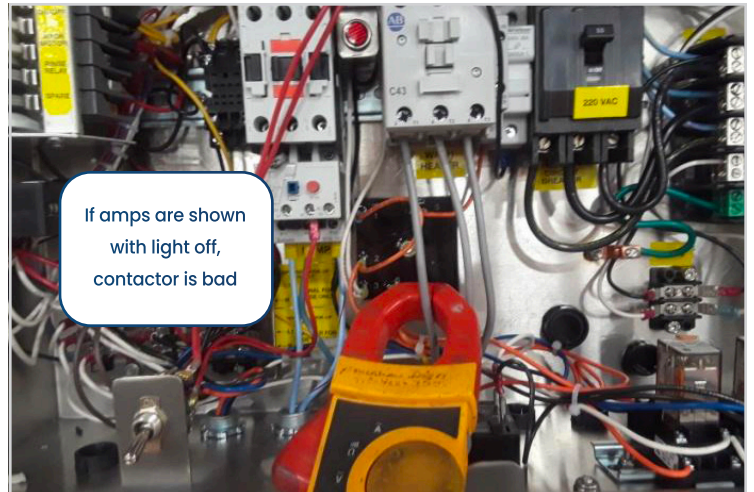


Procedure if the Wash Tank Overheats or Boils the Water

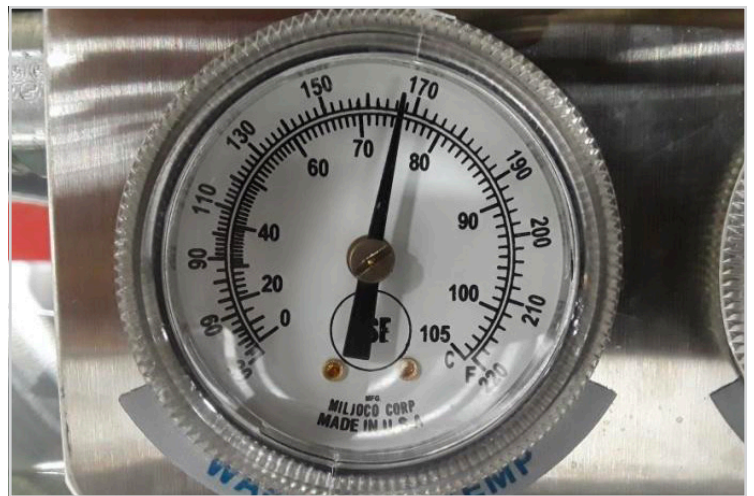
This document provides the procedure for testing and troubleshooting the heater circuits in American Dish Service (ADS) machines, specifically the ADC-44/66 and HT-25 models. The document outlines the steps to follow in order to determine if the heater contactor or thermostats are working properly, and how to identify and replace faulty components such as the contactor, thermostat, or heater relay.

PROCEDURE for testing ADC-44/66 or HT-25 heater circuits. **Turn off the booster heater** if attached to the machine.



