

5. GENERAL INFORMATION

The 6533 (115 volt) and 6573 (240 volt) series package air conditioners are intended for installation on the roof of elevator cabs or like-sized indoor use contrivances. Installation area should be sufficient to allow proper cutouts and unit mounting without cutting vital frame members or electrical wiring. Structural members should not create restrictions to airway ducts.

Recommended installations are shown in Figures 3 & 4. Actual mounting and placement can vary according to existing conditions.

Conditioned air is delivered from the air conditioner to the interior of the enclosure through ducting that is supplied in Installation Kit #6533-625 as shown in Figure 2.

The system's return air duct, thermostat, etc. are also found in the Installation Kit.

The air conditioner is powered by a 115 volt, 60 Hz, 1 Phase, 20 Amp electrical service for the 6533 series and 240 volt, 50 Hz, 1 Phase, 15 Amp electrical service for the 6573 series.

6. UNIT INSTALLATION

Refer to Figure 3:

1. The air conditioner draws in topside air to cool the condensing coil. The air is drawn in from the end of the air conditioner (across the condensing coil), and discharged out through the discharge opening.

To provide adequate condensing airflow, the installer must adhere to the following guidelines:
 - The air path to the condensing coil should be as direct and non-restrictive as possible.
 - Do not block or restrict the discharge opening.
 - Ensure that there are no structural members or panels which would serve to cause condenser discharge air to recirculate into the condenser return air.
2. Remove and discard the plate and styrofoam adapter from the desired supply air outlet (top or end). Attach the 10-inch diameter collar assembly using the existing screws supplied on top of the air conditioner.
3. Mount the 10-inch diameter starting collar to the return air inlet by crimping the existing tabs.
4. Mount the air conditioner using the four shipping brackets or use band or brackets of your own. If using a condensate evaporator with the air conditioner, elevate the air conditioner 4-5 inches to ensure proper drainage of condensate from the air conditioner drain pan to the evaporator.
5. Mount the thermostat to the thermostat mounting bracket using the screws provided with the thermostat. Connect extension cable to thermostats cable. Attach thermostat with mounting bracket to a 10-inch collar assembly using two (2) sheet metal screws.
6. Cut a 10 1/8" square opening in the cab top as far as possible from the intended location of the supply air distribution scoops. Position 10-inch diameter collar assembly with the thermostat/bracket over the opening. Fasten the collar to the canopy with rivets or screws. Using quality duct tape, seal the seams around the perimeter of the collar assembly.
7. Install the four (4) supply air distribution scoops in an area as far as possible from the return air 10-inch diameter collar assembly installed in Step 6. Air from the scoops should have a clear path into the conditioned cab. Attach the scoop with adhesive, straps, brackets or by fastening through the part. If attaching with fasteners, pre-drill any clearance holes in the scoops to prevent cracking during installation. It is also good practice to mount the scoop away from any heat producing devices such as lights, fixtures, etc.
8. Attach one (1) 10-inch starting collar by crimping the existing tabs and attach four (4) 4-inch starting collars to the plenum box. Mount the plenum box below the cab top and run the 4 inch plenum supply air flex duct from the plenum to the four (4) air distribution scoops. Ensure that the most direct and shortest length of duct is used. Cut off any excess. Secure duct at plenum and scoops using the duct ties provided. Cut a 14-inch diameter hole in the cab top for the 10-inch diameter insulated supply air flex duct to pass through. Connect duct to the top of plenum and to the collar assembly installed in Step 2. Ensure that the most direct and shortest length of

- duct is used. Cut off any excess. Secure the duct at the plenum and collar assembly using the duct ties provided.
9. Connect the 10-inch diameter uninsulated return air flex duct to the return air starting collar installed in Step 3. Secure the duct to the collar assembly using the duct ties provided.
 10. Determine the most direct and shortest length of duct to be used to connect the 10-inch diameter uninsulated return air flex duct to the 10 inch diameter collar installed in Step 6. Cut a small slit through the 10-inch diameter uninsulated return air flex duct directly above the 10-inch diameter collar assembly and route the thermostat extension cable through the slit in the duct. Cut off any excess duct and attach duct to collar using the duct ties provided. Seal the duct where the thermostat cable exits with a quality duct tape.

11. Plug remaining end of cable to the air conditioners thermostat 4-pin connector.
12. Attach the 7/8 inch ID condensate drain hose to the drain pan on the air conditioner and secure with the hose clamp provided.

