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86362-1 FTG Low Water Cutoff (LWCO) Replacement (Replaces part # 85128)

Applicable Boiler Models

- FTG 600-2400

Kit Contents

- 16ga galvanized LWCO mounting bracket
- 20ga pre-coated finish probe cover box
- 3 each: 53054 Wire Tie 4" Long 18lbs. CA
- 4 each: 81428 Screw, #8-3/4", Self Drill Hex Head, (1131805)
- 15 each: 82998 Screw 8-18x0.375 Slot Hex Washer Head (10707-02683)
- 3 each: 83585 Wire Tie Mounting Pad Push Style, (0728143)
- 1 each: 4-wire control board harness
- 1 each: Long 2-wire probe connection harness
- 1 each: Short 2-wire probe connection harness
- 4 each: 85459 Plug 0.875 in Black Liquid Tight Break Through Heyco C2070 LTBP 875-250
- 1 each: 86362 LWCO Safgard Model 500 w/ probe 24V 16A Hydrolevel (45-500)



Figure 1

Tools and Materials Required

- 1/4" Nut Driver
- Slotted screwdriver
- Phillips screwdriver
- Gas-tight pipe thread compound, for example WELD-ON® 505™ KEY TITE
- Pipe thread sealant tape



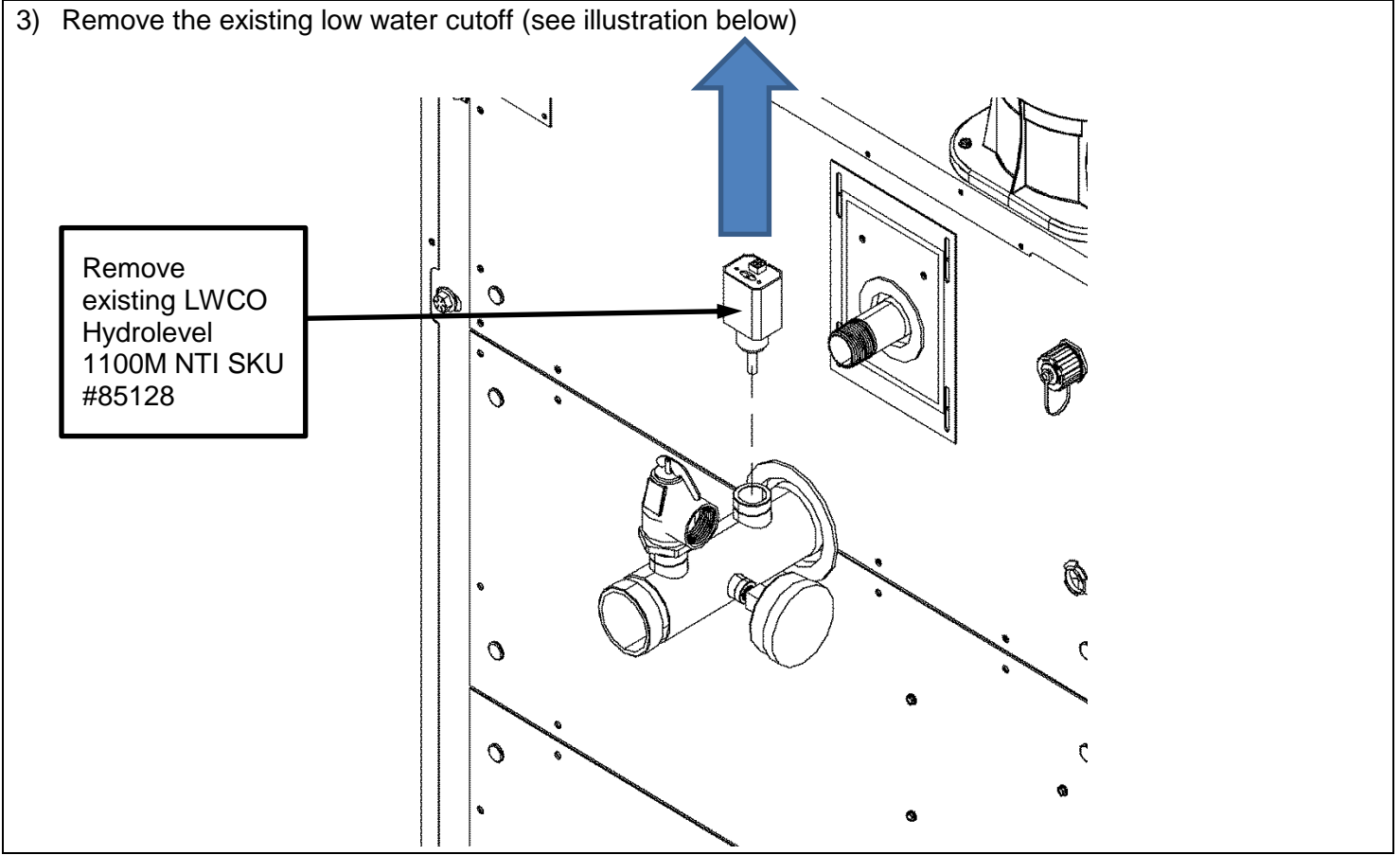
Failure to ensure proper functioning of the LWCO will result in a loss of low water protection, and could lead to boiler overheating and/or fire, explosion, property damage or death.

