

**HOME OWNER / INSTALLER
FOR YOUR SAFETY
THIS MANUAL MUST BE READ IN ITS
ENTIRETY BEFORE OPERATING HEATER**



RHFE-1004FA



ENERGYSAVER GAS DIRECT VENT WALL FURNACE

Owner's Operation and Installation Manual

WARNING: If the information in these instructions are not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **WHAT TO DO IF YOU SMELL GAS**
 - Do not try to light any appliance.
 - Do not touch any electrical switch; do not use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

This appliance may be installed in an aftermarket, permanently located, manufactured home (USA) or mobile home, where not prohibited by local codes.

This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.

INSTALLER: Leave this manual with the appliance.
CONSUMER: Retain this manual for future reference.



Rinnai[®]

WARNING

IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE, REFER TO THE OWNER'S INFORMATION MANUAL PROVIDED WITH THIS APPLIANCE. INSTALLATION AND SERVICE MUST BE PERFORMED BY A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.

ENERGYSAVER RHFE-1004FA

Operation Manual

Table of Contents

	Page
FEATURES OF THE RHFE-1004FA UNITS	1
SAFETY DEVICES	1
IMPORTANT POINTS / USAGE AND INSTALLATION MUSTS	3
DIMENSIONS	5
SPECIFICATIONS	6
SAFETY POINTS	8
GETTING TO KNOW YOUR NEW RHFE-1004FA	10
CONTROL PANEL	11
CUT-AWAY DIAGRAM	12
NOTICE BEFORE INSTALLATION	13
INSTALLATION INSTRUCTIONS	14
GAS CONNECTION	15
VENT TERMINATION CLEARANCES	16
LOCATION / CLEARANCES	17
SLEEVE AND MANIFOLD INSTALLATION	19
FITTING UNIT	21
OPERATING INSTRUCTION LABEL	23
ADDITIONAL CUSTOMER OPERATING INFORMATION	24
TESTING	30
CHECK	30
PRE-SERVICE CHECK	31
TROUBLE SHOOTING	32
ERROR MESSAGES.....	33
MAINTENANCE / SERVICE	34
WIRING DIAGRAM	35
WARRANTY INFORMATION	36
SCHEMATIC DIAGRAM	38
PARTS LIST	45
RHFE-1004FA FLOW DIAGRAM	50
EXTENDED FLUE PIPE KIT	51
TECHNICAL DATA	56

FEATURES OF THE RHFE-1004FA UNITS

- ◆ Clean Heating Forced Flue Type
- ◆ Easy Operation One-Touch Ignition
- ◆ Sensible Temperature Control Feature
- ◆ Comfortable Room Temperature Control and Display
- ◆ Warm Air Outlet at Floor Level (Keeps Your Feet Warm)
- ◆ Child Safety Lock
- ◆ Room Temperature Setting Memory
- ◆ Dirty Air Filter Indicator Lamp
- ◆ Energy-Saving Economy Setting
- ◆ Humidifier Tray
- ◆ Air Flow Directional Louvers
- ◆ Direct Vent Easily Installed
- ◆ Proportional Heating Variable Capacity
- ◆ Hush! Quiet Operation
- ◆ Modern Design Minimizes Floor Space Requirements
- ◆ Failure Message Display

SAFETY DEVICES

Spark Safety Device: Automatically shuts unit down when there is an abnormal spark at time of ignition.

Flame Failure Device: Activated when burner flame fails. This prevents raw gas from being released.

Overheat Switch: This device automatically cuts the gas off if the heater exceeds a predetermined temperature. This is normally caused by an obstruction in front of the louvers, or a blocked fan filter.

Two Fusible Links: Backs up the overheat switch. If the fusible link cuts the unit off, a service call by an authorized person is required to replace the link.

Overcurrent Prevention Device: This is a 5 amp. glass fuse found on P.C. board. Design to shut unit down in case of overcurrent. If fuse blows all indicator lamps will be "OFF".

Power Outage Safety Device: This safety device cuts off gas passage and stops operation.

Local and state codes must be adhered to prior to installation.

Rinnai is continually updating and improving products therefore specifications are subject to change without prior notice.

	NAT.	LPG
Minimum supply gas pressure	5.0" (127mmH ₂ O)	11.0" (279mmH ₂ O)
Maximum supply gas pressure	10.5" (267mmH ₂ O)	13.0" (330mmH ₂ O)
Manifold test pressure	Factory set	Factory set

※See conversion for setting gas pressures.

*There's 1/8" NPT pipe tap provided for gas pressure test. That is located on the gas control assembly A. The minimum inlet gas supply pressure is for the purpose of input adjustment.

GENERAL INFORMATION



THIS SERIES HEATER IS DESIGN CERTIFIED BY CSA INTERNATIONAL AS A DIRECT VENT WALL FURNACE AND MUST BE INSTALLED ACCORDING TO THESE INSTRUCTIONS. ALTERATION OF THE ORIGINAL DESIGN INSTALLED OTHER THAN AS SHOWN IN THESE INSTRUCTIONS OR USED WITH A TYPE OF GAS NOT SHOWN ON THE RATING PLATE, IS THE RESPONSIBILITY OF THE PERSON AND COMPANY MARKING THE CHANGE.

Thank you for purchasing a Rinnai gas forced flue heater.

Before using this product, please read this manual carefully to insure proper use of the product.

Please read the attached warranty thoroughly and keep it in a safe place.

IMPORTANT POINTS / USAGE AND INSTALLATION MUSTS

Unpack heater and check for damage. (DO NOT INSTALL DAMAGED HEATER.) If heater is damaged, contact your supplier for advice. Before installing a heater, check the label for the correct gas type (see label on heater). Refer to local gas authority for confirmation of gas type if you are in doubt.

Included in Carton:

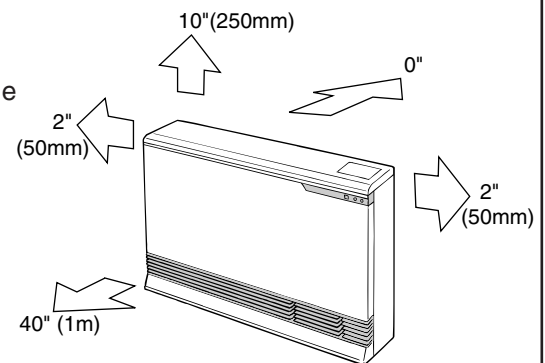
Customers Operating Information

IMPORTANT

Before using this product, please read this manual carefully to insure proper use of product.

1. The installation must conform with local codes or, in absence of local codes, the National Fuel Gas Code, ANSI Z223.1 or the Canadian Installation Code, CAN/CGA-B149.
2. For information on gas type, see data plate on the appliance.
3. This heater must not be installed where curtains or other combustible materials could come into contact with it. In some cases curtains may need restraining.
4. This appliance is not designed to be built in.
5. If you move, check the gas type in the area where you are moving to. The local gas authority will be able to advise on local regulations.
6. This heater discharges a large volume of warm air at low level to provide even heat distribution. If the air in the room contains cooking vapor or cigarette smoke, and the heater is used on a carpet, the surface of the carpet may become discolored. In addition, some nylon carpets contain dyes which may be affected by the warm air flow. Some soft vinyl surfaces are also subject to distortion, or discoloration by warm air. To prevent discoloration of carpets, etc., a mat should be placed under the appliance, extending about 30" (750mm) in front of it.

Diagram shows minimum clearances from combustible materials.



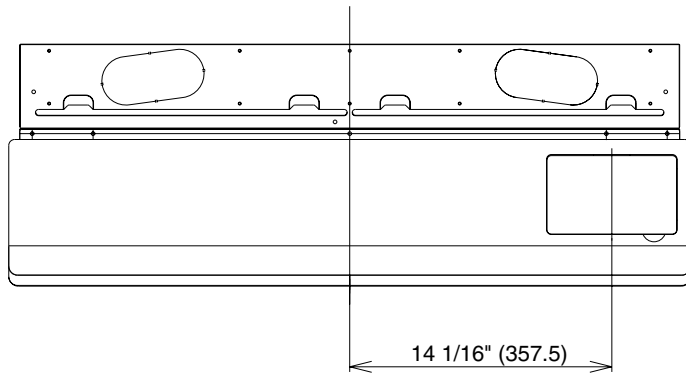
Rinnai recommends 10 inches (250mm) clearance on both sides for future servicing.

7. Read these rules and the instructions carefully. Check all local codes. Failure to follow these could cause a malfunction of the heater resulting in death, serious bodily injury and/or property damage.
8. This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.
If a conversion of the unit is needed, conversions must be performed at Rinnai America or authorized agent at owner's expense.
9. **WARNING:** Any change to this heater or its controls can be dangerous.
10. If a gas leak is suspected, turn heater off, turn gas supply valve off at appliance connector valve. Open windows to ventilate area immediately and contact your dealer or gas company.
11. **DO NOT PLACE CLOTHING OR FLAMMABLE MATERIALS, GASOLINE AND OTHER FLAMMABLE VAPORS AND LIQUIDS, ON OR NEAR THE HEATER.**

12. YOUNG CHILDREN SHOULD BE CAREFULLY SUPERVISED WHEN THEY ARE IN THE SAME ROOM WITH THE HEATER.
13. LPG containers must not be installed indoors.
14. Do not use this room heater if any part has been under water. Immediately call a qualified service technician to inspect the room heater and to replace any part of the control system and any gas control which has been under water.
15. Adequate clearances for accessibility for purposes of servicing and proper operation should be provided.
16. Adequate clearances around air openings should be provided.
17. Do not install in areas where curtains, drapes, clothing, or other moving flammables are within 12 inches of this unit.
18. Periodic examination of the venting system is required.
19. The flow of combustion and ventilation air should not be obstructed.
20. A manufactured Home (Mobile Home) installation must conform with the Manufactured Home Construction and Safety Standard, title 24CFR, Part 3280, or, when such a standard is not applicable, the Standard for Manufactured Home Installations, ANSI A225.1 or Standard for Gas Equipped Recreational Vehicles and Mobile Housing, CSA Z240.4.
21. "This appliance must be installed in accordance with the current standard CSA Z240.4 GAS EQUIPPED RECREATIONAL VEHICLES AND MOBILE HOUSING. Cet appareil doit être installé conformément aux exigences de la norme Z240.4 en vigueur de l'ACNOR, Installations de gaz dans les constructions mobiles et véhicules récréatifs."
22. If a blockage occurs at the vent terminal due to snow, ice, leaves, spider webs or other type of obstructions the unit will stop working. The unit will not function until the blockage has been removed. If the unit then fails to operate contact a qualified service agency.
23. For manufactured (mobile) home or residential installation, this unit has been designed and certified to be converted from natural gas to propane or vice-versa. When provisions are being made to convert this unit, a certified conversion kit must be used. You must also readjust manifold gas pressure to specifications indicated in the conversion manual. If in doubt contact Rinnai America for assistance.
24. Clothing or other flammable material should not be placed on or near the appliance.

DIMENSIONS

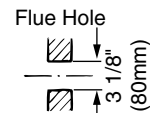
inches (mm)



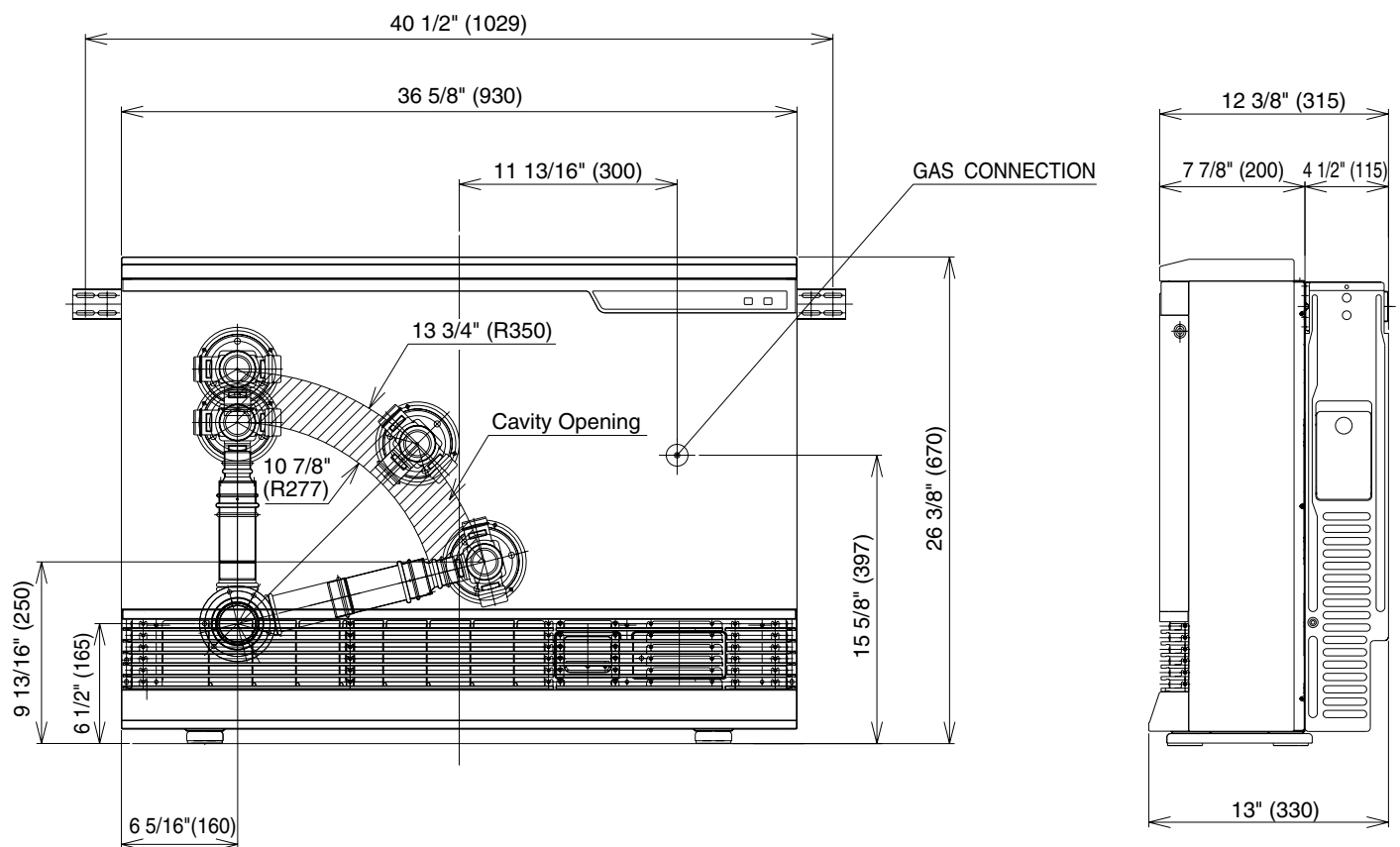
FLUE MANIFOLD POSITION

Center of hole for flue manifold can be drilled anywhere within the shaded area. (To avoid studs, etc.)

FOR WEATHERBOARD WALLS DRILL THROUGH CENTER OF WEATHER BOARD FROM OUTSIDE, THEN DRILL FROM INSIDE THROUGH PLASTERBOARD.



Before drilling the flue hole, check for water and gas pipes as well as electric cables. Use a 3 1/8" (80mm) drill for hole through wall.



SPECIFICATIONS

MODEL #	BTU/h		MIN. CLEARANCES			FAN CFM OUTPUT
	INPUT	OUTPUT	SIDE	TOP	FRONT	
RHFE-1004FA-N NATURAL	Low 10,500	Low 8,400	2" (50mm)	10" (250mm)	40" (1m)	LO:203.4
	High 38,400	High 30,700				HI:360.6
RHFE-1004FA-P PROPANE	Low 10,500	Low 8,400	2" (50mm)	10" (250mm)	40" (1m)	LO:203.4
	High 36,500	High 29,200				HI:360.5

SPECIFICATIONS

Type of Appliance	Fan forced flued gas furnace
Model	RHFE-1004FA ENERGYSAVER
Dimensions	Width—36 5/8" (930mm) Depth—12 3/8" with back spacer (315mm with back spacer) Height—26 3/8" (670mm)
Weight	Approx. 90 lbs.
Connections	Electrical—AC 120V 60Hz 121 watts Gas—1/2" female NPT
Combustion System	Stainless steel bunsen burner
Ignition System	Continuous spark
Operation	Finger touch control buttons
Temperature Control	Electronic thermostat HI-LOW/OFF Up/down switch 2°F increments
Temperature Range	Modulates Continuous LOW=55°F 60°F~80°F HI=High Combustion
Warm Air Outlet	Bottom front louver
Indicator/Lamps	Operation/Combustion, Filter, SetTemp., RoomTemp., Economy, Function Lock.
Operating Buttons	ON/OFF, Up/down, Function-lock, Economy
Economy Mode	Energy saving feature
Humidifier Tray	Capacity—7 pints (3000cc)

Safety Devices	Flame failure – Flame rod Over heat – Bi-metal switch, thermal fuse, thermistor Power failure – PCB Power surge – 5 Amp. fuse Fan delay – Micro computer timer Pre-purge – Combustion fan, pre-purge timer, spark sensor Room over heat – Automatic cut off at 104°F after 10 minutes	
Noise Level Range	HI~LOW=47~37dB(A)	
TYPE	Combustion Method	Forced combustion
	Air Supply Exhaust	Closed Type
	Radiation Method	Forced convection
AIR SUPPLY/ EXHAUST PIPE	Wall Penetration Hole	3 1/8" (80mm)
	Max. Extended	13ft., 2 bends (4m, 2 bends)

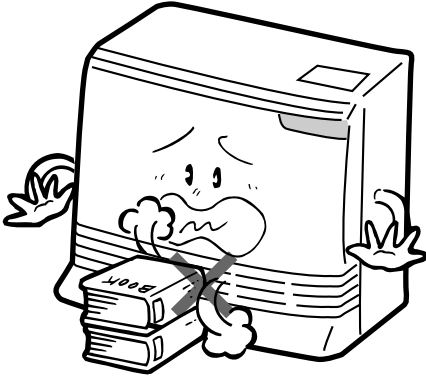
SPECIFICATIONS FOR VENT SIZES		
S	3"—4 1/2" (75—115)mm	Thin Walls Mobile Home
A	4 1/2"—9 1/2" (115—240)mm	Wood Walls
B	9 1/2"—15 3/4" (240—400)mm	Wood/Brick
C	15 3/4"—23 5/8" (400—600)mm	Brick/Block
D	23 5/8"—31 1/2" (600—800)mm	Special

** BTU - Efficiency increase with vent size. Clearances from combustibles see page 3.

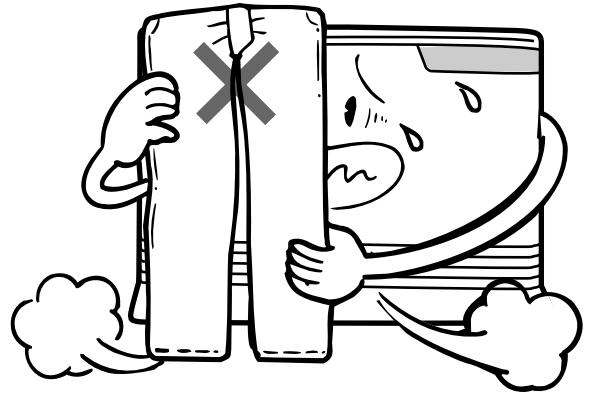
** Thermal efficiency rating determined under continuous operating conditions, and was determined independently of any installed system.

SAFETY POINTS

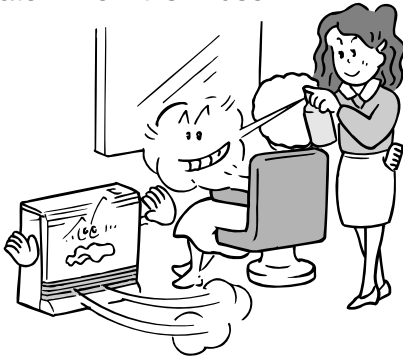
Do not restrict the warm air discharge by placing articles in front of the heater.



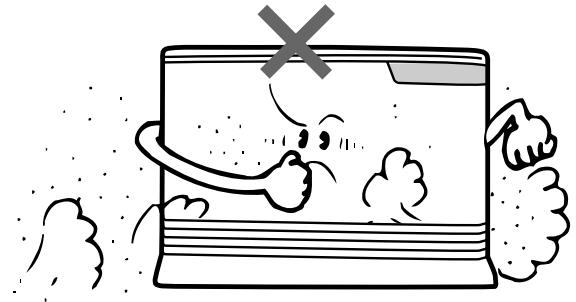
This appliance must not be used for any purpose other than heating.



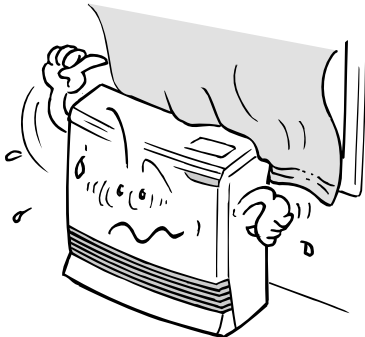
Do not spray aerosols while the heater is operating. Most aerosols contain butane gas, and can be a fire hazard if used near this heater when it is in use.



Do not install the heater in an unusually dusty area.



Do not allow curtains or other flammable or combustible materials to come into contact with the heater.



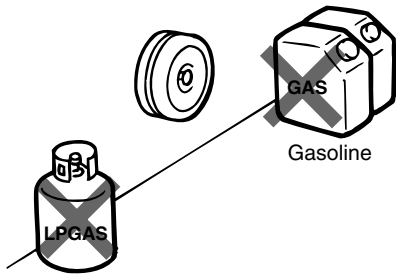
Combustible materials must not be placed where the heater could ignite them.

Do not allow anyone to sit on or lean against the appliance.

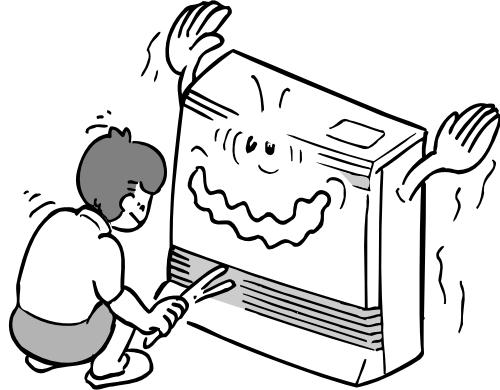


SAFETY POINTS

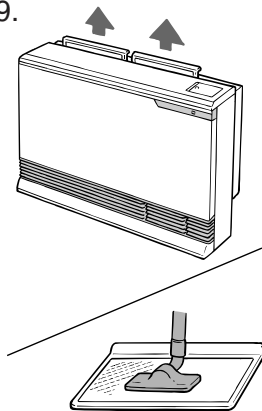
Keep flammable materials, trees, shrubs, etc., away from the flue terminal.



