

**Installation and
Operating Instructions**

PERFECTION

Vented Gas-Fired Room Heaters

MODELS: VC220-KS-1

VC235, 250-M & ML

VC270-KS & KSL

VRC235-M, WVRC250-M

WVRC270-KS

FOR YOUR SAFETY

If you smell gas:

1. Open windows.
2. Don't touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.

FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

SAVE FOR FUTURE REFERENCE

PERFECTION PRODUCTS CO.

DIVISION OF SCHWANK, INC.

P.O. Box 749

Waynesboro, Georgia 30830-0749

706-554-2101 / 404/554-2101
Zim hong mgr. (parts)

108511-G1
Rev. 7/88

YOU HAVE PURCHASED A PERFECTION GAS-FIRED ROOM HEATER. THIS IS A GOOD HEATER, BUT IT CANNOT MAKE UP FOR POOR OR INCORRECT INSTALLATION.

READ THIS MANUAL CAREFULLY FOR DETAILED INSTRUCTIONS NECESSARY FOR A GOOD AND SAFE INSTALLATION.

TO THE INSTALLER AND HOMEOWNER:

DUE TO HIGH SURFACE TEMPERATURES, THE HEATER SHOULD BE LOCATED OUT OF TRAFFIC AND AWAY FROM FURNITURE AND DRAPERIES.

CHILDREN AND ADULTS SHOULD BE ALERTED TO THE HAZARDS OF HIGH SURFACE TEMPERATURE AND SHOULD STAY AWAY TO AVOID BURNS OR CLOTHING IGNITION.

YOUNG CHILDREN SHOULD BE CAREFULLY SUPERVISED WHEN THEY ARE IN THE SAME ROOM AS THE HEATER.

DO NOT PLACE CLOTHING OR OTHER FLAMMABLE MATERIAL ON OR NEAR THE HEATER.

KEEP APPLIANCE AREA CLEAR AND FREE FROM COMBUSTIBLE MATERIALS, GASOLINE AND OTHER FLAMMABLE VAPORS AND LIQUIDS.

ANY SAFETY SCREEN OR GUARD REMOVED FOR SERVICING MUST BE REPLACED PRIOR TO OPERATING THE HEATER.

INSTALLATION AND REPAIR SHOULD BE DONE BY A QUALIFIED SERVICE PERSON. THE HEATER SHOULD BE INSPECTED BEFORE USE AND AT LEAST ANNUALLY BY A PROFESSIONAL SERVICE PERSON. MORE FREQUENT CLEANING MAY BE REQUIRED DUE TO EXCESSIVE LINT FROM CARPETING, BEDDING MATERIAL, ETC. IT IS IMPERATIVE THAT CONTROL COMPARTMENTS, BURNERS, AND CIRCULATING AIR PASSAGEWAYS OF THE APPLIANCE BE KEPT CLEAN.

"WARNING" ANY CHANGE TO THIS HEATER OR ITS CONTROLS CAN BE DANGEROUS.

ANY ADDITIONS, CHANGES, OR CONVERSIONS REQUIRED IN ORDER FOR THE APPLIANCE TO SATISFACTORILY MEET THE APPLICATION NEEDS, MUST BE MADE BY A PERFECTION DISTRIBUTOR OR OTHER QUALIFIED AGENCY USING FACTORY SPECIFIED AND APPROVED PARTS.

THIS HEATER WILL PRODUCE CARBON MONOXIDE IF NOT INSTALLED AND ADJUSTED CORRECTLY.

THIS HEATER SHOULD BE INSTALLED SO AS TO HAVE THE DRAFT HOOD IN THE SAME ATMOSPHERIC PRESSURE ZONE AS THE COMBUSTION AIR INLET TO THE ROOM HEATER.

THIS HEATER MUST BE PROPERLY CONNECTED TO A VENTING SYSTEM. THIS HEATER IS EQUIPPED WITH A VENT SAFETY SHUTOFF SYSTEM.

THIS HEATER IS EQUIPPED WITH A SAFETY CONTROL SYSTEM DESIGNED TO PROTECT AGAINST IMPROPER VENTING OF COMBUSTION PRODUCTS.

WARNING: OPERATION OF THIS HEATER WHEN NOT CONNECTED TO A PROPERLY INSTALLED AND MAINTAINED VENTING SYSTEM OR TAMPERING WITH THE VENT SAFETY SHUTOFF SYSTEM CAN RESULT IN CARBON MONOXIDE (CO) POISONING AND POSSIBLE DEATH.

GENERAL INFORMATION

These heaters are available with various arrangements of factory installed controls. The following list of model Suffix letters identifies the type controls on the heater.

MODEL NUMBER SUFFIX

DESCRIPTION

T	Mechanical Thermostat and Safety Pilot
C	Automatic Push-Button Controlled 3-Speed Blower
N	Equipped for Natural Gas
L	Equipped for LP Gas

HEATER RATINGS

MODEL
VC220-KS-1
VC235-M & -ML, VRC235-M
VC250-M & -ML, WVRC250-M
VC270-KS & -KSL, WVRC270-KS

INPUT-BTU/HR
19,000
35,000
50,000
70,000

INSTALLATIONS IN C
CAUTION: THESE V
PROVISIONS ARE MAI
ALL BE PROVIDE
ENCLOSURE, AND OI
NOT LESS THAN:

FOR VC220
FOR VC235
FOR VC250
FOR VC270

ACCESSORIES

The following accessories are available for these model heaters:

Blower Accessory Kit, Model No. SB8-1 (For Models VC235 & VRC235)

Blower Accessory Kit, Model No. CB11-M (For Models VC250, WVRC250 and VC270, WVRC270)

These forced air blower kits increase the circulation of warm air through the heated space. The Wiring Diagram is supplied with each Blower Accessory. See Pages 11 and 12.

Contact your Perfection Dealer or Distributor for information on these accessories.

UNPACKING AND HANDLING

Unpack the heater carton and examine the contents for damage or missing parts. If any parts are found damaged at the time of delivery, proper notation should be made on the bill of lading from the transportation company. Concealed damages must be filed within fifteen (15) days with the carrier. Claims of shortage must be filed with the manufacturer within five (5) days.

1. INSTALLATION:

CAUTION: installer must be familiar with and comply with all local and national code requirements, including the National Electric Code ANSI/NFPA No. 70 (latest edition) and National Fuel Gas Code ANSI Z223.1 (latest edition) with special attention to, but not limited to, the following:

(a) Accessibility Clearances and Clearances to Combustible Construction. The heater should be located out of traffic and away from furniture, draperies, and anything combustible due to high surface temperature. See Minimum Clearances below.

(b) Venting of Flue Products.

(c) Gas Piping.

(d) Electrical Wiring. (Models incorporating blowers must be electrically grounded.)

(e) Minimum Clearances are:

Top	60 in.
Back	6 in.
Flue Pipe	6 in.
Side Opposite Control Door	6 in.
Side With Control Door	24 in.
(For access to servicing of burner and controls)	
Floor — Combustible	0 in.

(Clearances for combustible flooring shall be maintained from the top surface of carpeting, tile, etc.)

NOTE: Local codes have priority over the National Fuel Gas Code, ANSI Z223.1 (latest edition).

2. LOCATION OF HEATER:

HEATER SHOULD BE AS CENTRALLY LOCATED IN THE AREA TO BE HEATED AS POSSIBLE. HEATER MAY BE INSTALLED ON COMBUSTIBLE FLOORING WITH MINIMUM CLEARANCE OF SIX INCHES MAINTAINED BETWEEN SIDES, BACK AND VENT CONNECTOR TO ADJACENT WALLS OR FURNITURE.

WHEN THE HEATER IS INSTALLED DIRECTLY ON CARPETING, TILE OR OTHER COMBUSTIBLE MATERIAL OTHER THAN WOOD FLOORING, THE HEATER SHALL BE INSTALLED ON A METAL OR WOOD PANEL EXTENDING THE FULL WIDTH AND DEPTH OF THE HEATER.

AVOID LOCATIONS WHERE CURTAINS, DRAPES AND CLOTHING OR INFLAMMABLE MATERIAL CAN COME IN CONTACT WITH THE HEATER OR VENT PIPING.

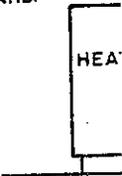
LOCATE IT AS TO BE READILY ACCESSIBLE FOR OPERATION AND SERVICING.

PROVISION FOR ADEQUATE COMBUSTION AND VENTILATION AIR MUST BE MADE.

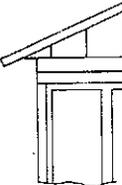
ADEQUATE CLEARANCES AROUND AIR OPENINGS INTO THE COMBUSTION CHAMBER MUST BE PROVIDED.

CORREC

VENT CONNECTOR
ALWAYS PITCHED
UPWARD.



Minim
above



CORRECT CHIMNE
ABOVE ROOFLINE C
DOWNDRAFT.

