



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

## **RHFE-551FA RHFE-1001FA/VA**

### **ENERGYSAVER GAS DIRECT VENT WALL FURNACES**

Owner's Information Manual

**WARNING:** IF THE INFORMATION IN THIS MANUAL IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

#### **FOR YOUR SAFETY**

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.
- OPEN WINDOWS.
- EXTINGUISH ANY OPEN FLAMES.
- INSTALLATION AND SERVICE MUST BE PERFORMED BY A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.

INSTALLER : MUST LEAVE THIS MANUAL WITH UNIT AFTER INSTALLATION.  
OWNER: RETAIN THIS MANUAL SAFELY, 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. FOR ASSISTANCE OR ADDITIONAL INFORMATION CONSULT A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.

## GENERAL INFORMATION



THIS SERIES IS DESIGN CERTIFIED BY THE AMERICAN GAS ASSOCIATION LABORATORIES AS A VENTED CIRCULATOR AND MUST BE INSTALLED ACCORDING TO THESE INSTRUCTIONS. ANY 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 MAKING THE CHANGE.

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## FEATURES OF RHFE- UNITS

1. This unit is suitable for both domestic and commercial applications.
2. This unit has a 3 step automatic heat control with electronic thermostat, the fan is also controlled by the thermostat.
3. Ignition is electronic in conjunction with the gas valve.
4. This unit has an integral humidifier tray.
5. Air for combustion is taken from the outside and the flue product is exhausted outside, keeping the room air clean.
6. Warm air is discharged at the bottom of the unit.
7. Only one 3 1/4" diameter hole is required in the wall for vent installation.
8. FAN 1001FA = HIGH 289 CFM      8.2 m<sup>3</sup>/min  
                    LOW 179 CFM      5.1 m<sup>3</sup>/min
9. FAN 551FA = HIGH 189 CFM      5.3 m<sup>3</sup>/min  
                    LOW 135 CFM      3.8 m<sup>3</sup>/min

## SAFETY DEVICES

### Overheat Switch:

This device automatically cuts the gas off if the unit exceeds a predetermined temperature. This is normally caused by an obstruction in front of the louvres, or a blocked fan filter.

If this switch operates, turn the unit off, remove the obstruction (clean filters) let the unit cool off before re-operating.

### Fusible Link

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.

### Flame Failure Device

If the flame goes out during operation this device cuts the unit off (lockout). To reset, turn the unit off, then on again.

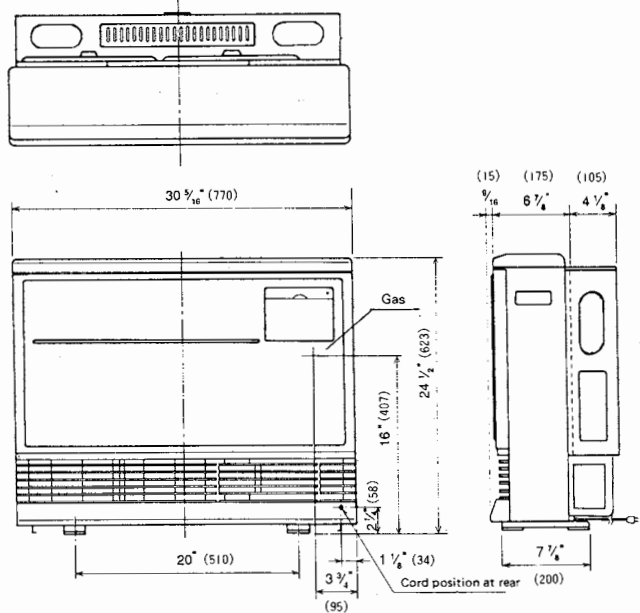
### Fan Switch

Turns the fan on automatically when the heat exchanger warms up and off when it cools down. This helps to prevent cold drafts and adds to the unit's efficiency.

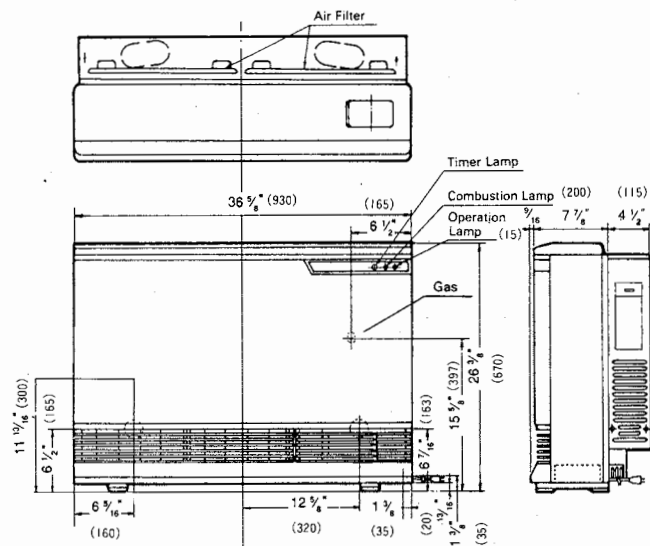
# DIMENSIONS

inch (mm)

## 551FA



## 1001FA/VA



### SPECIFICATIONS OF RINNAI DIRECT VENT FURNACES

#### SPECIFICATIONS

inch (mm)

MODEL	**BTU's		SIZE			MIN. CLEARANCES			GAS INLET	ELECTRICAL SUPPLY	FAN OUTPUT	SHIPPING WEIGHT
	Input	Output	Height	Width	Depth	Side	Top	Floor				
RHFE-551FA Nat. Gas	22,000	18,000	24 1/2" (623 mm)	30 5/16" (770 mm)	11 5/8" (295 mm)	2" (51 mm)	10" (254 mm)	0" (0 mm)	3/8" (9.5mm)	120 Volts 60 Cycles 1.0 Amps	Hi-189 CFM (5.35 Cmm) Lo-135 CFM (2.95 Cmm)	74 lbs. (33.6kg)
RHFE-551FA LP. Gas	21,000	17,200	24 1/2" (623 mm)	30 5/16" (770 mm)	11 5/8" (295 mm)	2" (51 mm)	10" (254 mm)	0" (0 mm)	3/8" (9.5mm)	120 Volts 60 Cycles 1.0 Amps	Hi-189 CFM (5.35 Cmm) Lo-135 CFM (2.95 Cmm)	74 lbs. (33.6kg)
RHFE-1001FA/VA Nat. Gas	38,400	31,220	26 3/8" (670 mm)	36 5/8" (930 mm)	13" (330 mm)	2" (51 mm)	10" (254 mm)	0" (0 mm)	1/2" (13mm)	120 Volts 60 Cycles 2.0 Amps	Hi-289 CFM (8.18 Cmm) Lo-179 CFM (5.07 Cmm)	110 lbs. (49.9kg)
RHFE-1001FA/VA LP. Gas	36,500	29,680	26 3/8" (670 mm)	36 5/8" (930 mm)	13" (330 mm)	2" (51 mm)	10" (254 mm)	0" (0 mm)	1/2" (13mm)	120 Volts 60 Cycles 2.0 Amps	Hi-289 CFM (8.18 Cmm) Lo-179 CFM (5.07 Cmm)	110 lbs. (49.9kg)

#### SPECIFICATIONS FOR VENT SIZES

	Size	Application
S	3" - 4 1/2" (75 - 115)	THIN WALLS MOBILE HOME
A	4 1/2" - 9 1/2" (115 - 240)	WOOD WALLS
B	9 1/2" - 15 3/4" (240 - 400)	WOOD/BRICK
C	15 3/4" - 23 5/8" (400 - 600)	BRICK/BLOCK
D	23 5/8" - 31 1/2" (600 - 800)	SPECIAL

inch W.C. (mmH<sub>2</sub>O)  
NG LP

#### \*551FA

MINIMUM SUPPLY GAS PRESSURE	4.5" (115)	11.0" (280)
MAXIMUM SUPPLY GAS PRESSURE	10.5" (267)	13.0" (330)
MANIFOLD TEST PRESSURE	3.5" (88)	9.4" (238)

#### \*1001FA/VA

MINIMUM SUPPLY GAS PRESSURE	5.0" (127)	11.0" (280)
MAXIMUM SUPPLY GAS PRESSURE	10.5" (267)	13.0" (330)
MANIFOLD TEST PRESSURE	3.8" (98)	10.5" (267)

\*\*BTU - Efficiency increases with vent size.

Clearances from combustibles - see page 4 and 10.

\*\* Thermal efficiency rating determined under continuous operating conditions.

551FA: 80.3% NG — 1001FA: 81.1% NG

Efficiency results based on D.O.E. regulations.

The minimum and maximum inlet gas supply pressure are for the purpose of input adjustment.

\* Heaters may be converted from one gas to another using Rinnai conversion kits. See page 7 and 8.

\* Supply pressures are for adjusting input purposes.

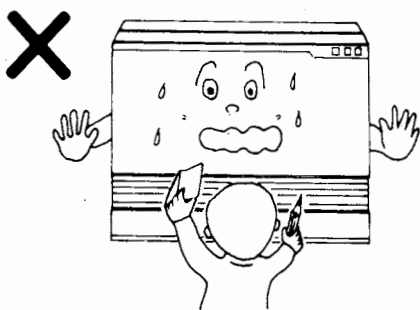
\* Output efficiency is 75% of rated input for Canadian Installations.

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

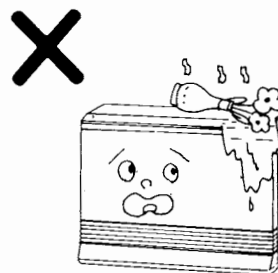
Rinnai is continually updating and improving products therefore specifications are subject to change without prior notice.

## IMPORTANT POINTS

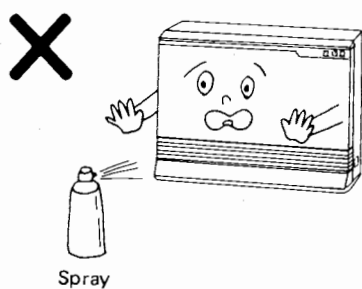
Don't allow children to insert articles in the louvres.



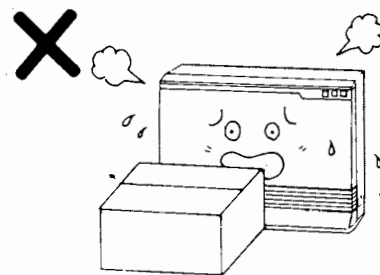
Don't place any articles containing liquids on top of the unit.



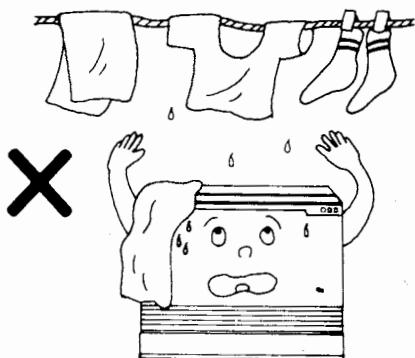
Don't spray aerosols on the unit when in operation.



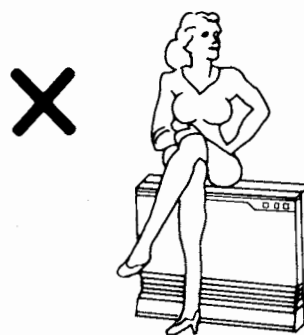
Do not place articles on or against the unit.



Do not use for any other purpose except heating.



Do not sit on this unit.

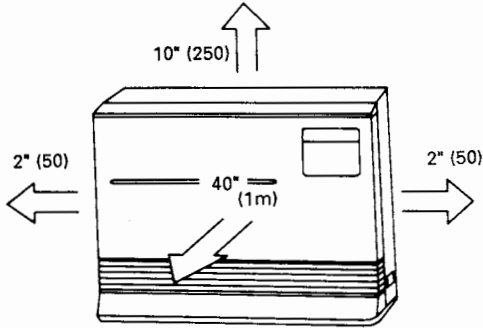


# IMPORTANT POINTS

## 551FA

These clearances should be maintained at all times.

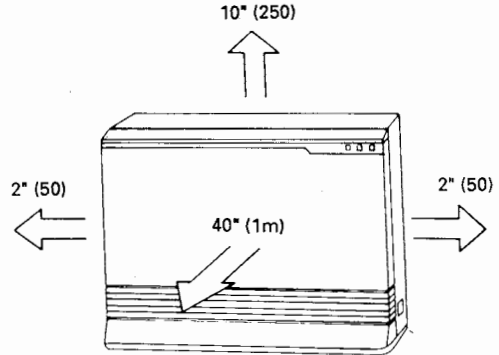
inch (mm)



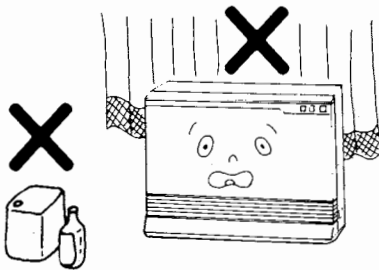
## 1001FA/VA

These clearances should be maintained at all times.

inch (mm)

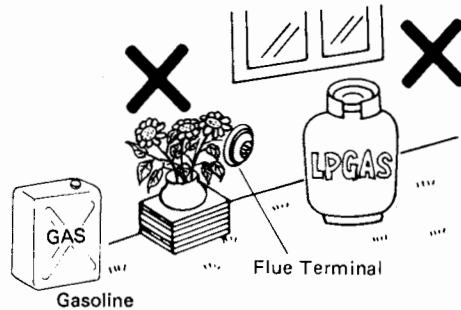


Do not allow curtains or other flammable materials to come into contact with the unit.

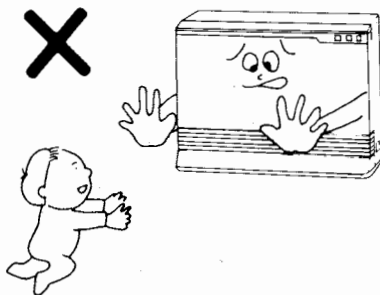


Do not store flammable products near the unit.

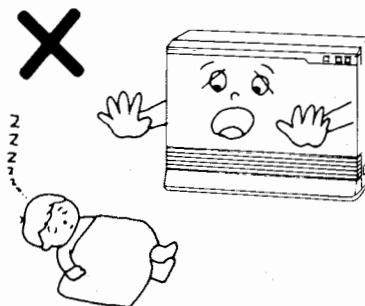
Keep flammable materials, trees shrubs etc. away from vent terminal.



Young children should be carefully supervised when they are in the same room as the appliance.



Do not allow young children or the infirm to sleep directly in front of the unit.



## USAGE AND INSTALLATIONS MUSTS

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

### Included in Carton:

Customers Operating Information, Vent Terminal, Top and Side Spacers. Check packing material before discarding.

### IMPORTANT

1. The appliance must be installed in accordance with state and local codes.
2. For information on gas type, see data plate on the appliance.
3. This unit 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 unit 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.
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 unit is designed for use only with L.P. or natural gas. Make sure that the type of gas to be supplied to this unit matches that shown on the rating plate on the unit. If not 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 unit or its controls can be dangerous.
10. If a gas leak is suspected, turn unit 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 or other flammable vapors and liquids on or near the unit.
12. Young children should be carefully supervised when they are in the same room with the appliance.
13. LPG containers must not be installed indoors.
14. Do not use this furnace if any part has been under water. Immediately call a qualified service technician to inspect the wall furnace 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 must 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.

## NOTICE BEFORE INSTALLATION

The furnace must be installed by a qualified service person according to this installation instruction.

Check your local building codes for the proper method of installation. In the case of absence of local codes, this unit should be installed in accordance with the National Fuel Gas Code ANSI Z223-1 1992 or latest addition.

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

For mobile housing and recreational installation the current standard CSA Z240.4 GAS EQUIPPED RECREATIONAL VEHICLES AND MOBILE HOUSING.

A manufactured home (mobile home) installation must conform with the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280 [formerly the Federal Standard for Mobile Home Construction and Safety, Title 24 (Part 280), 1975], or, when such a standard is not applicable, the Standard for Manufactured Home Installations 1982 (Manufactured Home Sites, Communities and Set-Ups), ANSI A225.1-1984.

- a. Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.
- b. 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 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 70-1987 or with the current CSA C22.1 CANADIAN ELECTRICAL CODE.

### **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.

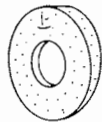
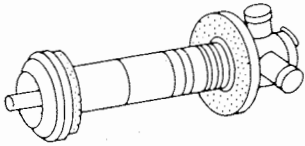


# INSTALLATION INSTRUCTIONS

## UNPACKING 551FA

Remove parts from carton and check that all parts shown below are included in the installation kit.

- Vent Manifold ..... 1
- Spare rubber seal ..... 1

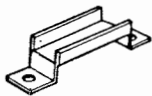


FOT007-8  
(For weatherboard installations)

- Plastic tie for air inlet connection ..... 1



- Wall Bracket ..... 1

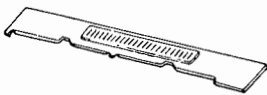


- Customers Instructions and Installation Instructions ..... 1

- Elbow Cover Stopper ..... 1



- Back Cover Set ..... 1



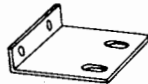
- Pipe Stopper C ..... 1



- Pipe Stopper F ..... 1



- Floor Bracket ..... 2

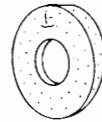
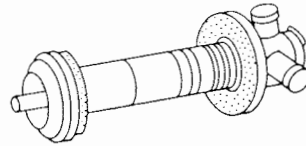


- Screws
- Back Cover (Top) ..... 3
- Wall Bracket (Wood) ..... 2
- Floor Bracket (Wood) ..... 4
- Legs/Floor Bracket ..... 4

## UNPACKING 1001FA/VA

Remove parts from carton and check that all parts shown below are included in the installation kit.

- Vent Manifold ..... 1
- Spare rubber seal ..... 1



FOT007-8  
(For weatherboard installations)

- Plastic tie for air inlet connection ..... 1



- Pipe stopper S ..... 1



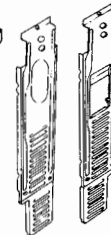
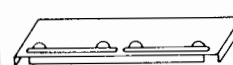
- Wall Brackets ..... 2



- Vent Adapter ..... 1
- Vent Extension ..... 1



- Back Cover Set ..... 1
- Special Panel ..... 1



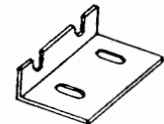
- Pipe Stopper A ..... 2



- Pipe stopper E ..... 1



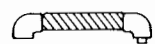
- Floor Bracket ..... 2



- Screws
- Back Cover ..... 7
- Wall Bracket ..... 8
- Floor Bracket ..... 8

- Instructions ..... 1

- Air Inlet Hose ..... 1



- Elbow Cover Stopper ..... 1



## 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 individual shut off valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressure in excess of 1/2 psig.

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

- |    |                             |                                |             |             |
|----|-----------------------------|--------------------------------|-------------|-------------|
| 8. | <b>551FA</b>                | inch W.C. (mmH <sub>2</sub> O) | NG          | LP          |
|    | MINIMUM SUPPLY GAS PRESSURE |                                | 4.5" (115)  | 11.0" (280) |
|    | MAXIMUM SUPPLY GAS PRESSURE |                                | 10.5" (267) | 13.0" (330) |
|    | MANIFOLD TEST PRESSURE      |                                | 3.5" (88)   | 9.4" (238)  |
| 9. | <b>1001FA/VA</b>            | inch W.C. (mmH <sub>2</sub> O) | NG          | LP          |
|    | MINIMUM SUPPLY GAS PRESSURE |                                | 5.0" (127)  | 11.0" (280) |
|    | MAXIMUM SUPPLY GAS PRESSURE |                                | 10.5" (267) | 13.0" (330) |
|    | MANIFOLD TEST PRESSURE      |                                | 3.8" (98)   | 10.5" (267) |
10. A 1/8" test plug is provided for testing of manifold pressure see schematic for location. (page 39 and 52)  
At time of installation installer must supply a 1/8 inch N.P.T. plugged tapping, accessible for test gauge connection, immediately upstream of the gas supply connection of the appliance.
  11. Furnace Conversions - Conversion kit is supplied with all units. See page 39 + 52 on parts and location. Supply pressures are for adjustment of input pressure.
  12. The minimum and maximum inlet gas supply pressure are for the purpose of input adjustment.

## CONVERSION

**"The conversion shall be carried out in accordance with the requirements of the provincial authorities having jurisdiction and in accordance with the requirements of the CAN/CGA-B149 installation code."**

The appliance shall only be converted to a gas for which it has been approved. Conversion shall be done by a qualified technician.