Do not allow anyone to poke articles through the louvers.

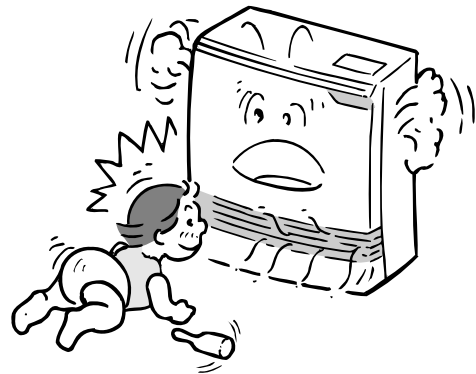


Filter should be cleaned at regular intervals. See page 29.

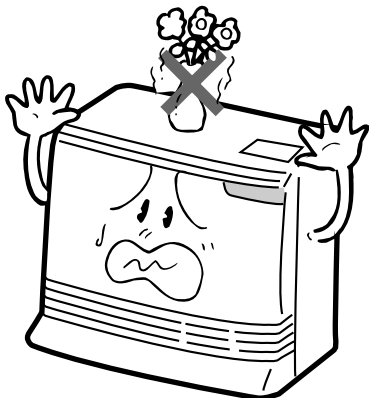


Clean as needed.

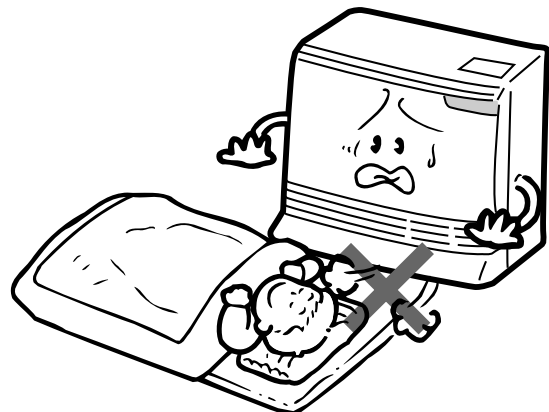
Young children should be supervised at all times. Hand or body contact with the louvers should be avoided.



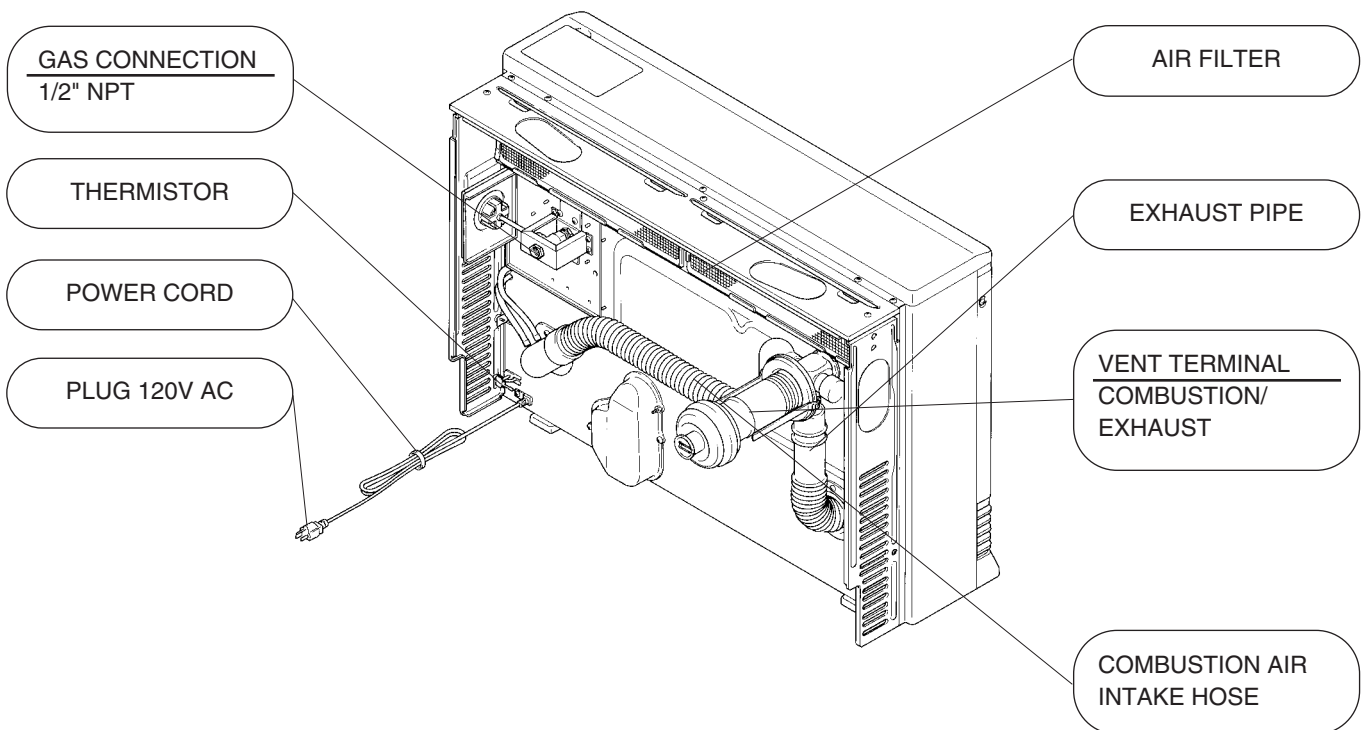
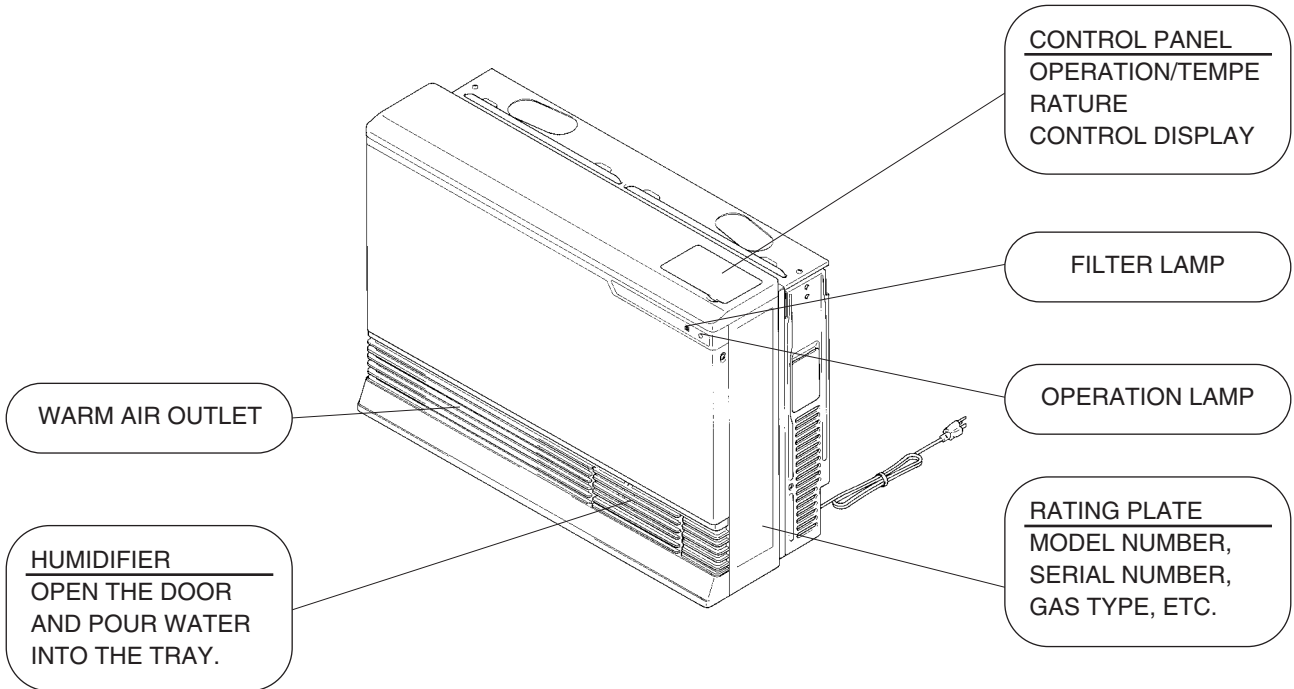
Do not place articles containing liquids on top of the heater. Liquid spilled on the controls may cause extensive damage.



Do not allow young children or an infant to sleep directly in front of the heater.

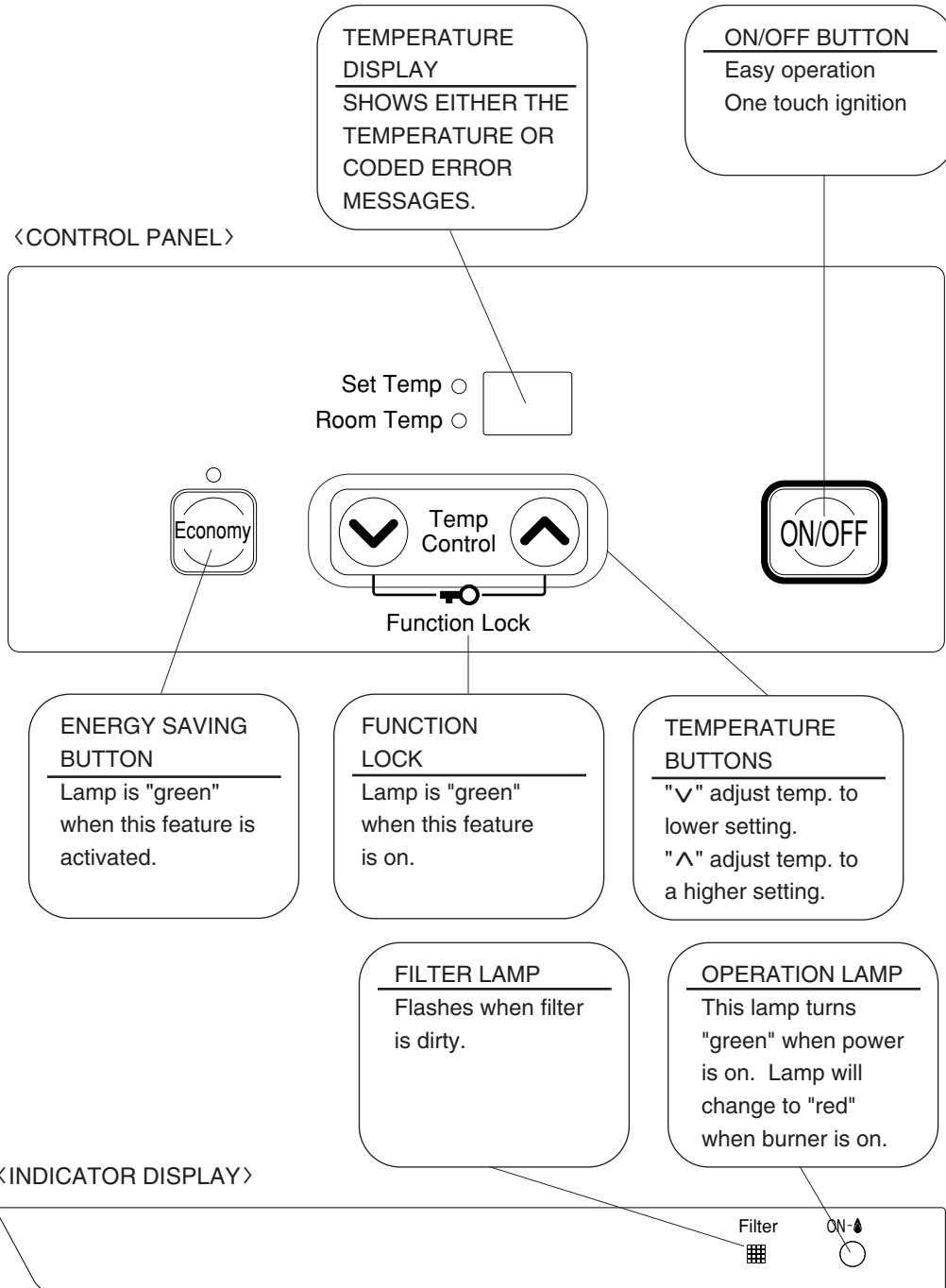


GETTING TO KNOW YOUR NEW RHFE-1004FA

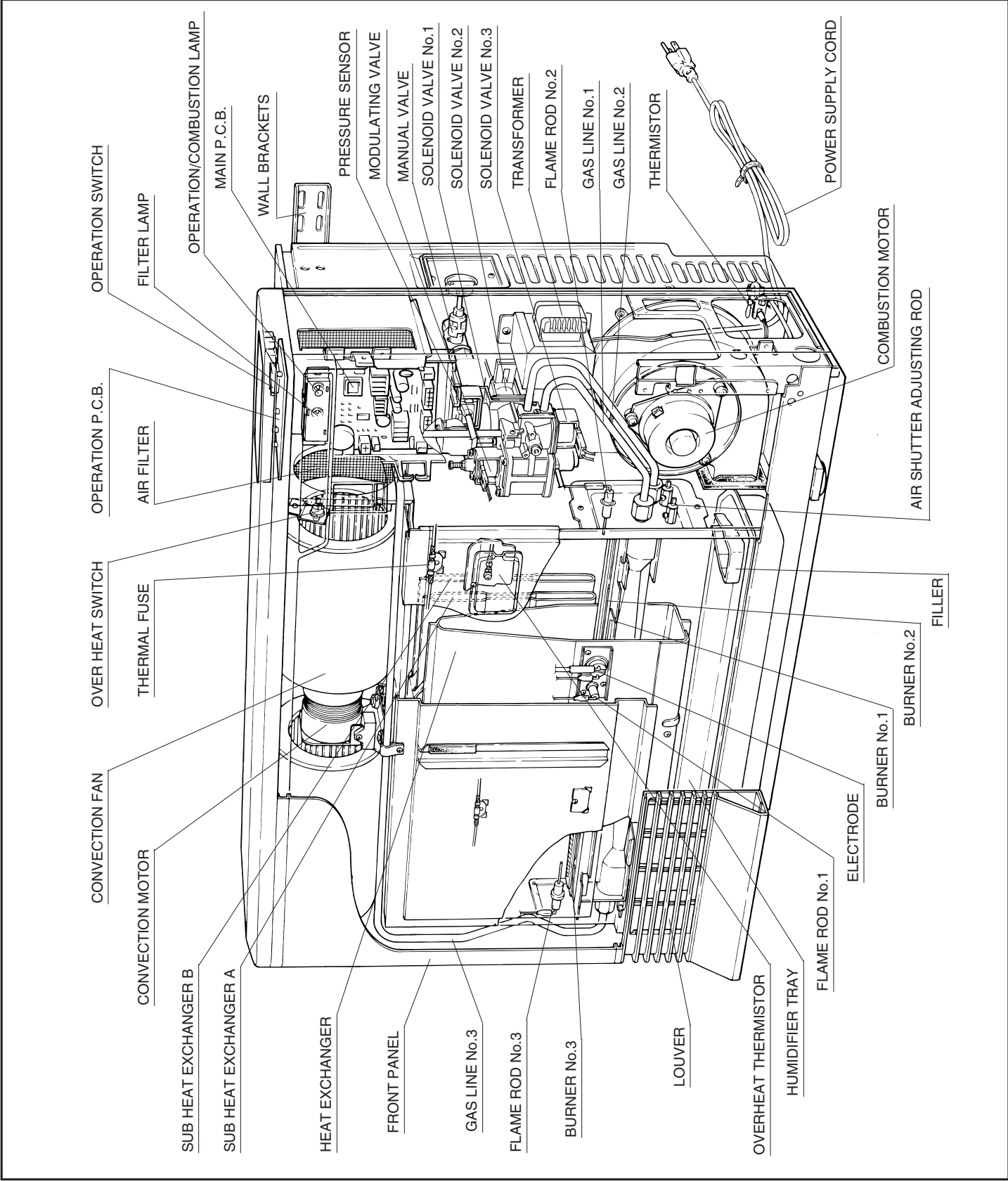


CONTROL PANEL

ALL BUTTONS BEEP WHEN OPERATED.



CUT-AWAY DIAGRAM



NOTICE BEFORE INSTALLATION

The heater must be installed by a qualified service person according to these installation instruction.

Check your local building codes for the proper method of installation. In the case of absence of local codes, this heater should be installed in accordance with the National Fuel Gas Code ANSI Z223.1.

Check local codes or, in the absence of local codes, the current CAN/CGA B149 INSTALLATION CODE.

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

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

“WARNING” Do not operate appliance with the panel(s) removed, cracked or broken. Replacement of the panel(s) should be done by a licensed or qualified service person.

INSTALLATION AND REPAIR SHOULD BE DONE BY A QUALIFIED SERVICE PERSON. THE APPLIANCE SHOULD BE INSPECTED BEFORE USE AND AT LEAST ANNUALLY BY A QUALIFIED 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 UNIT BE KEPT CLEAN.

The appliance, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70 or Canadian Electrical Code, CSA C22.1, if an external electrical source is utilized.

WARNING: THIS APPLIANCE 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.

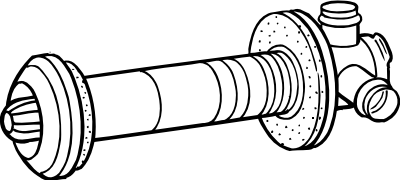

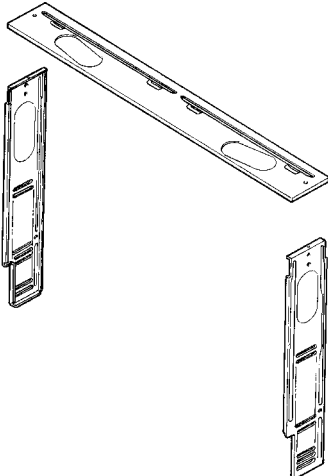







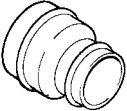
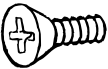

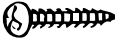

Do not cut or remove the grounding prong from the plug.

Rinnai recommends a dedicated electrical circuit. This gas appliance must not be connected to a chimney flue serving a separate solid-fuel burning appliance.

When the appliance is installed directly on carpeting, tile or other combustible material other than wood flooring, the appliance shall be installed on a metal or wood panel extending the full width and depth of the appliance.

Appliance input ratings are based on sea level operation and need not be changed for operation up to 2,000 feet elevation. For operation at elevations above 2,000 feet, manufactured to specified deration conditions for Canada and the United States.

INSTALLATION INSTRUCTIONS

Flue Manifold1		Spare rubber seal1 (‘A’ Flue units only)			
					
		(For weatherboard installations)			
Back Spacer Set		1	Wall Brackets		2
			Insulation Clip		1
			Plastic tie for air inlet		1
			(M4)	 For Back Spacer Set	7
			(M5)	 For Wall Brackets	4
Air inlet hose		1	(M4×20)	 For Flue Lock Stopper	1
Vent adaptor		1	(M4)	 For Flue Manifold	3
Pipe stopper A&S		2	(M4.8×32) Wood Screws	 Wall Bracket Screws	7
Pipe stopper E		1	Owner’s Manual Conversion Manual Template		1

Check to ensure gas type on rating plate matches gas being supplied to the unit. If not, unit may have been converted and should be checked to ensure conversion was done properly. If not, unit could be damaged due to being overfired.

Refer to local gas authority for confirmation of gas type if in doubt.

Refer to data plate located inside of the front panel.

Check for damage, if the unit is damaged contact your supplier or Rinnai.

Do not install a damaged unit before checking with your supplier.

Refer to an approved pipe sizing chart if in doubt about size of gas line.

GAS CONNECTION

1. The gas supply line shall be gas-tight, sized and so installed as to provide a supply of gas sufficient to meet the maximum demand of the heater without loss of pressure.
2. A shut off valve (and appliance connector valve) should be installed in the upstream of the gas line to permit servicing.
3. Flexible pipe and any appliance connector valve used for gas piping shall be types approved by nationally recognized agencies.
4. Any compound used on the threaded joint of the gas piping shall be a type which resists the action of liquefied petroleum gas.
5. Supplied gas pressure must be within the limits shown in the specifications.
6. After completion of gas pipe connections, all joints including the heater must be checked for gas tightness by means of leak detector solution, soap and water, or an equivalent nonflammable solution, as applicable.

CAUTION: Since some leak test solutions, including soap and water, may cause corrosion or stress cracking, the piping shall be rinsed with water after testing, unless it has been determined that the leak test solution is noncorrosive.

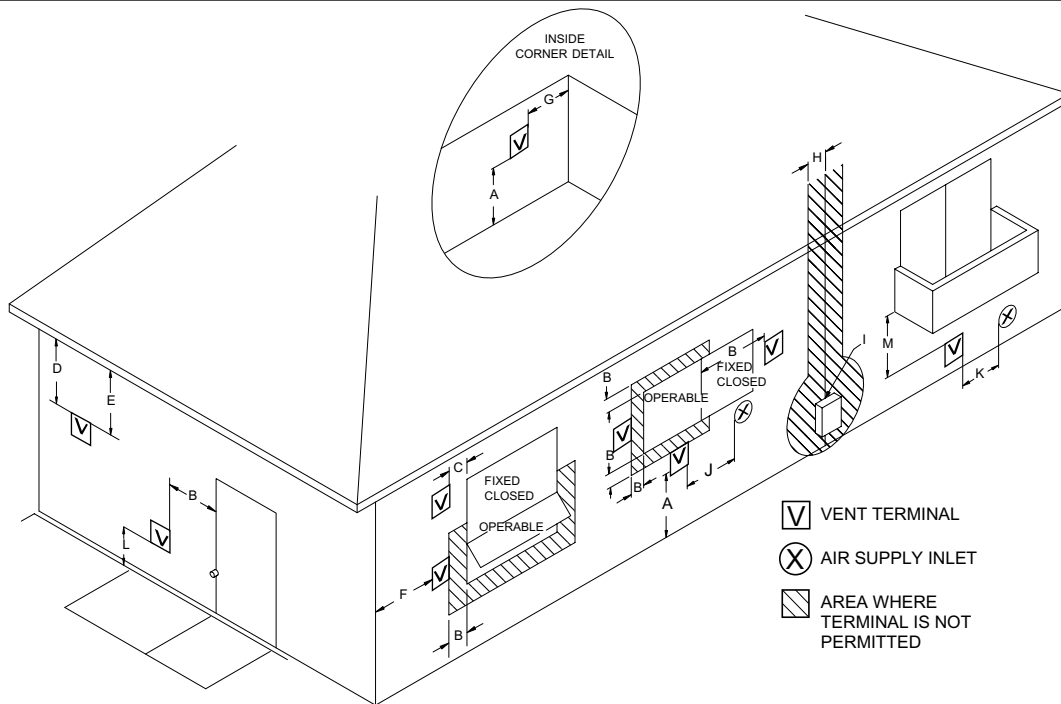
7. The appliance and its appliance main gas valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 P.S.I (3.5kPa).

