

QUALITY MANAGEMENT SYSTEM	Urea Heater Replacement Instructions		
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Subject

The following instructions provide a step-by-step procedure to replace the heating element for DEF/SCR/UREA/ADBLUE/DIESEL After Treatment Tanks.

Tools Required:

- 1 Torx T20 Screwdriver
- 1 Solder
- 1 Solder iron
- 1 X-ACTO knife
- 1 Wire strippers
- 1 Extension bar with 10mm socket
- 1 Long pliers
- 1 Heat gun



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Step 1:

Use long pliers to remove the two star nuts that are attached to the urea heating unit (see Fig. 1). The red circles indicate the position of the two star nuts (see Fig. 2).



Fig. 1



Fig. 2

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Step 2:

Unclip the temperature sensor. Remove the heating element and temperature sensor from the base of the tank.

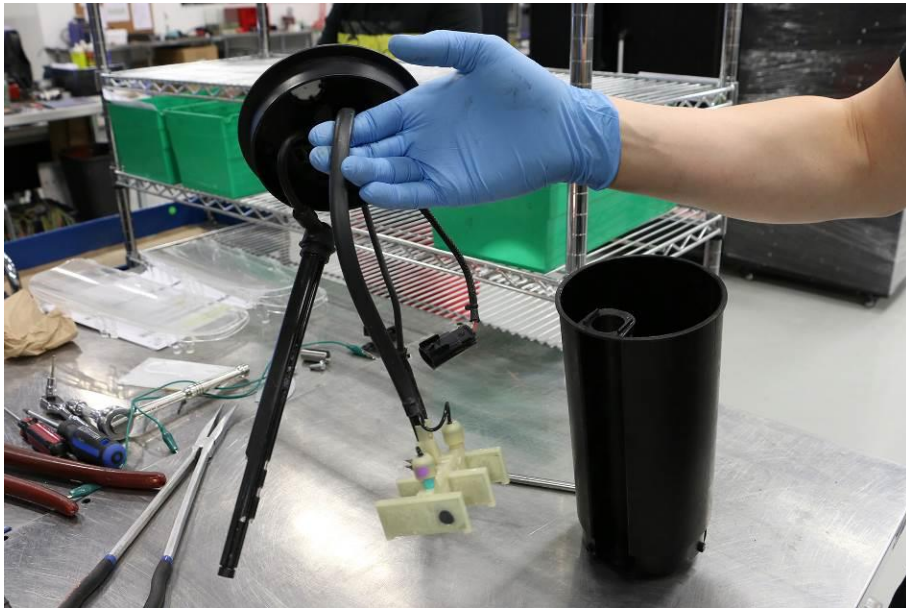


Fig. 3

Step 3:

Remove the vacuum hose from the heating element by prying the hose backwards.

