

Instructions for Applying **Kit # 4522132** to **Units with an Aeration Plate Installed, Natural Gas**

**Objectives:**

- Remove aeration plate
- Install pilot assembly **vertically on right side of burner**
- Ensure proper burner is used after removal of aeration plate

**1) Remove Hearth**

- Units will either have pilot installed on right side or left side of burner. Installation instructions will deal with them later. See Section 6 for details.

**2) Remove Front Air Shield**

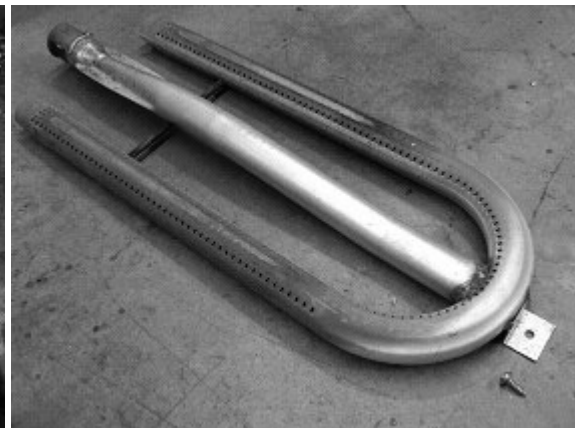
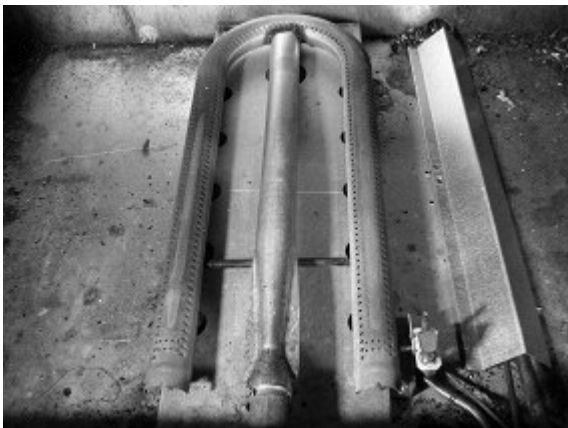
- The air shield is located directly above orifice. Remove by unscrewing two screws on the top of the shield
- **Do not dispose.** Will be reinstalled later.



Left: Front Air Shield installed  
Right: Front Air Shield uninstalled

**3) Remove Burner**

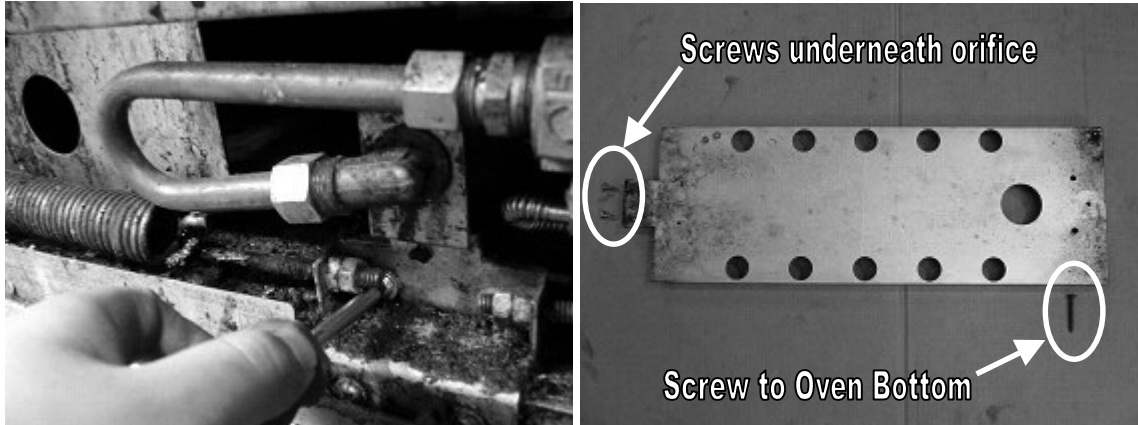
- Burner is attached to aeration plate with one screw near the back of the oven.
- This burner will not be required for subsequent steps. A replacement burner with a longer bracket and a flatter profile is provided in the kit.



