Coleman

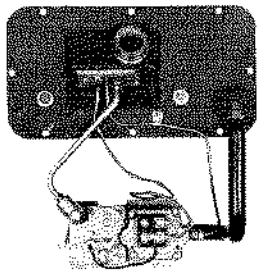
MODELS 8613, 8620

MOBILE HOME VENTED RECESSED FURNACE

OPERATING INSTRUCTI

For lighting instructions refer to the section showing the type controls on heater involved. Use this heater only with LP Gas as shown o

1 LIGHTING INSTRUCTIONS (WALL THERMOSTAT)



1. Turn wall thermostat to lowest possible position. Depress gas valve knob and turn to "OFF".

CAUTION:

LP gas will not vent upward. Force ventilation by blowing into lighter door several times. Wait 5 minutes before relighting pilot.

2. Depress gas valve knob and rotate to "PILOT" position.
3. Depress gas valve knob completely and light pilot burner.

NOTE:

Insert match through lighter door rapidly while the phosphorous head is burning.

Hold valve knob down one minute or until pilot remains lit.

4. Turn gas valve knob to "ON".

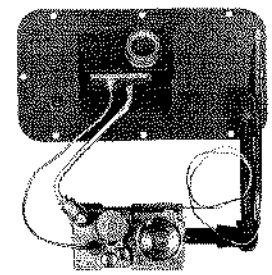
OPERATING INSTRUCTIONS:

Set the wall thermostat to the desired temperature. The wall furnace will operate on or off automatically to maintain the room temperature.

SHUT OFF INSTRUCTIONS:

To shut off the furnace completely, depress the gas valve knob and rotate to "OFF".

2 LIGHTING INSTRUCTIONS (BULB THER



1. Turn bulb operation on gas control valve to sible position. Depress gas control knob "OFF".

CAUTION:

LP gas will not vent upward. Force venti' ing into lighter door several times. Wait 5 relighting pilot.

2. Depress gas valve knob and rotate to "P. Depress gas valve knob completely ar

NOTE:

Insert match through lighter door rapidly phorous head is burning.

Hold control valve knob depressed one pilot remains lit.

3. Turn gas valve knob to "ON".

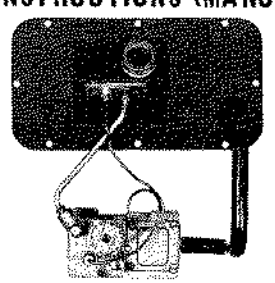
OPERATING INSTRUCTIONS

Rotate the temperature control dial perature. If more heat is desired set to a higher number.

SHUT OFF INSTRUCTIONS

To shut off the furnace complete . depress the gas valve knob, and rotate to "OFF".

3 LIGHTING INSTRUCTIONS (MANUAL VALVE)



1. Depress gas valve knob and turn to "OFF".

CAUTION:

LP gas will not vent upward. Force ventilation by blowing into lighter door several times.

2. Depress gas valve knob and rotate to "PILOT" position.
3. Depress gas valve knob completely and light pilot burner.

NOTE:

Insert match through lighter door rapidly while the phosphorous head is burning.

Hold valve knob down one minute or until pilot remains lit.

OPERATING INSTRUCTIONS:

Turn the gas valve knob to "ON". When the room area is warm, rotate the valve knob to "PILOT". When heat is again desired, rotate control knob to "ON".

SHUT OFF INSTRUCTIONS:

To shut off the furnace completely, depress the gas valve knob and rotate to "OFF".

4 PILOT AND BURNER F ME ADJUSTMENT

Remove pilot adjusting scre.. cover cap from gas control valve and adjust pilot adjusting screw until pilot burns with a steady blue flame. Be sure the pilot flame is directed on the end of the pilot thermo-couple.

Turn on the main burner. Allow the furnace to burn about 15 minutes to reach its operating temperature. Measure the gas operating pressure at the gas control pressure tap. On LP operation the operating pressure should be 11.0 W.C. Adjust the LP tank or bottle pressure regulator to this pressure.

Loosen the lock nut on the burner spoiler screw. Screw the spoiler screw in until the main burner flame begins to turn yellow. Slowly back out the screw until the flame turns completely blue. Hold the spoiler screw in position and tighten the lock nut.

CAUTION:

Be sure to check all gas connections, joints, and caps for gas leaks, using a soap solution.

The Coleman Company, Inc.

MOBILE HOME DIVISION
WICHITA, KANSAS 67201

1970-181 P.I. 7-65

LITHO IN U.S.A.

Coleman

MOBILE HOME
VENTED RECESSED FURNACE

INSTALLATION INSTRUCTIONS

MODELS
8613 and 8620

Coleman **MOBILE HOME**
VENTED RECESSED FURNACE

MODELS
8613 and 8620

INSTALLATION INSTRUCTIONS – The Model 8613 and Model 8620 sealed combustion wall heater as approved consists of three major parts, (1) the furnace itself consisting of the front panel, casing, heat exchanger, and the burner and gas controls, (2) the vent package, (3) the pipe package consisting of one 2½" diameter flue pipe, one 3" diameter inner air intake, and one 5" diameter outer air intake.