DANGER - SHOCK HAZARD

Do not drill any openings into this air conditioner. When attaching any collars, ducts or adapters directly to the air conditioner, use only the pilot holes already provided. Drilling new openings and inserting screws may damage either the refrigeration circuit or electrical wiring, causing possible equipment damage, personal injury or death.

7. ALTERNATE UNIT INSTALLATION

Refer to Figure 4:

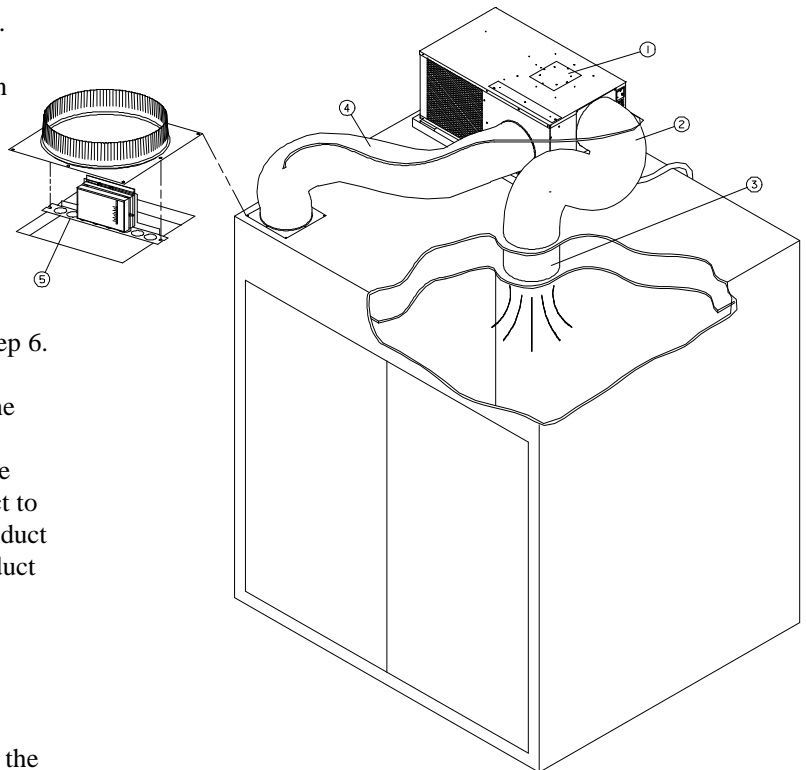
1. The air conditioner draws topside air to cool the condensing coil. The air is drawn in from the end of the air conditioner, across the condensing coil, and discharged through the discharge opening. To provide adequate condensing airflow, the installer must adhere to the following guidelines:
 - The air path to the condensing coil should be as direct and non-restrictive as possible.
 - Do not block or restrict the discharge opening.
 - Ensure that there are no panels or structural members that cause the condenser discharge air to be recirculated into the condenser return air.
2. Remove and discard the plate and styrofoam adapter from the desired supply air outlet (top or end). Attach the 10-inch diameter collar assembly using the existing screws supplied on top of the air conditioner.
3. Mount the 10-inch diameter starting collar to the return air inlet by crimping the existing tabs.
4. Mount the air conditioner using the four (4) shipping brackets or use band or brackets of your own. If using a condensate evaporator with the air conditioner, elevate the air conditioner 4-5 inches to

ensure proper drainage of condensate from the air conditioner drain pan to the evaporator.

5. Mount the thermostat to the thermostat mounting bracket using the screws provided with the thermostat. Connect extension cable to thermostat cable. Attach thermostat with mounting bracket to a 10-inch collar assembly using two (2) sheet metal screws.
6. Cut a 10 1/8 inch square opening in the cab top as far as possible from the intended location of the supply air flex duct into the cab. Position 10-inch diameter collar assembly with the thermostat/bracket over the opening. Fasten the collar to the cab top with rivets or screws. Using quality duct tape, seal the seams around the perimeter of the collar assembly.
7. Install one (1) supply air distribution diffuser in the cab in an area as far as possible from the return air 10-inch diameter collar assembly installed in Step 6. Air from the diffuser should have a clear path into the conditioned cab. **The diffuser used is to be provided by the installer** and should be capable of using the 10-inch diameter insulated supply air flex duct. It is also good practice to mount the diffuser away from any heat producing devices such as lights, fixtures, etc.
8. Cut a 14-inch diameter hole in the cab top for the 10-inch diameter insulated supply air flex duct to pass through. Connect duct to top of diffuser and to the collar assembly installed in Step 2. Ensure that

the most direct and shortest length of duct is used. Cut off any excess. Secure the duct at the diffuser and collar assembly using the duct ties provided.

