



# INSTALLATION INSTRUCTIONS



## COLEMAN RECREATIONAL VEHICLE PRESIDENTIAL UNDER-COUNTER FURNACE MODELS 4316A, 4319A, 4324, 4330 AND 4334



### IMPORTANT NOTICE

These instructions are intended for the use of qualified individuals specially trained and experienced in installation of this type equipment and related system components.

Installation and service personnel are required by some States to be licensed. Persons not qualified should not attempt to install this equipment nor interpret these instructions.

### WARNING

**IMPROPER INSTALLATION MAY DAMAGE EQUIPMENT, CAN CREATE A HAZARD AND WILL VOID THE WARRANTY.**

### NOTE

The words "Shall" or "Must" indicate a requirement which is essential to satisfactory and safe product performance.

The words "Should" or "May" indicate a recommendation or advice which is not essential and not required but which may be useful or helpful.

### FOR YOUR SAFETY

If you smell gas:

1. Open windows
2. Extinguish any open flames
3. Don't touch electrical switches
4. Turn off gas at bottle
5. Immediately leave the premises and call your gas supplier.

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

Model No.	Pilot Type	Electrical Supply	Amps	BTUH Rating At Sea Level*		Gas Conn. Size
				Input	Bonnet Capacity	
4316A719	Match	12VDC	3.2	16,000	12,800	3/8 SAE
4316A729	Piezo					
4319A729	Piezo	12VDC	4.0	19,000	15,200	3/8 SAE
4324-729	Piezo	12VDC	4.0	24,000	19,200	3/8 SAE
4330-729	Piezo	12VDC	5.2	30,000	24,000	3/8 SAE
4334-729	Piezo	12VDC	6.1	34,000	27,200	3/8 SAE

\*ANSI For elevations above 2,000 feet, reduce input rate by 4% for each 1,000 feet of elevation above sea level.

### CAUTION

Only qualified individuals should attempt to derate the furnace.

Example of Furnace Derate:

Input = 20,000 BTU

$20,000 \times 20\% = 4,000$  BTU

Elevation = 5,000 ft.

$20,000 - 4,000 = 16,000$  BTU Input for 5,000 ft.

\*Canada — Approved for elevations 0 - 4500 ft.

### MINIMUM CLEARANCES TO COMBUSTIBLES

Sides = Zero (0) inches

Bottom = Zero (0) inches

Top = Zero (0) inches

Rear = (0) inches

Front = Zero (0) inches (Closet)\*\*

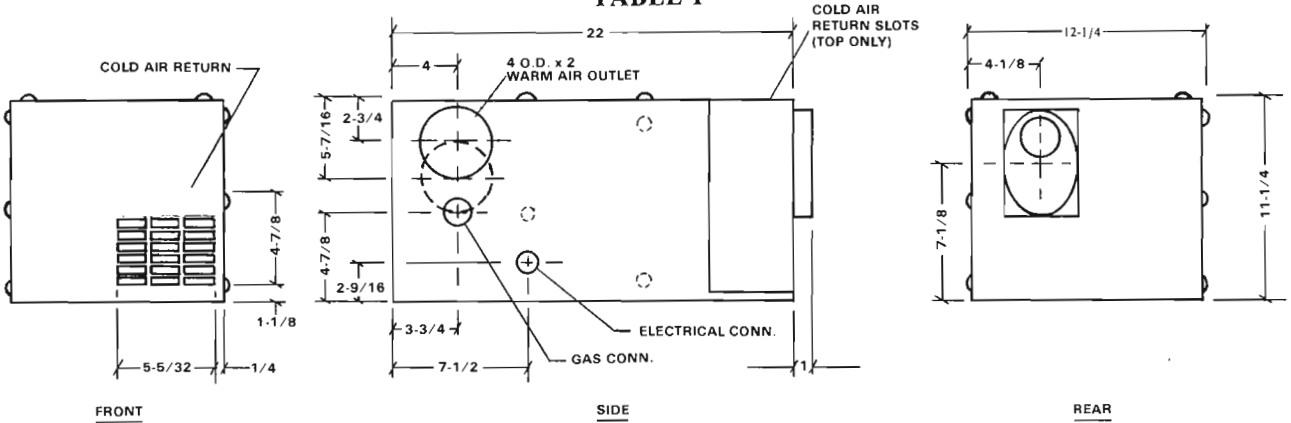
Vent = Zero (0) inches

\*\*If installed in an enclosed compartment or closet, return air openings must comply with TABLE 6.

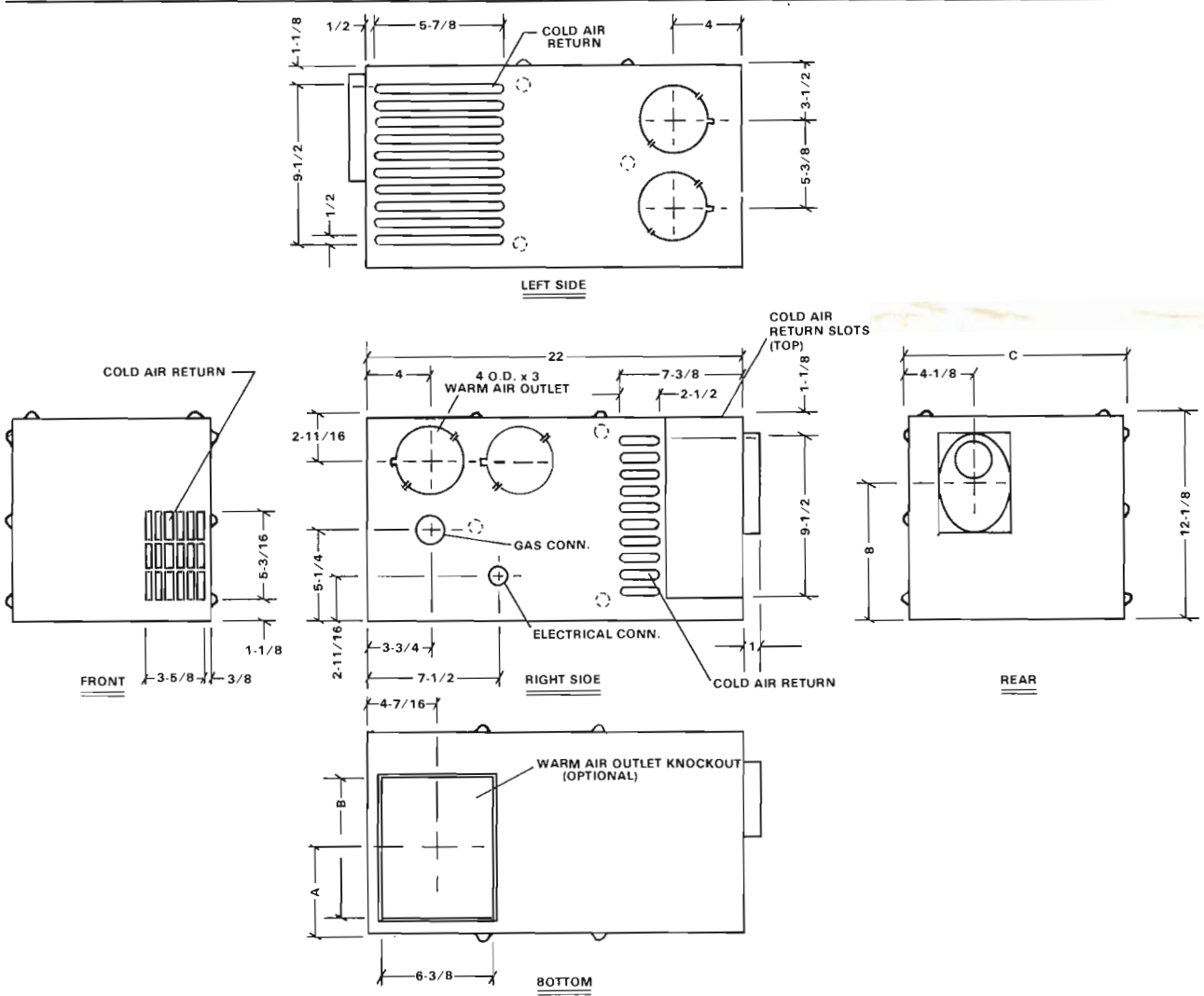
**\*\*IMPORTANT: Return air grille in the furnace door must not be covered or unsatisfactory heating will occur.**