Front, left and right panels must be removed to access internal parts, see page 29.

Conversion parts are located in the electrical section, see page 39.

Disconnect electricity, shut off gas to the unit. Locate orifices at burner end of gas tubes, see page 33/35.

Locate air adjustment shutter rods, see page 35.

### RHFE-1001FA • 1001FA/VA

#### PROCEDURE: To Natural Gas

1. Replace **TWO (2) BACK** burner orifices with 0.074" (1.90mm) orifices located left and right side of unit.
2. Replace right **FRONT** orifice with 0.071" (1.80mm) orifice.
3. Loosen set screw on air adjustment rod. Adjust the **TWO (2) BACK** burner air shutters located left and right side of unit to 50% air. Five (5) notches can be seen on adjustment rods.  
Tighten set screw.
4. Loosen set screw. Adjust air shutter rod right **FRONT SIDE** to 70% air. Three (3) notches can be seen on adjustment rod.  
Tighten set screw.
5. **LOCATE PRESSURE ADJUSTMENT SCREW AND MANOMETER TEST LOCATION. SEE PAGE 39.**  
Reset burner pressure to 3.80" inches W.C. (98mmH<sub>2</sub>O).

### RHFE-1001FA • 1001FA/VA

#### PROCEDURE: To L.P. (P)

1. Replace **TWO (2) BACK** burner orifices with 0.041" (1.05mm) orifices located left and right side of unit.
2. Replace right **FRONT** orifice with 0.045" (1.15mm) orifice.

3. Loosen set screw on air adjustment rods. Adjust the **TWO (2) BACK** burner air shutters to 100% air located left and right side of unit. No notches can be seen on adjustment rods.  
Tighten set screw.
4. Loosen set screw. Adjust air shutter rod right **FRONT SIDE** to 100% air. No notches can be seen on adjustment rod.  
Tighten set screw.
5. **LOCATE PRESSURE ADJUSTMENT SCREW AND MANOMETER TEST LOCATION. SEE PAGE 39.**  
Reset burner pressure to 10.5" W.C. (267mmH<sub>2</sub>O).

**"The conversion shall be carried out in accordance with the requirements of the provincial authorities having jurisdiction and in accordance with the requirements of the CAN/CGA-B149 installation code."**

The appliance shall only be converted to a gas for which it has been approved. Conversion shall be done by a qualified technician. Front, left and right panels must be removed to access internal parts, see page 44. Conversion parts are located in the electrical section, see page 52. Disconnect electricity, shut off gas to the unit. Locate orifices at burner end of gas tubes, see page 52. Locate air adjustment shutter rods, see page 52.

## **RHFE-551FA**

### **PROCEDURE: To Natural Gas**

Locate orifices in manifold at burner end, see page 52. Remove gas tube (86), seal plates A-(85) and B-(86) and manifold-(87).

1. Replace main burner orifices **TWO (2)** with 0.067" (1.70mm) orifices.
2. Replace bypass restrictor with 0.140" (3.55mm) restrictor, see page 52 (83).
3. Loosen set screw on air adjustment rod. Set to 80% air. Two (2) notches can be seen on adjustment rod.  
Tighten set screw.
4. Locate pressure adjustment screw and manometer test location, see page 52. Reset burner pressure to 3.5" W.C. (88mmH<sub>2</sub>O).

## **RHFE-551FA**

### **PROCEDURE: To L.P. (P)**

Locate orifices in manifold at burner end, see page 52. Remove gas tube (86) seal plates A-(85) and B-(86) and manifold-(87).

1. Replace main burner orifices **TWO (2)** with 0.039" (1.00mm) orifices.
2. Replace bypass restrictor with 0.045" (1.15mm) restrictor, see page 52.
3. Loosen set screw on air adjustment rod. Set air adjustment to 30%. Seven (7) notches can be seen on adjustment rod.  
Tighten set screw.
4. Locate pressure adjustment screw and manometer test location, see page 52. Reset burner pressure to 9.4" W.C. (238mmH<sub>2</sub>O).

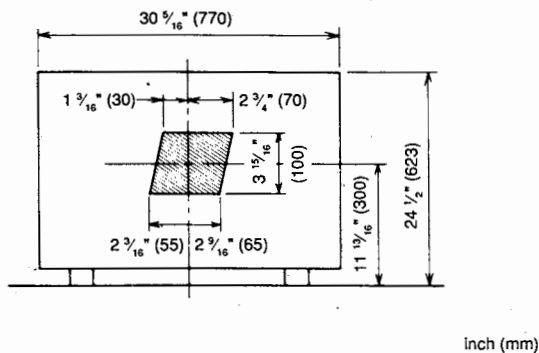
# LOCATION-VENT MANIFOLD

## 551FA

### Vent manifold position.

Centre of hole for vent manifold can be drilled anywhere within the shaded area. (To avoid studs etc.)

FOR WEATHERBOARD WALLS DRILL THROUGH CENTRE OF WEATHERBOARD FROM OUTSIDE, THEN DRILL FROM INSIDE THROUGH PLASTERBOARD.



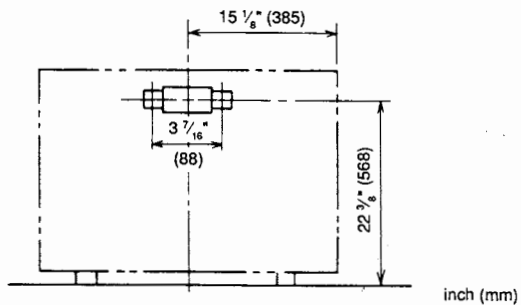
inch (mm)

When drilling the vent hole, check for water and gas pipes and electric cables before starting to drill.

Make A 3 1/4" (80mm) hole through wall.

### Wall Mounting Bracket

Fit the wall mounting bracket to the wall. Position of bracket is shown in the diagram. (use screws provided).



inch (mm)

See wall bracket page 6 (unpacking)

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

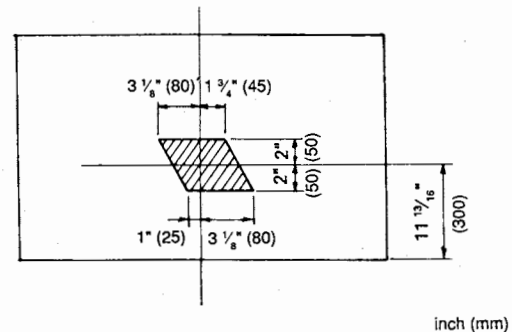
EXTENDED VENT KITS ARE AVAILABLE.

## 1001FA/VA

### Vent manifold position

Centre of hole for vent manifold can be drilled anywhere within the shaded area. (To avoid studs etc.)

FOR WEATHERBOARD WALLS DRILL THROUGH CENTRE OF WEATHERBOARD FROM OUTSIDE, THEN DRILL FROM INSIDE THROUGH PLASTERBOARD.



inch (mm)

When drilling the vent hole, check for water and gas pipes and electric cables before starting to drill.

Make A 3 1/4" (80mm) hole through wall.

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

**CANADIAN VENT REGULATIONS**  
**CAN/CGA-B149.1-M91**

A vent shall not terminate:

- (a) Directly above a paved sidewalk or paved driveway which is located between two single-family dwellings and serves both dwellings;
- (b) less than 7 ft (2.13 m) above a paved sidewalk or a paved driveway located on public property;
- (c) within 6 ft (1.8 m) of a mechanical air supply inlet to any building;
- (d) above a meter/regulator assembly within 3 ft (900 mm) horizontally of the vertical centre-line of the regulator;
- (e) within 6 ft (1.8 m) of any gas service regulator vent outlet;
- (f) less than 1 ft (300 mm) above grade level;
- (g) within the following distances of a window or door which can be opened in any building, any non-mechanical air supply inlet to any building or the combustion air inlet of any other appliance;
  - (i) 1 ft (300 mm) for inputs up to and including 100 000 Btuh (30 kW),
  - (ii) 3 ft (900 mm) for inputs exceeding 100 000 Btuh (30 kW); and
- (h) underneath a veranda, porch or deck, unless
  - (i) the veranda, porch or deck is fully open on a minimum of two sides beneath the floor, and
  - (ii) the distance between the top of the vent termination and the underside of the veranda, porch or deck is greater than 1 ft (300 mm).

**For compliance to NFPA 54 or Z223-1-1990. U.S.A.**

**Vent terminal must be located at least 3 feet above any forced air inlet located within 10 feet away.**

**Vent terminal must not be located over public walk ways or be detrimental to regulators and equipment where condensate could be a problem.**

**Vent terminal must be kept clear of snow at all times.**

**The bottom of the vent terminal and the air intake must be located at least 12 inches above grade.**

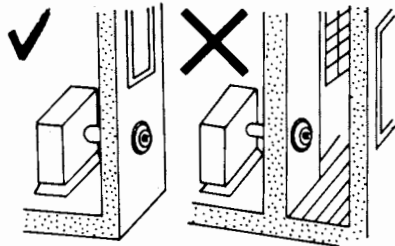
**The vent terminal of a direct vent appliance with an input of 50,000 Btu per hour or less shall be located at least 9 inches from any opening through which flue gases could enter a building, and such an appliance with an input over 50,000 Btu per hour shall require a 12-inch vent termination clearance. The bottom of the vent terminal and the air intake shall be located at least 12 inches above grade.**

# LOCATION AND CLEARANCES

Do not vent into natural draft flues or fireplaces, this unit can only be used with Rinnai vent kits.

Do not vent unit into other rooms.

Vent terminal must be outside.

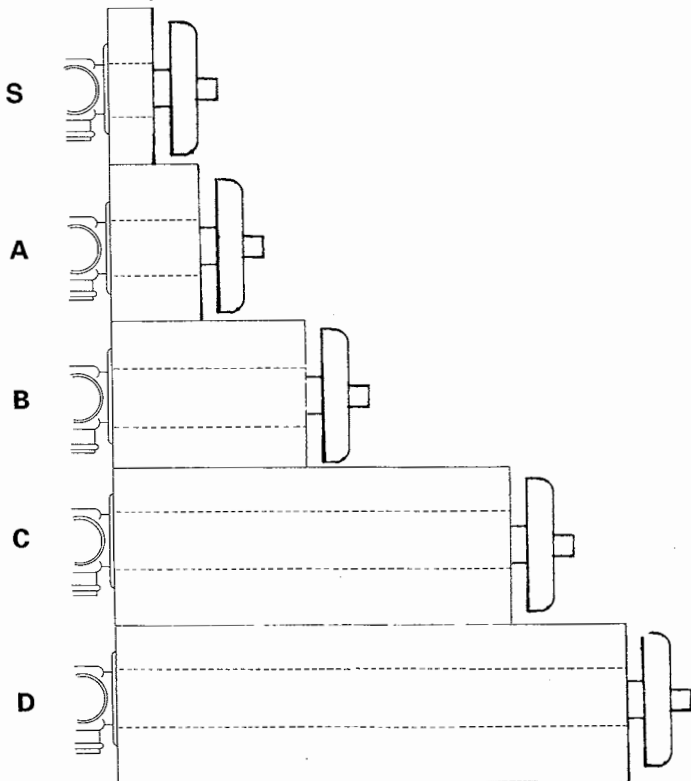


**Maintain minimum of 9" (229mm) clearance from any fresh air intake to structure.**

Example: doors, windows, etc. See Page 10. Make certain that the flow of combustion and ventilation air are not obstructed. Keep area around vent-terminal clear.

Vent sizes:

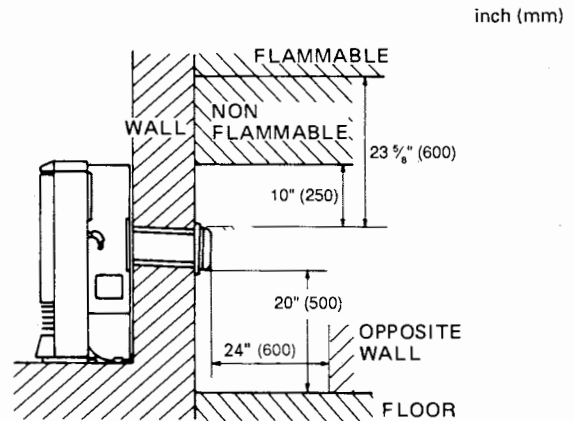
5 Vent lengths are available.	inch (mm)
S Vent suits walls	3" ~ 4 1/2" (75 ~ 115)
A Vent suits walls	4 1/2" ~ 9 1/2" (115 ~ 240)
B Vent suits walls	9 1/2" ~ 15 3/4" (240 ~ 400)
C Vent suits walls	15 3/4" ~ 23 5/8" (400 ~ 600)
D Vent suits walls	23 5/8" ~ 31 1/2" (600 ~ 800)



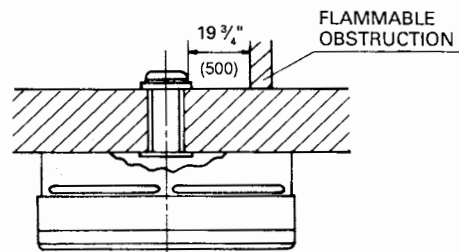
## Standard installation of vent manifold.

Diagram below shows minimum clearances and distances from obstructions.

Also check local regulations, in the absence of local regulations refer to national fuel gas code ANSI Z223.1 or NFPA #54.



## Side Clearances.



Venting system must be inspected and cleaned annually.

Venting system not intended for alcove installation.

## Inlet Piping

Material ; Polyvinyl chloride

Size ; RHFE 1001 I.D. 50mm

RHFE 551 I.D. 30.5mm

## Flue Outlet Piping

Material ; 304 Stainless

Size ; RHFE 1001 I.D. 49.8mm

RHFE 551 I.D. 34.4mm

# LOCATION AND CLEARANCES

When positioning the unit the main points governing the location are:-

- (1) Venting
- (2) Warm Air Distribution.

Warm air discharge should be positioned at least 40" (1m) away from flammable materials (curtains etc.).

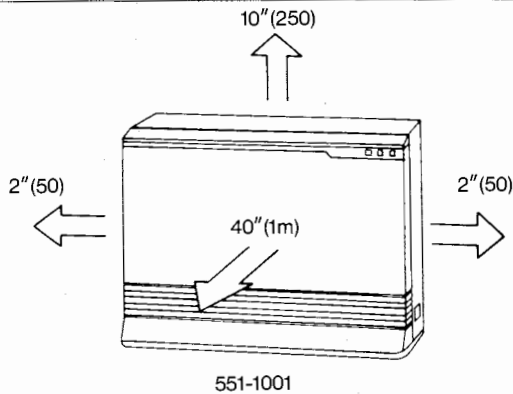
This unit may be installed on combustible flooring. When the unit is installed directly on carpeting, tile or other combustible material other than wood flooring, the unit shall be installed on a metal or wood panel extending the full width and depth of the unit.

Adequate clearances for accessibility for purposes of servicing and proper operation must be provided.

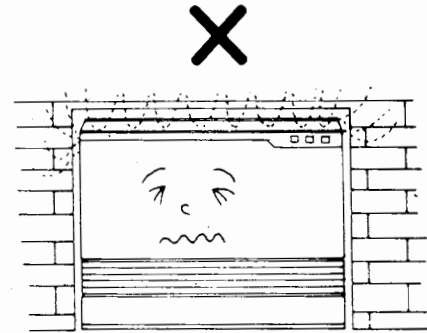
Adequate clearances around air openings must be provided.

The minimum clearances from the combustible materials are as follows.

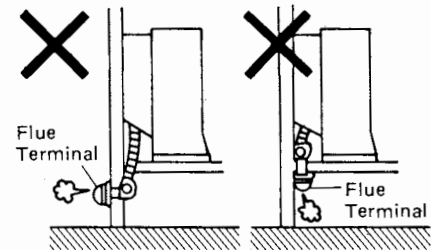
- 40" (1m) from front
- 2" (50mm) from sides
- 10" (250mm) from top



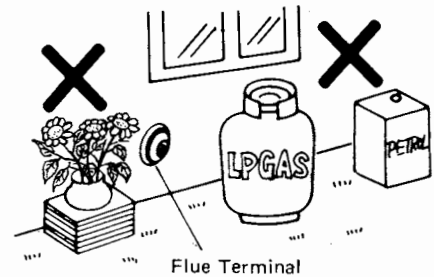
This unit is not designed to be built in.



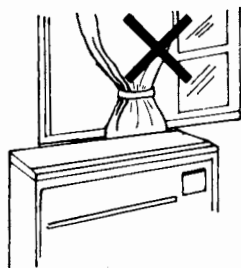
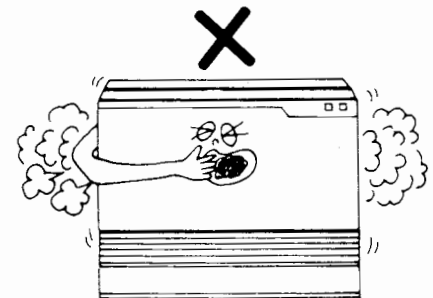
Vent is not designed to be positioned under floors, or below the level of the unit.



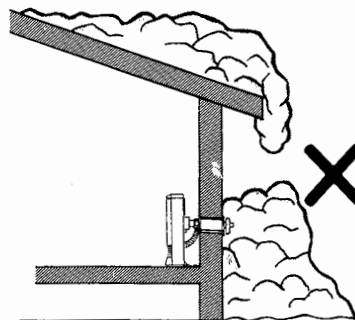
Vent terminal should be positioned away from flammable materials.



Do not install the unit in an unusually dusty area.



Vent fittings must be kept clear of flammable materials.



Vent must be kept clear of snow, at all times.

# SLEEVE AND MANIFOLD INSTALLATION

## METHOD FOR STANDARD WALLS

### 1. Disassemble Manifold from Sleeve

The vent consists of 3 parts, sleeve, inside connectors and tube, outside terminal (disassemble by pulling hard on outside terminal and inner connections, then pull sleeve off outer terminal).

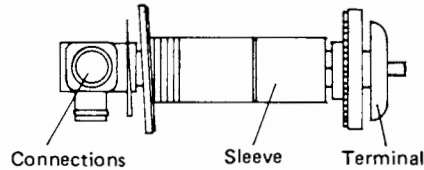


Fig. 1

### 2. Adjustment of Sleeve Length

Measure wall thickness through previously drilled  $3\frac{1}{4}$ " (80mm) hole (see Fig. 4). End of sleeve should protrude  $\frac{3}{16}$ "– $\frac{3}{8}$ " (5–10mm) from outside wall. Adjust sleeve length to wall thickness plus  $\frac{3}{16}$ "– $\frac{3}{8}$ " (5–10mm). (Sleeve is threaded for adjustment.) Do not extend beyond red line. See Fig. 2-4.

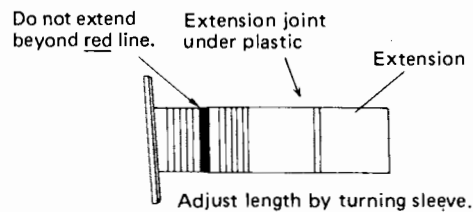


Fig. 2

### 3. Depending on vent set and wall thickness extension piece "C" may need to be removed. Cut plastic, remove extension, then follow instruction 2. See Fig. 3.

This applies to "S" and "A" vent only. There is no extension on "B", "C" and "D" vent. "B", "C" and "D" vent can be fully adjusted by turning the threaded section.

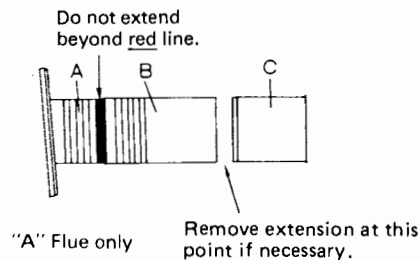


Fig. 3

### 4. Fixing Sleeve

Fix to inside wall, use 3 screws provided.

#### NOTE:-

Flange is marked "TOP" sleeve must be fitted with this mark UP.

Check sleeve protrudes  $\frac{3}{16}$ "– $\frac{3}{8}$ " (5–10mm) on outside.

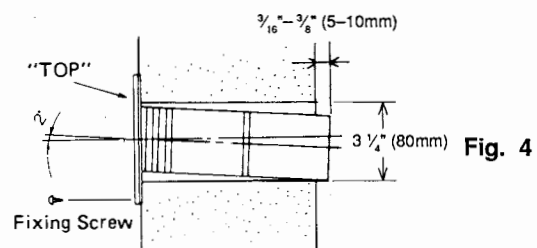


Fig. 4

Don't remove green plastic covering from sleeve.