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

8. One 1/8" test plug is provided for testing of manifold pressure see schematic for location. (On page 43, item # 125)

At time of installation installer must supply a 1/8" N.P.T. plugged tapping, accessible for test manometer connection, immediately up stream of the gas supply connection to the appliance.

VENT TERMINATION CLEARANCES



REF	DESCRIPTION	U.S. Installations	Canadian Installations
A	Clearance above grade, veranda, porch, deck, or balcony	1 foot	1 foot
B	Clearance to window or door that may be opened	** 6 inches for appliances $\leq 10,000$ Btuh, 9 inches for appliances $> 10,000$ Btuh and $\leq 50,000$ Btuh, 12 inches for appliances $> 50,000$ Btuh	6 inches for appliances $\leq 10,000$ Btuh, 12 inches for appliances $> 10,000$ Btuh and $\leq 100,000$ Btuh, 36 inches for appliances $> 100,000$ Btuh
C	Clearance to permanently closed window	*	*
D	Vertical clearance to ventilated soffit, eaves, or overhang	*	*
E	Clearance to unventilated soffit, eaves, or overhang	*	*
F	Clearance to outside corner	*	*
G	Clearance to inside corner	*	*
H	Clearance to each side of center line extended above meter/regulator assembly	*	3 feet within a height 15 feet above the meter/regulator assembly
I	Clearance to service regulator vent outlet	*	3 feet
J	Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliance	** 6 inches for appliances $\leq 10,000$ Btuh, 9 inches for appliances $> 10,000$ Btuh and $\leq 50,000$ Btuh, 12 inches for appliances $> 50,000$ Btuh	6 inches for appliances $\leq 10,000$ Btuh, 12 inches for appliances $> 10,000$ Btuh and $\leq 100,000$ Btuh, 36 inches for appliances $> 100,000$ Btuh
K	Clearance to a forced air inlet into a building	3 feet above if within 10 feet horizontally	6 feet
L	Clearance above paved sidewalk or paved driveway located on public property	*	† 7 feet
M	Clearance under deck, veranda, porch, or balcony (open on 3 sides)	*	‡ 1 foot

* For clearances not specified in ANSI Z223.1 / NFPA 54 or CAN/CGA-B149, use clearances in accordance with local installation codes and the requirement of the gas supplier.

† A vent shall not terminate directly above a sidewalk or paved driveway that is located between two single family dwellings and serves both dwellings.

‡ Permanent only if veranda, porch, deck, or balcony is fully open on a minimum of two sides beneath the floor.

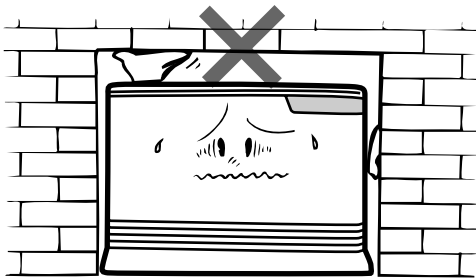
** 4 feet for units other than Direct-Vent Appliance.

LOCATION / CLEARANCES

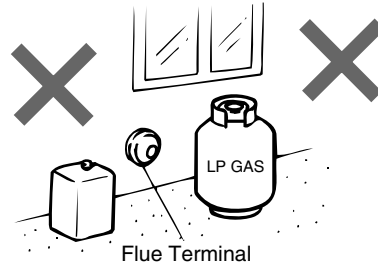
When positioning the heater the main points governing the location are:

1. Flueing
2. Warm air distribution

This heater is not designed to be built in.

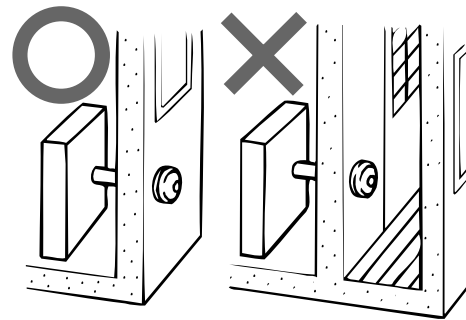
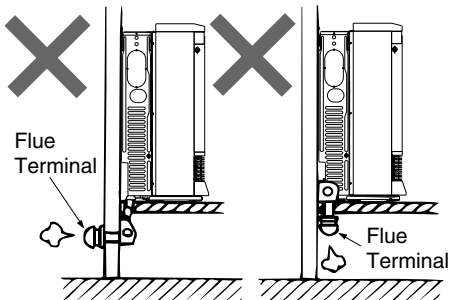


The flue terminal should be positioned away from flammable materials.



Do not flue into natural draught flues or fireplaces, this unit can only be used with one of the five types of Rinnai flue kits. Do not flue unit into other rooms. Flue terminal must be outside.

The flue is not designed to be positioned under floors, or below the level of the heater.



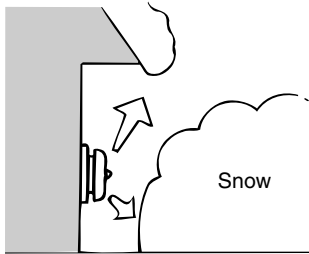
Flue may be positioned directly under opening windows, with a minimum clearance of 9" (230mm).

FLUE SIZES:

5 Flue lengths are available.

- S flue walls 3"~4 1/2" (75~115mm)
- A flue walls 4 1/2"~9 1/2" (115~240mm)
- B flue walls 9 1/2"~15 3/4" (240~400mm)
- C flue walls 15 3/4"~23 5/8" (400~600mm)
- D flue walls 23 5/8"~31 1/2" (600~800mm)

SNOW AREAS

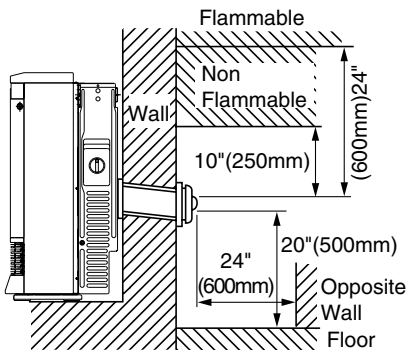


Clearance in accordance with local installation codes and the requirements of the gas supplier.

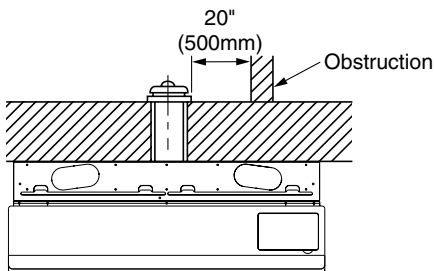
In areas subject to heavy snowfall, keep snow clear of flue terminal at all times.

STANDARD INSTALLATION OF FLUE MANIFOLD.

Diagram below shows minimum clearances and distances from obstructions. Also check local regulations.



Side Clearances

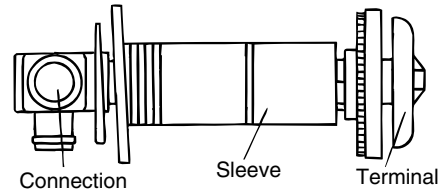


SLEEVE AND MANIFOLD INSTALLATION

METHOD FOR STANDARD WALLS

1. Disassemble Manifold from Sleeve.

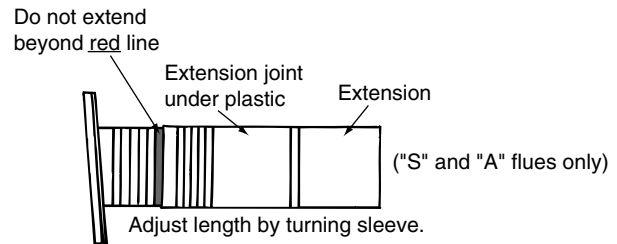
The flue consists of 3 parts, sleeve, inside connectors and tube, outside terminal; (dis-assembly by pulling hard on outside terminal and inner connections, then pull sleeve off outer terminal.)



2. Adjustment of Sleeve Length.

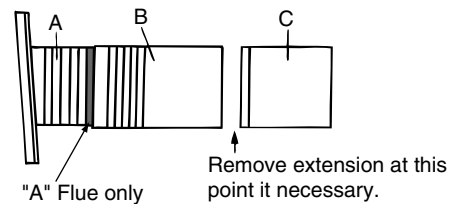
Measure wall thickness through previously drilled 3 1/8" (80mm) hole.

End of sleeve should protrude 3/16"~3/8" (5~10mm) from outside wall. Adjust sleeve length to wall thickness plus 3/16"~3/8" (5~10mm). (Sleeve is threaded for adjustment.) Do not extend beyond red line.



3. For S and A flue only.

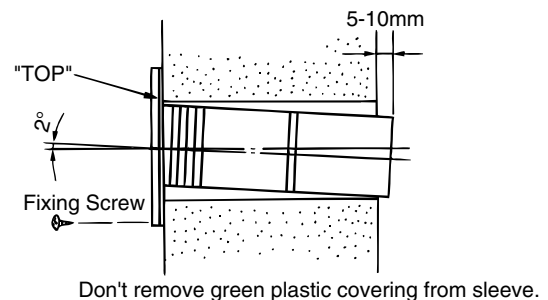
Depending on flue set and wall thickness extension piece "C" may need to be removed. Cut plastic, remove extension, then follow instruction 2. This applies to "S" and "A" flues only. There is no extension on other flues, they can be fully adjusted by turning the threaded section.

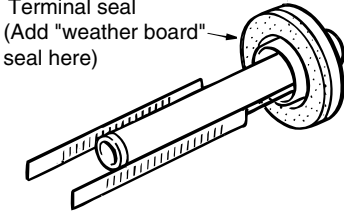
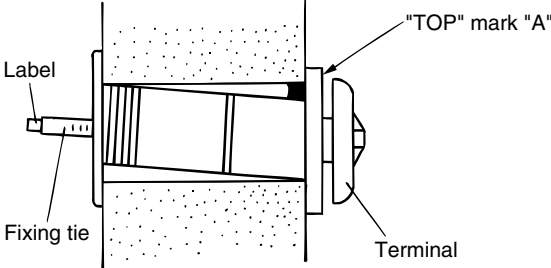
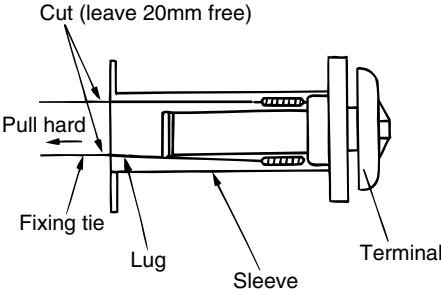
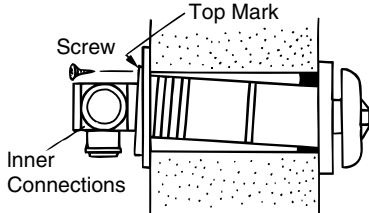
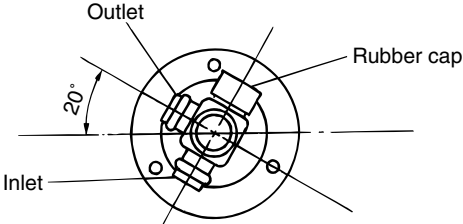


4. Fixing Sleeve.

Fix to the wall, using the 3 screws provided.

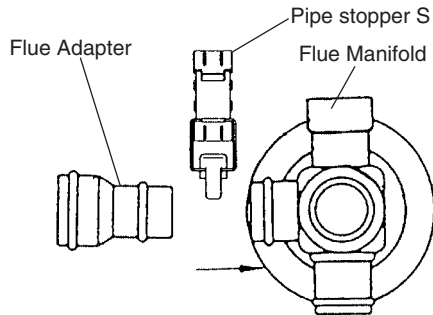
NOTE: The flange is marked "TOP", sleeve must be fitted with this mark **Up**. Check sleeve protrudes 3/16"~3/8" (5~10mm) on the outside.



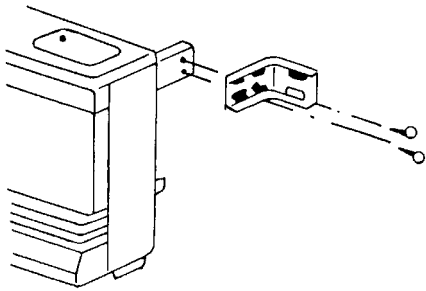
<p>5. Check rubber seal is in place on terminal.</p> <p>*For weather board walls, add spare rubber seal provided to compensate for weather board angle.</p>	
<p>6. Installation of Terminal</p> <p>From outside, insert terminal into sleeve with the “A” mark at the top. Left hand side fixing tie is marked “LEFT” (from inside).</p>	
<p>7. Attached Ties</p> <p>Pull hard on left and right hand side ties, clip ties over lugs inside sleeve. You should be able to pull ties 2 or 3 slots past the starting point. Cut the ties, leaving about 3/4" (20mm) past the lugs. Bend ties so they are parallel with the wall.</p>	
<p>8. Insert Inner Connection Assembly.</p> <p>Push assembly into the terminal tube, make sure “TOP” mark is uppermost. Fix with 3 screws provided.</p>	
<p>9. Manifold can still be turned after attaching.</p>	

FITTING UNIT

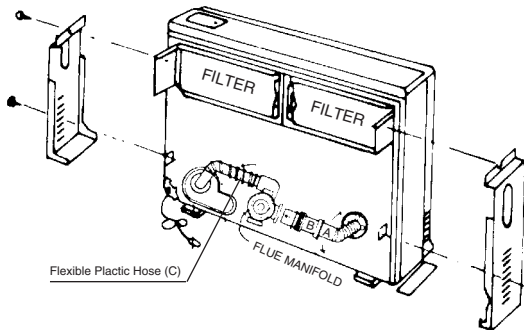
1. Fix Flue Adapter to Flue Manifold with PIPE STOPPER S as shown below.



2. Fit Wall bracket as shown below.



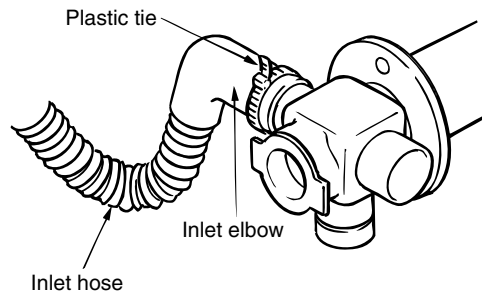
3. Fit Air inlet Hose to heater. Fix Side Back Spacers with screws.



Pipe "A" - Swivels for location adjustment
 Pipe "B" - Telescopic-telescopes into pipe A and flue manifold
 Pipe "C" - Fits on manifold "Air Intake" pipe

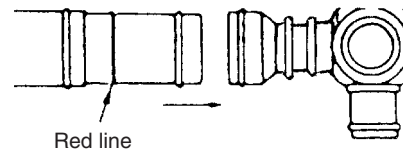
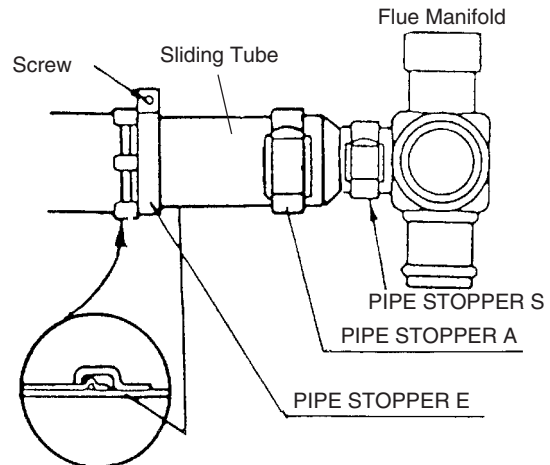
Air Inlet Hose
 Connect Air Inlet Hose to Manifold Inlet.
 Do not kink the hose.

4. Secure with plastic tie as shown below.



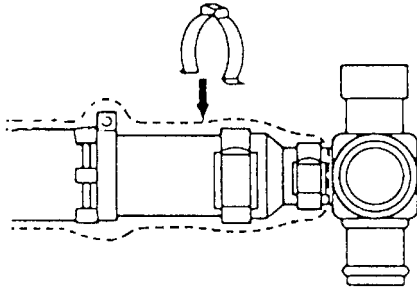
When servicing unit replace plastic tie with new one.
 (Available at local hardware store or contact local distributor.)

5. Connect Vent Sliding Tube with PIPE STOPPER S and E as shown below.

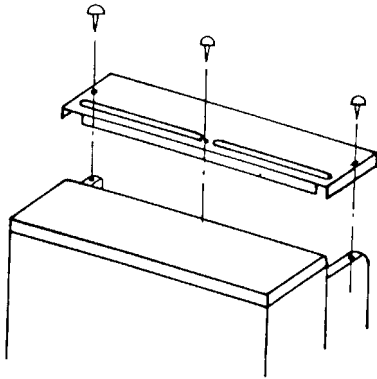


Sliding Tube should not be extended beyond the RED LINE.
 Red line should not be visible after sliding the tube back into the vent outlet.

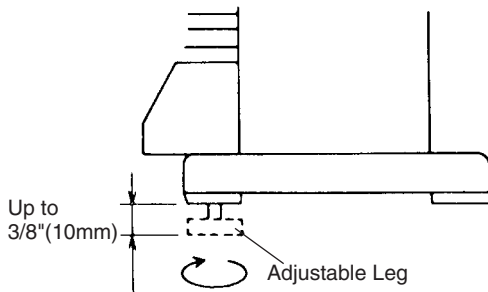
6. Slide the insulation sleeve up to the flue manifold, slip the securing clip over the sleeve as shown.



7. Fix Back Spacer, Top to heater. (3 screws in top back cover).



8. If necessary, the unit can be levelled using the adjustable legs under the front right and left hand side legs.



■ INSTRUCT CUSTOMER ON USE OF HEATER

When you are satisfied that the appliance is operating correctly, explain operation of heater to the customer.

Fault-Failure Procedure

If unable to get the heater to operate correctly, contact Rinnai directly or your Agent or Gas Utility.

Do not use electrical extension cords to connect unit to power supply. Keep the power cord away from the flue.

Some items are not covered under the unit's warranty. Example: annual maintenance, carbon on flame rods/igniter, dust, spider webs, improper conversions, etc.


OPERATING INSTRUCTION LABEL ENERGYSAVER RHFE-1004FA

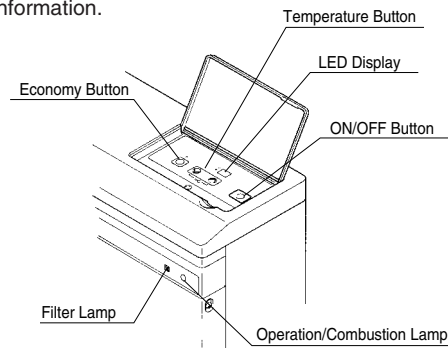
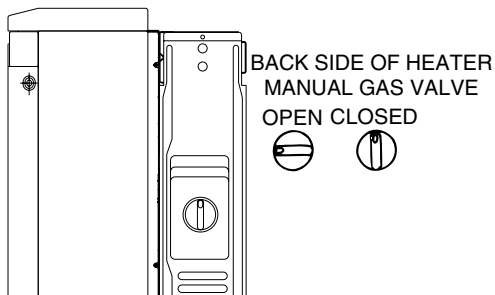
FOR YOUR SAFETY READ BEFORE OPERATING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
- WHAT TO DO IF YOU SMELL GAS
- Do not try to light any appliance.
 - Do not touch any electric switch; do not use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

OPERATING INSTRUCTIONS

- STOP! Read the safety information above on this label.
1. Set the thermostat to lowest setting.
 2. Turn off all electric power to the appliance via the ON/OFF button on the control panel. Locate manual gas valve to be found on back side of heater.
 3. Turn Manual valve clockwise  to the full OFF position.
 4. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you then smell gas,
- STOP! Follow "B" in the safety information above on this label. If you don't smell gas go to next step.
5. Turn Manual gas valve to the full on position.
 6. Turn on all electric power to the appliance via ON/OFF button.
 7. Set the thermostat to desired setting.
 8. Burner is lit when indicator lamp "ON" turns red.
 9. "ON" indicator flashes when burner fails to ignite.
 10. If the appliance will not operate, follow the instruction "TO turn off gas to appliance" and call your service technician or gas supplier. See manual for additional information.



TO TURN OFF GAS TO APPLIANCE

1. Turn off electric power to the appliance using the ON/OFF button located on the control panel.
2. Locate manual valve on back side of unit.
3. Turn manual valve clockwise to the full OFF position.

NOTE: The fan will continue to operate until the appliance is cool, do not turn the appliance off by unplugging it from the wall.

Keep burner and control compartment clean. Refer to the installation and operating instructions accompanying heater.

ADDITIONAL CUSTOMER OPERATING INFORMATION

IGNITION

Make certain the heater is connected into both the gas and the electric power.

Depress the ignition ON/OFF button slowly and firmly.



When you release the ignition ON/OFF button the 'LED Display will illuminate, the spark will ignite the main burner and the Combustion fan will begin to run. If the heater does not ignite within 15 seconds the spark will stop and the 'LED Display will show Error Code. Turn off unit and repeat ignition operation.

This heater has an automatic ignition system, when the main burner has lit, the combustion Lamp will glow red, and the spark will stop. There may be a smell of burning dust or oil the first time the heater is lit or when the heater has been out of operation for a long time, this is normal. You may need to repeat the ignition operation the first time the heater is plugged in, due to air in the gas line.

TEMPERATURE CONTROL

The thermostat automatically modulates the burner and the fan to maintain the room temperature which you have selected.

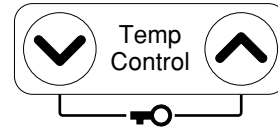
To change the room temperature, simply adjust the temperature control buttons until the desired setting is indicated.

The temperature range from LO to HI is about 55°F (12°C) to 122°F (50°C). Temperature control may be affected by the location of the heater.

