

Weathersfield-in- Schaumburg

Campanelli Bros. of Illinois

in

MODERN HEATING

"Hydronic Homes"



... a genuine YORK-HEAT Boiler System

You'll enjoy delightful, dependable heating . . .

to the weather



YORK-HEAT Boiler Units are built to provide the exact degree of heat which you desire in your home. At the same time, these boilers furnish you with all the hot water you require for bathing and household jobs. A factory-set, patented control circuit maintains a plentiful supply of hot faucet water at desired temperature.

YORK-HEAT Boilers are designed especially for the modern types of heating systems, such as floor type radiant or baseboard heating. The internal boiler design is such that you have long boiler life with peak operating efficiency. This means that your fuel bills will be low even under extreme conditions.

YORK-HEAT has been building automatic heating equipment for the past 40 years and it has been used in thousands of new homes such as this—with architects, contractors, and builders in many cases specifying and using only **YORK-HEAT** boiler units for the homes that they build. We are sure that you will find your life will be comfortable always in this **YORK-HEAT** home.



ABUNDANCE OF HOT WATER . . . No need for extra hot-water storage tank. **YORK-HEAT** Boilers come equipped with high capacity instantaneous hot-water coils to supply an abundance of hot water . . . all year around.

YORK $\frac{4}{H}$ HEAT

INSTALLATION, OPERATING AND
 MAINTENANCE INSTRUCTIONS
 GT9-115E AND 145E
 GAS FIRED HOT WATER BOILERS
 FOR RADIANT HEAT AND RADIATION

PAGE #6 FOR LISTING

SPECIFICATIONS

<u>MODEL NUMBER</u>	<u>GT9-115E</u>	<u>GT9-145E</u>
Gas Fired Input - BTUH	115,000	145,000
Boiler Heating Surface - Sq. Ft.	20.0	24.5
Boiler Furnace Volume - Cu. Ft.	2.67	2.67
Enclosing Casing Width - In.	36	36
Enclosing Casing Dept - In.	25	25
Enclosing Casing Height - In.	36	36
Boiler Water Volume - Gal.	21.0	19.5
Coil Capacity - GPM	3.25	3.25
Boiler Recovery Time After 5 Min. Draw	4-1/2	2-1/2
Number of Boiler Tubes	22	32

These units are approved by the American Gas Association.

The shipment consists of the following:

1 - Boiler Assembly complete with the following parts assembled thereto:

Coil Assembly
 Tube Spirals
 Draft Diverter

1 - Carton containing casing, wall panels and boiler insulation.

1 - Carton containing Burner, Burner Plate Assembly, Controls, Theraltimeter, Miscellaneous Trim, Data and Lighting Instruction Plates.

UNCRATING

Uncrate carefully and inspect for damage. Any damage should be immediately reported to transportation company and they should be asked to note damage on waybill. After damage is repaired, submit invoice to transportation company, who will make remittance.

In case of shortage, report it immediately to your distributor and send him the packing slip from carton or crate from which item is claimed to be missing.

A. Manufactured, Mixed & Natural Gas

INPUT	MFD.	GAS 600 BTU, 0.60 S.G. @ 2½" W.C.	NAT. GAS 1040 BTU 0.65 S.G. @ 3.5" W.C.	
	C.F.H.	ORIFICE SIZE	C.F.H.	ORIFICE SIZE
115,000	192	F	110	#8
145,000	242	5/16	139	#2

B. Liquified Petroleum Gas.

INPUT	BUTANE GAS 3200 BTU, 2.0 S.G. @ 11" W.C.	PROPANE GAS 2500 BTU, 1.52 S.G. @ 11" W.C.		
	C.F.H.	ORIFICE SIZE	C.F.H.	ORIFICE SIZE
115,000	36	#33	46	1/8"
145,000	45	#30	58	#29

5. Set Manifold Assembly and Gas Burner in place, so that slots in burner line up with openings in Boiler, the spreader is brazed to Gas Burner. Attach with two two (2) #10 24NC x 1/2" R.H. Type "F" Self-Tapping screws supplied. Be sure burner is centered in boiler and flame spreader is level. Uncoil thermocouple lead from Pilot Burner, insert in socket of safety element on gas valve.
6. Attach Manifold Support Bracket to Burner Opening side plate with screws supplied. Attach burner plate assembly with two (2) 3/8" 16NC2 x 1/2" Lg. Hex Hd. brass bolts supplied.
7. Be sure that all local gas company requirements are followed.
8. Attach Limit and Operating and Circulator Controls to coil plate by removing cover on control box and clamping controls to coil plate by means of nut and clamp attached to stud on coil plate. Place Operating and Circulator Control (Three Post 20400D50-19) to bottom and next to cold water inlet of coil. Place hot water limit control (Two Post 20400L47-111) directly above the three post control. Control flange must fit under the flange on side of box so controls are clamped flat against coil plate.

When Immersion Limit Control is used, eliminate installing Limit Control (20400L47-111) as stated above, and install the Immersion Limit Control by using a 1" x 1" x 1/2" Tee at the supply tapping near top of boiler.

9. Set 36" wall panel in place and fasten to wall.
10. Set 23" wall panel in place so that flange of 36" wall panel is engaged in slip strip of 23" wall panel and fasten to wall.
11. On Mounting Plate attached to 36" wall panel starting at top, install as follows: Relay, Transformer, Data Plate and Lighting Instruction Plate.
12. The 1" Fiberglass Insulation Blanket which is provided with cut-outs and slits for openings and Junction Box on coil plate should be placed around boiler and fasten with the two Insulation Straps which are supplied. The top strap should be placed between the Junction Box on Coil Plate and Hot Water Outlet Connection on Coil Plate. The bottom Strap should be placed between bottom of Coil Plate and Burner opening. Insert the one end of Insulation Strap through other end of Strap and draw up tight and fold over. (See Figure 7.) Care must be exercised in applying insulation. A workmanlike job insures lower operating cost to customer and less service calls to installer. WE CAN ASSUME NO RESPONSIBILITY FOR OVER-HEATING UNDER CASING IF PCOR INSULATION ASSEMBLY IS MADE.

INSTALLATION INSTRUCTIONS CONT'D

13. Connect piping to boiler. (See Figure 1)
14. We can supply as an extra a 3-3/4 gallon expansion tank and circulator. Where total content of system does not exceed 35 gallons, this tank will be large enough. If total water content exceeds 35 gallons, additional expansion tank capacity is required. The total water content of boiler is 22.5 gallons, therefore, if water content of pipe work, radiation and or floor coils is 12-1/2 gallons or less, expansion tank will be large enough.
15. When expansion tank is supplied, mount expansion tank using the two studs provided on burner plate assembly. DO NOT INSTALL EXPANSION TANK SO AS TO OBSTRUCT OPENING IN DIVERTER.
16. Connect 3/16" O.D. copper tubing using compression fittings between 1/8" tapping near top of boiler and expansion tank. This is the only connection necessary to the expansion tank.
17. Install theraltimeter into 1/2" tapping on boiler.
18. (For Radiation Installation Only). Plug all boiler openings except two (2) 1-1/2" openings in bottom and 1" supply opening, or left side near top of boiler. Use one (1) 1-1/2" tapping for the drain cock and one for the return piping.

(For Radiant Installation Only). Connect piping to boiler as shown in Figure 1. On all boilers plug the 1-1/2" opening which is placed against 23" wall panel. Use one for supply and the other for the drain cock.
19. Attention is called specifically to the orifice nipple. This is a 1/2" I.P.S. pipe nipple with an inside diameter of 5/16" x 1-7/8" Lg. DO NOT USE A STANDARD NIPPLE. This nipple should be installed in the piping between return from floor coil and boiler.
20. Attention is called to the fact that supply to floor coil should be connected to 1-1/2" tapping at the bottom of boiler. Return from floor coil should be connected to tee above circulator. Outlet of circulator should be connected to boiler through 1" conn. near center of boiler. This cold return water is mixed with hot water from top of boiler and tempered mixture is pumped into boiler near the center. From there it flows through water leg at bottom of boiler and out of boiler to floor coil at the very bottom of the boiler.
21. The hot and cold water lines should be brought up through the floor or brought in through 36" wall panel.

STEPS 22 & 23 APPLY IF BOILER IS USED FOR SECOND FLOOR RADIATION AND FIRST FLOOR RADIANT HEAT.
22. The supply to second floor is taken off the 3/4" tapping on coil plate. Install a flow control valve and an expansion tank for the second floor. Connect the return through a second circulator to any of the two remaining tappings around the bottom of the boiler.
23. For Zone Installations, use wiring diagram Figure 4. For each additional zone, add a thermostat, relay and circulator and wire in parallel.

An alternate method of zone control is shown on the wiring diagram Figure 5. This method uses zone valves that are available through our Accessories Division. This method is quite satisfactory and is inherently less expensive than the multiple circulator systems mentioned above.