INSTALLATIONS IN CONFINED SPACES

CAUTION: THESE VENTED HEATERS SHOULD NOT BE USED IN CONFINED SPACES UNLESS PROVISIONS ARE MADE FOR ADEQUATE AIR FOR COMBUSTION AND VENTILATION. THE SPACE SHALL BE PROVIDED WITH TWO PERMANENT OPENINGS, ONE NEAR THE TOP OF THE ENCLOSURE, AND ONE NEAR THE BOTTOM. EACH OPENING SHALL HAVE A FREE AREA OF NOT LESS THAN:

FOR VC220	19 sq.in.
FOR VC235, VRC235	35 sq.in.
FOR VC250, WVRC250	50 sq.in.
FOR VC270, WVRC270	70 sq.in.

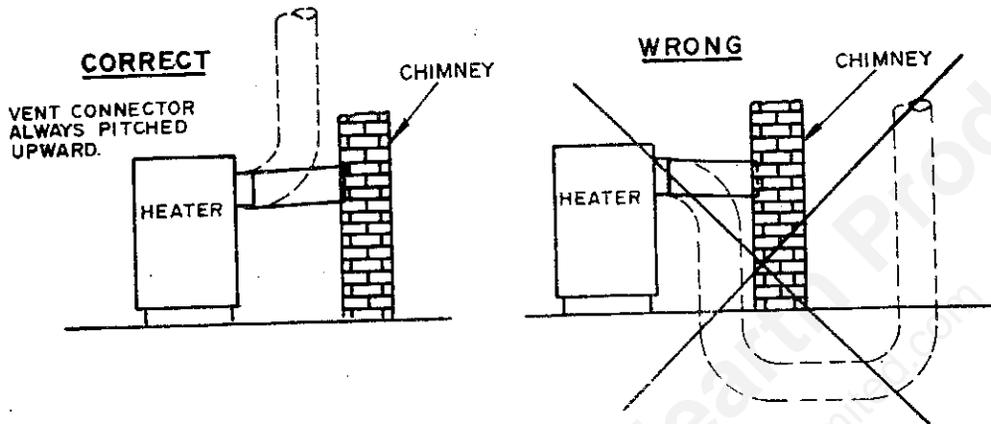
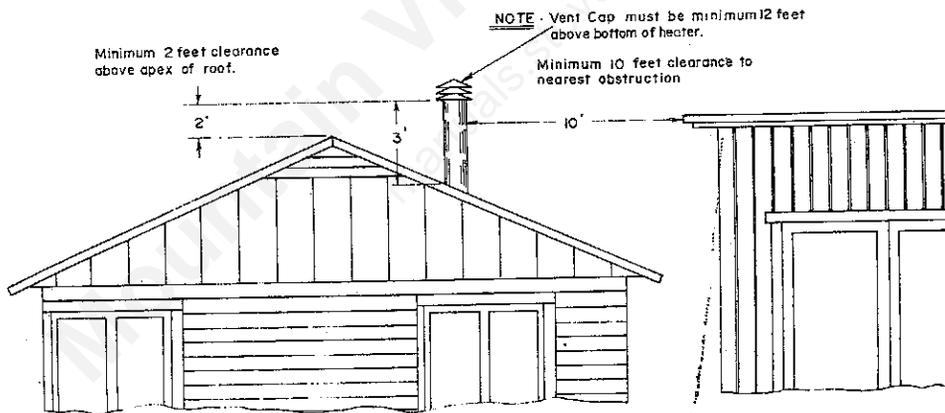


FIGURE 1
VENT CONNECTION METHODS



CORRECT CHIMNEY DESIGNS ILLUSTRATED BY DASHED LINES. CHIMNEY SHOULD EXTEND ABOVE ROOFLINE OF ADJACENT BUILDINGS. ILLUSTRATED CONDITIONS MAY PROMOTE A DOWNDRAFT.

FIGURE 2

INSTALLATION IN UNCONFINED SPACES

Heaters are to be sized to not exceed 1,000 BTU/HR of the total input rating of all appliances installed in the space, for every (50) cubic feet of room volume.

Rooms communicating directly with the space in which the appliances are installed, through openings not furnished with doors, are considered a part of the unconfined space.

EXAMPLE: A Model VC or WVRC270 when installed in unconfined spaces with normal infiltration having an (8) foot ceiling and no other gas appliances would need (438) square feet of area.

3. CHIMNEY AND VENTING:

These heaters are designed to be vented and MUST therefore be connected to a gas vent, chimney or single-wall metal pipe venting system that is engineered and constructed so as to develop a positive flow adequate to remove flue gases to the outside atmosphere.

Check local codes and ordinances as well as ANSI Standard Z223.1 (latest edition) for accepted venting methods and practices with particular attention to:

(a) Vent connectors shall be installed without any downward pitch from the appliances and without any dips or sags. See Figure 1.

(b) Vent connectors shall be pitched upward from the appliances at least 1/4 inch per foot. See Figure 1.

(c) The horizontal run of the vent connector shall be as short and direct as possible and the heater located as near the gas vent or chimney as practical.

(d) Manually operated dampers shall NOT be placed in the vent connectors from the heater.

(e) The size of the vent connector shall be the same size as the vent outlet on the heater.

(f) Vent connectors shall be firmly attached to the vent outlet collar of the heater by use of sheetmetal screws.

(g) Chimney must be in good condition and be free of obstruction to provide good draft for the heater. If you have any doubts about your chimney, call your Dealer.

(h) Chimney shall extend at least 3 feet above the highest point where they pass through the roof of a building and at least 2 feet higher than any portion of any building within 10 feet. See Figure 2.

(i) Chimneys shall extend at least 5 feet above the highest connected appliance draft hood outlet or flue collar.

(j) If the home does not have a chimney, a Metalbestos or any other approved Type B Chimney Package can be used.

(k) Vent pipe MUST NOT be connected to a chimney flue serving a separate solid fuel burning appliance.

4. The rating plate on the heater shows the input rating and type gas for which the particular heater is equipped.

IMPORTANT: WHEN THE HEATER IS INSTALLED AT ALTITUDES ABOVE 2,000 FEET, THE INPUT IS TO BE REDUCED 4 PERCENT FOR EACH 1,000 FEET OF ALTITUDE ABOVE SEA LEVEL.

EXAMPLE: VRC235 installed at 4,000 feet altitude

Normal Input Rating	35,000 BTU/hr.
Less 16% for 4,000 feet above sea level	5,600 BTU/hr.
Reduced input for 4,000 feet altitude	29,400 BTU/hr.

5. GAS PIPING:

The installation of the piping must be done by a qualified gas serviceman. To insure proper performance and full input capacity, the gas supply line leading to the heater from the main supply line should be of adequate size. Check with your local authorities as to the proper size of your particular installation.

Installation of a ground joint union is required at the gas inlet connection to the control manifold on the heater.

Installer is to provide immediately upstream. Use a pipe compound. The heater and its inlet during any pressure test. The heater must be isolated valve during any pressure test than 1/2 psig.

TEST FOR LEAKS:

is completed. The supply system is After the supply system Apply soap suds solution and should be correct. **DO NOT USE A MANOMETER. NEVER OPERATE 1**

6. RADIANTS:

Install the radiants with support along the inside. VRC235 uses 4 radiant. **OPERATE THE HEATER** Individual Replacement VRC235 .. WVRC250,

7. RADIANT GLASS:

The Glass Panel for bottom at the rear of the The Glass Panel for side the Burner Access. Follow ALL instructions installation of the glass panel.

CAUTION: Glass Panel

(a) Remove the one

(b) Strip the protective

(c) Install the glass panel

1. Make sure that the

of the gasket is at a correct

2. Place the glass into

edge of glass resting on

be at a bottom corner.

Hold the glass in position

Figures 4 and 5. The bottom

chamber frame, engaging

to the combustion chamber

CAUTION: AFTER INSTALLATION

SLIDING SIDE-TO-SIDE

MODELS WITH THERMISTORS

WITH THE CONTROL

COUNTERCLOCKWISE

INDICATOR ON THE CONTROL

IS THE LOW-FIRE POSITION

Installer is to provide for a 1/8 inch N.P.T. plugged tapping, accessible for test gauge connection immediately upstream of the gas supply connection to the appliance.

Use a pipe compound which is resistant to the action of liquified petroleum gases.

The heater and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig.

The heater must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig.

TEST FOR LEAKS: All gas piping and connections must be tested for leaks after the installation is completed.

The supply system should be checked first with the heater turned "OFF".

After the supply system is checked, turn "ON" the heater and check the heater piping and controls.

Apply soap suds solution to all connections and joints and if bubbles appear, leaks have been detected and should be corrected.

DO NOT USE A MATCH OR OPEN FLAME OF ANY KIND TO TEST FOR LEAKS.

NEVER OPERATE THE HEATER WITH LEAKY CONNECTIONS.

6. RADIANTS:

Install the radiants with the ribbed face toward the front and the bottom front edge resting in the channel support along the inside front of the main chamber.

VRC235 uses 4 radiants; WVRC250 uses 7 radiants and WVRC270 uses 8 radiants. **DO NOT OPERATE THE HEATER WITH BROKEN RADIANTS OR WITHOUT RADIANTS.**

Individual Replacement Radiants can be ordered by the following part numbers:

VRC235 Part No. DW4555-G1

WVRC250, WVRC270 Part No. DW4573-G1

7. RADIANT GLASS:

The Glass Panel for the VRC235 Models is packaged in a cardboard wrapper and enclosed in the bottom at the rear of the heater casing.