The alteration of these components for the use of other components will avoid the approval of this equipment.

The installer must familiarize himself with local and state codes before installation.

LOCATION – The vented recessed furnace should be installed as near the center of the travel trailer as possible in order to insure adequate air circulation throughout the coach. If this appliance is installed without a small blower, this central location will become of prime importance, as the appliance will then be dependent upon thermal convection currents for heat distribution.

FURNACE RECESS – The furnace must be installed in a free space or recess with a minimum of 14$^{3}/_{16}$" width, a minimum of 7½" depth, and a minimum height of 6' and a maximum height of 8'. Risers may be fabricated from 1" by 6" material to form this recess. A 1" by 6" plate must be installed on the floor of the recess.

This plate is necessary to physically raise the furnace a slight amount to allow installation of the furnace casing. See Figure 1.

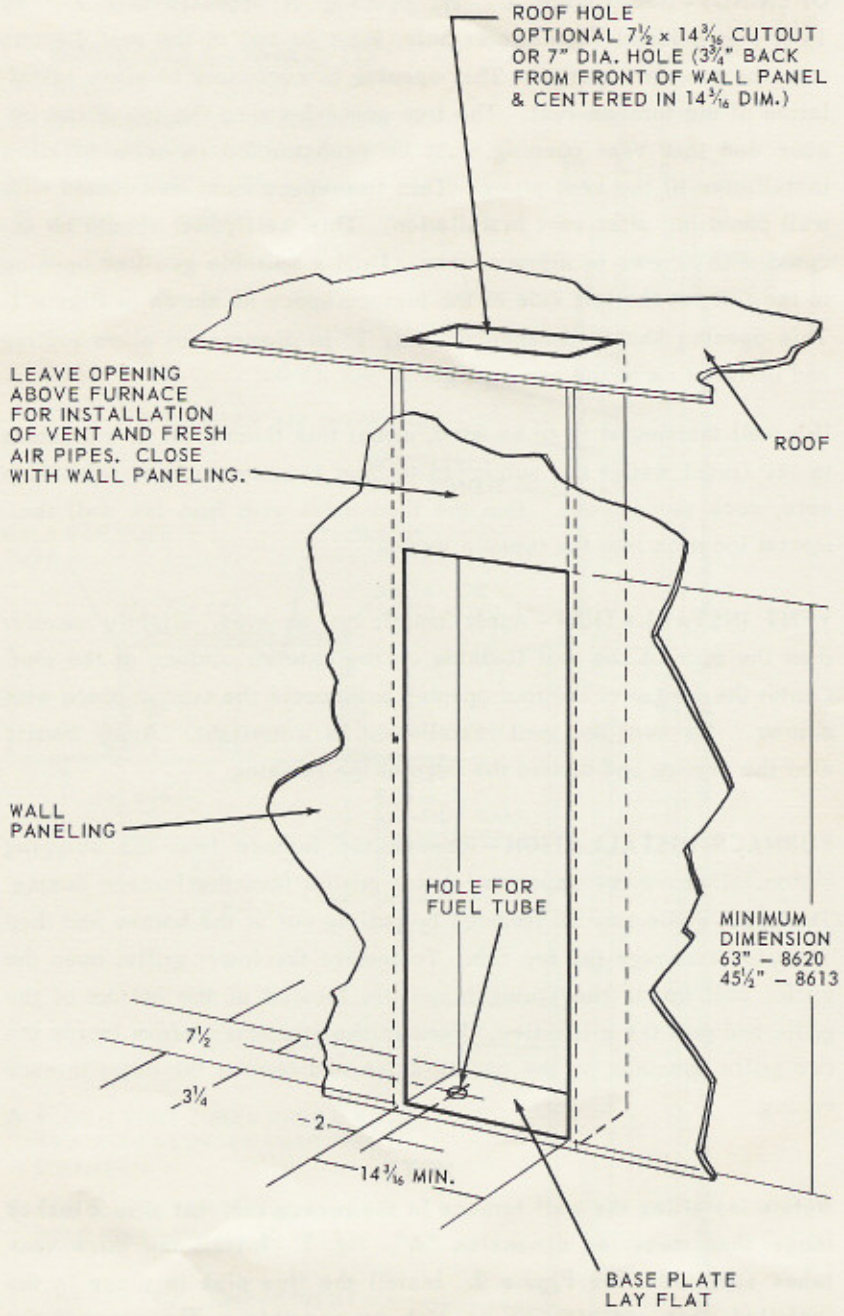

ROOF HOLE
OPTIONAL 7½ x 14 3/16 CUTOUT
OR 7" DIA. HOLE (3¾" BACK
FROM FRONT OF WALL PANEL
& CENTERED IN 14 3/16 DIM.)
LEAVE OPENING
ABOVE FURNACE
FOR INSTALLATION
OF VENT AND FRESH
AIR PIPES. CLOSE
WITH WALL PANELING.
ROOF
WALL
PANELING
HOLE FOR
FUEL TUBE
MINIMUM
DIMENSION
63" – 8620
45½" – 8613
7½
3¼
2
14 3/16 MIN.
BASE PLATE
LAY FLAT