Replacement Instructions

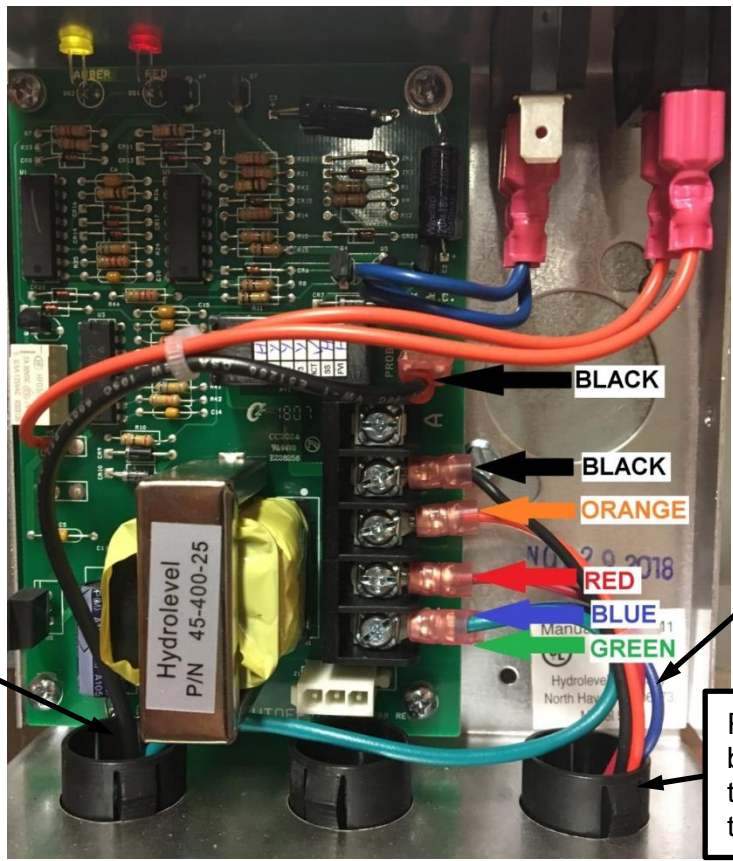
- 1) Turn off **power** and **gas** to the boiler.
- 2) The boiler must be depressurized. Isolate the boiler from system piping. Drain water from the boiler to below the level of the LWCO.