The Glass Panel for WVRC250 and 270 Models is packaged in a cardboard wrapper and inserted inside the Burner Access Door.

Follow ALL instructions printed on the cardboard wrapper for removing, unpacking and correct installation of the glass panel.

CAUTION: Glass Panel will crack if not installed correctly. Install the glass as follows:

(a) Remove the one piece aluminum retainer frame from the Combustion Chamber front.

(b) Strip the protective covering from the trim on the front of heater.

(c) Install the glass using the following instructions:

1. Make sure that the glass gasket is evenly spaced on the edge of the glass and that the sewn joint of the gasket is at a corner of the glass. See Figure 3.

2. Place the glass into position in the recess in the front of the combustion chamber, with the lower edge of glass resting on the shelf at the bottom of the opening in the chamber. The sewn joint should be at a bottom corner.

Hold the glass in position with one hand while sliding the one piece aluminum frame in place. See Figures 4 and 5. The bottom of the one piece frame slides into an angle at the bottom of the combustion chamber frame, engaging and locking the frame in position. See Figure 5. Fasten the top of the frame to the combustion chamber after making sure it is aligned side-to-side and top-to-bottom. See Figure 6.

CAUTION: AFTER INSTALLING THE FRAME, MAKE SURE THE GLASS IS FREE TO MOVE BY SLIDING SIDE-TO-SIDE AND UP-AND-DOWN WITH THE PALM OF YOUR HAND.

MODELS WITH THERMOSTAT

WITH THE CONTROL KNOB IN THE NO. 1 POSITION, TURN THE KNOB SLOWLY COUNTERCLOCKWISE UNTIL THE BURNER LIGHTS — NOTE THE NUMBER OPPOSITE THE INDICATOR ON THE CONTROL KNOB, THEN ADVANCE TO THE NEXT HIGHER NUMBER — THIS IS THE LOW-FIRE POSITION.

8. SAFETY GUARD:

Install the Safety Grill Guard in position in front of the Radiant Glass as shown in Figure 7. CAUTION: For your safety, the Safety Grill Guard must be in position and the internal cotter pin installed at all times during operation of the heater.

9. MAIN BURNER INPUT AND AIR ADJUSTMENTS:

(a) These heaters are supplied with orifices to give the correct BTU/HR input based on the following pressures:

	<u>INLET SUPPLY PRESSURE</u>		<u>MANIFOLD PRESSURE</u>
	<u>MAXIMUM</u>	<u>MINIMUM</u>	
Natural Gas	14.0 In. W.C.	5 In. W.C.	3.5 In. W.C.
Propane Gas	14.0 In. W.C.	11 In. W.C.	10.0 In. W.C.

CAUTION: Input rating should NEVER exceed that shown on the rating plate. The input rating of the heater on Natural Gas can be determined by timing the gas meter with all other gas appliances turned "OFF".

$$\frac{\text{Time (Seconds Required to Burn One Cubic Foot of Gas)}}{\text{Heating Value of Gas (Btu/Cu.Ft.)}} \div \frac{\text{Nameplate Input Rating (Btu/Hr.)}}{3600}$$

(b) **PILOT ADJUSTMENT:** The pilot flame should always envelop approximately one-half inch of the thermocouple tip. If it does not, adjustment of the pilot gas flow will be necessary and can be made with the adjusting needle valve supplied on the control valve. See Figures 8 and 10.

(c) **GAS CONTROLS:** This heater is equipped with a combination pilot safety control and integral pressure regulator to provide safe and automatic heat.

The pilot safety control completely shuts off the main burner and pilot gas flow in the event of a pilot flame failure.

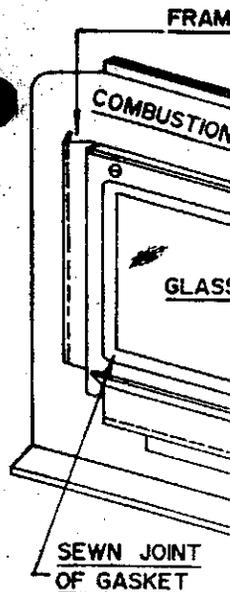
The built-in pressure regulator maintains constant gas pressure to the burner on all gases.

TO CHECK THE SAFETY PILOT SYSTEM, light the pilot following the Lighting and Shutting Down Instructions (Page 13). Shut off the pilot gas and listen carefully for the safety device to click. This click indicates that the safety system is functioning correctly.

(d) This heater is equipped with a Vent Safety Shutoff Switch. This switch will detect spillage of flue products from the Draft Diverter relief opening and will shut off the pilot and the main burner gas.

Spillage of flue gases from the Draft Diverter indicates an improperly connected flue pipe or a blocked flue pipe. See Figures 1 and 2 and Paragraph 3 on Page 4 for correct venting of this heater.

THERMOSTAT: Models incorporating the suffix letter "T" in the model number also include an integral modulating mechanical thermostat (bulb type) which operates to close and open the main valve automatically with rise and fall in room temperature. With light heating loads, the valve should snap open and closed at minimum flame. If the heating load increases, the valve modulates, supplying gas in proportion to the increase in the heating load.



WINDOW RETAINER

WINDOW

FIGURE



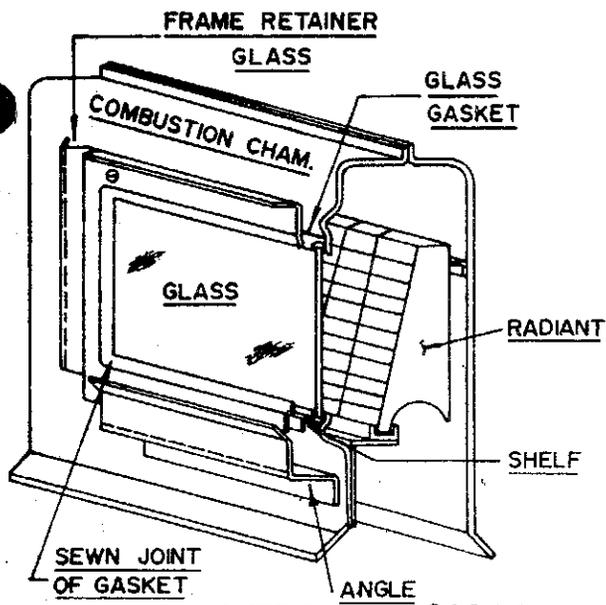


FIGURE 3

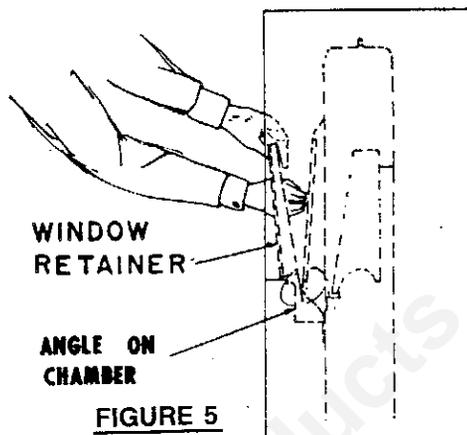


FIGURE 5

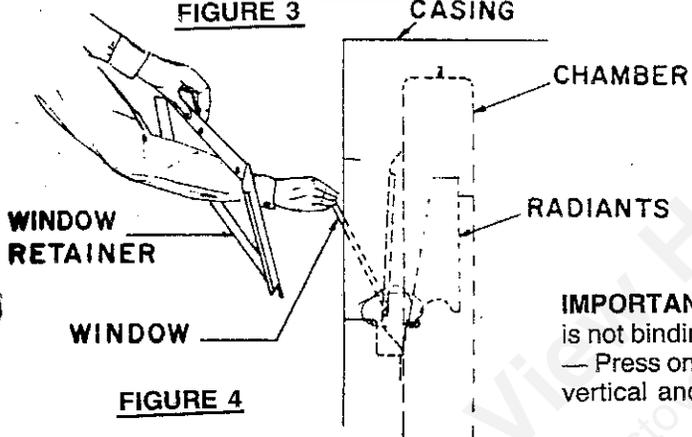


FIGURE 4

FASTEN WINDOW
RETAINER TO
CHAMBER WITH
THREE SCREWS
FURNISHED

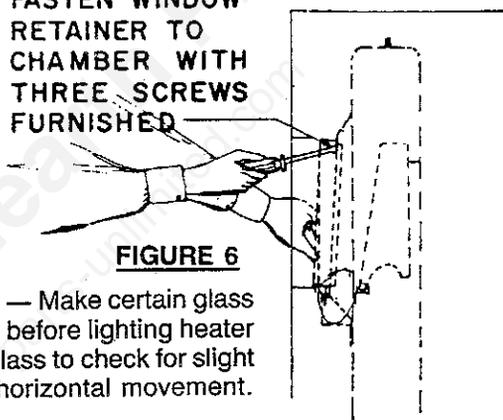


FIGURE 6

IMPORTANT — Make certain glass
is not binding before lighting heater
— Press on glass to check for slight
vertical and horizontal movement.