TEMPERATURE LEVEL

Set Temp

Room Temp



COMBUSTION INDICATOR

Filter

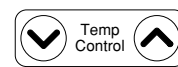


ON-



TEMPERATURE CONTROL

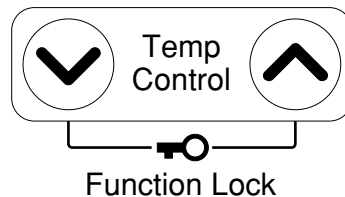
Set Temp
Room Temp



ROOM TEMPERATURE DISPLAY

'Temperature is indicated by the L.E.D. display on the control panel. The first time when the appliance is turned on, the preset temperature '72 F degrees'(from the factory) will be shown on the L.E.D.display. Every time the Set Temp has been changed,that set temperature will be latest data appearing on the L.E.D. display on the next time the appliance is turned on. To get to Set Temp,press either ' up ' or ' down ' button. At the Set Temp, press ' up ' to increase the temperature or ' down ' to decrease. When the desired temperature is set, 10 seconds later the LED display will change to the room temperature mode which will show the current room temperature.

Set Temp ○
Room Temp ○



TO TURN UNIT OFF

Depress ignition ON/OFF button again.
The appliance will stop operate.
Do not turn off by unplugging at the power outlet.
Convection fan continues to run until heater is cool.

IGNITION BUTTON



ECONOMY BUTTON

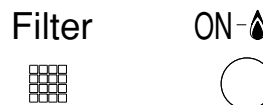
To select 'Economy Mode', push the 'Economy' button, the green lamp will glow. 30 minutes after the room temperature reaches the preset temperature (set by the thermostat), the 'Economy Mode' if set, reduces the temperature by 2°F, after another 30 minutes it reduces the temperature by a further 2°F. This is an energy saving feature. It does not operate if the heater is under capacity for the room size.

ECONOMY



FILTER LAMP

If the filter lamp glows during operation, check air filter for dust. If there is dust present, clean filter. See section on care of heater. Turn heater off before cleaning filters.



OPERATING PRECAUTIONS

Please read this section carefully, before using your Forced flue heater.

Gas Type, Power Source, and Manufactured Date

- Type of gas, power source and manufactured date are displayed on the nameplate placed on the right side of the unit.
 - Do not use gas other than the type of gas (gas group) indicated on the nameplate.
 - This equipment is for 120 V AC (60Hz) only. Do not use power source other than what is listed.

Caution

- Should the type of gas or power source be different, please contact your dealer. Using a different type of gas or power source may affect the performance or may be dangerous.
- If you are moving to another area, please check the types of gas and power source provided in the area. If the types of gas and power source are different, adjustment or modification is necessary. Please consult the gas provider in the new area.

Usage

- Do not use for drying clothes!
 - Do not use for any other purposes other than heating (e.g., drying the laundry).
 - Draping clothes over the unit blocks the warm air outlet or the filter area and is very dangerous, as it causes heat to build up inside the unit.

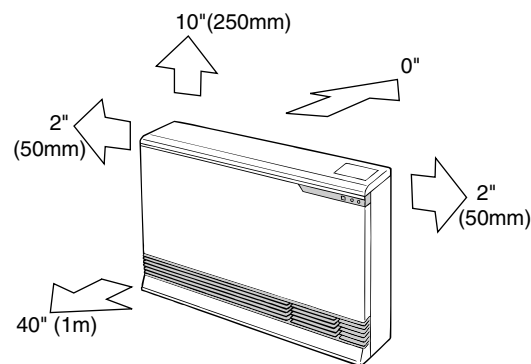
Usage Location

- Do not use near flammable material !!!

Place the unit sufficiently away from flammable objects such as furniture, wall and curtains. Check carefully when installing the unit.

REQUIRED DISTANCE FROM FLAMMABLES:

Top: At least 10" (250mm) Right: At least 2" (50mm)
Left: At least 2" (50mm)
Front: At least 40" (1m)



Rinnai recommends 10" (250mm) clearance on both sides for future servicing.

- Watch for falling objects !!!
Do not place under a shelf or in other locations where there is a danger of an object falling on the unit.
- Avoid using in special purpose rooms !!!
This equipment is made for use as a heater for a residential building. Do not use in beauty salons, factories and other places where spray or chemicals are used or where a large amount of dust is present.

Do not use hair treatment products containing silicon in a room heated by the Forced flue heater, as they may cause ignition error, flame extinction or other malfunctions.

- Insert a board under the unit when placing on carpeted floor !!!
This heater may be installed on combustible flooring. 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.

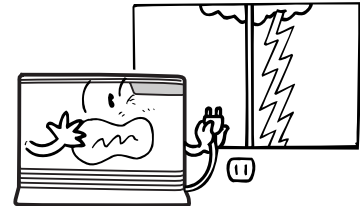
Emergency Procedures:

Stay calm and turn the unit off !!!

In case of an emergency (e.g., abnormal overheating of the unit, loud noise), always stay calm, turn the unit off by pushing the ON/OFF button, close the gas valve and contact your dealer or the Rinnai office or store near you.

During a Thunderstorm

When a thunderstorm is approaching, turn the unit off and unplug the power cord. Heavy thunderstorm may cause damage to the unit.

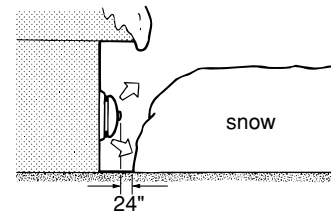


Inspection and Maintenance

- Be sure to perform inspection and maintenance procedures. (See page 29 and 34 for details.) In particular, check the gas connection, power connection and air supply/exhaust pipe connection.
- Do not use the unit if you suspect malfunctioning or damage. Incomplete repairs are dangerous. In case of malfunctioning, read the instructions on page 32 and or contact your dealer or the nearest Rinnai office.

During Snow Accumulation

If the air supply/exhaust vent is covered by snow or damaged by falling icicles, the exhaust may be blocked and cause malfunctioning of the unit. Keep the area around the air supply/exhaust vent free of snow and icicles. Minimum clearance from snow accumulations should be at least (24").



Installation of Unit:

- Please ask your dealer to install the unit properly in a safe location:
- Refer to the installation manual to make sure the unit is installed properly.

Customer's Operating Information

The following pages explain how to use the Forced flue heater. Also read "Operating Precautions" on pages 23—26.

When Using for the First Time

- Check the power cord and power plug.
 - Firmly plug the unit into an electrical outlet, ensure outlet is properly grounded. An outlet that is not grounded properly can cause unit to operate erratically.
 - Make sure the power cord is not exposed to the heat from the exhaust pipe.
- Fully open the gas valve on the unit.

Before the Cold Season Begins

- Check the air supply/exhaust connection.
- Before using this heater, inspect the air supply/exhaust connection to make sure the pipe is not disconnected or bent.
- Check the main unit and the air supply/exhaust.
- Make sure there is no combustible or flammable material near the main unit or the air supply/exhaust.

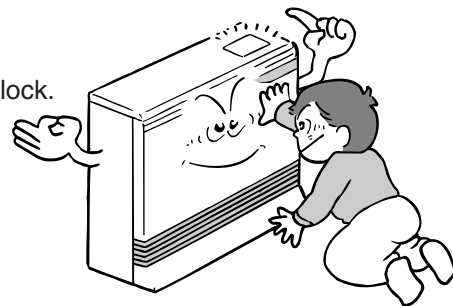
CAUTION:

If you find a problem with the air supply/exhaust do not use the unit. Contact your dealer or the nearest Rinnai office.

Function Lock

The Function lock feature prevents accidents due to tampering by small children.

- Press both“^” and “v” button at the same time.
The “Function Lock” lamp should comes on and engage the function lock.
- Cancelling the Function lock.
Press both“^” and “v” button again and hold for two (2) seconds.
This will disengage the function lock.



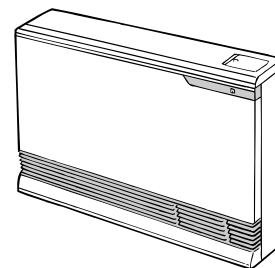
Note:

If the Function lock is engaged while the unit is operating, all operations by switches and buttons will be disabled except turning the unit off.

If the Function lock is engaged while the unit is off, all operation will be disabled. When you turn the unit on and the Function lock is engaged you must cancel the Function lock before proceeding.

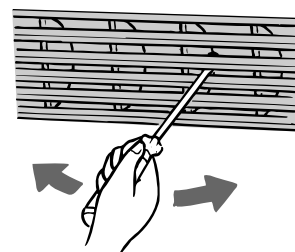
AIR FLOW CONTROL:

- The direction of air flow may be changed to the left or right.
Use a screwdriver or a similar object to change the direction of the vertical louver.



CAUTION:

- Do not adjust repeatedly (more than 5-6 times), as it may cause the louver to break.
- The horizontal louver (which determines the vertical air flow direction) is fixed and cannot be adjusted.
- Do not adjust the air flow direction while warm air is flowing, as it may cause burn injury.



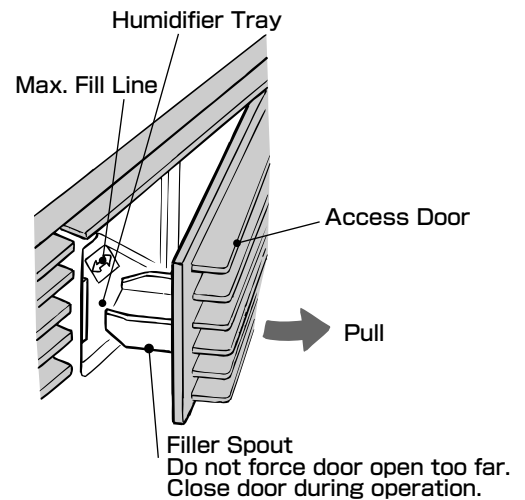
Sensible Temperature Control:

The sensible temperature control feature enables comfortable heating which matches the conditions in the room.

- Based on the information collected by the room temperature thermistor when the heating starts, the heating capacity is automatically adjusted to achieve a comfortable heating effect and to reach the set room temperature quickly.

Adding Water to Humidifier:

So that you can humidify the air your RHFE-UNIT is fitted with an enamelled tray behind the air outlet. To fill the tray, open the door as shown in the diagram and pour water into the tray using the spout built into the door. The air will be humidified as it passes over the water in the tray. **DO NOT FILL THE TRAY WHILE THE UNIT IS IN OPERATION. CLOSE THE DOOR AFTER FILLING.** The RHFE UNIT is a very high efficiency appliance, during operation a small amount of water is produced in the vent tubes, this drains into the enamel tray. It is quite normal for a small quantity of water to remain in the bottom of the tray.



Caution:

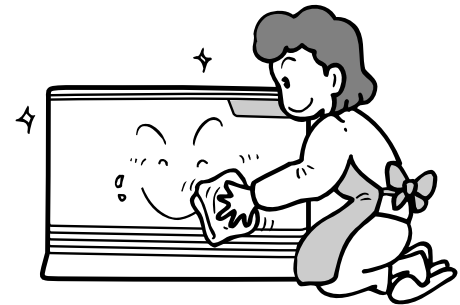
- The humidifier tray and the surrounding area are hot when the unit is on. To avoid burns, do not add water to the tray while unit is on.
- Avoid adding water when the room is susceptible to condensation.
- If the water overflows from the water level hole when adding water, do not add any more water.

Care of Unit Exterior:

Dampen soft cloth with warm water, wring water out well and wipe the unit.

Caution:

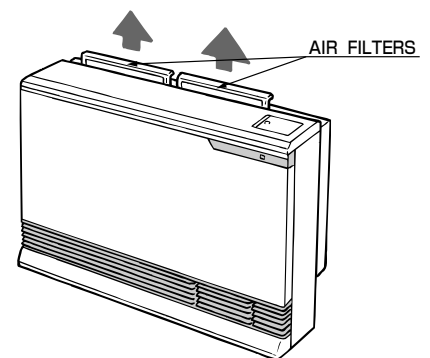
Never use volatile substances such as benzine or thinners, as they cause fading of paint or deformation of resin.



Care of Air Filter:

Always clean the air filter when the filter indicator lamp starts blinking.

- The filter indicator lamp starts blinking when the dust accumulates on the air filter. In this event, turn the unit off immediately, wait until the unit cools off and clean the filter.
- Even if the lamp is not blinking, if you think the filter is dirty, clean the filter while you are cleaning the room. This will ensure comfortable use.
- The air filter may be removed. Clean both sides of the filter with a vacuum cleaner or a duster.
- If the filter is greasy, wash quickly with detergent, shake water off and dry completely.
- After cleaning and drying, replace the filter securely.



CAUTION:

- If you continue to use the heater with the filter indicator lamp flashing, the sensor may detect trouble and turn the unit off. Causing the room temperature display lamp "14" and the "operation/combustion" lamp to flash, indicating that the safety device has been activated. In this event, clean the air filter immediately as above.

TESTING

Testing Unit

Purge air from gas line.

Refer to pipe sizing chart if in doubt about the size of the gas line.

Connection can easily be reached from the top, rear of the unit. Check for leaks, using soapy water after turning gas on.

Plug unit in and turn power on, (CAUTION - 120V inside unit).

Turn thermostat to "HI", turn control to "ON". Unit should ignite within 10 seconds.

If unit does not ignite, there may be air in the gas line, turn control "OFF" then "ON" again.

Check pressure, regulator is factory set, if pressure is incorrect, check supply before altering regulator.

The appliance must be stopped before testing unit.

Remove the test point screw and connect manometer to pressure point on the modulating valve.

Turn the unit to "ON" position using the ON/OFF button on the operation panel and check pressure.

If pressures are correct remove manometer and replace test point plug.

Leak test all gas connections.

WARNING: DO NOT OPERATE UNIT UNTIL PROPER INSTALLATION HAS BEEN COMPLETED.

CHECK

Fault-Failure Procedure

If unable to get the unit to operate correctly, contact Rinnai Agent, or Gas Utility. Please read the fault finding charts before reporting faults.

Do not use this heater if any part has been under water. Immediately call a qualified service technician to inspect the heater and to replace any part of the control system and any gas control which has been under water.

"WARNING" Do not operate appliance with the panel(s) removed, cracked or broken.

Installation and repair it should be done by a qualified service person. The appliance should be inspected before use and at least annually by a qualified 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. Ventilating system should be inspected and cleaned annually of all debris and spider webs.

Rinnai's service assistance telephone number is 1/800/621—9419.

PRE-SERVICE CHECK

Before asking for a service call please check the following points.
These points are part of the normal operation of the unit.

■ At Ignition:

- | | | |
|---|---|--|
| Heater does not operate. | ➔ | Is the heater plugged in?
Have the fuses or breaker blown at the switch board?
Is there a power failure?
Is the air filter blocked?
Is anything blocking the outlet for the hot air?
Is the flue blocked? |
| Warm air does not flow when the burner lights. | ➔ | The fan is started automatically after a short delay.
This is to allow the heat exchanger to warm up, helping to avoid cold draughts. |
| Smoke or strange smells are produced on the first trial light up after installation. | ➔ | This is caused by grease or oil and dust on the heat exchanger and will stop after a short time. |
| Sharp clicking noises at ignition, or when unit cuts down on the thermostat, or goes out. | ➔ | This is simply expansion noise from the heat exchanger. |

■ During Combustion:

- | | | |
|---|---|---|
| Clunking noise when the thermostat operates. | ➔ | This is the sound of the solenoid gas valves opening and closing. |
| Unit is not heating room. | ➔ | Is the air filter blocked?
Is the set temperature high enough?
Is the warm air outlet blocked by anything?
Are the doors and windows of the room closed? |
| Air filter is blocked or the louvers are blocked or obstructed. | ➔ | Allow heater to cool, clean air filter, operate again. |
| Heater will not re-ignite after overheating. | ➔ | Even after unit has cooled down the heater does not ignite again. Repair is necessary.
Contact your local agent or Rinnai for a Service call. |

■ When the unit is turned off.

- | | | |
|--|---|--|
| Convection fan continues to run after turning OFF. | ➔ | This is to remove the residual heat from the heat exchanger, the fan will stop when the heater cools down. |
|--|---|--|

■ Other Points:

- | | | |
|---|---|--|
| Steam is discharged from the flue terminal. | ➔ | High efficiency appliances tend to discharge water vapor on cold days, this is normal. |
| Unit cuts off without apparent reason. | ➔ | Check whether filters are blocked, dirty filters will cause the heater to overheat. |
| Power Failure. | ➔ | Switch OFF, then ON again when power is restored to re-set controls. |

TROUBLE SHOOTING

Your RHFE-1004FA requires very little maintenance, simply clean the rear fan filter as needed and wipe the outer case and louver section with a damp cloth.

Cause \ Problem	No ON indicator	Burner doesn't ignite	Unusual combustion	Combustion stops during operation	Smell of gas	Noisy ignition	Takes too long to warm the room	Remedy
Not Plugged In	●	●						Plug In
Power Cut	●	●		●				Re-ignite manually after power is restored
(Initial Installation) Air In Gas Pipe		●						Purge air (Installer)
Gas Filter Blocked		●	●				●	Service Call
Miss Ignition	●	●						Service Call
Flue terminal obstructed			●	●		●		Clear obstruction
Flue manifold not connected						●		Service Call
Louver obstructed				●			●	Clear obstruction
Air filter blocked				●			●	Clean filter
Gas Escape					●			Service Call
Function Lock Set		●						Cancel Function Lock
Gas turned off at meter	●	●						Turn gas on

General maintenance items are not covered under unit's warranty. Such as cleaning dust, debris and carbon from flame rod, spider webs, and improper set up of unit.

ERROR MESSAGES

The Energysaver 1004 has the ability to check its own operation continuously. If a fault occurs, an Error Message will flash on the Digital Display of the control panel. This assists with diagnosing the fault, and may enable you to overcome a problem without a service call. Please quote the code displayed when inquiring about service.

CODE DISPLAYED	FAULT	REMEDY
11	Ignition failure	Check gas is turned ON. Service call if repeated.
12	Flame failure	Check gas is turned ON. Service call if repeated.
14	Overheat	Clean filter Service call if repeated.
16	Room overheat	Lower room temperature to less than 40°C(104°F).
31	Room Temperature Sensor faulty	Service call.
32		
33	Overheat Temperature Sensor faulty	Service call.
34		
53	Sparker failure	Service call.
61	Combustion fan failure	Service call.
70	Faulty ON/OFF switch	Service call.
71	Faulty solenoids	Service call.
72	Faulty Flame Rod	Service call.
73	Communication Error	Turn heater OFF, then ON again.
49	Sensor breakdown	Service Call.
99	Flue block	Check around flue terminal

In all cases, you may be able to clear the Error Message simply by turning the heater OFF, then ON again. If the Error Message still remains or returns on the next operation, contact Rinnai or your nearest service agent and arrange for a service call.

MAINTENANCE / SERVICE

MAINTENANCE SUGGESTIONS

This heater has been designed and constructed for a long performance life when installed and operated properly under normal conditions. Regular inspections, as outlined in this section, are strongly recommended as means of keeping your heater operating efficiently throughout the season.

1. Cleaning

Heater must be cleaned annually. Keep heater clear of dust and debris especially in and around burner.

Cleaning procedures of heater are as follows:

- 1) Turn heater off. Allow to cool for one hour.
- 2) Remove the Front Panel by removing screws. See schematic page 38.
- 3) Use pressurized air to remove dust from around main burner, heat exchangers and fan blades.
- 4) Use soft dry cloth to wipe cabinet.

DO NOT DAMAGE OR DISTORT ANY PARTS OF HEATER.

DO NOT USE WET CLOTH OR SPRAY CLEANERS ON BURNER.

2. Visual check of main burner flames.

Flame pattern should be as shown in the following Figures.

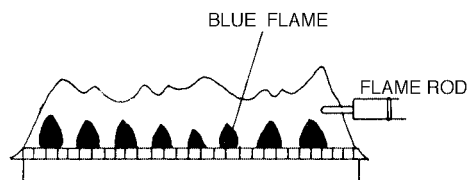
The burner must flame evenly over the entire surface when operating correctly. The flame must burn with a clear blue stable flame. See page 40 item # 417 for location of view ports. Any and all parts removed for inspection or service must be replaced before operating unit.

3. The appliance area must be kept clear and free from combustible materials, gasoline and other flammable vapors and liquids.
4. The flow of combustion and ventilation air should not be obstructed.
5. Verify proper operation after servicing.

VISUAL CHECK

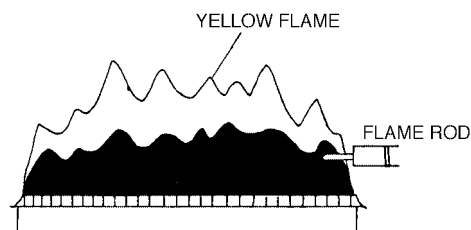
SATISFACTORY

FRONT VIEW



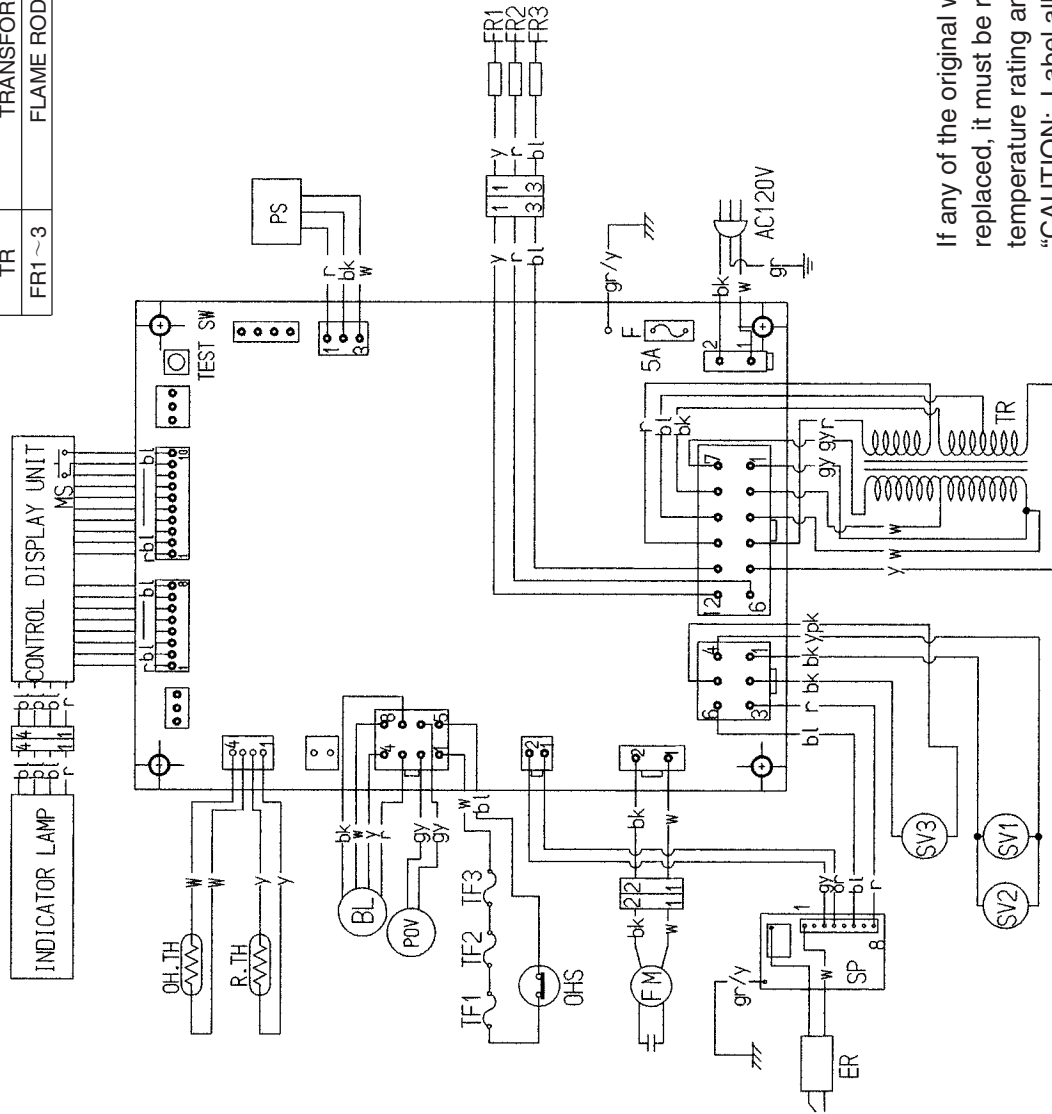
UNSATISFACTORY

FRONT VIEW



- VENT MAINTENANCE
- VENT SYSTEM
Must be checked annually for blockage or deterioration. See vent installation instructions for proper assembly.
- MAINTENANCE-ELECTRIC MOTORS
Motors are permanently lubricated and need no lubrication. Keep fan and motor free of dust and dirt. Clean annually.