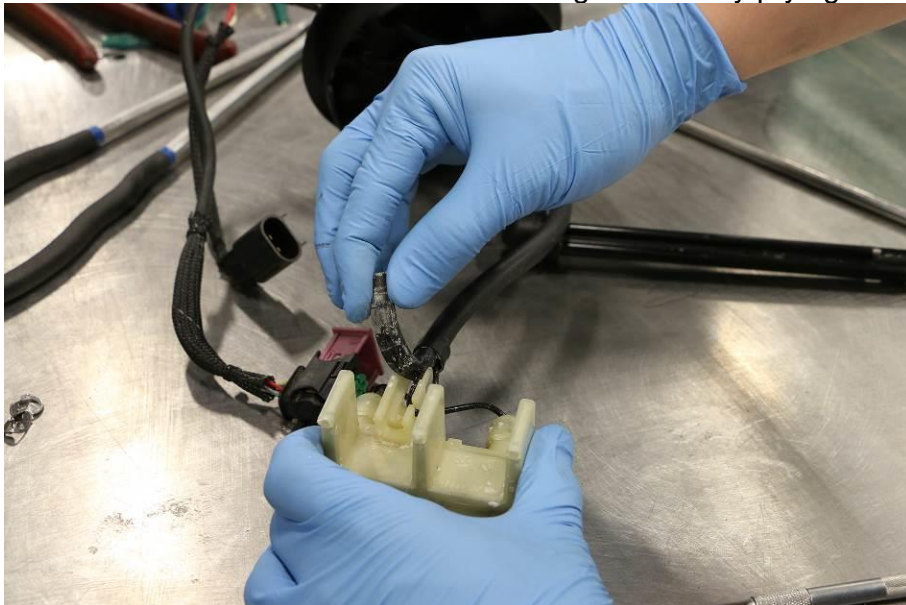


Fig. 4

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Step 4:

Use an X-ACTO knife to cut and remove the heat shrink that holds the wiring for the heating element to the vacuum tube (see Fig. 5).



Fig. 5

Step 5:

Pull the wire for the heating element out of the vacuum tube (see Fig. 6). The vacuum hose and heating element wire will become completely separated (see Fig. 7).



Fig. 6

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Fig. 7

Step 6:

Cut the heating element wire where it is connected to the harness.

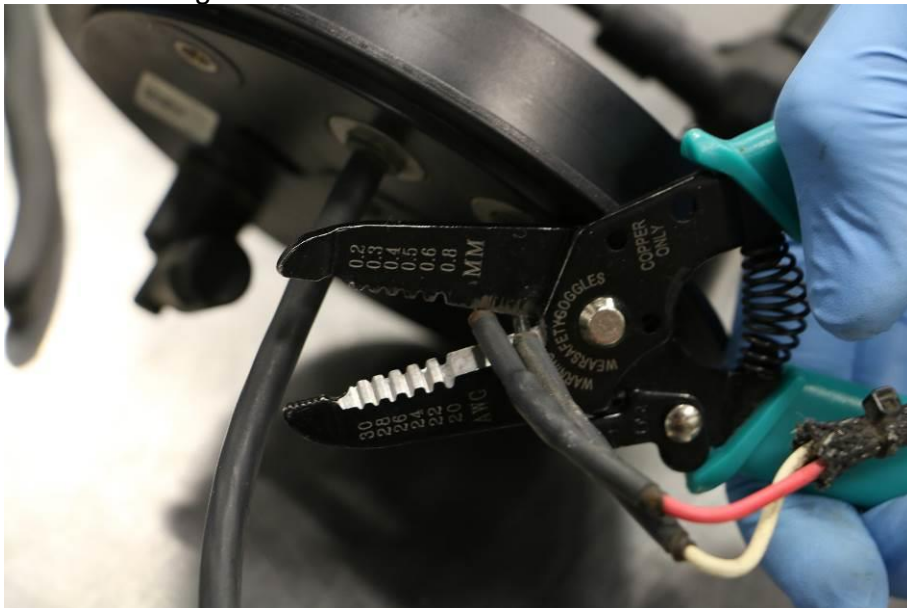


Fig. 8

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Step 9:

Slide the wire out of the base. Then remove the old heating element from the base (see Fig. 12).



