

# TEMPSTAR THERMOSTAT RETROFIT INSTRUCTIONS



In this Installation Manual:

You will remove the two existing thermostats from the dishmachine and will replace with a single new solid state thermostat.

## TOOLS REQUIRED:

- Adjustable Wrench
- Philips Head Screwdriver
- Small bucket (approx. 1 gallon)
- 5/16" Nut Driver (high limit switch)
- Wire Crimper for Insulated Terminals
- Control Screwdriver (for setting dip switches)
- Step Stool
- Wire Stripper
- Needle Nose Pliers
- 3/8" Wrench (covers)
- 7/16" Wrench (probe)

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## ❶ DISCONNECT ALL POWER TO THE DISHMACHINE BEFORE BEGINNING THIS PROCESS. LOCK OUT/TAG OUT IN ACCORDANCE WITH APPROPRIATE PROCEDURES AND CODES.

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❷ Lift up the panel and pull out gently to remove the front dress panel.

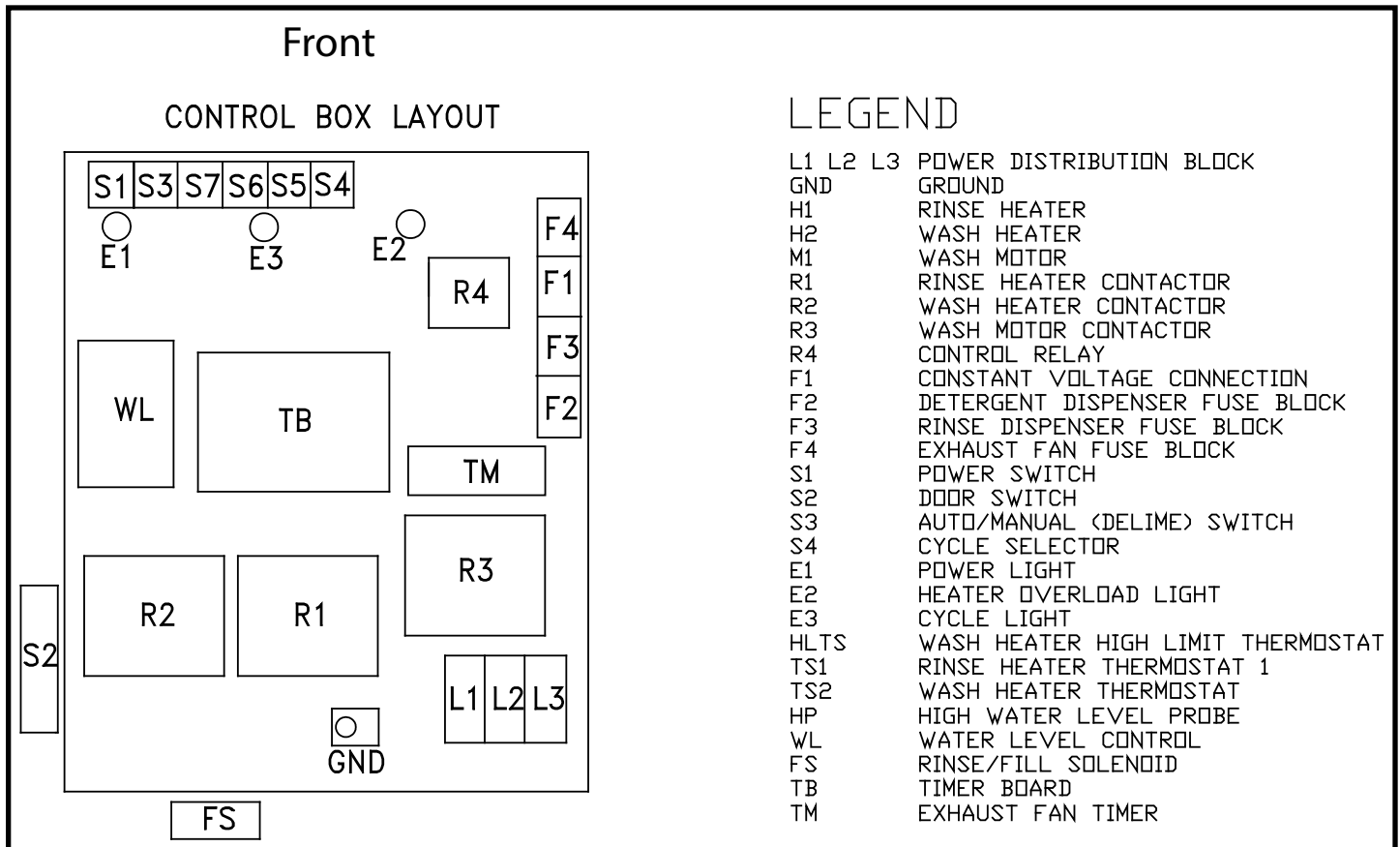


❸ Remove both wash and rinse heater covers by using a 3/8" wrench.

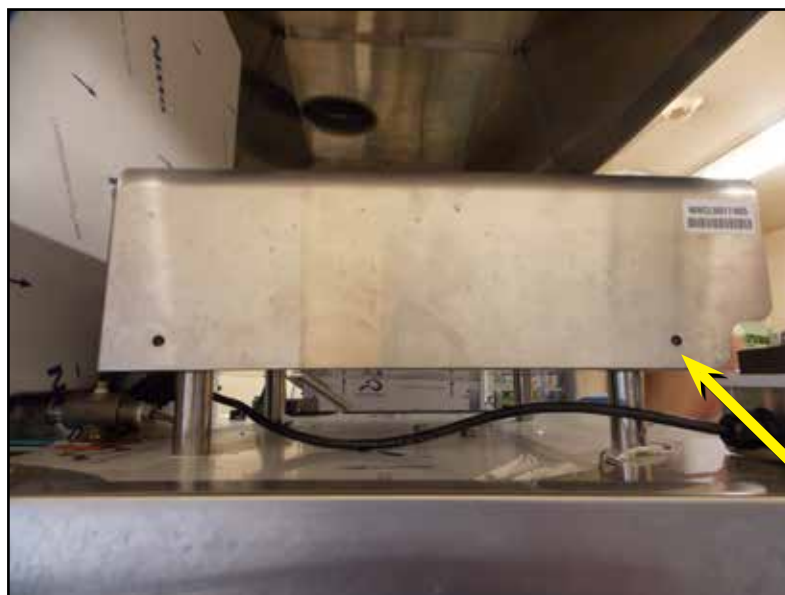


# TEMPSTAR THERMOSTAT REPLACEMENT INSTALLATION INSTRUCTIONS

## CONTROL BOX SECTION



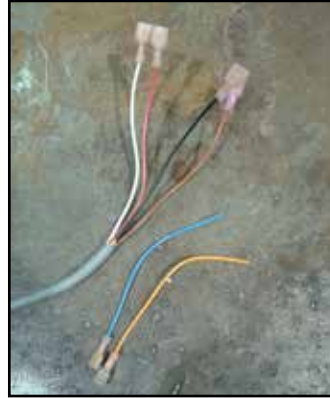
- 4 Using a Philips head screwdriver, remove top panel from the control box.