INSTALLATION INSTRUCTIONS CONT'D

24. Install a flow regulator in cold water line to tankless coil to limit the flow to that shown in Specifications.
25. IT IS STRONGLY RECOMMENDED THAT A MIXING VALVE BE INSTALLED BETWEEN THE HOT AND COLD DOMESTIC WATER LINES. If this is done where there is an automatic washer or dishwasher, the hot water line to the washer or dishwasher should be taken off on the coil side of the mixing valve.
26. The Feed Valve should be connected to 3/4" tapping in coil plate. The relief valve should be connected to as high a point in the boiler as possible. The preferred location is shown in Figures 1 and 2.
27. Our Accessories Division can supply a piping harness. This harness can be installed by sweating the copper fittings to the connections on the coil plate.
28. Set boiler in position against 23" and 36" wall panels.
29. Connect piping from floor panel and radiation to boiler.
30. Install piping from burner to meter in accordance with following pipe delivery schedule.

PIPE DELIVERY SCHEDULE

	Natural & Mixed Gas (800 BTU/Cu. Ft.)						Manufactured Gas (500 BTU/Cu. Ft.)							
	10'	20'	30'	40'	50'	75'	100'	10'	20'	30'	40'	50'	75'	100'
MODEL														
115	3/4"	3/4"	1"	1"	1"	1"	1 1/4"	1"	1"	1"	1 3/4"	1 1/4"	1 1/4"	1 1/4"
145	3/4"	1"	1"	1"	1"	1 3/4"	1 1/4"	1"	1"	1 3/4"	1 1/4"	1 1/2"	1 1/2"	1 1/2"

Install Main Gas Shut-Off Cock with Pilot tapping on upstream side in vertical piping 5 Ft. from floor. A drop leg or trap must be installed in the piping, at the gas inlet of the unit, unless otherwise specified. Connect gas line to burner Manifold Assembly by means of union provided. If unit is used in a close clearance installation, Main Gas Shut-Off Cock and Pilot Cock should be installed inside casing. BE SURE ALL LOCAL GAS COMPANY REQUIREMENTS ARE FOLLOWED.

31. The piping to the Gas Manifold should be installed according to the table in Paragraph 30, while the piping to the L-P Manifold may use 1/2" pipe or 1/2" copper tubing. The tubing should be of standard grade K or L, or equivalent, having a minimum wall thickness of 0.032 in. and that joints shall be made by means of approved flared gas tubing fittings, or soldered or brazed with materials having a melting point exceeding 1000F.

CAUTION: COMPRESSION TYPE TUBE FITTINGS SHOULD NOT BE USED.

32. A pilot filter is supplied with all models of these boilers produced for operation on manufactured gas and should be installed in pilot line tapping of main shut-off cock between main shut-off cock and pilot cock. A pilot filter must also be used on natural gas when required by local utility.

INSTALLATION INSTRUCTIONS CONT'D

33. Install pilot cock in tapping in Main Shut-Off cock or Pilot Filter when required and run 1/4" tubing from pilot assembly to pilot cock. (See Figure 6.)

In case of L-P gas, the pilot line must be run from the tapping on the 100% shut-off valve to the Pilot Assembly.

34. Seal Draft Diverter into chimney. DO NOT INSTALL ANY OBSTRUCTION OR DRAFT REGULATING DEVICES IN FLUE PIPE.
35. Complete wiring as shown in wiring diagram Figure 3. When Immersion Limit Control is used wire the same, except the Immersion Limit Control is used in place of the limit control shown.

Type "105°C WIRE MUST BE USED INSIDE CONTROL BOX ON TANKLESS COIL. On all boilers allow enough slack in thermostat, circulator and line leads to run them through casing. The electrical work should be done according to the National or Canadian Electrical Code, subject to the approval of the state or local authorities.

STARTING INSTRUCTIONS

1. Fill system with water. If boiler is used with radiant system and is connected in accordance with our suggested arrangement (See Figure 2) vent air from boiler through 1/8" tapping near top. To do this disconnect bleed line until boiler is filled and water appears at 1/8" tapping on top. Reconnect bleed line. **WATER PRESSURE SHOULD BE NOT MORE THAN 5 POUNDS ON THERMOMETER WHEN BOILER WATER IS COLD.**
2. Start Gas Burner according to the following instructions.
 - A. Be sure all burner cocks, gas valves and pilot cocks have been closed at least five minutes before lighting.
 - B. Open main gas line from meter to burner.
 - C. Open pilot cock and immediately light pilot. **RED-BUTTON**
 - a. By holding match on perforations of pilot ignitor tube and pressing push button at end of tube. **RED BUTTON**
 - b. On L-P Gas, depress button on Base Valve and apply lighted match directly to pilot tip by means of lighter rod. Keep button depressed until pilot is lighted. **BE SURE PILOT IS BURNING.** It must be remembered that on new installations all piping is filled with air that must be exhausted through pilot and ignitor before flame can be established at pilot.
 - D. Open main gas shut-off cock.
 - E. After pilot has been lit about two (2) minutes, press button on front of Gas Valve firmly and then release. **BROWN BUTTON**
 - F. Open thermostat circuit, close disconnect switch and adjust burner as follows: Close air shutter until yellow tip appears on flame, then open air shutter slowly until yellow tip disappears. Lock air shutter with locking screw in this position.
 - G. To shut down burner, close main shut-off cock and pilot cock. Throw disconnect switch off.

STARTING INSTRUCTIONS CONT'D

8. After thermostat has been satisfied and burner and circulator are not operating, open hot water faucet in kitchen sink as far as possible. If flow regulator is not used, adjust rate of flow to capacity of coil by throttling valve in cold water line to coil.

Time required to fill a quart bottle should be five seconds. A more accurate check can be made with a pail of known volume. If a 12 quart pail is available, time required to fill it is one minute. Provision is made to slide 3 Post Operating and Circulator Control up or down in control junction box. For maximum domestic hot water temperature, keep 3 post control down. By sliding 3 post control up (3 Post control must still remain below the 2 post control) temperature may be reduced somewhat. This increases length of burner reaction time.

9. After flow rate is adjusted, close faucet and allow burner to run until stopped by 3 post control. Allow about one minute, then open hot water faucet wide. If flow rate is up to rating of coil for 5 minute draw, burner should start in approximately 90 seconds - if not, check to see if 3 post control is next to cold water connection and cold water is connected to lower coil connection. If flow rate is below coil rating or boiler water temperature is above 210°F, reaction time may be as high as 5 minutes.
10. Controls have now been checked and if all the above, tests are completed satisfactorily, control system should work satisfactorily for many years without adjustments. Because of difference between location of controls and that of theraltimeter, temperature of theraltimeter may vary between 150°F. and 250°F. in various phases of the normal operating cycle. Temperature of 150°F. may be obtained after a 5 minute or longer draw of domestic hot water or shortly after the circulator starts and before burner can pick up the load.
11. The higher temperatures up to 250°F. may be obtained after long operation caused by thermostat demand. This condition may exist in morning after night set back of thermostat and before any demand for domestic hot water. IN RADIANT HEATING SYSTEM THERMOSTAT SHOULD NOT BE SET BACK AT NIGHT.

INSTRUCTIONS FOR ASSEMBLING CASING

1. Assemble casing by engaging front panel into the slip strip of the side panel.
2. Fasten the bottom casing stiffener to the front and side panel with the 5 #10 x 1/2 Type "Z" R.H. Sheet Metal Screws supplied.
3. Attach stainless steel top to front and side panels with the 4 #10 x 1/2 Type "A" R.H. Sheet Metal Screws supplied.
4. Attach the (3) Tinnerman Nuts supplied to the 3 places on 36" wall panel provided for fastening casing.
5. Set assembled casing into position over boiler and fasten to 36" wall panel with the (3) type "A" R.H. Sheet Metal Screws supplied.

INSTALLATION INSTRUCTIONS CONT'D

33. Install pilot cock in tapping in Main Shut-Off cock or Pilot Filter when required and run 1/4" tubing from pilot assembly to pilot cock. (See Figure 6.)

In case of L-P gas, the pilot line must be run from the tapping on the 100% shut-off valve to the Pilot Assembly.

34. Seal Draft Diverter into chimney. DO NOT INSTALL ANY OBSTRUCTION OR DRAFT REGULATING DEVICES IN FLUE PIPE.
35. Complete wiring as shown in wiring diagram Figure 3. When Immersion Limit Control is used wire the same, except the Immersion Limit Control is used in place of the limit control shown.

Type "105°C WIRE MUST BE USED INSIDE CONTROL BOX ON TANKLESS COIL. On all boilers allow enough slack in thermostat, circulator and line leads to run them through casing. The electrical work should be done according to the National or Canadian Electrical Code, subject to the approval of the state or local authorities.