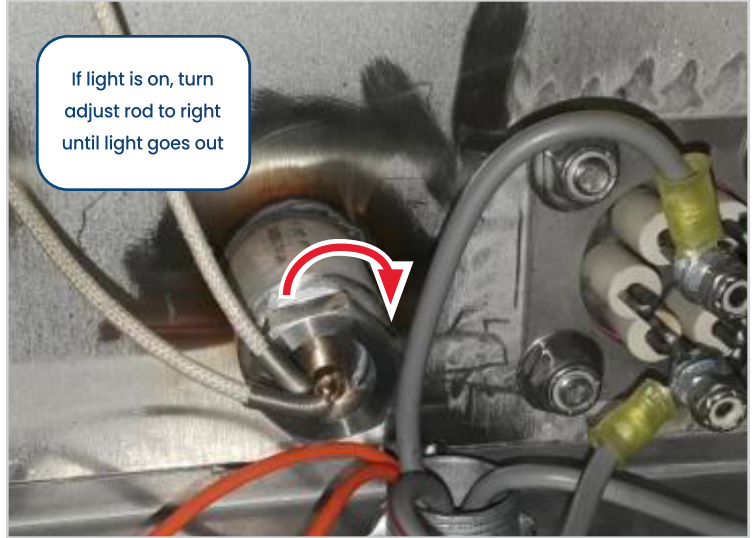
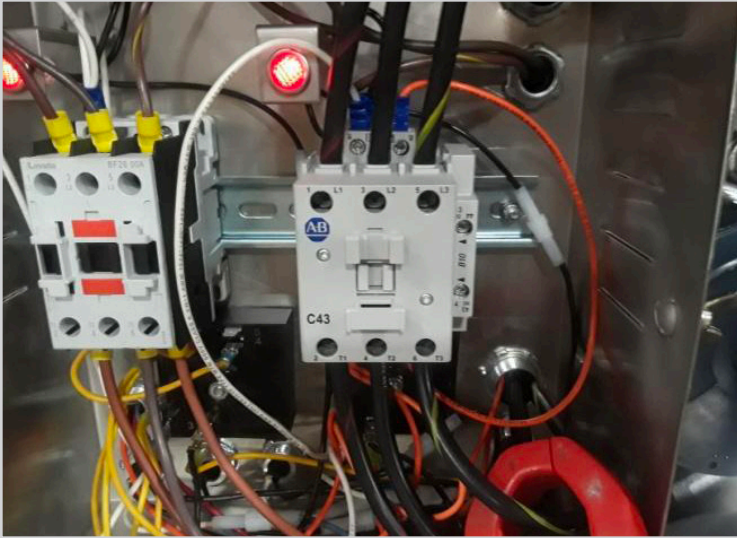
Procedure shown on HT-25 (5-wire) would be done the same in a conveyor heater power box.

First Step: check amps for each leg going to the heater with **master switch in the off position**. If there is amperage (22a for HT, 33a for ADC44, and 47a for ADC66) on any leg going to the wash heater without control voltage on, then the contactor is stuck in the closed position or has burned points. The contactor will need to be replaced.



For either HT-25 or Conveyors

Second Step: Turn the power on at the master switch. Look at the tank temperature gauge. If it reads greater than 165F, look at the thermostat red indicator light.

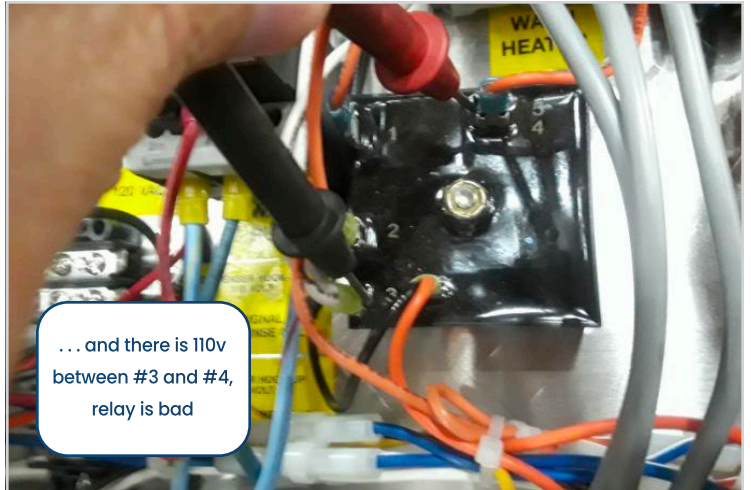


Procedure shown here is the same in HT-25 or ADC conveyors

If the thermostat light is on, adjust the thermostat by turning the center adjustment rod to the right (clockwise) till the light turns off. When the tank cools to the approx 162F, slowly turn the rod to the left (counterclockwise) until the light turns back on. This is the procedure to reduce and reset the temperature set point.

