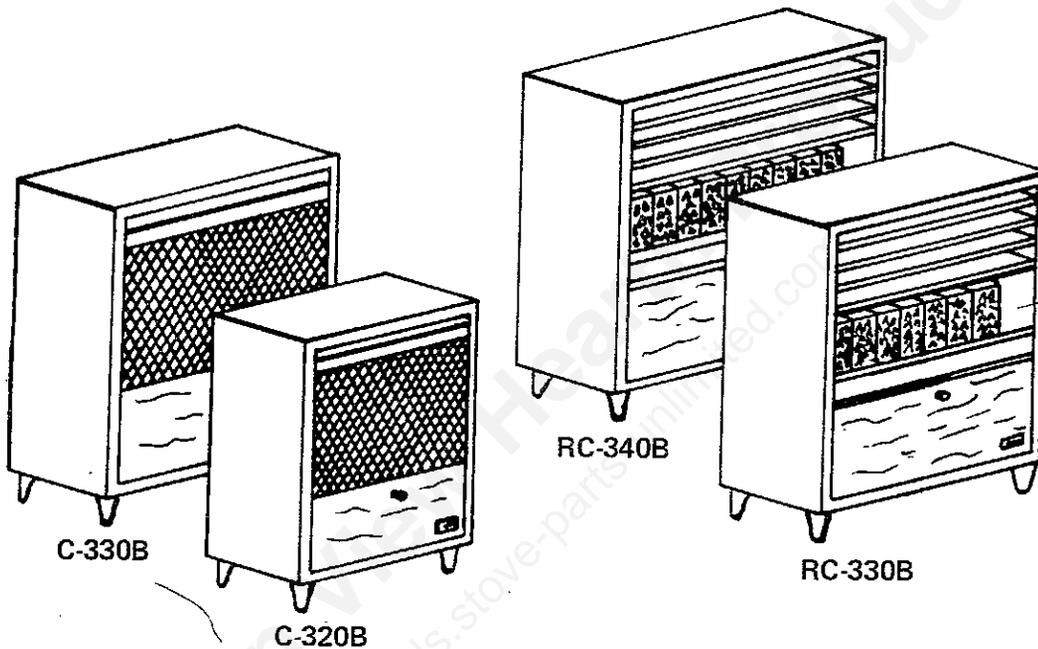


Lawson

UNVENTED GAS HEATERS

owner's manual

INSTRUCTIONS FOR INSTALLING AND OPERATING — WITH REPAIR PARTS LIST



FOR USE WITH NATURAL AND PROPANE GASES

THIS MANUAL WILL HELP YOU TO OBTAIN EFFICIENT, DEPENDABLE SERVICE FROM THE HEATER, AND ENABLE YOU TO ORDER REPAIR PARTS CORRECTLY. KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

CAUTION:
Read Rules for
Safe Operation
and Instructions
Carefully

- Assembly
- Installation
- Operation
- Repair Parts

Lawson Division

UNITED STATES STOVE COMPANY, SOUTH PITTSBURG, TENNESSEE

FORM 85096 5/77

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.**

IMPORTANT

THE FOLLOWING INFORMATION IS FOR YOUR PROTECTION AND SAFE OPERATION OF THIS HEATER:

1. DUE TO HIGH TEMPERATURES, THE HEATER SHOULD BE LOCATED OUT OF TRAFFIC AND AWAY FROM FURNITURE AND DRAPERIES.
2. CHILDREN AND ADULTS SHOULD BE ALERTED TO THE HAZARD OF HIGH SURFACE TEMPERATURES AND SHOULD BE KEPT AWAY TO AVOID BURNS OR CLOTHING IGNITION.
3. YOUNG CHILDREN SHOULD BE CAREFULLY SUPERVISED WHEN THEY ARE IN THE SAME ROOM WITH THE HEATER.
4. DO NOT PLACE CLOTHING OR OTHER FLAMMABLE MATERIAL ON OR NEAR HEATER.
5. ANY SAFETY SCREEN OR GUARD REMOVED FOR SERVICING A HEATER MUST BE REPLACED PRIOR TO OPERATING THE HEATER.
6. 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 CONTROL COMPARTMENTS, BURNERS, AND CIRCULATING AIR PASSAGEWAYS OF THE HEATER BE KEPT CLEAN.