FIGURE 1

OPENINGS – See Figure 1. An opening of approximately 7½" by 14³⁄₁₆", or a round 7" diameter hole, must be cut in the roof directly over the furnace location. This opening is necessary to allow installation of the furnace vent. The free space between the top of the furnace and this vent opening must be unobstructed in order to allow installation of the vent pipes. This free space must be covered with wall panelling after vent installation. This wall panel should be secured with screws to allow access. Drill a suitable gas line opening in the floor at the left side of the furnace space as shown in Figure 1. This opening should be approximately 1" in diameter to allow routing and installation of the gas piping.

If a wall thermostat is to be used, mount this thermostat in a location in the travel trailer not subjected to heat sources such as television sets, cook stoves, etc. Run the thermostat wire from the wall thermostat location into the furnace recess.

VENT INSTALLATION – Apply mastic to an area, slightly smaller than the size of the roof flashing on the exterior surface of the roof. Center the vent over the roof opening and secure the vent in place with screws. Be sure the vent installation is watertight. Apply mastic over the screws and around the edge of the flashing.

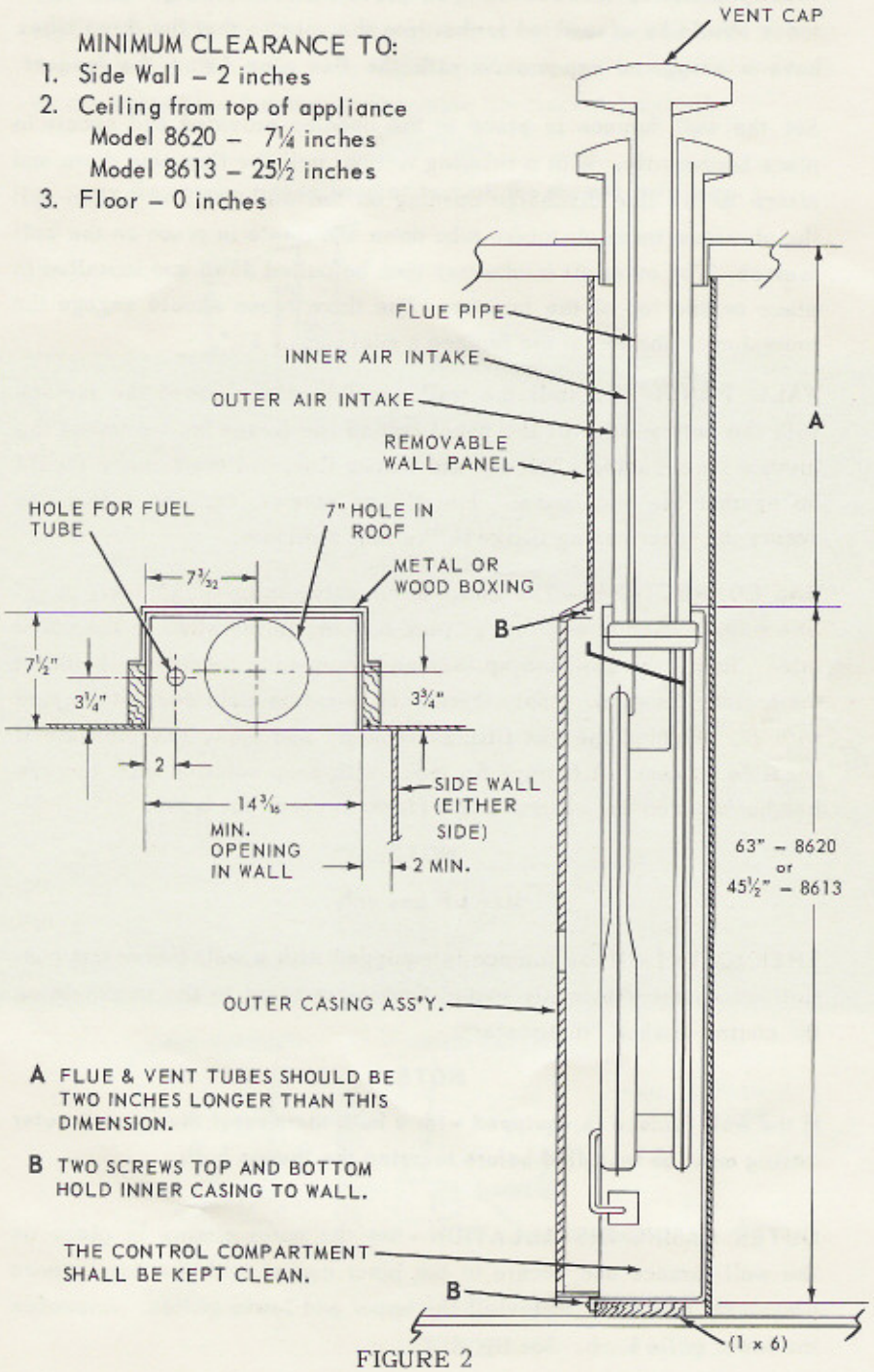
FURNACE INSTALLATION – Remove the furnace from the shipping carton. Remove the upper and lower grilles from the furnace casing. The upper grille may be removed by pulling out at the bottom and then down to disengage the top tab. To remove the lower grille, open the grille, pull up on the spring hinge pin located at the bottom of the grille and pull the grille free. Remove the four screws from inside the two grille openings on the casing sides and remove the outer furnace casing.