3) Remove the existing low water cutoff (see illustration below)

Remove
existing LWCO
Hydrolevel
1100M NTI SKU
#85128



- 4) Connect the wires of the 4 wire LWCO control board harness, and the long 2 wire probe connection harness, to the control board terminals as shown below. Remove knockouts and use 85459 break-through plugs for strain relief as needed. Attach wires as follows:
- i. 4 wire control board harness
 1. BLACK to terminal P2
 2. ORANGE to terminal P1
 3. RED to terminal 1
 4. BLUE to terminal 2
 - ii. Long 2 wire probe connection harness
 1. BLACK to PROBE ¼" quick disconnect tab
 2. GREEN to terminal 2

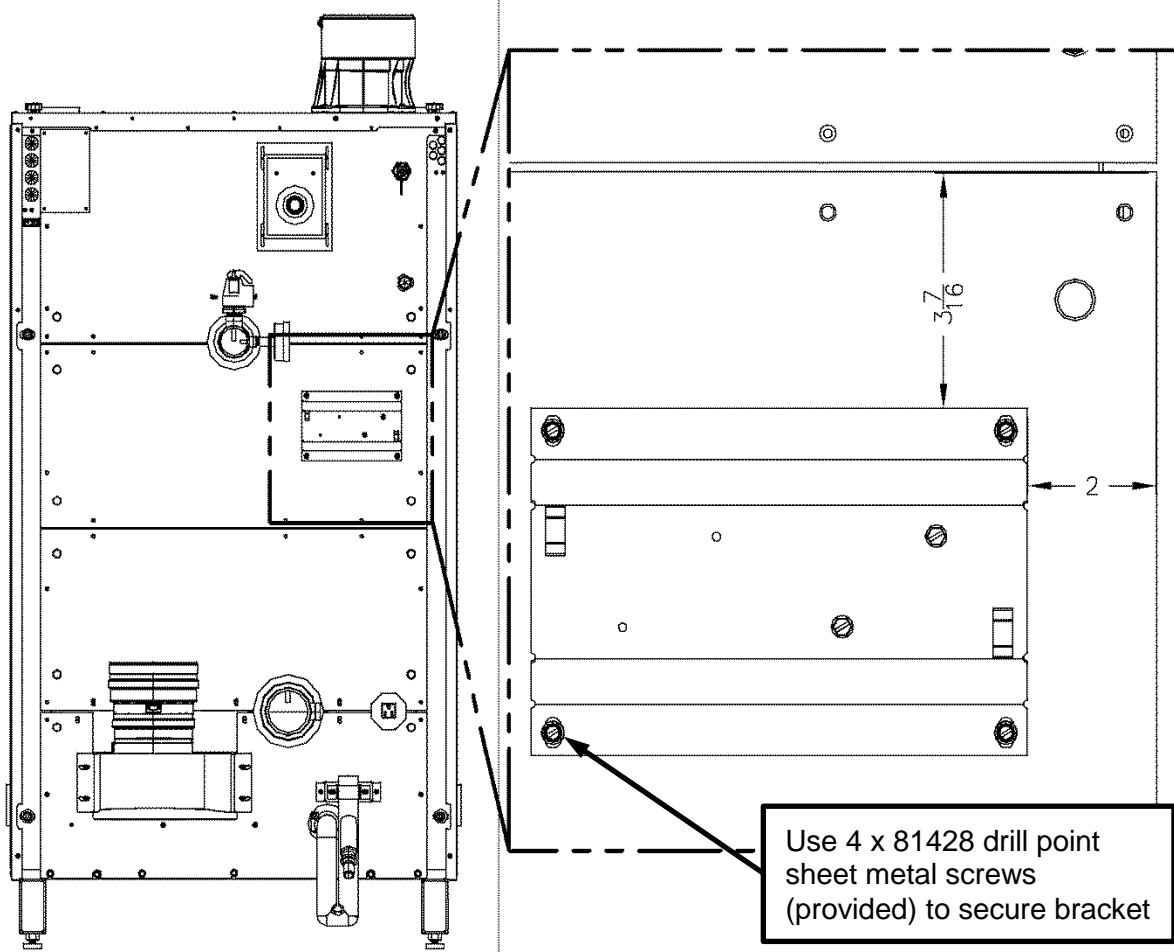


Long 2 wire probe connection harness

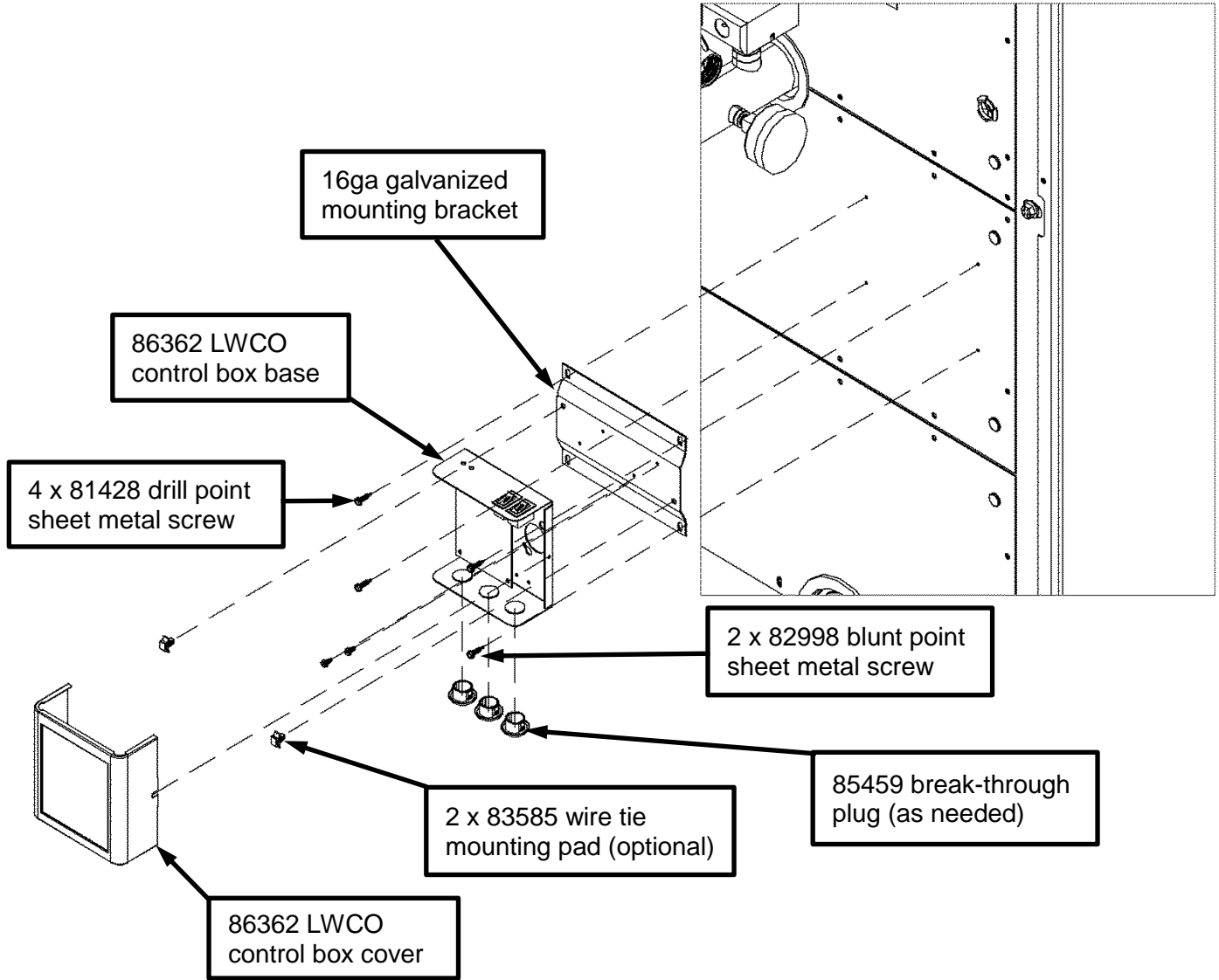
4 wire control board harness

Remove knockouts in control box, use 85459 break-through plugs as strain relief to secure wires