# INSTALLATION INSTRUCTIONS

**TABLE 1**



**MODEL NO. 4316A INPUT 16,000 BTU**



Model No.	Input	A	B	C
4319A	19,000	5-11/16	8-15/16	12-1/4
4324	24,000	5-11/16	8-15/16	12-1/4
4330	30,000	5-11/16	8-15/16	14-3/8
4334	34,000	6-5/8	10-13/16	16-1/4

## GENERAL INSTRUCTIONS

These furnaces are design certified by the American Gas Association and the Canadian Gas Association for installation in gas equipped recreational vehicles and manufactured homes. In Canada install in accordance with standard CGA 10.1/CSA Z240.4. All electrical connections are to comply with standard CSA Z240.6.1 electrical requirements for Mobile Homes or CSA 240.6.2 electrical requirements for recreational vehicles.

### CAUTION

**These furnaces shall not be installed on top of carpeting. Reference NFPA 501C Paragraph 3-6.2.1.**

They are of direct vent system design with sectional-type heat exchangers consisting of drawn steel sections welded together.

For forced air furnaces, the installer should adjust the duct system to obtain a temperature rise within the range(s) specified on the furnace rating plate.

These units feature automatic safety shut off gas controls. They are operated from 12 VDC power sources.

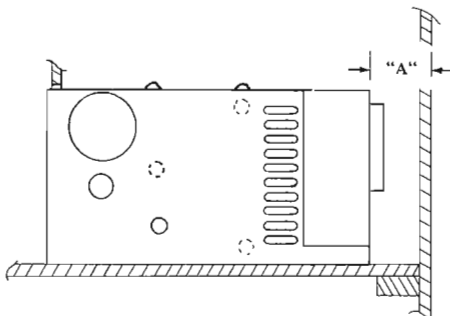
The vent packages are available in three lengths and will allow furnace to be installed where the dimension from back of the furnace to the outside of the outer wall does not exceed 6 inches. The vent packages are packed separately from the furnace, the installer after determining final location of furnace must select the appropriate vent package depending upon the dimension from the back of the furnace to the outside of the outer wall. Table 2.

### WARNING

**SELECTION OF WRONG VENT, OR FAILURE TO INSTALL VENT TUBES AND AIR INTAKE COLLARS SO THAT THEY OVERLAP AND SEAL, OR MODIFICATION OF VENT COMPONENTS WILL CAUSE FURNACE TO MALFUNCTION AND MAY CREATE AN ASPHYXIATION OR FIRE HAZARD.**

**TABLE 2  
VENT PACKAGE ASSEMBLIES**

Part No.	Dimension "A"
4312A6301	1 Inch to 3 Inches
4316A6331	2 Inches to 5 Inches
4312A6311	3 Inches to 6 Inches



### CAUTION

**Care should be taken when washing a vehicle so water is not aimed directly into the furnace vent. If water is forced past the rain baffles in the furnace vent, rusting of the furnace could occur resulting in possible fire or asphyxiation.**

Provisions have been made for installation on any one of the following air distribution systems:

1. Side duct system
  - a. Two ducts on Models 4316A.
  - b. Four ducts on 4319A, 4324 (Two — one on each side — must be used).
  - c. Four ducts on 4330, 4334, (three must be used).
  - d. Duct connectors packed with furnace.
2. Floor duct system
  - a. Not available on Model 4316A.
  - b. For other models consult Table 3.

**TABLE 3  
BOTTOM DUCT CONNECTOR**

Model No.	Connector
4319A 4324 & 4330	4328-5331
4334	4332-5331

When used in connection with a cooling unit, the furnace shall be installed parallel with or on the upstream side of the cooling unit to avoid condensation in the heating element. With a parallel flow arrangement, the dampers or other means used to control flow of air shall be adequate to prevent chilled air from entering the furnace. Condensation may cause rust-out of heat exchanger with possible distribution of products of combustion, by the circulating air blower, to living area which may cause asphyxiation.

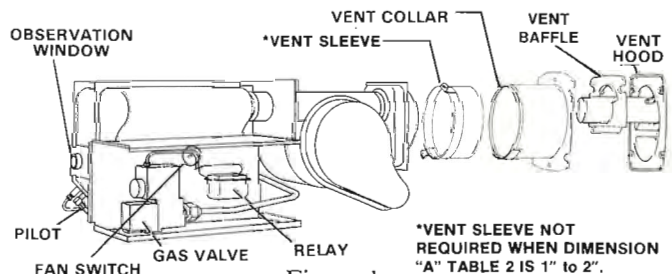
If manually operated, must be equipped with means to prevent operation of either unit unless the damper is in the full heat or cool position. The thermostat system must have an interlock to prevent the furnace and air conditioner from operating at the same time.

Basically, all models described herein are similar and the method of installation generally is the same.

The compact design of the unit will permit installation in minimum space requirements; for example, under cabinets or built-in appliances.

The working parts of the furnace, called the heat unit assembly, have been mounted on a sliding tray which can be removed from the outer casing for servicing. Figure 1.

*Allow 24 inches in front of the furnace for accessibility.*



**Figure 1  
Heat Unit Assembly**

# INSTALLATION INSTRUCTIONS



The converter for the AC/DC models is mounted on the right hand side of casing. Figure 2.