MARK	PARTS NAME	MARK	PARTS NAME
MS	MAIN SWITCH	OH.TH	OVER HEAT THERMISTOR
R.TH	THERMISTOR	OHS	OVER HEAT SWITCH
TF1~3	THERMAL FUSE	FM	CONVECTION FAN MOTOR
F	FUSE	SP	SPARKER
ER	ELECTRODE	SV1~3	MAIN SOLENOID VALVE 1~3
POV	MODULATING SOLENOID VALVE	BL	COMBUSTION FAN MOTOR
TR	TRANSFORMER	PS	PRESSURE SENSOR
FR1~3	FLAME ROD 1~3		



If any of the original wire as supplied with the appliance must be replaced, it must be replaced with a wire of a least a 194°F temperature rating and number 18AWG or its equivalent.

“CAUTION: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.”
Verify operation after servicing

CONSUMER SUPPORT

Warranty Information

The installer is responsible for your heater's correct installation.

Please complete the information below to keep for your records:

Purchased from: _____

Address: _____ Phone: _____

Date of Purchase: _____

Model No.: _____

Serial No.: _____

Installed by: _____ Installer's License No.: _____

Address: _____ Phone: _____

Date of Installation: _____

Limited Warranty

Gas Direct Vent Wall Furnace

What is covered?

This Warranty covers any defects in materials or workmanship, subject to the terms stated below. This Warranty extends to the original purchaser and subsequent transferees, but only while the product remains at the site of the original installation. This Warranty only extends through the first installation of the product and terminates if the product is moved or reinstalled at a new location.

How long does coverage last?

Item	Period of Coverage
Heat Exchanger	10 years from date of purchase *
All Other Parts	5 years from date of purchase
Reasonable Labor	2 years from date of purchase

Limited Warranty - continued

What will Rinnai do?

Rinnai will repair any part or component that is defective in materials or workmanship as set forth as follows. All repair parts must be genuine Rinnai parts. All repairs or replacements must be performed by an individual or servicing company that has been authorized by Rinnai. Rinnai will pay reasonable labor charges associated with the repair or replacement of any part or component.

Replacement of the product may be authorized by Rinnai only. Rinnai does not authorize any person or company to assume for it any obligation or liability in connection with the replacement of a product. If Rinnai determines that repair of a product is not possible, Rinnai will replace the product with a comparable product, at Rinnai's discretion.

* If the Heat Exchanger fails due to a defect in material or workmanship within the sixth (6) through the tenth (10) year from the date of purchase, Rinnai will make the following allowances toward the purchase of a replacement Heat Exchanger:

Heat Exchanger	
Year of Failure	Allowance
6	50%
7	40%
8	30%
9	20%
10	10%

How do I get service?

You must contact a qualified/authorized service provider for the repair of a product under this Warranty. For the name of a qualified/authorized service provider please contact your place of purchase, visit the Rinnai website (www.rinnai.us), call Rinnai at 1-800-621-9419 or write to Rinnai at 103 International Drive, Peachtree City, Georgia 30269.

Proof of purchase is required. You may show proof of purchase with a dated sales receipt, or by completing and mailing the enclosed Registration card within 30 days of purchasing the product. Please complete the enclosed Registration card and mail it to Rinnai at the address shown on the card. Receipt of this card by Rinnai will constitute proof-of-purchase for this product. However, return of the Registration card is not necessary in order to validate this Warranty.

What is not covered?

This Warranty does not cover any failures or operating difficulties due to accident, abuse, misuse, alteration, misapplication, force majeure, improper installation, improper conversion, improper maintenance or service, or for any other causes other than defects in materials or workmanship. This Warranty does not apply to any product whose serial number or manufacture date has been defaced.

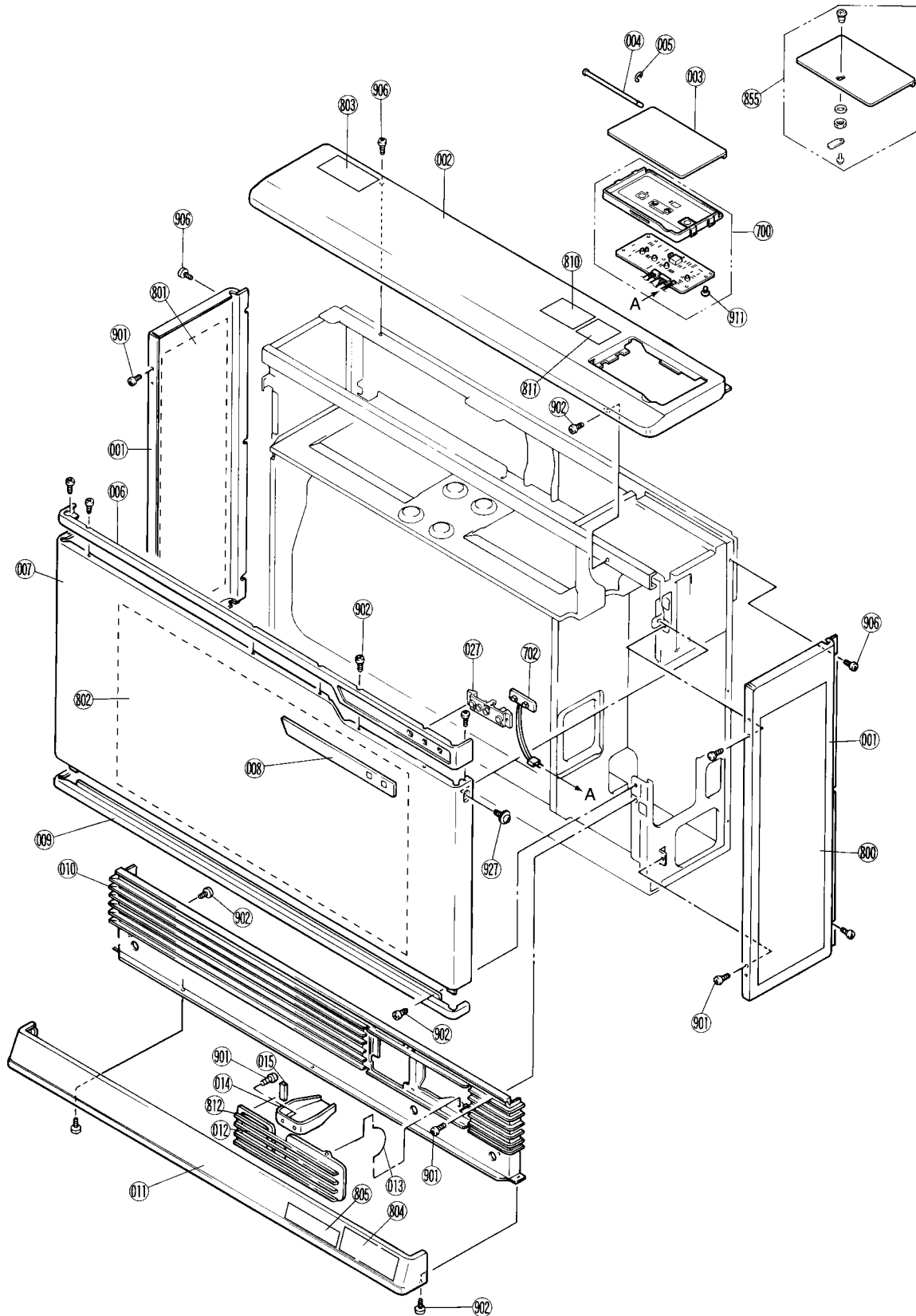
Rinnai is not liable for any special, incidental, indirect or consequential damages that may arise, including damage to person or property, loss of use, or inconvenience. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

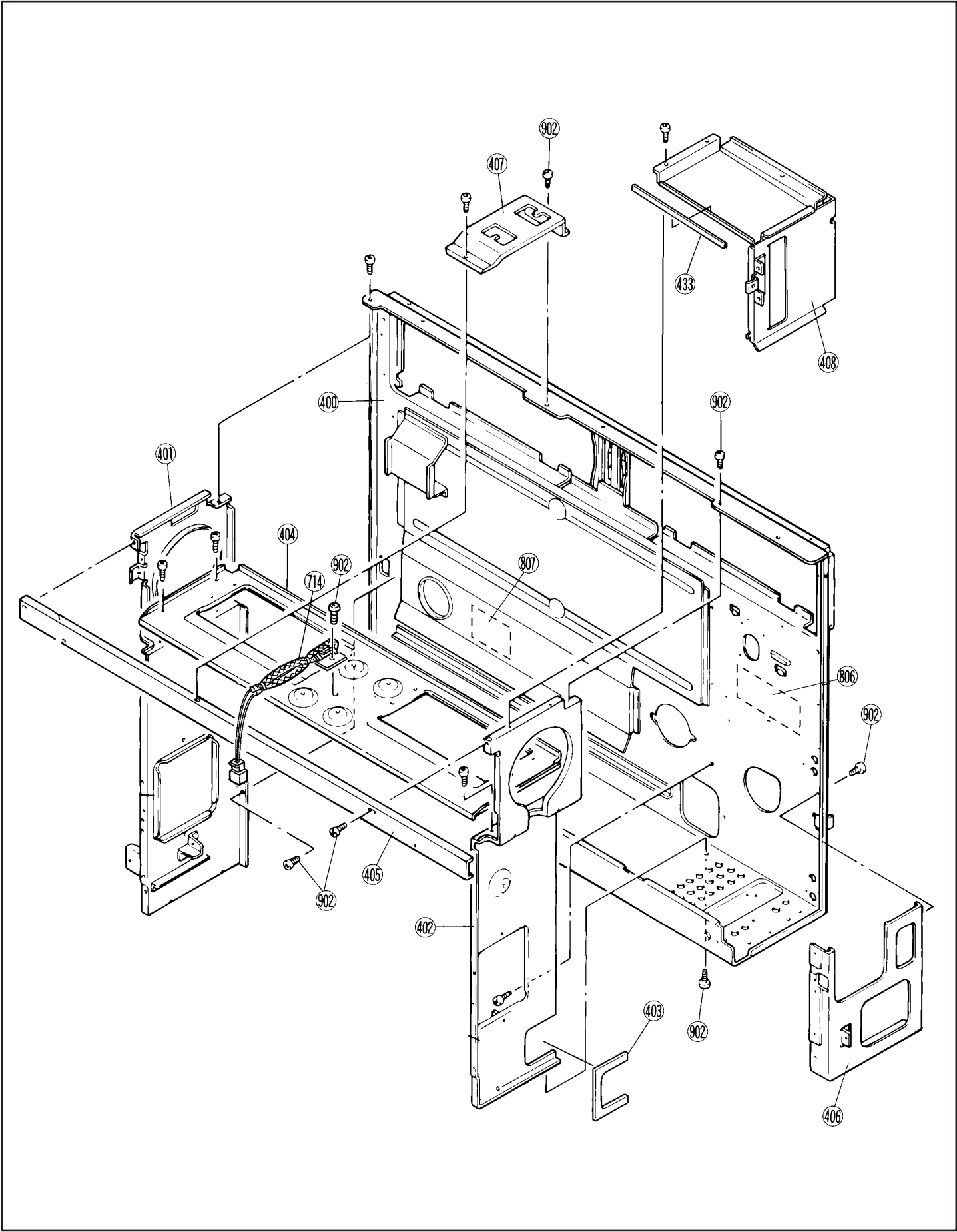
Limitation on implied warranties

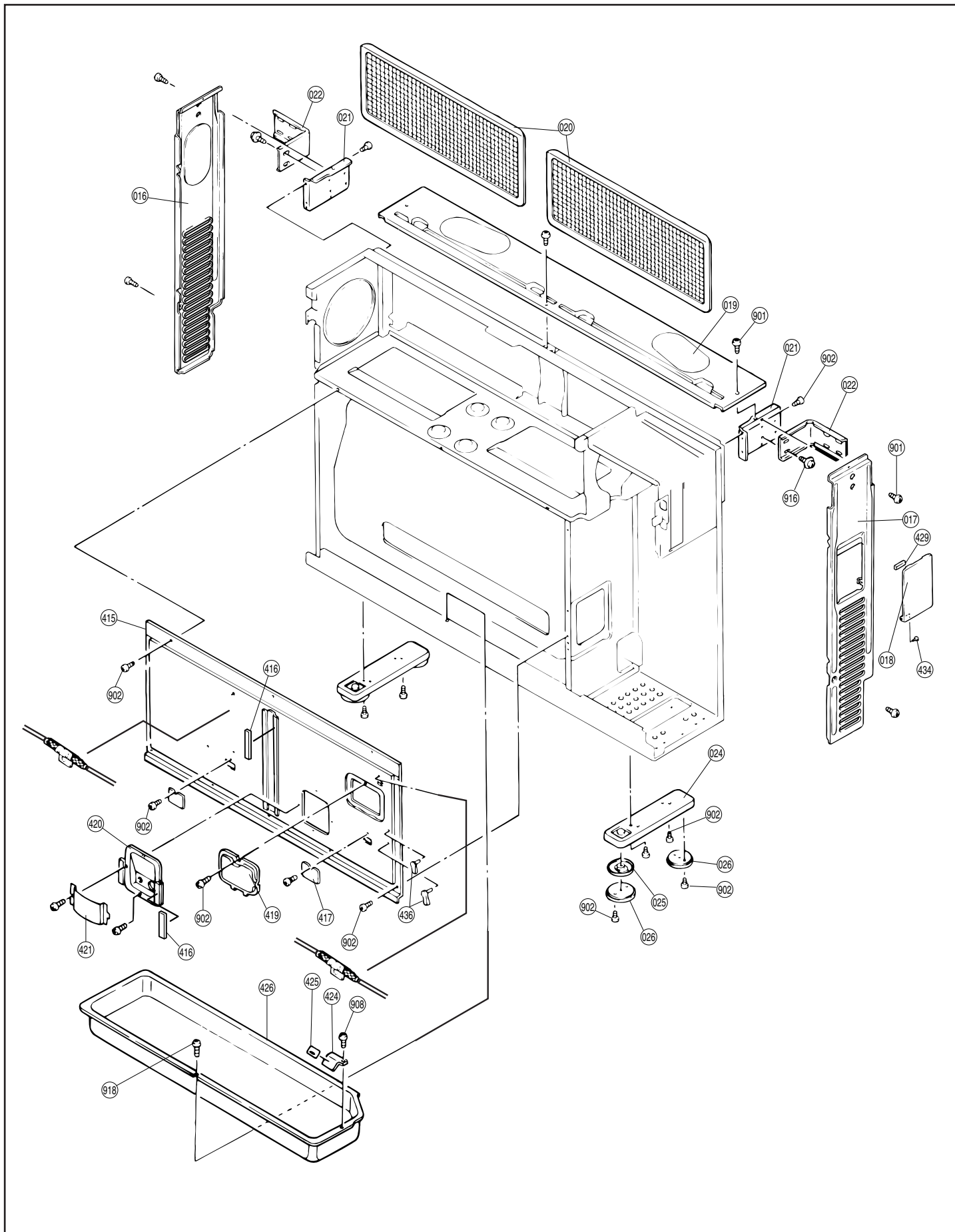
Any implied warranties of merchantability and fitness arising under state law are limited in duration to the period of coverage provided by this limited Warranty, unless the period provided by state law is less. Some states do not allow limitations on how long an implied Warranty lasts, so the above limitation may not apply to you.

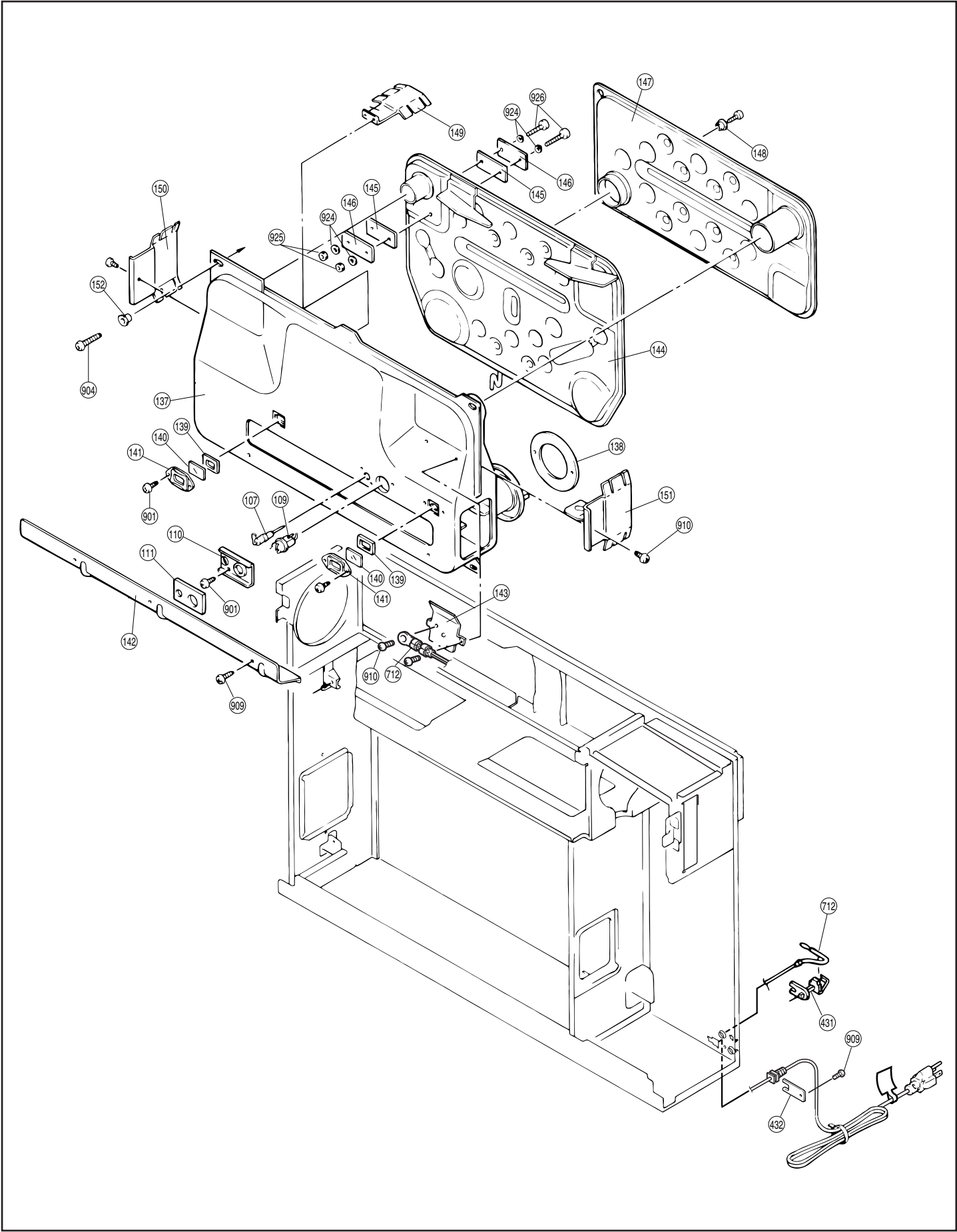
This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