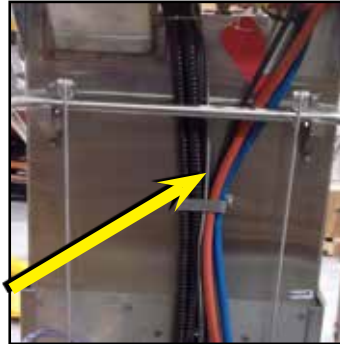
Screw Holes

## TEMPSTAR THERMOSTAT REPLACEMENT INSTALLATION INSTRUCTIONS

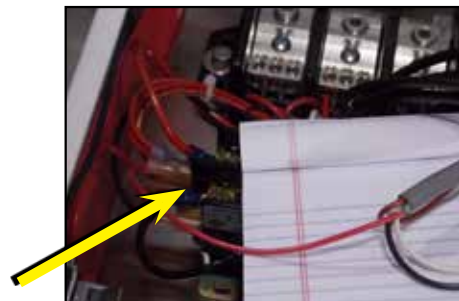
- 5** Get the gray 6-conductor cable from the retrofit kit. Cut the orange and blue wires off at the edge of the gray sheath and discard those orange and blue segments. Notice that one end has all female terminals (this is the bottom portion) and the other end has one male and the three females (this is the top portion).



The gray cable is to be routed from the top of the unit and trail down to the wash heater area. Pop out a black blank on the back of the control box and insert a new grommet from the retrofit kit. Insert the top portion of the gray cable (with the male and female terminals) through the grommet on the back of the control box (leave approx. 12" up in the control box). Run the gray cable down the back of the machine. Make sure to run the wire under the bracket and bar in the back so it is not hanging loose. Underneath the unit, route the gray cable between the wash tank and rinse booster. Once entering the wash tank heater housing area, route the gray cable over the high limit switch.



- 6** Up in the control box, attach the red wire from the 6-conductor cable to the open tab on the L2 side of the Wash Motor Contactor (R3).



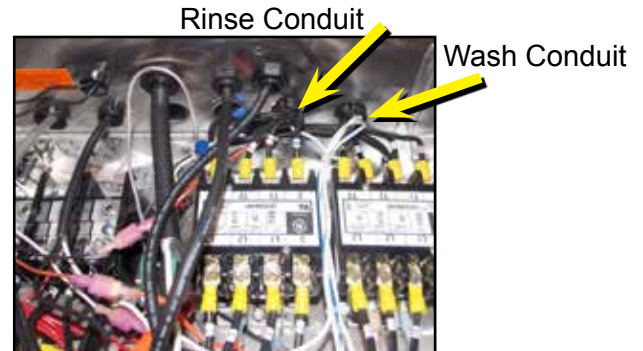
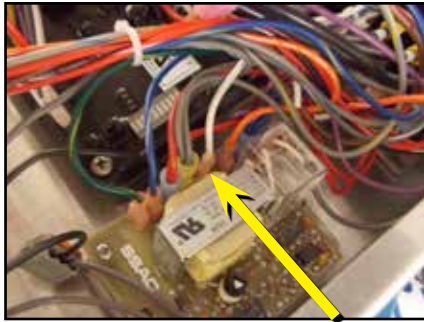
- 7** Locate and remove the two white wires in the single terminal on the Water Level Controller (WL) at the #1 position. Cut terminal off the 2 white wires.



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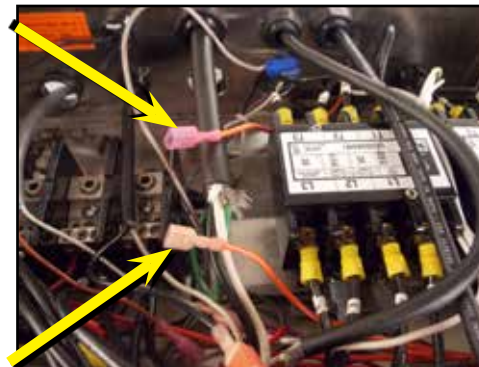
- 8 Trace the two white wires to the back of the control box. On the white wire that enters the wash conduit (from the front of the box, it is the conduit on the far right), strip and crimp a red female terminal onto the end of it and then connect it back to the Water Level Controller at the #1 position where it was removed in step 7.



- 9 Trace the other white wire that was removed in step 7 to the rinse conduit (from the front, it is the conduit to the immediate left of the wash conduit). Strip and crimp a red male terminal onto the white wire and then connect it to the white wire from the 6-conductor cable.