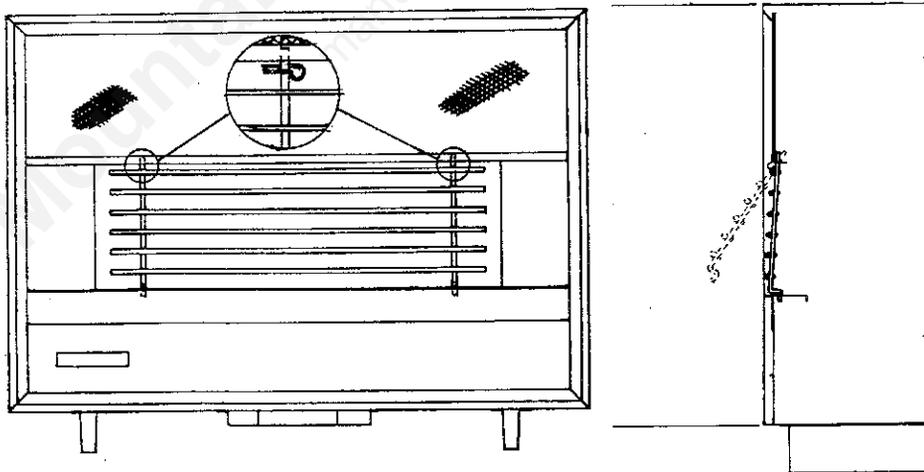


FIGURE 7

FRONT AND SIDE VIEW OF VRC SERIES
SHOWING INSTALLATION OF SAFETY GRILL GUARD

GUARD

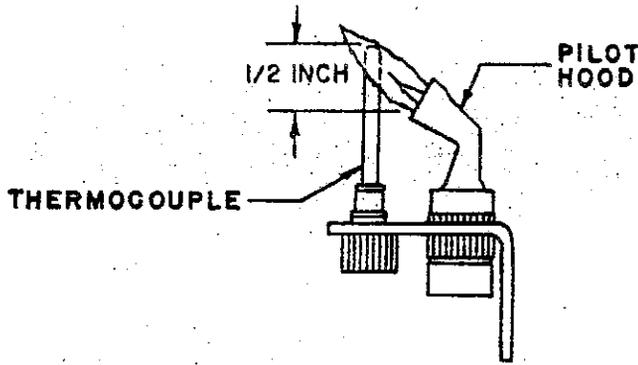


FIGURE 8

Pilot flame should always envelop approximately 1/2 inch of the thermocouple tip and should be a pronounced blue flame.

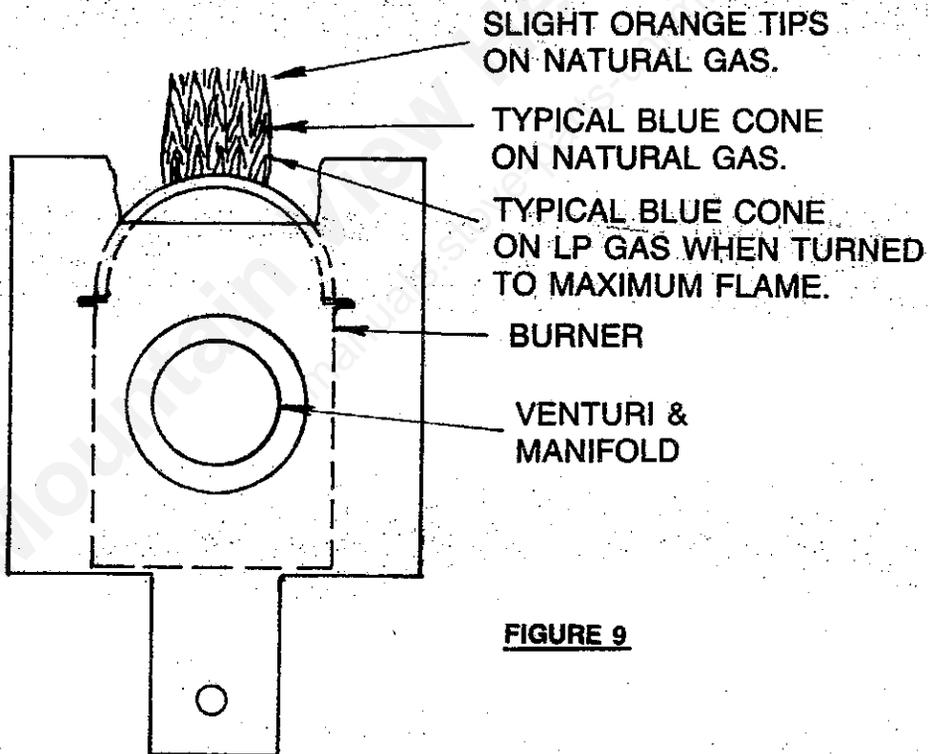


FIGURE 9

NO PRIMARY AIR ADJUSTMENT

Make sure air opening and burner tube are clear of lint, dust and cob webs.

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(a) B
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The Temperature Dial number markings correspond approximately to the following Temperatures:

Scale Number	1	2	3	4	5	6	7	8	9
Temperature Degrees F.	60	65	70	75	80	85	90	95	100

The above chart is to be used only as a guide since the actual room temperature will vary depending upon the location of heater, outdoor temperature and house construction.

MINIMUM FLAME ADJUSTMENT

The minimum flame is factory set and is nonadjustable.

10. BLOWER EQUIPPED HEATERS: The VC/WVRC250 & 270 models incorporating the suffix letter "C" are equipped with a Push-Button Controlled 3-speed blower. Untie the extension cord from the blower switch box on the back of the heater and plug it into a 120 volt wall receptacle.

See Pages 11 and 12 for the Wiring Diagrams of the CB11-M and SB8-1 Blower Accessories. Heater must be electrically grounded in accordance with local codes or, in the absence of local codes, with the National Electric Code ANSI/NFPA No. 70 (latest edition).

(a) **BLOWER OPERATION:** To select the Automatic (winter) Operation, push the "W" button and select the blower speed desired. The blower will then run at the selected speed when the air temperature around the Heat Switch reaches 140 degrees F. The length of time of blower operation depends on:

- 1 — Room Temperature.
- 2 — Length of burner "ON" time and whether the burner is in a modulated range of full input or at maximum input.

With these variables, the blower operation may be continuous for long periods, may cycle frequently "ON" and "OFF" and may not run for long periods of time.

To select the Manual (summer) Operation, push the "S" button and select the blower speed desired. The blower will run at this setting until turned "OFF" or reset to Automatic Operation.

(b) **BLOWER ACCESSORIES:** The VC and VRC235 heaters can be equipped with an SB8-1 accessory blower for field installation. Its operation is similar to the CB11-M Blower, except that it has only one speed. Place the "ON-AUTO" switch in the "AUTO" position for automatic winter operation and in the "ON" position for Summer Manual Operation.

The VC and WVRC250 and 270 heaters purchased without blowers can be equipped with a CB11-M blower accessory (push-button controlled 3-speed blower accessory) for field installation.

11. IMPORTANT:

Use only the type of gas for which the heater is equipped.

KEEP THE CONTROL COMPARTMENT FREE OF LINT AND DUST. IT IS RECOMMENDED THAT YOUR HEATER BE THOROUGHLY CHECKED AND CLEANED AT THE START OF EVERY SEASON. THIS WILL INSURE SERVICE-FREE OPERATION.

RECOMMENDED MAINTENANCE

The following are some recommended maintenance procedures to be followed to keep your heater in good operating condition.

1. On models with a blower, lubricate the fan motor annually with two drops of SAE 20 oil. The motor is provided with two tubes for this purpose.

2. The venting system should be inspected and checked before each heating season and repaired or replaced as found necessary.

3. Visually check the burner and pilot flame before each heating season. (See Figures 8 & 9 for details.) Remove the burner if required to clean rust and foreign matter from the slots and obstructions such as cob webs and mud daubers from the venturi opening. Brush the surface of the burner head to clean the burner ports. Use a bottle brush or equivalent to clean the venturi.

4. The heater area must be kept clear and free from combustible materials, gasoline and other flammable vapors and liquids.

5. The flow of combustion and ventilation air must not be obstructed.

Installation and repair should be done by a qualified service person. The heater should be inspected before use and at least annually by a professional service person. More frequent cleaning may be required due to excessive lint from some carpeting, bedding material, etc. It is imperative that the control compartments, burners and combustion and circulating air passageways be kept clean.

The exterior finish on your Perfection Heater is of the highest quality baked enamel, and with proper care will maintain its new appearance for years. Observe the following simple precautions:

(1) Do not apply varnish or furniture polish.

(2) Do not wipe finish with a wet or dry cloth while the heater is warm, as this might scratch or mar the enamel.

If your Perfection Heater needs service or repair, consult your local Perfection dealer supplying the following information:

(1) Complete model and serial number found on the rating plate.

(2) Type of gas used.

(3) Complete description of operation problem or the desired repair part.