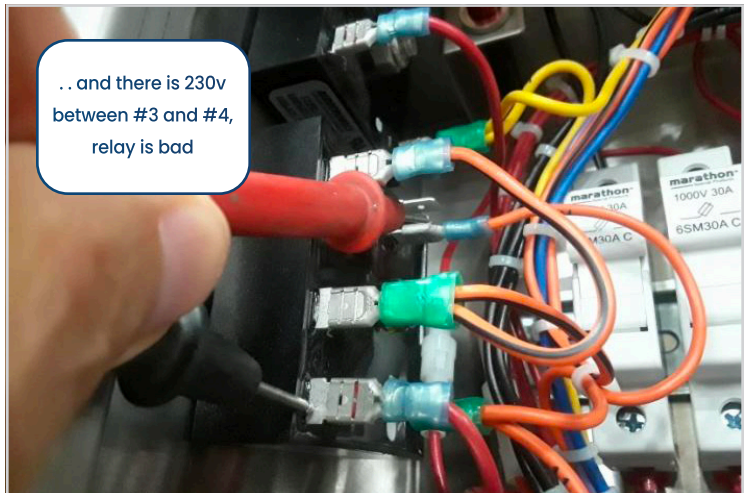
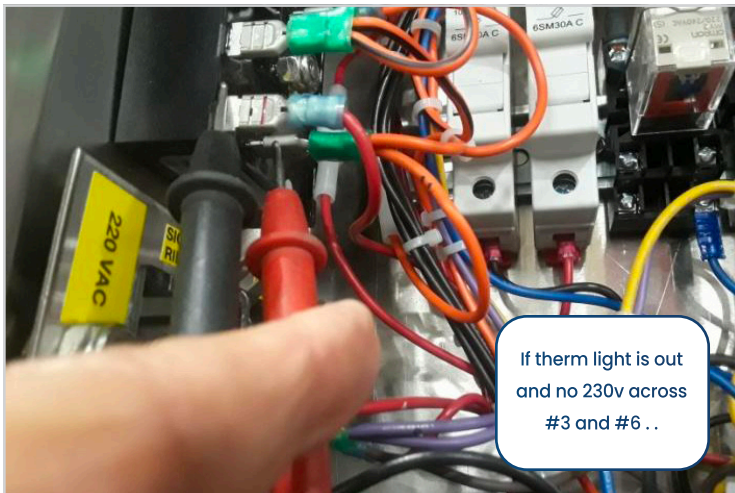
If the light will not turn off after turning to the right, then the thermostat is malfunctioning. (The adjustment rod should be approximately .25" beyond the hex rim of the thermostat body.) If after setting the temperature adjustment in this manner and running at least 5 cycles to settle the control, if the temperature set point continues to increase or decrease more than a few degrees then the thermostat needs to be replaced.

Steps 1 and 2 will determine if the heater contactor or thermostats are working properly, do these steps first. If the heater contactor (291-3032) works normally when voltage is applied to the coil and if the thermostat (291-3012) functions normally when adjusted to the desired temperature set point, but the heater relay still continues to send voltage to the contactor coil when the thermostat light is off—the problem will be a failed heater relay (291-3027).



Procedure as shown in HT-25 (5-wire control box) and would be the same on Conveyor heater power boxes with 110v components

Third Step: To test the heater relay (291-3027), when the tank is hotter than the desired set point, test with a volt meter between terminals #3 and #6 on the heater relay. If the thermostat light is off and you read about 110v across the terminals—the light is burnt out. If there is 110 volts across terminals #3 and #6, test between terminals #3 and #4. Approximately 6-seconds after the thermostat light comes on, you should be able to read 110v on terminal #4. If there is no voltage after 6-seconds, the relay is bad and must be replaced. **KEY POINT: If there is no signal from the thermostat on terminal #6 but there is voltage on terminal #4, the relay is bad and must be replaced.**



HT-25 4-wire control box. Contactor (291-3043) and heater relay (291-3031) are 230v components