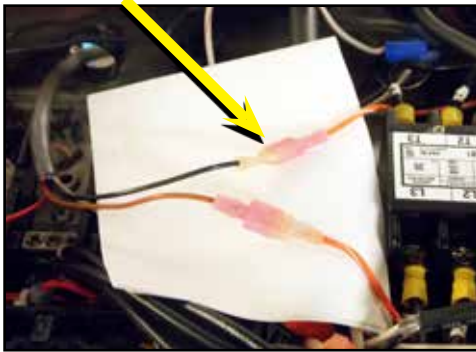
- 10 Locate the orange/white wire coming out of rinse conduit (same conduit as located in step 9) and note it ends with a termination into the Rinse Heater Contactor (R1). Cut the orange/white wire approximately midway between the rinse conduit and the rinse heater contactor (R1). Strip and crimp a red male terminal on the end that goes to the rinse conduit and a red female on the end that goes to the rinse heater contactor.



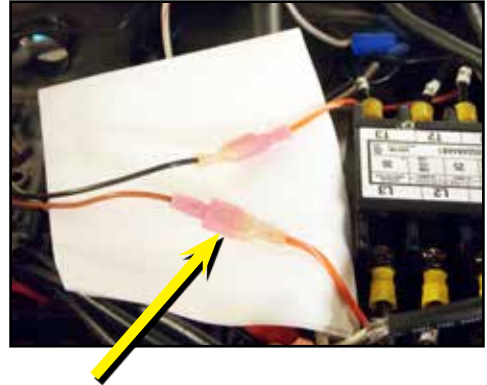


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- 11** Connect the orange/white wire from the rinse conduit to the black wire from the 6-conductor cable.



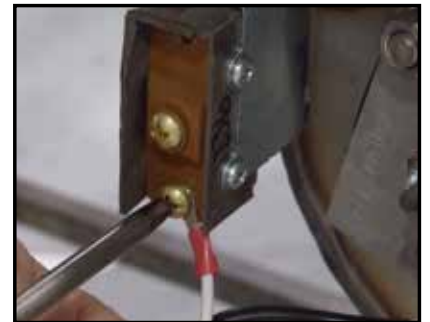
- 12** Connect the orange/white wire from the rinse heater contactor to the brown wire from the 6-conductor cable.



- 13** Re-attach top control box cover with the Philips head screws.

### RINSE BOOSTER SECTION

- 14** In the next step, find the thermostat on the rinse booster tank. Disconnect orange/white and white wires from rinse thermostat.



- 15** Cut ring terminals off both the orange/white and white wires. Strip wires and crimp each with red male terminals.



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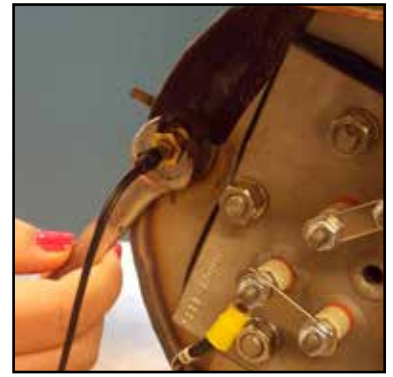
**! WARNING: Make sure machine has had time to let water in the booster tank cool. IF WATER IS NOT COOL, THE WATER TEMPERATURE COULD CAUSE SERIOUS BURNS.**

Place a bucket under the booster before the thermostat is removed to catch the water. If step 16 and 17 are done rapidly, minimal water will drain from the booster tank.