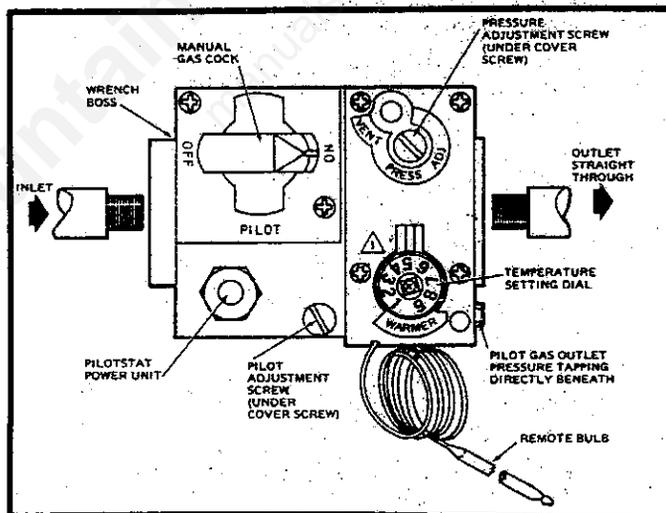
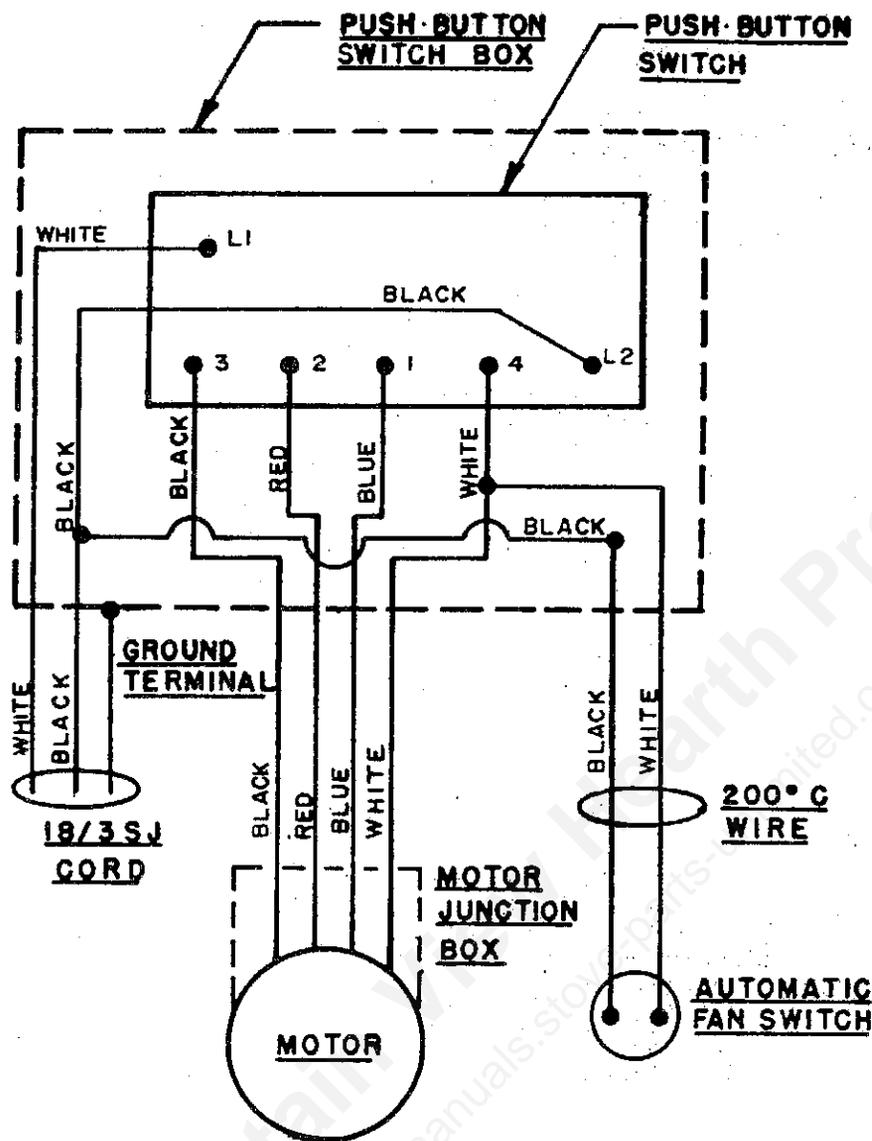


FIGURE 10
LOCATION OF GAS
VALVE ADJUSTMENTS

This heater is er
and should be plu
the grounding pro
If any of the ori
105 degrees C. ti



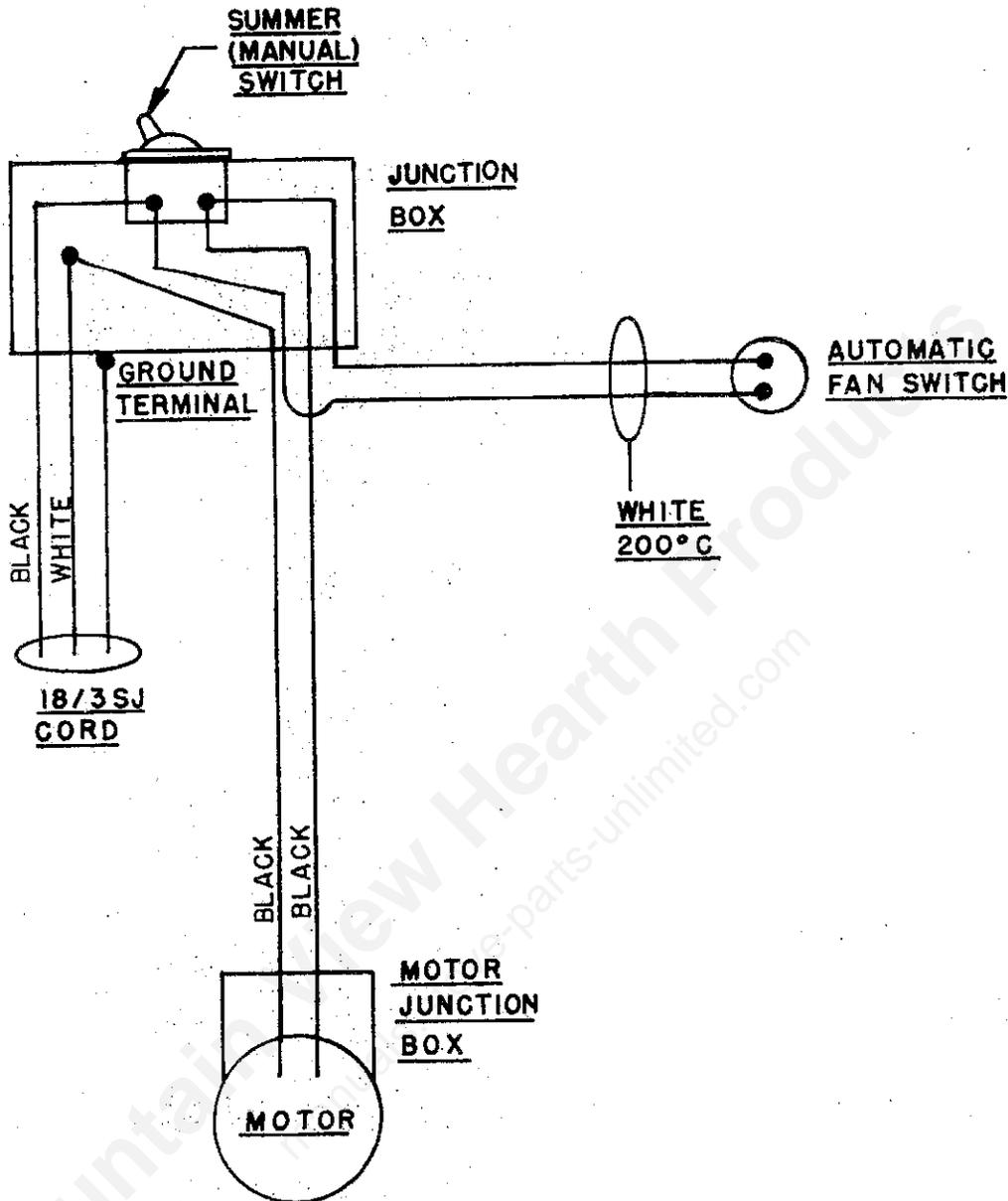
CB11-M
BLOWER WIRING DIAGRAM FOR
MODELS VC250 & 270 AND WVRC250 & 270

WARNING

Electrical Grounding Instructions

This heater is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug.

If any of the original wire as supplied with the appliance must be replaced, it must be replaced with 105 degrees C. thermoplastic wire or its equivalent, except as noted.



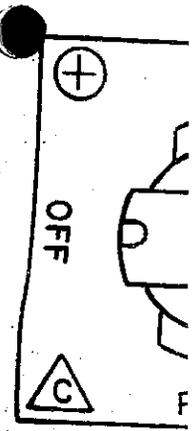
SB8-1
 BLOWER WIRING DIAGRAM
 FOR MODELS VC235 & VRC235

WARNING

Electrical Grounding Instructions

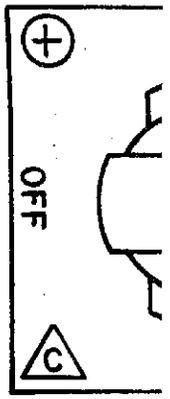
This heater is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug.

If any of the original wire as supplied with the appliance must be replaced, it must be replaced with 105 degrees C. thermoplastic wire or its equivalent, except as noted.