STARTING INSTRUCTIONS

1. Fill system with water. If boiler is used with radiant system and is connected in accordance with our suggested arrangement (See Figure 2) vent air from boiler through 1/8" tapping near top. To do this disconnect bleed line until boiler is filled and water appears at 1/8" tapping on top. Reconnect bleed line. WATER PRESSURE SHOULD BE NOT MORE THAN 5 POUNDS ON THERMOMETER WHEN BOILER WATER IS COLD.
2. Start Gas Burner according to the following instructions.
 - A. Be sure all burner cocks, gas valves and pilot cocks have been closed at least five minutes before lighting.
 - B. Open main gas line from meter to burner.
 - C. Open pilot cock and immediately light pilot. **RED-BUTTON**
 - a. By holding match on perforations of pilot ignitor tube and pressing push button at end of tube. **RED BUTTON**
 - b. On L-P Gas, depress button on Baso Valve and apply lighted match directly to pilot tip by means of lighter rod. Keep button depressed until pilot is lighted. BE SURE PILOT IS BURNING. It must be remembered that on new installations all piping is filled with air that must be exhausted through pilot and ignitor before flame can be established at pilot.
 - D. Open main gas shut-off cock.
 - E. After pilot has been lit about two (2) minutes, press button on front of Gas Valve firmly and then release. **BROWN' BUTTON**
 - F. Open thermostat circuit, close disconnect switch and adjust burner as follows: Close air shutter until yellow tip appears on flame, then open air shutter slowly until yellow tip disappears. Lock air shutter with locking screw in this position.
 - G. To shut down burner, close main shut-off cock and pilot cock. Throw disconnect switch off.

LOCATION

THE INSTALLATION OF THIS EQUIPMENT MUST BE DONE IN ACCORDANCE WITH THE REGULATIONS OF AUTHORITIES HAVING JURISDICTION INCLUDING THE LOCAL GAS UTILITY.

In location with non-combustible walls, lesser clearances are allowed, but of course, working clearances adequate for inspection and service must be provided. ACCESSIBILITY CLEARANCE MUST TAKE PRECEDENCE OVER ANY FIRE PROTECTION CLEARANCES. A minimum service clearance of 24" should be provided for at the front of the unit. Adequate combustion and ventilating air must be provided. In the case of a confined space at least 1 sq. in. of free area per 1000 BTU/HR Input intake must be provided. A like amount of outlet area must also be provided. The inlet opening must be no more than six (6) inches from the ceiling. In cases where openings to the interior of the building are not practical, openings to the outdoors must be provided with a minimum of free area of one (1) square inch per 4000 BTU per hour input. In any unusual cases, consult the Standard for the Installation of Gas Piping and Gas Appliances in Buildings - ASA;Z21.30 - 1960. These openings, nor any opening, grilles, etc., in the actual casing must not be obstructed in any way. In any type of utility room installation, care should be taken so that doors and passageways are large enough to remove or replace the boiler or any other appliances that are installed in the room. Consideration should be given to the most direct connection to the chimney for the stack. In cases where two or more appliances vent into a common flue the area of the common flue should at least equal the area of the largest flue plus 50 per cent of the areas of the additional flues. The flue or vent connector must be inserted into but not beyond the inside wall of the chimney flue.

If the unit is to be used in conjunction with a chilled water air conditioning system, the piping must be installed in parallel with appropriate valving so as to prevent the chilled water from entering the boiler at any time. In cases where the unit is connected to heating coils in an air handling system where the heating coils are exposed to refrigerated air, it is imperative that flow valves be installed to prevent gravity circulation of the boiler water during the cooling cycle.

INSTALLATION INSTRUCTIONS

1. Set boiler on smooth level non-combustible floor or on a separate concrete foundation. Boiler may be placed on combustible flooring when special base is supplied with boiler.

When unit is installed in Alcove the following clearances to combustible wall are permissible.

Top 18"
Rear 0"
From Flue Pipe 6"
Access Panel Side 3"
Flue Outlet Side 0"

2. Unpack Burner and Trim Carton. Check parts against packing list enclosed in carton.
3. Attach Pilot Assembly to boiler with two (2) #10 2 1/2" x 1/2" Lg. R.H. Type "F" Self-Tapping Screws supplied. Heel of pipe elbow on Pilot Assembly should rest on bottom of boiler.
4. Check proper Orifice Spud Size in accordance with the following table and local Gas Company. Each Manifold Assembly will include an Orifice Spud drilled in accordance with table and type of gas specified in order. (See Chart 1)

SERVICE INSTRUCTIONS

1. TO CLEAN BOILER:

- A. Remove (3) sheet metal screws that fasten casing to 36" wall panel.
- B. Remove casing.
- C. Remove four (4) brass hex bolts and washers and lift off draft diverter.
- D. Run a milk bottle type brush through the tubes. It is not necessary to remove spirals if this type brush is used; however, if it is desirable to remove the spirals, they can be removed.
- E. Before replacing draft diverter removed in Step B. Be sure asbestos gasket on rim of draft diverter is in place.
- F. Remove Burner Plate Assembly.
- G. Clean the firebox with a brush and remove dirt from bottom of firebox through secondary air openings.
- H. Replace Burner Plate Assembly, Do not tear or mutilate insulation on burner plate. A little care will preserve this insulation and reduce heat loss. Replace top panel.

2. BURNER DOES NOT OPERATE

- A. Safety Pilot Outage - Close all manual valves and wait five minutes. Relight pilot. Reset switch on pilot if equipped with manual reset button.
- B. Blown Fuse - Check all fuses, determine cause for failure, remedy and then replace fuses.
- C. Defective Thermostat - Short out thermostat to determine if it is cause of failure. If cause of failure, clean contacts. If it still does not operate, replace thermostat.
- D. Safety Pilot Failure - Clean pilot line and pilot burner thoroughly to insure proper burning of pilot. Clean the safety bulb of pilot and make sure flame is striking bulb in the proper manner. The bulb should be encased in flame especially at the tip. If pilot still does not operate replace it.
- E. Defective Gas Valve - Check if valve is receiving current with use of test lamp. If valve is receiving current and still does not operate, repair or replace valve.

3. PILOT SAFETY VALVE IN PRESSURE REGULATOR SHUTS OFF FREQUENTLY

- A. Fluctuating Gas Pressure - Check condition with local utility. It may be necessary to increase orifice size in pilot burner and in cases where pressure fluctuates widely, to install a pressure regulator in the pilot line.
- B. Dirty Pilot Element - Clean Element thoroughly.

4. HEAT IS INSUFFICIENT

- A. Low Input Rate - Check input rate to be sure that it is correct.

SERVICE INSTRUCTIONS CONTINUED

5. NOISY BURNER OPERATION

- A. Excess Primary Air - Reset primary air shutter to obtain quiet blue flame. Slight yellow fringes are not objectionable.
- B. Manifold Pressure Too High - Check manifold pressure and change regulator to obtain proper pressure - 3 to 4 inches on natural gas, 2 to 3 inches on manufactured gas and 11 inches on L-P gas.
- C. Defective Orifice - Check to be sure that orifice is of proper size, drilled straight, and is free from burrs and chips.

METHOD OF CLEANING DOMESTIC HOT WATER COIL

THE SOLUTION --- 25% of (HCL) Hydrochloric Acid and Water (1 Qt. HCL to 3 Qts. Water)

THE METHOD ---

- a: Disconnect both ends of the coil from house water system.
- b: Connect two vertical nipples so that one acts as a fill connection and the other as an air vent. A funnel should be used in the fill piece.
- c: Fill with the solution and let stand not over six (6) hours. If possible, pump solution through the coil rather than allow it to stand.
- d: FLUSH OUT VERY THOROUGHLY WITH CLEAN WATER AND RECONNECT TO PIPING SYSTEM.

CAUTION -----

- a: Use rubber gloves and avoid splashing solution on clothing or floor.
- b: Do not throw spent acid on grass or in sewer without considerable excess water.
- c: Ventilation should be provided for the boiler room during procedure so as to relieve fumes.