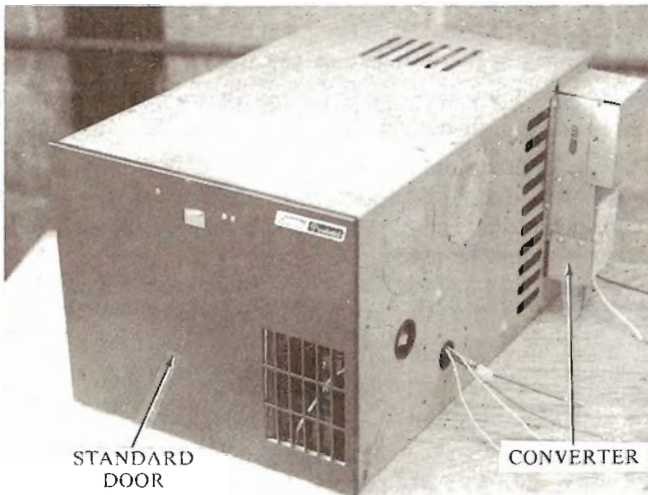


Figure 2

The DC model does not contain a converter and operates on battery, or on board converter or generator only. Figure 3.



Figure 3

Furnaces are available with a Standard Door (Figure 2), or a Self-Trim Door (Figure 4). Consult Table 4.

**TABLE 4  
FRONT DOORS**

Model No.	Standard Door (Fig. 2)	Self-Trim Door (Fig. 4)
4316A	4316A5871	
4319A & 4324	4322A5871	4322C5881
4330	4328A5871	4328B5881
4334	4332A5871	4332B5881



Figure 4

## INSTALLATION INSTRUCTIONS — FORCED AIR SYSTEM

Basically, there are several methods of installation. They are as follows:

1. Furnace flush mounted. This method is sub-divided into two categories
  - a. Furnaces with standard front door panel
  - b. Furnaces with self-trim front door panel
2. Furnaces installed in an enclosed compartment (closet, paneled alcove or cabinet and not mounted flush) and the return-air opening in the enclosing panel in front of the furnace shall comply with Table 6 and 6A (See example Figure 7).

In each of the above methods there are two (2) additional variances and they are (a) furnaces with all side ducts (b) furnaces with floor duct and (c) combination of both side ducts and floor duct. [IMPORTANT: Read instructions under "SUPPLY DUCT INSTALLATION" before using in the combined manner.]

The minimum cabinet space requirements regardless of the air distribution system for installation of various models are as follows: See table 5.

**TABLE 5**

Model No.	Height	Width	Depth
4316A	11-1/4	12-1/4	22
4319A, 4324	12-1/8	12-1/4	22
4330	12-1/8	14-3/8	22
4334	12-1/8	16-1/4	22
<b>Add 2-1/4 inches to width for Converter</b>			

The cutout dimension requirements for flush mount installation of various models with "Standard Front Door" and also with "Self-Trim Front Door" are as follows: See Table 5A and Figure 5.

**TABLE 5A  
CUTOUT DIMENSIONS**

Model No.	"Standard" Front Door		"Self-Trim" Front Door	
	A	B	A	B
4316A	11-1/4	12-1/4	—	—
4319A, 4324	12-1/8	12-1/4	12-1/4	15-7/8
4330	12-1/8	14-3/8	12-1/4	18
4334	12-1/8	16-1/4	12-1/4	19-7/8

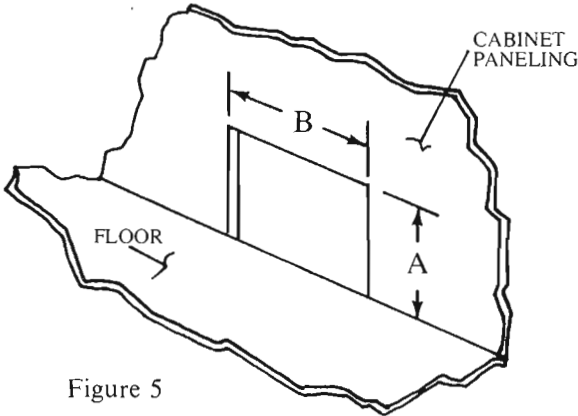


Figure 5

In the single parts package included with the Self-Trim Front Panel is a Casing Stop and two attaching sheet metal screws. This casing stop must be attached to prevent the furnace from being installed inside the cutout too far thus preventing the self-trim door from being installed correctly. See Figure 6 and also reference self-trim door instruction.

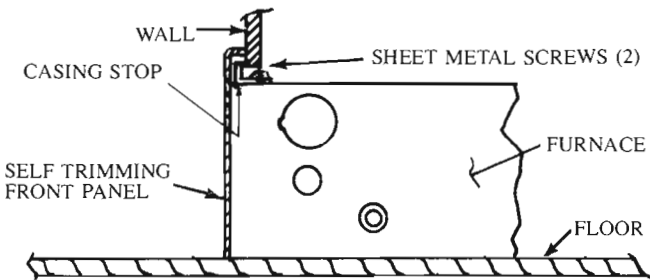


Figure 6

## RETURN OPENINGS

**TABLE 6  
RETURN AIR REQUIREMENTS  
FOR FURNACES INSTALLED IN  
AN ENCLOSED COMPARTMENT\***

Model	Total Return Air Opening Free Area Required To Furnace Enclosure
4316A	40 Sq. In.
4319A	40 Sq. In.
4324	40 Sq. In.
4330	60 Sq. In.
4334	60 Sq. In.

\*If zero (0) clearance between the closet panel and the furnace door is used; then a return air grille of at least equal

air flow to the furnace door grille must line up directly with the furnace door grille. Additional return air must then be brought into the furnace compartment — use Table 6A and Figure 7.

**TABLE 6A  
RETURN AIR REQUIREMENTS  
FOR FURNACES INSTALLED FLUSH  
MOUNT WITH STANDARD DOOR**

Model	Total Return Air Opening Free Area Required To Furnace*
4316A	26 Sq. In.
4319A	26 Sq. In.
4324	26 Sq. In.
4330	46 Sq. In.
4334	46 Sq. In.

\*Total sq. in. shown does not include the return air opening in the furnace door and must be provided in addition to the opening in the door.

## NOTE

*It is necessary that two (2) out of the three (3) return air openings in rear of furnace shall communicate with the return grilles in cabinet front. Failure to comply will cause unsatisfactory heating.*

All models have one return air in casing front and are also equipped with additional return air openings in furnace casing. See Table 1, page 2.

On models with Standard Front Door where furnace is installed in the flush application for both zero and close clearance installations the following applies:

Rear Right Side } Any one of these three openings  
Rear Left Side } may be blocked without impairing  
Rear Top } furnace performance.

On models with Self-Trim Front Door where furnace is installed in the flush application the proper clearances are shown below:

\*Complete Right Side } Any one of these three may be  
\*Complete Left Side } blocked without impairing furnace  
\*Complete Top } performance, providing the furnace  
return air openings communicate  
with Self-Trim Door openings.