Fig. 11

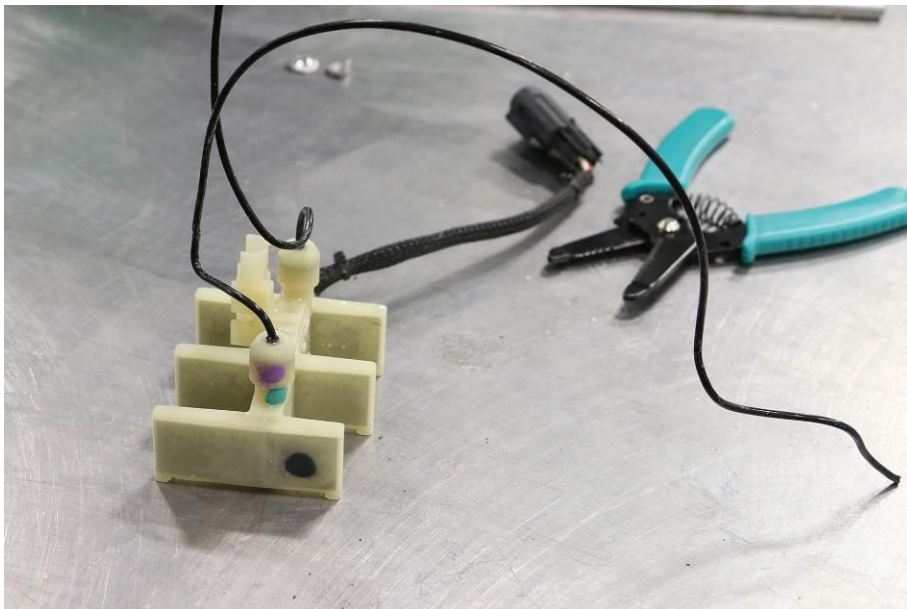


Fig. 12

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Step 10:

Slide the new heat element wires into the new heat shrinks provided.

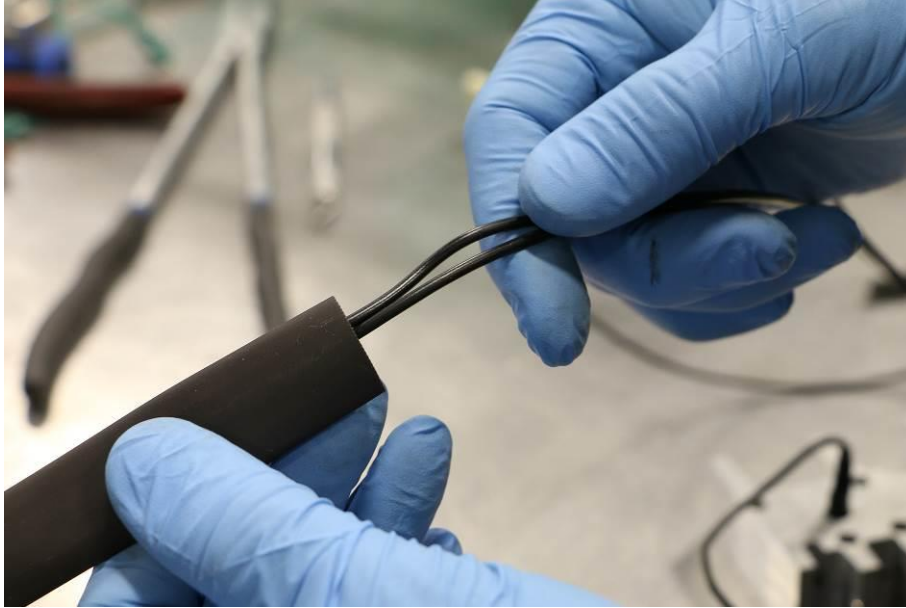


Fig. 13

Step 11:

Slide the vacuum tube into the opposite side of the heat shrink.



Fig. 14

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Step 12:

Slide the vacuum tube to about 1/4 inch past the heat element as pictured.



Fig. 15

Step 13:

Remove the screw with the T20 Torx screwdriver. Place the wires into the channels on both sides of the vacuum tube and tighten the screw back up.

