THERMOSTATS

The standard oven uses an FDTO-type, modulating thermostat. When first turned on, the flame comes on full speed, approximately 1 1/4" to 1 1/2" tall. As the temperature approaches the set point, the flame slowly reduces in size. When the temperature is achieved, the flame should be in bypass, approximately 1/8" tall. The bypass flame will keep the oven temperature constant unless the door is opened and heat is lost.

When the oven needs to recover heat loss, the thermostat will allow the flame to slowly increase in size until the temperature is again at the set point. Usually the thermostat does not require calibration, however it may need to have the bypass flame set at the time of installation. The temperature accuracy of this thermostat is 25°F. For calibration and/or bypass adjustment, see thermostat calibration section of this manual**.**

Snorkel and electric ignition ovens use a KX-type snap action thermostat. When first turned on, the flame comes on full speed. When it achieves the set temperature, it shuts off. When 10°F to 15°F is lost, the thermostat will come on full speed to recover the heat loss. Due to the fact the thermostat shuts completely off and the oven is constantly venting heat off through the flue, the thermostat will cycle on and off throughout the cooking process. The temperature accuracy of the KX thermostat is 15°F to 20°F. If calibration is required, see the calibration section of this manual.

The thermostat used on griddles is a BJWA modulation type. When first turned on the flame comes on full speed, approximately 3/4" to 1" tall. As the temperature approaches the set point, the flame is slowly reducing in size. When the temperature is achieved, the flame should be in bypass. Bypass flame for griddles should only be big enough to keep the burner lit all the way around, with little blue dots of flame.

This type of thermostat by design will allow the temperature to creep if the griddle is left idling, with no product on the griddle, for a minimum of 50°F an hour. Therefore it is imperative that the bypass flame be correct. If the bypass flame is not correct, the temperature will creep to 100°F to 200°F an hour. Temperature accuracy of the BJWA thermostat is 25°F. For calibration/bypass adjustments see the calibration section of this manual.

NOTE: Calibrations and/or bypass adjustments require a good working knowledge of the components and system as well as specific test instruments and should only be performed by authorized service personnel. When checking calibrations on the BJWA griddle thermostat, it is necessary to begin the procedure when the griddle is cold. Attempting to calibrate the BJWA griddle thermostat from other than a cold start is extremely difficult, as well as time consuming, and can cause the temperature to be incorrect at a later time.

CALIBRATION OF THERMOSTATS

Field recalibration is very seldom necessary on new appliances, however older thermostats may require calibration. Recaibration should only be considered when cooking results definitely indicate the thermostat is not maintaining the set temperature. Before attempting recalibration, the temperature should should be checked with temperature test instrument or a reliable thermometer.

Standard Oven with FDTO Thermostat

1. Place the test instrument sensor or thermometer in the center of the oven cavity and close the door.
2. Turn oven on, set the thermostat dial to 300 degrees and allow the oven to cycle several times (at least 20 minutes).
3. Turn the thermostat dial back to the lowest temperature setting. Check the bypass flame; it should be 1/8" tall. Adjust bypass as necessary (Diagram #9).
4. Turn thermostat dial back to 325°F and allow 5 minutes for temperature to stabilize. If temperature is more than 20°F different from the dial setting, calibrate as follows.
   A. Remove dial and loosen the calibration plate screws until the calibration plate moves freely. Gently attach dial and turn until the dial setting matches the actual oven temperature (Diagram #9).
   B. Hold calibration plate. Gently remove dial and tighten calibration plate mounting screws. Apply adhesive material to calibration screws
   C. Replace dial and increase temperature 50°F. Allow 10 minutes and recheck the temperature.
   D. If temperature is still more than 20°F different from the dial setting, the thermostat may need to be replaced.