\*Includes cutout in interior paneling to a complete 22" depth of furnace.

## NOTE

*When both side partitions\* are closer than 1" to casing side, only one side partition need having opening equal to corresponding opening in that furnace casing side. See Figures 14a and 15 for details.*

## \*NOTE

*The spacing between casing and the side partition must communicate with the return opening (or openings) in the cabinet front. Figure 7.*

# INSTALLATION INSTRUCTIONS

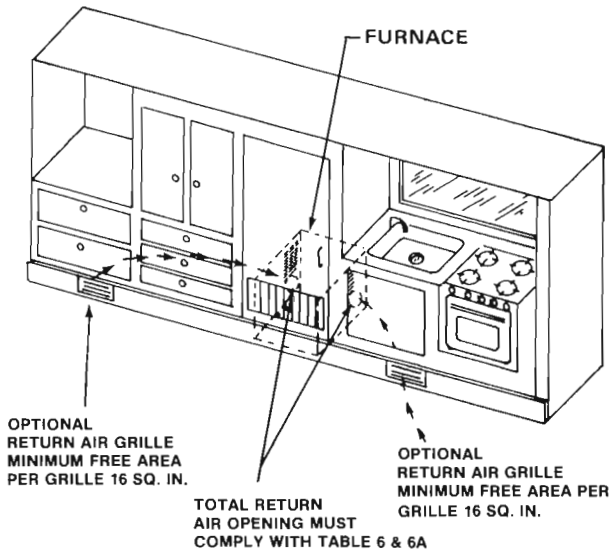


Figure 7

## WARNING

THE FURNACE SHALL BE INSTALLED, SO ITS AIR CIRCULATION BLOWER CANNOT AFFECT THE COMBUSTION AIR SUPPLY OF OTHER APPLIANCES OR DISTRIBUTE COMBUSTION PRODUCTS OF OTHER APPLIANCES WITHIN THE HOME OR RECREATIONAL VEHICLE. FAILURE TO COMPLY MAY CAUSE PILOT OUTAGE, DAMAGE TO OTHER APPLIANCES AND ASPHYXIATION. REFERENCE SECTION NFPA 501C 1977, PARAGRAPH 3-6.2.3.

### SUPPLY DUCT INSTALLATION: (Exception 4316A)

Either bottom or side outlets may be used. If both bottom and side outlets are used, only one side outlet need be used.

### Floor Discharge Duct Installation

The discharge registers and duct shall have a minimum total free area corresponding to Table 7A.

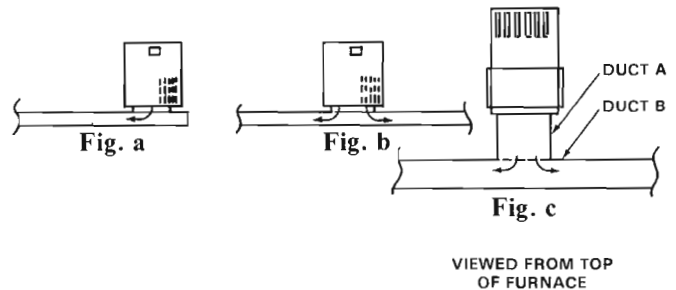
1. Select a location for the furnace on an outside wall as near the center of the vehicle as possible.
2. Remove the bottom knockout from the furnace casing. DO NOT REMOVE SIDE KNOCKOUTS.
3. Position the heater inside the vehicle in the desired location with the furnace resting on the floor and the oval vent opening at the rear of the furnace toward the outside wall. Mark the oval vent opening on the vertical wall per Table 9. Remove the front louvered panel and mark the location of the front edge and left side of the bottom outlet. Remove the furnace and using these lines as location points finish marking the floor cutout per dimensions in Table 1. (Warm air outlet knockout). Before cutting through the floor, enlarge the marked opening per the dimensions in Table 7.
4. Centered in the floor cutout, cut a hole in the duct per Table 7.

TABLE 7  
FLOOR & DUCT CUTOUTS

Model No.	Floor Cutout	Duct Cutout
4319A 4324 4330	7-11/16 x 10-1/4	6-7/16 x 9
4334	7-11/16 x 12-1/16	6-7/16 x 10-7/8

TABLE 7A

Model	DUCT AREA* (Sq. Inches)				Register Area (Free Area in Sq. Inches)**
	Air Flow All One Way (Fig. a)	Air Flow Each Way (Fig. b)	"T" Connector (Fig. c)		
			Duct A	Duct B	
4319A	28	Equal to Area of Side Outlets	28	20	30
4324	32		32	24	30
4330	40	40	40	28	50
4334	40		40	30	60



\*Cross sectional area of duct may be greater, but no less than that shown. Duct depth must not be less than 2-1/2 inches.

\*\*Size and number of registers may vary to provide desired air distribution but the free area of all registers combined must total that shown.

5. Insert bottom duct connector into opening through floor and duct and bend over tabs to secure the connector in place and to minimize air leakage.
6. Slide furnace in place so duct connector is centered under duct opening in bottom of furnace. Figures 8 and 9.

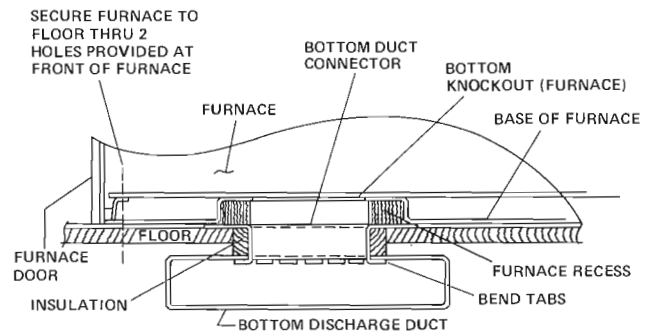


Figure 8

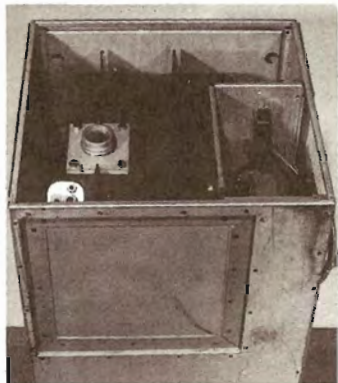


Figure 9

7. Refer to Figure 15 for a typical floor duct installation.

### Side Discharge Duct Installation

Ducting must be made from both sides of the furnace. The minimum recommended duct size is four (4) inches inside diameter. Openings in combustible panels within one inch of casing at the side outlets of the furnace shall be a minimum of 5½" in diameter.

Each duct system serving a side outlet of the furnace must have at least one register with a minimum of 12.5 sq. inches total free area. **EXCEPTION:** When using more side outlets than the minimum shown below, the duct systems serving the additional outlets may have registers less than 12.5 sq. inches of total free area.