NOTE:

Before installing the wall furnace in the recess cut vent pipe 2 inches longer than measured dimension "A", fig. 2. Install the three vent tubes supplied. See Figure 2. Install the flue pipe in place in the installed vent cap rotating as high as possible. Then install the aluminum inner air intake in place over the flue pipe and rotate in place in the vent cap. Install the outer air intake over the two pre-

MINIMUM CLEARANCE TO:

1. Side Wall – 2 inches
2. Ceiling from top of appliance
   Model 8620 – 7¼ inches
   Model 8613 – 25½ inches
3. Floor – 0 inches



A FLUE & VENT TUBES SHOULD BE TWO INCHES LONGER THAN THIS DIMENSION.

B TWO SCREWS TOP AND BOTTOM HOLD INNER CASING TO WALL.

THE CONTROL COMPARTMENT SHALL BE KEPT CLEAN.

FIGURE 2

viously installed tubes rotating in place in the vent cap. The outer tubes should be assembled further into the vent so that the three tubes have a staggered appearance with the flue pipe being the longest.

Set the wall furnace in place in the opening provided and secure in place temporarily. With a twisting motion, pull the flue pipe down and attach to the flue discharge opening on the wall furnace. Then pull the aluminum inner air intake tube down and rotate in place on the wall furnace. The outer air intake may then be pulled down and installed in place on the top of the furnace. The three tubes should engage the provision on the top of the furnace a minimum of 1½".

WALL PANEL – Install the wall panel in place above the furnace with the bottom edge of the panel behind the flange on the top of the furnace inner casing. The top and bottom flange of the furnace should be against the wall panel. Install two screws, top and bottom, to secure the inner casing flange to the wall structure.

GAS CONNECTIONS – The gas control valve inlet is ½" ips. A ⅜" line may be used if a ½" to ⅜" pipe bushing is installed in the valve inlet. Route the gas line up through the opening previously bored at the furnace location. Apply thread compound on Male ends of all pipe fittings. Tighten the gas fittings securely and apply gas pressure if possible. Check all fittings for leaks with soap solution after the gas has been turned on. Never use a flame to check for leaks.

NOTE:

Use LP gas only.

THERMOSTAT – If the furnace is equipped with a wall thermostat control, attach the previously routed thermostat wires to the terminals on the control marked "thermostat".

NOTE:

If the wall furnace is equipped with a bulb thermostat the furnace outer casing must be installed before locating the thermo bulb.

OUTER CASING INSTALLATION – Set the outer casing in place on the wall furnace and secure to the inner casing with the four screws previously removed. Reinstall the upper and lower grilles. Assemble the lower grille knob. See fig. 4.

THERMO BULB INSTALLATION – If the furnace is equipped with a remote thermo bulb thermostat control, route the thermo bulb through the ⅜" hole in the right side of the furnace casing and install the bulb on the side of the furnace casing using the bracket provided.

CAUTION:

Be careful not to bend or to kink the thermo bulb tube.