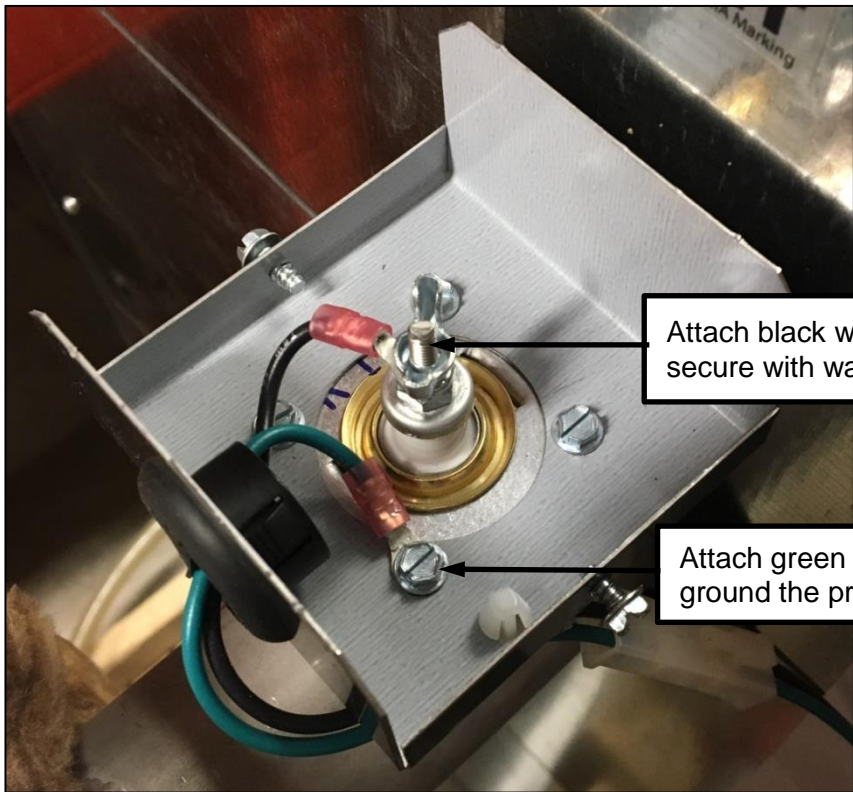
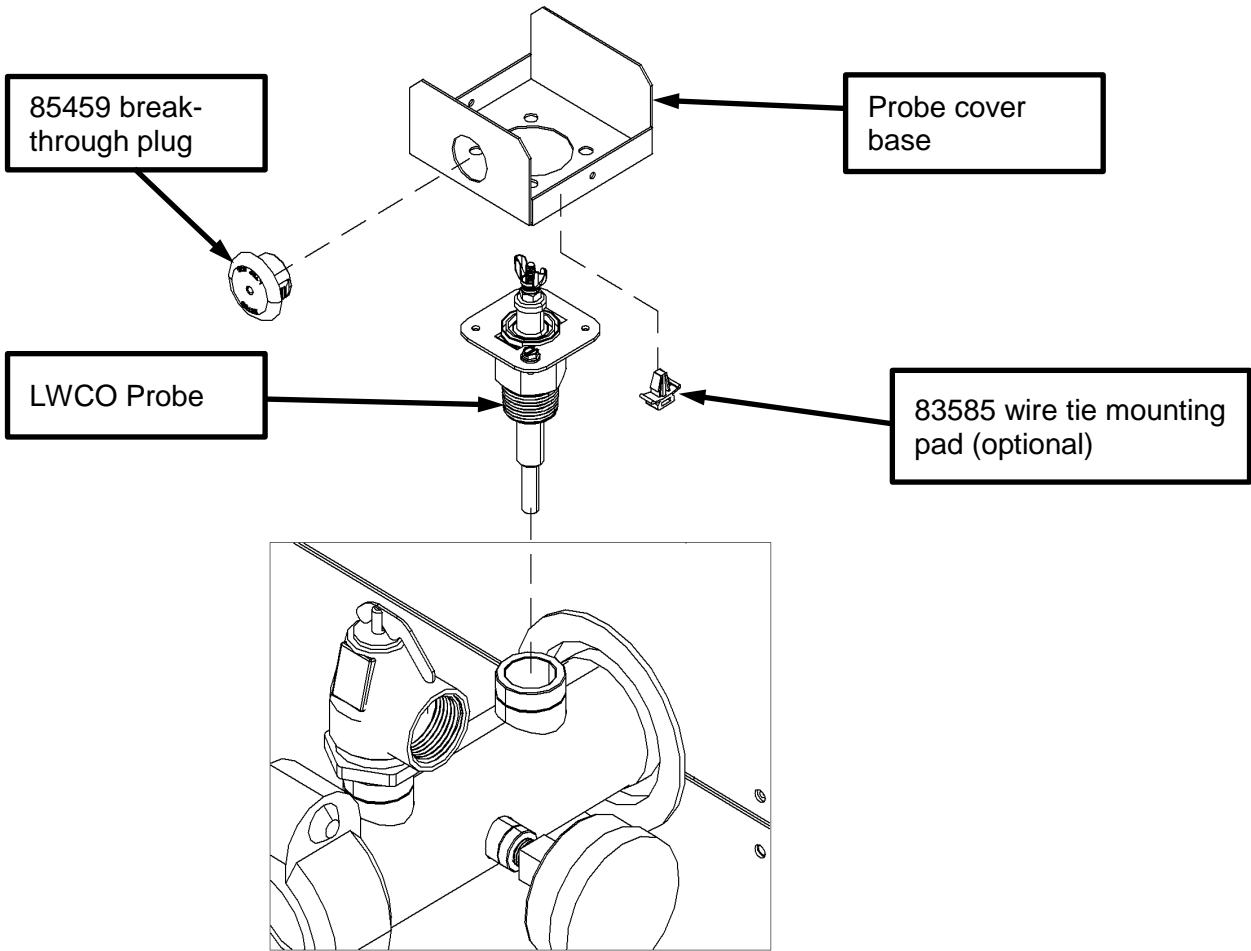
- 5) Using the 16ga galvanized control board mounting bracket as a template, mark the locations of the mounting screws on the removable upper back panel of the boiler, as shown below.