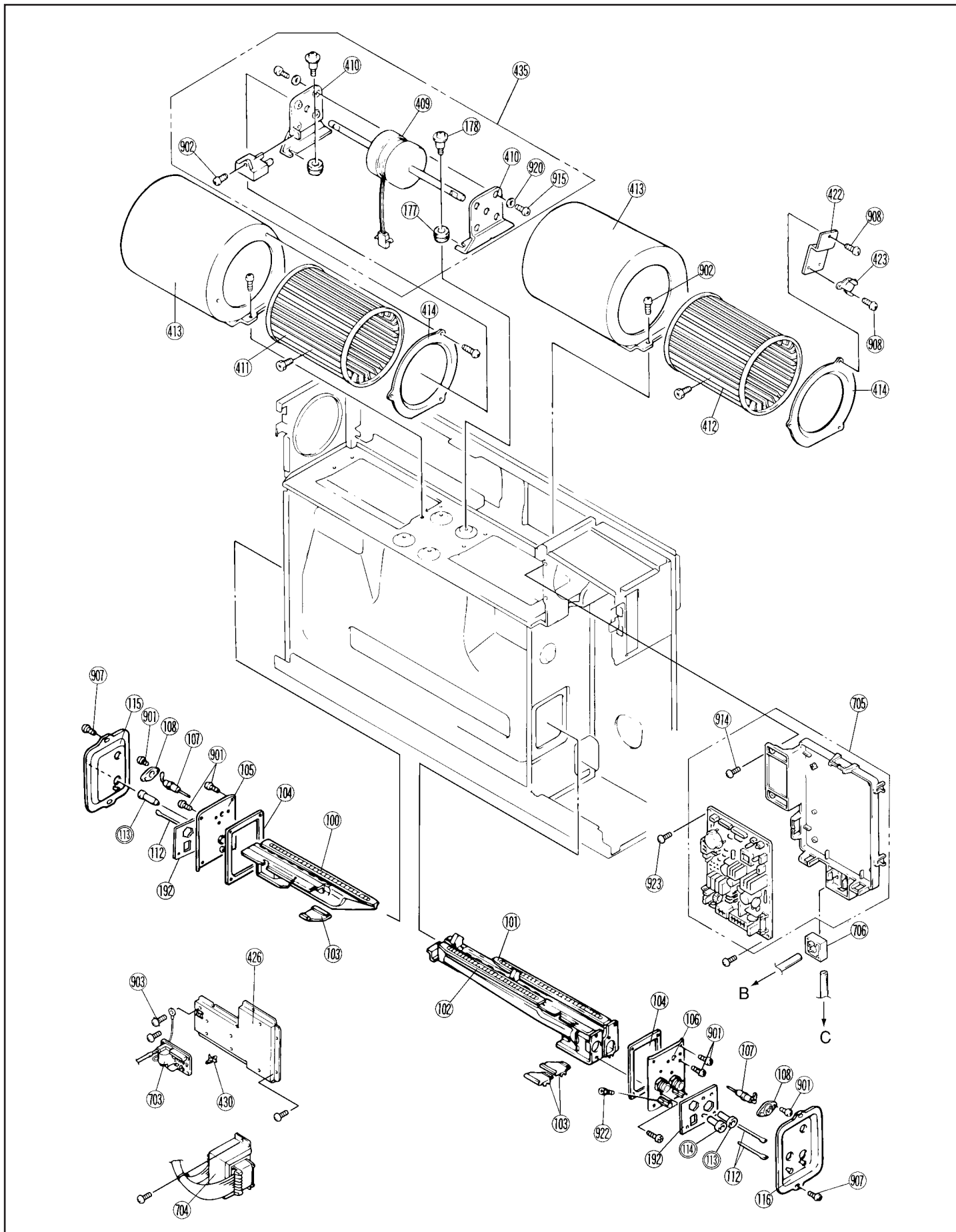
SCHEMATIC DIAGRAM

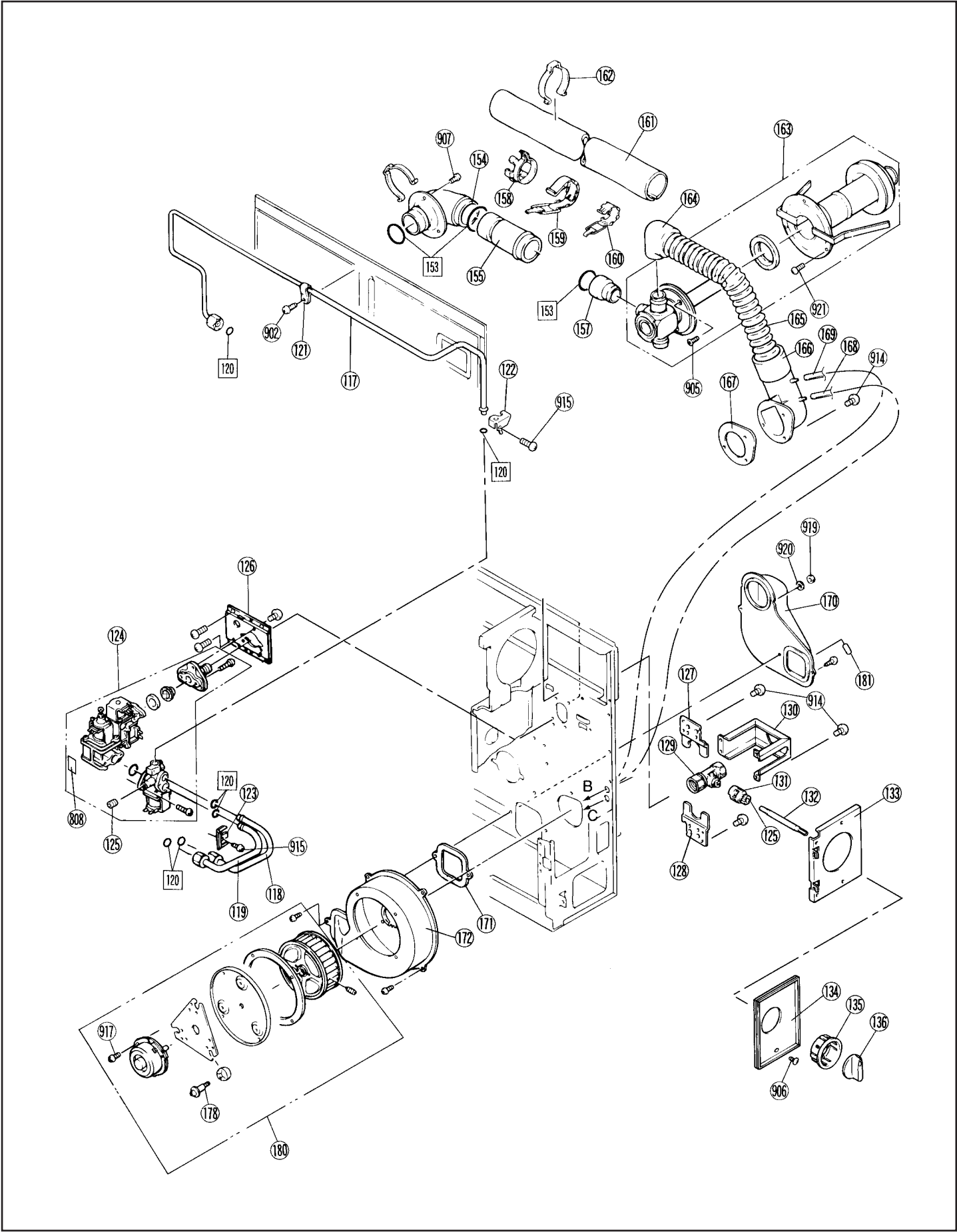


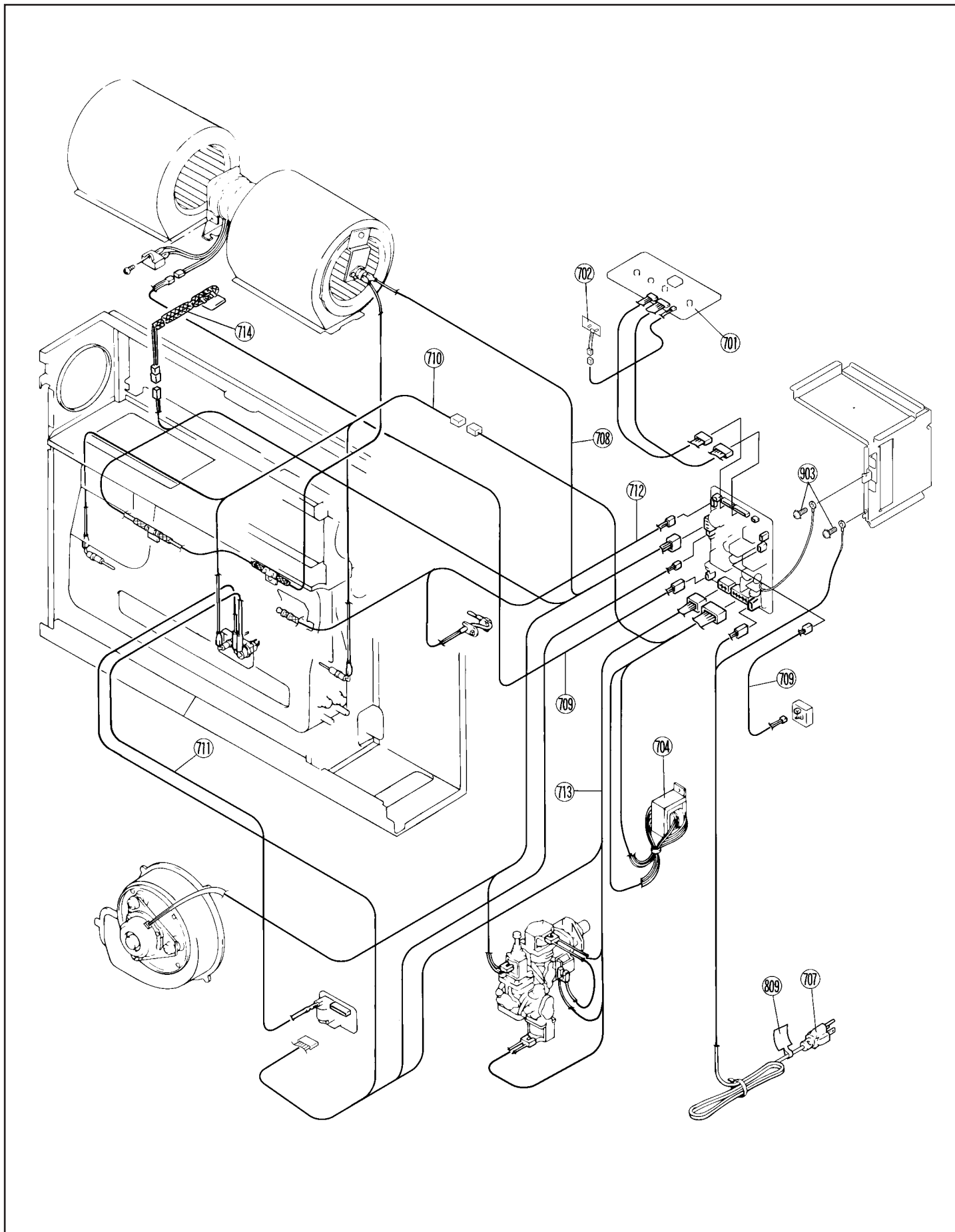












PARTS LIST

No.	DRAWING No.	PART NAME	QTY			REMARKS
			1004FA	1004FA-W	1004FA-S	
001	1001F-073	SIDE PANEL	2			
	1001F-073-4	SIDE PANEL D		2		
	1001F-073-5	SIDE PANEL E			2	
002	1004F-2071	TOP PLATE	1			
	1004F-2071-3	TOP PLATE C		1		
	1004F-2071-4	TOP PLATE D			1	
003	1004F-2073-2	OPERATION LID B	1			
	1004F-2073-6	OPERATION LID F		1		
	1004F-2073-8	OPERATION LID H			1	
004	556F-558-2	FULCRUM	1	1	1	
005	ZUAA02SZ	STOPPER	1	1	1	
006	1001F-1514-2	DECORATION PANEL ASS'Y C	1			
	1001F-1514-3	DECORATION PANEL ASS'Y D		1		
	1001F-1514-4	DECORATION PANEL ASS'Y E			1	
007	1001F-160-2	FRONT PANEL ASS'Y B	1			
	1001F-160-5	FRONT PANEL ASS'Y E		1		
	1001F-160-6	FRONT PANEL ASS'Y F			1	
008	1004F-2080	ESCUTCHEON PANEL	1			
	1004F-2087	ESCUTCHEON PANEL B		1		
	1004F-2086	ESCUTCHEON PANEL C			1	
009	1001F-084-2	LOUVER SUPPORT TRIM B	1			
	1001F-084-3	LOUVER SUPPORT TRIM C		1		
	1001F-084-4	LOUVER SUPPORT TRIM D			1	
010	1001F-163-2	LOUVER ASS'Y B	1			
	1001F-1323	LOUVER ASS'Y		1		
	1001F-163-3	LOUVER ASS'Y C			1	
011	1001F-162	BOTTOM TRIM ASS'Y	1			
	1001F-162-4	BOTTOM TRIM ASS'Y D		1		
	1001F-162-5	BOTTOM TRIM ASS'Y E			1	
012	1001F-164-4	FILLER ASS'Y D	1			
	1001F-1322	FILLER ASS'Y		1		
	1001F-164-6	FILLER ASS'Y F			1	
013	1001F-078	LOUVER DOOR HINGES	1	1	1	
014	551F-015	FILLER	1	1	1	
015	RHF300-185-1	MAGNET	1	1	1	
016	1001F-1410-2	BACK SPACER LEFT A	1			
	1001F-1410-9	BACK SPACER LEFT E		1		
	1001F-1410-10	BACK SPACER LEFT F			1	
017	1001F-1411-1	BACK SPACER B RIGHT A	1			
	1001F-1411-2	BACK SPACER B RIGHT B		1		
	1001F-1411-3	BACK SPACER B RIGHT C			1	
018	1001F-166-4	OPERATION LID D	1			
	1001F-166-8	OPERATION LID H		1		
	1001F-166-9	OPERATION LID I			1	
019	1001F-165-10	BACK SPACER UPPER ASS'Y J	1			
	1001F-165-13	BACK SPACER UPPER ASS'Y M		1		
	1001F-165-14	BACK SPACER UPPER ASS'Y N			1	
020	1004F-228	AIR FILTER ASS'Y	2	2	2	
021	1001F-092	BACK SPACER SUPPORT	2	2	2	
022	RHF1000-117	WALL BRACKET	2			
	RHF1000-117-3			2		
	RHF1000-117-4				2	
024	1001F-157	LEG ASS'Y	2	2	2	
025	550F-0220	RUBBER BRACKET ASS'Y	2	2	2	
026	550F-0225	BASE SUPPORT RUBBER	4	4	4	
100	1001F-150-3	HIGH BURNER LEFT ASS'Y C	1	1	1	
101	1001F-144-3	HIGH BURNER RIGHT ASS'Y C	1	1	1	

No.	DRAWING No.	PART NAME	QTY			REMARKS
			1004FA	1004FA-W	1004FA-S	
102	1001F-147-3	LOW BURNER ASS'Y C	1	1	1	
103	RHF250-075	DAMPER PANEL	2	2	2	
104	1001F-049	BURNER BRACKET PACKING	2	2	2	
105	1004F-2022	BURNER BRACKET LEFT ASS'Y	1	1	1	
106	1004F-2020	BURNER BRACKET RIGHT ASS'Y	1	1	1	
107	1001F-104-2	FLAME ROD	1	1	1	
108	RHF250-038	ELECTRODE CLIP	1	1	1	
109	1001F-216	ELECTRODE	1	1	1	
110	1001F-168	ELECTRODE BRACKET	1	1	1	
111	1001F-175	ELECTRODE SEAL PACKING	1	1	1	
112	RHF250-076	AIR SHUTTER ADJUSTMENT	2	2	2	
113	1004F-2031	MAIN INJECTOR	2	2	2	
114	1004F-2036	MAIN INJECTOR	1	1	1	
115	1001F-042	BURNER SHIELD LEFT	1	1	1	
116	1001F-041	BURNER SHIELD RIGHT	1	1	1	
117	1004F-2066	INTERCONNECTION C ASS'Y	1	1	1	
118	1004F-2065	INTERCONNECTION B ASS'Y	1	1	1	
119	1004F-2064	INTERCONNECTION A ASS'Y	1	1	1	
120	M10B-4-8	O-RING	6	6	6	
121	1001F-101-2	INTERCONNECTION CLIP	1	1	1	
122	CP-30488	INTERCONNECTION BRACKET	1	1	1	
123	1004F-2030	INTERCONNECTION BRACKET	1	1	1	
124	1004F-2060-A	GAS CONTROL ASS'Y A	1	1	1	
124	1004F-2060-C	GAS CONTROL ASS'Y C	1	1	1	
125	CP-40104	HANDLE SPRING	1	1	1	
126	1001F-008-2	VALVE BRACKET B	1	1	1	
127	1001F-106-1	REVOLVING STOPPER A	1	1	1	
128	1001F-106-3	REVOLVING STOPPER C	1	1	1	
129	1001F-1633	MANUAL VALVE	1	1	1	
130	1001F-1632	COCK REINFORCEMENT BOARD	1	1	1	
131	1001F-1626	SHAFT ADAPTOR	1	1	1	
132	1001F-1639	SHAFT	1	1	1	
133	1001F-1630	HANDLE SUPPORT	1	1	1	
134	1001F-1631	VALVE PANEL	1	1		
	1001F-1631-2	VALVE PANEL B			1	
135	REH18-25	SHAFT GUIDE	1	1	1	
136	CP-40369-33	HANDLE ASS'Y	1	1		
	CP-40369-31				1	
137	1001F-138-2	MAIN HEAT EXCHANGER ASS'Y B	1	1	1	
138	RHF1000-167	INLET FLANGE PACKING	1	1	1	
139	300FT-14	GLASS WINDOW PACKING	2	2	2	
140	300FT-15	VIEWING GLASS	2	2	2	
141	1004F-2013	GLASS CLIP	2	2	2	
142	1001F-115	BLANKING PANEL	1	1	1	
143	1004F-2048	OT.TH BRACKET	1	1	1	
144	1001F-142-2	SUB HEAT EXCHANGER No.1 ASS'Y B	1	1	1	
147	1001F-143	SUB HEAT EXCHANGER No.2 ASS'Y	1	1	1	
148	1001F-169	SPACER	1	1	1	
149	1001F-021-1	SUB HEAT EXCHANGER CLIP A	1	1	1	
150	1001F-021-2	SUB HEAT EXCHANGER CLIP B	1	1	1	
151	1001F-183	SUB HEAT EXCHANGER B ASS'Y	1	1	1	
152	RHF1000-174	HEAT EXCHANGER BRACKET SLIP	2	2	2	
153	RHF1000-142-a	O-RING A	3	3	3	
154	1001F-131	EXHAUST ELBOW ASS'Y	1	1	1	
155	1001F-132-2	SLIDE PIPE B	1	1	1	
157	1004F-530	EXHAUST ADAPTOR B ASS'Y	1	1	1	
158	1004F-401	SLIDE PIPE STOPPER	1	1	1	
159	1001F-250	EXHAUST PIPE STOPPER ASS'Y	1	1	1	
160	1001F-1730	EXHAUST PIPE STOPPER S ASS'Y	1	1	1	
161	1001F-111	COVER	1	1	1	
162	RHF1000-145	ELBOW COVER STOPPER	1	1	1	
163	431F-1900	FLUE ASS'Y	1	1	1	

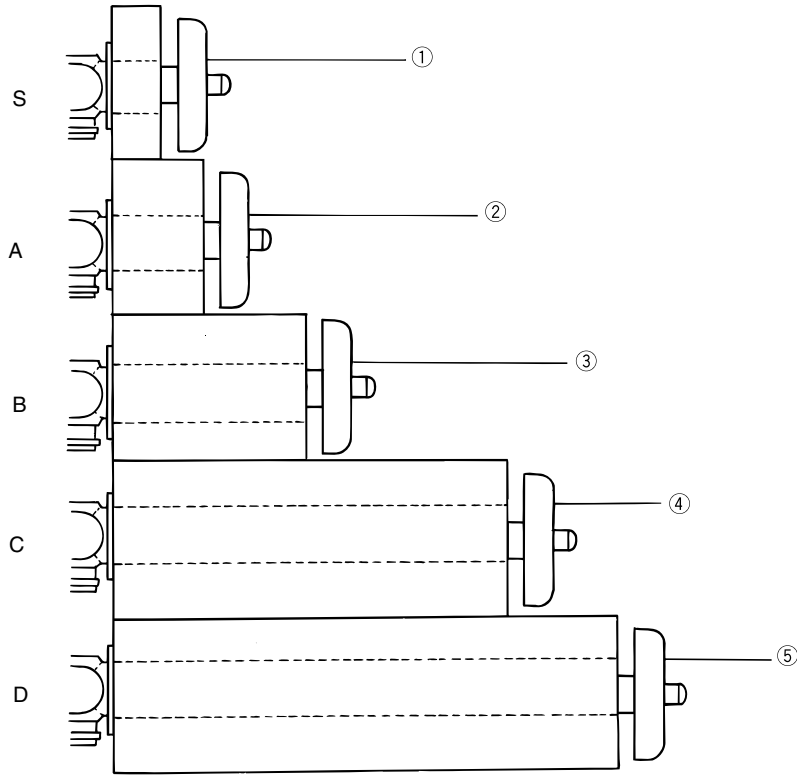
No.	DRAWING No.	PART NAME	QTY			REMARKS
			1004FA	1004FA-W	1004FA-S	
164	RHF1000-132	AIR INTAKE ELBOW	1	1	1	
165	RHF1000-130-d	AIR INTAKE FLEXIBLE HOSE	1	1	1	
166	1004F-2032-1	AIR INLET	1	1	1	
167	1004F-2033	AIR INLET PACKING	1	1	1	
168	1004F-2052-1	SENSING TUBE A	1	1	1	
169	1004F-2052-2	SENSING TUBE B	1	1	1	
170	1001F-158	AIR INTAKE DUCT	1	1	1	
171	1001F-053	SEAL PACKING	1	1	1	
172	1001F-153-2	COMBUSTION FAN CASING	1	1	1	
178	CP-30310	SCREW FOR MOTOR	3	3	3	
180	1004F-2082	COMBUSTION FAN TOTAL ASS'Y	1	1	1	
181	304F-9112	CAP	1	1	1	
192	1004F-2088	BUSH RE-INFORCED BOARD	2	2	2	
400	1001F-186-1	REAR PANEL ASS'Y	1	1	1	
401	1001F-154	FRAME LEFT ASS'Y	1	1	1	
402	1001F-156	FRAME RIGHT ASS'Y	1	1	1	
403	1001F-112	WARM AIR SEAL PACKING	1	1	1	
404	1001F-004-2	CONVECTION FAN SUPPORT B	1	1	1	
405	1001F-066	TOP PANEL SUPPORT	1	1	1	
406	1001F-064	FRAME CORNER	1	1	1	
407	1001F-110	TOP PANEL REINFORCEMENT	1	1	1	
408	1004F-2006	FRAME CORNER ASS'Y	1	1	1	
409	ES-02051	CONVECTION MOTOR	1	1	1	
410	550F-0903	CONVECTION MOTOR BRACKET	2	2	2	
411	1004F-308-1	CONVECTION FAN A	1	1	1	
412	1004F-308-2	CONVECTION FAN B	1	1	1	
413	1001F-152	FAN CASING ASS'Y	2	2	2	
414	RHF1000-89	BELL MOUTH	2	2	2	
415	1001F-159-2	HEAT SHIELD BOARD B ASS'Y	1	1	1	
416	RC-223-21-1	SEAL PACKING	2	2	2	
417	1001F-137	VIEWING WINDOW PANEL	2	2	2	
419	302F-0506	O.H.S. PROTECTOR	1	1	1	
420	1001F-062	ELECTRODE VIEWING PANEL	1	1	1	
421	1001F-070	ELECTRODE COVER	1	1	1	
422	1001F-217	O.H.S. BRACKET	2	2	2	
423	ES-01131	OVERHEAT SWITCH	1	1	1	
424	1001F-172	WATER LEVEL INDICATOR	1	1	1	
425	550F-1418	WATER LEVEL LABEL	1	1	1	
426	1001F-037	HUMIDIFIER TRAY	1	1	1	
427	1004F-2016	TRANSFORMER BRACKET	1	1	1	
429	RHF300-185-1	MAGNET	1	1	1	
430	CP-90436-3	P.C.B. SUPPORT	4	4	4	
431	RC-312-628	THERMISTOR HOLDER	1	1	1	
432	RC-329-1033	POWER SUPPLY CABLE BRACKET	1	1	1	
433	1004F-2009	EDGE	1	1	1	
434	550F-0418	NYLON RIVET	2	2	2	
435	1004F-2085	CONVECTION MOTOR SUB ASS'Y	1	1	1	
436	CP-90077-1	SPEED CLIP	2	2	2	
700	1004F-2075	OPERATION P.C.B ASS'Y F	1	1		
	1004F-2075-2	OPERATION P.C.B ASS'Y G			1	
702	1004F-2078	INDICATOR ASS'Y	1	1	1	
703	EI-161	IGNITOR ASS'Y	1	1	1	
704	ET-251	TRANSFORMER	1	1	1	
705	1004F-2010	MAIN P.C.B. TOTAL ASS'Y	1	1	1	
706	1004F-2051	PRESSURE SENSOR	1	1	1	
707	CP-90466-3	POWER SUPPLY CABLE ASS'Y	1	1	1	
708	1004F-2054	MOTOR LEAD ASS'Y B	1	1	1	
709	1004F-2053	SENSOR LEAD ASS'Y	1	1	1	
710	1004F-2059	FR LEAD ASS'Y	1	1	1	
711	1001F-1667-3	HIGH TENSION CORD ASS'Y	1	1	1	
712	1004F-2057	THERMISTOR LEAD ASS'Y	1	1	1	