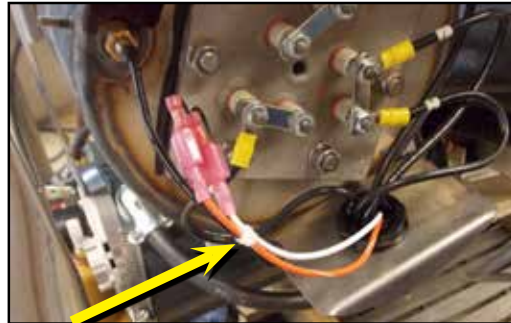
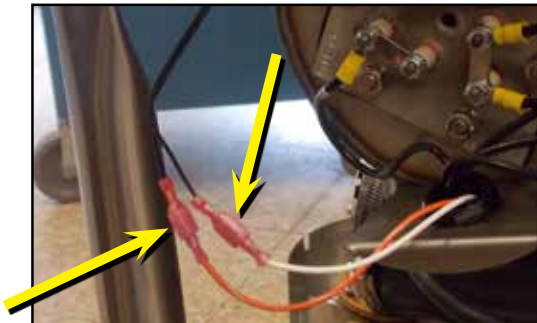
- 16** Prepare the new probe with the imperial brass fitting before removing the existing thermostat. Remove rinse thermostat. Use 7/16" wrench on fitting behind the thermostat. After fitting is loosened, pull out on the thermostat until the probe is removed from the wash tank.



- 17** Slide new 1/4" Imperial brass fitting onto the new rinse probe that is included in the retrofit kit. Probe slides into the hole the same way the other came out. Tighten fitting on probe with a 7/16" wrench, make sure to leave 1/4" of the probe exposed.



- 18** Connect the orange/white wire to the black/white wire from the rinse probe. Connect white wire to the black wire from the rinse probe. Use a zip tie to straighten up the wires.

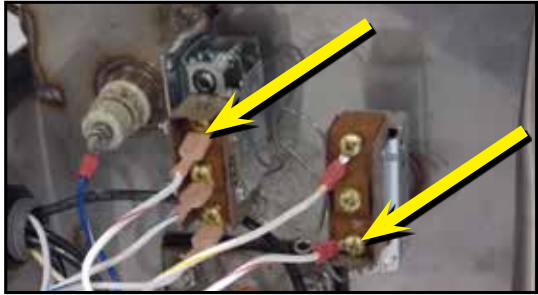


- 19** Reattach the rinse cover with the 3/8" wrench.

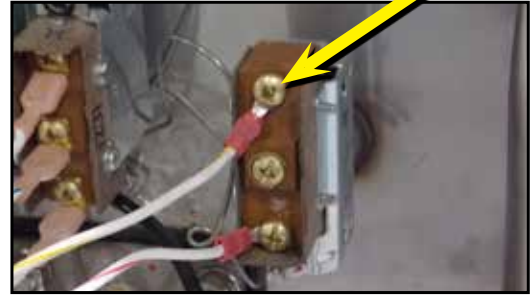
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### WASH TANK SECTION

- 20** Disconnect white/red wire from wash thermostat as well as from the high limit switch. Remove wire completely and discard.



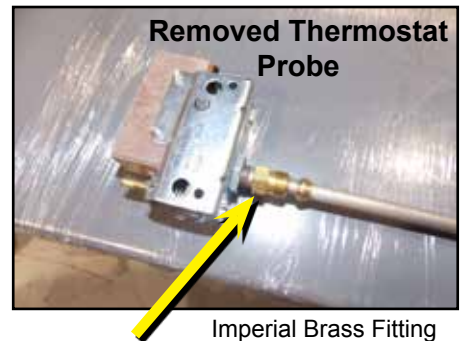
- 21** Disconnect white/yellow wire from wash thermostat.



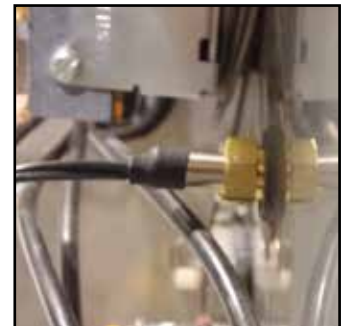
- 22** Cut ring terminal off white/yellow wire; strip and crimp a red female terminal to the white/yellow wire.