RADIANT HEAT PIPING ARRANGEMENT

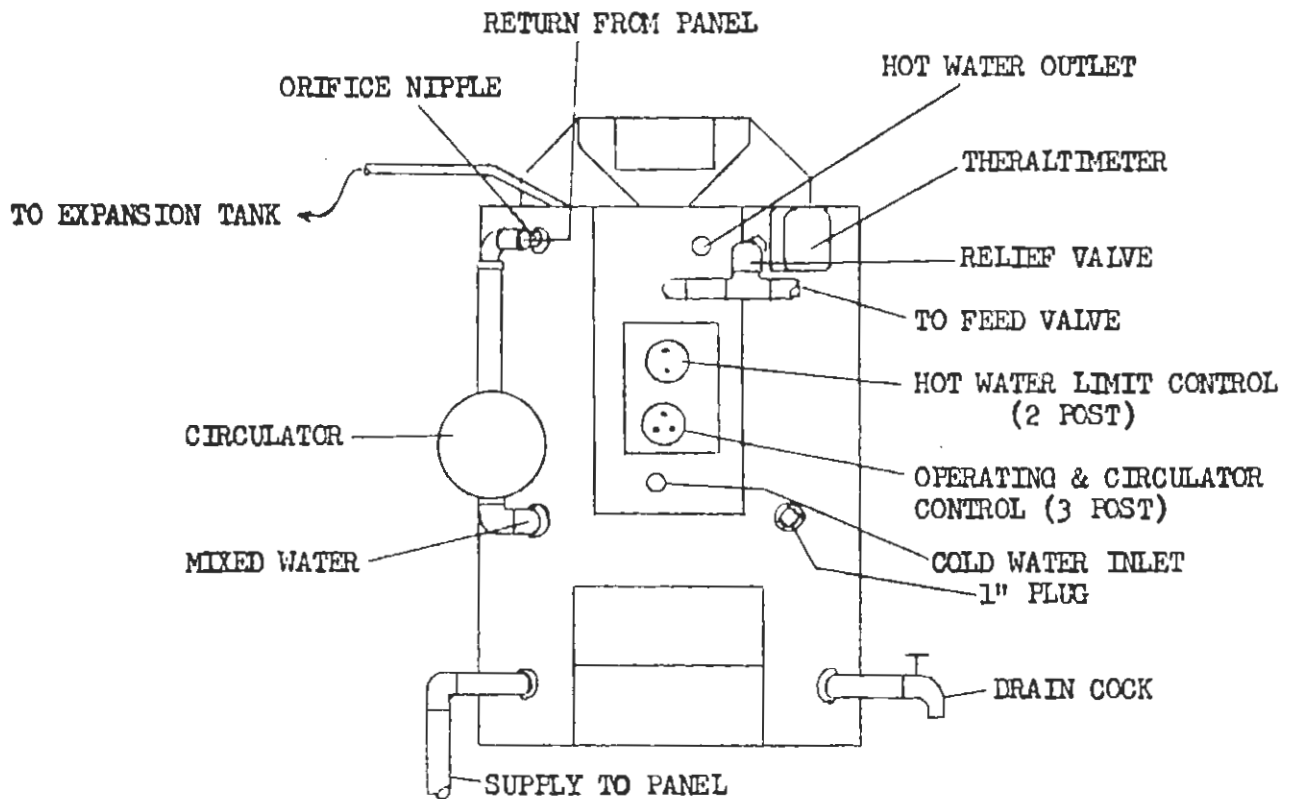


FIGURE 1

RADIANT HEAT PIPING ARRANGEMENT
FIRST FLOOR RADIANT - SECOND FLOOR RADIATION

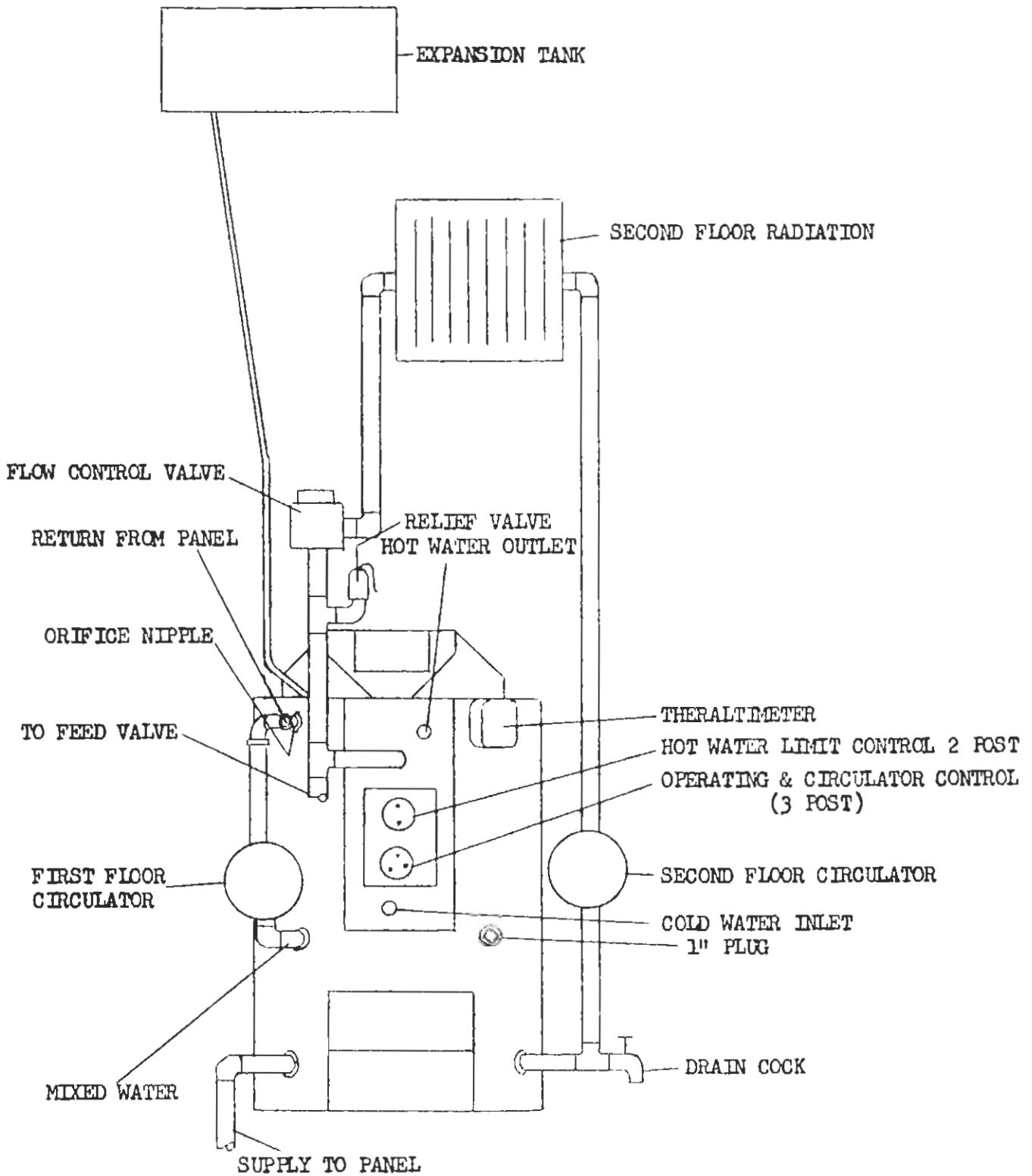


FIGURE 2

WIRING DIAGRAM FOR GAS FIRED HOT WATER BOILERS