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GENERAL INFORMATION

Your attractive new home heater incorporates many important new features to give you an economical and highly efficient heating unit.

Safe and satisfactory operation of a gas-fired unvented room heater depends to a great extent upon its proper installation. We recommend that when using natural gas your local gas company make the installation and that when using propane gas your L.P. dealer make the installation to assure compliance with local municipal building codes.

LOCAL REGULATIONS:

Installation must be in conformity with any local laws or codes governing unvented gas room heaters.

Adequate Ventilation

It is necessary to have sufficient outside air in the room in which the heater is located.

In homes which are loosely constructed, sufficient air will come through the leaky door and window frames.

In homes which are tightly constructed with storm sash and doors, or if there are exhaust fans, the outside air must be supplied directly into the room.

A fresh air opening, for combustion must be provided into the room. That opening must have one square inch of free opening per 1,000 B.T.U. input. (See table below)

All heating appliances which operate with an open flame consume part of the oxygen in the air. If the room is not adequately ventilated while heater is in use, there will not be enough oxygen in the air for heater to operate efficiently. An odor of gas and insufficient heat will result. Therefore, if this heater is operated for long periods of time, the room must be ventilated by partially opening windows or outside doors to admit fresh air. The doors to connecting rooms should also be opened.

That opening can be from a ventilated attic; in the floor and foundation wall or through an outside wall. If in the floor, the same size opening is required in the foundation wall.

UNPACKING HEATER

- (1) Remove from carton and inspect thoroughly for any concealed transportation damage. If damaged, IMMEDIATELY file claim with delivering carrier, since our responsibility for damage ceased when the heater was accepted by a transportation company.
- (2) Model with radiants will have the clay radiants packed inside heater. Install radiants CAREFULLY since they are fragile.

Odor in Room

If you detect any different or unusual odor in the room when the heater is operating, check the following:

- a) VENTILATION—Is there an air supply into the room? See column 1.
- b) HEATER OPERATION—Is the gas valve turned fully "ON"? Check for proper burner operation and for burner cleanliness.

IMPORTANT

GAS PRESSURES: ALL VALUES ARE INCHES W.C.

	Min. Inlet	Max. Inlet	Burner Pressure
NATURAL	4½	7	3½
PROPANE	12	13	11

NOTE: Pressure Regulators and Gas Inlet Pressure must be adjusted by the installer to give the pressure at the burner orifice shown above.

The installation must conform to local codes, or in the absence of local codes, the installation must conform with the following applicable American National Standards:

- a) National Fuel Gas Code, Z223.1 — 1974

This heater should be electrically grounded when equipped with the optional fan assembly, in accordance with the National Electrical Code, ANSI C-1.

MINIMUM FRESH AIR OPENING TO ROOM

C 320	20 SQUARE INCHES
C 330, RC 330	30 SQUARE INCHES
RC 340	40 SQUARE INCHES

INSTALLATION CLEARANCES TO COMBUSTIBLE MATERIALS

MINIMUM TO CEILING ABOVE	36"
MINIMUM TO REAR WALL	6"
MINIMUM TO SIDE WALL	6"

INSTALLATION

LOCATION OF HEATER:

Allow at least one foot clearance between back of heater and the wall; for convenience of lighting heater or adjusting of burner and controls, allow a clearance of at least two feet between sides of heater and adjacent walls. This clearance also allows for better, more efficient heat circulation.

GAS SUPPLY—IMPORTANT:

Check the identification plate on the heater to make sure your heater is equipped properly for the type of gas you will be using.

GAS CONNECTION:

Connect heater to gas line in accordance with local codes and American Gas Association rules. Your heater is equipped with an automatic control having a 3/8" NPT inlet.

ADJUSTMENTS AND OPERATION

TEST FOR LEAKS

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

Be sure the heater is turned off.

Apply soap sud solution to all connections and joints and if bubbles appear, leaks can be detected and corrected.

Do not use a match or open flame of any kind to test for leaks.

Never operate the heater with leaky connections.

THE GAS PIPING

Use new black iron or steel pipe only. Galvanized pipe or tubing may not meet local code requirements.