Left: Burner installed  
Right: Burner uninstalled

**4) Remove Aeration Plate**

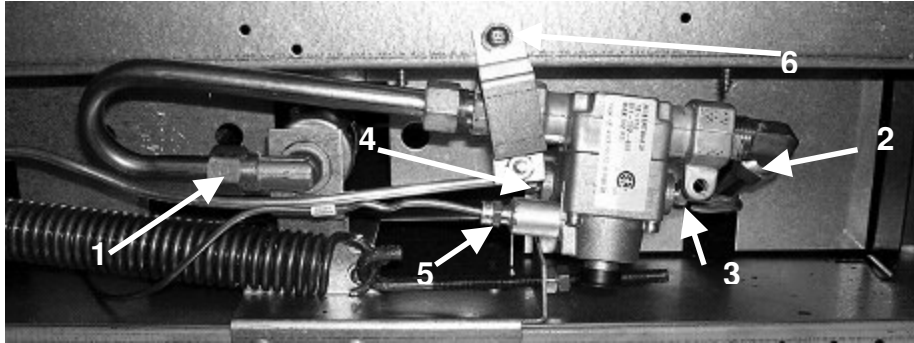
- If the pilot is installed on the left side of the burner in a horizontal position, unscrew the bracket connecting the pilot bracket to the aeration plate.
- The plate is attached to the oven with two screws directly underneath the oven burner orifice and another screw at the back end of the aeration plate.



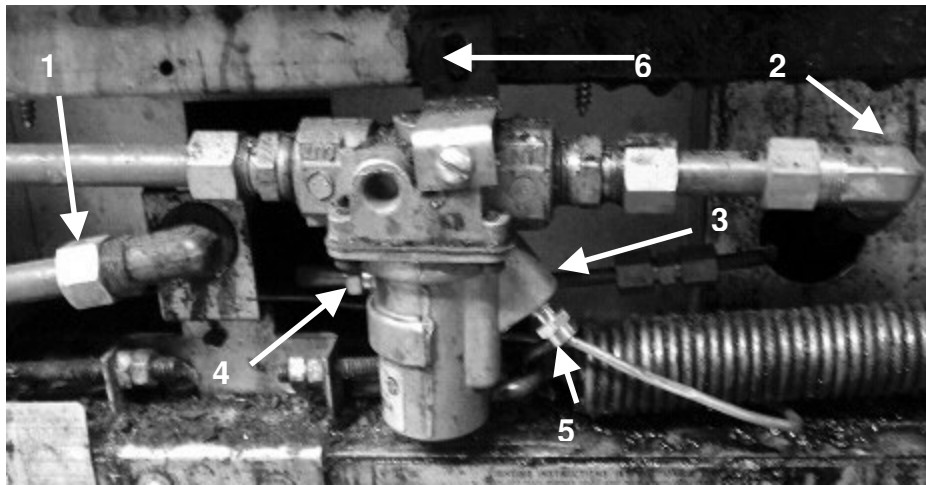
Left: Removal of 2 screws underneath orifice  
Right: Removed aeration plate with accompanying screws

**5) Remove Safety Valve**

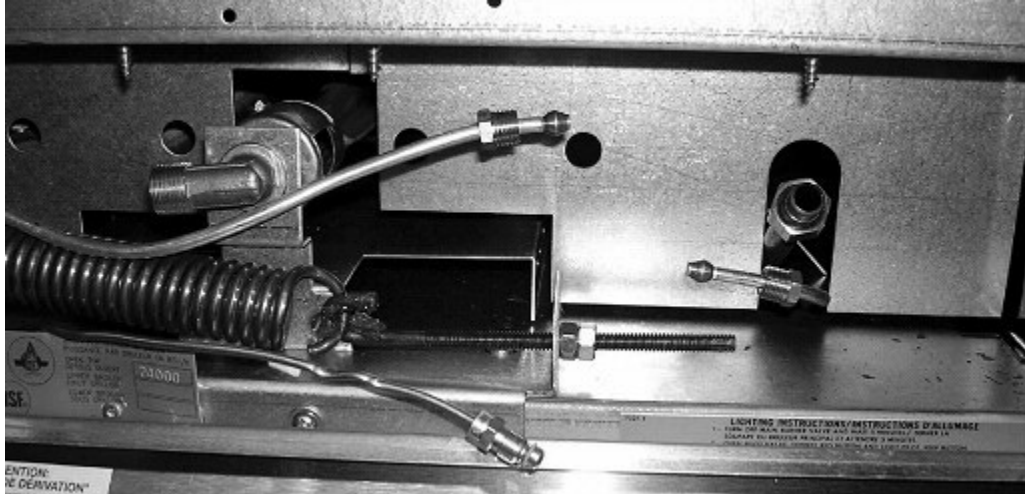
- The following steps will apply if either an Invensys TS-11J Safety Valve or a Baso Valve are installed originally. See the below pictures for reference.
  - 1) Unscrew 11/16" compression nut on oven orifice fitting.
  - 2) Unscrew 11/16" compression nut on 11/16" elbow on TS-11 Main Burner Gas Inlet.
  - 3) Unscrew 7/16" compression nut on TS-11 Pilot Gas Inlet.
  - 4) Unscrew 7/16" compression nut on TS-11 Pilot Gas Outlet.
  - 5) Unscrew 3/8" thermocouple nut.
  - 6) Unscrew #10 sheet metal screw holding TS11 bracket onto lower front frame.
  - 7) Remove valve.