FORCED SYSTEM WITH DOMESTIC COIL USING 24 VOLT GAS VALVE AND LOW VOLTAGE THERMOSTAT

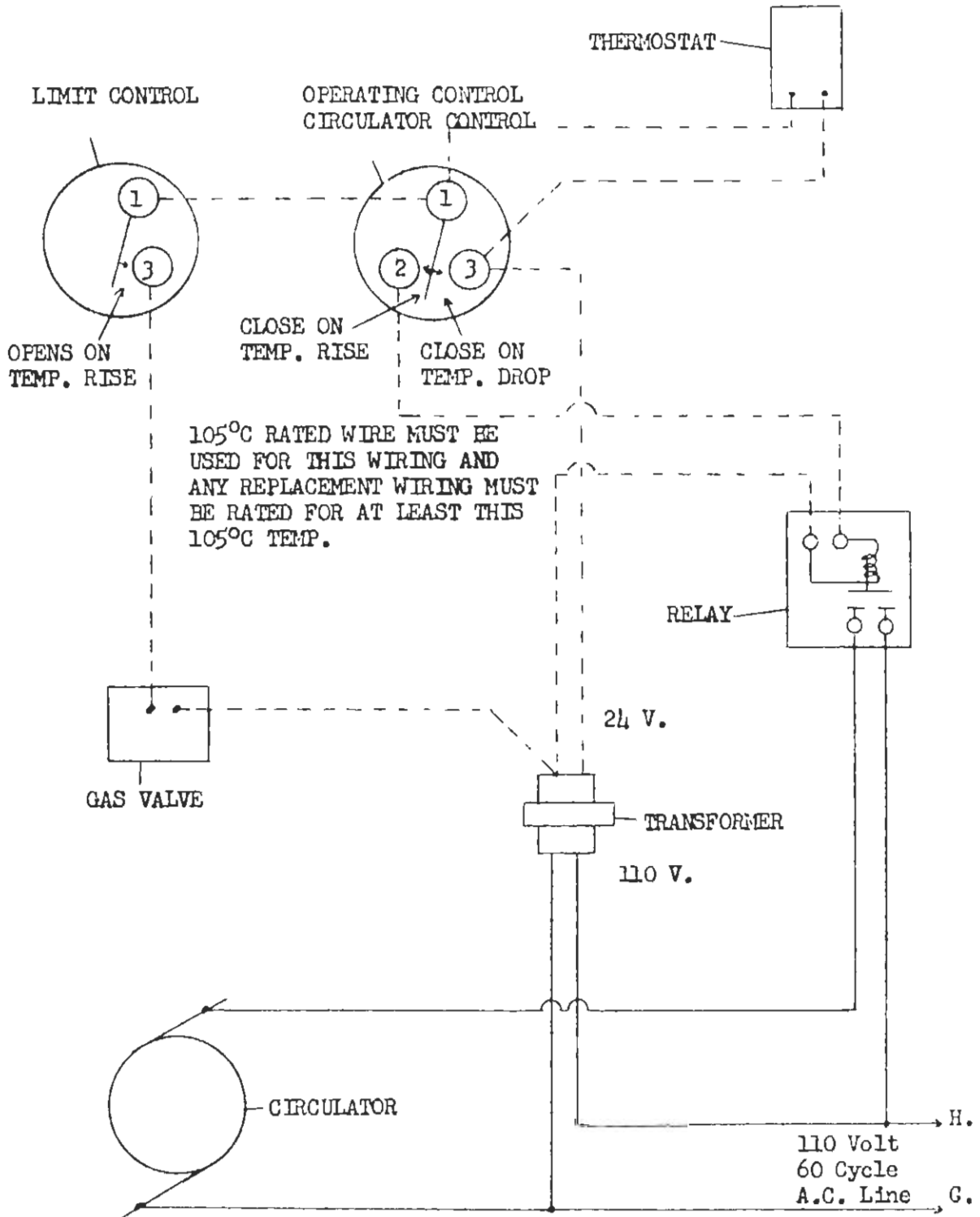


FIGURE 3

ZONE INSTALLATION WIRING DIAGRAM FOR GAS FIRED
HOT WATER BOILERS

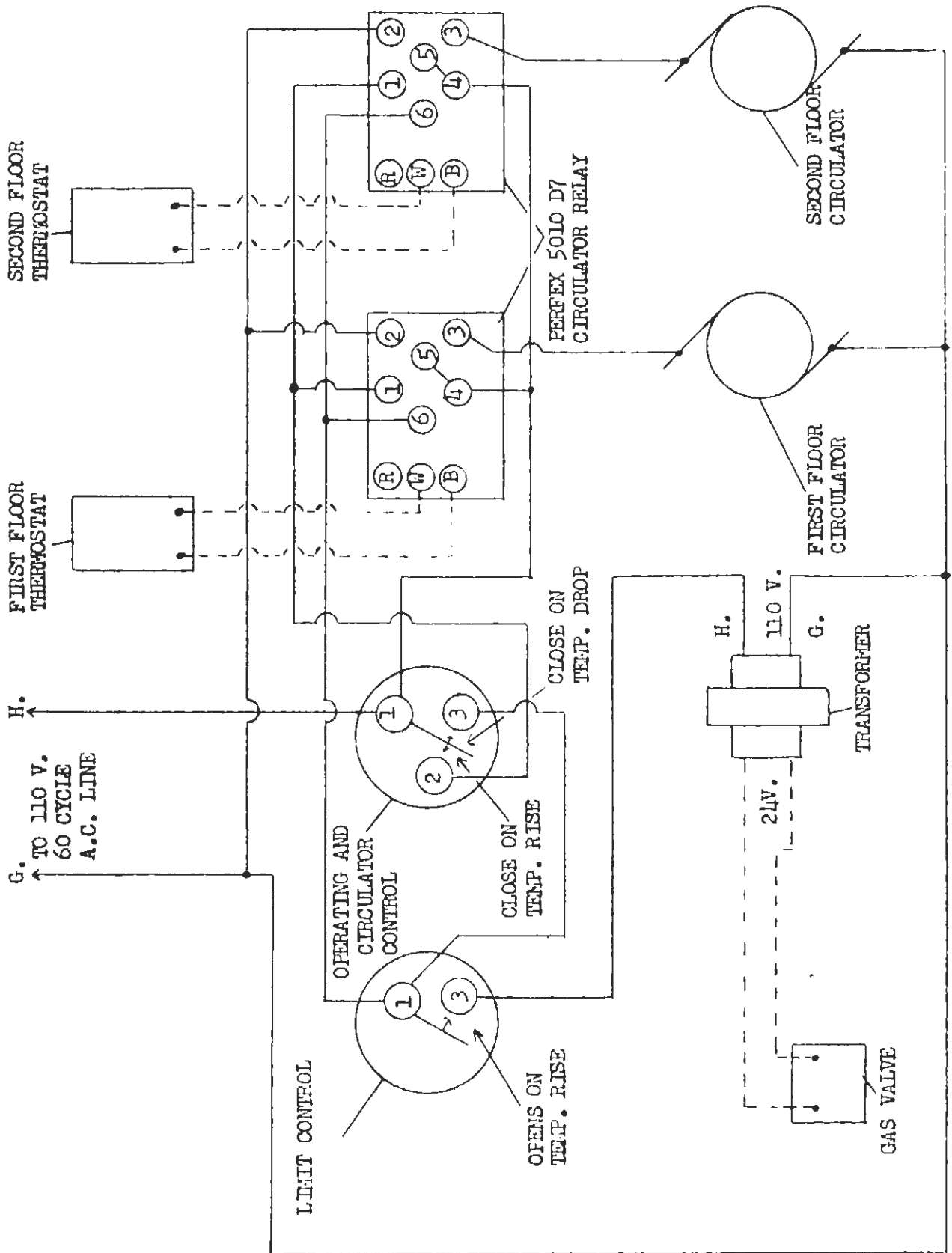
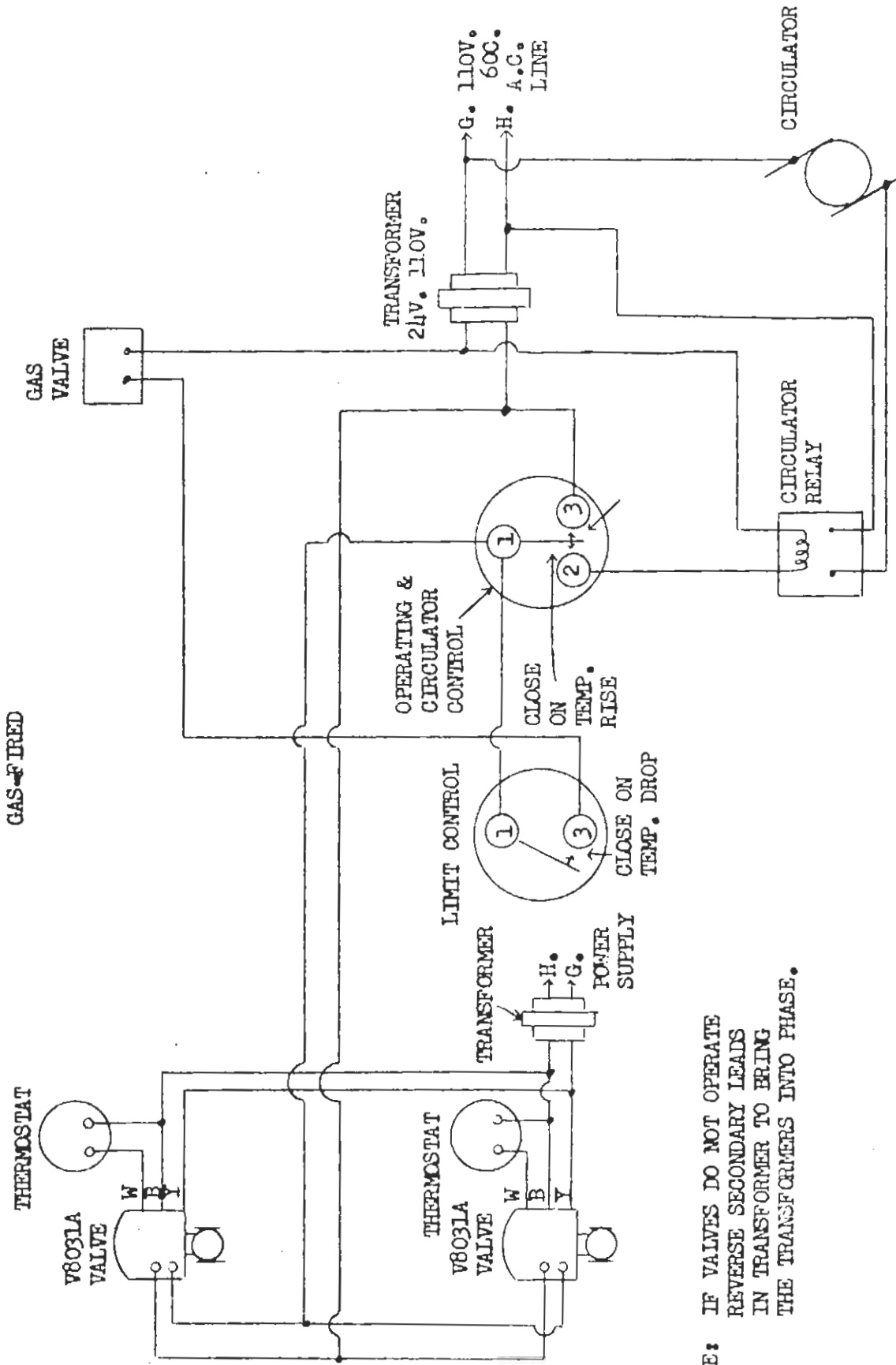


