SeaWard PRODUCTS, INC.

12423 E. FLORENCE AVENUE
P.O. BOX 3884
SANTA FE SPRINGS, CA 90670

Model 3131
This document is still for the most part, applicable

562-699-7997
Chris is technical guy

OWNERS MANUAL

HilleRange Model #2121 & #3121

INSTALLATION INSTRUCTIONS FOR A LIQUEFIED PETROLEUM GAS (LPG) SYSTEM

LPG TANK WITH REGULATION SYSTEM

1. Locate the tank and regulator system on deck, cabin top or in a vapor tight compartment, insulated from the hull interior and protected from climatic extremes by a housing vented to the open air. The vent should be at the bottom of the compartment so that if the LPG should leak from the system, it will drain overboard (refer to ABYC Standard #A-1).

   REMEMBER: LPG is heavier than air and if allowed to settle, accumulate, and if ignited, WILL CAUSE AN EXPLOSION!

2. The LPG tank should be securely bolted down by the tank feet and in the position in which the tank was designed. LPG is a two-phase (liquid/vapor) fuel and only vapor withdrawal from the tank is safe. Liquid withdrawal could be dangerous.

3. IMPORTANT. The LPG tank valve outlet fitting and the regulator system nut, by law, have left-hand threads. The nut is so marked with a slot.

4. The LPG tank valve outlet fitting does not require pipe dope or Teflon tape and should be attached to the regulation system nut dry and clean to keep foreign materials out of the system. When assembling the regulation system, use a high quality sealant only on all male pipe threads.

5. The regulator must have a 0 to 300 psi pressure gauge located on the tank prassure side of the regulator.

6. If the LPG tank is to be located on deck or exposed to water spray, point the regulator system so that water cannot run into the ragulator vent port located just above the LPG outlet connection, or into the body of the pressure gauge.

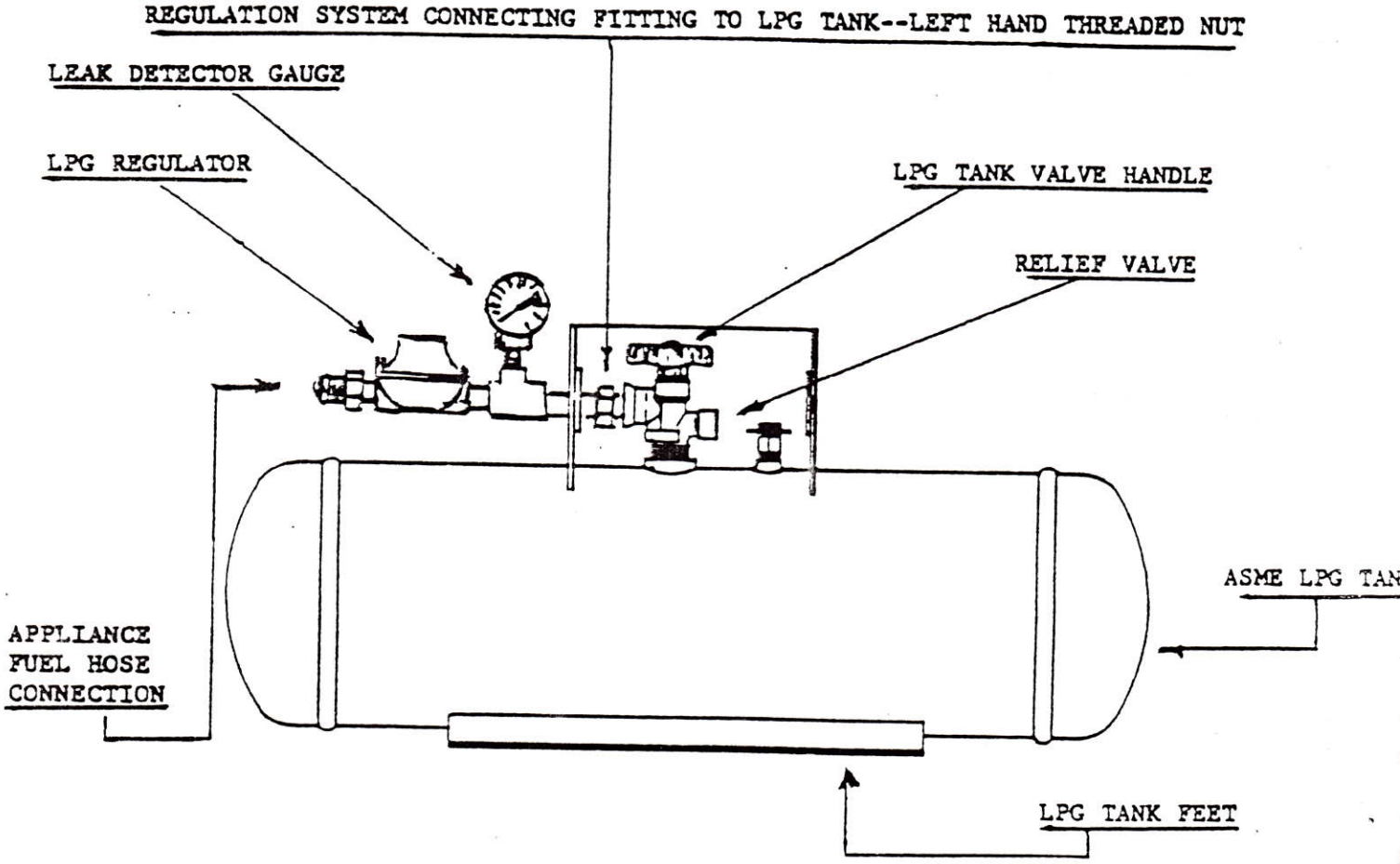
7. Use a 7/8" open end wrench to tighten the regulation system nut to the LPG tank valve connection. Tighten the nut as you would welding tanks or a CO_2 cylinder, using approximately 50 foot pounds torque.

8. Affix the caution label supplied with the stove in the immediate vicinity of the tank where the label will be plainly visible. (Refer to ABYC Standard #A-1.)

9. The LPG supply line should be U.L. listed hose with machine crimped fittings. A single continuous hose without couplings or tees is strongly recommendated. Keep the number of fittings to an absolute minimum. Every connection is a potential leak!

10. Run the hose from the LPG regulation system to the appliance with a 6 inch minimum radius turns, so the hose does not kink, cutting off the fuel supply to the appliance. Note: Fuel pressure is less than 1/2 psi.

11. Keep hose away from heat or abrasion. Use plastic ties or clamps to secure the hose to the boat structure or bulkheads.



12. SPECIAL NOTE ABOUT YOUR LPG REGULATOR: It is recommendated that only a high quality LPG regulator, such as manufactured by Fisher Controls Company, be used with any of SeaWard Products LPG appliances. It is imperative that the regulator be set at 11 inches water column so that the oven operates correctly, and the flame height on the top burners cooks efficiently. If the regulator pressure is greater than 11 inches water column, the flame can impinge on the top burner bowl causing discoloration on stainless bowls or chipped porcelain on porcelain bowls. If you question the quality of the regulator you plan to use, or its pressure setting, please contact SeaWard Products before operating any appliances.

13. For more complete instructions covering installations of LPG systems for boats, refer to Standard #A-1, American Boat & Yacht Countil, P. O. Box 806, Amityville, New York 11701.

INSTALLATION INSTRUCTIONS FOR LPG APPLIANCES

GIMBALED MODELS #2121 and #3121

1. It is important that the following minimum clearances from combustible materials be adheared to when installing your gimbaled range.

   Model #2121---2 Burner: Side - 7" minimum as measured from the center line of the closest burner head. Rear - 9" minimum as measured from the center line of the closest burner head. Top - 24" minimum to overhead cabinets, shelves or any other combustible material.

   Model # 3121---3 Burner: Side - 5½" minimum as measured from the center line of the closest burner head. Rear - 7" minimum as measured from the center line of the closest burner head. Top - 24" minimum to overhead cabinets, shelves or any other combustible material.

2. Make a cardboard template the same size as the side view of the range. Punch a hole at the gimbal location the size of the gimbal, and swing the appliance template in the appliance cut-out location in the boat on your finger. By allowing a swing of approximately 15° to 20° before interference with the hull or boat structure, the gimbal point can be located. Mark the point. Make certain that after the gimbal point is determined that the installation matches or exceeds the minimum clearance in paragraph # 1. It is important that the oven vent be completely clear so that burned gases can discharge to the open air. If this vent is blocked, poisonous gas could be produced.

3. Locate the companion pieces to the gimbals and install the appliance.

4. For safely, we strongly recommend installing a sliding bolt type lock at the bottom of all gimbaled appliances. The sliding bolt should lock into an adjacent cabinet or bulkhead to prevent the appliance from swinging in rough weather.