**!** **(WARNING: MAKE SURE THAT THE DRAIN STOPPER HAS BEEN REMOVED AND THAT THE WASH TANK IS DRAINED).  
THE WATER TEMPERATURE COULD CAUSE SERIOUS BURNS.**

- 23** Remove wash thermostat. Use 7/16" wrench on fitting behind the thermostat. After fitting is loosened, pull out on the thermostat until the probe is removed from the wash tank.



- 24** Slide new 1/4" Imperial brass fitting onto the new wash probe that is included in the retrofit kit. Probe slides into the hole the same way the other came out. Tighten fitting on probe with a 7/16" wrench; make sure to leave 1/4" of the probe exposed (a bracket fits over the probe in later steps, be sure that only 1/4" of the probe is exposed or the bracket will not fit correctly).

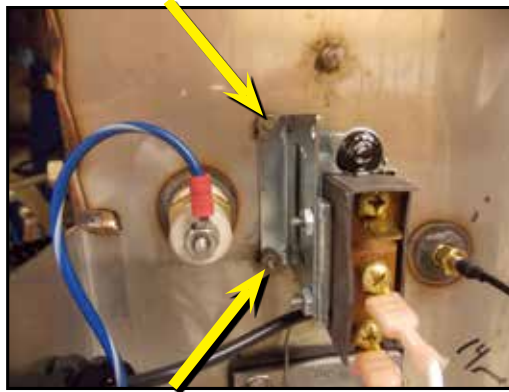




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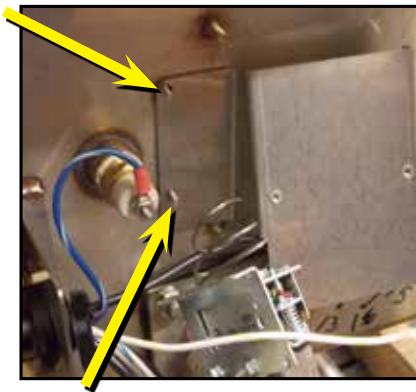
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- 25** Using a 5/16" nut driver, remove the two nuts securing the high limit switch (nuts used later to reattach). Be careful with the thin tubing coiled behind the high limit switch as you remove the switch and bracket from the studs.



- 26** Place new thermostat mounting bracket (from retrofit kit) onto the two studs where the high limit switch was removed.

Reposition the coil of thin tubing on top of the mounting bracket and then fasten the high limit switch (with the same nuts) on top of the mounting bracket to the same studs where it was attached before.



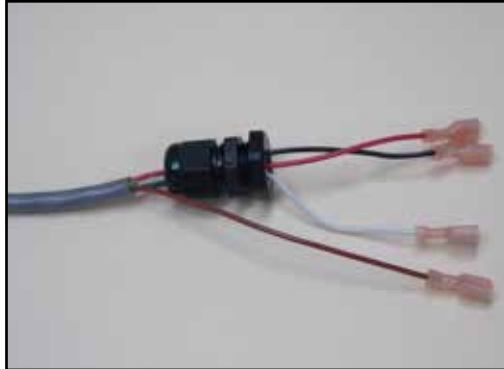
- 27** Install the new thermostat onto the mounting bracket using the #6 – 32 screws provided in the kit. Make sure thermostat is configured so that the 5-pin connector is at the bottom.



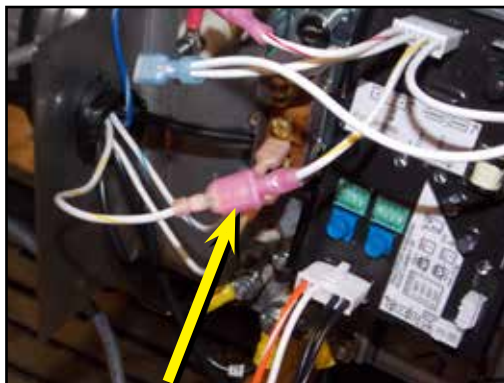


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- 28** Slide strain relief onto 6-conductor cable from the bottom, by threading one female terminal into it at a time. Seal connection faces the outside of the cover (to the left). Connect the 4-pin and 5-pin connectors to the thermostat.