FIGURE 1

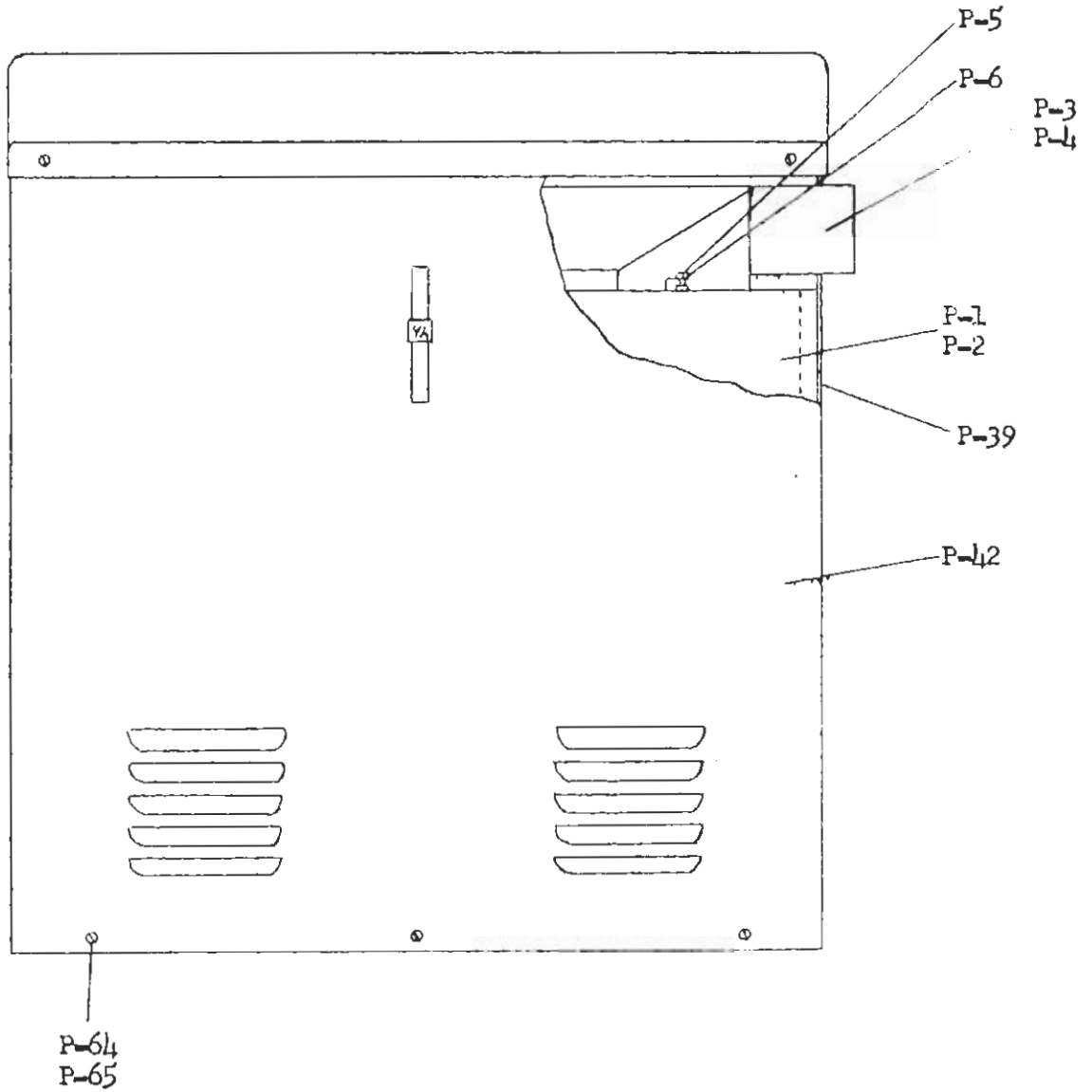
ZONE CONTROL WITH MINNEAPOLIS-HONEYWELL VALVES



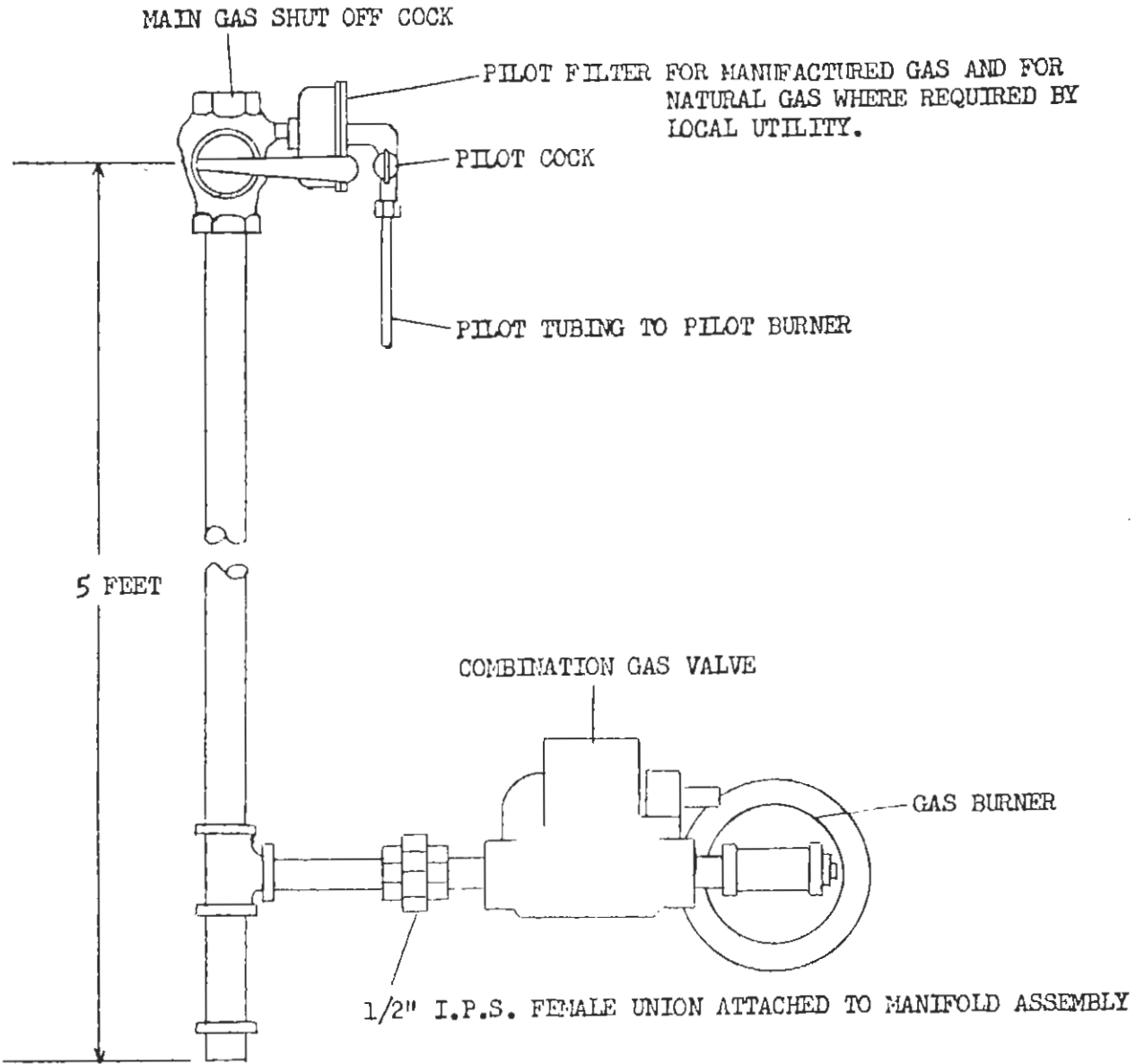
NOTE: IF VALVES DO NOT OPERATE REVERSE SECONDARY LEADS IN TRANSFORMER TO BRING THE TRANSFORMERS INTO PHASE.

FIGURE 5

GT9-115E AND GT9-115E PARTS IDENTIFICATION & DWG.