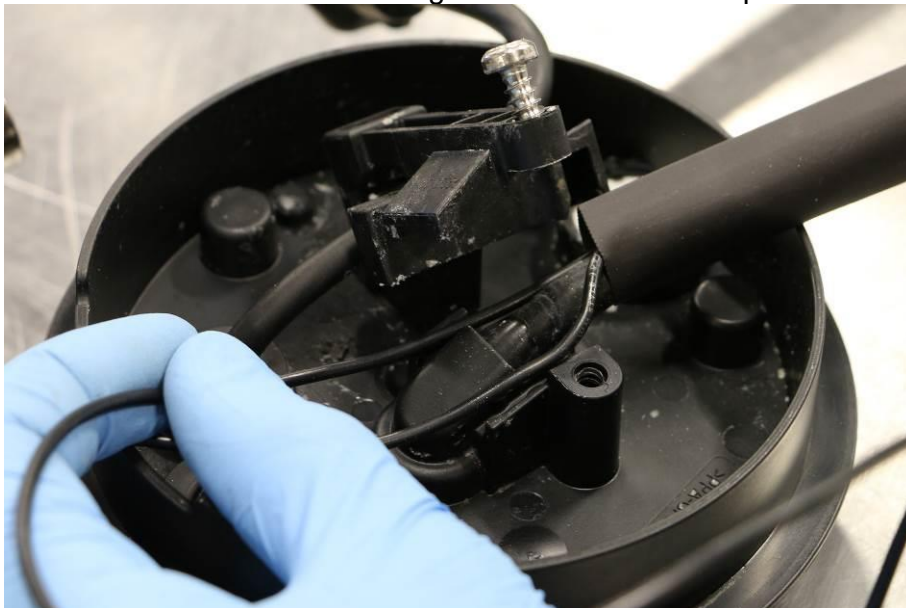


Fig. 16

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Step 14:

Push the wires through the grommet holes (using a little oil will help).



Fig. 17

Step 15:

The result should look like the image below (see Fig. 18).

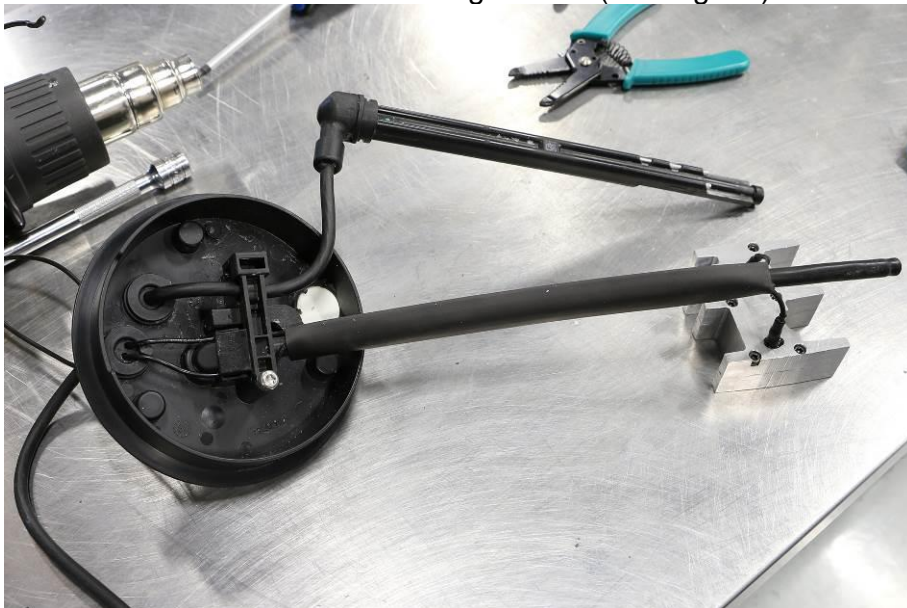


Fig. 18

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Step 16:

Once properly placed, use a heat gun to shrink the shrink tube.