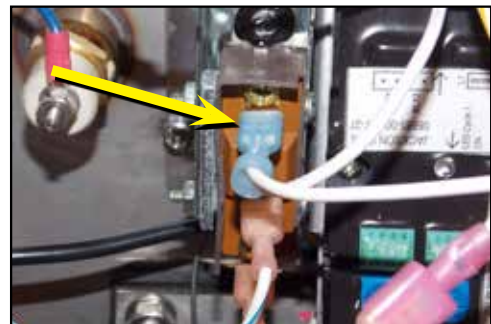
- 29** Connect the white/yellow wire removed earlier from the high limit switch (step 22) onto the white/yellow wire (slot 3) from the 4-pin connector.



- 30** Locate the white wire in slot 4 of the 4-pin connector. It has a blue female terminal and is attached to a white jumper. Plug that blue female terminal into the L1 tab on the thermostat.



- 31** Locate the white wire located in slot 2 of the 4-pin connector. It has a blue female terminal and is attached to the same jumper as described in step 30. Plug that blue female terminal into the top position (normally closed) on the high limit switch.



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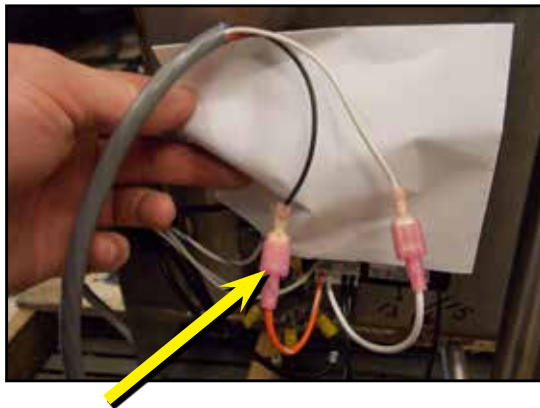
- 32** Locate the white/red wire (slot 1) on the 4-pin connector. Connect that to the brown wire from the 6-conductor cable.



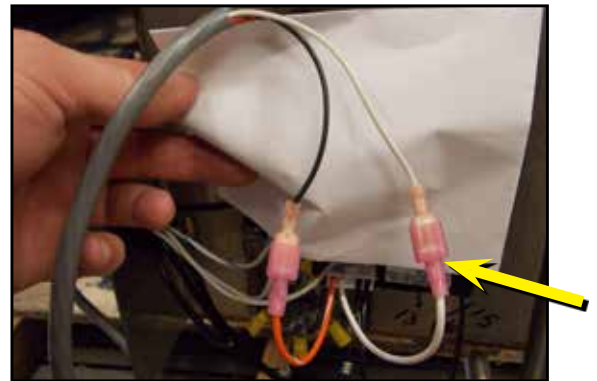
- 33** Connect the red wire from the 6-conductor cable to the L2 tab on the thermostat.



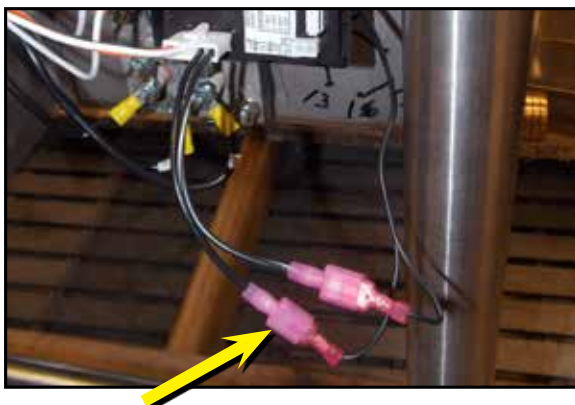
- 34** Connect the black wire from the 6-conductor cable to the orange/white wire (slot 5) of the 5-pin connector.