FRONT VIEW



SKETCH SHOWING INSULATION ON BOILER

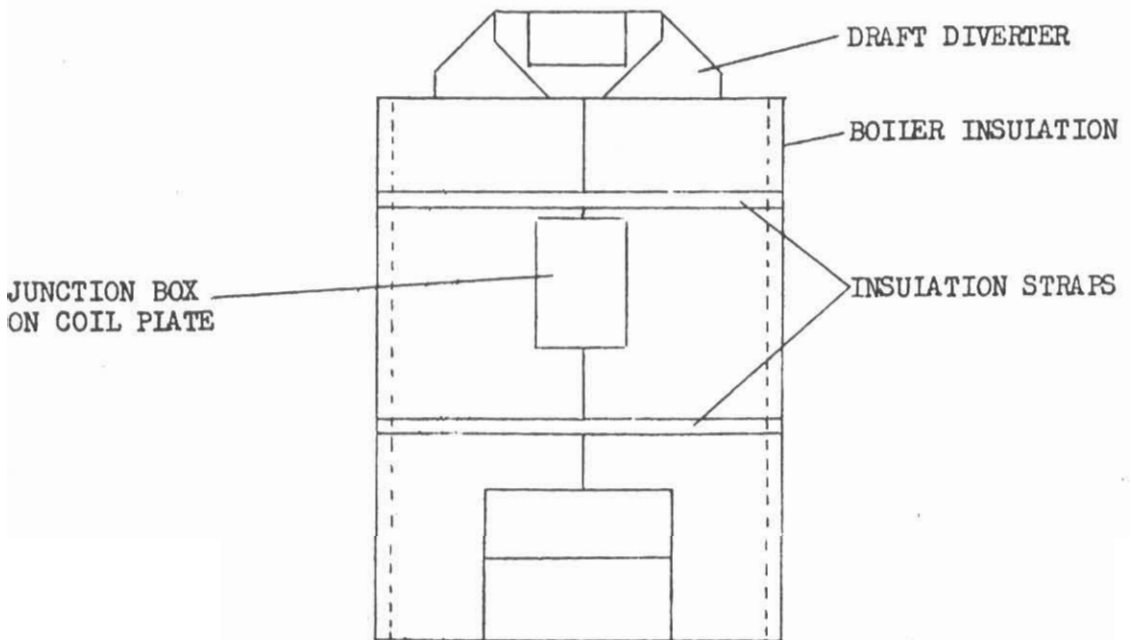


FIGURE 7

PARTS LIST FOR GT9-115E AND GT9-145E

(P-NUMBERS REFER TO PARTS IDENTIFICATION DRAWINGS)

PARTS REF. NO.	PART NAME	GT9-115E		GT9-145E	
		NO. REQ'D	PART NO.	NO. REQ'D	PART NO.
P-1	Boiler Unit Assembly Consists of P-2 to P-7)	1	76058	1	76059
P-2	Boiler Assy. Consists of P-8 to P-11 Inc)	1	74647	1	74645
P-3	Draft Diverter Assembly	1	75720	1	75722
P-4	Draft Diverter Gasket 1/16" x 1/2" Folded Asbestos Listing Tape 62-1/2" Lg.	1	75268	1	75268
P-5	Draft Diverter Mtg. Bolt 3/8" 16NC2 x 3/4" Lg. Hex Hd.	4	50299	4	50299
P-6	Draft Diverter Mtg. Washer 3/8" Flat	4	50022	4	50022
P-7	Tube Spirals	22	23022	32	23022
P-8	Coil Assembly	1	73733	1	73733
P-9	Coil Assembly Mtg. Nuts 1/2" 13NC2 Hex Brass	12	50164	12	50164
P-10	Coil Assembly Mtg. Washers 1/2" Flat SAE	12	53700	12	53700
P-11	Coil Plate Gasket	1	17872	1	17872
P-12	Theraltimeter 3-1/2" Sq. Case 1/2" Bott. Conn.	1	64580	1	64580
P-13	Boiler Insulation	1	73766	1	73766
P-14	Operating Control (20400D50-41)	1	50129	1	50129
P-15	Limit Control (20400L47-183) Immersion Aquastat for Public Serv. 14006A M. H.	1 1	54752 66410	1 1	54752 66410
P-16	Hot Water Relief Valve 3/4" #374	1	66447	1	66447
P-17	Gas Burner & Manifold Assembly (Consisting of P-18 to P-23 Inc.)	1	95803	1	95804
P-18	Gas Burner Assembly	1	75252	1	75252
P-18A	Burner Spud	1 #8	Drill .199	1 #2	Drill .221
P-19	Gas Burner to Gas Valve Nipple 1/2" I.P.S. 5-1/2" Lg.	1	51676	1	51676
P-20	Gas Valve Robertshaw #1210 Bear .24	1	101307	1	101307
P-21	Gas Valve to union close pipe nipple 1/2" IPS	1	50650	1	50650
P-22	Manifold Support	1	95802	1	95802
P-23	Female Union 1/2" IPS	1	51005	1	51005

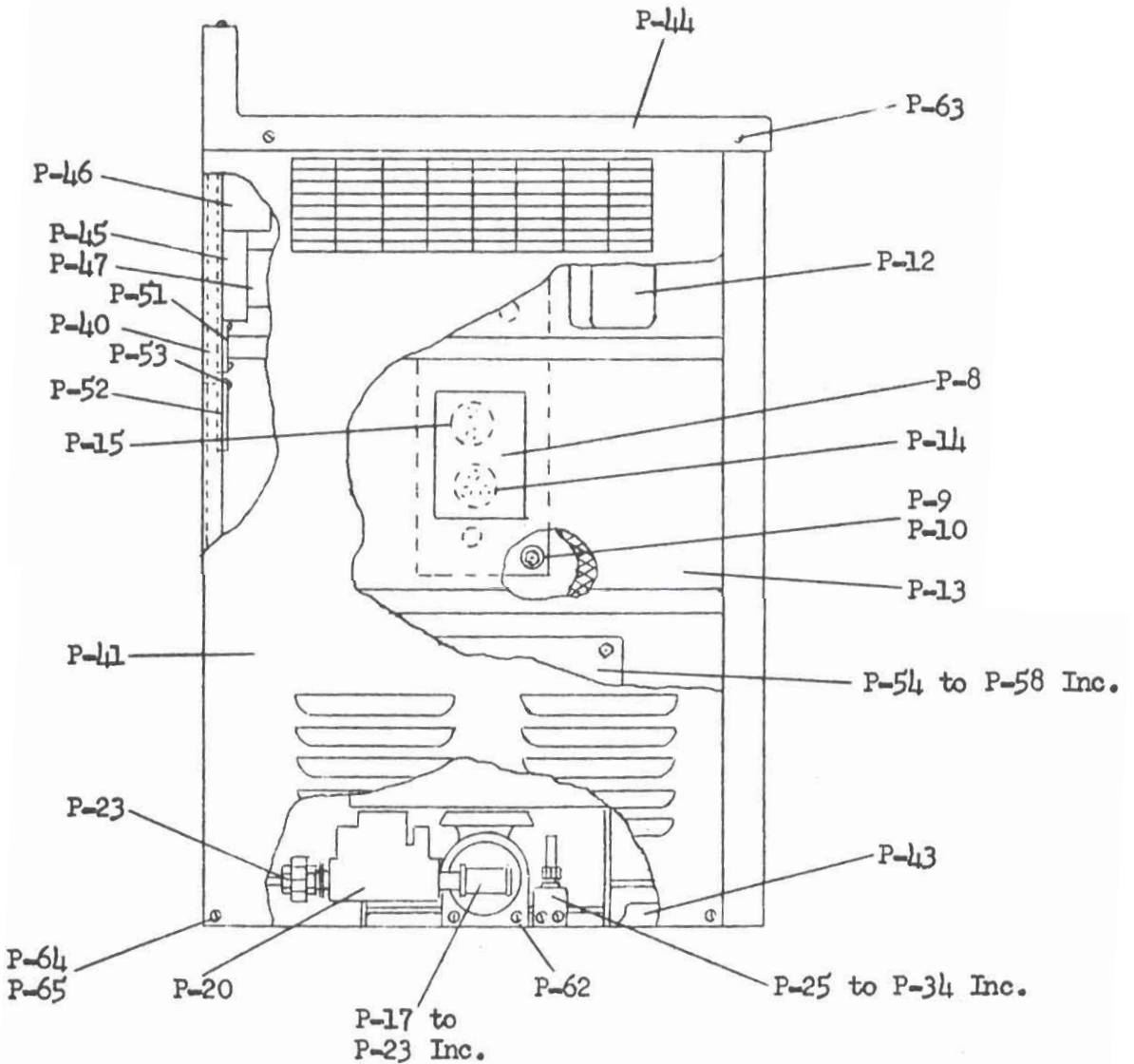
PARTS LIST FOR GT9-115E AND GT9-145E CONT'D

PARTS REF. NO.	PART NAME	GT9-115E		GT9-145E	
		NO. REQ'D	PART NO.	NO. REQ'D	PART NO.
P-24	Insulation Straps 8 1/4" Lg.	2	64792	2	64792
P-25	Pilot Assembly (Consists of P-26 to P-34)	1	82671	1	82671
P-26	Pilot Tube Assembly	1	73759	1	73759
P-27	Elbow 1/8" I.P.S. ML'B	1	51259	1	51259
P-28	Tee 1/8" I.P.S. ML'B	1	50347	1	50347
P-29	Close Nipple 1/8" x 3/4" Lg.	1	61680	1	61680
P-30	Nipple 1/8" x 2" Lg.	1	51702	1	51702
P-31	Pilot Burner 4D11-IN	1	52646	1	52646
P-32	Ignitor Tube	1	73760	1	73760
P-33	Compression Angle Conn. 69 x 4	1	53209	1	53209
P-34	Thermocouple 88D x 30" Lg.	1	61832	1	61832
P-35	Manual Shut-Off Cock 1/2" Thermac #300	1	64276	1	64276
P-36	Thermostat MG T83A (Optional)	1	66081	1	66081
P-37	Pilot Tubing 1/4" O.D. x .032" Wall x 7 Ft. Lg. Aluminum	1	51662	1	51662
P-38	Pilot Cock 1/8" IPS Thermac P2R	1	65734	1	65734
P-39	23" Wall Panel	1	76867	1	76867
P-40	36" Wall Panel	1	76866	1	76866
P-41	Side Panel Assembly	1	76869	1	76869
P-42	Front Panel Assembly	1	76873	1	76873
P-43	Bottom Casing Stiffener	1	76870	1	76870
P-44	Top Panel Assembly	1	75150	1	75150
P-45					
P-46	Relay Det. Assembly	1	98917	1	98917
P-47	Transformer Det. #CB-24007 20VA	1	64412	1	64412
P-48	Outlet Box Relay Mtg. Screws #10 x 1/2" Type "A" R.H. Sheet Metal	4	50091	4	50091