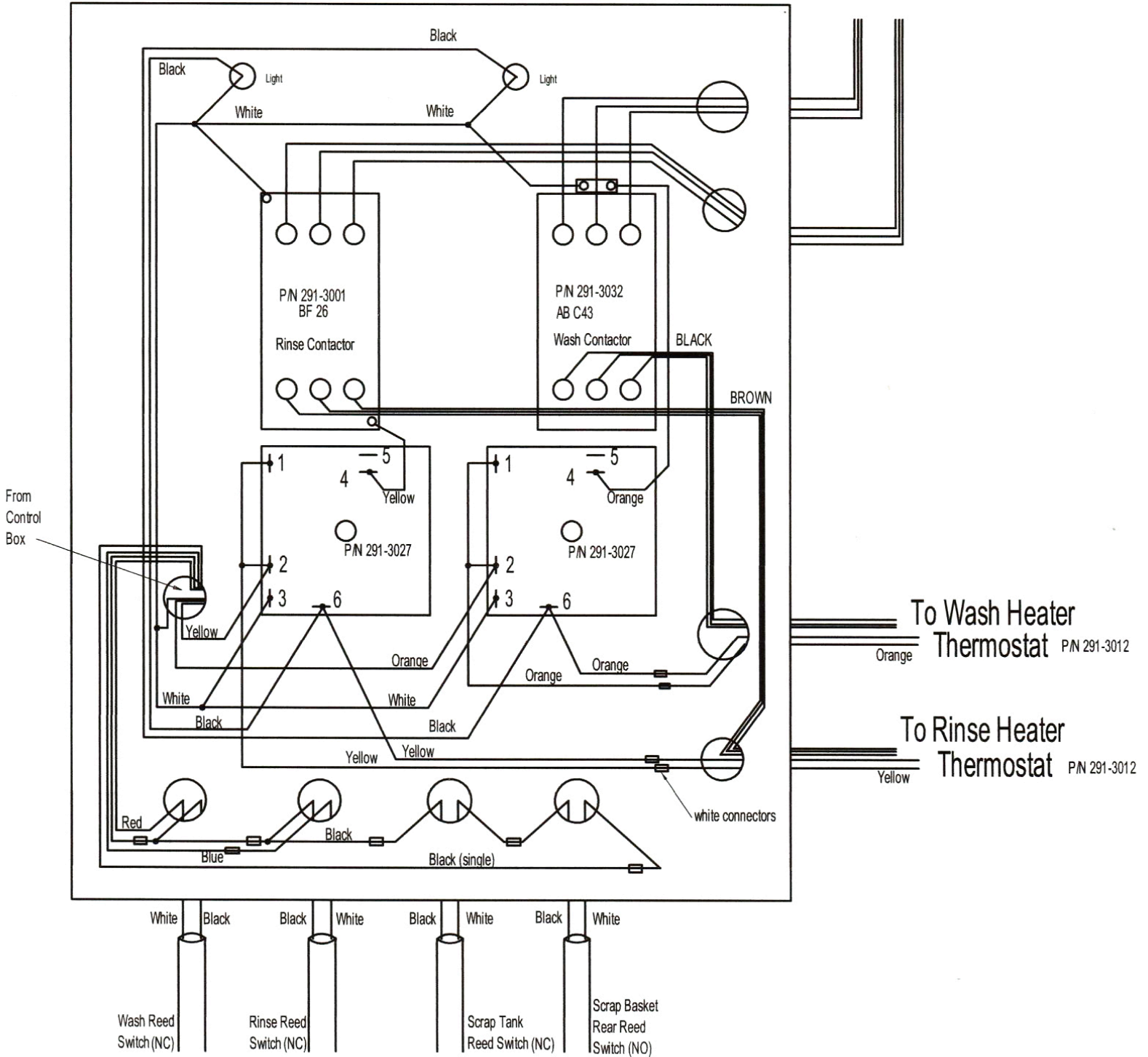
Third Step as shown on an HT-25 (4-wire). Control voltage is 230v. Test with a volt meter between terminals #3 and #6 on the heater relay (291-3031). If the thermostat light is off and you read about 230v across the terminals—the light is burnt out. If there is 230 volts across terminals #3 and #6, test between terminals #3 and #4. Approximately 6-seconds after the thermostat light comes on, you should be able to read 230v on terminal #4. If there is no voltage after 6-seconds, the relay is bad and must be replaced. **KEY POINT: If there is no signal from the thermostat on terminal #6 but there is voltage on terminal #4, the relay is bad and must be replaced.**

For your convenience, wire diagrams for the heater circuits of Conveyors and HT-25s are provided on the following pages.