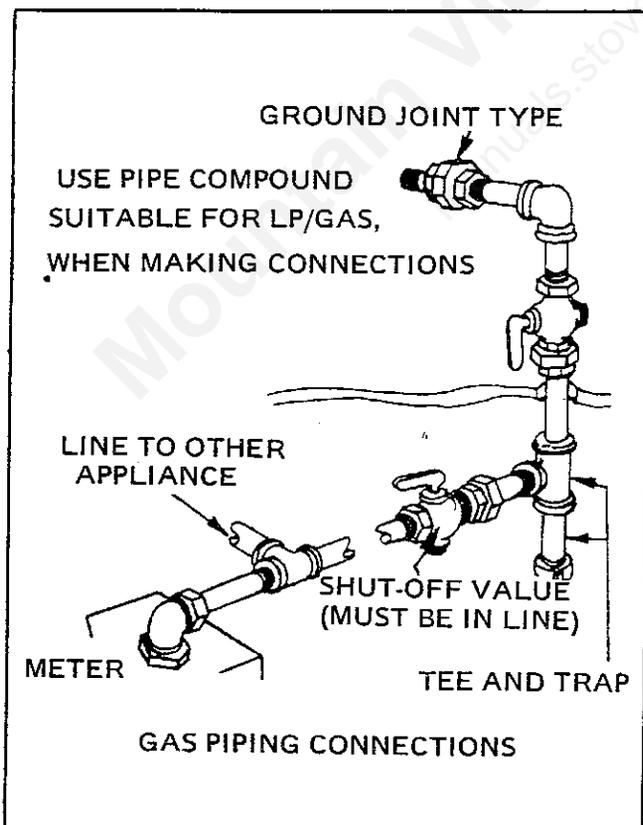
Attach gas line to control valve. It is recommended that pipe union be placed in line at this point for convenience of servicing or removing heater.

The installation of the piping must be done by a qualified and experienced gas mechanic. We recommend that the gas company test the entire system after the installation.

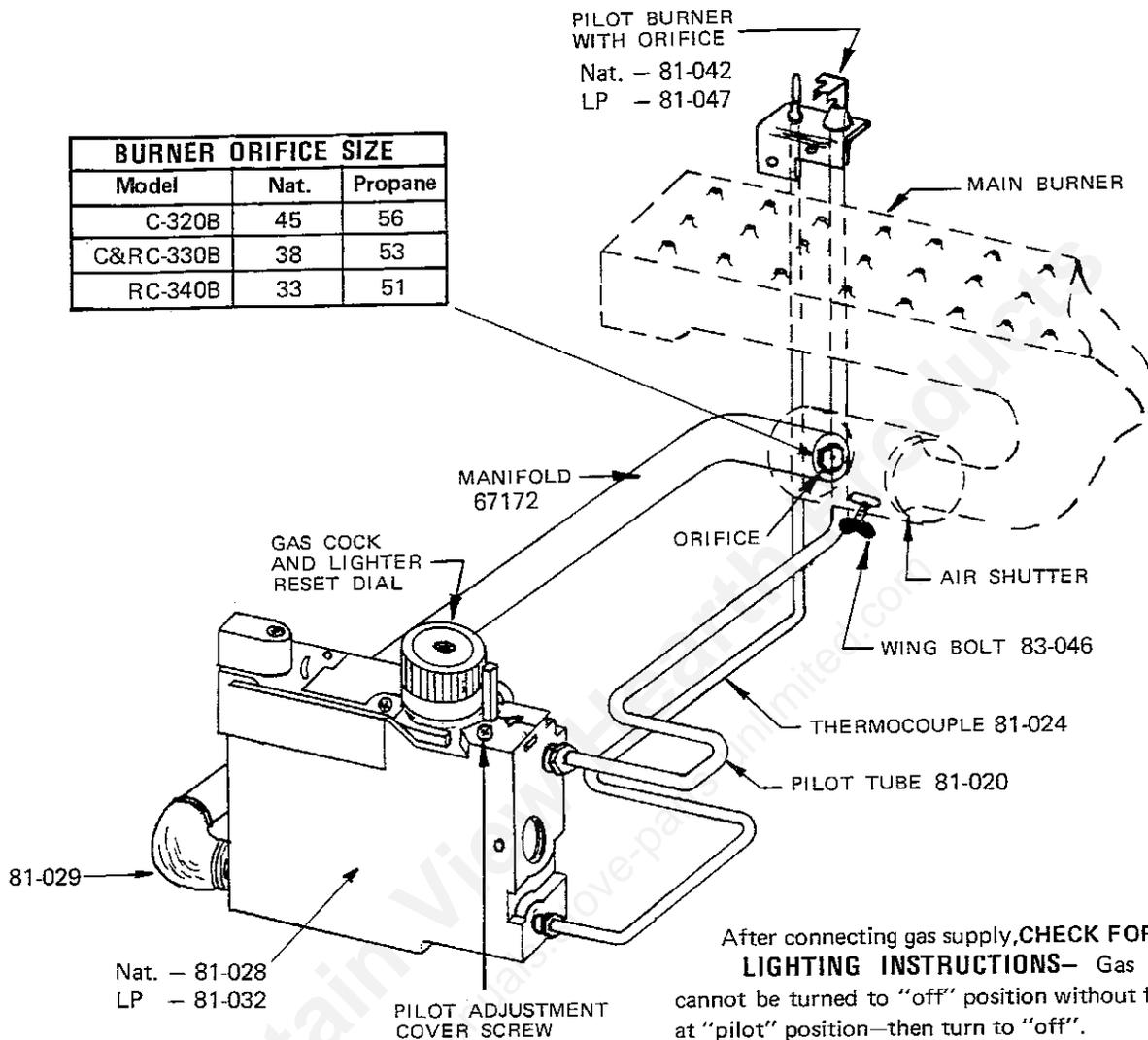
Gas piping should be supported by hangers or suitable clamps.