   CAUTION: The appliance center of gravity will also shift from the gimbal location when pots are not balanced on the appliance or when the appliance door is open.

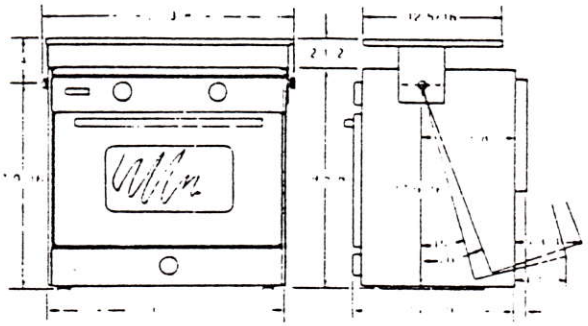
5. Connect the LPG fuel supply hose fitting to the brass fitting on the appliance manifold and on the regulation system. Wrench tighten the fitting to the connection on the appliance. Do Not use dope or Teflon tape.

6. Check all gas connections for possible leaks. Turn the valves on your range to their "Off" position. Open valve on gas supply tank. Using a strong soap and water solution, (½ liquid soap and ½ water), check each gas connection one at a time by brushing the soap and water solution over the connection. Presence of bubbles will indicate a leak. Tighten fitting and recheck for leaks. DO NOT USE OPEN FLAME FOR CHECKING GAS LEAKS.

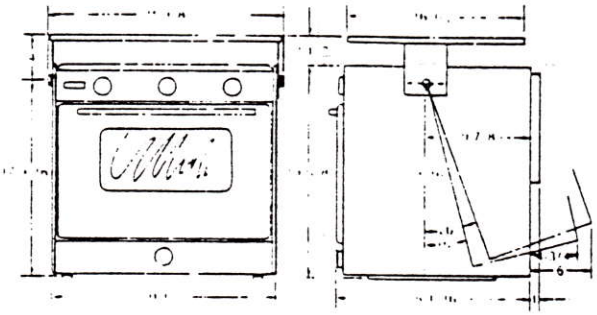
7. Place burner grates in place with the clips provided. An instruction sheet is provided for the grate clips. These grate clips will hold the grate in place while under way.

8. Light the burner for testing.

9. The appliance is now ready for use. Sometimes the burners will not ignite immediately and seem to "blow" slightly when they do ignite. This is usually due to the presence of air in the gas lines, which will clear itself within seconds.



Model # 2121



Model # 3121

SUMMARY FOR CHECKING LPG SYSTEM AND LPG APPLIANCE

1. After the LPG tank has been installed, the regulation system connected, the hose run and connected to both the appliance and regulator, slowly crack open the LPG tank valve and observe the pressure gauge on the regulation system. The gauge should read approximately 110 psi at 70°F. (Higher if warner, or lower if cooler atmospheric temperature.)

2. Close the LPG tank valve and observe the pressure gauge. It should hold a constant reading. If you can detect a falling in pressure over a 15 minute period of time, there is a leak. LEAKS CAN BE DANGEROUS.

   a. If a leak occures, check all appliance burners to see if in "Off" position.
   b. Make sure the oven control is in "Off" position.
   c. Check all fittings with a soap and water solution. NEVER USE FLAME TO CHECK FOR LEAKS.

3. If you cannot find the leak, contact SeaWard Products promptly.

OPERATING INSTRUCTIONS FOR A LPG SYSTEM

LPG CYLINDER WITH REGULATION SYSTEM

1. It is recommendated that every time the LPG tank valve is opened for use, the operator close the valve and watch that the gauge needle remains constant.

2. If leaks occur, correct. If leaks cannot be corrected, do not operate appliance.

3. Always test light a top burner after opening the tank valve to dispose of air in the supply line. This could be caused by someone's opening the system to fill a LPG tank or by opening a burner valve. (Instruction #3 makes lighting the oven safely heater pilot much easier.)

4. In an emergency, close the LPG tank valve immediately.

5. The pressure gauge on the LPG regulation system is only a leak detector. The gauge does not indicate how much LPG fuel is in the tank.

6. Before removing an empty or near empty LPG tank for refilling:

   a. IMPORTANT. Always close the LPG tank valve.
   b. With the tank valve closed, remove the left-hand threaded nut connecting the regulation system to the tank valve. Carefully stow the regulation system until a full tank is mounted and secured.
   c. Reconnect the regulation system. Left-hand thread. Use no Teflon tape or pipe dope.

7. When transporting a LPG tank, always be aware that the tank valve has a built-in relief valve in it that could open and allow LPG fuel to escape in automobile, storage area--anywhere!

8. When the appliance is not being used, always close the main gas valve on the LPG tank supplying fuel to the appliance.

LPG RANGES

To operate the oven of a LPG range:

1. Light the right front burner to bleed air from the system for at least 1 minute. Turn the temperature control knob from the "Off" position to the "Pilot On" position. After this has been done, light the pilot in the oven (constant pilot).

2. After the oven pilot is lit, turn the oven temperature control knob to the desired temperature (example: 350 degrees).

3. You will notice the constant pilot grow in size. It is now being used as a heater pilot. The heater pilot will heat the sensing bulb from the mercury control valve. Once this sensing bulb has reached a sufficient temperature, it will open the mercury control valve permitting it to release gas to the main burner and the main burner will ignite. This will happen in 30 to 60 seconds.

4. When the oven has reached the desired temperature, the thermostat will stop the supply of gas to the heater pilot, and once again it will become the constant pilot, thus causing the sensing bulb from the mercury control valve to cool. The mercury valve will close and stop the gas supply to the main burner.

5. When the oven requires more heat, the same cycle will again repeat itself. The only time the oven will operate differently would be when the thermostat is in the "Broil" position. The main burner flame would then increase in size and not shut off until the thermostat was turned down or to the "off" position.

6. IMPORTANT: The oven thermostat on this LPG range is designed to enable you to turn off the oven constant pilot by simply turning the thermostat dial to the "Off" position. When the dial is in this position, you cannot light the constant pilot. When the dial is in the "Pilot On" position, the pilot is on.

OPERATING INSTRUCTIONS SUMMARY FOR A LPG SYSTEM

1. Close tank valve immediately in any emergency.

2. Be sure all appliance valves are closed before opening tank valve.

3. Always apply lit match or other flame to burner before opening burner valve.

4. Close tank valve whenever appliance is not in use.

5. Test system for leakage at least twice a month and after any emergency in accordance with the following procedure:

   WITH APPLIANCE VALVES CLOSED AND WITH TANK VALVE OPEN, NOTE PRESSURE ON GAUGE. CLOSE CYLINDER VALVE. IF THE PRESSURE DROPS, AS INDICATED ON THE GAUGE, THIS TELLS YOU THAT THERE IS A LEAK IN THE SYSTEM, LOCATE LEAKAGE BY APPLICATION OF LIQUID DETERGENT OR SOAP AND WATER SOLUTION TO ALL CONNECTIONS. AFTER LEAK HAS BEEN REPAIRED, RECHECK SYSTEM BY REPEATING THIS ABOVE TEST. IF LEAK CANNOT BE REPAIRED, CLOSE TANK VALVE IMMEDIATELY AND DO NOT USE THE SYSTEM. REMEMBER LPG IS HEAVIER THAN AIR AND IF ALLOWED TO REACH BILGES, MACHINERY SPACE OR OTHER ENCLOSED SPACES, IT CAN BE EXTREMELY DANGEROUS.

6. IT IS ALWAYS A GOOD IDEA TO HAVE AN APPROVED ABC TYPE FIRE EXTINGUISHER IN THE GALLEY AREA.

WARNING:

Porcelain enamel is glass which has been fused to metal. It is thoroughly inspected and will give good service if carefully handled, but it is breakable and cannot be guaranteed. Like all glass or porcelain articles, we cannot replace parts that are damaged after delivery to carriers, except at customer's expense.

