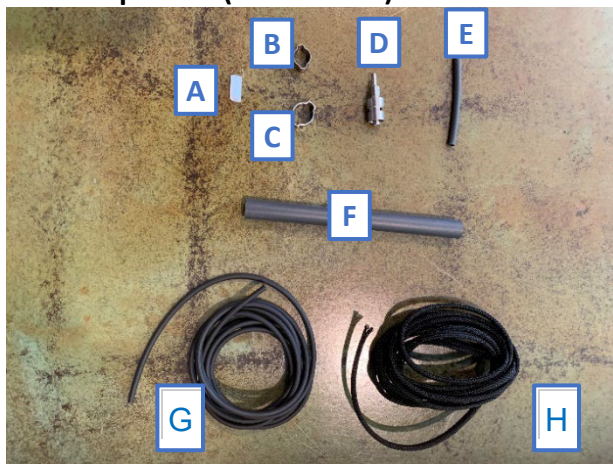
**Additional recommended supplies:**

Snoop Liquid Leak Detector or other Non-VOC material for lubrication of tubing.

Picture ID	Part Name	LDAR Part #
A	Rod for threading Tubing through Sheath	42099
B	Heat Gun	4231
C	Angled High Leverage Cutters	4234
D	Pinch Clamp Pliers	4021
E	Angled Wire Cutters*	1741

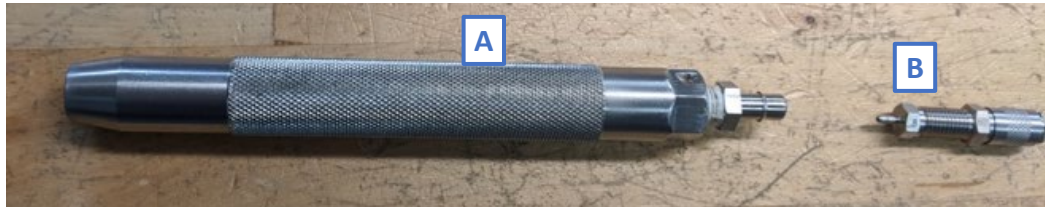
\* Included in phx42 level 1 tool kit LDAR#4203

#### Probe Repair Kit (LDAR#4020)



Picture ID	Part	LDAR Part #
A	White Teflon Collar	42420
B	Small Pinch Clamp	42091
C	Large Pinch Clamp	42093
D	Male Luer Lock	42084
E	Small Heat Shrink	42087
F	Large Heat Shrink	42094
G	Viton Tubing	42904
H	Sheath	42082

The pieces below should be left with the hardware that make up the Probe Assembly:



Picture ID	Part	LDAR Part #
A	Handle	42081
B	Quick Disconnect (with 1/16" barb)	4235

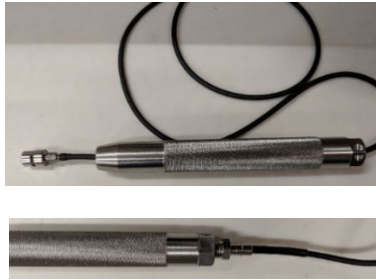
## Probe Reassembly:

1. *Lubricate* new **male luer lock** with Snoop or equivalent. **Do not use a lubricant with any VOC content.** (If you are not sure, test a sample of what you want to use with a **phx42**. That is what it is for!)
2. *Push* **Viton tubing** onto the barb side of the **male luer lock**, stopping after the **tubing** has moved over the first ridge.



3. *Feed* the other end of the **Viton tubing** all the way through the center of the **handle** until you can *thread* the **male luer lock** into the **handle**.

4. *Tighten* the **male luer lock** into the **handle** first with your fingers and then giving it a last gentle tightening with the **pinch clamp pliers** by gripping the fitting in the slot with the flats of the pliers. Do not overtighten, doing so can mar or damage the fitting.



5. *Slide* 2 inches of the **small heat shrink** over the **tubing** until about 1 inch is inside of the **handle** and about 1 inch is still visible.
6. Use the **heat gun** to *shrink* the **heat shrink** to the **tubing** (this takes about 30-60 seconds).

#### Heat Gun Tips:

- Hold the heat gun about  $\frac{1}{2}$ " from the surface of the heat shrink.
- Start at the edge of the heat shrink on Tubing side and work toward the applicable metal fitting, rotating the tubing so that all sides are exposed to the heat gun.
- You will be finished when the heat shrink has grown smaller, starts to shine, and you have a small excretion of adhesive at the Tubing side that is glistening.



7. Use the **rod** provided with tool kit to *feed* the **tubing** through the **sheath**.



8. *Slide* the **sheath** over the Barb at the base of the probe **handle**, far enough to cover the barb but not so far that it has errant strands sticking out once the Heat Shrink is in place.

**Tech Tip:** You must have some fraying to allow the **sheath** to fit over the barb.

9. *Insert* 2 ½ inches of **large heat shrink** over the **sheath** covered barb, then *heat* it with the **heat gun** following the “Heat Gun Tips” outlined above.

**Note:** It is important to use the heat gun provided with the Probe Repair Tool Kit. Use of a different tool may result in the melting of the **sheath** material.



10. *Slide* the **small pinch clamp** over the **heat shrink** then *crimp* in place using the Pinch Clamp Pliers. *Lightly crimp* one side and then the other. Once they are crimped lightly, *crimp each side tightly*.



11. Starting at the **handle** slowly *work* the **sheath** down toward the **quick disconnect** end of the probe to ensure that there are no kinks/bunching.

**Tech Tip:** The **sheath** and **tubing** should come out even with frayed ends sticking out.

12. *Slide* **large pinch clamp** over the Sheathing.

13. *Slide* 2 ½ inches of **large heat shrink** over the Sheathing, according to the photo.



14. Slide the **white Teflon collar** over the **tubing** and away from the edge.
15. Slide the **tubing** onto the 1/16" barb side of the **quick disconnect**. Slide the **collar** forward onto the barb until it and the **tubing** are flush with the base of the **quick connect**.



**Tech Tip:** Do not try to fully seat the **tubing** onto the barb. The **collar** will push the tubing the rest of the way onto the barb. If the tubing cannot move forward you will create a bubble.

16. Slide the **sheath** over the threaded portion of the **quick disconnect**, again making sure it is on far enough that it will be covered by the Heat Shrink, but not so far that there are errant strands sticking out from under the Heat Shrink.

**Tech Tip:** You want strands extending all the way to the top of the threaded section. Trim off any that extend past the threaded section.

17. Slide the Heat Shrink over the barb, then shrink it down over the Sheath and the **quick disconnect** with the **heat gun**, follow "Heat Gun Tips" above and work from the **tubing** side toward the **quick disconnect**.

18. *Slide* the **large pinch clamp** over the Heat Shrink covered **quick disconnect** and *tighten* it the same way you tightened the **small pinch clamp** in step 10 above.



19. To ensure that the probe repair has been successful, follow the “Weekly Probe Integrity Inspection” procedure outlined in the **phx42** manual.