When using a compound in making connections, apply it lightly to the male threads only. Any excess could be forced into the pipe and result in clogged valves. The compound must be of the type that will not deteriorate with Propane gas.

All connections to the Propane bulk storage tank should be made only by your licensed Propane dealer. Your licensed Propane dealer should check the complete unit and all connections from the bulk storage tank to the heater at the time he makes the gas hookup.



ADJUSTMENTS AND OPERATION . . .



After connecting gas supply, **CHECK FOR LEAKS.**

LIGHTING INSTRUCTIONS— Gas control knob cannot be turned to "off" position without first depressing at "pilot" position—then turn to "off".

TO LIGHT PILOT— Depress slightly and turn gas control knob to "pilot" position, fully depress knob and hold. Light pilot, after 30 seconds release knob, pilot should remain lighted. If pilot fails to remain lighted, repeat operation. Pilot flame should be about 1 inch long, and

should be blue in the center. A weaker flame means too little gas, and a noisy long flame indicates too much. Proper pilot flame may be secured by turning pilot adjustment screw, which is located under cap as indicated above. Always replace cap after adjustment. If pilot light goes out during normal operation, wait 5 minutes before relighting.

TO LIGHT MAIN BURNER— Turn gas control knob to "on" position—main burner will ignite immediately. Loosen air shutter adjustment screw so that air shutter may be moved back and forth to adjust flame height. Allow heater to burn a few minutes to clear air from gas line. Burner should be warm when adjusted. Gas flame should be adjusted by moving air shutter so that a **BLUE CONE** 1/2" to 3/4" high appears over each hole in top of burner. A high, yellow flame will cause carbon deposits, or a flame which "lifts" or blows away from top of burner will cause noisy operation.

TO TURN GAS OFF AT MAIN BURNER— Turn gas control knob to "pilot" position. Pilot will remain lighted.

TO SHUT DOWN—TURN ALL GAS OFF— Turn gas control knob to "off" position. Gas control knob cannot be turned to off position without first depressing at pilot position, then turned to "off". Both main burner and pilot will go out. If main gas supply fails or for some reason is interrupted, your heater will not operate until you relight pilot. This is the protection you have with a 100% Safety Valve. Do not attempt to repair or alter control. Call a qualified service man.

CLEANING

FOR ALL UNVENTED HEATERS

YOUR HEATER, IF ADJUSTED PROPERLY, SHOULD SELDOM, IF EVER, REQUIRE THE ENTIRE PROCEDURE OUTLINED BELOW: HOWEVER, YOU SHOULD HAVE MAINBURNER AND PILOT BURNER, IF ANY, CHECKED AT BEGINNING OF EACH HEATING SEASON. ALWAYS CLEAN PARTS AS FOLLOWS:

GENERAL INSTRUCTIONS:

Below are shown various materials used in your heater and methods of cleaning each. Follow these suggestions, because it is possible to do serious damage by cleaning certain parts too vigorously.