## METHOD FOR STANDARD WALLS

5. Check rubber seal is in place on terminal.

\* For weather board walls, only add spare rubber seal provided to compensate for weather board angle.

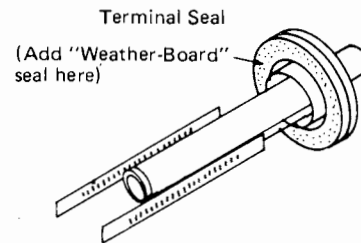


Fig. 5

6. Installation of Terminal

From outside, insert terminal into sleeve with the "A" mark at the top.  
Left hand side fixing tie is marked "LEFT" (from inside).

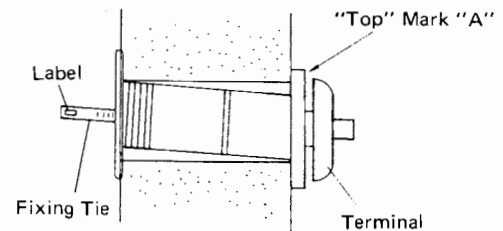


Fig. 6

7. Attaching Ties

Pull hard on left and right hand side ties, clip ties over lugs inside sleeve.  
You should be able to pull the ties 2 or 3 slots past the starting point.  
Cut the ties, leaving about 13/16" (20mm) past the lugs. Bend ties so they are parallel with the wall.

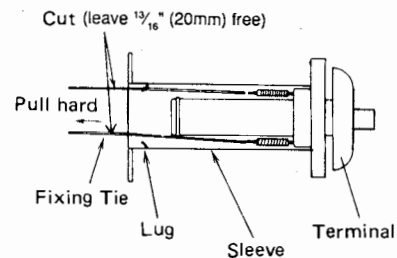


Fig. 7

8. Insert Inner Connection Assembly

Push assembly into terminal tube, make sure "TOP" mark is uppermost. Fix with 3 screws provided.

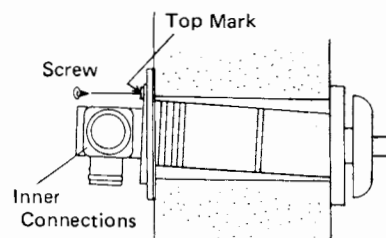


Fig. 8

9. Manifold can still be turned after attaching.

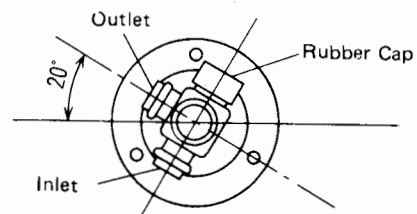


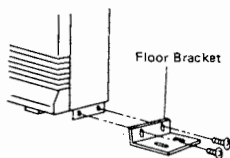
Fig. 9

EXTENDED VENT KITS ARE AVAILABLE. SEE PAGE 57.

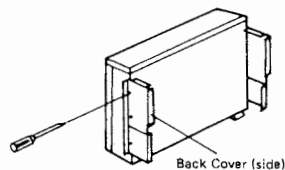
# FITTING UNIT 551FA ONLY

Floor mounting brackets.

Fit brackets loosely to heater as shown below (use if heater requires securing at the base).



Fit back covers (sides only) as shown below.



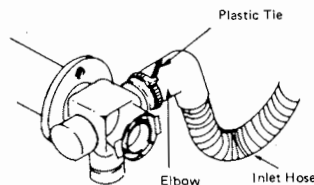
Air Inlet Hose

Connect inlet pipe to manifold.

Don't kink the plastic hose.

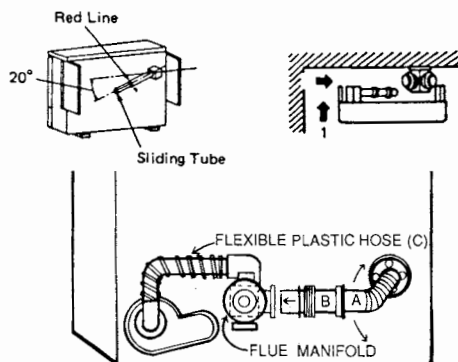
Secure with plastic tie as shown below.

When servicing unit replace plastic tie with new one available at local hardware stores or contact local distributor.



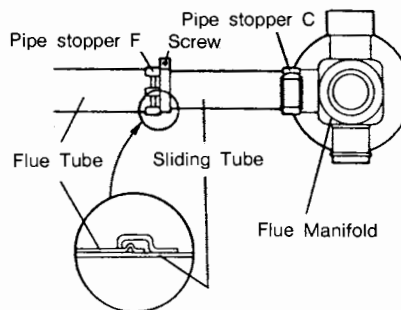
If there is space at the left hand side of the heater, it is easier to remove the sliding tube from the vent outlet, insert it into the manifold, then slide the heater sideways, reconnecting the sliding tube into the vent outlet as the heater is moved.

Red line should not be visible after sliding the tube back into the vent outlet.

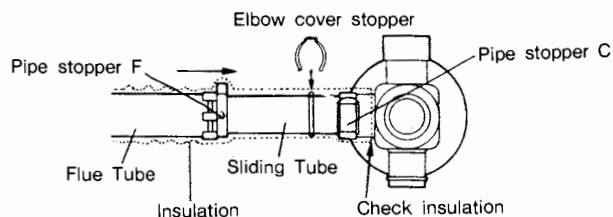


- Pipe "A" - Swivels for location adjustment
- Pipe "B" - Telescopic - telescopes into pipe A and flue manifold
- Pipe "C" - Fits on manifold "Air Intake" pipe

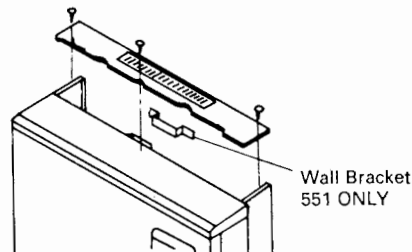
Connect Vent Sliding Tube with PIPE STOPPER C and F as shown below.



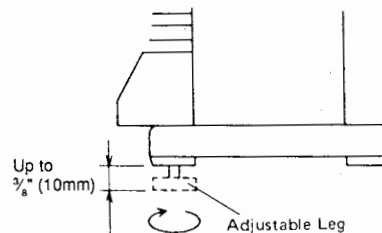
First slide insulation 'sock' over the vent outlet tube. Then clip ELBOW COVER STOPPER over it.



Fit top rear cover and engage tongue into wall bracket to secure top of heater. (3 screws in top back cover.)



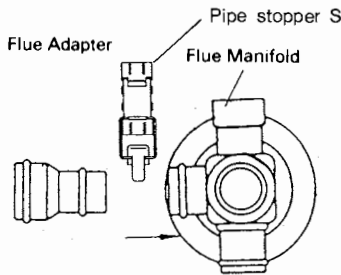
If necessary, the unit can be levelled using the adjustable legs under the front right and left hand side legs.



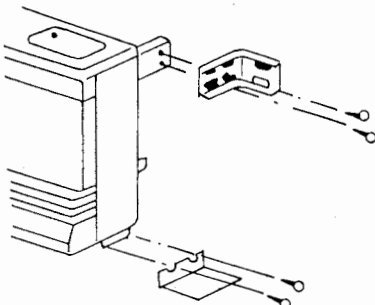
**WARNING:** DO NOT OPERATE UNIT UNTIL PROPER INSTALLATION HAS BEEN COMPLETED.

# FITTING UNIT • 1001FA/VA ONLY

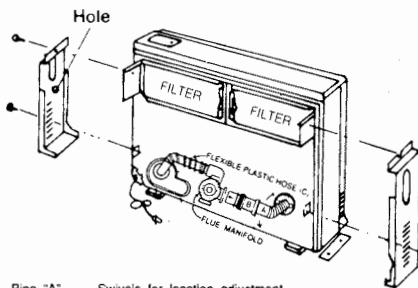
Fix Vent Adapter to Vent Manifold with PIPE STOPPER S as shown below.



Fix Floor and Wall Brackets loosely to heater, if required.

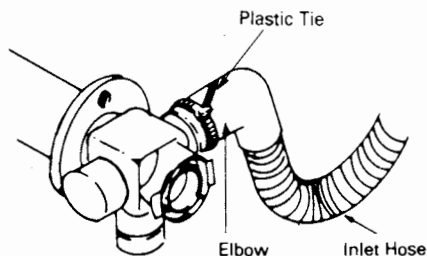


Fit Air inlet Hose to heater. Fix Side Back Spacers with screws.



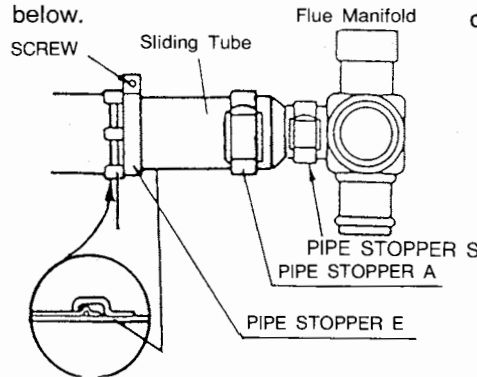
Pipe "A" - Swivels for location adjustment  
 Pipe "B" - Telescopic - telescopes into pipe A and flue manifold  
 Pipe "C" - Fits on manifold "Air Intake" pipe

**Air Inlet Hose**  
 Connect Air Inlet Hose to Manifold Inlet.  
 Do not kink the hose.  
 Secure with plastic tie as shown below.

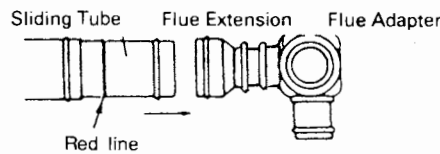
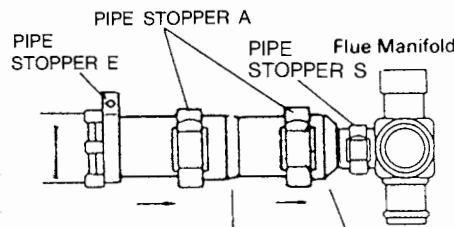


When servicing unit replace plastic tie with new one. Available at local hardware stores or contact local distributor.

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



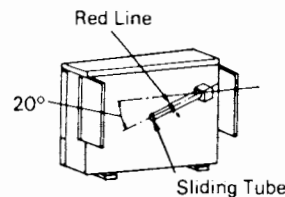
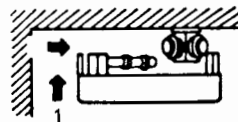
Connect inlet pipe to manifold Vent extension (if needed)



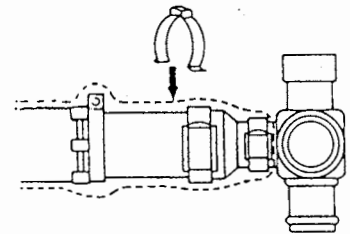
Sliding Tube should not be extended beyond the RED LINE.

If there is space at the left hand side of the heater, it is easier to remove the sliding tube from the vent outlet, insert it into the manifold, then slide the heater sideways, reconnecting the sliding tube into the vent outlet as the heater is moved.

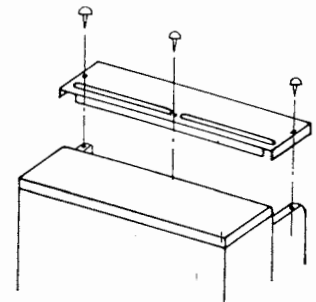
Red line should not be visible after sliding the tube back into the vent outlet.



Cover Sliding Tube with Flue Insulation, then attach ELBOW COVER STOPPER over it.

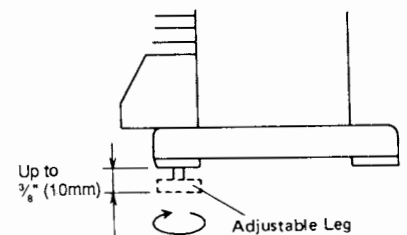


Fix Back Spacer, Top to heater. (3 screws in top back cover).



If necessary, the unit can be levelled using the adjustable legs under the front right and left hand side legs. Secure floor brackets to the floor (if used) with the screws provided.

Levelling screws (Adjustable legs)



**WARNING:** DO NOT OPERATE UNIT UNTIL INSTALLATION HAS BEEN COMPLETED  
 EXTENDED VENT KITS ARE AVAILABLE. SEE PAGE 58-65.

# RHFE-551FA

## 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

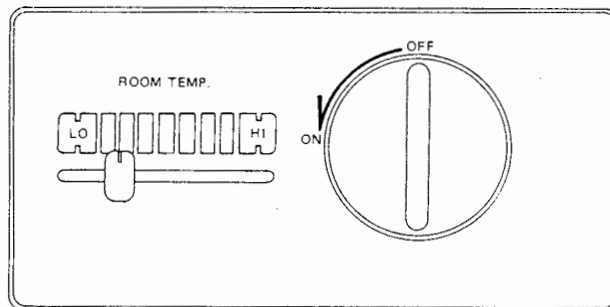
- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.

- 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 control system and any gas control which has been under water.

## OPERATING INSTRUCTIONS

### CONTROLS



- **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 knob in the control panel on front of unit.
3. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
4. Turn Manual valve clockwise to the full off position.

5. Wait five (5) minutes to clear out any gas. 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.
6. Turn Manual gas valve to the full on position.
7. Set the thermostat to desired setting.
8. Close cover plate.
9. If the appliance will not operate, follow the instructions "To turn off gas to appliance" and call your service technician or gas supplier.

## TO TURN OFF GAS APPLIANCE

1. Turn the ON/OFF knob clockwise to full off position. Electricity be off and gas valve closed.
2. Close cover plate.

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

**WARNING:** Improper installation, adjustment, alteration, service or maintenance can cause 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. Due to high surface temperature, keep children, clothing and furniture away. Keep burner and control compartment clean. See installation and operating instructions accompanying heater.

# RHFE-1001FA • 1001FA/VA

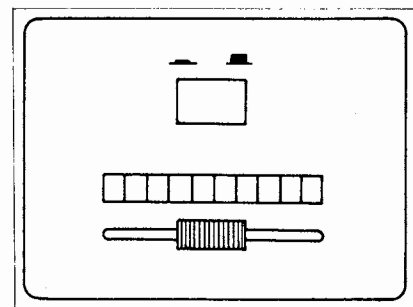
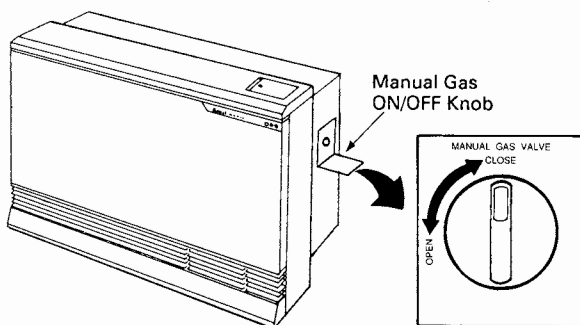
## FOR YOUR SAFETY READ BEFORE OPERATING

**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.
- C. 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 switch on the control panel.
  3. Open cover plate to gain access to Manual valve located on right side of heater.
  4. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
  5. Turn Manual valve clockwise to the full OFF position.
  6. Wait five (5) minutes to clear out any gas. 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.
  7. Turn Manual gas valve to the full on position.
  8. Turn on all electric power to the appliance.
  9. Set the thermostat to desired setting.
  10. If the appliance will not operate, follow the instructions "To turn off gas to appliance and call your service technician or gas supplier."



## TO TURN OFF GAS TO APPLIANCE

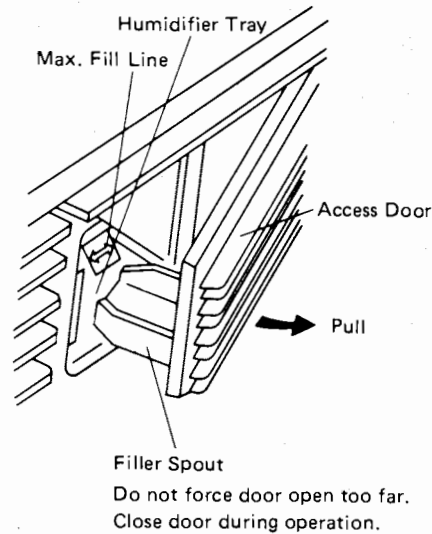
1. Turn off electric power to the appliance using the ON/OFF switch located on the top of unit.
2. Open Manual valve control cover plate on right side of unit.
3. Turn Manual valve clockwise to the full off position.
4. Replace cover plate.

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

**WARNING:** Improper installation, adjustment, alteration, service or maintenance can cause 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. Due to high surface temperature, keep children, clothing and furniture away. Keep burner and control compartment clean. See installation and operating instructions accompanying heater.

## ■ HUMIDIFIER TRAY

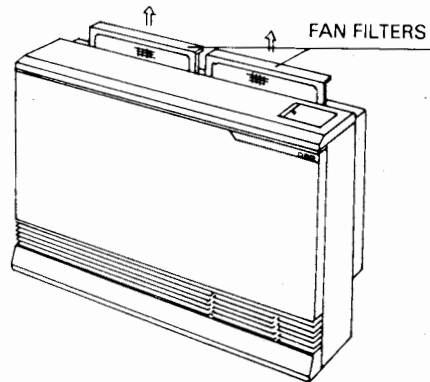
So that you can humidify the air your RHFE-UNIT is fitted with an enamelled tray behind the air outlet. To fill the tray, open the door as shown in the diagram and pour water into the tray using the spout built into the door. The air will be humidified as it passes over the water in the tray. **DO NOT 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.



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

## ■ FAN FILTERS

To protect the fan from dust and lint, the units are fitted with 2 fan filters. They are located at the top, rear of the unit. To clean, pull the filters out of the unit and remove dust with a soft brush or a vacuum cleaner. Replace filters after cleaning. Weekly cleaning is recommended during the heating season.



## TESTING

### Testing Unit

Purge air from gas line.

Refer to a 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.

RHFE-1001FA/VA Remove front panel

SEE PAGE 29

RHFE-551FA Remove Casing

SEE PAGE 44

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 first time it will spark again after 10 seconds).

If unit still 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. Turn control to "OFF" position, remove pressure gauge and replace test point screw.

Re-light unit, on "HI" setting. Slide thermostat control slowly towards the "LO" position, the heater will cut down, then cut out.

(Depending on the room temperature).

Turn the power off. Replace the casing.

Turn power on.

Re-check operation.

## CHECK

Check complete installation, including clearances. SEE PAGE 12.

### 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. SEE PAGE 21 AND 22.

Do not use this unit 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 panel(s) removed, cracked or broken.

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 appliance be kept clean.

Ventilating system should be inspected and cleaned annually.

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

## PRE SERVICE CHECK NOTICE

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

### At ignition:

Warm air does not start 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 drafts.

Smoke or strange smells are produced on the first trial light up after installation.

This is caused by grease or oil on the heat exchanger and dust, and will stop after a short time.

Sharp clicking noises at ignition, or when the 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.

### 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 unit cools down.

### Other points:

Steam is discharged from the vent terminal.

High efficiency appliances tend to discharge water vapor on cold days, this is normal.



## CARE OF YOUR RHFE-551FA/1001FA•1001FA/VA

This unit needs very little maintenance, simply clean the filters once a week and wipe the outer case with a soft damp cloth.

DO NOT USE SOLVENTS.

Check the vent terminal annually to make sure shrubs etc. have not grown around it.

### UNIT CHECK LIST Please check this list before asking for service.

Problem Cause	No operation lamp	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
Mis-ignition	●	●						Check customers instructions
Vent terminal obstructed			●	●		●		Clear obstruction
Vent manifold not connected						●		Service Call
Louvre obstructed				●			●	Clear obstruction
Air filter blocked				●			●	Clean Filter
Gas leak					●			Service Call
Room too large							●	Check with retailer

If you are unsure about the way the unit is operating contact Rinnai, your dealer or Gas Co.

## MAINTENANCE/SERVICE

### MAINTENANCE SUGGESTIONS

This furnace 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 unit operating efficiently throughout the season.

#### 1. Cleaning

Furnace must be cleaned annually. Keep unit clear of dust and debris especially in and around burner. Cleaning procedures of unit are as follows:

- 1) Turn unit off. Allow to cool for one hour.
- 2) Remove the Front Panel by removing screws. See schematic page 29&44.
- 3) Use pressurized air to remove dust from around main burner. See page 35&52.
- 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.