No.	DRAWING No.	PART NAME	QTY			REMARKS
			1004FA	1004FA-W	1004FA-S	
713	1004F-2058	SV.IG LEAD ASS'Y	1	1	1	
714	1004F-2061	TF LEAD ASS'Y	1	1	1	
800	CP-72135-19	RATING PLATE	1	1	1	
800	CP-72135-20	RATING PLATE	1	1	1	
801	CP-72151-19	RATING PLATE	1	1	1	
801	CP-72151-20	RATING PLATE	1	1	1	
802	1004F-2093	OPERATION LABEL	1	1	1	
803	1001F-1651	FILTER LABEL	1	1	1	
804	556F-2065	CAUTION LABEL	1	1	1	
805	1001F-1656	CAUTION MARK	1	1	1	
806	431F-1840	PROPANE STICKER	1	1	1	
806	431F-1841	NG STICKER	1	1	1	
807	1001F-1654	EXHAUST CAUTION LABEL	1	1	1	
808	CP-72062-2	SPEC MARK	1	1	1	
809	431F-1860	POWER SUPPLY CABLE LABEL	1	1	1	
810	431F-1862	GAS CHECK LABEL	1	1	1	
810	431F-1863	GAS CHECK LABEL	1	1	1	
811	431F-1830	EXHAUST CAUTION LABEL	1	1	1	
812	CP-71747-2	PULL LABEL	1	1	1	
850	1004F-2090	OWNER'S MANUAL	1	1	1	
851	1004F-2092	CONVERSION MANUAL	1	1	1	
852	1004F-2091	TEMPLATE	1	1	1	
853	1004F-2095-1	CONVERSION SET(TO NG)	1	1	1	
853	1004F-2095-2	CONVERSION SET(TO LPG)	1	1	1	
854	FOT-106-6	KEY	1	1	1	
855	FOT-187	OPERATION LID SET	1			
	FOT-187-2			1		
	FOT-187-3				1	
901	ZBA0408SC	SCREW				
902	ZBA0408SZ	SCREW				
903	CP-30421-1	SCREW				
904	ZBA0412SZ	SCREW				
905	ZBB0410SC	SCREW				
906	ZBD0408SC	SCREW				
907	ZBD0408SZ	SCREW				
908	ZEAB0408SZ	SCREW				
909	ZEAB0408SB	SCREW				
910	ZEAB0408SC	SCREW				
911	ZGAA0308SZ	SCREW				
912	ZAA0506SZ	SCREW				
913	ZAA0420SZ	SCREW				
914	ZEDB0408SZ	SCREW				
915	ZHAA0408SZ	SCREW				
916	ZHAD0510SC	SCREW				
917	ZDAA0410SZ	SCREW				
918	ZIAD0408SZ	SCREW				
919	ZRAB04SZ	NUT				
920	ZSCA04SZ	WASHER				
921	CP-30408	SCREW				
922	ZAA0306SZ	SCREW				
923	CP-30486-2	SCREW				
924	ZSCA04SC	WASHER				
925	ZRAA04SC	NUT				
926	ZAA0440UK	SCREW				
927	ZIAD0410SC	SCREW				

Vent sizes:

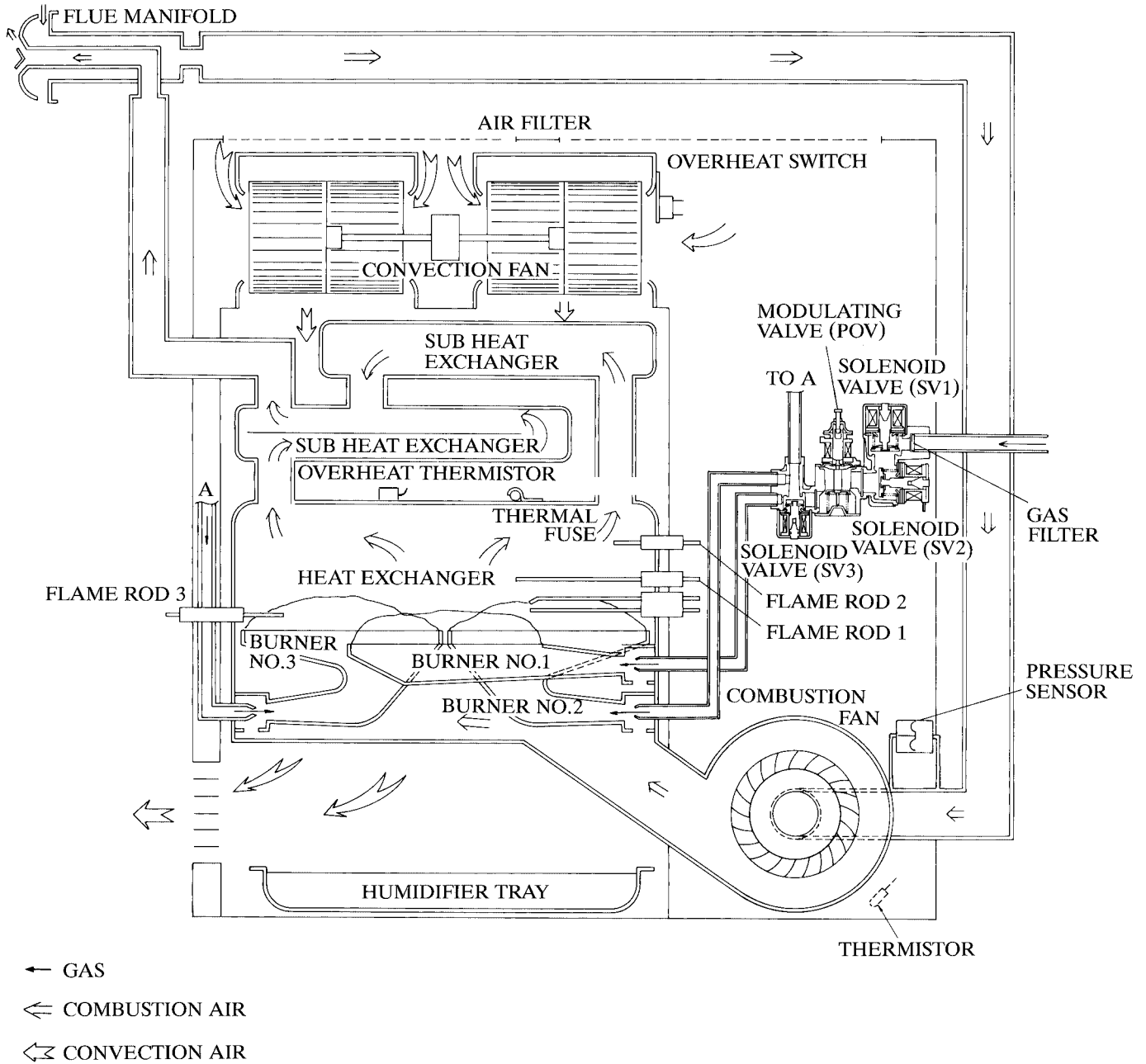
5 Vent lengths are available. inch (mm)

- S Vent suits walls 3"~4 1/2" (75~115)
- A Vent suits walls 4 1/2"~9 1/2" (115~240)
- B Vent suits walls 9 1/2"~15 3/4" (240~400)
- C Vent suits walls 15 3/4"~23 5/8" (400~600)
- D Vent suits walls 23 5/8"~31 1/2" (600~800)



NO.	RANK	PARTS NAME	PARTS NO.	QTY	REMARKS
1	M	VENT KIT - S	FOT-150	1	
2	M	VENT KIT - A	FOT-151	1	
3	M	VENT KIT - B	FOT-152	1	
4	M	VENT KIT - C	FOT-153	1	
5	M	VENT KIT - D	FOT-154	1	
6		RUBBER SEAL		1	SEE PAGE 14.

RHFE-1004FA FLOW DIAGRAM



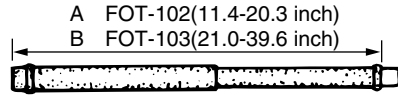
EXTENSION SET PARTS AND INSTALLATION GUIDE

FOT-102
FOT-103
FOT-114
FOT-115

Rinnai

- This extension set is to be used for installations requiring extra distance.
MAXIMUM VENT LENGTH 13' WITH 2 ELBOWS

■ NAMES AND NUMBERS OF PARTS



① EXHAUST PIPE



⑥ PIPE STOPPER A



⑨ PIPE CLAMP



⑫ SCREW A



② EXHAUST PIPE (STRAIGHT) 40 inch



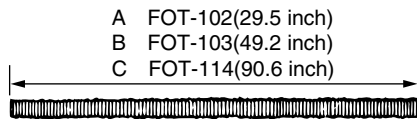
⑦ PIPE STOPPER B



⑩ WALL-FIXTURE



⑬ SCREW B



③ AIR INTAKE HOSE



⑧ TOP STOPPER



⑪ NUT



⑭ O RING



④ BENT ELBOW



⑤ HOSE JOINT

		PARTS No.	FOT-102	FOT-103	FOT-114	FOT-115
①	A	EXHAUST PIPE	FOT 111-1	1		
	B	EXHAUST PIPE	FOT 112-1		1	1
②		EXHAUST PIPE (STRAIGHT)	FOT 114-3		1	
③	A	AIR INTAKE HOSE	RHF 1000-130-e	1		
	B	AIR INTAKE HOSE	RHF 1000-130-b		1	
	C	AIR INTAKE HOSE	RHF 1000-130-f			1
④		BENT ELBOW	FOT 025-4			1
⑤		HOSE JOINT	FOT 064-8	1	1	1
⑥		PIPE STOPPER A	1001F-250	1	1	2
⑦		PIPE STOPPER B	FOT 111-6	1	1	1
⑧		TOP STOPPER	FOT 062-7	1	1	1
⑨		PIPE CLAMP	FOT 064-11	2 SET	3 SET	4 SET
⑩		WALL FIXTURE	FOT 064-12	2	3	4
⑪		NUT	FOT 062-10	2	3	4
⑫		SCREW A	ZAA0420SC	2	3	4
⑬		SCREW B	CP-30408	4	6	8
⑭		O RING	M10B-4-49			1

■ TYPES COMPATIBLE WITH EXTENSION SET

RHFE-1004FA

INSTALLING AN EXTENSION KIT

Installing an extension kit requires construction of an air line and the exhaust line. The air line is connected between the Air Supply Elbow at the rear of the heater and the air inlet port on the Flue pipe. Similarly, the exhaust line is connected between the joint pipe at the rear of the heater, and the exhaust port on the Flue pipe.

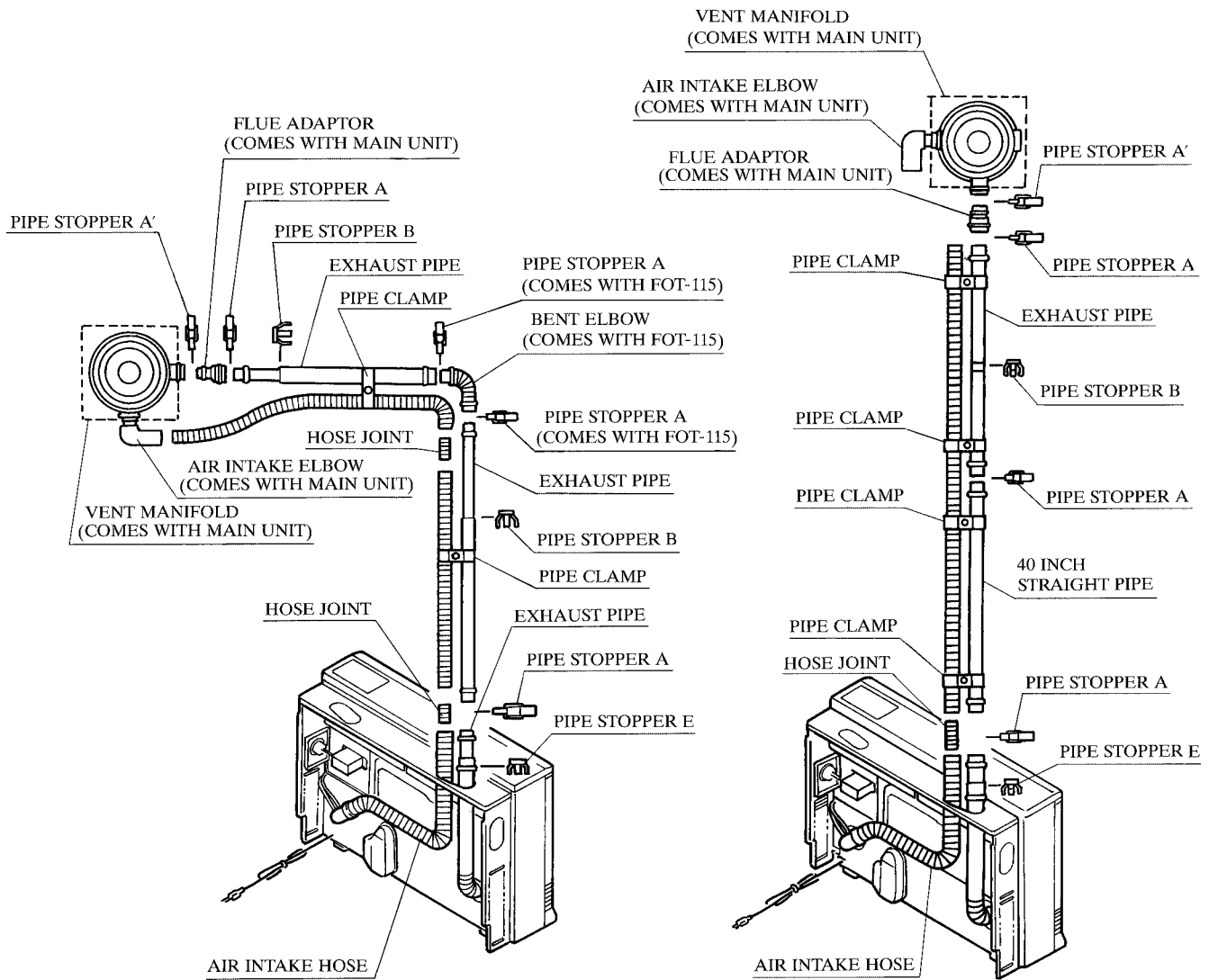
Caution: Check to see there is no debris in pipe or hose.

■ HOW TO INSTALL

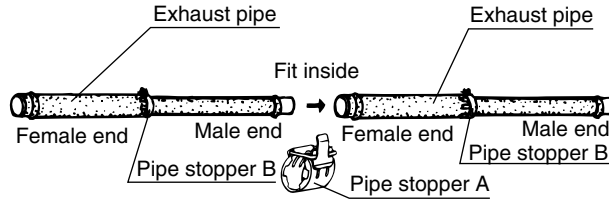
MODEL:RHFE-1004FA

Example:Using 2 sets of extension set and 1 bent set.

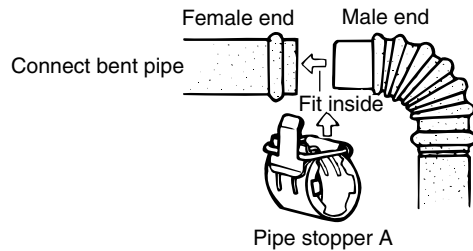
Example:Using 80 inches slide pipe set.



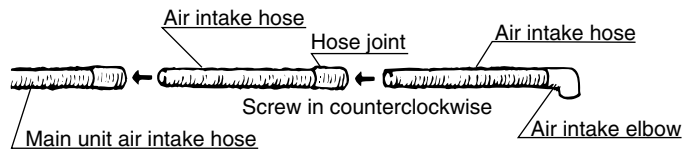
1. How to connect exhaust pipes



To connect the exhaust pipes, fit the male end into the female end and clamp with pipe stopper A to prevent slipping. The exhaust pipe can be telescoped to the required length; do not cut it.



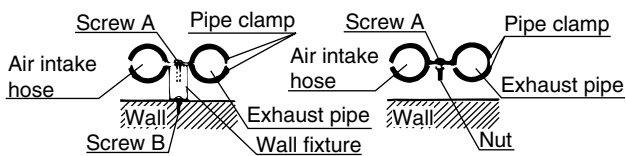
2. How to connect air intake hose



Screw hose joint half of its length onto the air intake hose, then screw another air intake hose into the joint. The hose can be cut to the required length.

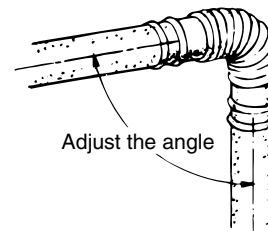
IMPORTANT: The PVC air line is longer than the exhaust line and may need to be cut to size. Be sure, however, to thoroughly deburr all rough edges.

3. Affixing the air intake hose and exhaust pipe



- Set the air intake hose and exhaust pipe into the pipe clamps, screw the clamp onto the wall fixture, and affix to the wall with screw B.
- The air intake hose and exhaust pipe can also be screwed onto the wall using the pipe clamp and the nut.

4. How to use the bent pipe

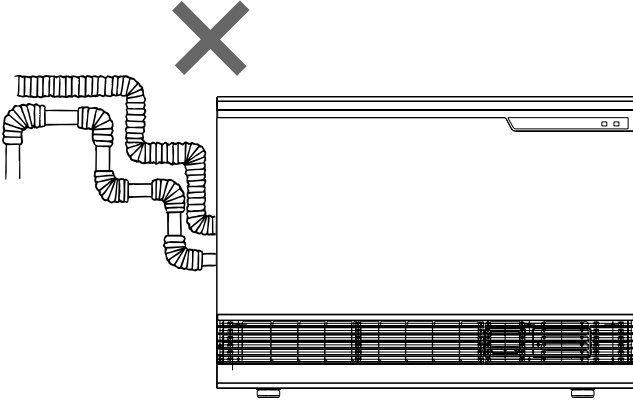


With the exhaust pipes inserted into the ends, bend the bent pipe to the angle required for installation. This part is mainly used for curves and for connection to vent terminal.

■ CAUTIONS

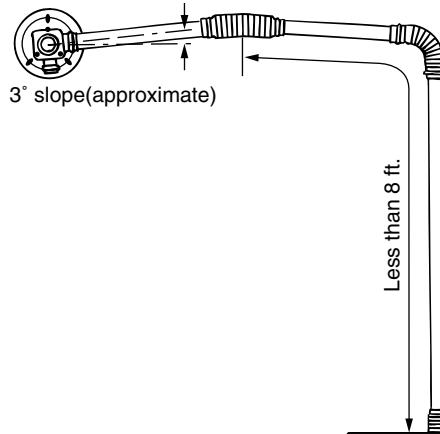
1. Maximum extendable length

FOR BEST ROOM AIR HUMIDITY, KEEP WATER IN THE HUMIDIFIER TRAY.



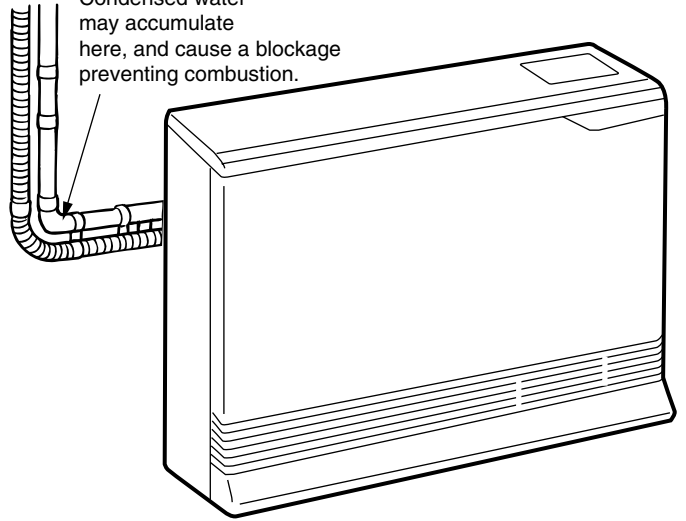
- 13 feet, 2 bends
- The bend where the hose and pipes leave the body is not counted.
- The air intake hose should run along the exhaust pipe.

3. Condensed water formed by combustion, will run back to the unit, and may overflow from the condensation pan if pipes are longer than 8 feet. Therefore, pipes exceeding these lengths should be made to drain to the outside by giving their horizontal portions 3° or more downward and outward slope.