Fig. 19

Step 17:

Strip the heat element wires on the harness side

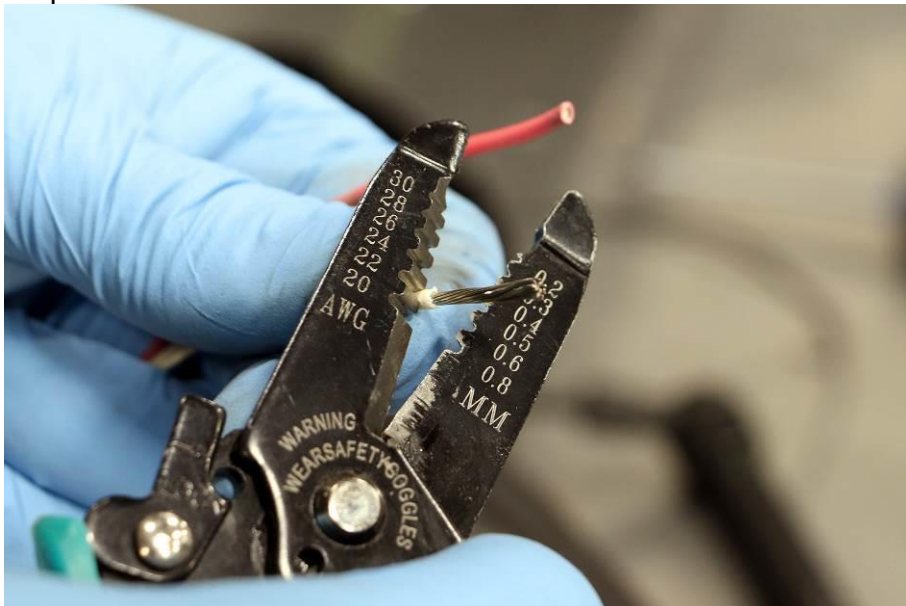


Fig. 20

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Step 18:

Cut the heat element wires to approximate length. We suggest that you cut the wires slightly longer so that you have room to work with.



Fig. 21

Step 19:

Strip the heat element wires.



Fig. 22

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Step 20:
Slide the included heat shrink over the longer wires.



Fig. 23

Step 21:
Twist the wires together.

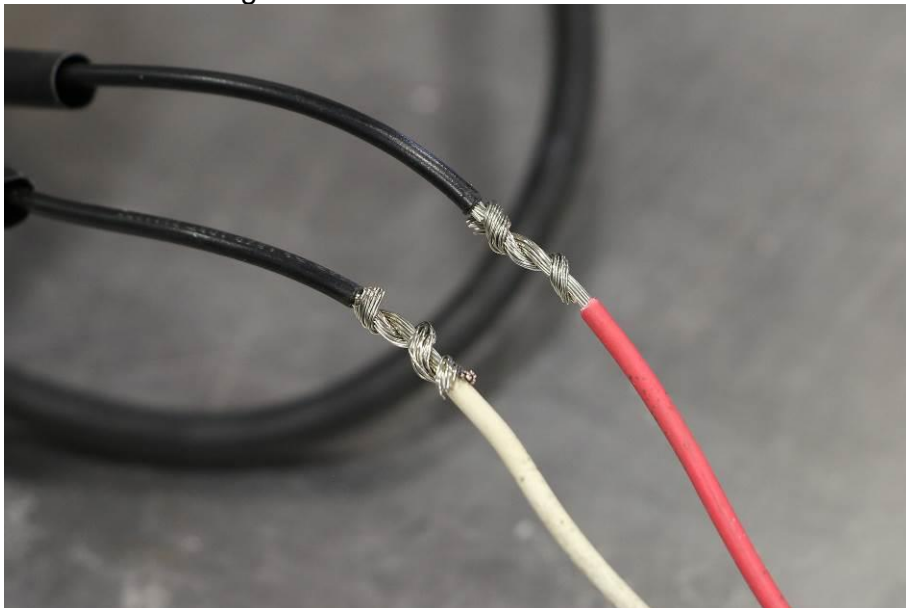


Fig. 24

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Step 22:
Solder the wires.