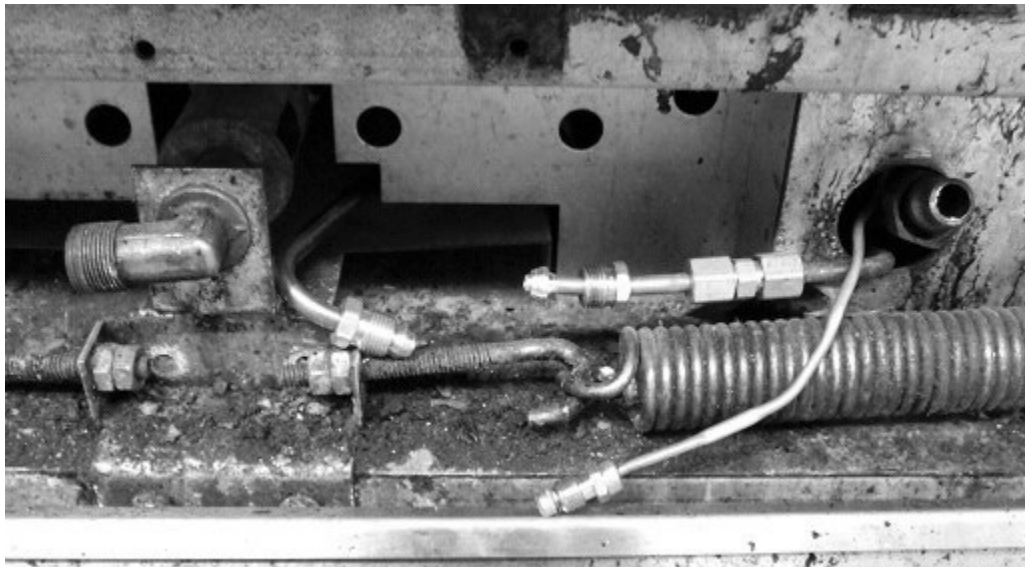
TS-11 Safety Valve: Prior to removal



Baso Safety Valve: Prior to removal



Front Area After Removal of TS-11 Safety Valve



Front Area After Removal of Baso Safety Valve

**6) Remove Pilot Assembly**

- If pilot is installed on left side, everything should now be detached and the entire assembly can simply be pulled out
- If pilot is installed on the right side, unscrew the pilot bracket from the oven bottom and remove the assembly.

**7) Install Gas Tubing Extension**

- **This step is only required if the original valve was an Invensys TS-11 Safety Valve.**
- Do not attempt to forcibly pull the pilot gas tube to reach the valve. This extension will allow it to reach without damaging the tube.
- Cut off a small portion of the free end of the incoming pilot gas tube to remove the original ferrule and nut. Use a saw to prevent excessive squeezing on tube.
- Two unions are provided (Parts 5 and 18, Appendix A). If the pilot gas tube is made of aluminum, use Part 18 only. Otherwise, use Part 5. Only **one** of these unions is used.
- Refer to the Valve / Pilot Setup Schematic (Appendix A) on the last page of this manual:
  - i) Detach one end of the selected union (See previous step, Parts 5 or 18, Appendix A). The ferrule and the nut should then be attached to the free end of the incoming pilot gas.
  - ii) Unscrew the other end of the union and install it on one end of the 3/16" union tubing (Part 7, Appendix A). Join both pieces of tubing together.
  - iii) A 3/16" nut and ferrule (Parts 3 and 11, Appendix A) should be attached to the inlet pilot gas opening of the provided Baso valve. Unscrew these pieces and install them onto the free end of the 3/16" tubing (Part 7, Appendix A).
  - iv) Ensure all connections are leak-proof. Do not over-tighten.