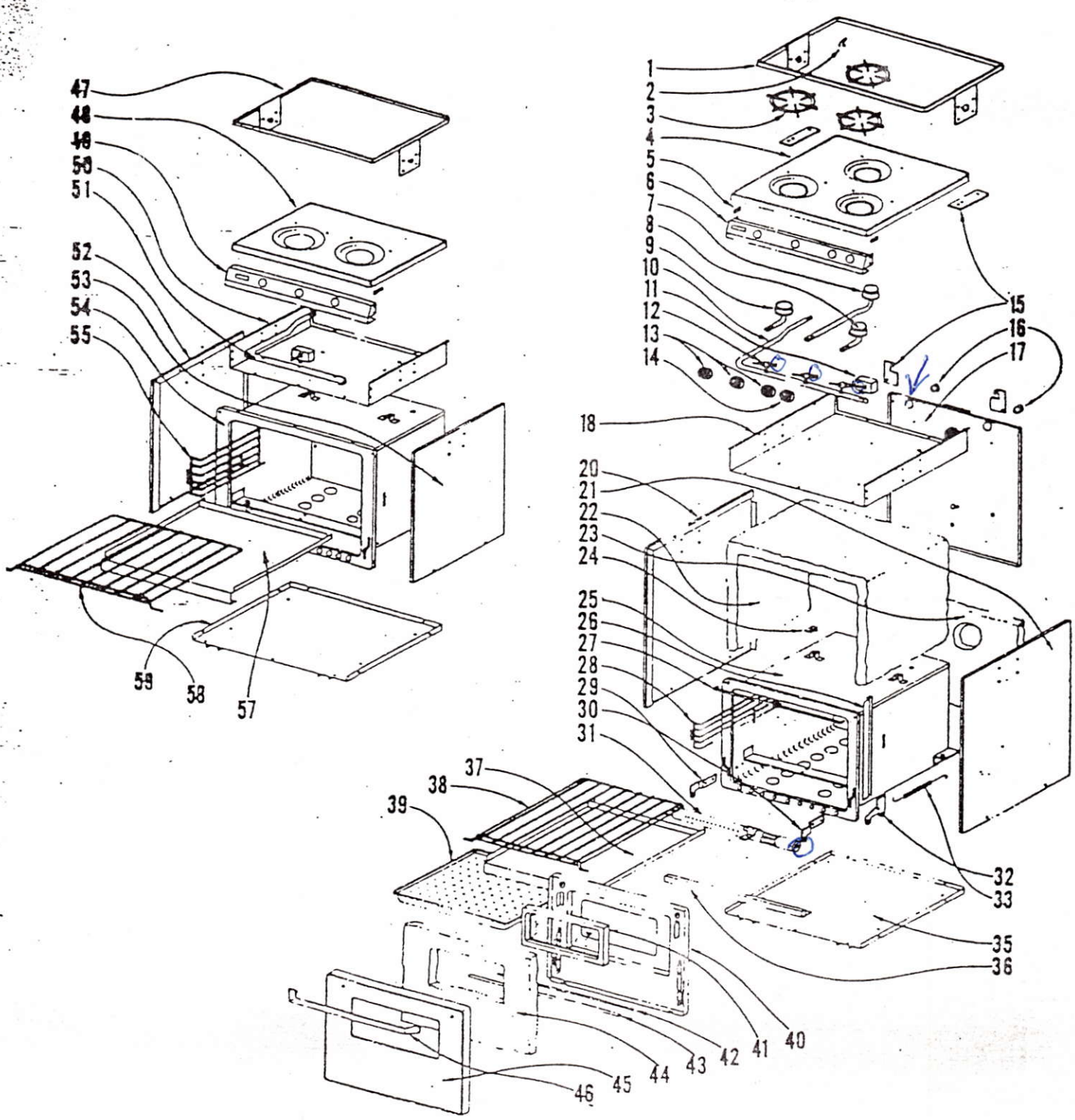
CAUTION:

If a domestic oven cleaner is used, protect aluminum gas tubing, thermostat, mercury sensing bulb and pilot assembly from cleaner (masking tape is good for this). Make certain oven is cool before using this type of cleaner. Thoroughly rinse oven with a solution of one tablespoon vinegar to one cup of water.

If you have any questions about the installation or operation of your HilleRange, please call SeaWard Products at (213) 443-3924 and ask for the Service Manager.

Please return your warranty registration as soon as possible. Remember when requesting replacement part to include HilleRange Model #, part # and purchase date.

RANGE WITH OVEN / GAS
MODELS —— 2121, 2131 / 3121, 3131



P A R T S L I S T

HilleRange Model #2121 and #3121

Ref.#	Part #	Description
~~1.~~	~~70255~~	~~Sea Rail~~
2.	70113	Grate Clips
3.	70114	Top Grates
4.	70250	Top (Stainless)
	~~70273~~	~~Top (Coppertone)~~
~~5.~~	~~70535~~	~~Top Cushion~~
~~6.~~	~~70240-1~~	~~Top Control Panel~~
7.	7054~~3~~36	Top Burner - Rear
8.	7054~~6~~37	Top Burner - Right Front
9.	7054~~5~~38	Top Burner - Left Front
10.	~~70141~~	~~3 Burner manifold~~
11.	~~70512~~ 70400	Oven Thermostat
12.	70506	Top Burner Valve
13.	70529	Knob - Top Burner
14.	70530	Knob - Thermostat
~~15.~~	~~70517-0~~	
	~~70518-0~~	~~Hinge Assembly Spec.~~
	~~70519-0~~	
~~16.~~	~~70107~~	~~Plastic Grommet~~
~~17.~~	~~70279-A~~	~~Back Panel~~
~~18.~~	~~70224~~	~~Burner Box~~
~~20.~~	~~70228~~	~~Side Panel - Left~~
~~21.~~	~~70230~~	~~Side Panel - Right~~
22.		Insulation (Oven Top & Sides)
23.		Insulation (Oven Back)
24.	70511	Tinnerman Clip
~~25.~~	~~70232~~	~~Oven Can Assembly~~
~~26.~~	~~70227~~	~~Retainer~~
27.	70106	Door Gasket
~~28.~~	~~70337~~	~~Oven Rack Support~~
~~29.~~	~~70310~~	~~Hinge-Left~~
~~30.~~	~~70326~~	~~Hinge-Right~~
~~31.~~	~~70335~~	~~Oven Burner~~
~~32.~~	~~70309~~	~~Hinge Arm~~
~~33.~~	~~70133~~	~~Oven Door Spring~~
~~35.~~	~~70218-A~~	~~Ext. Oven Bottom~~
~~36.~~	~~70234~~	~~Bottom Control Panel~~
~~37.~~	~~70289~~	~~Oven Bottom~~
38.	70340	Oven Rack
39.	70198	Broiler Pan
~~40.~~	~~70226-A~~	~~Door Liner~~
41.	70101	Oven Door Window
~~42.~~	~~70523~~	~~Hinge Rod 1/4"~~
~~43.~~	~~70524~~	~~Hinge Rod 3/16"~~
44.		Insulation (Door)
45.	70244	Outer Door (Stainless)
	~~70248~~	~~Outer Door (Coppertone)~~
46.	70103	Oven Door Handle
~~47.~~	~~70251~~	~~Sea Rail~~

Ref.#	Part #	Description
48.	70245	Top (Stainless)
	~~70271~~	~~Top (Coppertone)~~
49.	~~70242-1~~	~~Top Control Panel~~
50.	~~70218~~	~~Burner Box~~
51.	~~70142~~	~~2 Burner Manifold~~
52.	~~70229~~	~~Side Panel - Left~~
53.	~~70231~~	~~Side Panel - Right~~
54.	~~70204~~	~~Oven Can Assembly~~
55.	~~70109~~	~~Oven Rack Support~~
57.	~~70285~~	~~Oven Bottom~~
58.	70111	Oven Rack
59.	~~70208-A~~	~~Ext. Oven Bottom~~

LPG CONTROL SYSTEM

LPG control system has three parts: 1). thermostat, 2). oven control, 3). dual rate pilot burner, operating together as one unit.

The malfunctions or misadjustment of any one of these components will cause the system to operate improperly or not at all.

Located near the oven burner (in most cases attached to it), is the dual rate pilot burner. Its small flame is called the STANDBY. After the pilot burner is lit, the size of the standby pilot flame can be easily checked with the thermostat dial in the "OFF" position.

The HEATER pilot flame is simply an extension of the standby flame. Its purpose is to heat the sensing bulb of the oven control. This causes the oven control to open and permit gas to go to the oven burner. It follows that the oven control will close when the heater pilot flame is reduced in size allowing the sensing bulb to cool. It also follows that the oven control cannot open if the heater pilot does not heat its sensing bulb properly. Unlike the standby pilot flame which burns constantly, the heater pilot flame is controlled by the thermostat. The oven thermostat automatically changes the size of the pilot flame - Heating or cooling the oven control sensing bulb to keep the oven temperature at the desired level. Also, the heater pilot flame is shut off manually when the thermostat dial is turned to "OFF".

More Specifically:

When the thermostat dial is turned on, additional gas flows to dual rate pilot burner. This additional gas becomes the heater pilot flame. In about half a minute the sensing bulb is hot enough to cause the oven control to open. Gas flows to the oven burner. It is ignited by the pilot flame and the oven temperature rises. When the selected temperature is reached the thermostat shuts off the gas to the heater pilot and allows the sensing bulb of the oven control to cool. Upon cooling, the oven control closes, stopping the flow of gas to the oven burner. When the oven temperature drops approximately 25^{0}, the thermostat increases the size of the pilot flame and the cycle is repeated. This cycle action occures at all temperature settings except the "BROIL". At "BROIL", the flame never leaves the oven burner. This assures smokeless broiling and at the required and safe broiling temperature.