2. To prevent water condensation

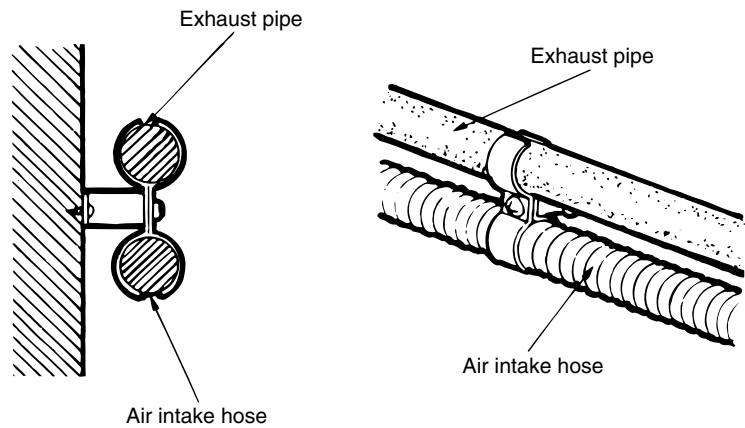
Condensed water may accumulate here, and cause a blockage preventing combustion.



CAUTION

Never allow the exhaust pipe to sag, as condensed water may accumulate and cause incomplete combustion.

4. Wherever the air intake hose and exhaust pipe run sideways, try to have the exhaust pipe on top (to prevent the air intake hose from sagging onto the exhaust pipe).



QUALIFIED INSTALLING AGENCY

The installation must conform to local codes, in the absence of local codes, the installation must conform with American National Standard (National Fuel Gas Code) known as NFPA 54 and ANSI Z223.1.1996.

Available from the American National Standards Institute, Inc., 1430 Broadway, New York, N.Y. 10018 or from the National Fire Protection Association, 470 Atlantic Avenue, Boston, Mass. 02210.

TECHNICAL DATA

WEIGHT	DIMENSIONS	GAS RATE (BTU/h)					
		INPUT			OUTPUT		
90 Lbs.	Width: 36 5/8" Height: 26 3/8" Depth: 12 3/8"		NG	LP		NG	LP
		LOW	10,500	10,500	LOW	8,400	8,400
		HIGH	38,400	36,500	HIGH	30,720	29,200

Burner Orifices:

	NG		LPG	
	PARTS No.	QTY'	PARTS No.	QTY'
HI	1004F-2031-2-1.80	2	1004F-2031-1-0.95	2
LOW	1004F-2036-2-1.95	1	1004F-2036-1-1.20	1

GAS CONVERSION SPECIFICATIONS

MODEL	GAS TYPE	DIAMETER OF ORIFICE(mm)		DAMPER A-DJUSTMENT			MANIFOLD DIFFERENTIAL PRESSURE (W.C.)	
		HI	LOW	FRONT	RIGHT	LEFT	HI	LO
RHFE-1004FA-N	NG	1.80	1.95	7/10	10/10	10/10	3.7"W.C.	2.0"W.C.
RHFE-1004FA-P	LPG	0.95	1.20	10/10	10/10	10/10	10.1"W.C.	4.3"W.C.

GAS SUPPLY PRESSURE

	NATURAL	PROPANE
MINIMUM	5.0"W.C.	11.0"W.C.
MAXIMUM	10.5"W.C.	13.0"W.C.

- The minimum inlet gas supply pressures is for the purpose of input adjustment.
- Heaters may be converted from one gas to another using Rinnai conversion kits.

NAME TITLE

COMPANY

ADDRESS

CITY STATE ZIP

PHONE NUMBER



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL
FIRST CLASS NO. 118 PEACHTREE CITY, GA

Rinnai America Corp.
103 International Drive
Peachtree City, Georgia 30269
Attn: Furnace Registrar



EXTENDED WARRANTIES ARE AVAILABLE, CONTACT RINNAI FOR DETAILS.

Rinnai FURNACE
WARRANTY REGISTRATION CARD

Owner's Name _____
Installation Address _____
City, State, Zip _____
Dealer's Name _____
Address _____
City, State, Zip _____
Type of Dealer _____
Model _____ Type of Gas _____
Serial No. _____
Date Purchased _____
Comments: _____

PLEASE RETURN THIS CARD TO RINNAI WITHIN TWO WEEKS OF PURCHASE

Rinnai

AMERICA CORPORATION


103 International Drive,
Peachtree City, Georgia 30269
Phone:1-800-621-9419
Fax:1-888-474-6624

1004F-2090 × 10 (00)
Printed in Japan 2006.01



100694

DRAWING No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	QTY	MODEL	
CP-72135-9	RHFE-431FA III-P	16700	8200	L.P. (Propane)	2.8	80	13400	42	0.044inches(1.13mm)	0.033inches(0.85mm)	CP-72135-9	X05	3.5	8.0	2.4/0.7inches W.C.	2.8/0.8inches W.C.	2.1/0.6inches W.C.	2.6/0.7inches W.C.	ANS Z21.86X - CSA 2.32X-XXXX	3	1	RHFE-431FA III
CP-72135-10	RHFE-431FA III-N	16700	8200	NAT.	2.4	80	13400	42	0.044inches(1.13mm)	0.033inches(0.85mm)	CP-72135-10	X05	3.5	8.0	2.4/0.7inches W.C.	2.8/0.8inches W.C.	2.1/0.6inches W.C.	2.6/0.7inches W.C.	ANS Z21.86X - CSA 2.32X-XXXX	3	1	RHFE-431FA III
CP-72135-11	RHFE-556FA III-P	20700	8200	L.P. (Propane)	4.5	80	16560	52	0.044inches(1.13mm)	0.033inches(0.85mm)	CP-72135-11	X06	5.0	8.0	3.8/0.7inches W.C.	4.5/0.8inches W.C.	3.4/0.6inches W.C.	4.1/0.7inches W.C.	ANS Z21.86X - CSA 2.32X-XXXX	3	1	RHFE-556FA III
CP-72135-12	RHFE-556FA III-N	21500	8200	NAT.	3.8	80	17200	52	0.044inches(1.13mm)	0.033inches(0.85mm)	CP-72135-12	X06	5.0	8.0	3.8/0.7inches W.C.	4.5/0.8inches W.C.	3.4/0.6inches W.C.	4.1/0.7inches W.C.	ANS Z21.86X - CSA 2.32X-XXXX	3	1	RHFE-556FA III
CP-72135-15	RHFE-556WTA-P	20700	8200	L.P. (Propane)	4.5	80	16560	55	0.044inches(1.13mm)	0.033inches(0.85mm)	CP-72135-15	X06	5.0	8.0	3.8/0.7inches W.C.	4.5/0.8inches W.C.	3.4/0.6inches W.C.	4.1/0.7inches W.C.	ANS Z21.86X - CSA 2.32X-XXXX	3	1	RHFE-556WTA
CP-72135-16	RHFE-556WTA-N	21500	8200	NAT.	3.8	80	17200	55	0.044inches(1.13mm)	0.033inches(0.85mm)	CP-72135-16	X06	5.0	8.0	3.8/0.7inches W.C.	4.5/0.8inches W.C.	3.4/0.6inches W.C.	4.1/0.7inches W.C.	ANS Z21.86X - CSA 2.32X-XXXX	3	1	RHFE-556WTA
CP-72135-17	RHFE-431WTA-P	16700	8200	L.P. (Propane)	2.8	80	13400	42	0.044inches(1.13mm)	0.033inches(0.85mm)	CP-72135-17	X04	3.5	8.0	2.4/0.7inches W.C.	2.8/0.8inches W.C.	2.1/0.6inches W.C.	2.6/0.7inches W.C.	ANS Z21.86X - CSA 2.32X-XXXX	3	1	RHFE-431WTA
CP-72135-18	RHFE-431WTA-N	16700	8200	NAT.	2.4	80	13400	42	0.044inches(1.13mm)	0.033inches(0.85mm)	CP-72135-18	X04	3.5	8.0	2.4/0.7inches W.C.	2.8/0.8inches W.C.	2.1/0.6inches W.C.	2.6/0.7inches W.C.	ANS Z21.86X - CSA 2.32X-XXXX	3	1	RHFE-431WTA
CP-72135-19	RHFE-1004FA-P	36500	10500	L.P. (Propane)	10.1	80	29200	121	0.071" (1.80mm)x2, 0.077" (1.95mm)x1	0.037" (0.95mm)x2, 0.047" (1.20mm)x1	CP-72135-19	X04	5.0	11.0	3.7/2.0inches W.C.	4.1/4.3inches W.C.	2.7/2.0inches W.C.	7.3/4.3inches W.C.	ANS Z21.86X - CSA 2.32X-XXXX	5	1	RHFE-1004FA
CP-72135-20	RHFE-1004FA-N	38400	10500	NAT.	3.7	80	30700	121	0.071" (1.80mm)x2, 0.077" (1.95mm)x1	0.037" (0.95mm)x2, 0.047" (1.20mm)x1	CP-72135-20	X04	5.0	11.0	3.7/2.0inches W.C.	4.1/4.3inches W.C.	2.7/2.0inches W.C.	7.3/4.3inches W.C.	ANS Z21.86X - CSA 2.32X-XXXX	5	1	RHFE-1004FA



Rinnai
CORPORATION
Hagoya, Japan

FAN TYPE DIRECT VENT WALL FURNACE

MODEL NO. (A)

MAXIMUM INPUT : (B) BTU/HR

MINIMUM INPUT : (C) BTU/HR

TYPE OF GAS : (D)

MANIFOLD PRESSURE : (E) INCHES W.C.

MINIMUM GAS SUPPLY PRESSURE FOR INPUT ADJUSTMENT ARE (L) INCHES W.C. FOR NAT. GAS AND (M) INCHES W.C. FOR L.P.(PROPANE)GAS.

ONLY FOR DIRECT DISCHARGE WITHOUT DUCT CONNECTIONS.

ELECTRICAL RATING : 120V, 60HZ, LESS THAN (S) AMPERES.

(F) Fan Type Direct Vent
Wall Furnace

WARNING

IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE. REFER TO THE OWNER'S INFORMATION MANUAL PROVIDED WITH THIS APPLIANCE. INSTALLATION AND SERVICE MUST BE PERFORMED BY A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.

- This appliance must be installed in accordance with local codes, if any, if not, follow ANSI Z223.1 or the CAN/CGA8149 installation codes.
- This appliance must be installed in accordance with the Standard for Recreational Vehicles, ANSI A119.2, or the Standard for Gas Equipped Recreational Vehicles and Mobile Housing, CSA Z240.4.
- This appliance must be installed in accordance with the manufacturer's instructions and the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280, or the Mobile Home Standard CAN/CSA Z240 MH Series.
- For use with natural gas and L.P.(Propane) gas. A conversion kit, as supplied by the manufacturer, shall be used to convert this appliance to alternate fuel.

THERMAL OUTPUT CAPACITY :

(G) = (B) X (F) BTU/HR

NORMAL POWER CONSUMPTION : (H) WATTS.

"For Natural gas when equipped with No. (1) drill size orifice."

"For L.P.(Propane) gas when equipped with No. (2) drill size orifice."

MINIMUM WALL THICKNESS : 3.0 INCHES

MAXIMUM WALL THICKNESS : 31.5 INCHES

FOLLOWING PARTS MAY BE USED:

- VENT KIT S 3" ~ 4 1/2"
- VENT KIT A 4 1/2" ~ 8 1/2"
- VENT KIT B 8 1/2" ~ 15 3/4"
- VENT KIT C 15 3/4" ~ 23 5/8"
- VENT KIT D 23 5/8" ~ 31 1/2"

MANIFOLD PRESSURE FOR NORMAL ALTITUDE :

NG(HI/LO) : (N)

LP(GH/LO) : (O)

If marked at left, unit has been rated for 2000 ~ 4500ft with manifold pressure of :

MANIFOLD PRESSURE FOR HIGH ALTITUDE :

NG(HI/LO) : (P)

LP(GH/LO) : (Q)

MINIMUM CLEARANCE FROM COMBUSTIBLE MATERIALS :

SIDE WALLS (FRONT WALL UPPER OBJECT)	FLOOR
2"	0"
40"	10"

MINIMUM CLEARANCE FROM VENT :

SIDE	FRONT	UPPER	FRONT
19 3/4"	20"	19 3/4"	20"

Also for OEM or aftermarket installation in a manufactured home (USA only) or mobile home.

Appliance suitable for installation at 0-4500ft(0-1370m) without changing orifices.

"Keep burner and control compartment clean. See installation and operating instructions accompanying appliance."

"Due to high surface temperatures, keep children, clothing and furniture away."

This appliance is only for use with the type of gas indicated on the rating plate and may be installed in an after market, permanently located, manufactured home (USA only) or mobile home, where not prohibited by local codes.

See owner's manual for details.

This appliance is not convertible for use with other gases, unless a certified kit is used.

Sections of the venting system have not been installed. WARNING-do not operate the appliance until all sections have been assembled and installed in accordance with the manufacturer's instructions.

SERIAL NO. : (K)

MADE IN JAPAN.

DATE	SYM	REVISION	BY	ENG APP
Nov 06, 2005	△	Character changed	I.T	

Certificate 189893-1257662
Project 1870782
Figure No. (158A)



t25_μ + t25_μ
THICKNESS

RINNAI CORPORATION		DRAWN	S.SUZUKI	NO. REQ'D
PARTNAME RATING PLATE		CHECKED		DRAWING NO. CP-72135
MATERIAL POLYESTER FILM	FINISH	DATE	Apr 20, 2005	INDEX NO.

DRAWING No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	QTY	MODEL
CP-72151-9	RHFE-431FA III-P	16700	8200	L.P. (Propane)	2.8	80	13400	42	0.044 inches (1.13mm)	0.033 inches (0.85mm)	CP-72151-9	3.5	8.0	2.4/0.7 inches W.C.	2.8/0.8 inches W.C.	2.1/0.6 inches W.C.	2.6/0.7 inches W.C.	ANS Z21.86X CSA 2.92X-XXXX	3	1	RHFE-431FA III
CP-72151-10	RHFE-431FA III-N	16700	8200	NAT.	2.4	80	13400	42	0.044 inches (1.13mm)	0.033 inches (0.85mm)	CP-72151-10	3.5	8.0	2.4/0.7 inches W.C.	2.8/0.8 inches W.C.	2.1/0.6 inches W.C.	2.6/0.7 inches W.C.	ANS Z21.86X CSA 2.92X-XXXX	3	1	RHFE-431FA III
CP-72151-11	RHFE-556FA III-P	20700	8200	L.P. (Propane)	4.5	80	16560	52	0.044 inches (1.13mm)	0.033 inches (0.85mm)	CP-72151-11	5.0	8.0	3.8/0.7 inches W.C.	4.5/0.8 inches W.C.	3.4/0.6 inches W.C.	4.1/0.7 inches W.C.	ANS Z21.86X CSA 2.92X-XXXX	3	1	RHFE-556FA III
CP-72151-12	RHFE-556FA III-N	21500	8200	NAT.	3.8	80	17200	52	0.044 inches (1.13mm)	0.033 inches (0.85mm)	CP-72151-12	5.0	8.0	3.8/0.7 inches W.C.	4.5/0.8 inches W.C.	3.4/0.6 inches W.C.	4.1/0.7 inches W.C.	ANS Z21.86X CSA 2.92X-XXXX	3	1	RHFE-556FA III
CP-72151-15	RHFE-556WTA-P	20700	8200	L.P. (Propane)	4.5	80	16560	55	0.044 inches (1.13mm)	0.033 inches (0.85mm)	CP-72151-15	5.0	8.0	3.8/0.7 inches W.C.	4.5/0.8 inches W.C.	3.4/0.6 inches W.C.	4.1/0.7 inches W.C.	ANS Z21.86X CSA 2.92X-XXXX	3	1	RHFE-556WTA
CP-72151-16	RHFE-556WTA-N	21500	8200	NAT.	3.8	80	17200	55	0.044 inches (1.13mm)	0.033 inches (0.85mm)	CP-72151-16	5.0	8.0	3.8/0.7 inches W.C.	4.5/0.8 inches W.C.	3.4/0.6 inches W.C.	4.1/0.7 inches W.C.	ANS Z21.86X CSA 2.92X-XXXX	3	1	RHFE-556WTA
CP-72151-17	RHFE-431WTA-P	16700	8200	L.P. (Propane)	2.8	80	13400	42	0.044 inches (1.13mm)	0.033 inches (0.85mm)	CP-72151-17	3.5	8.0	2.4/0.7 inches W.C.	2.8/0.8 inches W.C.	2.1/0.6 inches W.C.	2.6/0.7 inches W.C.	ANS Z21.86X CSA 2.92X-XXXX	3	1	RHFE-431WTA
CP-72151-18	RHFE-431WTA-N	16700	8200	NAT.	2.4	80	13400	42	0.044 inches (1.13mm)	0.033 inches (0.85mm)	CP-72151-18	3.5	8.0	2.4/0.7 inches W.C.	2.8/0.8 inches W.C.	2.1/0.6 inches W.C.	2.6/0.7 inches W.C.	ANS Z21.86X CSA 2.92X-XXXX	3	1	RHFE-431WTA
CP-72151-19	RHFE-1004FA-P	36500	10500	L.P. (Propane)	10.1	80	29200	121	0.071" (1.80mm)x2, 0.077" (1.95mm)x1	0.037" (0.95mm)x2, 0.047" (1.20mm)x1	CP-72151-19	5.0	11.0	3.7/2.0 inches W.C.	10.1/4.3 inches W.C.	2.7/2.0 inches W.C.	7.3/4.3 inches W.C.	ANS Z21.86X CSA 2.92X-XXXX	5	1	RHFE-1004FA
CP-72151-20	RHFE-1004FA-N	38400	10500	NAT.	3.7	80	30700	121	0.071" (1.80mm)x2, 0.077" (1.95mm)x1	0.037" (0.95mm)x2, 0.047" (1.20mm)x1	CP-72151-20	5.0	11.0	3.7/2.0 inches W.C.	10.1/4.3 inches W.C.	2.7/2.0 inches W.C.	7.3/4.3 inches W.C.	ANS Z21.86X CSA 2.92X-XXXX	5	1	RHFE-1004FA

90
465

Rinnai
CORPORATION
Nagoya, Japan

FOURNISSEUR À VENTILATEUR AVEC VENTILATION DIRECTE
MODELE# (A)
 CONSOMMATION MAXIMUM : (B) BTU/HRE
 CONSOMMATION MINIMUM : (C) BTU/HRE
 TYPE DE GAZ : (D) GAZ
 PRESSION AU COLLECTEUR : (E) POUCES W.C.
 ET (L) "W.C. POUR GAZ NATUREL.
 SEULEMENT POUR UTILISATION AVEC SYSTEME DE
 RENVOI DIRECT, SANS RACCORDS DE CONDUITS.
 DONNEES ELECTRIQUES : 120V, 60HZ, MOINS DE (S) AMPERES.
 " (R) Fournisse à Ventilateur Avec
 Ventilation Directe"

AVERTISSEMENT : L'installation, l'utilisation ou le service inadéquats peuvent causer des blessures et des dommages matériels. Vous référer au guide de l'utilisateur fourni avec cet appareil.
 Pour plus d'information, veuillez communiquer avec un technicien qualifié, une agence de service ou un distributeur de gaz.
 "Cet appareil doit être installé en accord avec les règlements locaux s'il y a lieu. Vous référer aux ANSI Z223.1 CAN/CSA-8149."
 "Cet appareil doit être installé selon la norme ANSI A119.2 Recreational Vehicles ou la norme CAN/CSA-Z240.4 VC Vehicules de camping ou maisons mobiles."
 Capacité de rendement thermique : (G) = (B) x (E) / 100 BTU/HRE
 Consommation d'énergie normale : watts
 "Contient au gaz naturel quand l'appareil est muni d'un injecteur de diamètre n° (I)
 "Contient au propane quand l'appareil est muni d'un injecteur de diamètre n° (J)"

DET APPAREIL N'EST PAS CONÇU POUR L'AMENAGEMENT EN CHANTIER
 "Séchez le brûleur et le tableau de contrôle propres. Vous référer au guide d'installation et d'opération fourni avec cet appareil."
 "A cause de la température élevée des parties, tenez éloignés les enfants, les vêtements et les meubles."
 "Pour utilisation avec le gaz naturel et le propane. Une trousses de conversion fournie par le fabricant doit être utilisée pour passer d'un combustible à l'autre."
 Epaisseur murale minimum : 3"
 Les pièces suivantes peuvent être utilisées :
 • Trousses de ventilation S 3" - 4 1/2"
 • Trousses de ventilation A 4 1/2" - 9 1/2"
 • Trousses de ventilation B 9 1/2" - 15 3/4"
 • Trousses de ventilation C 15 3/4" - 23 5/8"
 • Trousses de ventilation D 23 5/8" - 31 1/2"
 pression du collecteur en altitude normale
 GP (MAX./MIN.) : (N) (O)
 GP (MAX./MIN.) : (P) (Q)
 Si marque à gauche l'unité est reçue à 2000-4500psi, avec pression de air collecteur.
 Pression du collecteur en altitude élevée
 GP (MAX./MIN.) : (P) (Q)
 GP (MAX./MIN.) : (O) (Q)
 Distance minimum des matières combustibles :
 MURS LATÉRAUX : 2" MUR AVANT : 40"
 OBJET SUPÉRIEUR : 10" PLANCHER : 0"
 Distance minimum du ventilateur avant :
 BAS : 20"
 CÔTÉ : 19 3/4"
 HAUT : 19 3/4"
 DEYANT : 20"
 Pour installation comme appareil d'origine dans une maison préfabriquée (mobile) seulement.
 L'appareil est approprié pour une installation à 0-1370m d'altitude sans se changer les injecteurs.
 "Pour utilisation avec le gaz naturel et le propane. Une trousses de conversion fournie par le fabricant doit être utilisée pour passer d'un combustible à l'autre."
 Étant donné les températures élevées la surface, tenir éloigné des enfants, des meubles et des vêtements.
 Cet appareil doit être utilisé uniquement avec le type de gaz indiqué sur la plaque signalétique. Cet appareil peut être installé dans une maison préfabriquée ou mobile (C-U, seulement) installée à demeure si les règlements locaux le permettent. Voir la notice de l'utilisateur pour plus de renseignements. Cet appareil ne peut pas être utilisé avec d'autres gaz sauf si une trousses de conversion certifiée est fournie.
 Des sections du système d'évacuation n'ont pas été installées. AVERTISSEMENT. Ne pas utiliser l'appareil tant que toutes les sections n'ont pas été assemblées et installées selon les instructions du fabricant.

NUMÉRO DE SÉRIE : (K)
 Fabriqué au Japon

DATE	SYM	REVISION	BY	ENGAPP
Nov 06, 2006	△	Character changed	I.T.	

Certificate 189893-1257662
 Project 1870782
 Figure No. (159A)

t25μ+t25μ
 THICKNESS mm

RINNAI CORPORATION		DRAWN	NO. REQ'D
PARTNAME		S.SUZUKI	
RATING PLATE		CHECKED	DRAWING NO.
MATERIAL		DATE	CP-72151
POLYESTER FILM		Apr 20, 2005	INDEX NO.