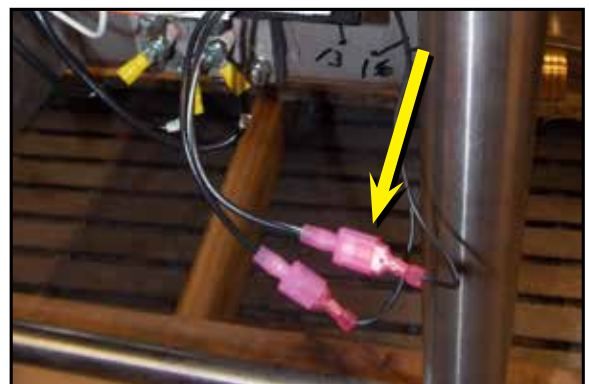
- 35** Connect the white wire from the 6-conductor cable to the white wire (slot 4) of the 5-pin connector.



- 36** Connect the black wire from the probe to the black wire (slot 2) of the 5-pin connector.



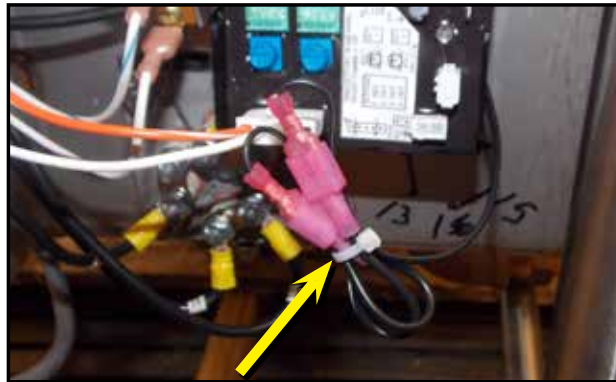
- 37** Connect the black/white wire from the probe to the black/white wire (slot 1) of the 5-pin connector.



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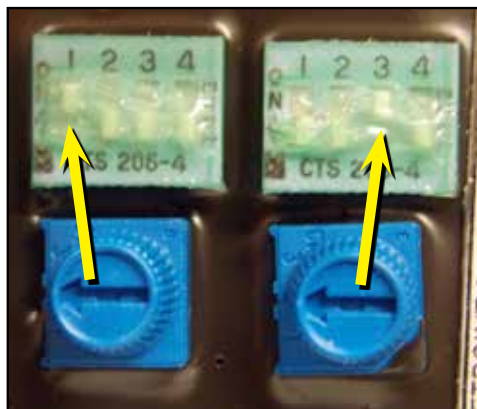
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- 38** Using a zip tie, coil up and secure the black and black/white wires from the 5-pin connector and probe.



- 39** Adjust the settings for the thermostat as follows: set dip switch #1 (rinse) to the 1 position (1 set closest to the numbers and 2, 3, 4 set away from the numbers). Set dip switch #2 (wash) to the 3 position (3 set closest to the numbers and 1, 2, 4 set away from the numbers). Note: the switches can be moved with either a fingernail or control screwdriver through the protective film.

Blue dials should all be set as indicated in the picture below (or mid-position between the two stops).



- 40** Replace stand pipe and strainer.

- 41** Turn power on to the machine and turn the power switch to the "ON" position and wait until tanks heat to set point. Run the unit three cycles and check rinse and wash temperature.

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- 42** Adjust the 1st blue knob (left knob) until the desired rinse temperature is achieved (between 180°F and 195°F for the entire rinse cycle). Clockwise – increases temperature. Total adjustment is  $\pm 10^\circ\text{F}$ .



- 43** Adjust the 2nd knob (right knob) until 150°F wash temperature is achieved. Clockwise – increases temperature. Total adjustment is  $\pm 10^\circ\text{F}$ .



- 44** Attach new wash heater cover. Adjust strain relief and tighten once in position. Replace front dress panel.