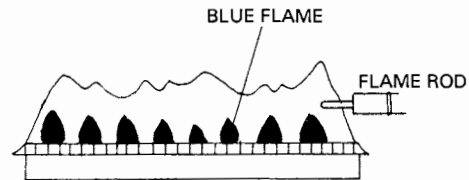
See page 37&50 for location of view ports.

Any and all parts removed for inspection or service must be replaced before operating unit.

### VISUAL CHECK

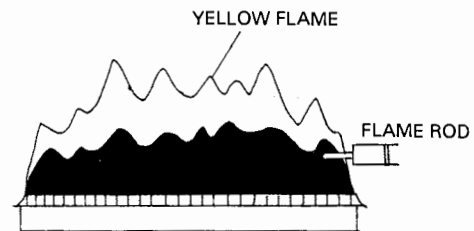
#### SATISFACTORY

##### FRONT VIEW



#### UNSATISFACTORY

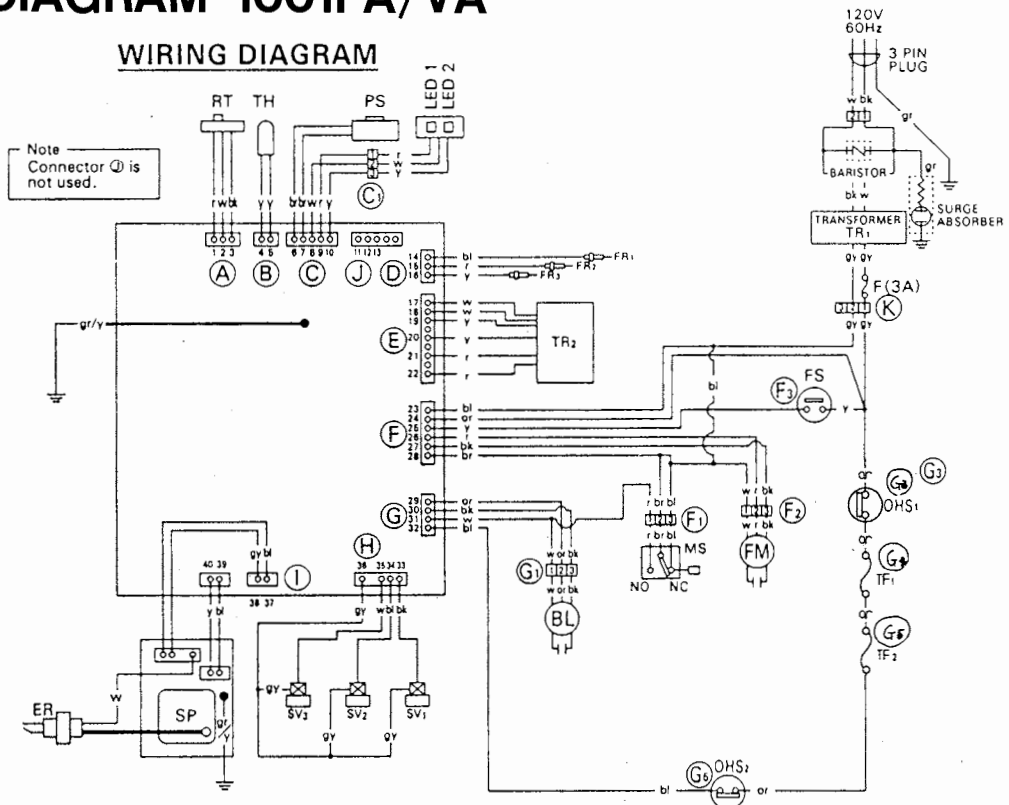
##### FRONT VIEW



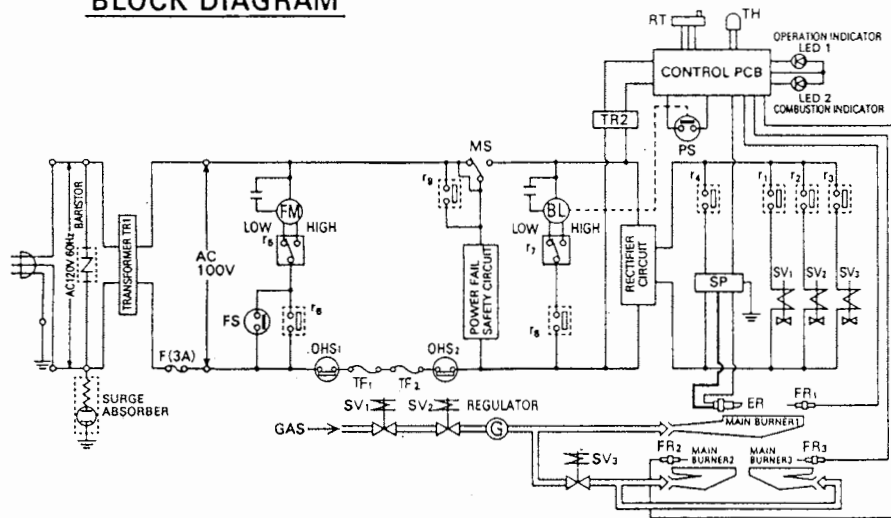
- VENT MAINTENANCE
- VENT SYSTEM
  - Must be checked annually for blockage or deterioration. See vent installation instructions.
- MAINTENANCE – ELECTRIC MOTORS
  - Motors are permanently lubricated and need no lubrication. Keep fan and motor free of dust and dirt clean annually.

# WIRING DIAGRAM 1001FA/VA

## WIRING DIAGRAM



## BLOCK DIAGRAM



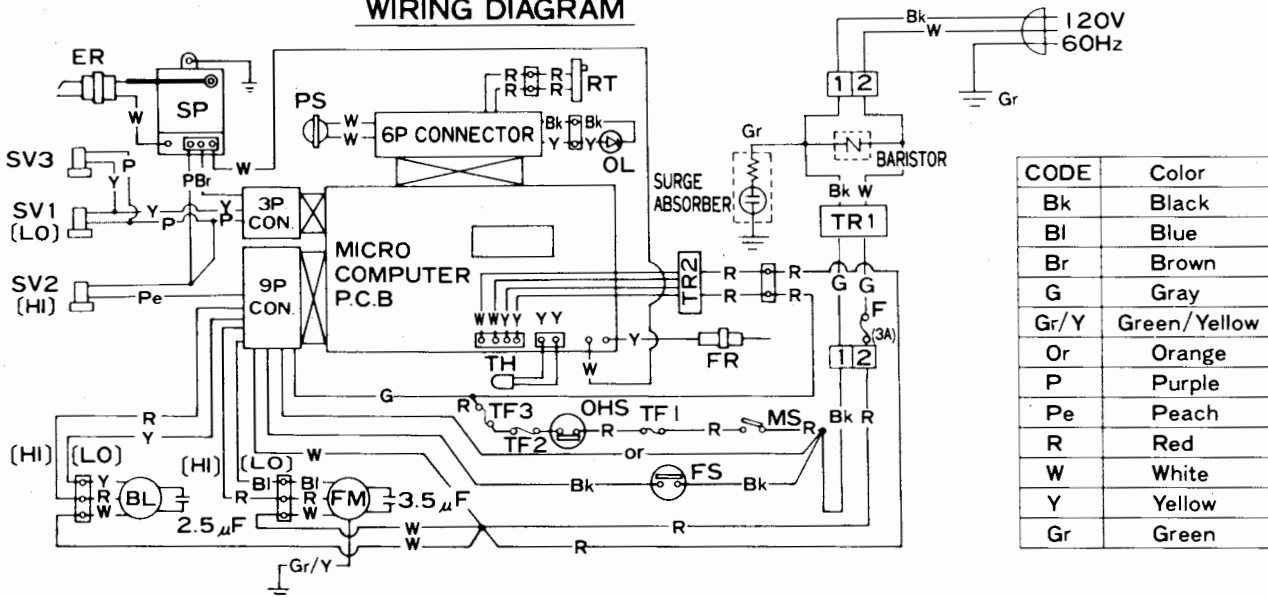
CODE	COLOUR
bk	black
bl	blue
br	brown
gr/y	green/yellow
gy	grey
or	orange
r	red
w	white
y	yellow
gr	green

MARK	PART NAMES
SP	SPARKER
PS	PRESSURE SWITCH
ER	ELECTRODE
SV <sub>1-3</sub>	SOLENOID VALVE <sub>1-3</sub>
RT	ROOM TEMP. CONTROL
TH	THERMISTOR
BL	COMBUSTION FAN MOTOR
FM	CONVECTION FAN MOTOR
TR <sub>1-2</sub>	TRANSFORMER <sub>1-2</sub>
MS	MAIN SWITCH
F	CURRENT FUSE
FS	FAN SWITCH
OHS <sub>1-2</sub>	OVERHEAT SWITCH <sub>1-2</sub>
FR <sub>1-3</sub>	FLAME ROD <sub>1-3</sub>
TF <sub>1-2</sub>	THERMAL FUSE
r <sub>1-9</sub>	RELAY <sub>1-9</sub>

# WIRING DIAGRAM 551FA

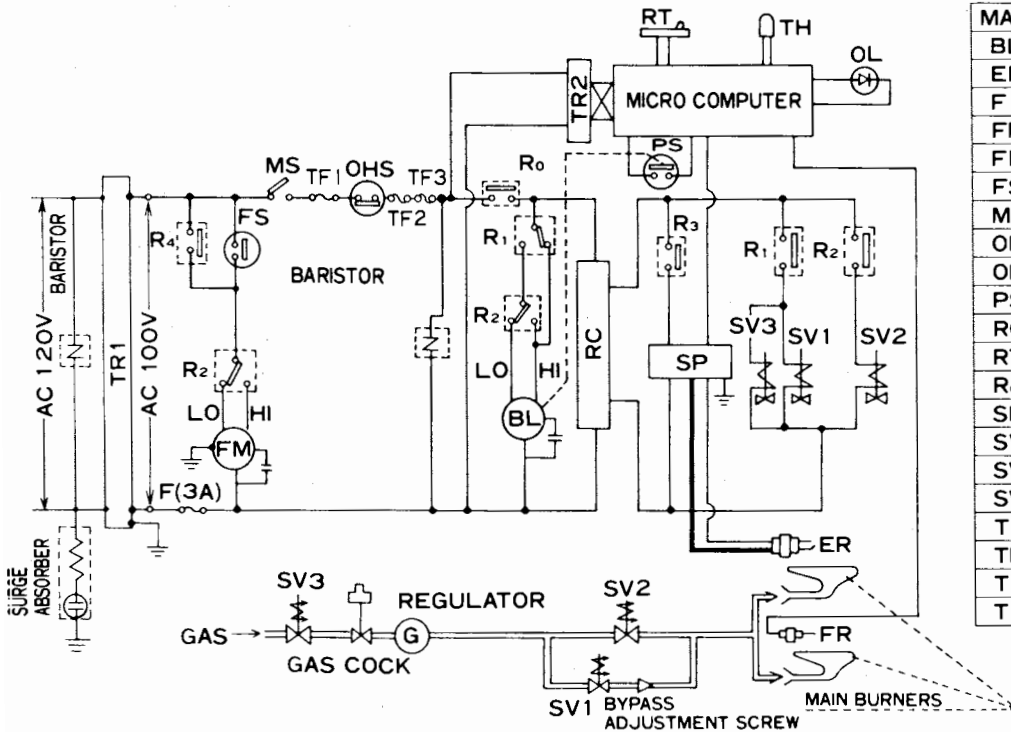
\* Supply lead must only be replaced with Rinnai part.

## WIRING DIAGRAM



CODE	Color
Bk	Black
Bl	Blue
Br	Brown
G	Gray
Gr/Y	Green/Yellow
Or	Orange
P	Purple
Pe	Peach
R	Red
W	White
Y	Yellow
Gr	Green

## BLOCK DIAGRAM



MARK	PARTS NAME
BL	BLOWER AIR FAN
ER	ELECTRODE
F	CURRENT FUSE
FM	CONVECTION FAN
FR	FLAME ROD
FS	FAN SWITCH
MS	MAIN SWITCH
OHS	OVERHEAT SWITCH
OL	OPERATION LAMP
PS	AIR PRESSURE SWITCH
RC	RECTIFICATION CIRCUIT
RT	ROOM TEMP CONTROL
R <sub>0-4</sub>	RELAY
SP	SPARKER
SV1	SOLENOID VALVE 1
SV2	SOLENOID VALVE 2
SV3	SOLENOID VALVE 3
TF	THERMAL FUSE
TH	THERMISTOR
TR1	TRANSFORMER 1
TR2	TRANSFORMER 2

It is recommended all wire replacement be performed by a factory service representative. However, if wire replacement is required 105°C wire must be used.

## WARRANTY INFORMATION

Please record below:

Purchased from:

Address:

Phone:

Date of purchase:

Model No.:

Serial No.:

Installed by:

Installer's license No.:

Address:

Phone:

Date of installation:

The installer is responsible for your heater's correct installation.  
Keep in a safe place for your records.

### CONSUMER'S NOTICE:

Consumer product safety commission suggest all heating systems should be checked annually to be certain venting system is free of foreign matter, and that safety and electrical component be checked for safe operation.

See maintenance page 23.

## LIMITED WARRANTY RINNAI FURNACE

Rinnai America corporation warrants the products described in this warranty, including any parts and components thereof, to be free from any defects in materials and workmanship for the period specified below, subject to the terms specified in this warranty. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state or country. This warranty extends to the original purchaser and applies to products purchased and retained for use within the U.S.A. and Canada. This warranty applies to furnaces manufactured after June 1, 1995.

MODEL	PERIOD OF COVERAGE	TYPE OF FAILURE
RHFE-431FA RHFE-551FA RHFE-556FA/FTRA RHFE-1001FA/VA	10 YEARS LIMITED* FROM DATE OF PURCHASE	DEFECTIVE HEAT EXCHANGER
RHFE-431FA RHFE-551FA RHFE-1001FA/VA	FIVE YEARS FROM DATE	DEFECTIVE MATERIALS
RHFE-431FA RHFE-551FA RHFE-1001FA/VA	TWO YEARS FROM DATE OR PURCHASE**	DEFECTIVE MATERIALS AND WORKMANSHIP

In the event of a malfunction, operational difficulty or failure of the product, or any parts or components, during the warranty term, resulting from defects in materials of workmanship Rinnai will remedy the malfunction, operational difficulty, or failure. The remedy will consist of repair or replacement of the product (including payment of reasonable shipping costs), or refund of the purchase price, at the option of Rinnai. You may obtain the benefits of warranty coverage by returning the product to a qualified Rinnai servicing agent for the appropriate repair or replacement. All warranty service and/or replacement of parts must be performed for you by a servicing agent which has been qualified by Rinnai or its authorized distributor. Any such warranty replacement or repair shall be subject to the terms and conditions of this warranty for the remainder of the original period of coverage. In order to obtain the name and location of the qualified Rinnai servicing agent closest to you, please write Rinnai at the address shown on the back side of the warranty card or call Rinnai at 1-800-621-9419 in U.S.A. and Canada.

This warranty does not cover any failure, operational difficulty, or malfunction due to accident, abuse, misuse, alteration, acts of God, misapplication, improper installation or improper maintenance or service, or from any cause other than defects in materials or workmanship.

If any part of your Rinnai EnergySaver fails because of a manufacturing defect in material or workmanship within two years from the date of original purchase, Rinnai will furnish without charge the required replacement part, shipping and reasonable labor. In addition for the following three years, Rinnai will furnish without charge, the required replacement parts and shipping costs.

In addition, if the heat exchangers fail because of a manufacturing defect in material or workmanship within the third through the fifth year, from the date of original purchase, Rinnai will furnish without charge replacement heat exchangers, shipping costs included. Related service labor, import duties or custom fees and diagnosis calls are not included.

In addition, if the heat exchangers fail because of a manufacturing defect in material or workmanship within the sixth through tenth year from the date of original purchase, Rinnai will make the following allowances, based on retail cost, toward purchase of replacement heat exchangers. Any local transportation, related service labor, import duties or customs fees and diagnosis calls are not included.

Year of Failure	Allowance
6	\$ 50.00—U.S.A.
7	\$ 40.00—U.S.A.
8	\$ 30.00—U.S.A.
9	\$ 20.00—U.S.A.
10	\$ 10.00—U.S.A.

Any implied warranties of merchantability and fitness applicable to the equipment are limited in duration to the period of coverage of this express written warranty. Some states/provinces do not allow limitations on how long an implied warranty lasts, so this limitation may not apply to you. Rinnai is not liable for any special, indirect or consequential damages; some states/provinces do not allow the exclusion or limitation of incidental or consequential damages, so this limitation or exclusion may not apply to you.

Rinnai does not authorize any person or company to assume for it any other obligation or liability in connection with the sale, application, engineering, installation, use, removal, return, or replacement of its products; and no such representations are binding on Rinnai. The Warranty Registration Card provided below should be returned within two weeks of purchase to help Rinnai better serve you. However, the return of the Registration Card is not necessary in order to validate this warranty. Proof of purchase with date and serial number is required.

\*\*Effective 1993, the labor warranty may be extended 3 additional years for a total of 5 years full warranty. Mail \$25.00 per year to Rinnai with the completed warranty card below.

**NOTE: GEORGIA RESIDENTS PLEASE INCLUDE 6% STATE SALES TAX**

**FOR EXTENDED WARRANTY - PLEASE REMIT PAYMENT WITH THIS CARD  
PLEASE RETURN THIS CARD TO RINNAI WITHIN TWO WEEKS OF PURCHASE**

# PARTS LIST

RHFE-1001FA/VA ..... 31

RHFE-551FA ..... 46

\_\_\_\_\_  
 NAME TITLE  
 \_\_\_\_\_  
 COMPANY  
 \_\_\_\_\_  
 ADDRESS  
 \_\_\_\_\_  
 CITY STATE ZIP  
 \_\_\_\_\_  
 PHONE NUMBER



NO POSTAGE  
 NECESSARY  
 IF MAILED  
 IN THE  
 UNITED STATES



**BUSINESS REPLY MAIL**  
 FIRST CLASS PERMIT NO.271 LAGRANGE, GA

POSTAGE WILL BE PAID BY ADDRESSEE

**Rinnai America Corp.**  
**1662 Lukken Industrial Drive West**  
**LaGrange GA 30240-9867**



EXTENDED WARRANTYS AVAILABLE SEE WARRANTY

**Rinnai FURNACE  
WARRANTY REGISTRATION CARD**

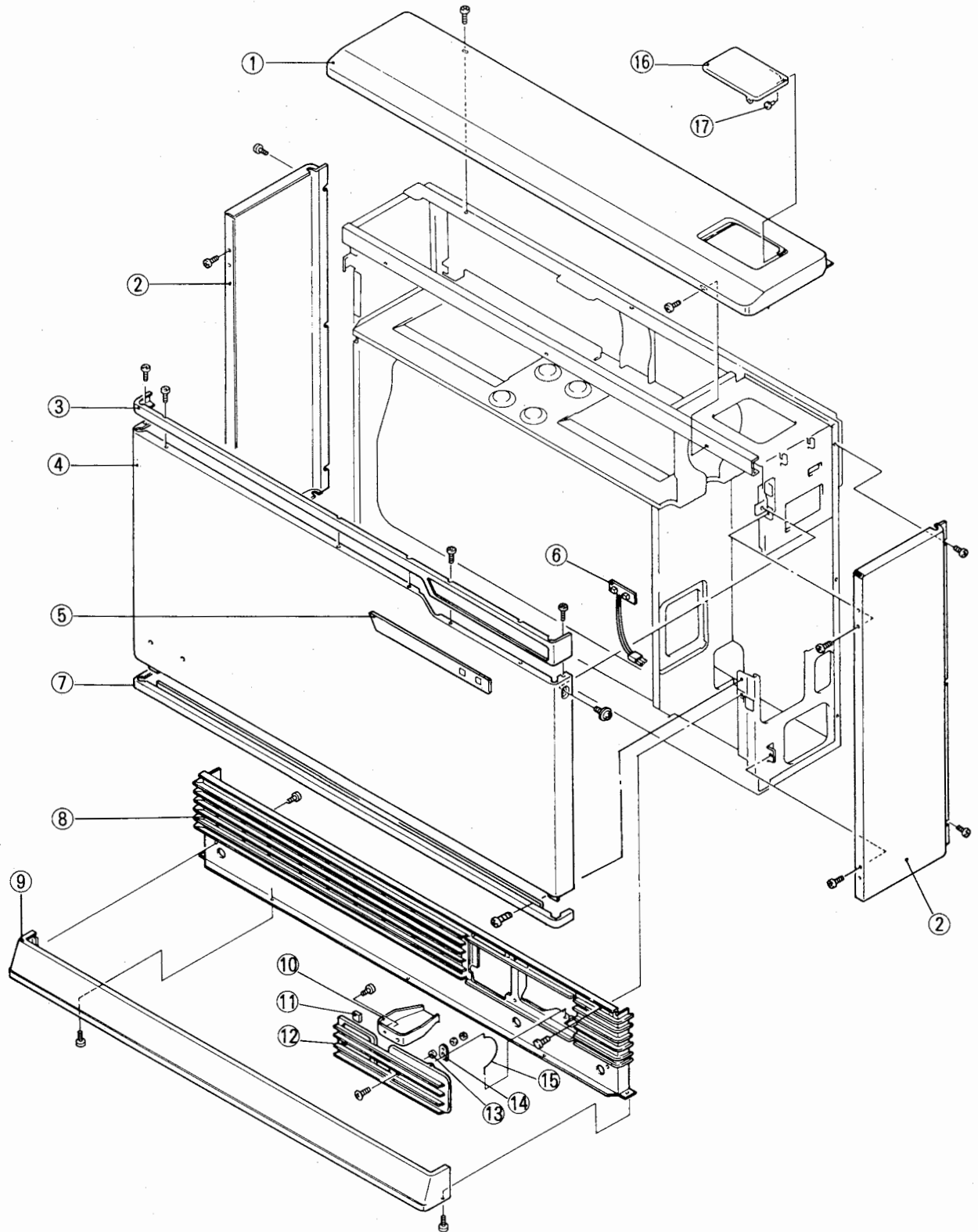
Owner's Name \_\_\_\_\_  
 Installation Address \_\_\_\_\_  
 City, State, Zip \_\_\_\_\_  
 Dealer's Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City, State, Zip \_\_\_\_\_  
 Type of Dealer \_\_\_\_\_  
 Model \_\_\_\_\_ Type of Gas \_\_\_\_\_  
 Serial No. \_\_\_\_\_  
 Date Purchased \_\_\_\_\_  
 Comments: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