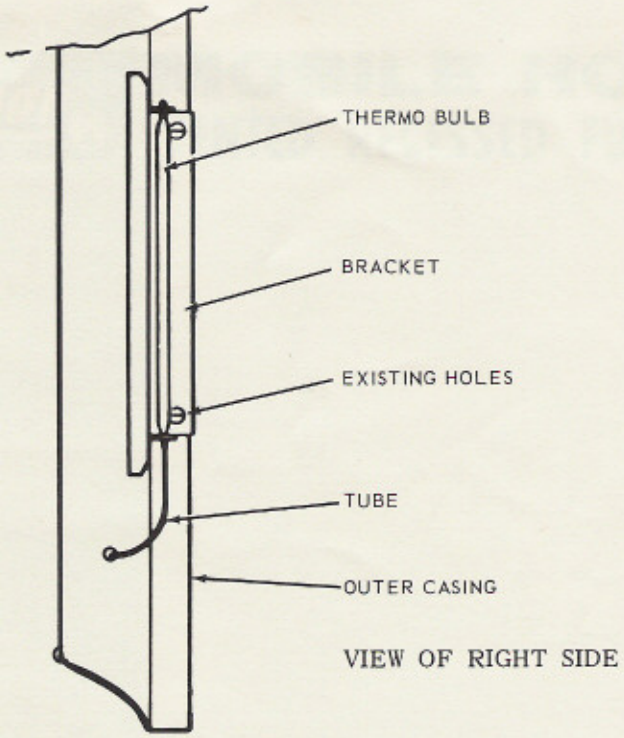


FIGURE 3

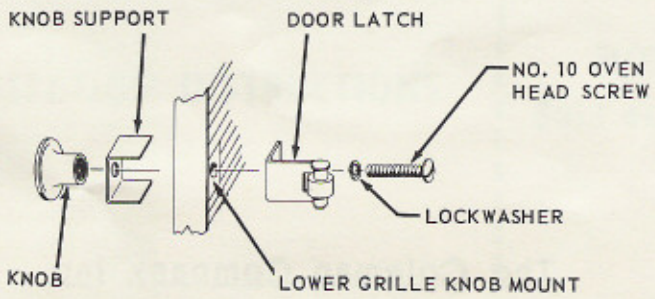


FIGURE 4

The Coleman Company, Inc.
MOBILE HOME DIVISION
WICHITA, KANSAS 67201

1970A183 9-65
P.I.

Litho in U.S.A.

INSTALLATION INSTRUCTIONS
SOLAR-PAL WALL FURNACES

OPTIONAL BLOWER ASSEMBLY FOR 8613 AND 8620

GENERAL –

The exclusive Coleman Vacuflow Blower Assembly is a miniaturized air circulator designed for installation in Coleman SOLAR*PAL Wall Furnaces. The blower locates in the bottom of the furnace and serves to circulate air from the floor over the heat exchanger, discharging the heated air into the living space.

The Vacuflow Blower Assembly consists of a scroll, blower wheel, drive motor, and the electrical component box housing the miniaturized circuitry. The unit is furnished completely assembled ready for installation.

ALTERNATE INSTALLATIONS –

The blower may be installed using a rear intake or it may be installed in its forward position as a single room circulator. In the forward position, the fan switch and harness (if used) mounts on the left side of the furnace inner casing. This forward position allows air circulation in the room forward of the furnace.

In the rear position, the fan switch is mounted on the right side of the furnace inner casing, and allows blower installation using a rear intake. This intake allows cool air return from an adjoining room. The partial evacuation of cool air from an adjoining room increases warm air circulation to this room.

The Vacuflow Blower is available in three models: the 8620-594 for installation on DC (battery) equipped coaches, and voltage converter equipped coaches, the 8620-597 for installation on coaches equipped with 115 volt AC only, and the 8620-591 multivoltage blower for installation on coaches equipped with dual voltage sources – AC and DC. The three models of Vacuflow Blowers are basically similiar, slight differences will be noted in the wiring and in the operation of the blowers.

INSTALLATION

All Vacuflow Blowers – Determine if the blower is to be installed in the forward position as a single room circulator, or if it is to be installed in the rear position, using a rear intake to heat an adjoining room. If the blower is installed between adjoining rooms using the rear intake it will be necessary to remove the knockout in the rear furnace inner casing, just below the burner. Remove any wall structure behind the knockout to allow air circulation into the blower.

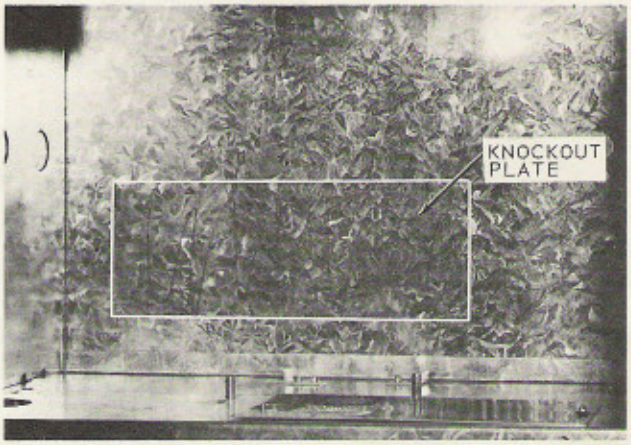


Figure 1. Rear Intake Knockout.

Remove the upper register and lower door from the furnace. Remove the 4 screws from the outer casing and remove the casing frame from the furnace. See Figure 2.

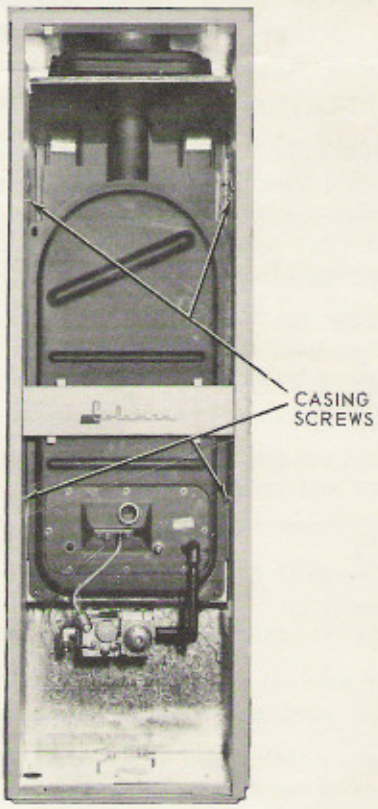


Figure 2. Casing Removal.