Use of hacksaw blade to remove tip of pilot gas line



Left: Before extension added  
Right: After extension added

**8) Remove Gas Tubing Shield (if present)**

- Will not be reinstalled.

**9) Clean Bottom of Oven**

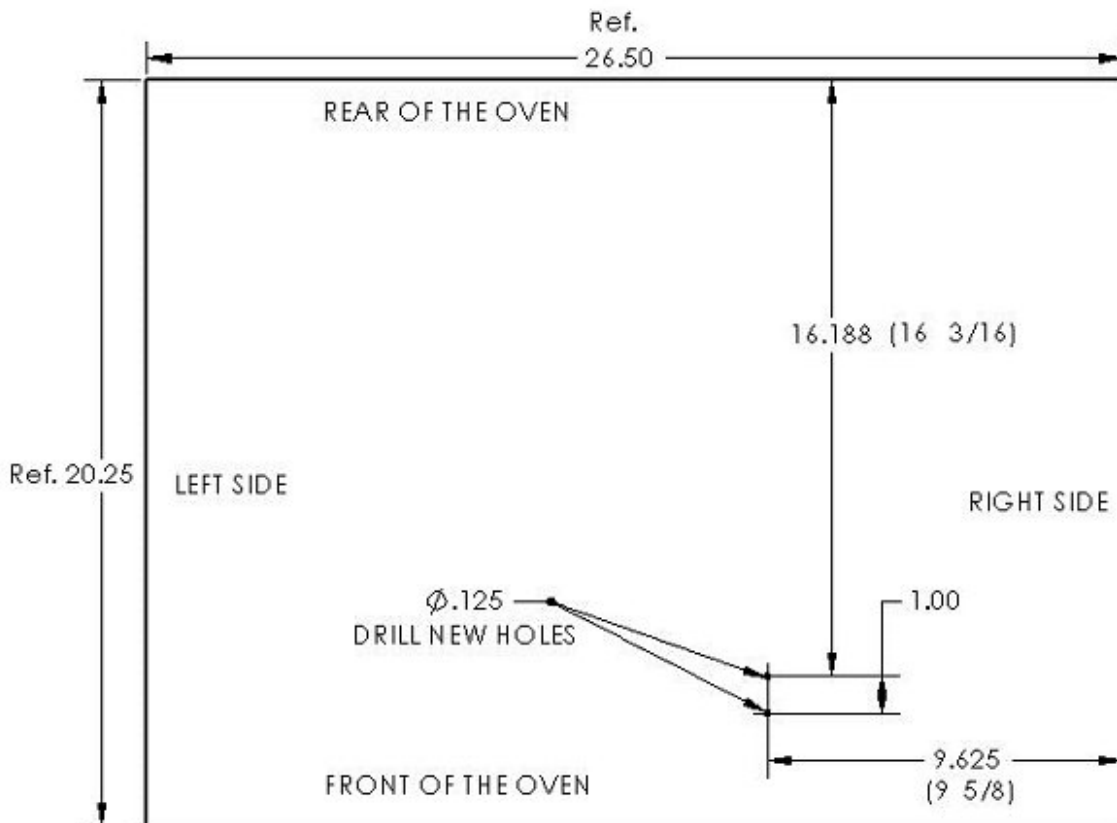
- A light sweep to remove soot and crusts will suffice.

**10) Measure / Drill New Holes for Pilot Bracket**

- Refer to the below diagram for dimensions.
- **Do not use original hole locations**