**Rinnai**

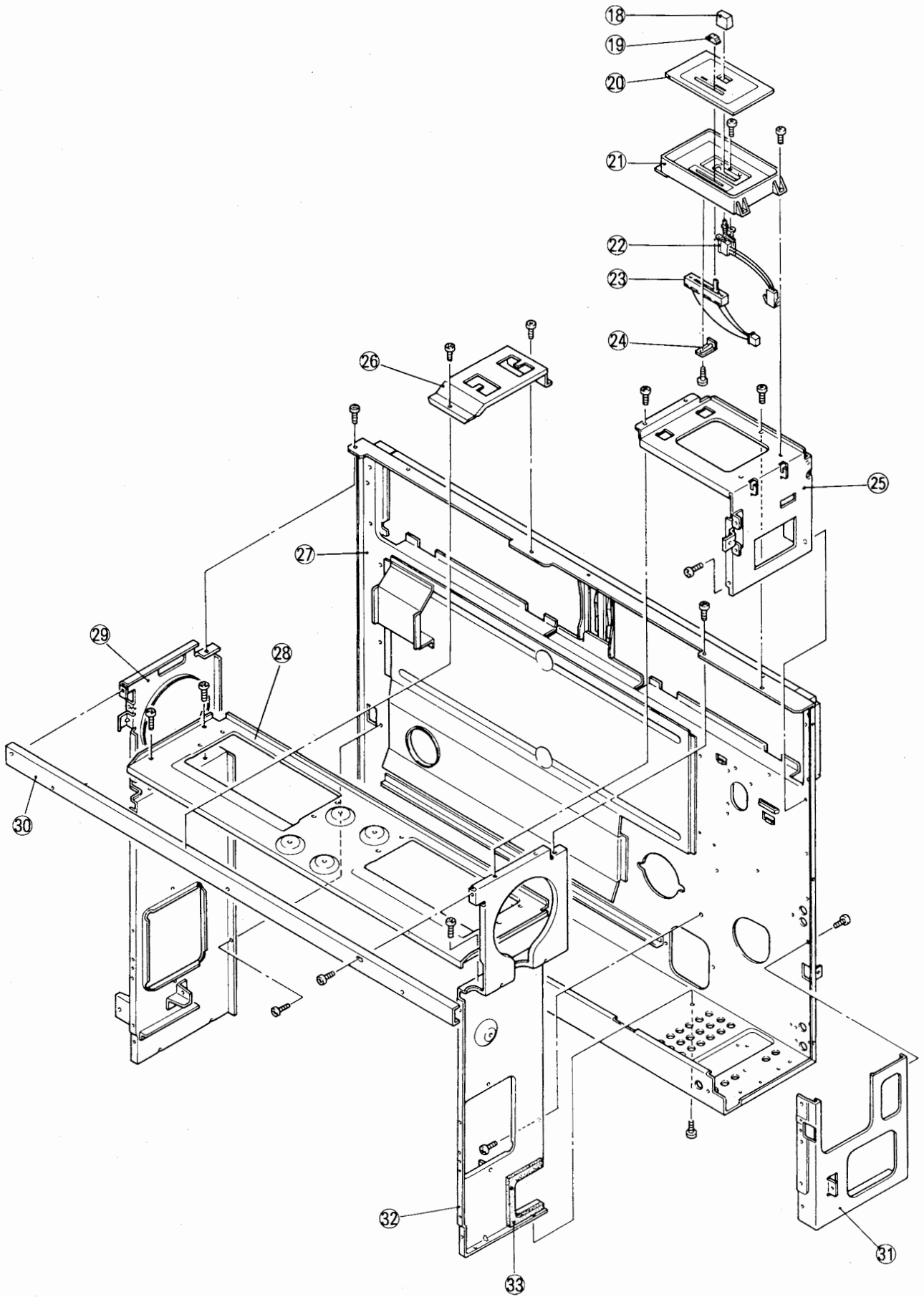
**AMERICA CORPORATION**  
 1662 Lukken Industrial Drive West,  
 La Grange, Georgia 30240  
 Phone:1-800-621-9419

PLEASE RETURN THIS CARD TO RINNAI WITHIN TWO WEEKS OF PURCHASE

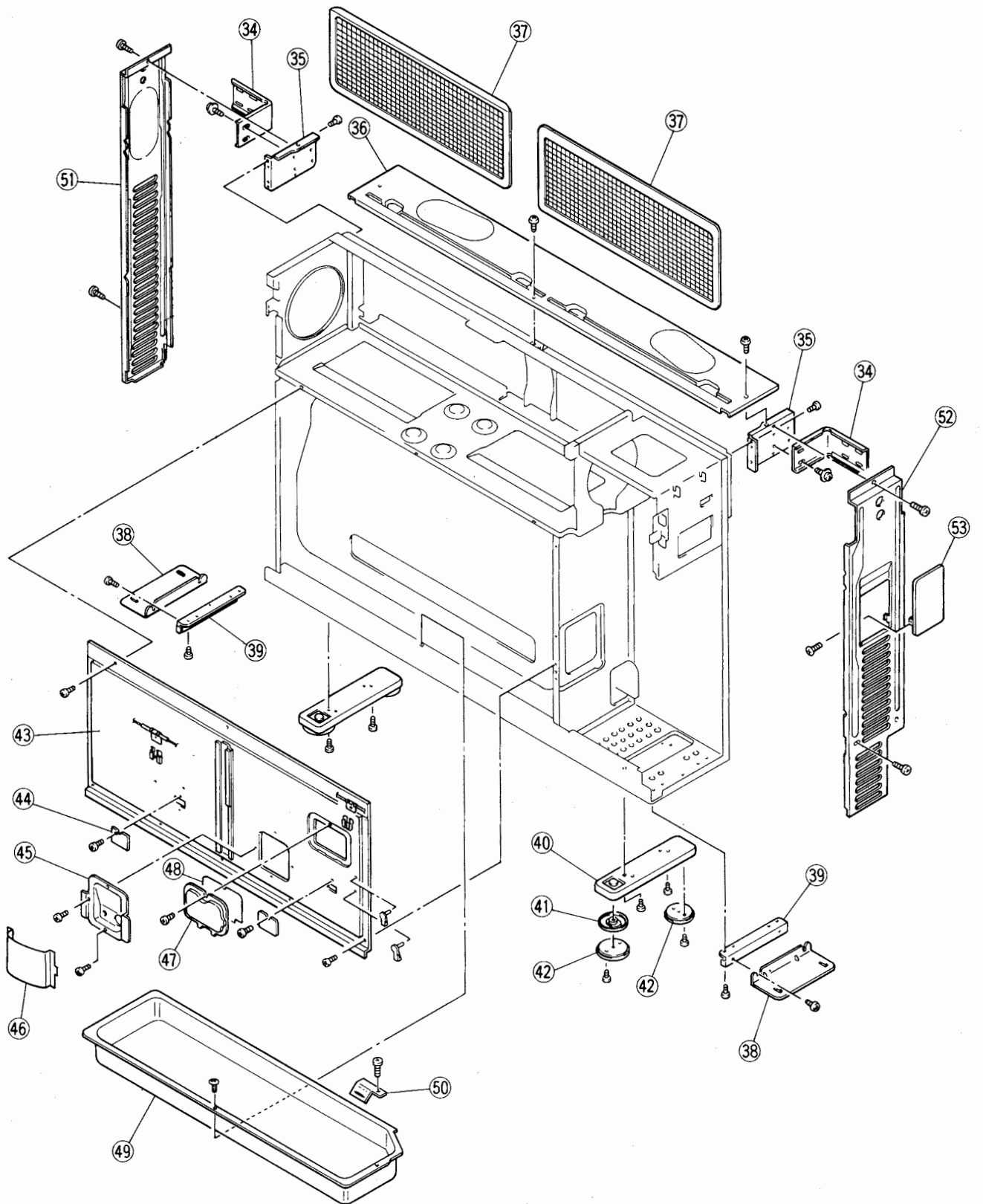




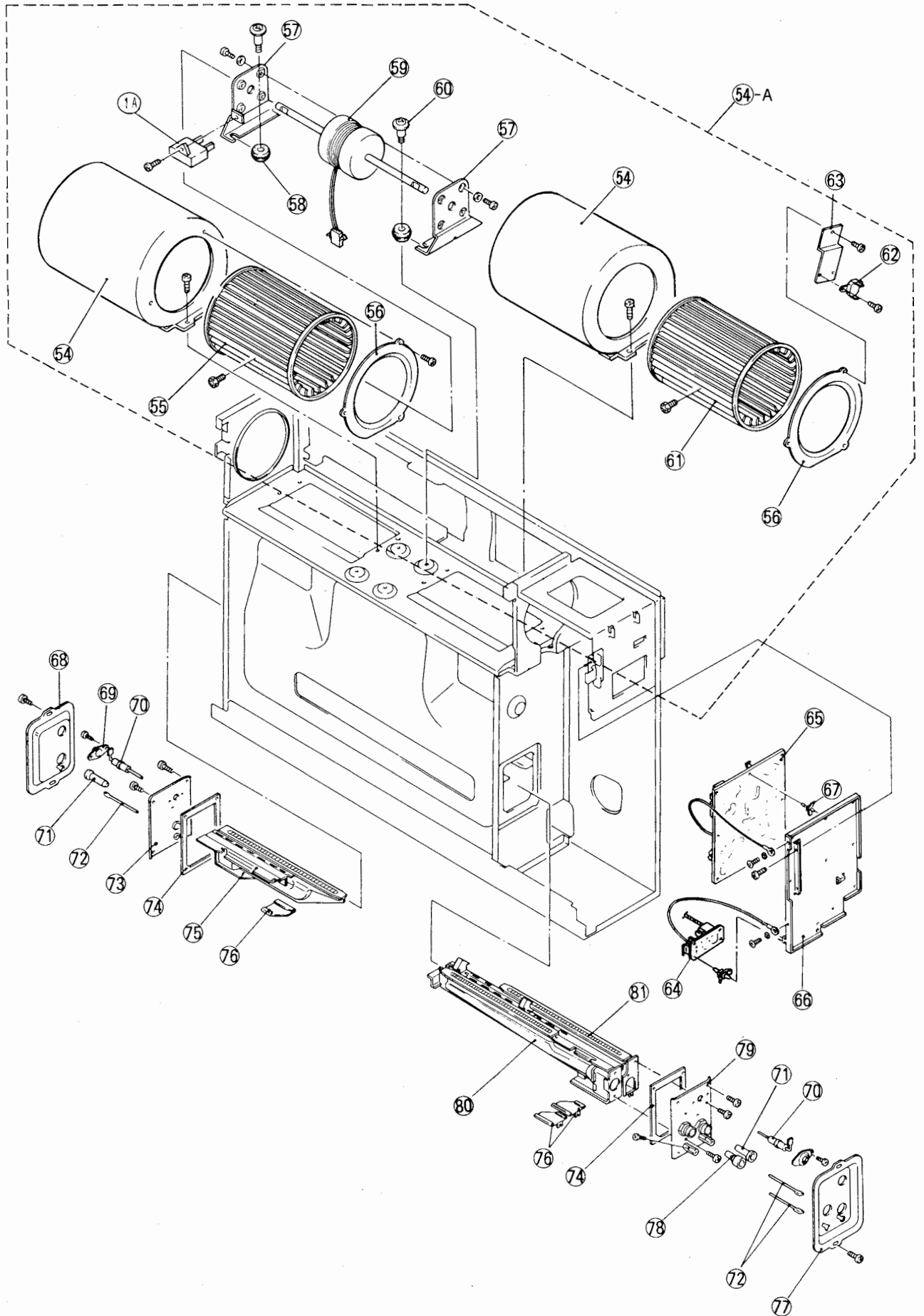






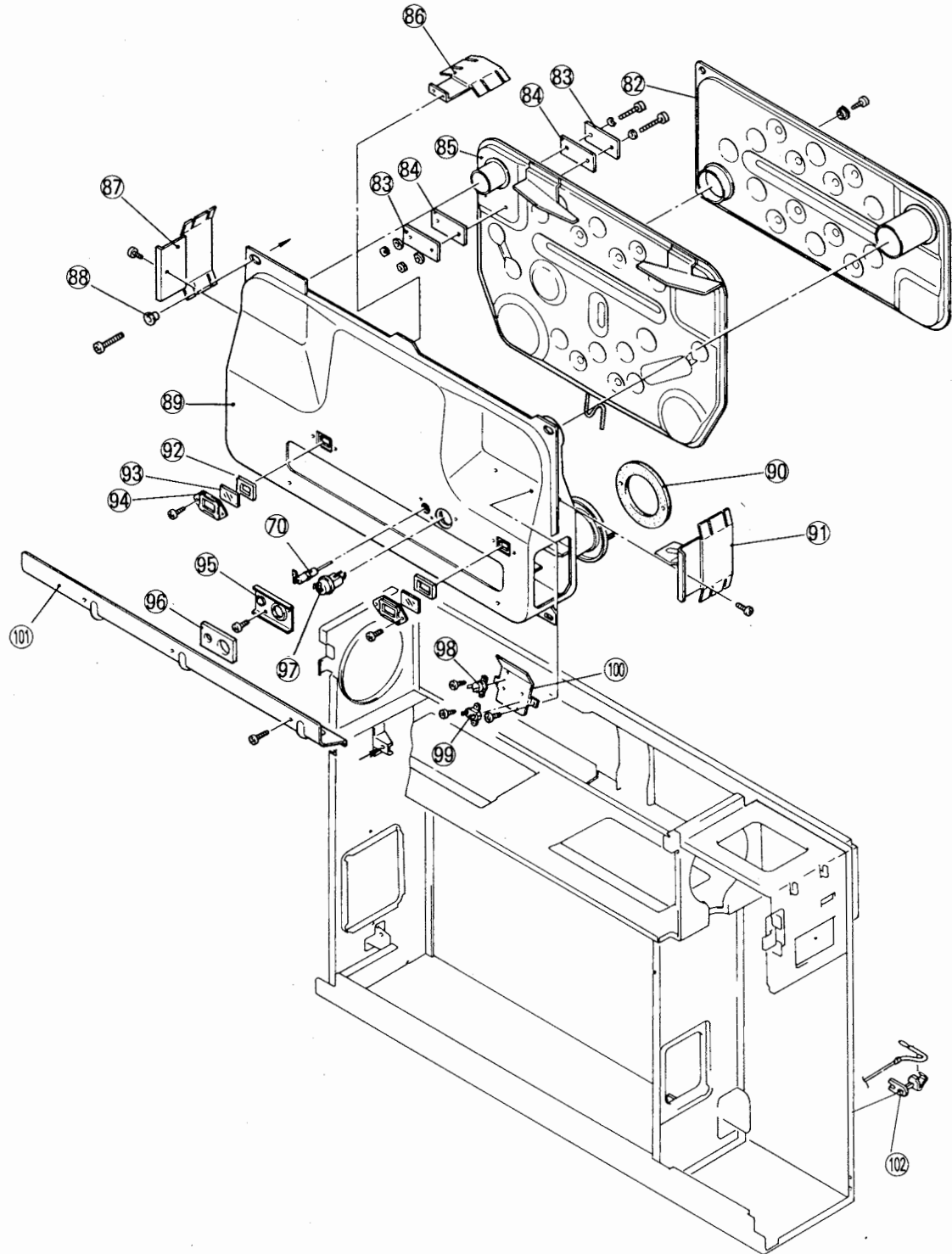




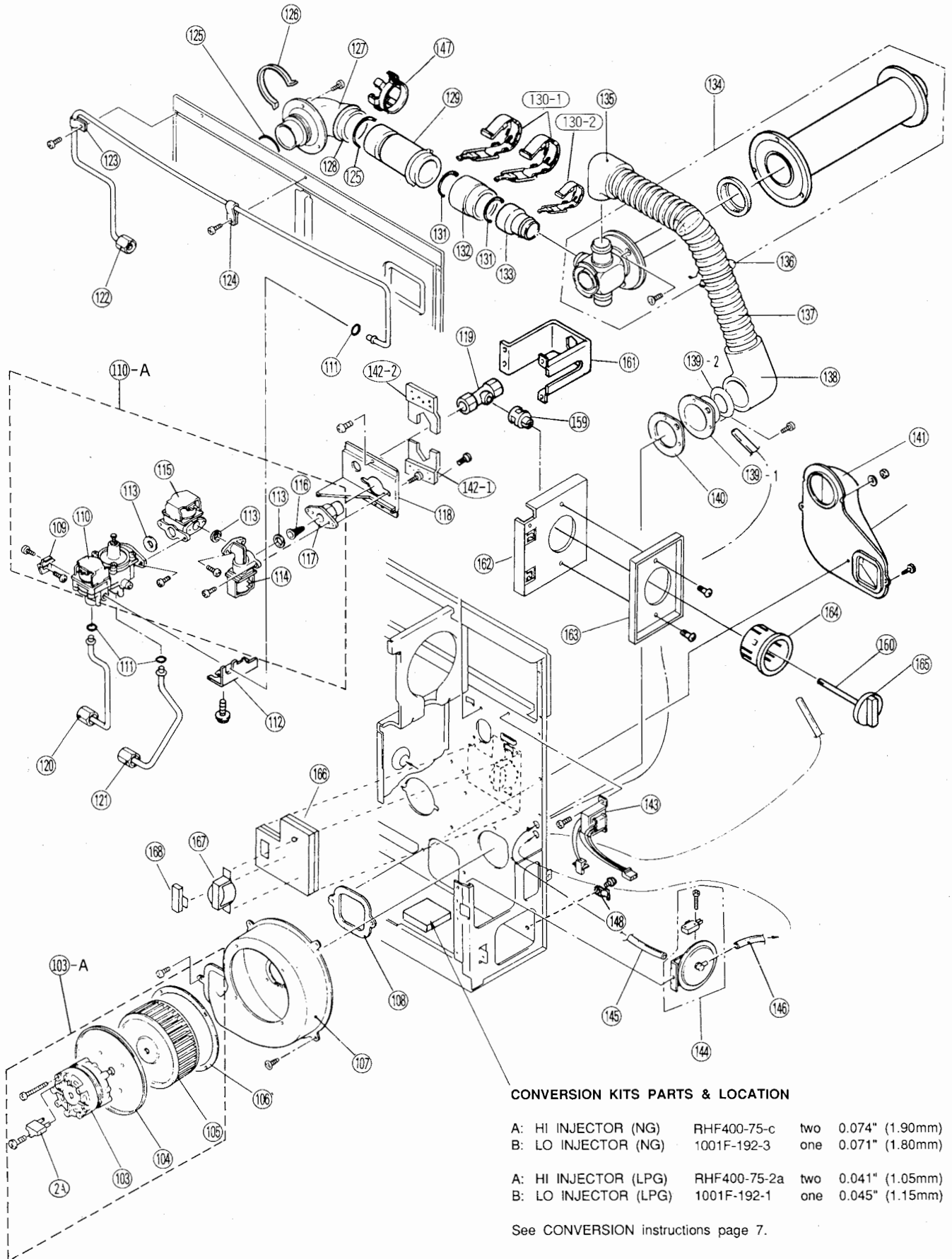


NO.	RANK	PARTS NAME	PARTS NO.	QTY	REMARKS
54	C	CONVECTION FAN CASE ASS'Y	1001F-152X03	2	
55	B	L/H CONVECTION FAN A	RHF1000-164N-a	1	
56	C	FAN CASE LID	RHF1000-89X01	2	
57	C	MOTOR BRACKET	550F-0903	2	
58	B	CUSHION RUBBER	RCK-8273	4	
59	B	CONVECTION FAN MOTOR	ES-02045X01	1	
60	C	S TIGHT SCREW	CP-30310	4	
61	B	R/H CONVECTION FAN B	RHF1000-164N-b	1	
62	B	OVER HEAT SWITCH	ES-01131	1	
63	C	OHS BRACKET	1001F-217	1	
64	B	SPARKER	EI-118	1	
65	B	PCB	ED-126	1	
66	C	PCB BASE	1001F-005X02	1	
67	C	LOCKING SPACER	ES-10018	13	
68	C	L/H BLANKING PLATE	1001F-042	1	
69	C	ELECTRODE PLATE	RHF250-038	2	
70	B	FLAME ROD	1001F-104-2X02	3	
71-1	B	HI INJECTOR (NG)	RHF400-75-c	2	
71-2	B	HI INJECTOR (LP)	RHF400-75-2a	2	
72	C	AERATION ROD	RHF250-076	3	
73	C	L/H BURNER FIXING PANEL	1001F-149	1	
74	B	BURNER SEAL	1001F-049	2	
75	B	L/H BURNER ASS'Y (LP)	1001F-150-2X05	1	
76	B	AERATION SHUTTER	RHF250-075X02	3	
77	C	R/H BLANKING PLATE	1001F-041	1	
78-1	B	LO INJECTOR (NG)	1001F-192-3	1	
78-2	B	LO INJECTOR (LP)	1001F-192-1	1	
79	C	R/H BURNER FIXING PANEL	1001F-148	1	
80	B	R/H BURNER ASS'Y FRONT	1001F-147-2X01	1	
81	B	R/H BURNER ASS'Y BACK	1001F-144-2X05	1	
1A		CAPACITOR	SJ22B405UEF	1	4 $\mu$ F