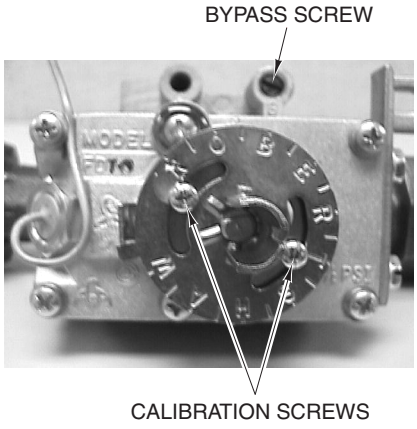

DIAGRAM #9

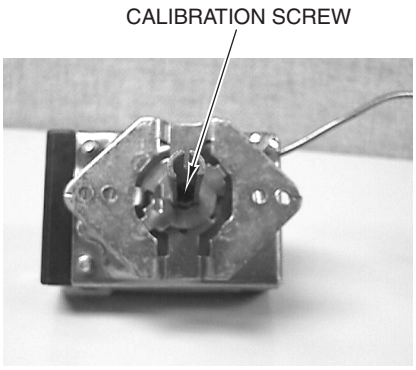

DIAGRAM #10

Snorkel Oven and/or Electric Ignition Oven with KX Thermostat

1. Place the instrument sensor or thermometer in the center of the oven cavity and close the door.

2. Turn fan switch on. Set temperature dial to 300°F. Allow oven to cycle at least five times (approximately 15 minutes). If the temperature is more than 15°F different from the dial setting, calibrate as follows.

   A. Pull the dial straight off. Turn the calibration screw (Diagram #10) clockwise to decrease temperature or counterclockwise to increase temperature ($^1/_4$ turn equals approximately 35°F).

   B. Replace dial and increase temperature 50°F. Allow oven to cycle at least three times and recheck the temperature.

   C. If the temperature is more than 15°F different from the dial setting, the thermostat may need to be replaced.

Griddles with BJWA Thermostat

Before attempting recalibration on the BJWA thermostat, a temperatures check must be done from a cold start, before the griddle has been idling and the temperature has had a chance to creep up. All temperature readings and/or calibrations must be performed from a cold start. Thermostats can be rendered inoperative by improper calibration and/or adjustments.

- Clean the griddle plate and make sure there is no carbon buildup on the cooking surface. Carbon buildup will cause a false temperature reading.
- Remove the temperature dials and manifold cover. Locate sensor probes. Temperature readings can only be taken directly over the sensor probes. The sensor probes will be located as follows. Approximately 6" from the left side splash, then 12" spacing and the last sensor probe will be approximately 6" from the right side splash (Diagram #11).
- Once the left to-right locations is identified, measure 12" from the front of the cooking surface. That is where the temperature readings will be taken.
- Pull off all the thermostat dials. Using a screwdriver from the back of the dial, push out the center chrome cap of the dial. Replace dial on the thermostat.
- Turn the dial to 300°F. The flame should be approximately 3/4" to 1" tall. Allow about 15 minutes for plate to heat up.
- Turn the dial to the lowest temperature setting (150°F). Check the bypass flame; it should be only big enough to keep the burner lit all the way around (little blue dots of flame). Adjust as necessary (Diagram # 12).
- Take note of the size of the bypass flame, as it will be necessary to recognize when the thermostat is in bypass throughout the calibration process.
- Turn the dial up enough for the flame to come on at least 1/4" tall. When the flame is in bypass, again take a temperature reading in the area previously identified as the probe location. If the temperature is more than 25°F different from the dial setting, calibrate as follows.
- With the dial in place, use a small screwdriver through the opening in the front of the dial locate and depress calibration screw, Do not turn the calibration screw. Rotate the dial to match the actual temperature on the griddle plate. Release the calibration screw.
- Turn the dial to increase the temperature 50°F. Watch flame and as soon as the flame is again in full bypass, take a temperature reading. If the temperature is more than 25°F different than the dial setting, the thermostat may need to be replaced.
- Once the thermostat is determined in calibration, that thermostat should be turned off so as not to cause false readings on the other zones.
- Repeat the process for each thermostat zone.
- Once all the thermostats are calibrated, reassemble the dials and reinstall the manifold cover and the thermostat dials.

NOTE: Although the BJWA thermostat is a very simple and basic thermostat, it is somewhat difficult to calibrate due to the fact that once the bypass is set, it must be recognized as in full bypass at the time the temperature reading is taken. Additionally, if the temperature reading is not taken as soon as the thermostat is in full bypass, the temperature will begin creeping up and a true temperature reading will not be possible.

In the event a thermostat has to be replaced, use extreme care when handling and installing the sensor probe. Do not kink or severely bend the probe. Do not allow direct flame to come in contact with the probe or the capillary line. Any excess capillary line should be gently coiled up in an area that is away from direct flame and/or working or cleaning areas. Warranty does not cover thermostats that have been rendered inoperative by improper adjustments and/or calibrations or by work being performed by unqualified personnel.