PARTS LIST FOR GT9-115E AND GT9-145E CONT'D

PARTS REF. NO.	PART NAME	GT9-115E		GT9-145E	
		NO. REQ'D	PART NO.	NO. REQ'D	PART NO.
P-49					
P-50					
P-51	Data Plate	1		1	
P-52	Lighting Instruction Plate	1	32258	1	32258
P-53	Date and Lighting Instruction Plate Mtg Screws #4 x 1/4" "A" Sheet Metal	6	50093	6	50093
P-54	Burner Plate Assy (Consists of P-55 to P-58 Inc.)	1	76862	1	76862
P-55	Burner Plate	1	77173	1	77173
P-56	Insulation	1	73745	1	73745
P-57	Insulation Mounting Nail 6D Common Coated 1-7/8" Lg.	2	50615	2	50615
P-58	Insulation Mounting Nail Clips Tinnerman #C-9657-012-4	2	51655	2	51655
P-59	Burner Plate Assembly Mounting Bolts 3/8" 16NC2 x 1/2" Lg. Hex Hd Brass	2	65834	2	65834
P-60	Orifice Nipple (Optional)	1	73814	1	73814
P-61	Wall Panel Speednuts Tinnerman #C-699-10A-1	3	50453	3	50453
P-62	Pilot Assy, Burner & Manifold Support Mounting Screws #10-24NC x 1/2" Lg. R.H. Type "F" Self-Tapping	6	50120	6	50120
P-63	Casing Assembly Screws #10 x 1/2" Type A R.H. Sheet Metal	7	50091	7	50091
P-64	Casing to Bottom Casing Stiffener Mounting Screws #10 24NC2 x 1/2" Lg. R.H. Machine Screw	5	50269	5	50269
P-65	Casing to Bottom Casing Stiffener Mounting Nuts #10 - 24 Hex	5	50051	5	50051

GT9-115E AND GT9-115E PARTS IDENTIFICATION DWG.



SIDE VIEW

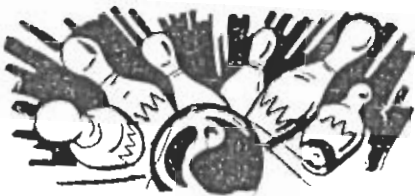
YORK-HEAT BOILERS Win On These IMPORTANT POINTS



RUGGEDNESS . . . Operating like a rugged well-matched team, the YORK-HEAT Boiler and Burner have an enviable performance record.



THRIFT . . . Heating men agree that the high efficiency of YORK-HEAT Burners turns every possible drop of fuel into usable heat. Extra-heavy insulation on all sides of boiler cuts heat losses.



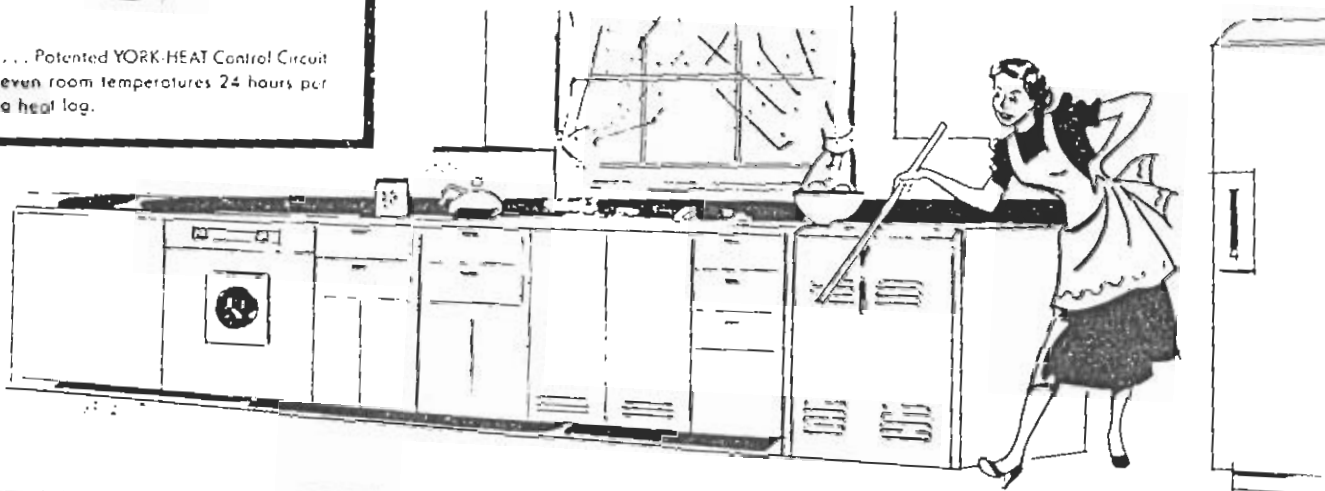
CONTROL . . . Patented YORK-HEAT Control Circuit maintains even room temperatures 24 hours per day with no heat log.

Leading Builders use York-Heat



In tens of thousands of modern homes built by custom builders and foremost community developers, including Campanelli, Levitt, and other famous names, YORK-HEAT boilers serve faithfully day after day and year after year.

Such builders appreciate the "plus" values of these fine products of a pioneer manufacturer of automatic home heating equipment.



Visitors at YORK-HEAT boiler-equipped homes are frequently mystified by the apparent absence of heating units. This is because the boiler's compact design enables it to be tucked conveniently away in basements or inconspicuously placed in kitchens or utility rooms.

Pioneer and Leader

YORK-HEAT Boilers are manufactured by York-Shipley, Inc. of York, Pennsylvania . . . "Pioneers in Home Comfort since 1918." All components have been thoroughly factory tested to assure long life and trouble-free performance. Boilers are made to comply with the rigid requirements of the American Society of Mechanical Engineers.



SMART APPEARANCE . . . Neat, compact YORK-HEAT Cabinets are designed in smart simplicity to harmonize with today's finest appliances.

YORK-HEAT HYDRONIC SYSTEM

Heats all rooms and faucet water

at the flick of an automatic switch

whenever needed throughout the year.

This system combines a tested and approved steel boiler and a thrifty matched burner to provide automatic heating of rooms and faucet water at all times. Necessary controls and accessory devices are integrated into the system.

ONLY YORK-HEAT GIVES YOU ALL THESE 7 FEATURES

1. Burns low cost natural gas quietly.
2. Is installed in kitchen, with concealed chimney connection.
3. Harmonizes with kitchen work-tops and appliances.
4. Has delighted tens of thousands of families for many years with its reliability and trouble-free operation.
5. Maintains even temperatures in all rooms, in all weather.
6. Never "runs out" of hot faucet water.
7. Seldom requires service.

Here's why York-Heat is the leader, and performs superlatively well:

A. York-Heat Gas Boiler

Built of heavy boiler-plate by York-Shipley craftsmen to the exacting standards for material and design of American Gas Association and American Society of Mechanical Engineers.

B. York-Heat Gas Burner

Burns low cost natural gas. Matched to boiler for thrifty reliability.

C. York-Heat Control Circuit

Insures uninterrupted supply of hot faucet water at all times, but protects boiler against overheating.

D. York-Heat Faucet Water Heater

Water for all domestic purposes is heated while passing through clean copper coils. Oceans of hot water at trifling cost available all year around upon the opening of a faucet.

E. Circulating Pump

Quietly circulates heated water through radiators when heat is required to maintain indoor temperatures at desired level.

F. Expansion Tank

Maintains an air cushion to permit water in system to expand when heated, without hazardous increase in pressure; and to contract upon cooling.

G. Pressure Relief Valve

Discharges water from boiler to control water pressure within standard limit under any circumstances which might cause pressure to rise.

H. Feed-Water Valve

Automatically refills boiler when water quantity has been reduced by operation of relief valve, or by other means.

I. Flow Regulator

Controls the rate-of-flow of water through faucet water heater for accurate regulation of heating.

J. Tempering Valve

Guards faucet water against scalding temperatures by adding cold water as required.

K. Fresh Water Supply

Supplies faucet water heater, also replenishes boiler water supply when feed water valve opens.

L. Supply to Radiation

York-Heat piping system modulates temperature of water supplied to floor coil radiators—automatically adjusts to demands of colder or warmer weather.

York-Heat boilers are manufactured by skilled craftsmen in York, Pennsylvania by YORK-SHIPLEY, INCORPORATED, a pioneer and specialist in complete automatic heating systems.