A properly located and functioning pilot burner is a must for good operation of the system. The standby (lowest rate) must burn constantly since it ignites the oven burner and also serves as the bases for the heater pilot (highest rate). The standby flame must not be too small or too large. If either happens, the system cannot function properly.

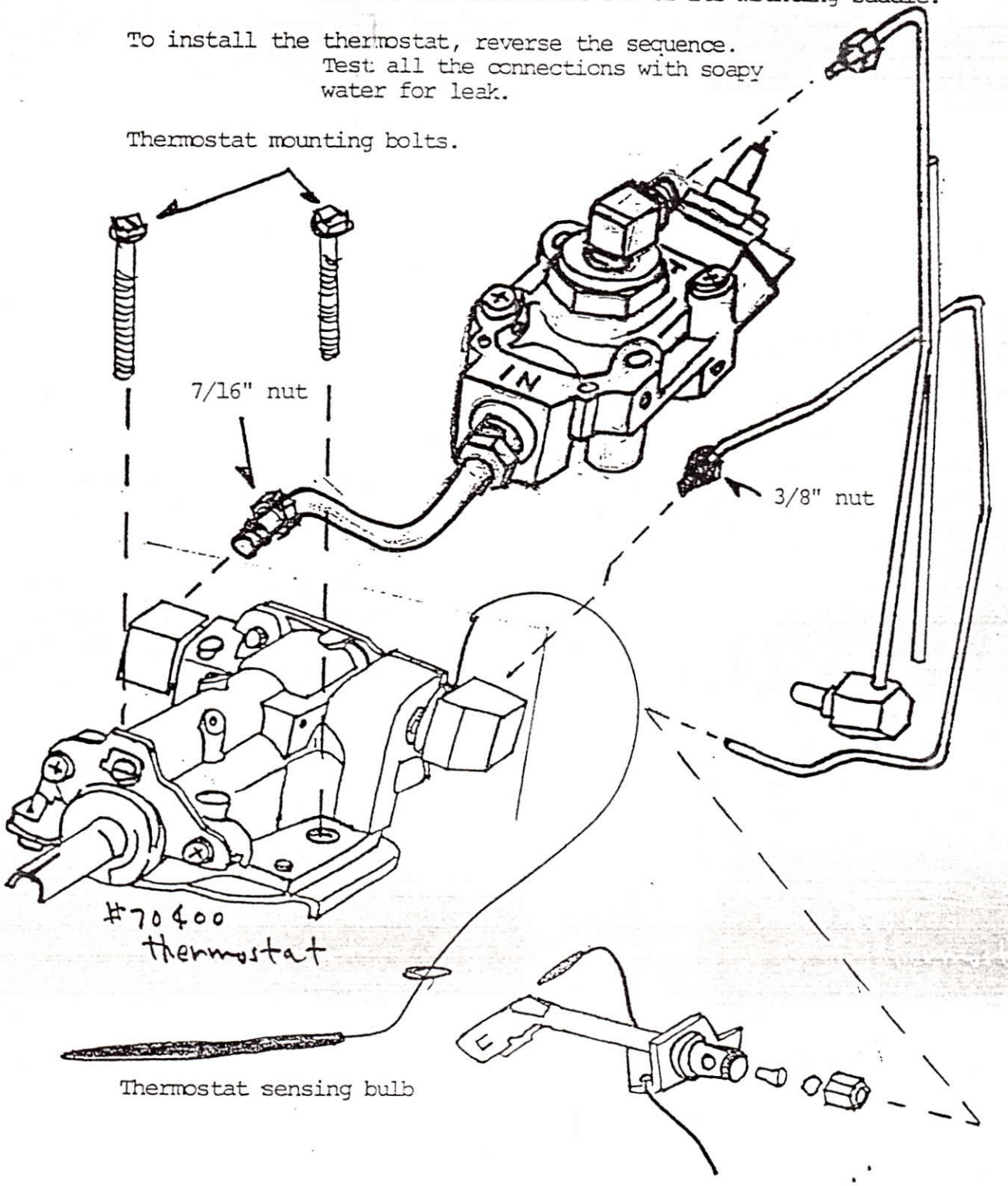
To replace thermostat

Tools needed: 5/16" wrench or a slotted screw driver.
7/16" wrench for the main fuel line.
3/8" wrench for the pilot line

soap water solution to check for leak

Procedure: Remove the 7/16" fuel line nut.
Remove the 3/8" fuel line nut
Remove the two 5/16" thermostat mounting bolts.
Guide the thermostat sensor out of the oven can.
Remove the thermostat off of its mounting saddle.

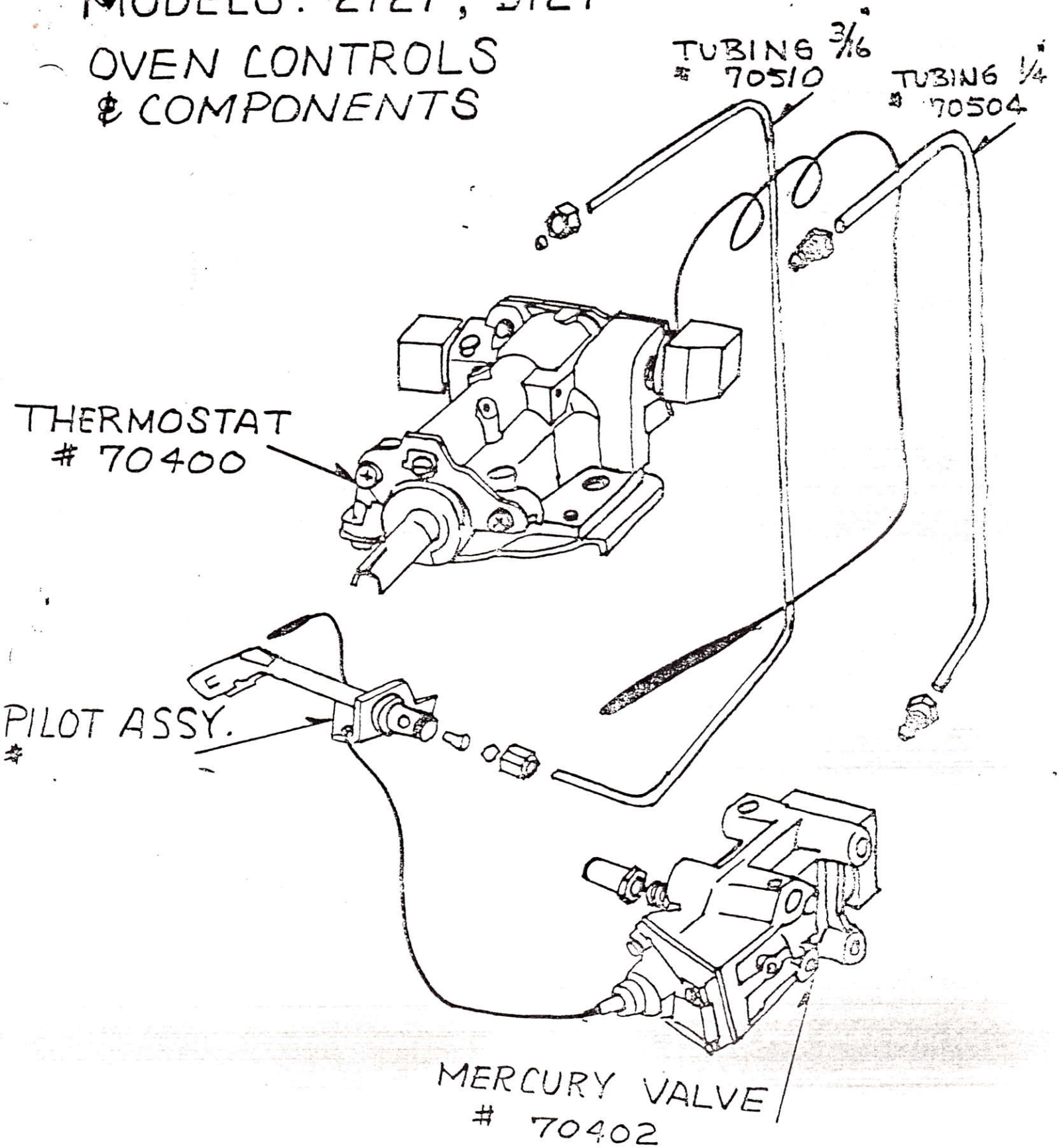
To install the thermostat, reverse the sequence.
Test all the connections with soapy water for leak.