The DC blower (8620-594) and the multivoltage blower (8620-591) are equipped with fan switches to allow automatic control of the blower. It is necessary to remove a knockout in the inner casing of the fur-

nace to install the fan switch and bracket. If the blower is installed in the forward position for single room circulation, remove the LH knockout for fan switch installation. If installing the blower utilizing a rear intake, remove the RH knockout for fan switch installation. See Figure 3.

Figure 3. Fan Switch Knockout.

INSTALLATION – DC BLOWER, MODEL 8620-594

a. Slide blower under proper rear mounting clip and locate front mounting grommets over the two front locating pins. See Figure 8. Locate the furnished clips over the two front locating pins, and screw to furnace base.

b. Route fan switch harness between the furnace inner liner and casing to the fan switch location. Attach leads to fan switch and install fan switch bracket.

c. Connect the DC supply leads to the two leads (red and yellow) at the blower.

CAUTION:

The RED DC lead must be routed from the positive (+) post of the battery. Reversal of the terminals may damage the blower circuitry.

d. Be sure all electrical connections are adequately insulated, preferably with wire connectors.

e. Secure the ground strap to the screw in the bottom of the furnace casing.

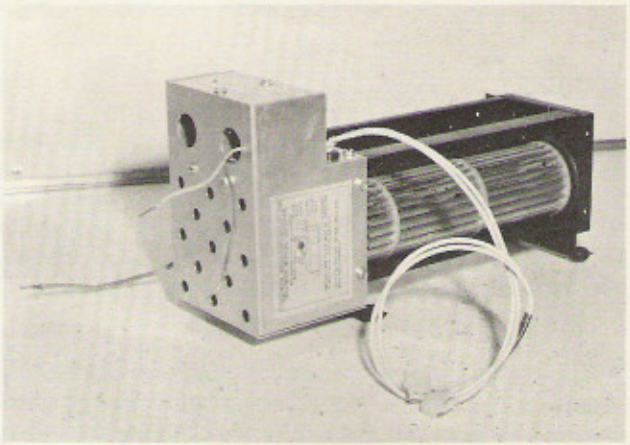


Figure 4. DC Blower 8620-594.

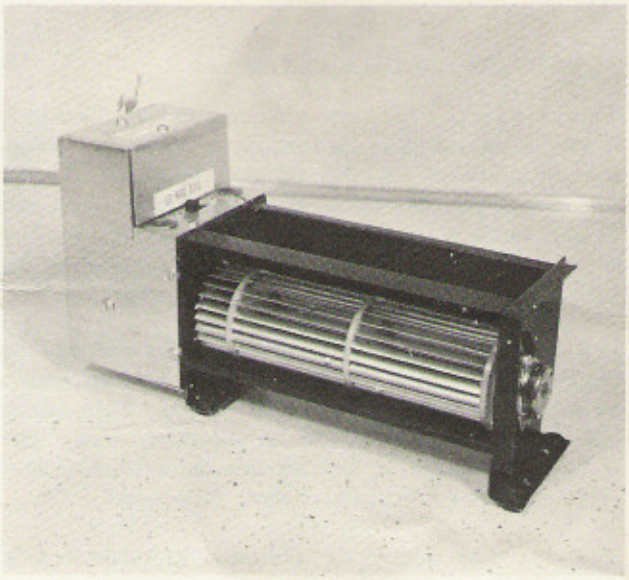


Figure 5. AC Blower 8620-597.

INSTALLATION – AC BLOWER, MODEL 8620-597

a. Slide the blower under the proper rear mounting clip and locate front mounting grommets over the two front mounting pins. See Figure 1. Locate the two furnished mounting clips over the two locating pins, and screw to furnace base.

b. Connect the AC supply leads to the two leads (black and white) at the blower.

c. Be sure all electrical connections are adequately insulated, preferably with wire connectors.

d. Secure the ground strap to the screw in bottom of the furnace casing.

e. Turn on AC power and make sure the blower operates.

NOTE:

The AC blower is designed for manual operation only. Place blower switch to "MAN" for blower operation and "OFF" to stop.