2. With the Pan knob — HOLD F...
- a. Turn knob c...
- b. Light pilot a...
- c. Close the P...

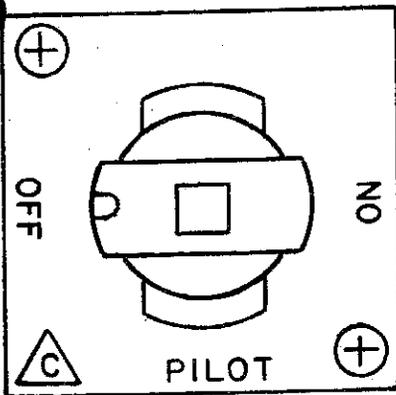
NOTE: If pilot



LIGHTING INSTRUCTIONS

TO LIGHT:

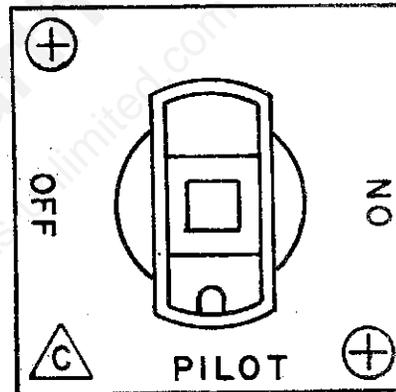
1. Set thermostat, if used, to lowest setting. Depress knob and turn clockwise to "OFF". Wait (5) minutes for unburned gas to vent.
CAUTION: LP Gas is heavier than air and will not vent upward naturally.



2. With the Panel Door open, and knob in "OFF" position, depress knob — HOLD IT DEPRESSED and:

- a. Turn knob counterclockwise from "OFF" to "PILOT".
- b. Light pilot and continue holding knob depressed (about (1) minute) so that pilot will stay lit when knob is released.
- c. Close the Panel Door before proceeding.

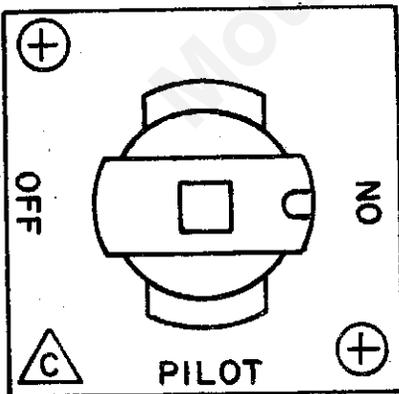
NOTE: If pilot does not stay lit, repeat Steps "1" and "2".



3. Turn knob counterclockwise to "ON". If system is controlled by a thermostat, adjust to desired temperature.

TO SHUT OFF:

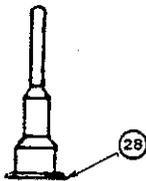
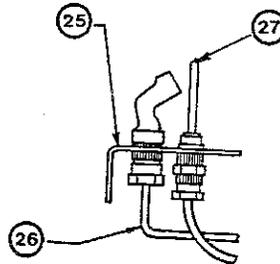
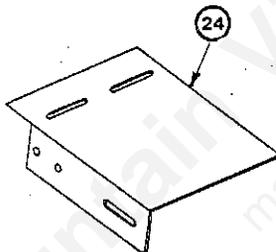
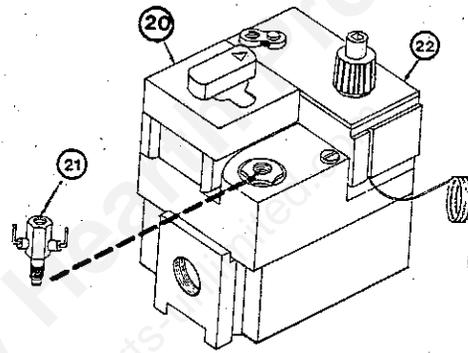
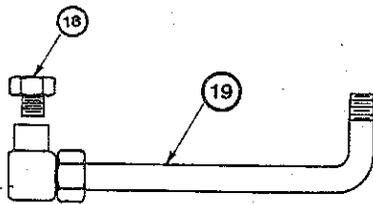
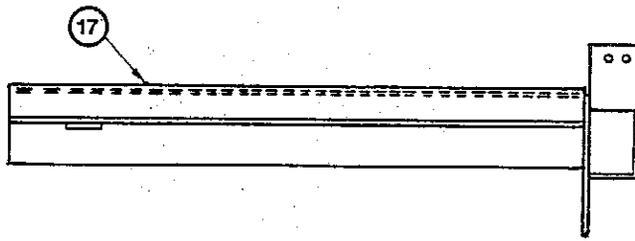
1. **FOR TEMPORARY** situations: Main burner can be shut off by turning knob to "PILOT". Pilot will remain lit — ready to return to normal service without relighting.
2. **FOR COMPLETE SHUTDOWN:** Depress knob and turn clockwise to "OFF".



REPLACEMENT PARTS LIST MODELS VC, VRC, WVRC

ITEM NO.	PART NO.	PART NAME	VC220 T-KS-1	VC235 T-M	VC235 T-ML	VRC235 T-M	VC250 T-M	VC250 T-ML	VC250 CT-M	WVRC250 CT-M	VC270 T-KS	VC270 T-KSL	VC270 CT-KS	WVRC270 CT-KS
1	A107425-G2	Casing AYC	X											
1	B107417-G5	Casing AYC								X				
1	B107418-G5	Casing AYC					X		X					
1	B107418-G6	Casing AYC					X							
1	A107413-G5	Casing AYC		X										
1	A107413-G6	Casing AYC			X									
1	A107414-G2	Casing AYC				X								
1	A107419-G4	Casing AYC												X
1	A107422-G3	Casing AYC									X		X	
1	A107422-G4	Casing AYC									X			
2	C106574-G3-4	Screen Assembly	X											
2	C106574-G4-8	Screen Assembly		X	X									
2	C106576-G3-1	Screen Assembly				X								
2	C106574-G1-4	Screen Assembly					X	X	X					
2	C106575-G1-1	Screen Assembly								X				
2	C106574-G2-4	Screen Assembly									X	X	X	
2	C106576-G4-1	Screen Assembly												X
3	C107415-G2-2	Panel Door Assembly	X	X	X	X								
3	CW738-G8-10	Panel Door Assembly									X	X	X	X
3	C108449-G1-1	Panel Door Assembly					X	X	X	X				
4	B106607-G1-1	Panel Back	X											
4	C108509-G1	Panel Back Assembly		X	X	X								
4	A106935-G1	Panel Back Assembly					X	X	X	X				
4	A106935-G2	Panel Back Assembly									X	X	X	X
5	DW4555-G1	Radiants				4								
5	DW4573-G1	Radiants								7				8
6	B108369-G3	Window Radiant Package												X
6	A107739-G4	Window Radiant Package				X								
6	A107739-G5	Window Radiant Package								X				
7	DW4560-G1	Retainer Glass				X								
7	DW4560-G2	Retainer Glass								X				
7	DW4560-G3	Retainer Glass												X
8	CW4644-G1	Shield Rt. & Lt.				2								
8	CW4637-G2	Shield Rt. & Lt. Assembly								2				
8	C107420-G1	Shield Rt. & Lt. Assembly												2
9	A106913-G1	Control Knob	X	X	X	X	X	X	X	X	X	X	X	X
10	A107426-G1	Guard Radiant Assembly				X								
10	A107426-G2	Guard Radiant Assembly								X				
10	A107426-G3	Guard Radiant Assembly												X
11	BW4642-G3	Plate Trim Base				X								
11	BW4631-G4	Plate Trim Base							X					
11	B106806-G5	Plate Trim Base												X
12	B106910-G1-2	Bracket Dial	X	X	X	X	X	X			X	X		
13	B106662-G19	Control Rod	X											
13	B106662-G25	Control Rod		X		X								
13	B106662-G26	Control Rod			X									
13	B106662-G20	Control Rod					X							
13	B106662-G24	Control Rod						X						
13	B106662-G21	Control Rod							X	X				
13	B106662-G22	Control Rod									X			
13	B106662-G23	Control Rod											X	X
13	B106662-G27	Control Rod										X		
14	A106971-G3	Grommet	X	X	X	X	X	X	X	X	X	X	X	X
15	B106851-G1	Bracket Thermobulb	X	X	X	X	X	X	X	X	X	X	X	X
16	B108222-G1	Switch Limit AYC	X											
16	B108222-G2	Switch Limit AYC		X		X								
16	B108222-G5	Switch Limit AYC			X									
16	B108222-G3	Switch Limit AYC					X		X					
16	B108222-G4	Switch Limit AYC									X		X	X
16	B108222-G6	Switch Limit AYC										X		
16	B108222-G7	Switch Limit AYC					X							

WHEN ORDERING PARTS, STATE MODEL NUMBER, PART NUMBER AND PART NAME OR DESCRIPTION.
CONTACT YOUR LOCAL PERFECTION DISTRIBUTOR OR DEALER FOR PARTS.