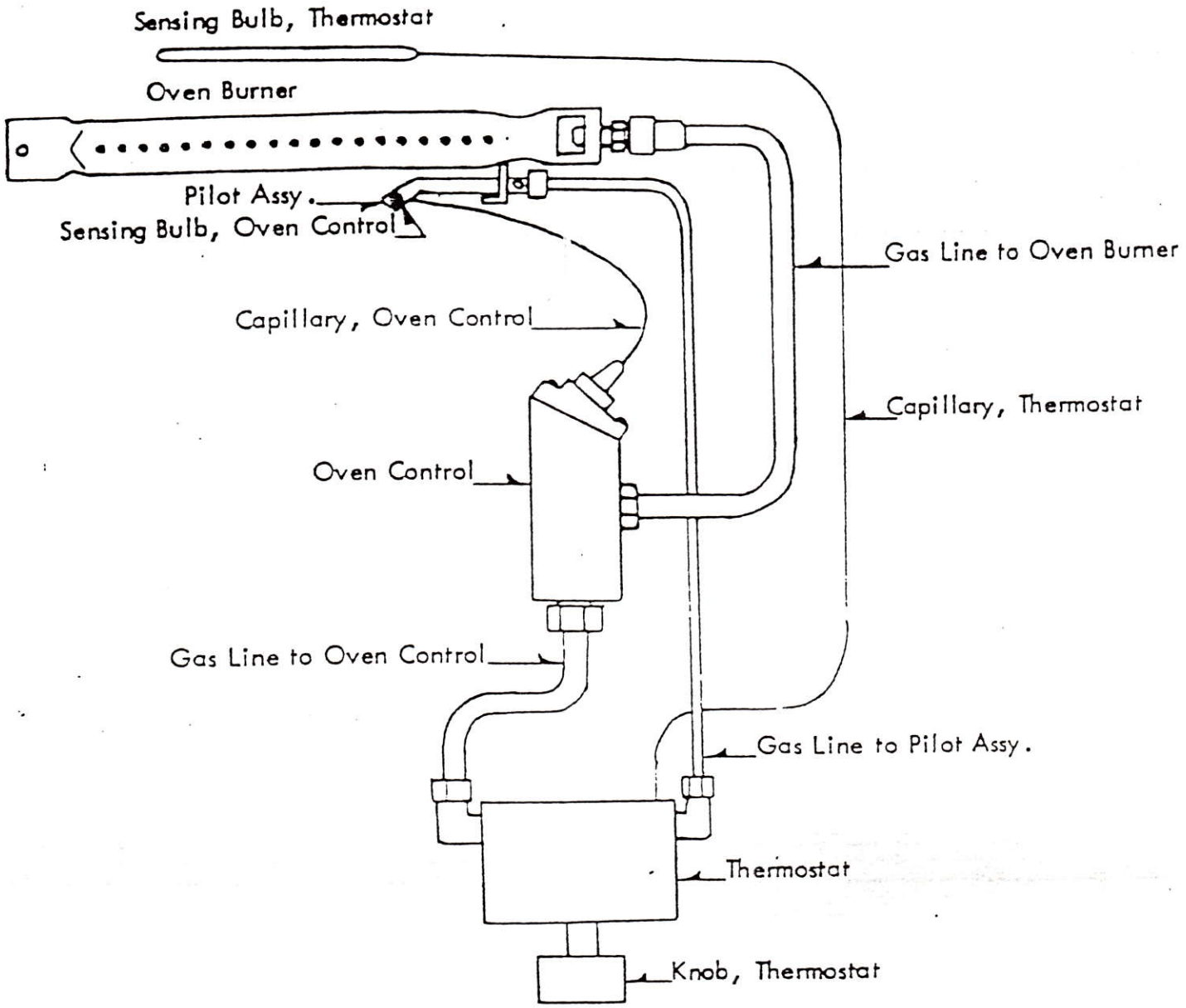
Seaward

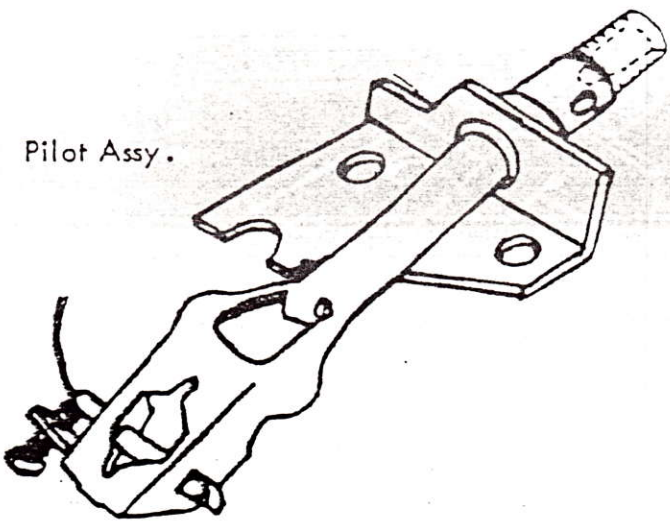
MODELS: 2121, 3121

OVEN CONTROLS & COMPONENTS

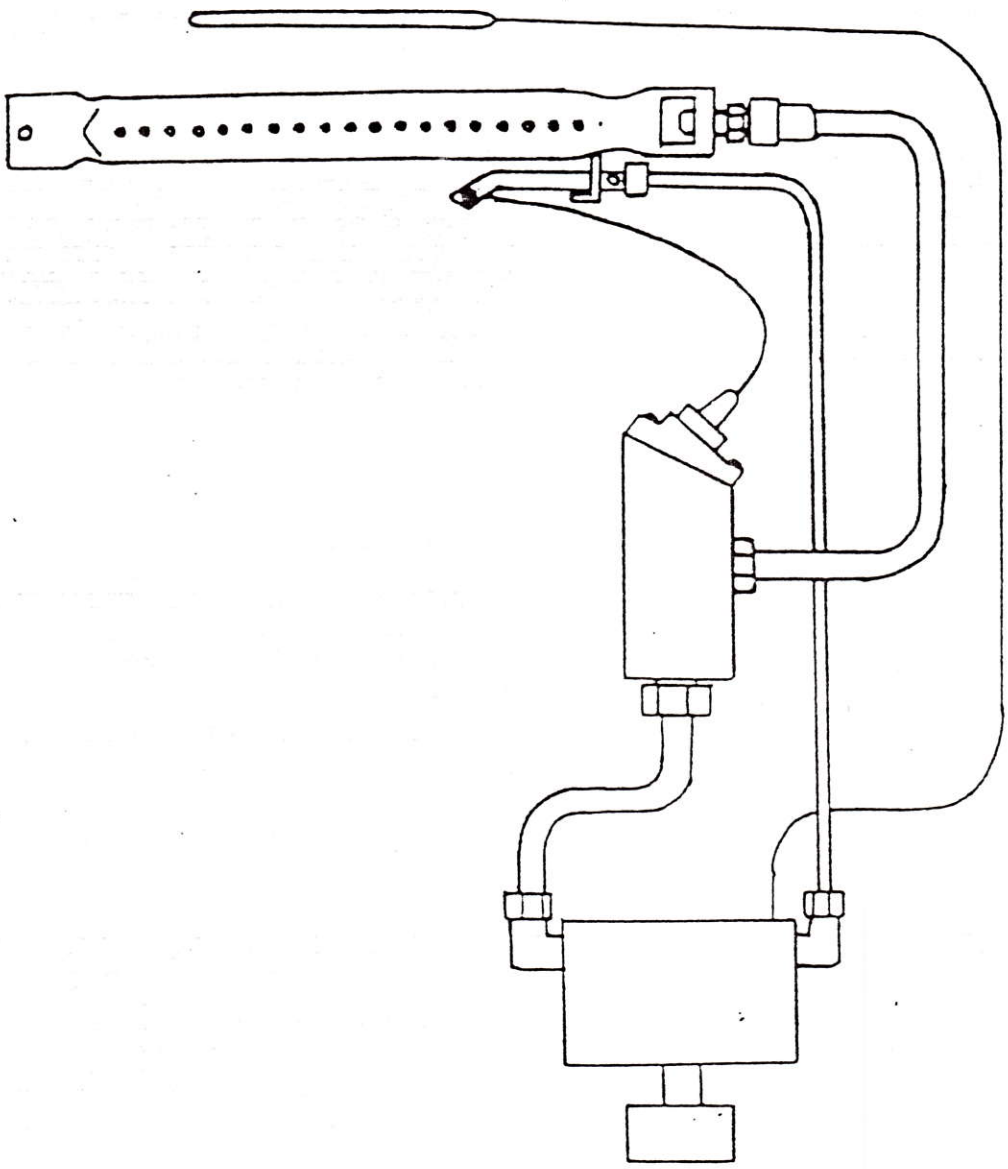


LPG COMPONENTS

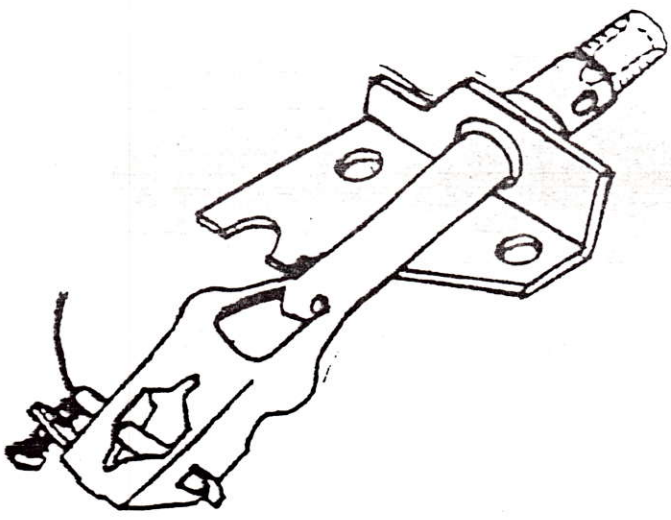