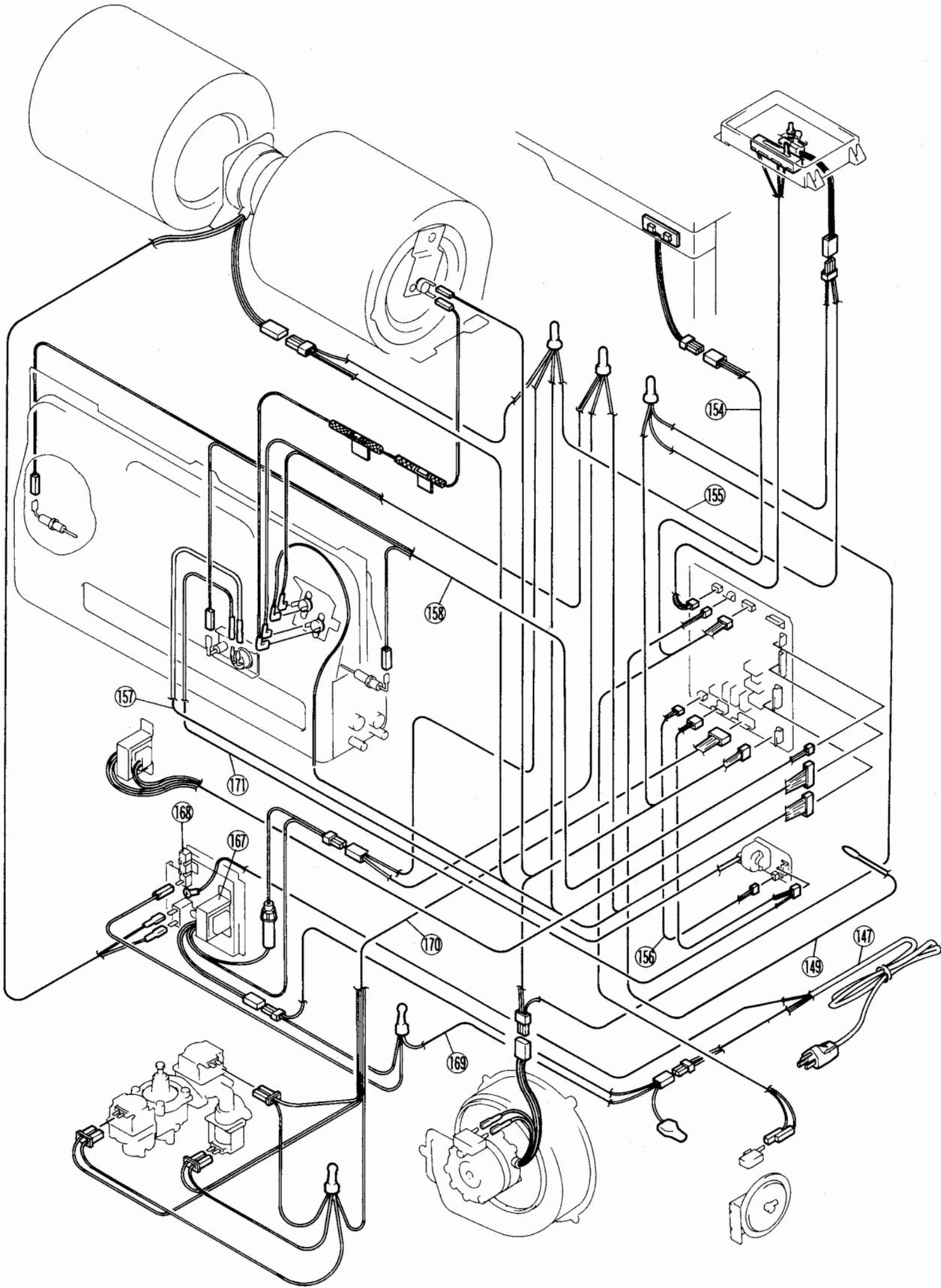
**CONVERSION KITS PARTS & LOCATION**

A: HI INJECTOR (NG)	RHF400-75-c	two	0.074" (1.90mm)
B: LO INJECTOR (NG)	1001F-192-3	one	0.071" (1.80mm)
A: HI INJECTOR (LPG)	RHF400-75-2a	two	0.041" (1.05mm)
B: LO INJECTOR (LPG)	1001F-192-1	one	0.045" (1.15mm)

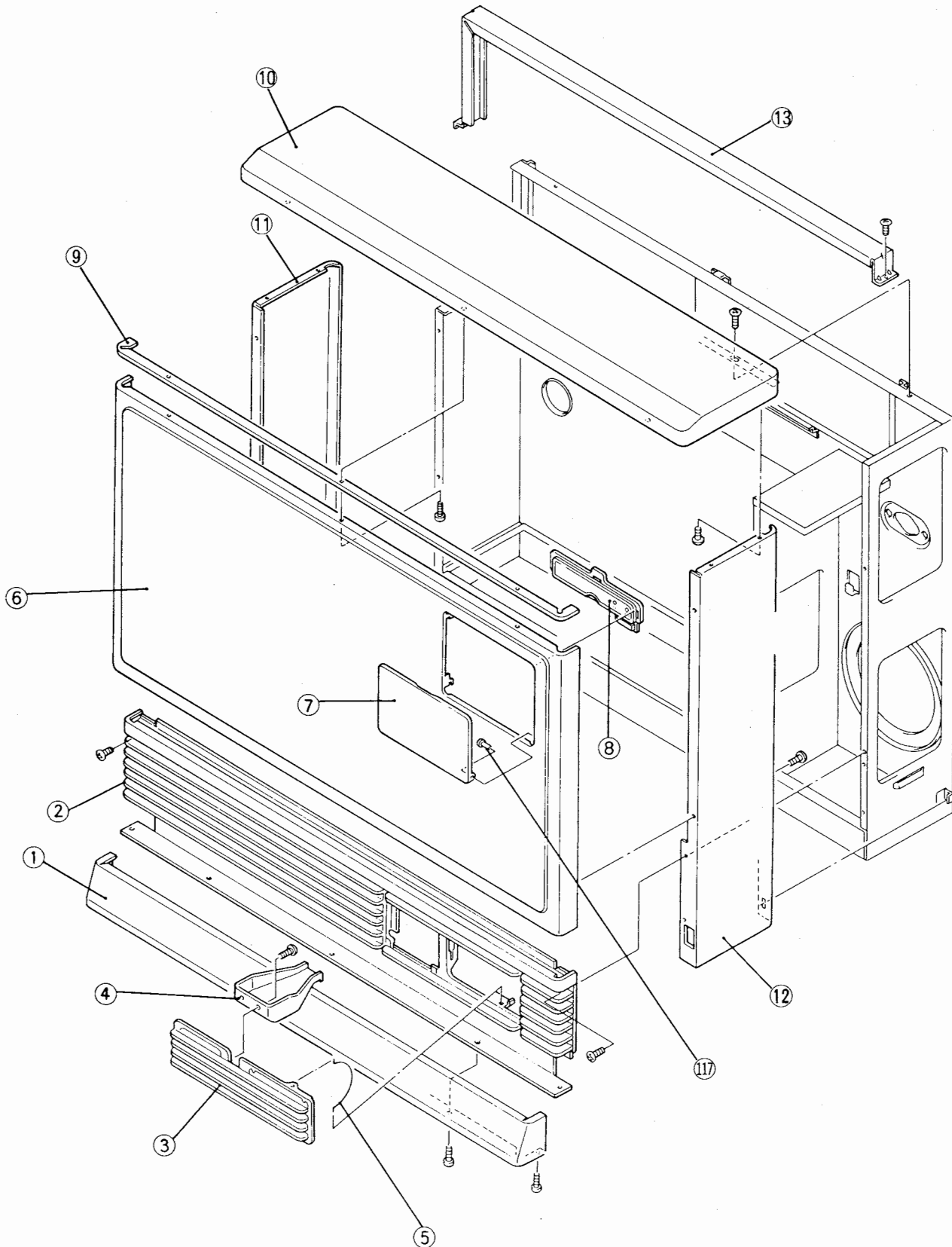
See CONVERSION instructions page 7.



NO.	RANK	PARTS NAME	PARTS NO.	QTY	REMARKS
125	B	"O" RING A	RHF1000-142-a	2	
126	C	ELBOW COVER STOPPER	RHF1000-145	2	
127	C	FIBRE COVER	1001F-111X03	1	
128	C	FLUE ELBOW	1001F-131	1	
129	C	FLUE SLIDING TUBE	1001F-132-2	1	
130-1	C	PIPE STOPPER A	1001F-250X01	2	
130-2	C	PIPE STOPPER S	1001F-1730X01	1	
131	B	"O" RING B	RHF1000-142-b	2	
132	C	FLUE EXTENSION	1001F-133-2	1	
133	C	FLUE ADAPTOR	1004F-520	1	
134	B	VENT ASS'Y		1	SEE PAGE 56
135	B	AIR INLET ELBOW	RHF1000-132	1	
136	C	HOSE CLIP	RHF1000-119X01	1	
137	B	FLEXIBLE HOSE	RHF1000-130-d	1	
138	B	AIR INLET ELBOW	RHF1000-131	1	
139-1	C	AIR INLET ASS'Y	RHF1000-133X01	1	
139-2	B	RESTRICTOR	RHF1000-148X01	1	Ø28mm
140	B	AIR INLET SEAL	RHF1000-136	1	
141	C	AIR INLET DUCT	1001F-158X01	1	
142-1	C	GAS INLET STOPPER A	1001F-106-1	1	
142-2	C	GAS INLET STOPPER C	1001F-106-3X02	1	
143	B	TRANSFORMER	ES-14030X01	1	
144	B	AIR PRESSURE SWITCH	ES-13002	1	
145	B	PLASTIC TUBE/IN	1001F-184	1	
146	B	PLASTIC TUBE/OUT	1001F-108X01	1	
147	C	PIPE STOPPER E	1004F-401	1	