### IMPORTANT

**When using all side duct type installations, the following side ducts on the furnace must be used:**

**4316A, 4319A and 4324 — A minimum of two (2) side outlets must be used. One on each side of furnace.**

**4330 and 4334 — A minimum of three (3) side outlets must be used.**

### NOTE

*If the furnace must be located at one end of the vehicle making it impossible to install both side discharge ducts, use a bottom discharge so that a minimum discharge opening shall correspond in cross section to Table 7A.*

1. Remove the round side knockouts from the furnace inner casing. **DO NOT REMOVE THE CASING BOTTOM KNOCKOUT.**
2. Position the heater inside the vehicle in the desired location with the furnace resting on the floor and the oval vent opening at the rear of the furnace toward the outside wall. Mark the location of the oval vent opening on the vertical wall, Table 9. Also mark the location of clearance openings on panels where side ducts pass

thru. Remove the furnace and cut out openings for the vent and side outlet ducts.

3. Provision has been made for a quick-connect round side duct adapter (Part No. 4316-644) for each in connecting the 4-inch diameter ducting to the furnace. The quick-connector adapter is shown in Figure 10. These must be installed after furnace is in place.

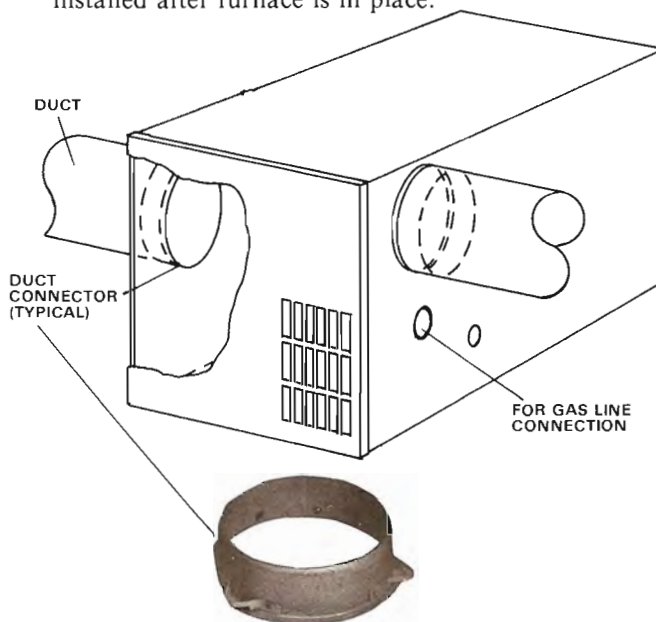


Figure 10

4. Refer to Figure 13 and 14 for an illustration of a typical side duct installation complete.

### INSTALLATION OF VENT

Install the vent terminals on the outside wall of the vehicle (refer to installation instructions packed with the vent package assembly to be used).

### WARNING

**DO NOT DRAW COMBUSTION AIR FROM OCCUPIED SPACE. PRODUCTS OF COMBUSTION COULD BE DRAWN THROUGH THE CIRCULATION AIR BLOWER AND DISTRIBUTED IN THE HOME OR RECREATIONAL VEHICLE AND ASPHYXIATION COULD OCCUR.**

### TURN BOX DUCTS (FIGURE 11)

An accessory is available which allows flexibility of installation. This turn box is easily attached to the furnace as shown in Figure 12. Remove round side knockouts; assemble the appropriate turn box connector and gasket to casing side and bend tabs to secure to furnace. (See Table 8 for selection.)

**TABLE 8  
TURN BOX DUCTS**

Model No.	A	B
4316-6201	3-1/4	8-1/4
4316-6211	6	11
4316-6221	14-1/2	19-1/2

# INSTALLATION INSTRUCTIONS

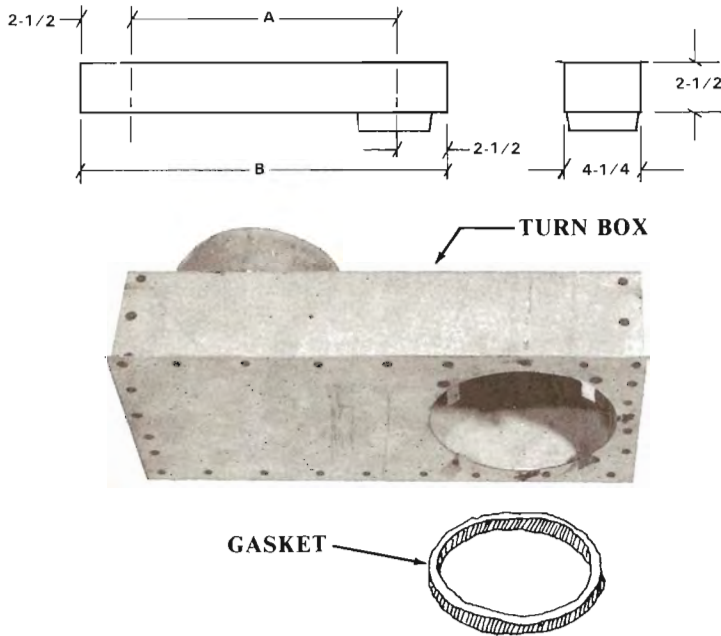


Figure 11

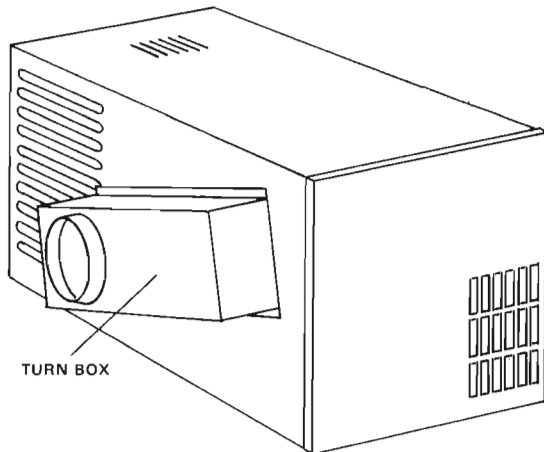


Figure 12

TABLE 9

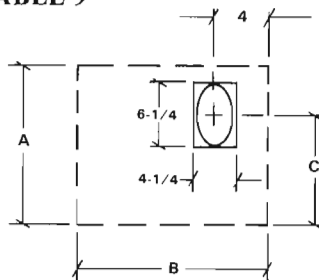


TABLE 9  
VENT CUTOUTS  
Dimensions

Model No.	A	B	C
4316A	11-1/4	12-1/4	7-1/8
4319A & 4324	12-1/8	12-1/4	8
4330	12-1/8	14-3/8	8
4334	12-1/8	16-1/4	8

## INSTALLATION INSTRUCTIONS

### Gas Piping Installation

The gas supply line to the furnace must be of adequate size to provide 11 inch water column gas pressure. This pressure must be maintained under maximum flow conditions with all gas appliances in operation. The allowable gas pressure at the inlet of the gas control valve is 11 inches W.C. minimum and 14 inches W.C. maximum. Tubing may be type "K" for LP gas (Bottle Gas). However, all installations must be made according to Installation of National Fuel Code, Z223.1-1974 Mobile Homes A119.1-1972, Recreational Vehicles, ANSI/NFPA 501C 1977, in Canada C.G.A. 10.1/CSA240.4 gas equipped recreational vehicles and mobile housing and C.G.A. B149.2 Installation Code for propane gas burning appliances and equipment, and also be sure to check with local authorities for any other requirements concerning gas piping. Gas line hook-up is made through a hole provided at the lower right side of the furnace casing. A 3/8 flare connection is provided for ease of installation.