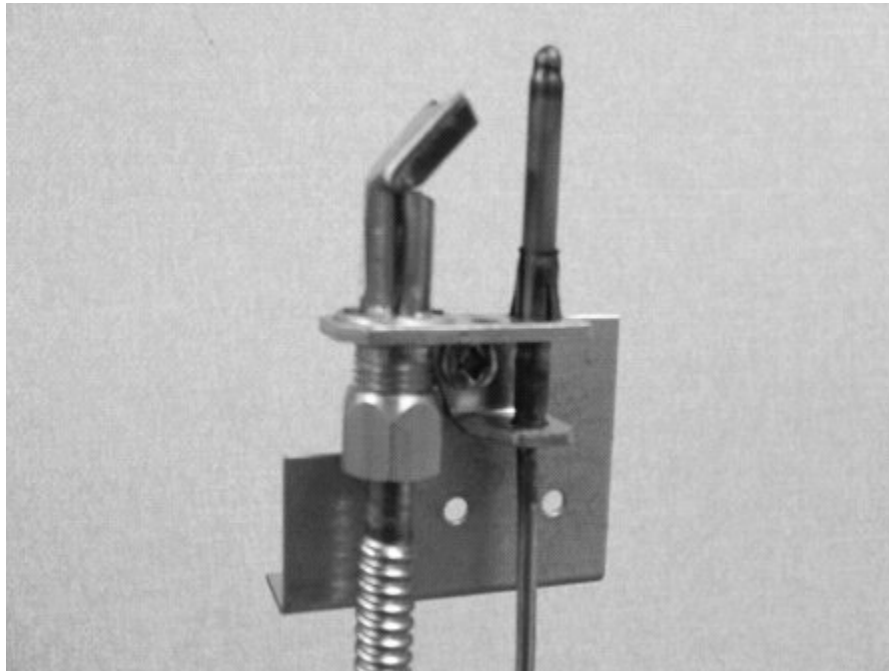


Left: Location of two holes marked by matchsticks for clarity  
 Right: Drilling of holes

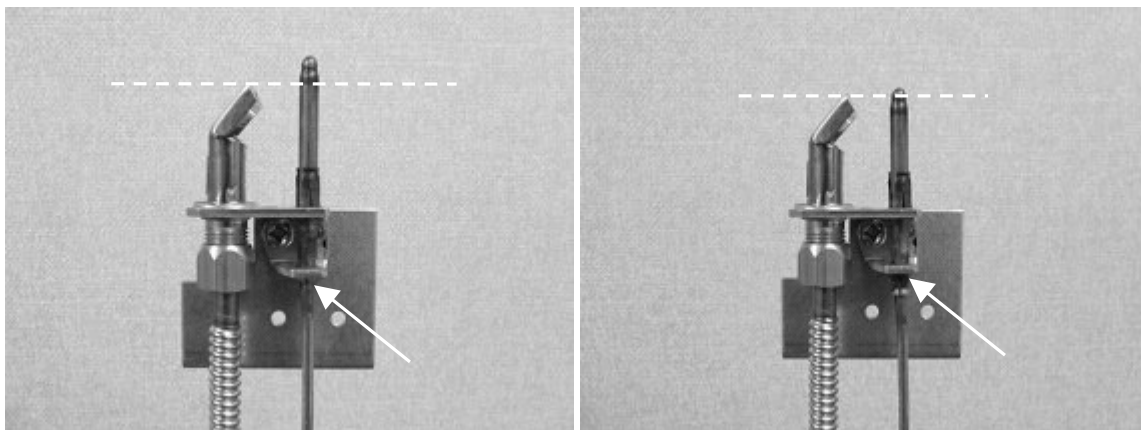


**11) Assemble New Pilot Assembly**

- A colored line on the top of the pilot indicates the type of fuel used. A **BLACK** line is used on a **natural gas** pilot, whereas a **RED** line is used on a **propane** pilot. For this natural gas kit, ensure that the pilot has a **BLACK** line.
- Unscrew the nut on the end of the selected pilot to release the nut, the ferrule and the orifice. Install the nut and the ferrule on one end of the flex tube.
- Place the orifice back into the pilot and screw on the flex tube.
- Push the thermocouple all the way into its slot on the pilot.
- Screw on pilot bracket (Part 21, Appendix A) as shown in Appendix A.
- Install the ¼" nut and ferrule (Parts 2 and 12, Appendix A) on the other end of the flex tube.



Finished Pilot Assembly



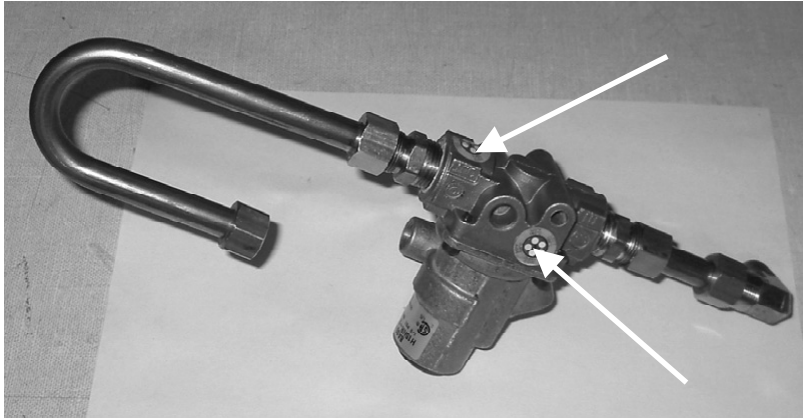
Left: Correctly assembled pilot with thermocouple pushed all the way through; thermocouple taller than hood, no excess length sticking out from bottom