CAST IRON - May be soaked in any household detergent or solvent, or cleaned with wire brush. Holes in burner should be cleaned with wooden match or wire. Desirable to rub with oil rag after cleaning and drying.

SHEET STEEL - PLATED, PAINTED, OR ENAMELED - DO NOT SOAK, SCRATCH, SOAP, OR SAND. this substance may be cleaned by wiping with slightly moistened cloth. Dry cloth will do in most cases.

CLAY RADIANTS - VERY FRAGILE, DO NOT WASH OR SOAK. Brush lightly or wipe gently.

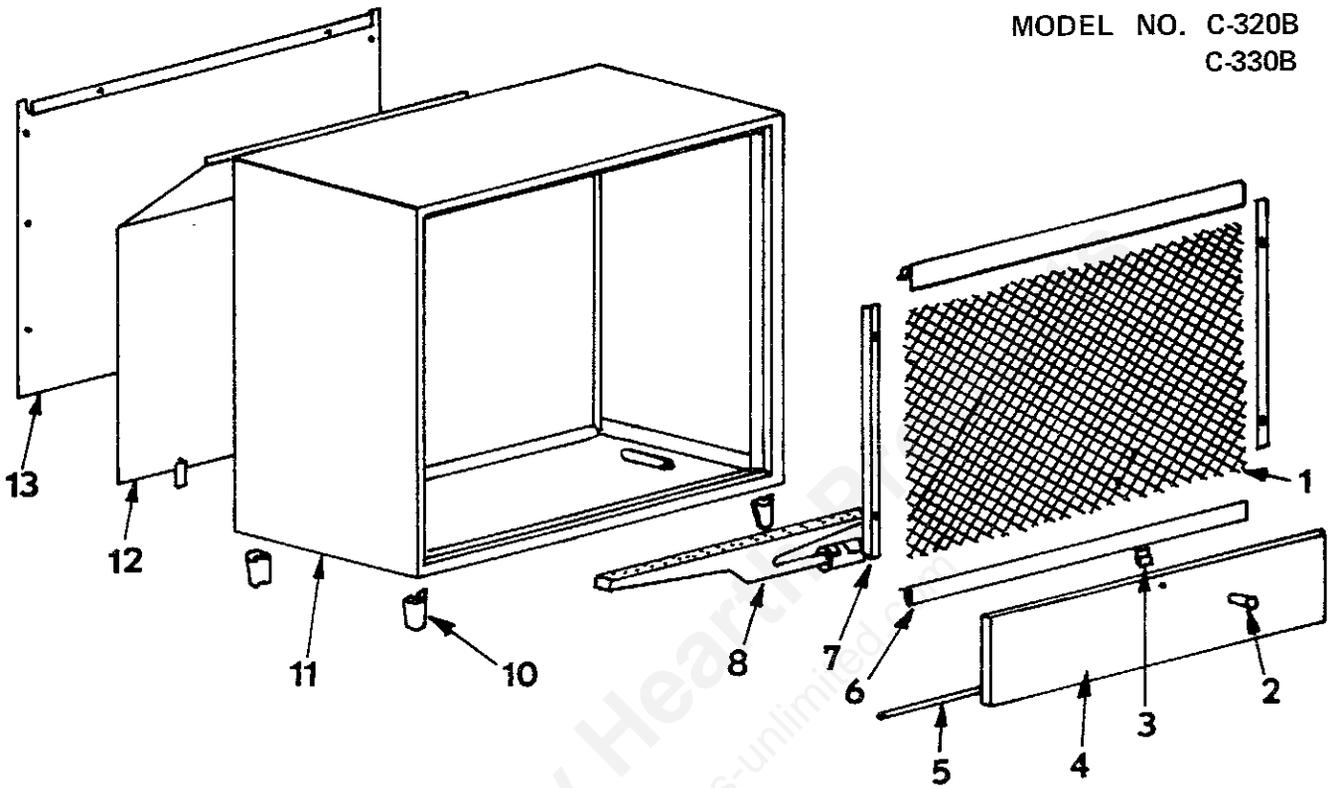
VALVES, FITTINGS, THERMOSTATS: Do not attempt to repair or alter. Call a qualified service man. Brush gently or wipe lightly only to remove surface deposits.