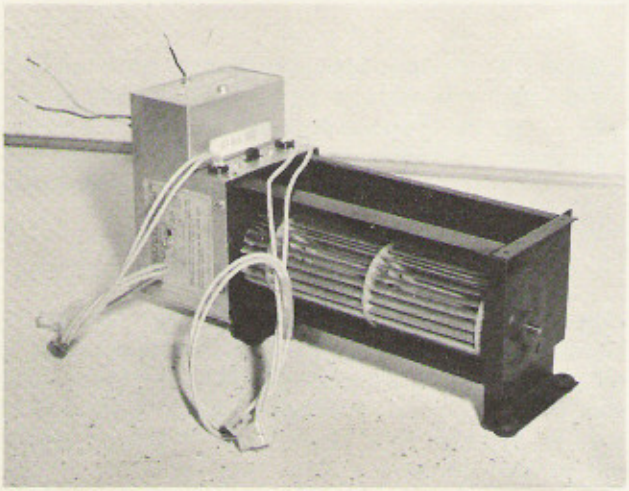


Figure 6. Multivoltage Blower 8620-591

INSTALLATION – MULTIVOLTAGE BLOWER, MODEL 8620-591

a. Slide blower under proper rear mounting clip and locate the two front mounting grommets over front locating pins. See Figure 8. Locate the two furnished mounting clips over the two locating pins and screw to furnace base.

b. Route the two fan switch harnesses between the furnace inner liner and casing, to the fan switch location. Attach the two sets of leads to the two fan switches.

NOTE:

Be sure the color coded harnesses attach to the same switch. The two leads taped with orange attach to the same switch; the blue coded leads attach to the remaining switch.

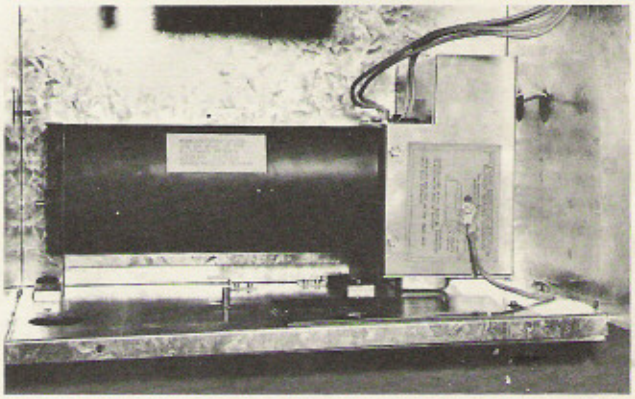


Figure 7. Blower Installed

c. Position the fan switch bracket assembly in the knockout and secure in place with attaching screw.

d. Route the 115 volt AC supply wires to the blower and connect to the two AC leads (black and white) at the blower.

e. Route the two DC supply leads to the blower and connect to the two DC leads (red and yellow) at the blower.

CAUTION:

The RED DC lead must be routed from the positive (+) post of the battery. Reversal of the leads may damage the blower circuitry.

f. Be sure all electrical connections are adequately insulated, preferably with wire connectors.

g. Secure the ground strap to the screw in the bottom of the furnace casing.

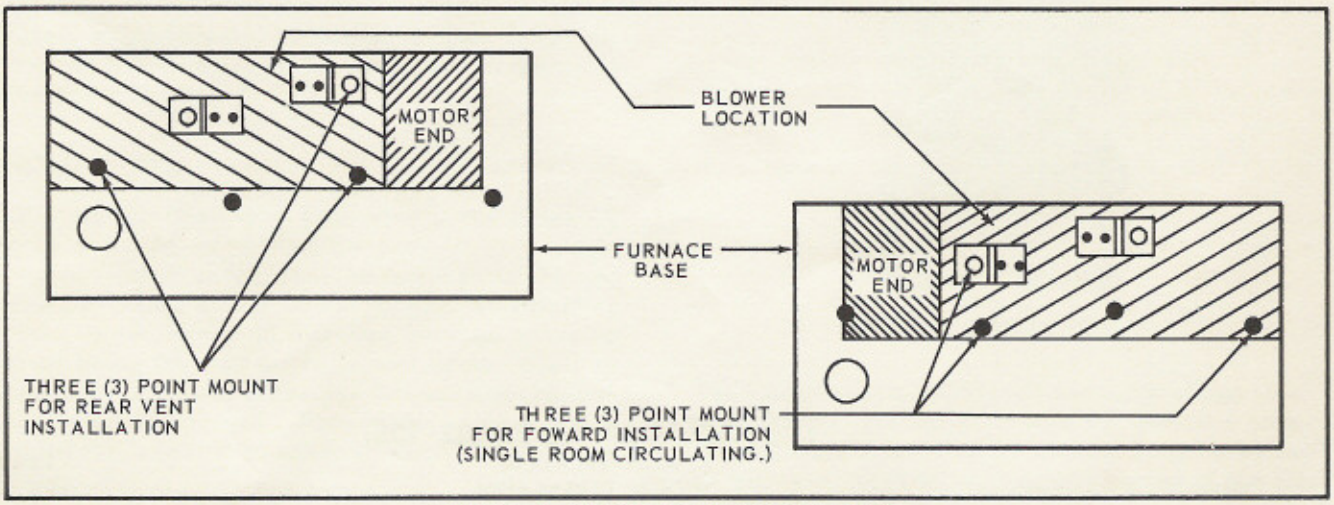


Figure 8. Alternate Blower Locations

Coleman

VACUFLOW OPERATING INSTRUCTIONS

INSTALLED ON 8613 AND 8620 SEALED COMBUSTION WALL FURNACES

The exclusive Vacuflow Blower is a miniaturized air circulator providing completely automatic heat distribution throughout a travel trailer. The blower is intended for installation in Coleman SOLAR*PAL Wall Heaters. The blower is designed to remove cool air from the floor of the travel trailer and direct the air over the furnace heat exchanger where it is heated and discharged forward into the living quarters. This blower may be installed to circulate warm air in a single room or, with the use of a rear intake, may be used to provide cold air return from an adjoining room.