Right: Incorrect assembly, pilot not pushed all the way through; thermocouple shorter or equal in height to hood, excess length sticking out from bottom



**12) Assemble Safety Valve**

- Connect the nuts, ferrules and tubes on the Baso valve as shown in Appendix A. See diagram below for final result. Do not tighten connections yet.
- Place the temperature stickers on the valve at the locations seen below. The location of these stickers is critical.



Assembled Baso Safety Valve with location of blue temperature stickers

**13) Install Safety Valve**

- Tighten connections. Ensure that all connections are leak-proof.



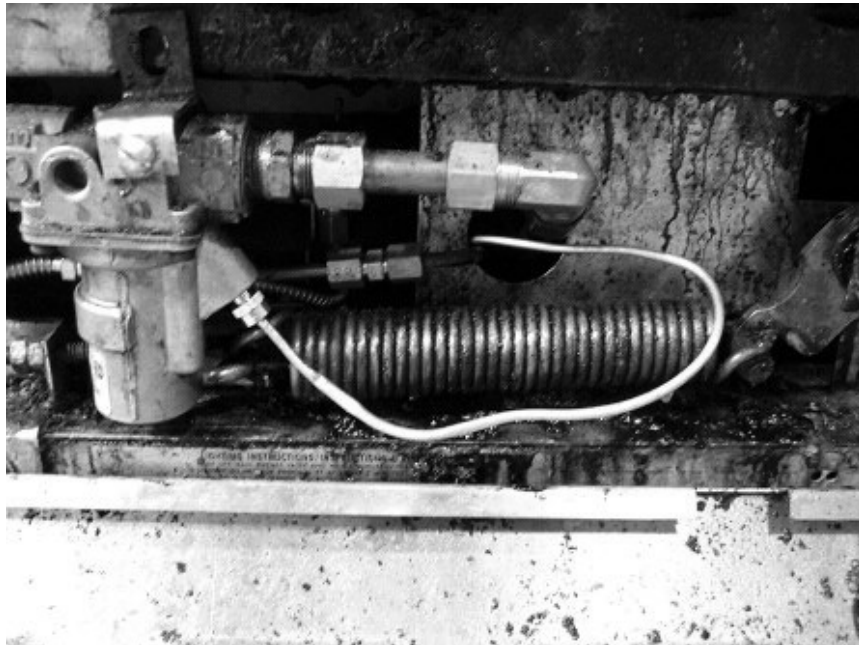
Installed Safety Valve. Tubing to orifice may be bent slightly with clamps to reach orifice.

**14) Install Pilot Assembly**

- Screw on 1/4" nut and ferrule (Parts 2 and 12, Appendix A) from flex tube to pilot gas outlet on the safety valve
- Route thermocouple through main gas / pilot gas tube opening in air shield, then connect the 3/8" nut on the end of the thermocouple to the safety valve. The thermocouple should be attached to the safety valve hand tight plus a quarter turn. The thermocouple nut will not screw in easily if it is inserted at an angle. **DO NOT OVERTIGHTEN THE THERMOCOUPLE NUT.**
- Screw the pilot bracket to the oven bottom through the newly drilled holes using 2 screws (Part 13, Appendix A)



Installed Pilot Assembly. The thermocouple is routed through gas tube opening in the air shield



Thermocouple routed through gas tubing opening, not touching door spring

**15) Install New Burner**

- The new burner has a taller bracket and a flatter profile. Screw the bracket to the furthest of the holes at the back of the oven. (See picture below for details)
- Ensure that the orifice is not inserted into the burner at an angle.



Center back portion of oven floor.



Left: Old burner with shorter bracket. **Do not install this burner.**  
Right: New burner with taller bracket, mounted to oven bottom. **Install this burner.**

**16) Reinstall Front Air Shield**

- The shield should not clamp down on any of the tubing. The flex tubing can be bent out of the way through the central opening in the shield.
- Pilot hood should be  $\frac{7}{16}$ " from closest burner hole. Use a  $\frac{7}{16}$ " wrench to measure if desired.



$\frac{7}{16}$ " distance between pilot hood and closest burner hole



Complete installation of kit

## Appendix A: Valve / Pilot Setup Schematic