PROCEDURE TO CLEAN: (Refer to exploded view of parts in Parts List)

1. Disconnect heater from gas supply, **MAKE SURE GAS IS TURNED OFF AT SOURCE.**
2. Remove glass panels and/or clay radiants. Some models do not have these parts. If not, ignore this step.
3. Remove back panel.
4. Remove burner and controls.
5. Remove cast iron burner from other parts and clean as outlined in general instructions above.
6. Check pilot burner, if any, for lint, which may be removed easily with pin, wire, or other thin object. Then blow clear.
7. Gently scrape or sandpaper thermocouple at point where pilot flame touches it. **DO THIS ONLY IF THERMOCOUPLE SEEMS TO BE COVERED WITH A BLACK DEPOSIT.**
8. Clean Combustion Unit and interior of heater with vacuum cleaner, or if not accessible, use brush or rag to remove any deposit.
9. Clean all other parts as outlined in general instructions above.
10. Reassemble heater, connect, light, and readjust. Heater should continue satisfactory operation.

PARTS ILLUSTRATION

MODEL NO. C-320B
C-330B



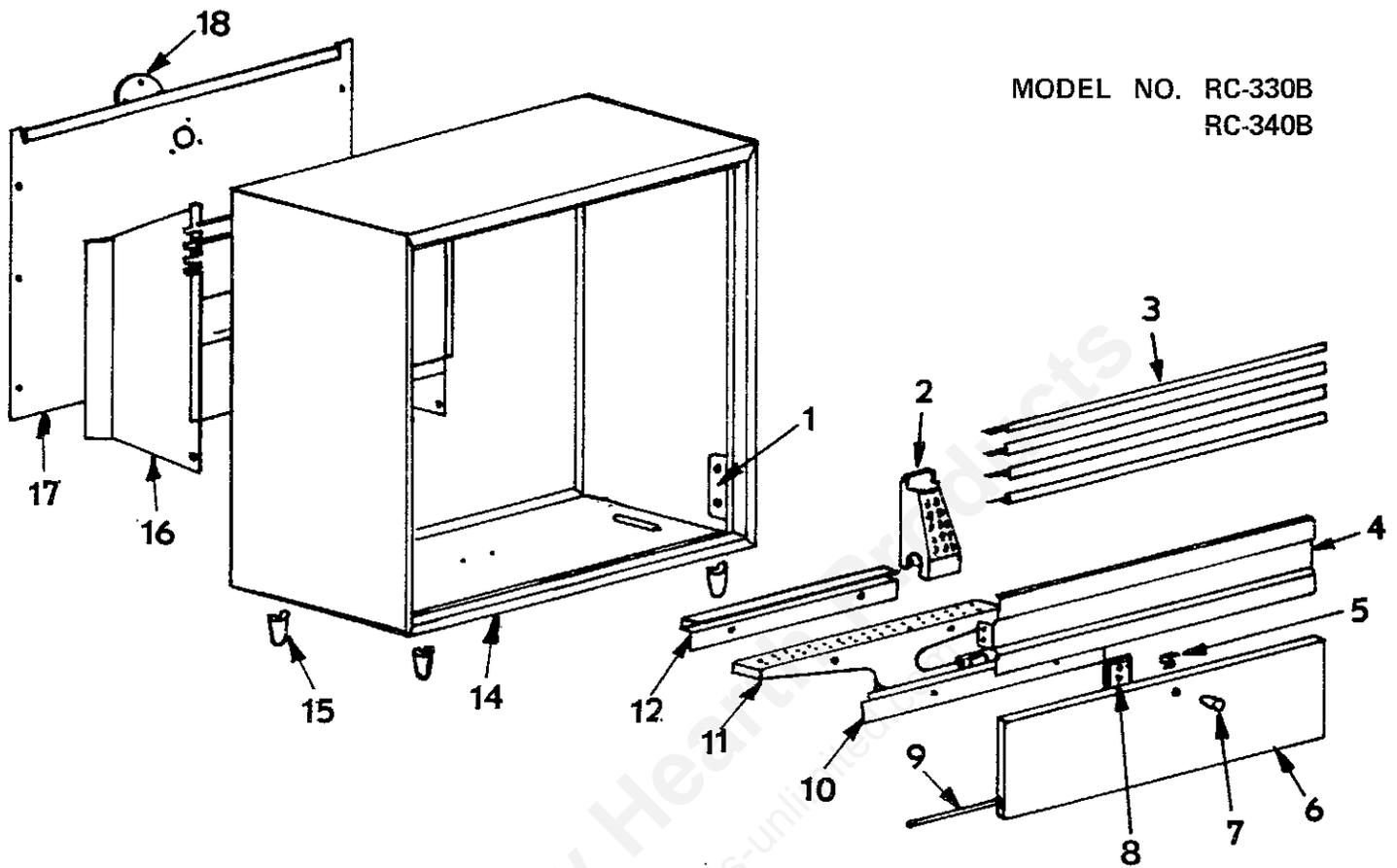
PARTS LIST

Key No.	Description	Part Numbers	
		C-320B	C-330B
1	Expanded Metal Front	12990	13000
2	Door Knob	89-013	89-013
3	Door Catch	89-028	89-028
4	Door Panel	67119	67130
5	Door Hinge Rod	12940	12950
6	Trim Channel (2 Required)	13020	13030
7	Front Angle Brace (2 Required)	13050	13050
8	Burner Casting	86-096	86-009
10	Legs (4 Required)	86-008	86-008
11	Cabinet Assembly	67175	67176
12	Heat Reflector Assembly	64330	64340
13	Main Back	15340	15350
*	Air Shutter	06590	06590

*Parts Not Illustrated

PARTS ILLUSTRATION

MODEL NO. RC-330B
RC-340B



PARTS LIST

Key No.	Description	Part Numbers	
		RC-330B	RC-340B
1	Heat Reflector End Support (2 req.)	12970	12970
2	Radiants	89-901	89-901
		(6 req.)	(7 req.)
3	Louvers (4 req.)	12670	12680
4	Front Trim	12700	12710
5	Door Catch	89-028	89-028
6	Door Panel	67110	67120
7	Door Knob	89-013	89-013
8	Door Catch Brace	12930	12930
9	Door Hinge Rod	12950	12960
10	Front Radiant Support	12900	12910
11	Burner Casting	86-097	86-074
12	Rear Radiant Support	09270	09330