The Vacuflow Blower is available in three models: the 8620-594 for DC only (battery operation), the

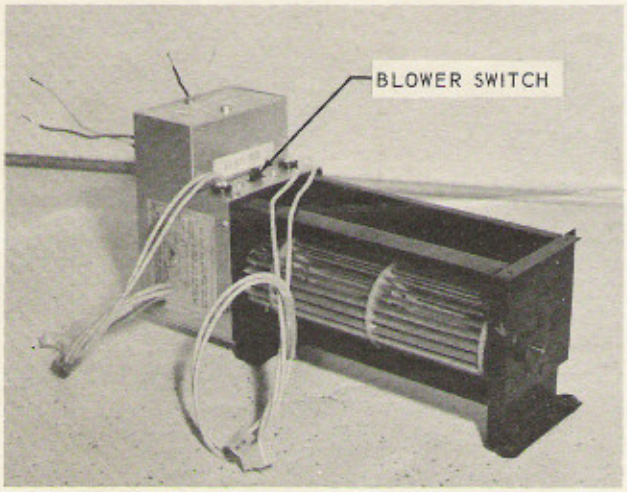


Figure 1. Vacuflow Blower.

8620-597 for AC operation only, or the 8620-591 multivoltage blower which operates on either 12 volt DC or 115 volt AC. This multivoltage blower (8620-591) includes a completely transistorized circuit with automatic switching to use either AC or DC voltage with no danger of burning out the motor and no need of manual switching. In addition, the multivoltage blower includes a battery trickle charger which recharges your 12 volt storage battery at any time that the blower is operating on AC. Of course, the manual switch on the blower allows continuous battery charging even when the furnace is off.

OPERATION – DC BLOWER, MODEL 8620-594

The Vacuflow DC Blower is installed only in coaches equipped with strictly a DC system. This includes coaches equipped with batteries only, and coaches equipped with voltage converters where all components in the coach are operated on DC. To operate the Vacuflow Blower on DC equipped coaches, set the blower switch, located on top of the Vacuflow Blower, to the "AUTOMATIC" position. The blower will then automatically cycle with the burner. Normally, the blower will commence operation a few minutes after the burner comes on. If desired, the blower switch may be placed in the "MANUAL" position for constant operation. If blower operation is not desired, simply place the blower switch to the "OFF" position.

OPERATION – AC BLOWER, MODEL 8620-597

Operation of the AC Blower is completely manual. This blower is not equipped with a fan switch, and must be operated from the switch located on top of the Vacuflow Blower. If heat distribution is desired, simply place the switch in the "MAN." position. When blower operation is no longer desired, move the switch to the "OFF" position.

OPERATION – MULTIVOLTAGE BLOWER, MODEL 8620-591

The multivoltage blower is wired into two separate circuits, 12 volt DC and 115 volt AC. The blower is equipped with a three position switch located on top of the Vacuflow Blower with "OFF," "MANUAL," and "AUTOMATIC" positions indicated. When the blower switch is placed in the "AUTO" position, blower operation is completely automatic regardless of the voltage being used. It is unnecessary to perform any switching arrangements on the Vacuflow Blower, as the blower will automatically select the voltage available. After the furnace commences operation, the blower will come on approximately 5 to 7 minutes later. During shutdown, the blower will cease operation 5 to 7 minutes after the burner shuts off.

NOTE:

Two delay switches must actuate before the blower comes on; the fan switch actuates first, then the heater switch. It may take 4 to 5 minutes for the fan switch to actuate the circuit to the heater, and an additional two minutes for the heater switch to commence the blower. Please note you cannot sim-

ply plug in the blower and expect it to start immediately. It may take as long as 7 minutes for the blower to commence operation after the burner comes on. In the same manner, it may take several minutes for all components of Vacuflow Blower circuitry to shut down the blower. During the shutdown period, it is possible the blower may revert to DC operation for a short period. This will be noted by a noticeable speed reduction just prior to complete shutdown of the blower.

Battery Charging –

Through the unique transistorized circuit, the coach storage battery is trickle charged whenever the blower is operated on AC. The coach storage battery may be charged when operating on AC independent of burner operation. Merely place the blower switch to the "MANUAL" position; the blower will operate continuously and charge the battery at 3/4 amperes per hour.

The Coleman Company, Inc.

MOBILE HOME DIVISION
WICHITA, KANSAS 67201

1970A266 P.I. 1-66

LEN-247
LITHO IN U.S.A.