### CAUTION

Pipe sealant or tape must never be used on flare connections. Gas leakage may occur which could result in a fire, explosion, injury or asphyxiation.

### CAUTION

DO NOT TWIST GAS VALVE DURING PIPING.

Gas Leakage may occur which could result in a fire, explosion, injury or asphyxiation.

Local codes may require installation of an external manual shut-off valve. If required, the manual valve must be located outside the confines of the furnace casing.

After connections have been made, be sure all joints are checked with soap solution to detect leaks. This also should include a check of the furnace controls and piping.

### CAUTION

NEVER CHECK FOR LEAKS WITH AN OPEN FLAME. EXPLOSION, FIRE AND INJURY MAY OCCUR.

### Electrical Installation

Electrical installation shall be made in accordance with the National Electric Code ANSI C1-1975. (Note: If an external electrical source is utilized, the appliance must be grounded in accordance with the National Electrical Code ANSI C1-1975.) In Canada, CSA Standards Z240.6.1 Electrical requirements for mobile homes, C22.2 No. 148/Z240.6.2 Electrical requirements for Recreational Vehicles and C22.1 Electrical Code. Local codes, where applicable, take precedence over these recommendations. Use a suitable connector to secure supply wires at the knockouts. Do not use wire size smaller than that indicated in Table 10.

### DC MODELS

The wiring box is located directly behind the return air grille in the bottom right front of the furnace casing. Wiring





# INSTALLATION INSTRUCTIONS

provisions may be made on the outside of the furnace. However, to gain access to the wiring box merely remove two screws on front of wiring box. The 12V DC wiring connections can be made external of the wiring box.

## WARNING

**BEFORE CONNECTING DC ELECTRICAL POWER LEADS TO THE FURNACE, BE SURE THE POWER TO THESE LEADS IS DISCONNECTED. ARCING MAY CAUSE DAMAGE TO THE CONVERTER, BATTERY OR AN EXPLOSION.**

1. Connect the (+) 12V DC supply lead to the red wire and secure.
2. Connect the (-) 12V DC supply lead to the blue wire and secure.
3. Insert wire connections inside the furnace into the wiring box.
4. Connect the two thermostat leads to the two yellow wires that are external of the wiring box and secure.

## AC/DC MODELS

### WARNING

**BE SURE THE 115 VAC ELECTRICAL POWER IS DISCONNECTED BEFORE ATTACHING LEADS TO THE FURNACE CONVERTER. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE CONVERTER OR CREATE A SHOCK HAZARD.**

1. Connect the 115 Volt AC power supply to the black, green and white wires within the junction box in bottom of converter box. The furnace is equipped with an internal relay which automatically switches the furnace's power supply source from DC to AC when the AC power is connected to the trailer. The relay automatically switches back when the AC current is disconnected.
2. Connect the (+) 12V DC supply lead to the red wire and secure.
3. Connect the (-) 12V DC supply lead to the two blue wires and secure all three wires.
4. Insert wire connections inside the furnace into the wiring box.
5. Connect the two thermostat leads to the two yellow wires that are external of the wiring box and secure.

### IMPORTANT NOTICE

**Do not perform any high potential tests on this furnace. Testing has been done before leaving the factory. If vehicle HI-Pot testing is required, disconnect the furnace before testing. If the furnace contains a power converter, DO NOT ATTEMPT TO CHECK IT OUT BY SHORTING TO GROUND. DO NOT DISCONNECT ANY POWER LEAD AND SHORT TO GROUND. Any shorting or arcing of the leads may damage the electrical components.**

**TABLE 10  
RECOMMENDED WIRE SIZES**

Circuitry	Min. Recommended Wire Size		
115V A.C.	No.	14	AWG
12V D.C.	No.	14	AWG*
Thermostat	18 gage solid or stranded copper with 2/64 insulation.		

\*If wire length exceeds 20 feet from voltage source to furnace, use next size larger (#12 AWG).

## THERMOSTAT LOCATION

Locate the thermostat on an inside wall. For best temperature control, it should be located at 4 feet and not higher than 5-1/2 feet from the floor. Do not locate the thermostat near a door or window, near a heat source such as lamps, TV, etc., in direct sunlight or in a direct air stream from a supply register. Do not install the thermostat on a wall subject to vibrations that would cause the thermostat to "chatter" the furnace on and off.

If necessary, the thermostat may be located on the inside of an outside wall. On an outside wall, the thermostat is in direct contact with a colder surface which could cause the thermostat to call for heat more often than actually needed. This can be corrected by simply setting the thermostat a few degrees lower than the desired room temperature. Or, as an alternate, the thermostat could be "furred" out from the outside wall, or perhaps some rigid insulation placed between the thermostat and wall.

The thermostat "heat anticipation" should be set at .4 amps.

## FURNACE LIGHTING INSTRUCTIONS

See lighting instructions located on the furnace or in owner's manual.

## OPERATIONAL CHECKOUT

1. Remove front panel. Turn gas valve knob to "off" position.
  2. Set thermostat to highest setting. Wait 5 minutes.
  3. Reset thermostat to lowest setting.
  4. Turn gas valve knob to "pilot" position. Depress knob and light pilot by depressing ignitor. Several strokes may be required before pilot gas will ignite.
- On the initial lighting the pilot may not light immediately due to air in the gas line. If such is the case, it may be necessary to hold the reset button "in" for a minute or more before the pilot lights.
5. When the pilot continues to burn, hold the reset button in for approximately 10 seconds or until the pilot remains lighted when the reset button is released. If PILOT GOES OUT, REPEAT STEPS 2 and 4, ALLOWING LONGER TIME BEFORE RELEASING GAS VALVE KNOB.
  6. Turn gas valve knob to full "on" position. Correct operation of the unit depends on this valve being in the full "on" position. Never attempt to operate the unit with valve partially closed.
  7. Replace furnace front panel.