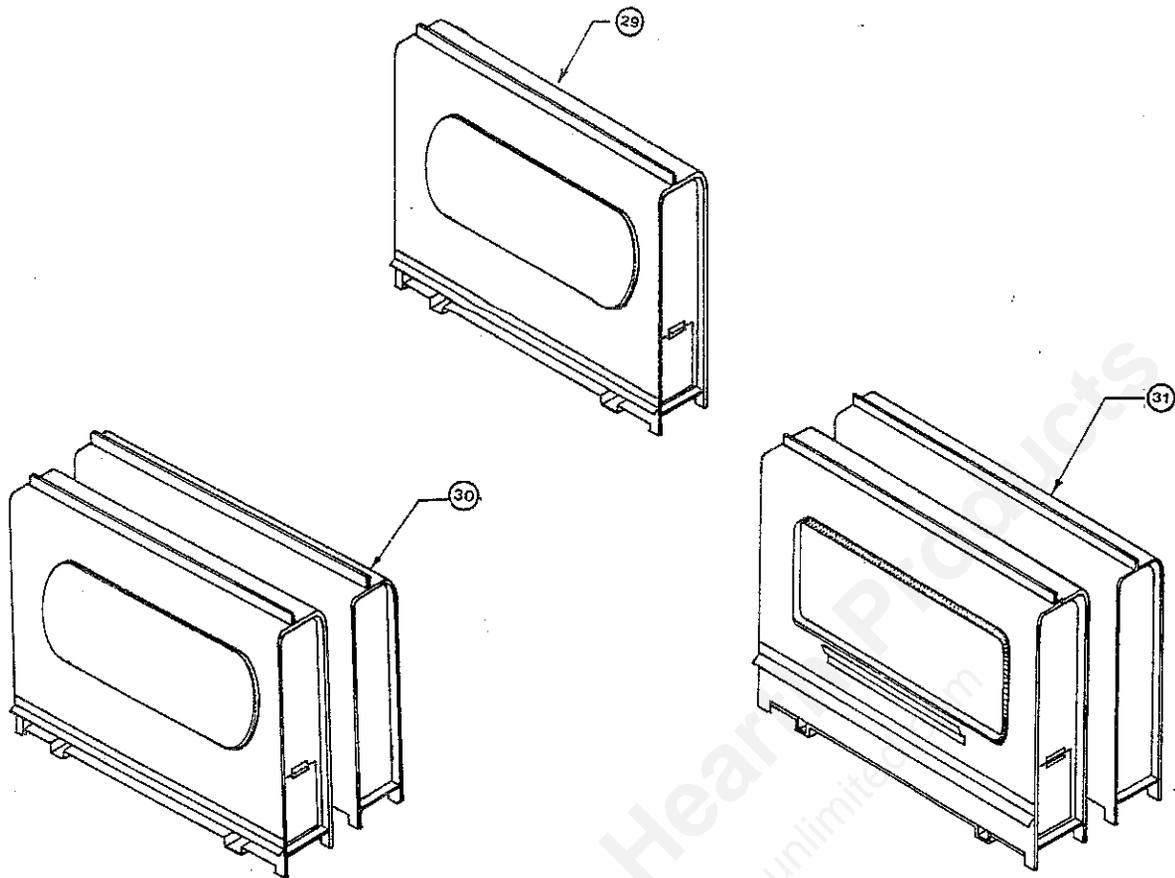
PART NO.	PAR
17	D108320-G1 Burr
17	D108437-G1 Burr
17	D108438-G1 Burr
17	D108296-G1 Burr
18	CW1387-G35 Orifi
18	CW1387-G25 Orifi
18	CW1387-G3 Orifi
18	CW1387-G4 Orifi
18	CW1387-G5 Orifi
18	CW1387-G6 Orifi
18	CW1387-G7 Orifi
18	CW1387-G10 Orifi
19	C108240-G1 Mani
19	C108240-G2 Mani
19	C108240-G3 Mani
19	C108240-G5 Mani
20	B108225-G1 Valv
20	B108225-G2 Valv
20	B108225-G6 Valv
21	B108245-G3 ECO
22	B108225-G7 Regl
22	B108225-G8 Regl
24	B108216-G1 Brac
24	B108216-G2 Brac
25	B107989-G1 Pilot
25	B107990-G1 Pilot
26	B108300-G1 Pilot
26	B108300-G2 Pilot
26	B108300-G7 Pilot
26	B108300-G3 Pilot
26	B108300-G6 Pilot
26	B108300-G4 Pilot
26	B108300-G5 Pilot
	B107783-G2 Therr
	B107783-G3 Therr
27	B107783-G1 Therr
28	A110339-G3 Pilot
28	A110340-G2 Pilot

WHEN ORDERING PAI CONTACT YOUR LOC.

REPLACEMENT PARTS LIST MODELS VC, VRC, WVRC

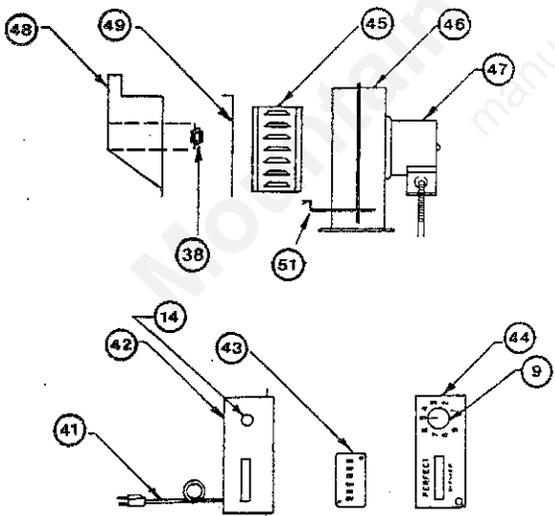
PART NO.	PART NAME	VC220 T-KS-1	VC235 T-M	VC235 T-ML	VRC235 T-M	VC250 T-M	VC250 T-ML	VC250 CT-M	WVRC250 CT-M	VC270 T-KS	VC270 T-KSL	VC270 CT-KS	WVRC270 CT-KS
17	D108320-G1 Burner	X											
17	D108437-G1 Burner		X	X	X								
17	D108438-G1 Burner					X	X	X	X				
17	D108298-G1 Burner									X	X	X	X
18	CW1387-G35 Orifice Main Burner Nat. (No. 48 DMS)	X											
18	CW1387-G25 Orifice Main Burner LP (1.25mm)	X											
18	CW1387-G3 Orifice Main Burner Nat. (No. 34 DMS)		X	X	X								
18	CW1387-G4 Orifice Main Burner LP (No. 50 DMS)		X	X	X								
18	CW1387-G5 Orifice Main Burner Nat. (No. 29 DMS)					X	X	X	X				
18	CW1387-G6 Orifice Main Burner LP (No. 45 DMS)					X	X	X	X				
18	CW1387-G7 Orifice Main Burner Nat. (No. 21 DMS)									X	X	X	X
18	CW1387-G10 Orifice Main Burner LP (No. 40 DMS)									X	X	X	X
19	C108240-G1 Manifold Assembly	X											
19	C108240-G2 Manifold Assembly		X	X	X								
19	C108240-G3 Manifold Assembly					X	X	X	X				
19	C108240-G5 Manifold Assembly									X	X	X	X
20	B108225-G1 Valve Combination Nat.	X	X	X	X	X	X	X	X	X	X	X	X
20	B108225-G2 Valve Combination LP	X	X	X	X					X	X	X	
20	B108225-G6 Valve Combination LP					X	X	X	X				X
21	B108248-G3 ECO Connector	X	X	X	X	X	X	X	X	X	X	X	X
22	B108225-G7 Regulator & Operator Head Nat.	X	X	X	X	X	X	X	X	X	X	X	X
22	B108225-G8 Regulator & Operator Head LP	X	X	X	X	X	X	X	X	X	X	X	X
24	B108218-G1 Bracket Control (RH)	X	X		X	X		X	X	X		X	X
24	B108218-G2 Bracket Control (LH)			X			X				X		
25	B107989-G1 Pilot Burner Nat.	X	X	X	X	X	X	X	X	X	X	X	X
25	B107990-G1 Pilot Burner LP	X	X	X	X	X	X	X	X	X	X	X	X
26	B108300-G1 Pilot Tube	X											
26	B108300-G2 Pilot Tube		X		X								
26	B108300-G7 Pilot Tube			X									
26	B108300-G3 Pilot Tube					X		X	X				
26	B108300-G5 Pilot Tube						X						
26	B108300-G4 Pilot Tube									X		X	X
26	B108300-G5 Pilot Tube										X		
	B107783-G2 Thermocouple (24")		X	X	X	X		X	X	X		X	X
	B107783-G3 Thermocouple (36")						X				X		
27	B107793-G1 Thermocouple (18")	X											
28	A110339-G3 Pilot Orifice Nat. (CAR 12)	X	X	X	X	X	X	X	X	X	X	X	X
28	A110340-G2 Pilot Orifice LP (GAF 8)	X	X	X	X	X	X	X	X	X	X	X	X