ADC-66

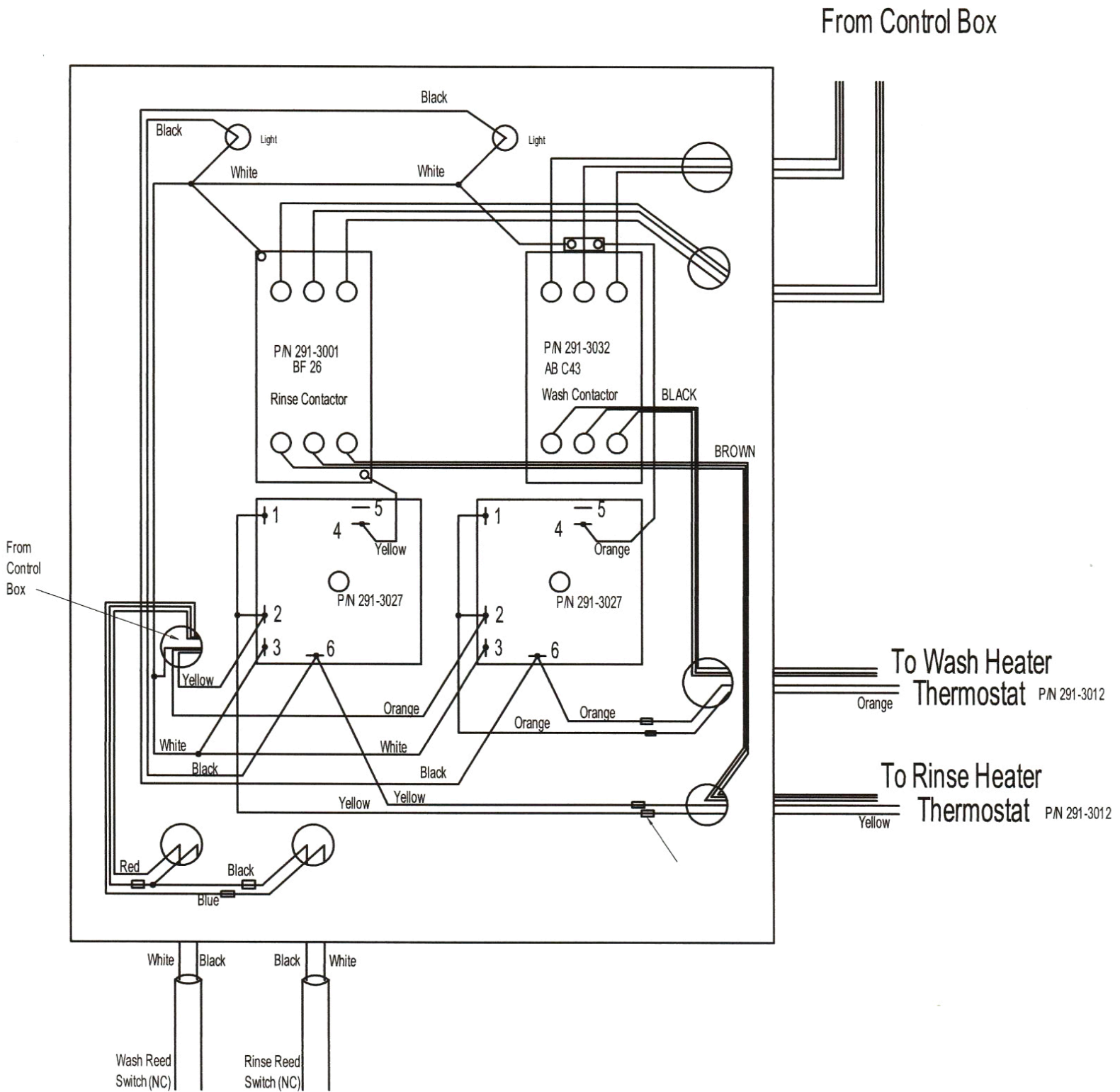
Reed and Heater Relay Connections

From Control Box



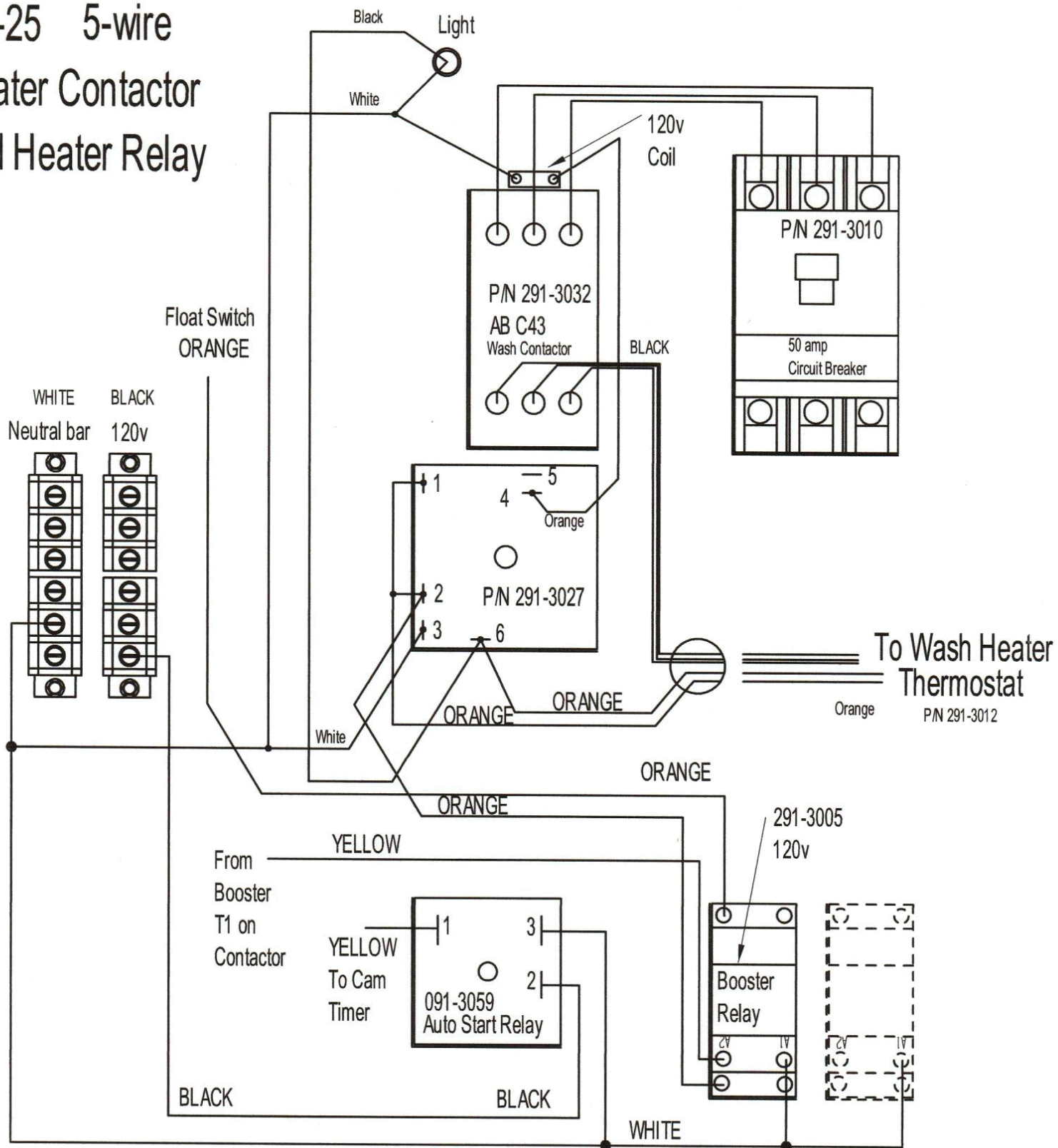
