

MAINTENANCE INSTRUCTIONS

ADJUSTMENTS

Many malfunctions attributed to defective material or faulty workmanship may be rectified by the adjustment of pilot burners, main burners, or thermostats. It is therefore wise to attempt to correct operational difficulties through adjustment rather than the immediate replacement of parts.

PILOT BURNER ADJUSTMENT #70101

A commonly diagnosed malfunction of the safety pilot valve is the pilot burner/flame sensing bulb relationship resulting from:

- Improper draft
- Low gas pressure. (Natural Gas 4.5"WC – Propane Gas 11"WC)
- Clogged pilot burner orifice from dirt and debris from unpurged gas lines.
- Incorrect adjustment of pilot burner flame.

When working correctly, the flame must engulf the safety pilot probe tip.

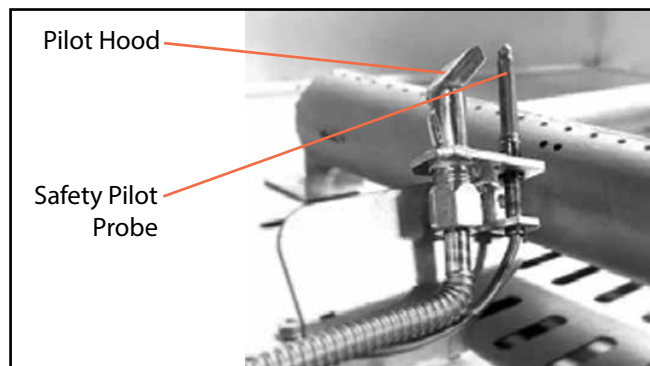


Figure 2

MAIN BURNER ADJUSTMENTS

Satisfactory oven performance and burner life are dependent on correct burner adjustment. Before shipment, burners have been adjusted for proper operation with the type specified on the rating plate located inside the control compartment above the light switch. If further adjustment is necessary proceed as follows:

- Adjust primary air shutter at the front of the burner compartment to obtain a stable and quiet flame.
- If too much primary air is present, flames will lift from the burner parts. A reduction in primary air will correct this condition.
- Too little primary air will cause yellow tipping or an entire yellow flame to appear. This condition indicates incomplete combustion and may cause carbon sooting to appear on metal parts near the flame.
- When a flame raises off the burner it is important to determine if it is a "lifting flame" or a "floating flame":

LIFTING FLAMES - rise from the ports to burn some distance above the ports. In some cases these flames will drop back to the port and lift again intermittently. They are caused by too much primary air. Decreasing the shutter opening will stop lifting flames.

FLOATING FLAMES - are long and lazy in appearance, poorly defined, quiet flames which roll around the combustion chamber sometimes completely off the ports. Floating flames result from too little secondary air. Lack of secondary air is caused by incorrect venting, clogged flueways, blocked secondary air inlet openings, or lack of natural room makeup air to the oven.

BYPASS (MINIMUM BURNER FLAME) ADJUSTMENTS

A Robertshaw FDTH 300° - 650° F (149° - 343° C) type thermostat is used. This is a throttling type gas thermostat with bypass flame adjustment control. For bypass adjustment proceed as follows:

1. Preheat oven to 500° F (260° C). When thermostat has throttled to bypass the flame on the main burner should have decreased to a flame no larger than 1/8" (6mm)
2. If flame is too high, remove dial, insert screwdriver in screw marked "B" on the thermostat and turn screw clockwise to lower flame.
3. If flame is too low, remove dial, insert screwdriver in screw marked "B" on the thermostat and turn screw counterclockwise to increase flame.

THERMOSTAT CALIBRATION

1. Attach pyrometer lead to thermostat bulb in the baking compartment. If a pyrometer is not available, place a reliable mercury type oven thermometer in the center of the baking deck (approximately 1" above the surface).
2. Preheat the oven to at least 400° F (204° C).
3. When the burner reaches bypass or minimum flame, take the temperature reading. If the temperature is within 10° F (6° C) of the thermostat setting, do not change the thermostat settings. If the temperature differs more than 10° F (6° C) from the thermostat setting, adjust the thermostat as follows:
 - a. Pull thermostat dial straight off without turning.
 - b. Hold calibration plate on thermostat and loosen the two calibration lock screws until the plate can be moved without moving the control.
 - c. Turn calibration plate so that pyrometer reading is set in line with the indicator mark at the 12 o'clock position. Temperature variation will be 50° F (28° C) between the letters.
 - d. Adjust the calibration plate as follows: Turn calibration plate counterclockwise if pyrometer or thermometer reading is higher than the dial reading OR clockwise if the pyrometer or thermometer reading is lower than the dial reading.
 - e. Hold calibration plate and tighten two screws firmly.
 - f. Replace thermostat dial.

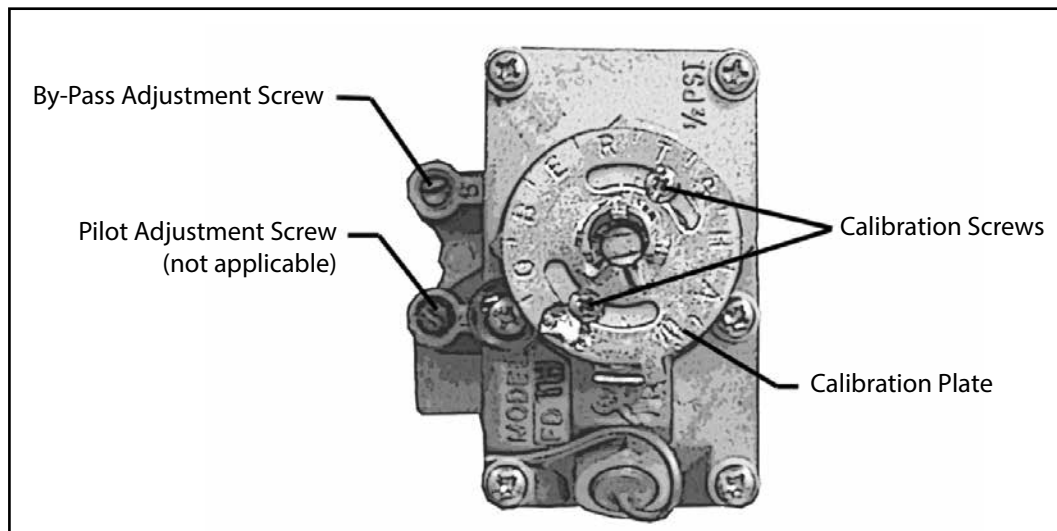


Figure 3

PARTS REMOVAL & REPLACEMENT

MAIN BURNER REMOVAL

1. Open combustion compartment door.
2. Remove the burner door by removing its hinges.
3. Remove the heat shields by removing the three screws that hold it together.
4. Remove the two screws that hold the pilot burner to the bracket.
5. Move the entire pilot burner assembly with capillary and pilot gas tubing forward out of work area.
6. Disconnect union at manifold.
7. Remove three (3) bolts which hold the burner assembly to the floor of the burner compartment and remove the tee support for the flame deflectors.
8. Replace burners in replace order from removal.

PILOT BURNER REMOVAL: #70101

1. Open combustion compartment door.
2. Remove the burner door by removing its hinges.
3. Remove the heat shields by removing the three screws that hold it together.
4. Remove the screw that holds the pilot burner to the bracket.
5. Remove the capillary bulb.
6. Disconnect gas supply tubing from pilot burner.
7. Replace pilot burner in reverse order from removal.