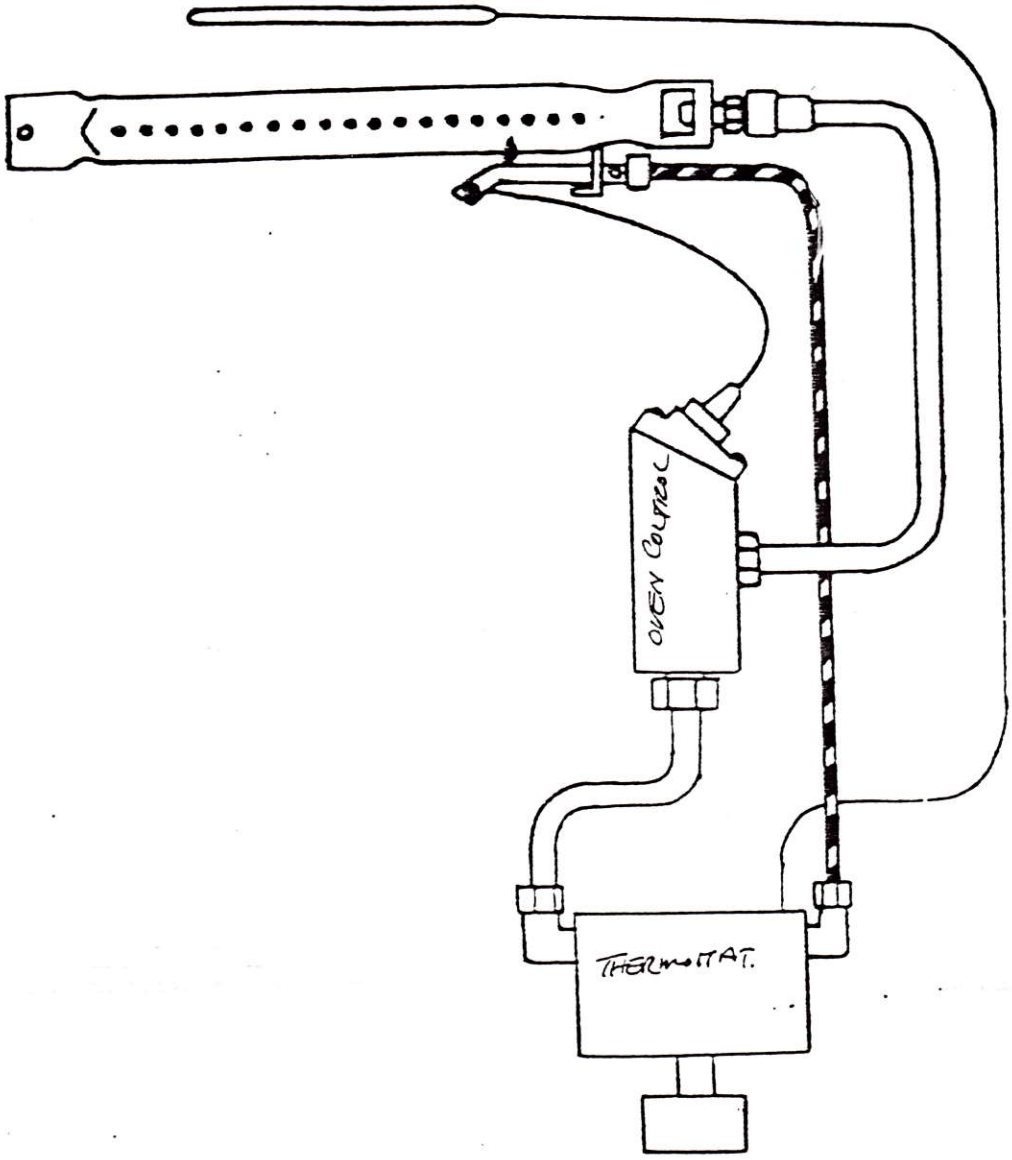
Thermostat Dial - "PILOT OFF" position



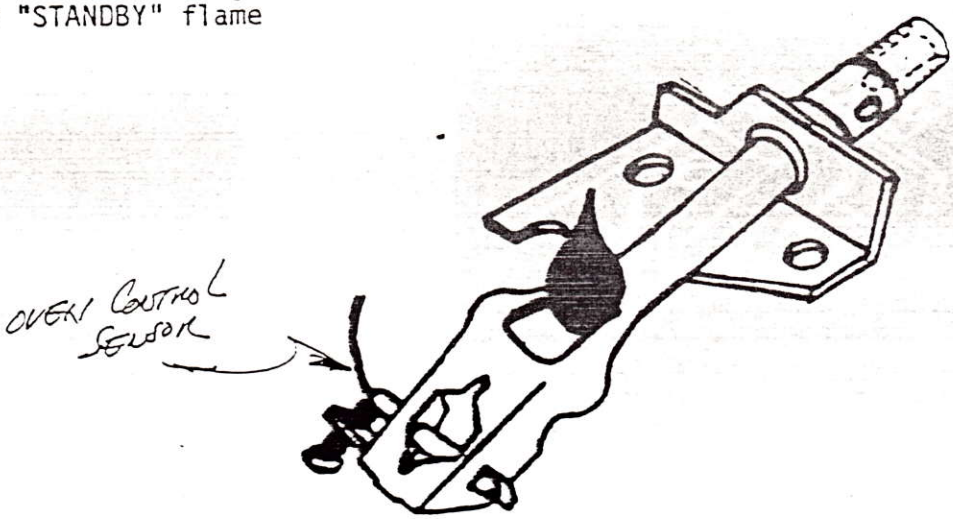
At this position the gas does not flow beyond the thermostat.



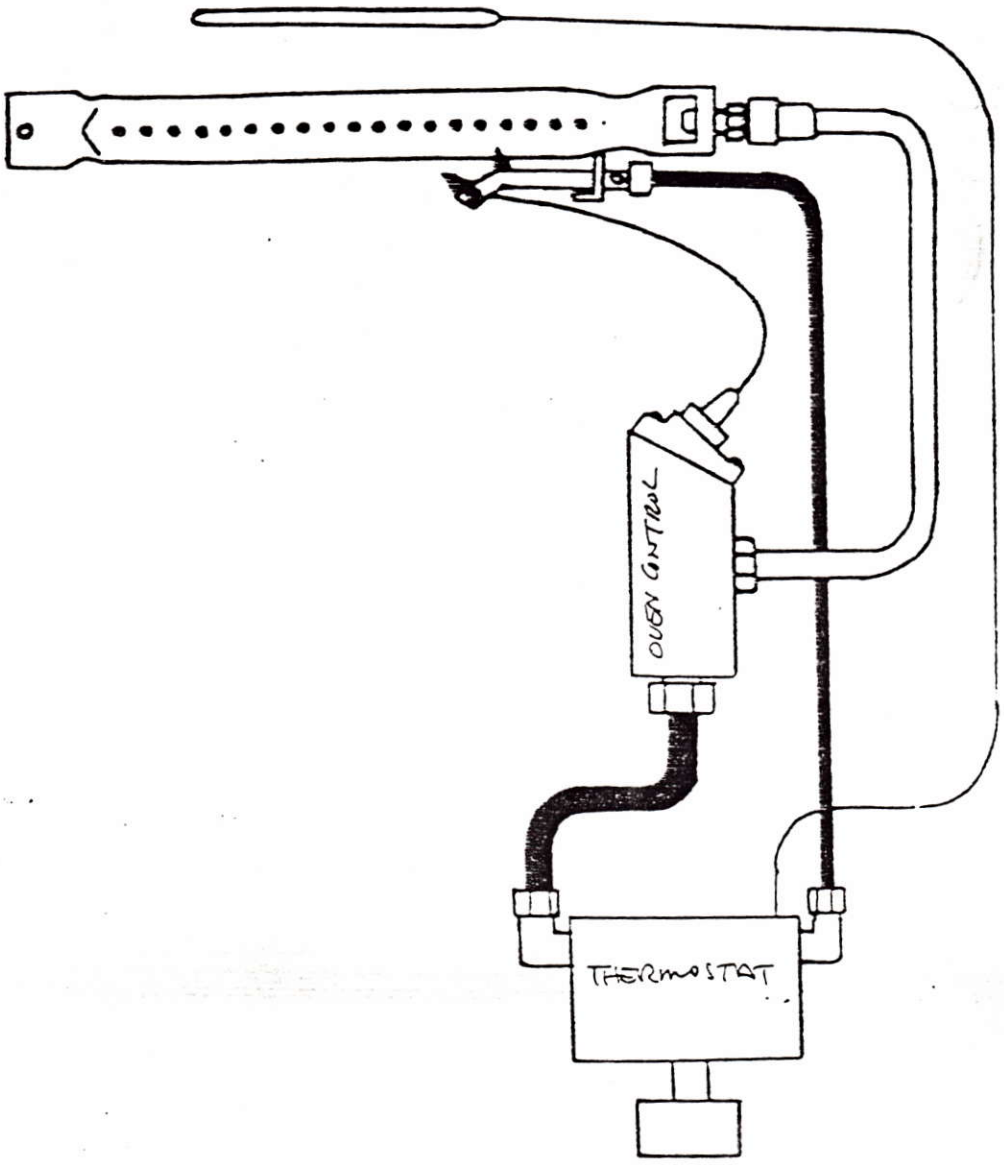
Thermostat Dial - ~~"OFF"~~ position (pilot on).