14	Cabinet Assembly	67173	67174
15	Legs (4 req.)	86-008	86-008
16	Heat Reflector Assembly	64250	64260
17	Main Back	12640	12650
18	Fan Hole Cover	12920	12920
*	Air Shutter	06590	06590

*Parts Not Illustrated

TROUBLE CHART

SYMPTOMS	CAUSES	CORRECTIONS
Burner Flame Lifts	Air shutter incorrectly adjusted Gas Pressure too high	Partially close air shutter Call Gas Co. to re-adjust
Burner Flame Goes Out	Too much air Valves clogged Gas supply low or off Defective thermocouple or Clogged, dirty pilot	Re-adjust air shutter for proper flame Clean valves Check valves in line See "Pilot Section"
Burner Does Not Light	Gas valves closed Air in line Pilot flame not heating the thermocouple Dirty thermocouple electrical connections Defective thermocouple or valve	Open them Continue to relight until all air is exhausted See Pilot Flame Troubles Clean all connections Replace defective part
Burner Makes Noise or Flame Flashes Back Into Burner	Air shutter incorrectly adjusted Burner throat or ports dirty Damaged Burner or orifice Wrong Size orifice	Re-adjust air shutter Clean burner Replace Replace with correct size
Reddish Color Flame	Gas Pressure Wrong Dust in air Wrong size orifice	Call Gas Co. to re-adjust This will clean itself up Replace with correct size
Flame Too High	Air shutter incorrectly adjusted Gas pressure too high Wrong size orifice	Re-adjust air shutter Call Gas Co. to Re-adjust Replace with correct size
Flame Too Low or Yellow and Smokey	Air shutter incorrectly adjusted Wrong size orifice Gas pressure too low Burner throat or ports dirty	Open air shutter Replace with correct size Call Gas Co. to Re-adjust Clean burner
PILOT FLAME TROUBLE¹		
Lazy, Yellow Flame	Dirty Pilot Burner	Clean Pilot
Small Flame	Low gas pressure Pilot Gas adjustment closed too far	Clean orifice, Replace Pilot Gas Filter Turn Pilot Flow adj. counter clockwise
Pilot Flame Not Heating Thermocouple	Wrong Pilot orifice	Replace with correct size

If the functioning of the heater is not satisfactory after performing the described operations and adjustments, call your dealer.