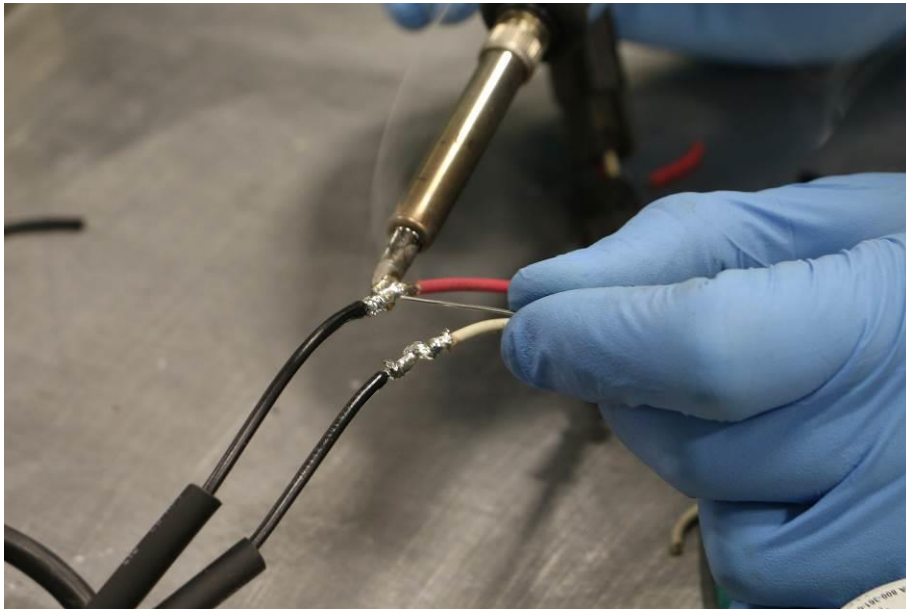


Fig. 25

Step 23:
Once the wires cool down, slide the heat shrink and shrink the tube.

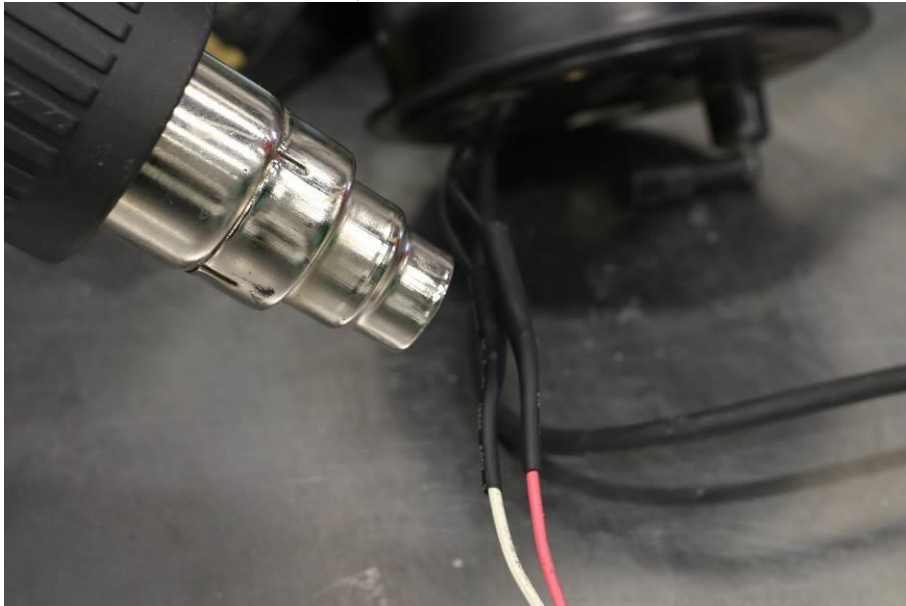


Fig. 26

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Step 24:

Crush the star nut to use for reinstallation

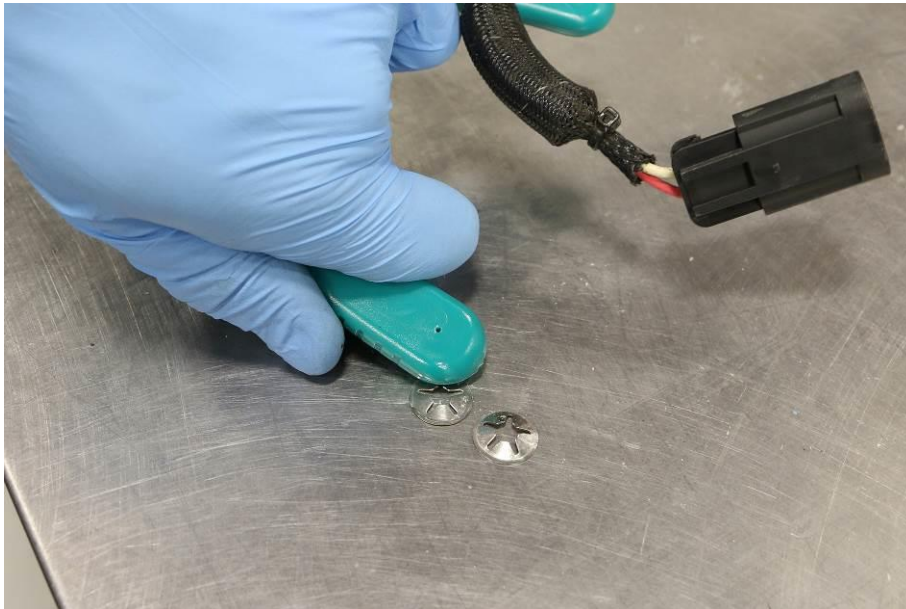


Fig. 27

Step 25:

Re-install the vacuum tube holder if it was removed (see Fig. 28). If you did not remove the vacuum tube holder, the base should look similar to Fig. 29.



Fig. 28

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Fig. 29

Step 26:

Place the heat element inside the urea tank. The heat element should fit perfectly by using the guides.

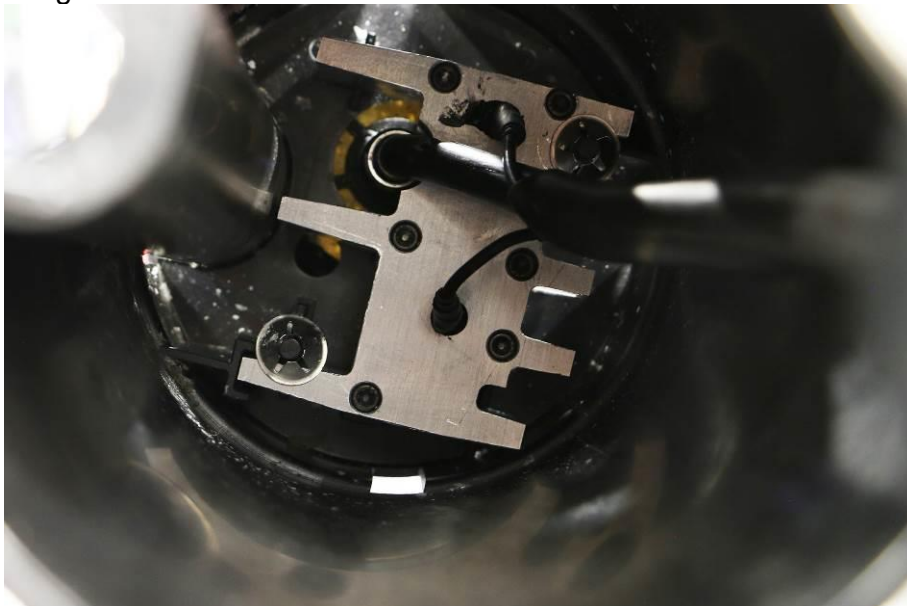


Fig. 30

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Step 27:

Use the extension with the 10mm socket to re-install the star nuts once you place the heat element at the bottom of the base.



Fig. 31

Step 28:

Reinstall the temperature sensor and place the clip back on the temperature sensor.



Fig. 32

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Step 29:

Your completed installation should look like the image below (see Fig. 33).



Fig. 33