Gas flows to the Pilot Assy.
At this position the rate of gas flow to the pilot is "LOW".
The pilot is on "STANDBY" flame

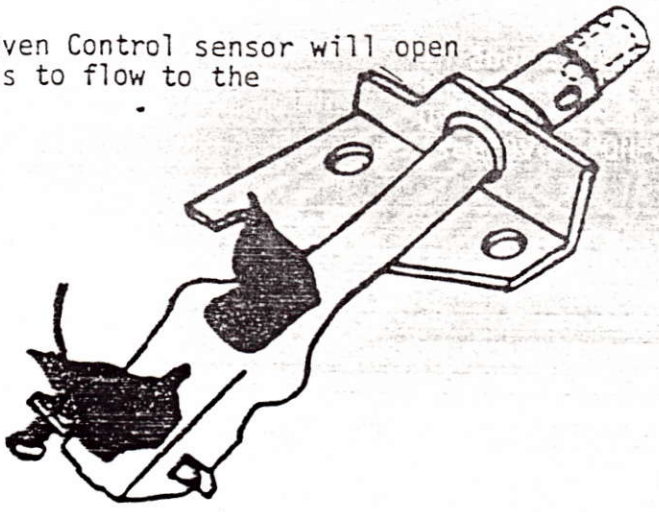


Thermostat Dial - at a Temperature Setting

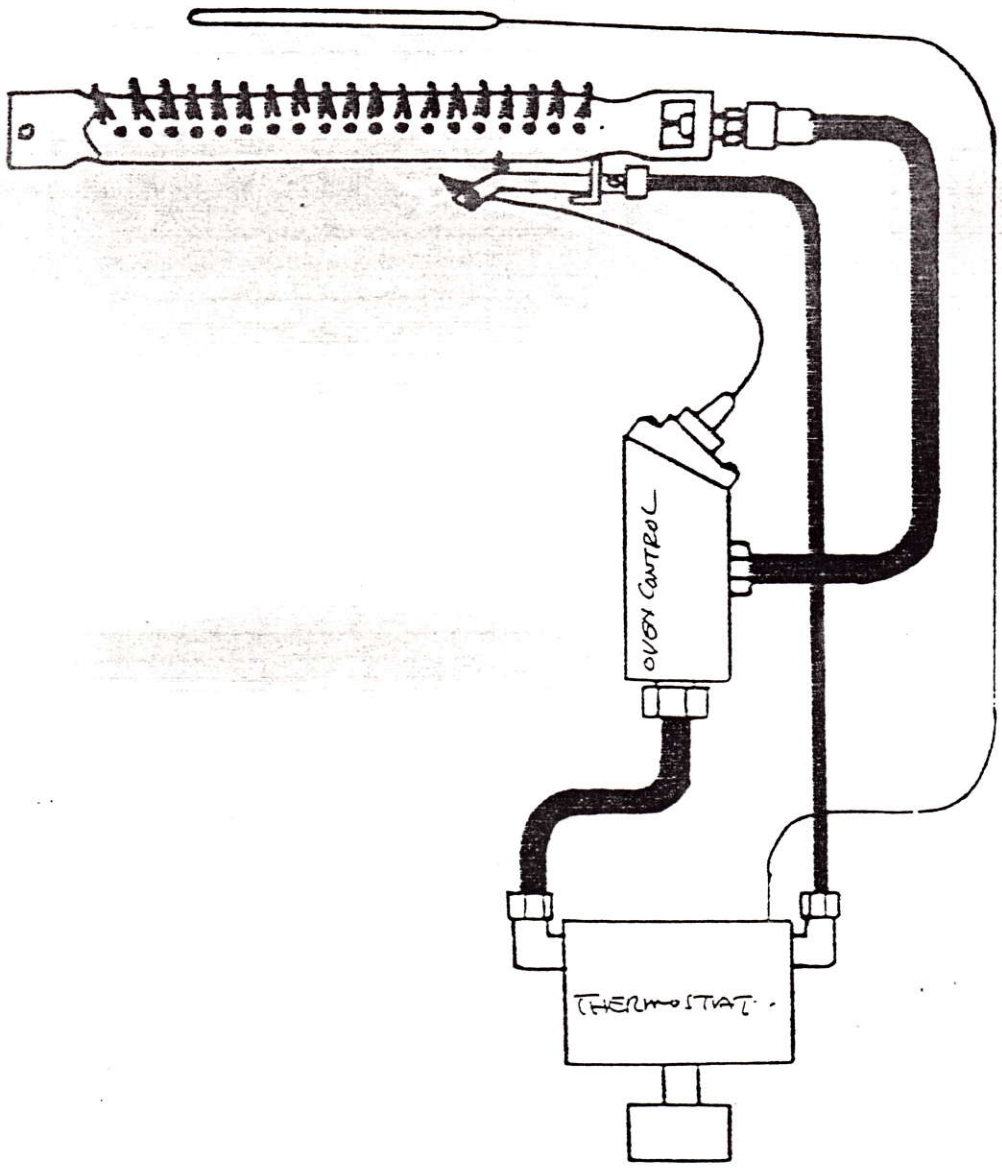


Additional gas flow to pilot assy.
The "STANDBY" flame will increase in size and become the "HEATER" pilot flame
Also the gas flows to the Oven Control.

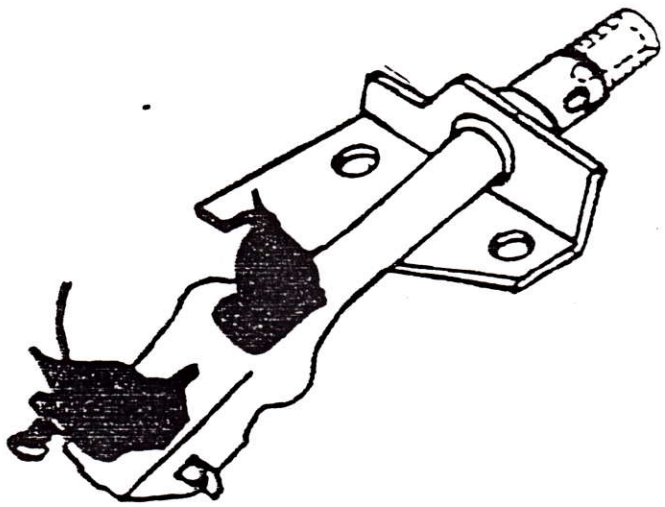
In about 30 seconds the heated Oven Control sensor will open the Oven Control allowing the gas to flow to the Oven Burner.
(see Oven "ON-CYCLE")