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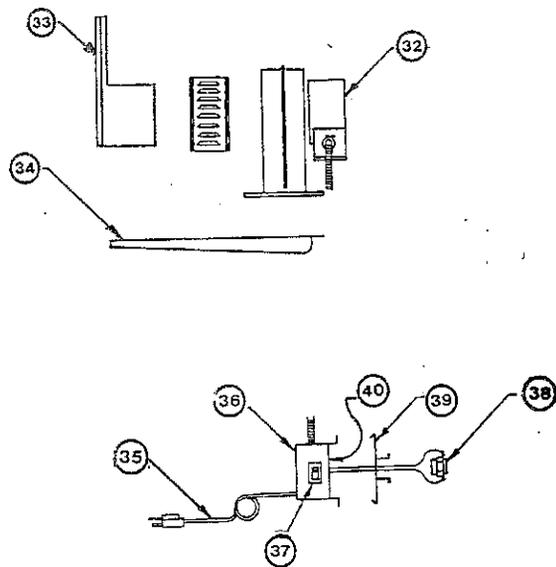


NO.	PART NO.
29	C108616-G7-1
30	D108466-G1-1
30	D108466-G3-1
30	D106821-G5-1
30	D106821-G6-1
30	C108457-G1-1
30	C108457-G2-1
31	D108467-G1-1
31	D106822-G3-1
31	D106771-G5-1
32	DW1279-G7
33	B106613-G1-1
34	DW1111-G1-1
35	B107424-G2
36	BW1997-G2
37	AW2116-G1
38	BW745-G1
39	B106389-G2
40	B106134-G4
41	B107424-G1
42	AW4983-G3
43	AW2832-G2
44	B106901-G1-2
45	AW2204-G1
46	DW1299-G12
47	DW1299-G3
48	C106781-G1-1
49	C106778-G1
51	A106775-G1-1

WHEN ORDERING P
CONTACT YOUR LC



250 & 270 BLOWER ASSEMBLY



235 BLOWER ASSEMBLY

REPLACEMENT PARTS LIST MODELS VC, VRC, WVRC

NO.	PART NO.	PART NAME	VC220 T-KS-1	VC235 T-M	VC235 T-ML	VRC235 T-M	VC250 T-M	VC250 T-ML	VC250 CT-M	WVRC250 CT-M	VC270 T-KS	VC270 T-KSL	VC270 CT-KS	WVRC270 CT-KS
29	C106616-G7-1	Combustion Chamber AYC	X											
30	D108466-G1-1	Chamber & Exchanger AYC		X										
30	D108466-G3-1	Chamber & Exchanger AYC			X									
30	D106821-G5-1	Chamber & Exchanger AYC									X		X	
30	D106821-G6-1	Chamber & Exchanger AYC										X		
30	C108457-G1-1	Chamber & Exchanger AYC					X		X					
30	C108457-G2-1	Chamber & Exchanger AYC						X						
31	D108467-G1-1	Chamber & Exchanger AYC				X								
31	D106822-G3-1	Chamber & Exchanger AYC												X
31	D106771-G5-1	Chamber & Exchanger AYC								X				
32	DW1279-G7	Motor		X	X	X								
33	B106613-G1-1	Duct Body Assembly		X	X	X								
34	DW1111-G1-1	Duct Outer		X	X	X								
35	B107424-G2	Cord AYC		X	X	X								
36	BW1997-G2	Cover Switch Box		X	X	X								
37	AW2116-G1	Switch		X	X	X								
38	BW745-G1	Thermodisc Switch		X	X	X	X	X	X	X	X	X	X	X
39	B106369-G2	Plate Switch Assembly		X	X	X								
40	B108134-G4	Body Switch Box		X	X	X								
41	B107424-G1	Cord AYC					X	X	X	X	X	X	X	X
42	AW4983-G3	Switch Box AYC					X	X	X	X	X	X	X	X
43	AW2832-G2	Push Button Switch					X	X	X	X	X	X	X	X
44	B106901-G1-2	Plate Switch Box					X	X	X	X	X	X	X	X
45	AW2204-G1	Blower Wheel					X	X	X	X	X	X	X	X
46	DW1299-G12	Scroll					X	X	X	X	X	X	X	X
47	DW1299-G3	Motor					X	X	X	X	X	X	X	X
48	C106781-G1-1	Duct Assembly					X	X	X	X	X	X	X	X
49	C106778-G1	Back Duct					X	X	X	X	X	X	X	X
51	A106775-G1-1	Bracket Blower Assembly					X	X	X	X	X	X	X	X

WHEN ORDERING PARTS, STATE MODEL NUMBER, PART NUMBER AND PART NAME OR DESCRIPTION.
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Service Hints & Maintenance Suggestions ...

CAUSE AND CORRECTION CHART

NOTE: Service should only be performed by qualified service personnel.

SYMPTOMS	CAUSES	CORRECTIONS
Burner Flame Lifts	Manifold Gas Pressure Too High	Adjust
	Inlet Gas Pressure Too High	Call Gas Company to Re-adjust
	Orifice Too Large	Replace with Correct Size Orifice
Burner Flame Goes Out	Gas Supply Low or Off	Check Valves in Inlet Line
	Valve Problems	Replace Valve
Burner Makes Noise or Flame Flashes Back Into Burner	Damaged Burner or Orifice	Replace
	Wrong Size Orifice	Replace with Correct Size
Reddish Color Flame	Dust in Air	This Will Clean Itself Up
Flame Too High	Manifold Gas Pressure Too High	Adjust
	Wrong Size Orifice	Replace with Correct Size
	Inlet Gas Pressure Too High	Call Gas Company to Re-adjust
Flame Too Low	Manifold Gas Pressure Too Low	Adjust
	Inlet Gas Line Obstructed	Clean Inlet Gas Line
	Wrong Size Orifice	Replace with Correct Size
	Leaking (May be accompanied by smell)	Shut Off Heater Immediately — Test for Leaks
Yellow or Smoky Flame	Wrong Size Orifice	Replace with Correct Size
	Burner Slots Dirty	Clean Burner Slots
PILOT FLAME TROUBLE		
Pilot Does Not Light or Remain Lit	Gas Valves Closed	Open Valves
	Air in Line	Continue to Relight until all Air is Exhausted
	Dirty Thermocouple Electrical Connections	Clean All Connections
	Carbon on Thermocouple Tip	Clean Tip
	Defective Thermocouple	Replace Thermocouple
	Thermobulb Not in Proper Position	Re-position
	Overheated Thermocouple Caused by Too Much Main Burner Input	Call Gas Company to Re-adjust
Main Burner Interferes with Pilot Flame Because of Too High Pressure	Call Gas Company to Re-adjust	
Lazy, Yellow Flame	Dirty Pilot Burner	Clean Air Openings
Small Flame	Low Gas Pressure	Clean Orifice
	Obstruction Within Valve	Replace Valve
	Pilot Gas Adjustment Closed Too Far	Turn Pilot Flow Adjustment Counterclockwise

If you are unable to make any of the above corrections, call your dealer.



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PERFECTION

**GAS SPACE HEATER AND WALL FURNACE
LIMITED PARTS WARRANTY**

To the original owner-user of a Perfection VC, VRC Gas Space Heater, GW and SV Gravity Type Wall Furnace:

Perfection promises to repair or, at Perfection's option, to replace any part of your Perfection Space Heater or Wall Furnace which proves to be defective in material or workmanship under normal use and service for a period of one year from the date of original purchase. During this one year, we shall provide all parts necessary to correct such defects. All labor, diagnosis and transportation are to be paid by the original owner-user.

Perfection also promises to repair or, at Perfection's option, to replace any part of the Gas Burner or Combustion Chamber Assembly which proves to be defective in material or workmanship under normal use and service for a period of 10 years from the date of original purchase. During this 10 year period, we shall provide all parts necessary to correct such defects. All labor, diagnosis and transportation costs are to be paid by the original owner-user.

THIS WARRANTY DOES NOT COVER, AND PERFECTION SHALL NOT BE LIABLE FOR, ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES RESULTING FROM USE OF A CHEMICAL SOOT REMOVER, OVER-FIRING OF THE HEATER, CORROSION DUE TO EXCESSIVE BUILDING MOISTURE OR HUMIDIFIER OVERFLOW, USE OF A DIFFERENT FUEL FROM THAT SPECIFIED ON THE HEATER PLATE, IMPROPER INSTALLATION, MISUSE, ABUSE, ACCIDENT, TAMPERING, ALTERATION OR ACTS OF GOD.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

ALL IMPLIED WARRANTIES WHICH MIGHT ARISE, INCLUDING THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO THE DURATION OF THE WRITTEN WARRANTY CREATED HEREIN. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

This warranty is given by Perfection Products Co., Waynesboro, Georgia 30830. Service under it must be obtained through the following procedure. Any defect should be brought to the attention of the Perfection dealer from which you purchased your Heater or Wall Furnace or any other Perfection dealer. For the address of the Perfection dealer nearest you, consult your telephone directory or write to Perfection Products Co., Waynesboro, Georgia 30830. If any part of your Perfection Gas Space Heater or Wall Furnace proves to be defective under this warranty, your dealer will repair that part or, at its option, provide you with a replacement. Perfection may require, however, that defective parts be returned to its factory before a determination is made that a defect exists. No part is to be returned to the factory without written authorization from Perfection. All transportation, diagnosis and labor costs associated with warranty service are to be paid by the original owner-user.

No person is authorized to change, add to, or create any warranty or obligation other than that set forth herein. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

PERFECTION PRODUCTS CO.

WAYNESBORO, GEORGIA 30830