# INSTALLATION INSTRUCTIONS



8. Set thermostat at desired temperature. Furnace will now operate automatically. If ignitor should fail for any reason, the pilot may be manually lit as follows:
  - a. Remove front panel. Turn gas valve knob to "off" position.
  - b. Set thermostat to highest setting. Wait 5 minutes.
  - c. Reset thermostat to lowest setting.
  - d. Open pilot lighting door.
  - e. Turn gas valve knob to "pilot" position. Depress knob and light pilot using lighter rod and match.
  - f. Hold gas valve knob down for 1 minute and release. If pilot goes out, repeat Steps b thru e, allowing longer time before releasing knob. Close pilot lighting door.
  - g. Turn gas valve knob to full "on" position.
  - h. Replace front panel. Set thermostat to desired setting.

## CAUTION

**Do not break gas line connections to bleed gas as a fire hazard may result.**

**The Control Compartment shall be kept clean.**

**Failure to do so may cause a fire or improper operation of the furnace.**

## SHORT CIRCUIT CHECKOUT

If fuses are blown in the vehicle, a short is indicated and should be checked.

1. Turn off all appliances including furnace.
2. Remove the positive (+) lead from the positive (+) battery post. Install an ammeter between the positive lead and the positive battery post. Amperage reading should be 0. If an amperage reading is noted, a short exists in the vehicle electrical system.
3. Disconnect the red (+) DC lead at the furnace. If the amperage continues, the short is exterior to the furnace. If the amperage reading ceases, the furnace electrical system is shorted and should be checked.
4. Refer to the Operation and Service Instructions for a complete checkout.

## IMPORTANT NOTICE

**Polarity must be observed when connecting a battery or external converter to the furnace wiring board. If polarity is reversed, the blower will turn backward and the furnace will not heat.**

FOR COMPLETE SHUT DOWN, PRESS VALVE DIAL AND TURN TO "OFF". SET THERMOSTAT TO "OFF" SETTING.