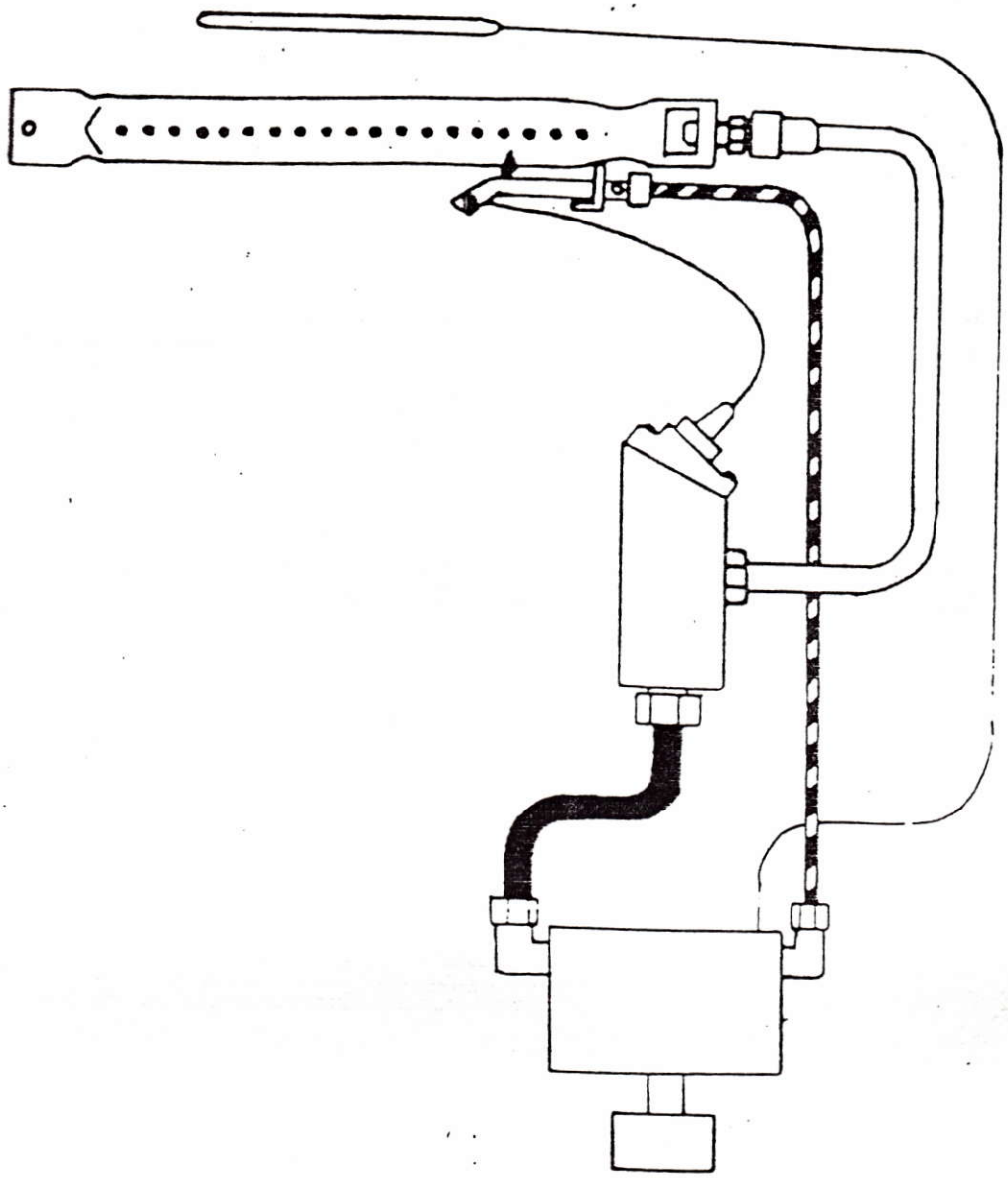
OVEN "ON - CYCLE"



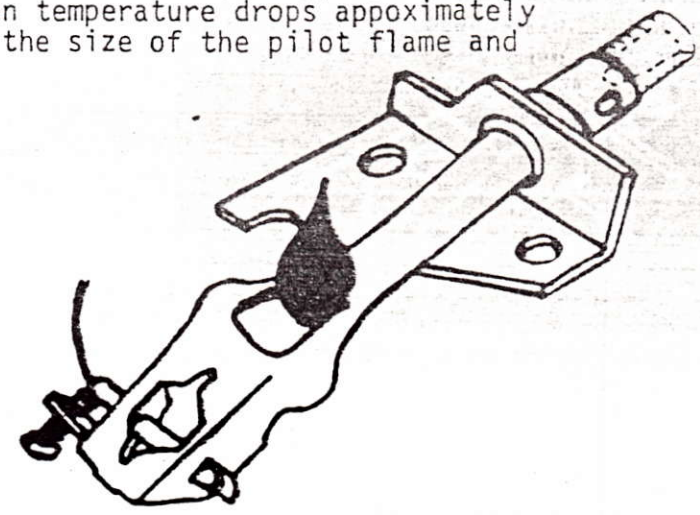
When the Oven Control opens and the gas flows to the Oven Burner, the gas is ignited by the pilot flame.



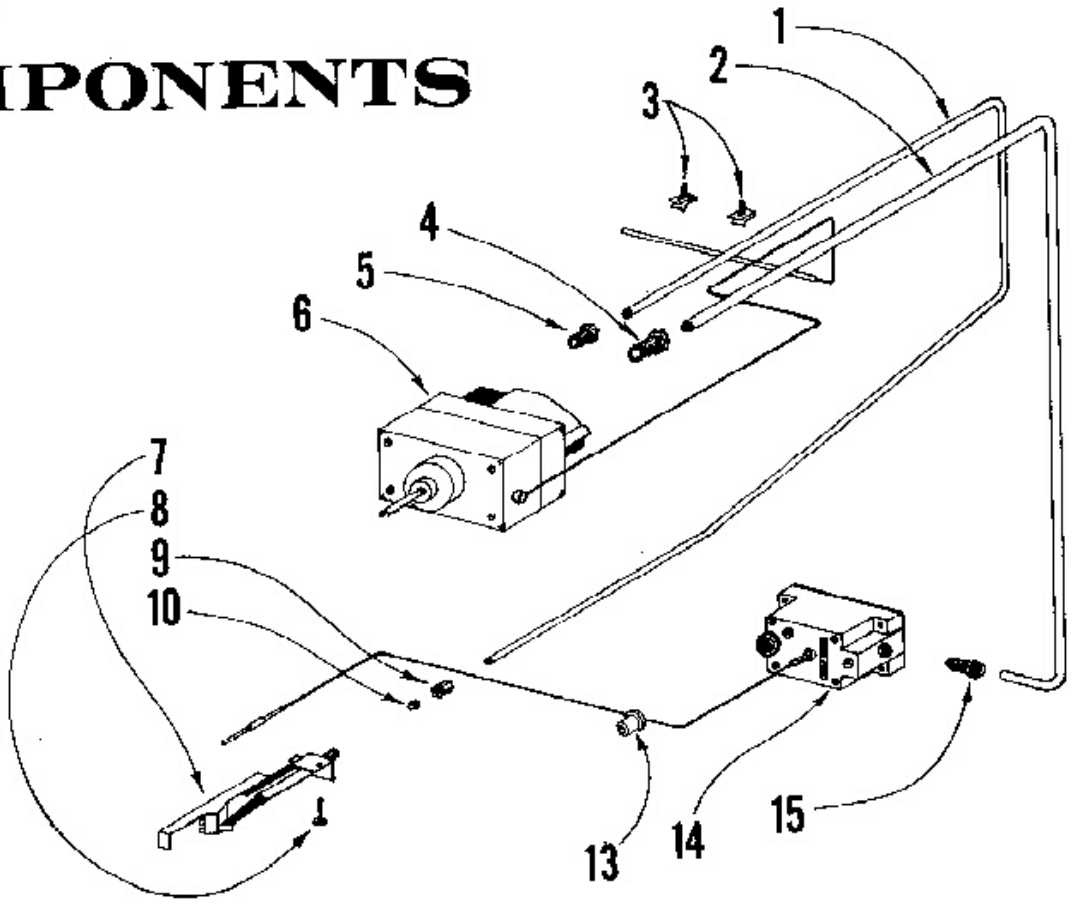
OVEN "OFF - CYCLE"



When the selected temperature is reached, the Thermostat shuts off the gas to the heated pilot and allows the sensing bulb of the oven control to cool. Upon cooling, the oven control closes, stopping the flow of gas to the oven burner. When the oven temperature drops appoximately 25^{0}, the thermostat increases the size of the pilot flame and the cycle is repeated.



GAS COMPONENTS



PARTS LIST

Ref.	Part #	Description
1.	70510	Tubing 3/16"
2.	70504	Tubing 1/4"
3.	70238	Sensing Bulb Clip
4.		Included w/#70512
5.		Included w/#70512
6.	70512	Thermostat
7.	70501	Pilot Assembly
8.		Pilot Set Screw
9.	70623	3/16" Nut
10.	70624	3/16" c/c Sleeve
13.	70533	LPG Orifice Hood
14.	70532*	Mercury Control
15.		Included w/#70532

*70402