- 6) Mount bracket and control box (see **Error! Reference source not found.**):
- a. Attach 2 x 83585 wire tie mounting pads to control box mounting bracket before attaching bracket to boiler.
 - b. Attach control box mounting bracket to boiler back, secure with 4 x 81428 drill point screws.
 - c. Attach control box to mounting bracket, secure with 2 x 82998 blunt point sheet metal screws.



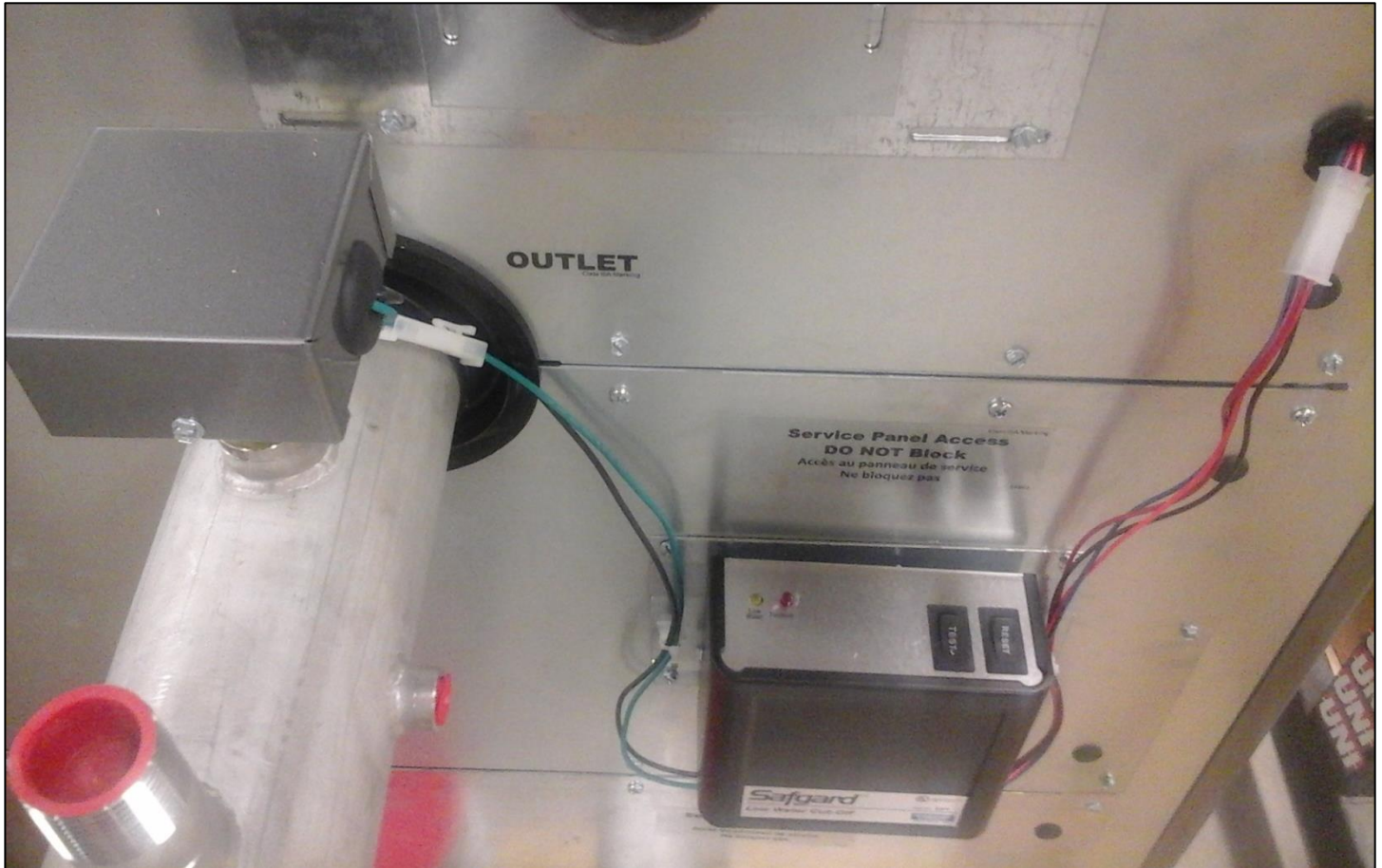
- 7) Install LWCO probe and probe cover base (see below). Apply good quality pipe sealant tape and thread compound to the probe threads, to ensure there is no water leakage. Using provided blunt point screws, secure the cover box base to the mounting flange on the probe. Insert the short 2-wire probe connection harness through the break-through plug and attach the wires as illustrated. Ensure that the black wire is attached to the post, and the green wire is secured to the base as shown.



Attach black wire to post and secure with washer and wing nut

Attach green wire here to ground the probe housing

- 8) Connect the LWCO control harness wiring to the boiler and probe wiring as illustrated below. Optionally secure the wires using the provided wire tie mounting pads. Secure the control board and probe covers in place with provided screws. Note: orientation of probe cover is shown for illustration purposes only, installer to determine best orientation in field as the application requires.



- 9) When the installation is complete, **TEST THE LWCO** to ensure the burner shuts down when the water level drops.

⚠ WARNING

Failure to ensure proper functioning of the LWCO will result in a loss of low water protection, and could lead to boiler overheating and/or fire, explosion, property damage or death.