ADC-44

Reed switch and heater relay wires

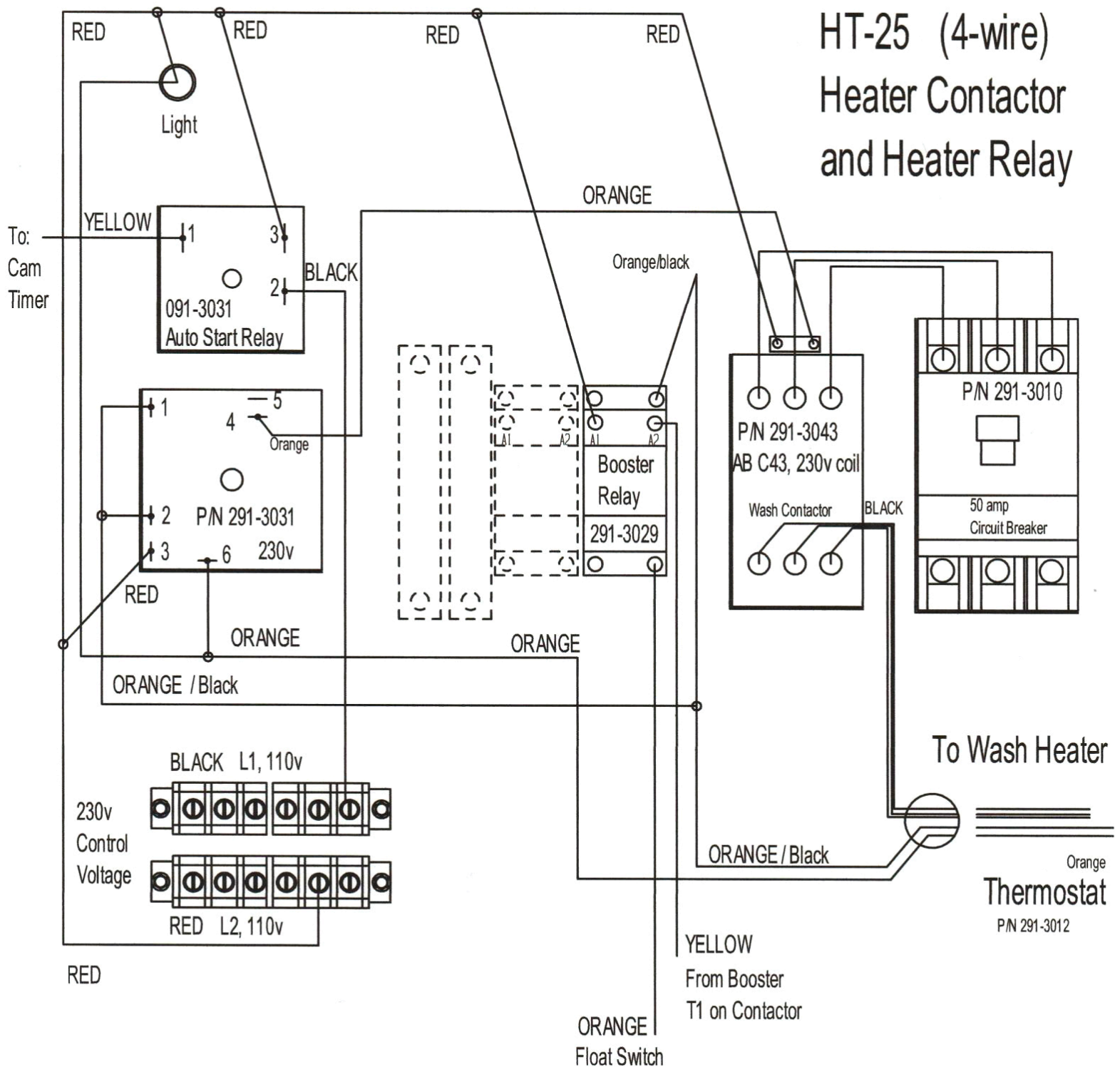


(CAUTION: Use only 120v control parts)

HT-25 5-wire Heater Contactor and Heater Relay



(CAUTION: Only 230v control parts will work in this model)



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