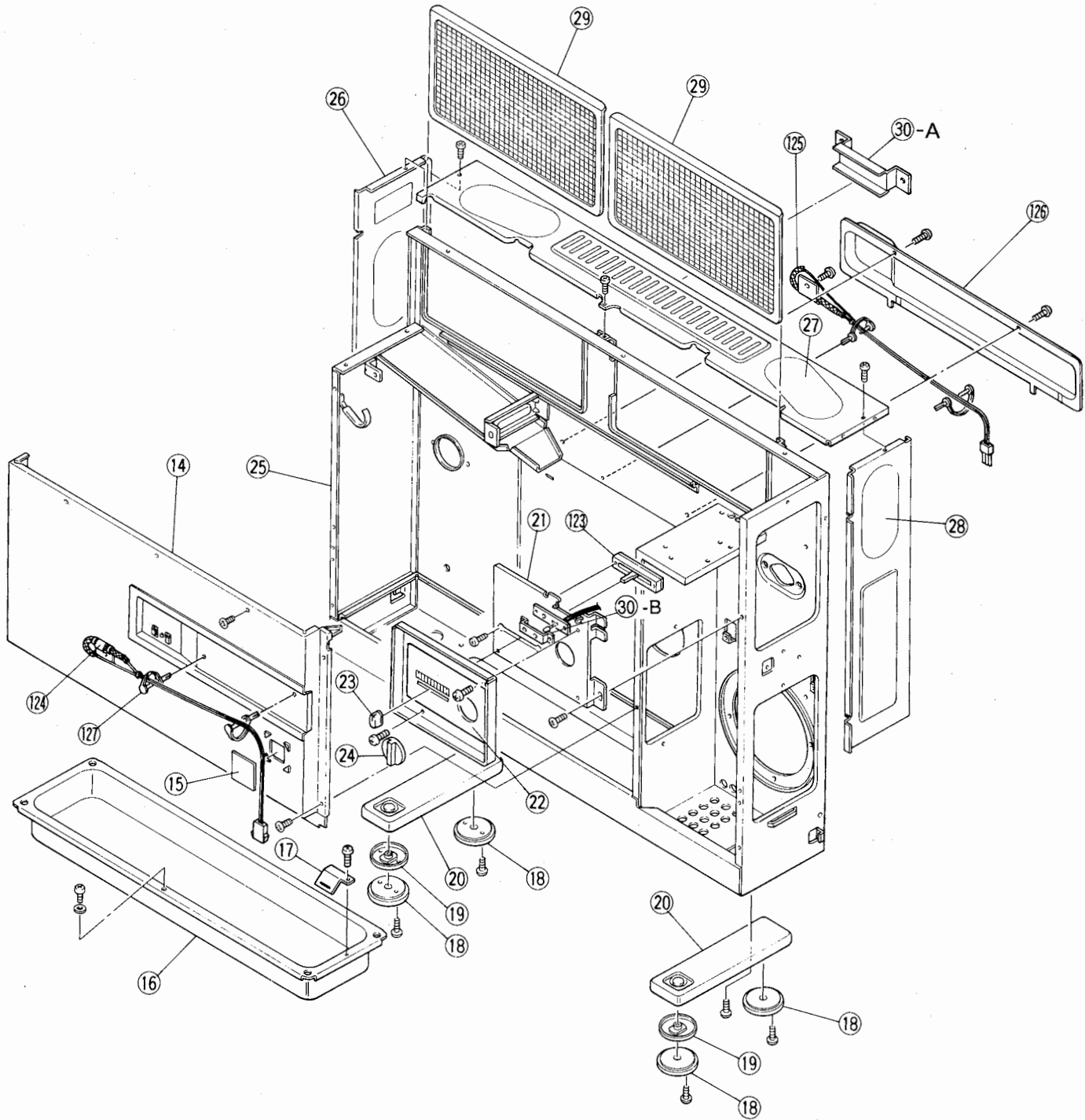




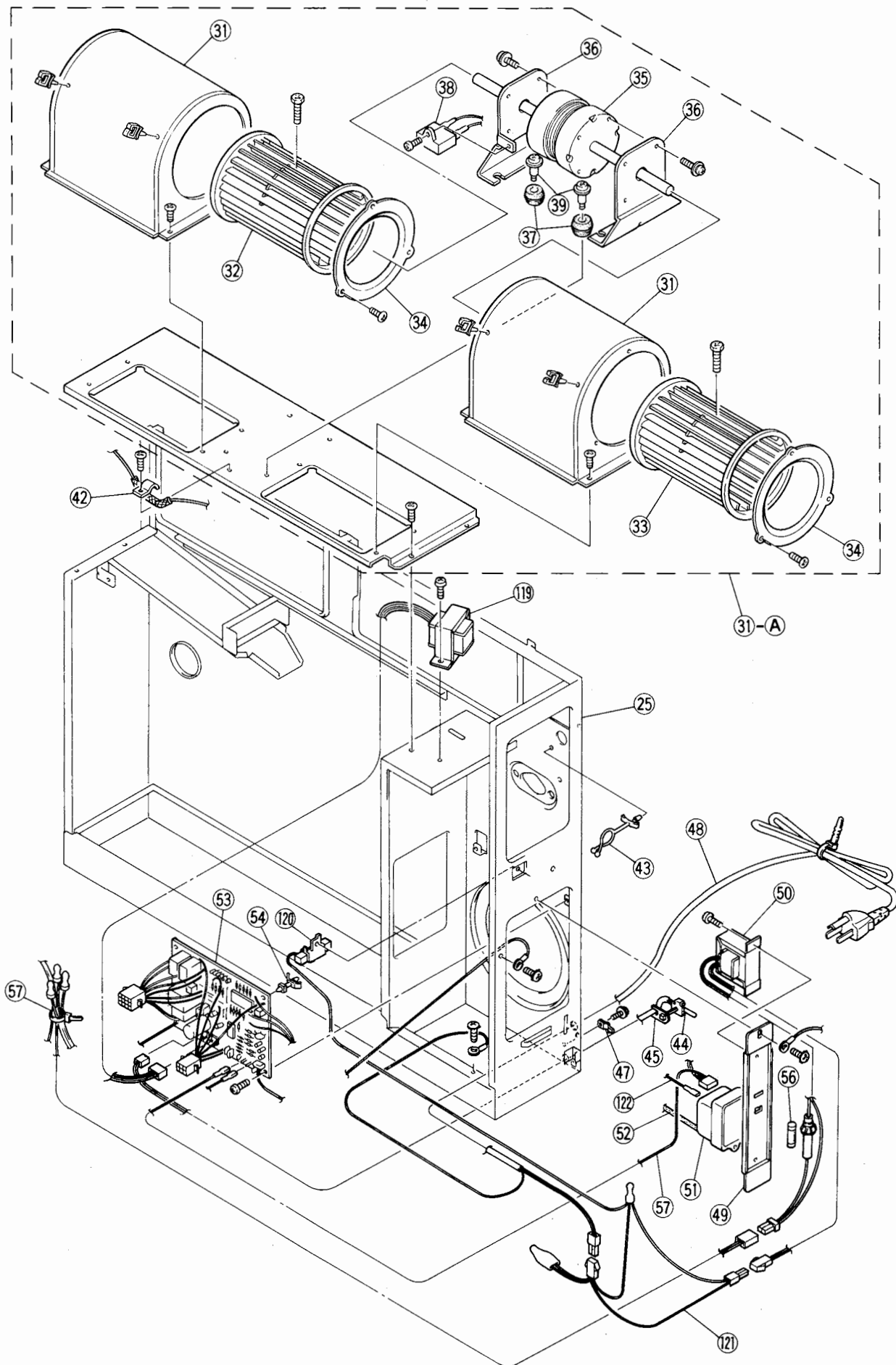




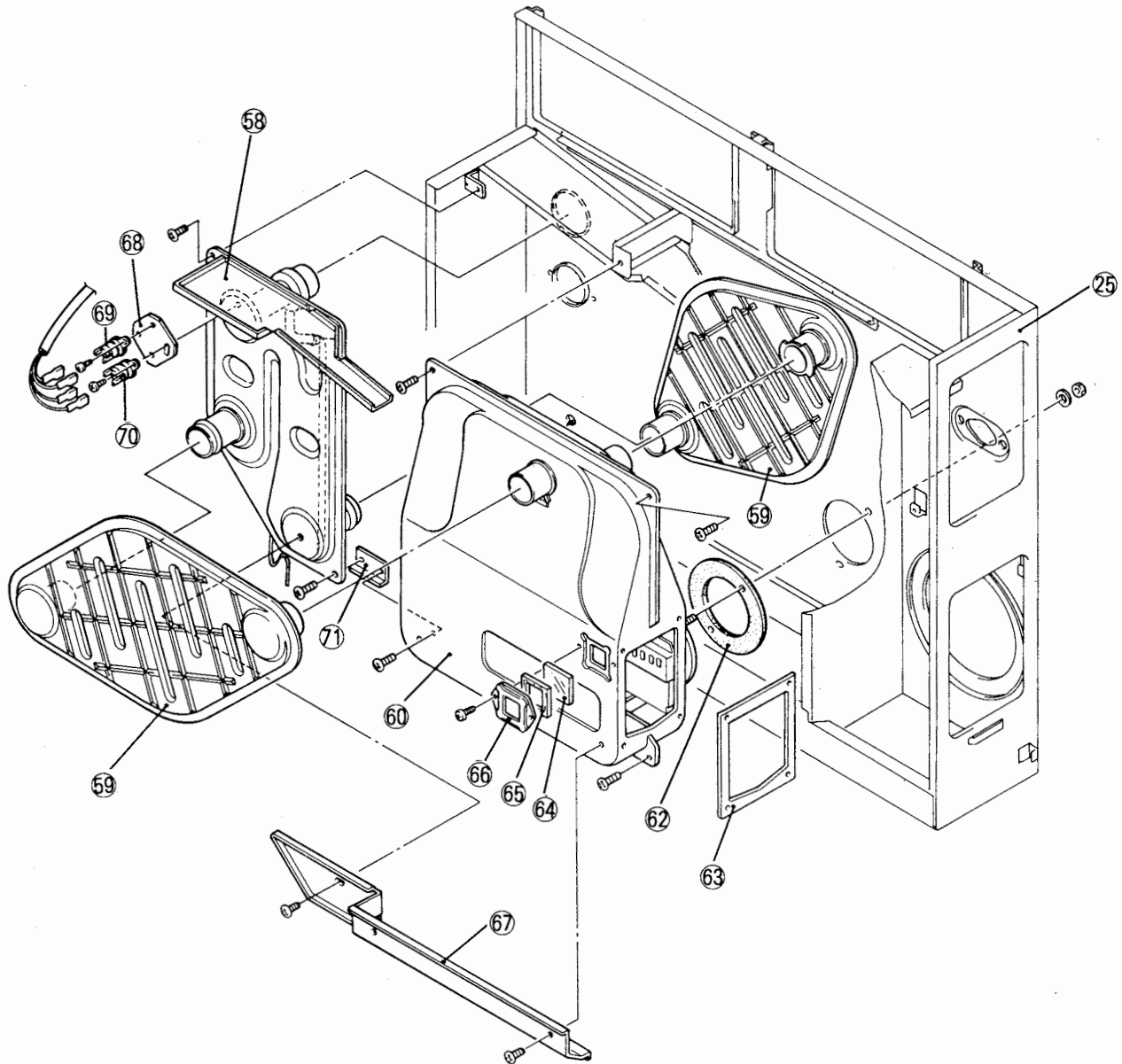




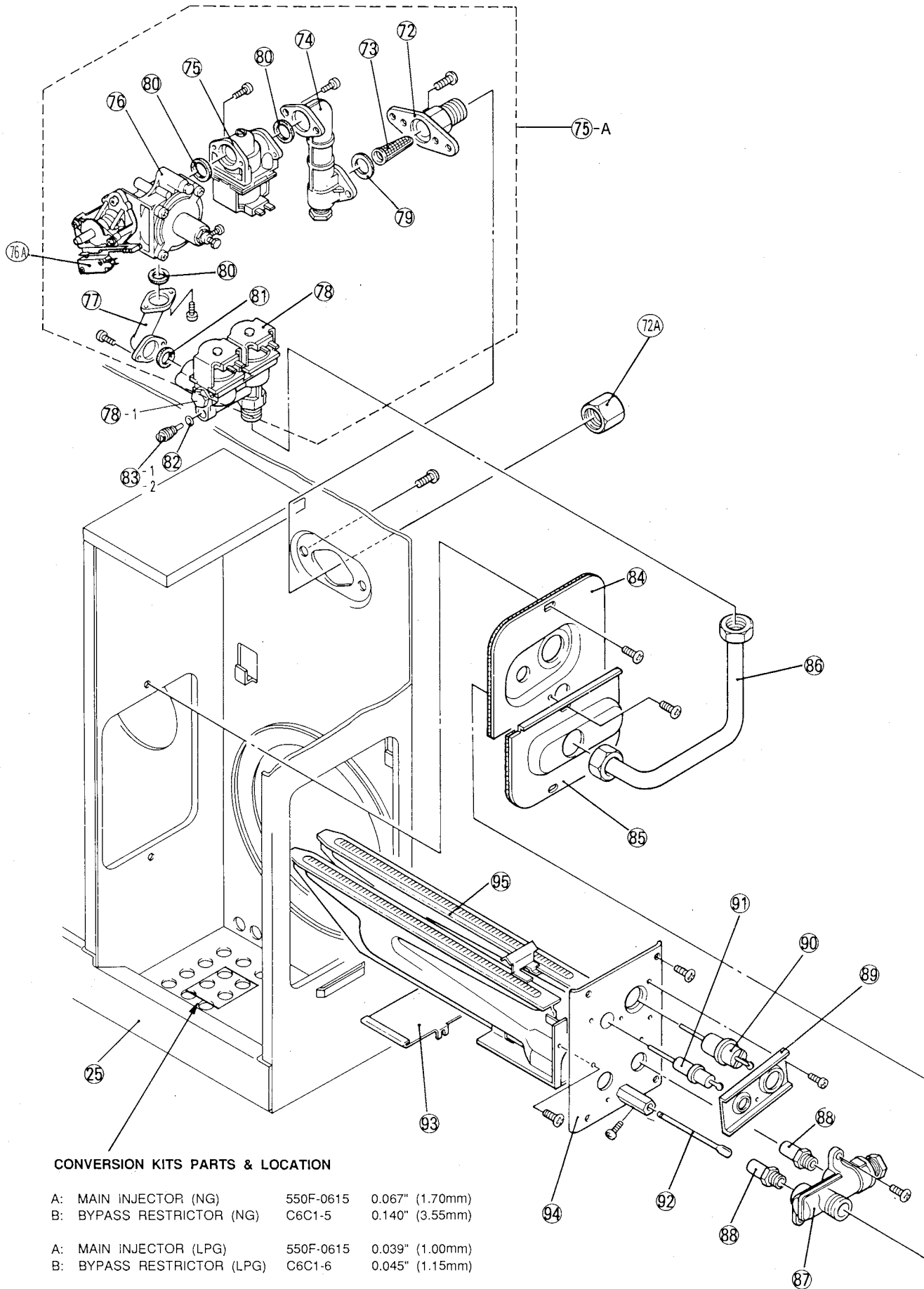




NO.	RANK	PARTS NAME	PARTS NO.	QTY	REMARKS
31		CONVECTION FAN CASE ASS'Y	550F-0904X03	2	
31-A		CONVECTION FAN ALL ASS'Y	551F-1401X04	1	
32		CONVECTION FAN (L)	550F-0909-b	1	
33		CONVECTION FAN (R)	550F-0909-a	1	
34		FAN CASE LID	550F-0908	2	
35		CONVECTION FAN MOTOR ASS'Y	ES-02043X01	1	
36		MOTOR BRACKET	550F-0903	2	
37		CUSHION RUBBER	RCK-8273	4	
38		CAPACITOR	SJ22B355UEF	1	
39		SCREW	CP-30310	4	
40		PARTITION PLATE	550F-0902X01	1	
41		FUSIBLE LINK		1	
42		WIRE HARNESS CLIP	RHF30-133	1	
43		CABLE CLIP	CP-90125-22	2	
44		THERMISTOR ASS'Y	550F-0807X02	1	
45		CLAMP	RC-312-628	1	
46		THERMISTOR SPACER	300FT-93	1	
47		CORD CLAMP	REH20-034	1	
48		POWER CORD	ES-08026	1	
49		TRANSFORMER BRACKET	550F-0806X03	1	
50		TRANSFORMER	ES-14026	1	
51		SPARKER	E1K-1X01	1	
52		H.T. LEAD B	1001F-1612-2	1	
53		P.C.B. ASS'Y	550F-0820X02	1	
54		LOCKING SPACER	ES-10014	2	
55		PIPE STOPPER F	305F-0013	1	
56		FUSE	ES-03001	1	
57		WIRE HARNESS	551F-1455	1	From April. '94
			551F-1405X07	1	







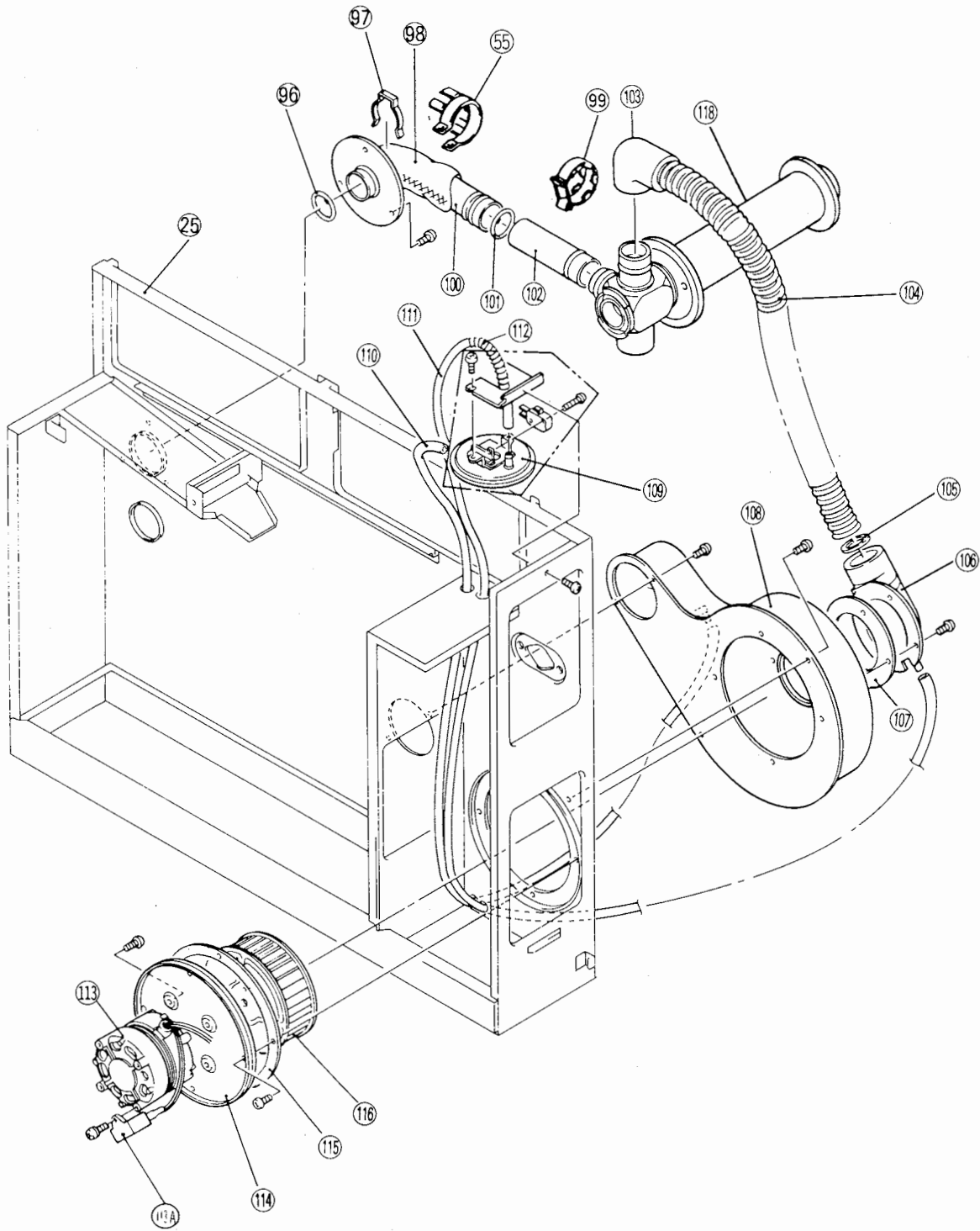
**CONVERSION KITS PARTS & LOCATION**

A: MAIN INJECTOR (NG)	550F-0615	0.067" (1.70mm)
B: BYPASS RESTRICTOR (NG)	C6C1-5	0.140" (3.55mm)
A: MAIN INJECTOR (LPG)	550F-0615	0.039" (1.00mm)
B: BYPASS RESTRICTOR (LPG)	C6C1-6	0.045" (1.15mm)

See CONVERSION instructions page 8.



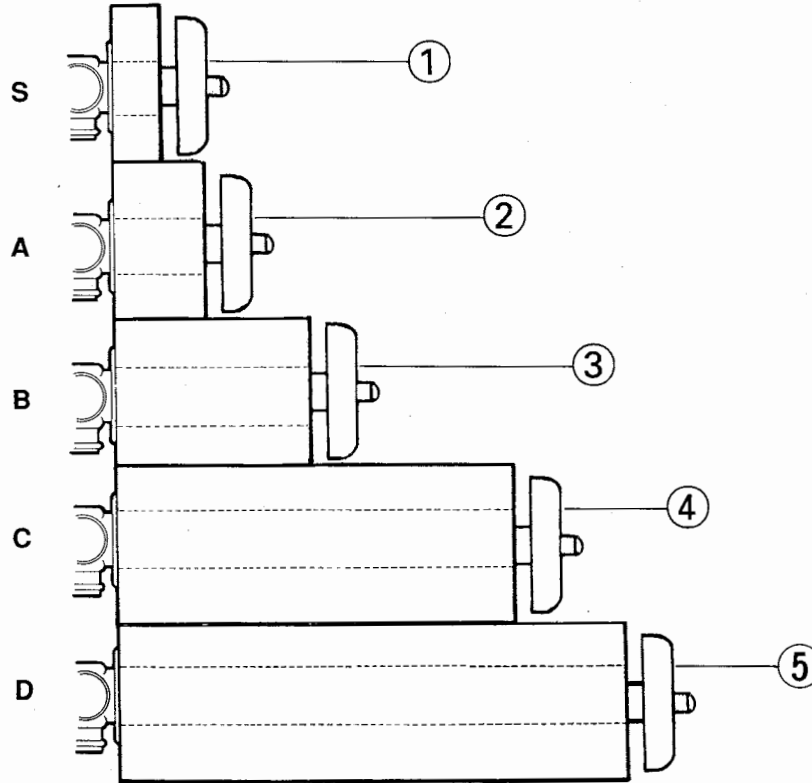
NO.	RANK	PARTS NAME	PARTS NO.	QTY	REMARKS
72		INLET FLANGE	551F-631	1	
73		GAS FILTER	RHF250-212X02	1	
74		INLET ELBOW	550F-0603X05	1	
75		SOLENOID VALVE ASS'Y	C23H-3-2	1	
75-A		GAS CONTROL ALL ASS'Y	PC-107X02	1	Except ⑦-1, ⑧, ⑨
76		REGULATOR/GAS COCK ASS'Y	C312-6	1	Inc. 76A
77		ELBOW	550F-0601	1	
78		SOLENOID VALVE ASS'Y	C23H-9-4	1	
78-1		1/8" TAP	AU39-965X01	1	
79		RUBBER SEAL	RC-3010	1	
80		RUBBER SEAL	C311-7X01	3	
81		RUBBER SEAL	ES-0617	1	
82		"O" RING	C6C1-9	1	
83-1		RESTRICTOR SCREW (NG)	C6C1-5	1	
83-2		RESTRICTOR SCREW (LP)	C6C1-6	1	
84		SEAL A	550F-0311X04	1	
85		SEAL B	550F-0314X01	1	
86		GAS TUBE ASS'Y	550F-0607	1	
87		MANIFOLD	550F-0605X01	1	
88-1		MAIN INJECTOR	550F-0615-1.70	2	NG
88-2		MAIN INJECTOR	550F-0615-1.00	2	LP
89		ELECTRODE MOUNTING PLATE	551F-121X01	1	
90		ELECTRODE	551F-125X01	1	
91		FLAME ROD	550F-0510	1	
92		AERATION ROD	RHF250-076	1	
93		AERATION SHUTTER	550F-0507	1	
94		BURNER FIXING PLATE	550F-0505X02	1	
95		MAIN BURNER ASS'Y	550F-0502-bX04	1	
76A		MICRO SWITCH	C10I-3-3	1	
72A		INLET FLANGE	551F-1425X01	1	



NO.	RANK	PARTS NAME	PARTS NO.	QTY	REMARKS
96		"O" RING E	RHF300-200-eX01	1	
97		CLAMP	302F-1206	2	
98		COVER	551F-019X01	1	
99		PIPE STOPPER C	1001F-1730X01	1	
100		FLUE ELBOW	551F-026	1	
101		"O" RING D	FOT-001-016-3X01	1	
102		FLUE SLIDING TUBE	550F-1104-2	1	
103		AIR INLET ELBOW	RHF300-52	1	
104		FLEXIBLE HOSE	RHF300-51	1	
105		RESTRICTOR F	RHF300F-80-f	1	
106		AIR INLET ASS'Y	RHF300F-78	1	
107		AIR INLET SEAL	RHF300F-79	1	
108		COMBUSTION FAN CASE	550F-1001	1	
109		AIR PRESSURE SWITCH	ES-13003	1	
110		AIR PRESSURE TUBE A	550F-0804-aX01	1	
111		AIR PRESSURE TUBE F	262F-1113-f	1	
112		DIAPHRAGM SPRING	LE-0236	1	
113		COMBUSTION FAN MOTOR	ES-02042X02	1	
113A		CAPACITOR	SJ22B255UEF	1	
114		COMBUSTION FAN MOTOR MOUNTING PANEL	RHF1000-91	1	
115		COMBUSTION FAN MOTOR SEAL	RHF1000-92	1	
116		COMBUSTION FAN	RHF1000-151N	1	
117		NYLON RIVET	550F-0418	2	SEE PAGE 44.
118		VENT ASS'Y		1	SEE PAGE 56.
119		TRANSFORMER	ES-14025-1X02	1	SEE PAGE 48.
120		SURGE ABSORBER B	CP-90318-2	2	SEE PAGE 48.
121		WIRE HARNESS A	1001F-1618-1X01	1	SEE PAGE 48.
122		SPARK SENSING LEAD-WIRE	551F-1407X02	1	SEE PAGE 48.
123		SLIDE THERMOSTAT ASS'Y	550F-0802X01	1	SEE PAGE 46.
		INSTRUCTION MANUAL	1001-1691X07	1	
124		THERMAL FUSE A'SSY(F)	551F-1452	1	From April. '94
125		THERMAL FUSE A'SSY(B)	551F-1453	1	From April. '94
126		THERMAL FUSE COVER	551F-1450X02	1	From April. '94
127		CLAMP	CP-90077-3	4	From April. '94

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)



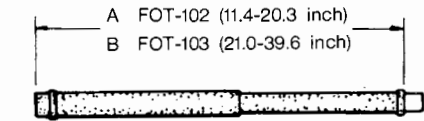
NO.	RANK	PARTS NAME	PARTS NO.	QTY	REMARKS
1	M	VENT KIT - S	1001F-1670	1	
2	M	VENT KIT - A	1001F-1671	1	
3	M	VENT KIT - B	1001F-1672	1	
4	M	VENT KIT - C	1001F-1673	1	
5	M	VENT KIT - D	1001F-1674	1	
6		RUBBER SEAL	FOT007-8	1	SEE PAGE 6.