**IMPORTANT**  
Set thermostat "heat anticipation" at .4 amps.

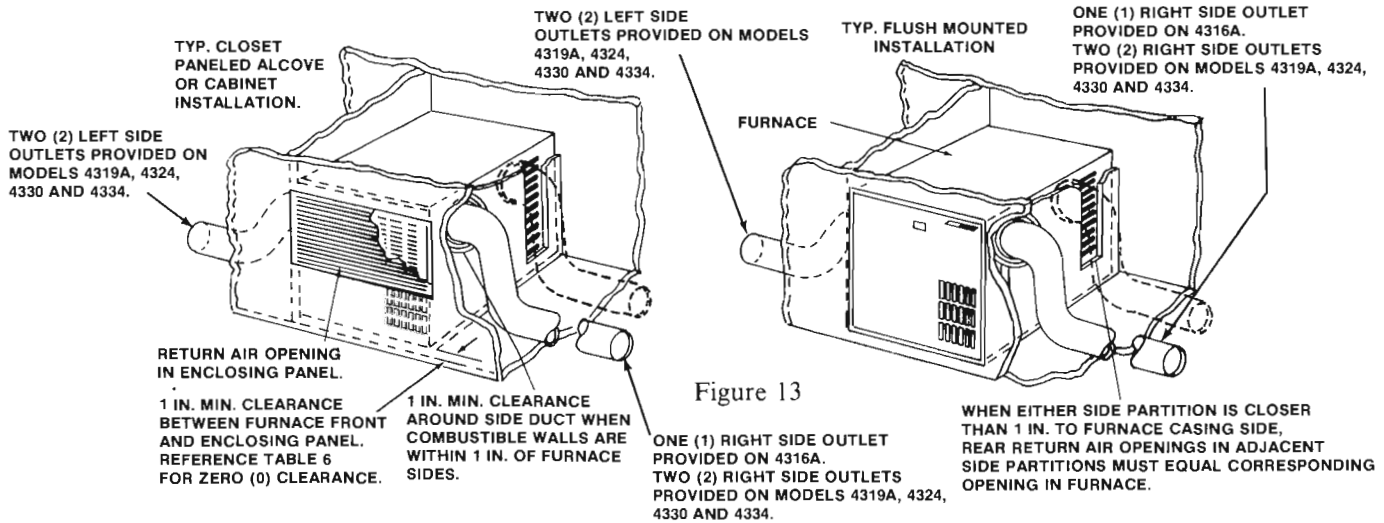


Figure 13

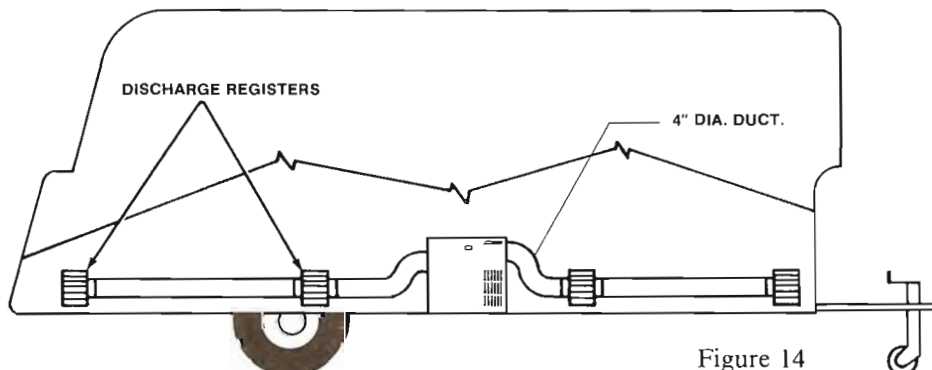
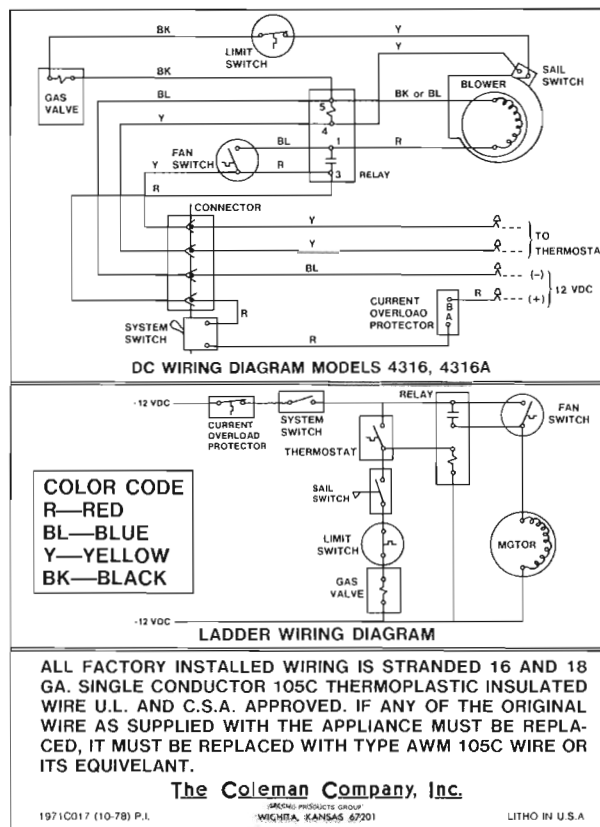
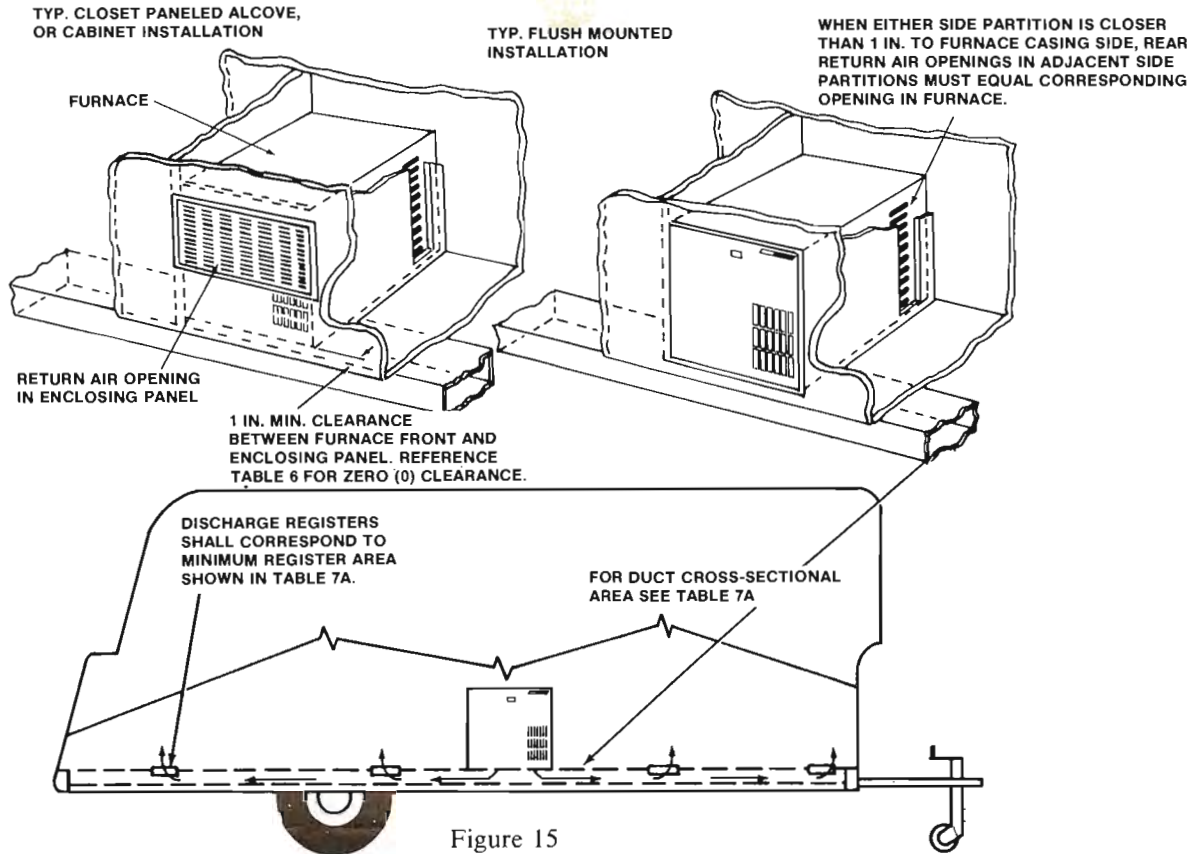


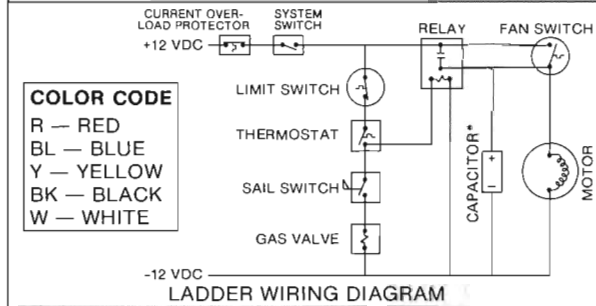
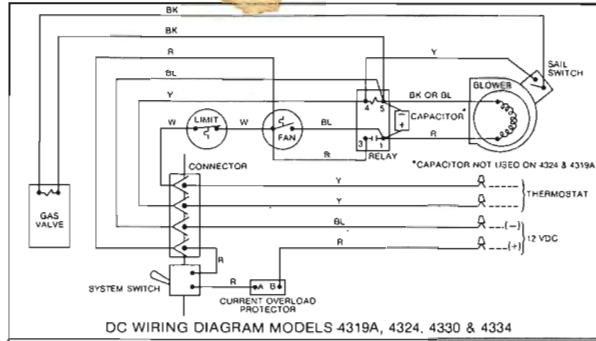
Figure 14

# INSTALLATION INSTRUCTIONS



## D.C. WIRING DIAGRAM

# INSTALLATION INSTRUCTIONS



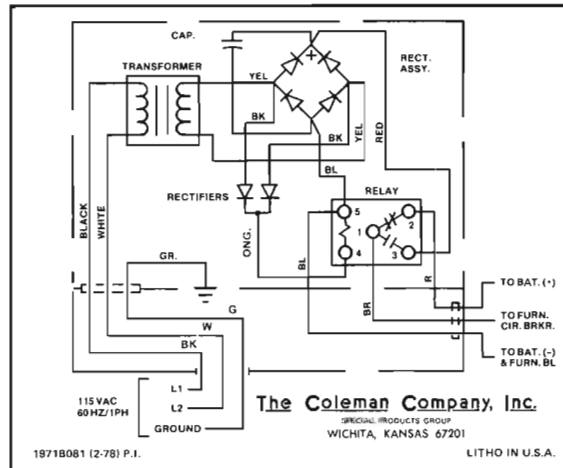
ALL FACTORY INSTALLED WIRING IS STRANDED 16 AND 18 GAGE SINGLE CONDUCTOR 105°C (WHITE WIRE IS 200°C) THERMOPLASTIC INSULATED WIRE U.L. & C.S.A. APPROVED. IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE AWM 105°C/200°C WIRE OR ITS EQUIVALENT

**The Coleman Company, Inc.**

1971A290 (10-78) P.I.

SPECIAL PRODUCTS GROUP  
WICHITA, KANSAS 67201

## D.C. WIRING DIAGRAM



**The Coleman Company, Inc.**

1971B081 (2-78) P.I.

SPECIAL PRODUCTS GROUP  
WICHITA, KANSAS 67201

LITHO IN U.S.A.

## CONVERTER WIRING DIAGRAM

**THERMOSTAT  
HEAT ANTICIPATION  
.4 AMPS**

**The Coleman Company, Inc.**

SPECIAL PRODUCTS GROUP  
WICHITA, KANSAS 67201