**EXTENSION SET PARTS AND INSTALLATION GUIDE**  
**FOT-102**  
**FOT-103**  
**FOT-104**  
**FOT-114**  
**FOT-115**



- This extension set is to be used for installations requiring extra distance.  
**MAXIMUM VENT LENGTH 15' WITH 2 ELBOWS**

**■ NAMES AND NUMBERS OF PARTS**

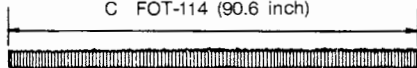


① EXHAUST PIPE



② EXHAUST PIPE (STRAIGHT) 40 inch

A FOT-102 (29.5 inch)  
 B FOT-103 (49.2 inch)  
 C FOT-114 (90.6 inch)



③ AIR INTAKE HOSE



④ BENT ELBOW



⑤ HOSE JOINT



⑥ PIPE STOPPER A



⑦ PIPE STOPPER B



⑧ TOP STOPPER



⑨ PIPE CLAMP



⑩ WALL-FIXTURE



⑪ NUT



⑫ SCREW A



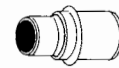
⑬ SCREW B



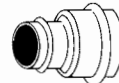
⑭ INTAKE ADAPTOR A



⑮ INTAKE ADAPTOR B



⑯ EXHAUST ADAPTOR A



⑰ EXHAUST ADAPTOR B



⑱ O RING

		PARTS No.	FOT-102	FOT-103	FOT-104	FOT-114	FOT-115
①	A	EXHAUST PIPE	FOT 064-2	1			
	B	EXHAUST PIPE	FOT 065-2		1	1	
②		EXHAUST PIPE (STRAIGHT)	FOT 114-3			1	
③	A	AIR INTAKE HOSE	RHF1000-130-e	1			
	B	AIR INTAKE HOSE	RHF1000-130-b		1		
	C	AIR INTAKE HOSE	RHF1000-130-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	2
⑦		PIPE STOPPER B	FOT 064-6	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		INTAKE ADAPTOR A	RHF1000-132			1	
⑮		INTAKE ADAPTOR B	FOT 40-2			1	
⑯		EXHAUST ADAPTOR A	551F-120			1	
⑰		EXHAUST ADAPTOR B	FOT 40-3			1	
⑱		O RING	RHF300-200-c			1	
⑲		O RING	RHF1000-142-b			1	

## ■ TYPES COMPATIBLE WITH EXTENSION SET

RHFE-551FA, RHFE-1001FA, RHFE-1001FA/VA

### 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.

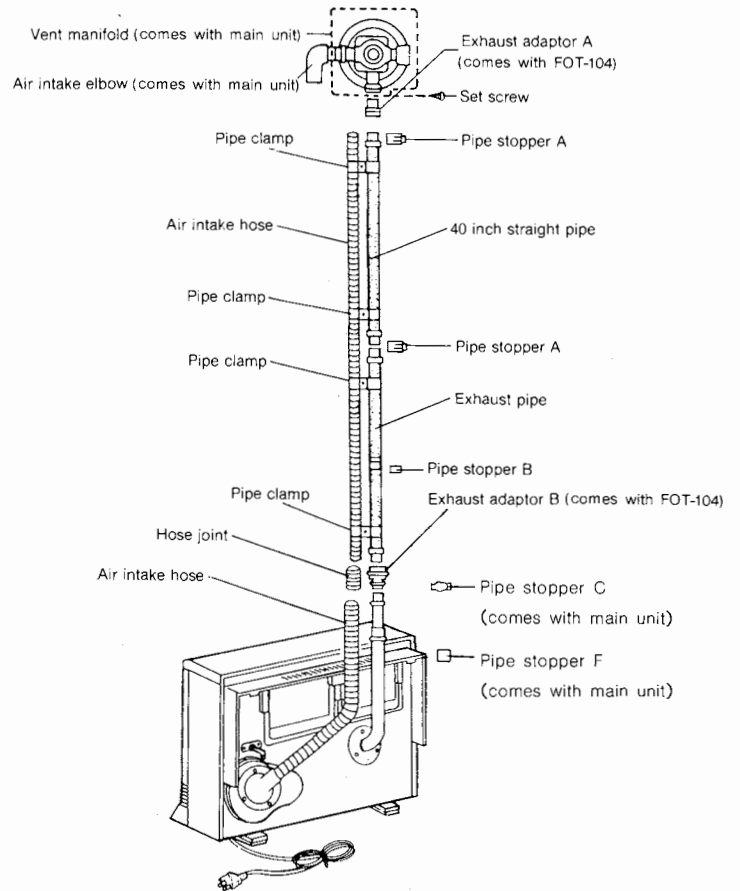
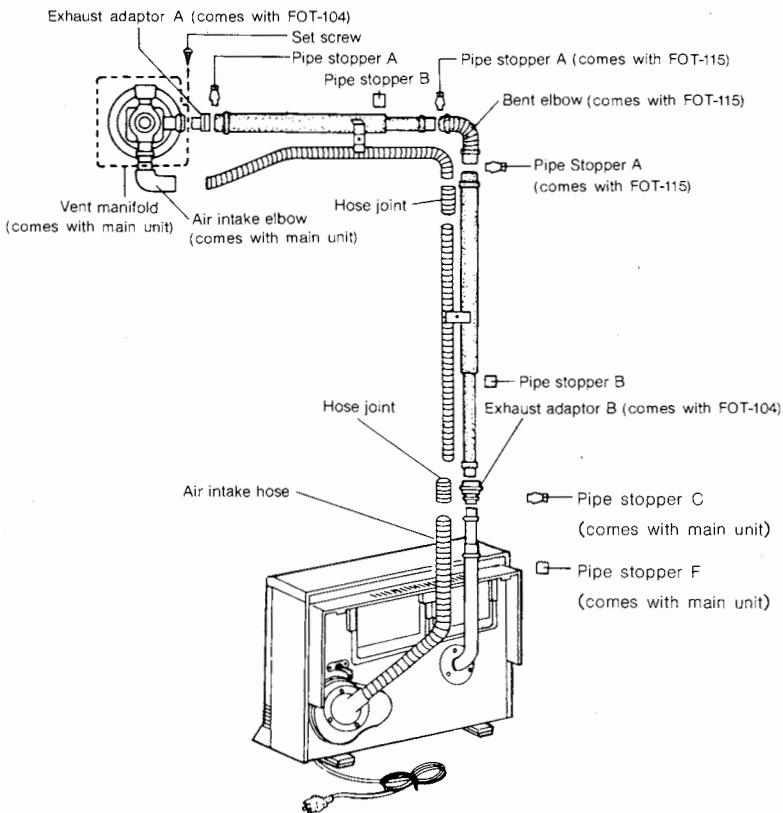
## ■ HOW TO INSTALL

Example: Using 2 sets of extension set

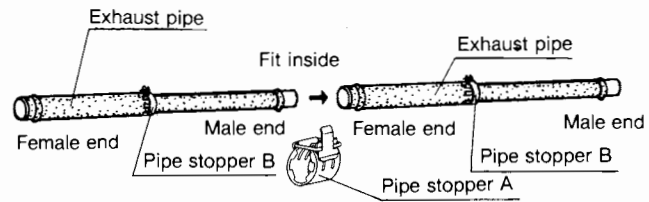
Model: RHFE-551FA

Model: RHFE-551FA

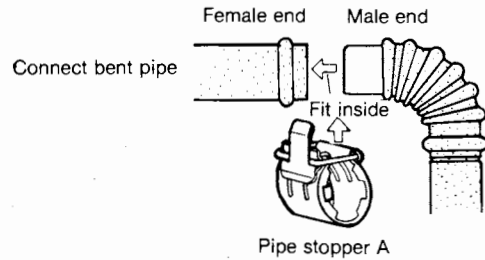
SEE PAGE 63 for use of adaptor kit.



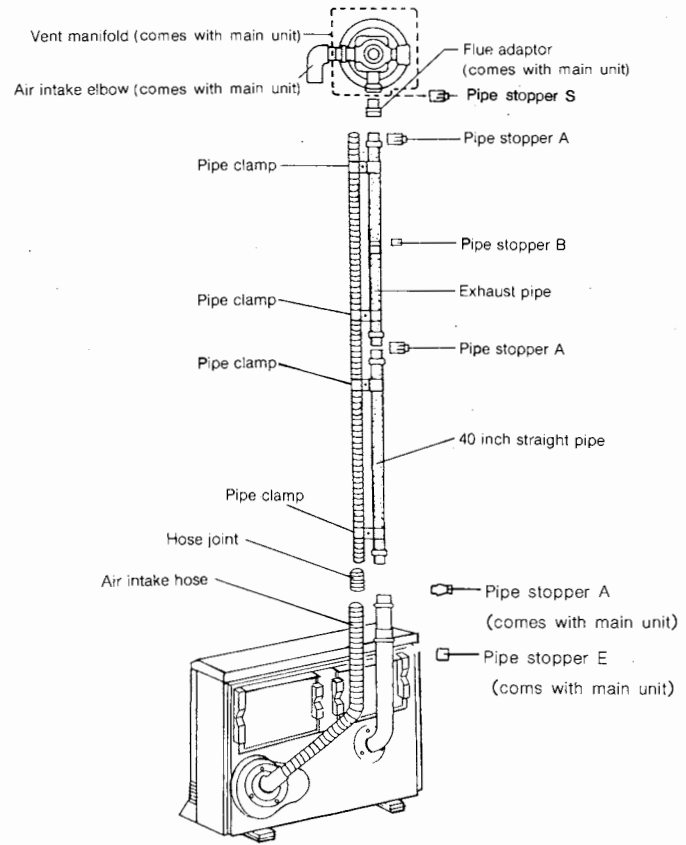
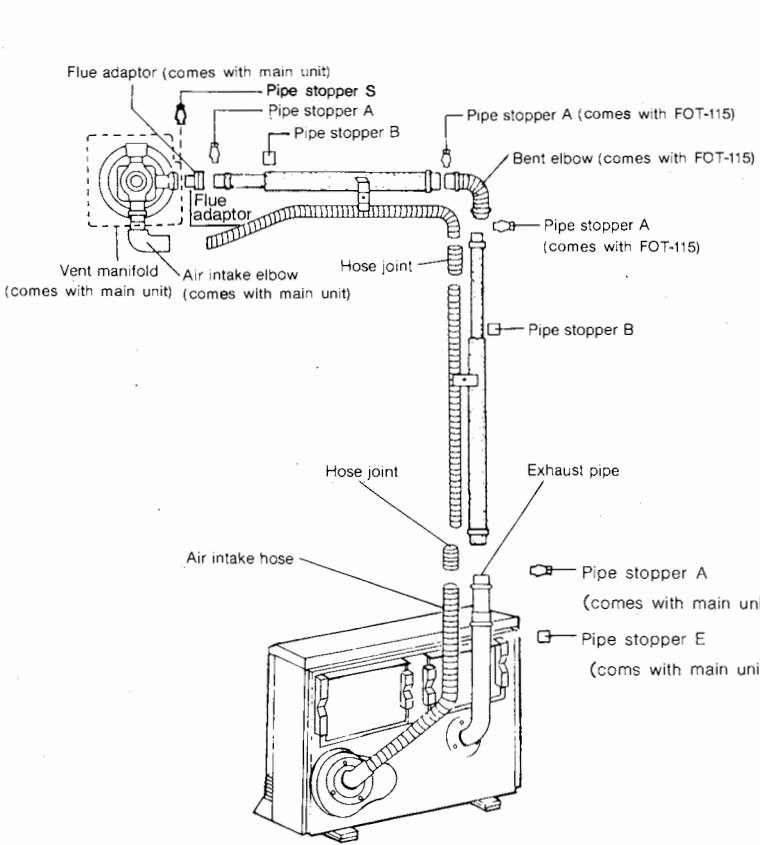
## 1. How to connect exhaust pipes



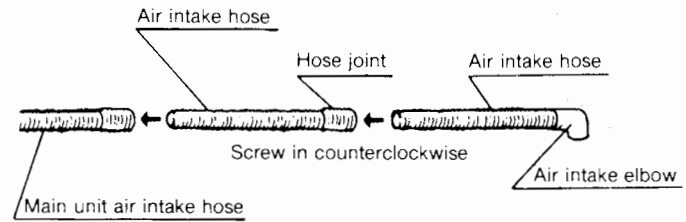
To connect the exhaust pipes, fit the male end into the female end and clamp with pipe stopper A to prevent slipping. The exhaust pipe can be telescoped to the required length; do not cut it.



**Model: RHFE-1001FA/VA**



**2. How to connect air intake hose**

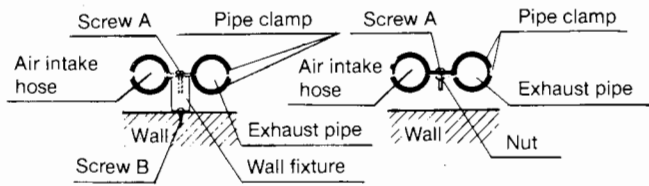


Screw hose joint half of its length onto the air intake hose, then screw another air intake hose into the joint. The hose can be cut to the required length.

**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.

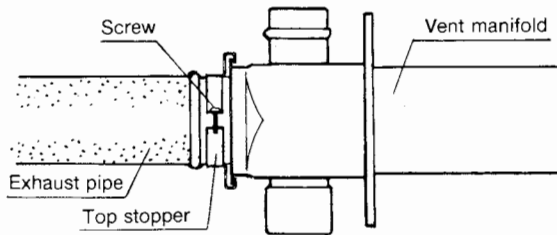


### 3. Affixing the air intake hose and exhaust pipe



- 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.

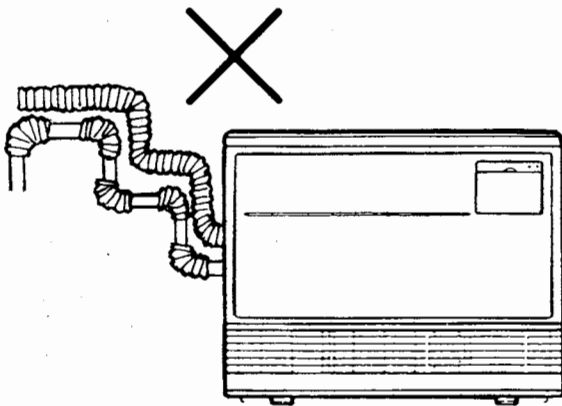
### 5. Retightening the stopper



## ■ CAUTIONS

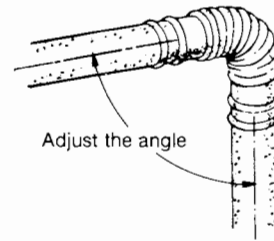
#### 1. Maximum extendable length

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



- 15 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.

### 4. How to use the bent pipe

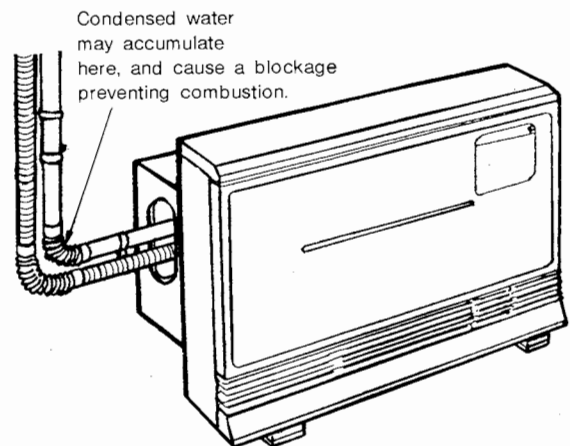


With the exhaust pipes inserted into the ends, bend the bent pipe to the angle required for installation.

This part is mainly used for curves and for connection to vent terminal.

Extend the exhaust pipe to the required length, retighten the stopper's screw after setting the position, and fit it.

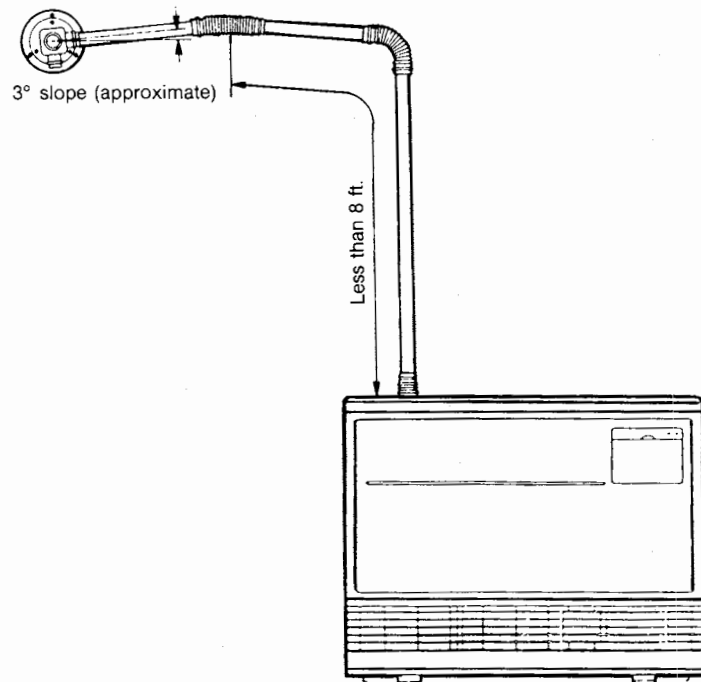
#### 2. To prevent water condensation



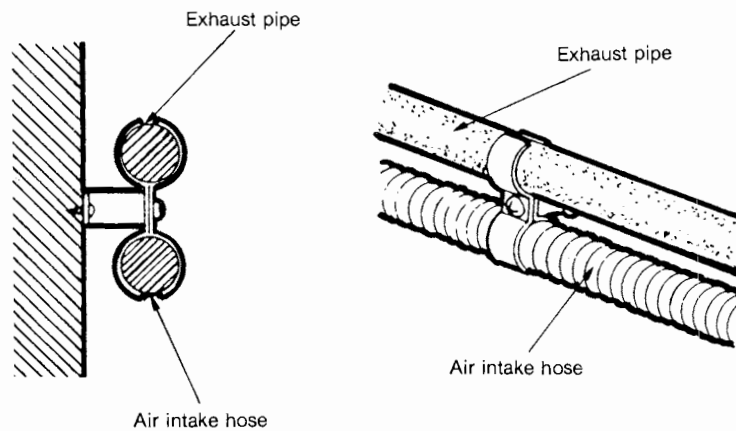
#### CAUTION

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

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  $3^\circ$  or more downward and outward slope.



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

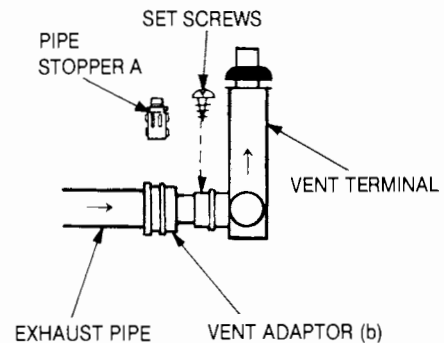
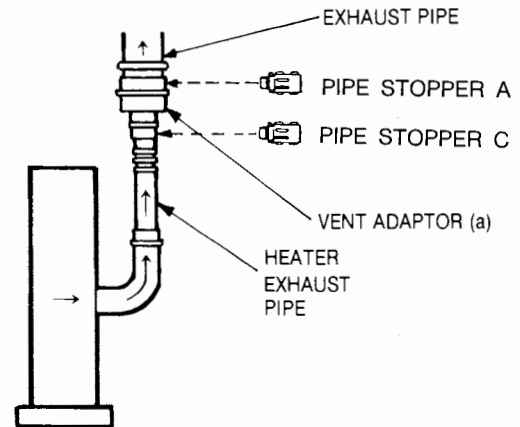
The installation must conform to local codes, in the absence of local codes, the installation must conform with American National Standard (National Fuel Gas Code) known as NFPA 54 and ANSI Z223.1.1984. Available from the American National Standards Institute, Inc., 1430 Broadway, New York, N.Y. 10018 or from the National Fire Protection Association, 470 Atlantic Avenue, Boston, Mass. 02210.

## INSTALLATION : VENT EXTENSION ADAPTOR SET FOT-104 FOR USE ON RHFE-551FA UNITS ONLY

**NOTE : Extended vents used on Model 551 requires kits  
FOT-104 and FOT-102 and 103.**

### 1. METAL EXHAUST

- (A) Fit vent adaptor (a) to heater exhaust pipe.  
Set with screw.
- (B) Fit adaptor to exhaust pipe or elbow.  
(Hole 0.09" (2.3mm) will need to be drilled in  
extension for set screw.)
- (C) Follow same procedure and fit extension to vent  
terminal with vent adaptor (b).



### 2. AIR INLET HOSE

- (A) Screw adaptor onto air inlet hose attached to  
heater (left hand thread).  
Screw air intake hose into adaptor (left hand  
thread).
- (B) Screw elbow adaptor onto air intake hose (left  
hand thread).
- (C) Press elbow onto terminal connection.