9. Connect the 10-inch diameter uninsulated return air flex duct to the return air starting collar installed in Step 3. Secure the duct to the collar assembly using the duct ties provided.
10. Determine the most direct and shortest length of duct to be used to connect the 10-inch diameter uninsulated return air flex duct to the 10-inch diameter collar assembly installed in Step 6. Cut a small slit through the 10-inch diameter uninsulated return air flex duct directly above the 10-inch diameter collar assembly and route the thermostat extension cable through the slit in the duct. Cut off any excess duct and attach the duct to the collar using the duct ties provided. Seal the duct where the thermostat cable exits with a quality duct tape.
11. Plug the remaining end of the cable into the air conditioner's thermostat 4-pin connector.
12. Attach the 7/8 inch ID condensate drain hose to the drain pan on the air conditioner and secure with hose clamp provided.



1. Optional Supply Air (Top) Outlet
2. Supply Air (End) Outlet With 10" Dia. Insulated Supply Air Flex Duct
3. Supply Air Distribution Diffuser By Installer
4. 10" Dia. Uninsulated Return Air Flex Duct Connected To 10" Dia. Assemblies
5. Thermostat With Mounting Bracket

FIGURE 4

8. INSTALLATION NOTES

The **LiftAire Series** of air conditioners are specifically designed and constructed for use on new elevator installations, modernizations and retrofits of existing elevator cabs. They are provided with all the materials needed to properly cool and/or heat an elevator cab. To ensure maximum efficiency and operation, the following guidelines should be adhered to:

1. Supply and return registers in the cab should not restrict airflow into and out of the cab. Any resistance of the airflow will limit the effectiveness of the unit and create wind noise. The return air and supply air registers should be as far away from one another as possible to ensure proper air circulation in the cab and back to the air conditioner.
2. While the installation kit provides a sufficient amount of supply and return air flexible duct, in order to limit airflow resistance, **all duct connections should be the most direct and the shortest possible.** Cut any extra flexible duct not required, connect flexible duct per previous installation instructions and discard any extra material.
3. **Ensure that the thermostat is installed in the return duct or the cab.** If using the standard thermostat, check that the temperature and operation settings are correct. If using the automatic thermostat, make sure the unit is programmed for the type of operation you require. When thermostat is installed in the cab, it must be able to sense cab temperature to operate properly. If placed within the

fixture area of the cab, there must be a perforated cover to allow cab air access to the thermostat. Locating the thermostat anywhere else affects the proper operation of the **LiftAire** unit and cooling of the elevator cab as designed.

4. If you are retrofitting an existing cab, **it may not be necessary to use the fan supplied in the original cab.** The **LiftAire** air conditioner has a fan that will run continuously with proper settings of the thermostat. If you allow the cab fan to operate during normal conditions you will bring hot, cold or humid hoistway air into the cab, thereby defeating the purpose of the air conditioner and its effectiveness. If it is permitted, remove the original fan to prevent warm hoistway air from entering the cab during ascent and descent of the elevator. If necessary, you can use the original fan's opening for the return air register, provided it has 79 square inches of open area and is far enough away from the supply air register to ensure proper recirculation of the cool air. If using the **LiftAire** on a new installation, a cab fan is probably not required. If a separate cab fan is required it is recommended that the cab fan operate only during power loss. In addition, the cab fan should utilize a spring loaded or powered louver than opens during cab fan operation. This prevents unregulated hoistway air from entering the cab during air conditioner operation.

5. All supply and return registers with duct work into the cab must be manufactured and installed to prevent any air leaks and losses of the cold supply air from the air conditioner and return air back to the air conditioner.
6. Never install the condensate evaporator under the return or supply air ducts. This can cause water accumulation, damage to the ducts and damage to the cab.
7. It is the responsibility of the installer to ensure that the installation meets any and all building, electrical and other applicable codes.

DANGER - SHOCK HAZARD

Do not drill any openings into this air conditioner. When attaching any collars, ducts or adapters directly to the air conditioner, use only the pilot holes provided. Drilling new openings or inserting screws may damage either the refrigeration circuit or electrical wiring, causing possible equipment damage, personal injury or death.

9. MAINTENANCE INSTRUCTIONS

The **LiftAire Series** of air conditioners require very little maintenance during normal operating conditions. The following are general requirements that should be performed every 4-6 months.

1. Air filters should be inspected and washed on a regular basis. Clogged filters will produce a loss of air volume and possibly damage equipment. Do not operate the unit without a return air filter. The filters are reusable after being washed.
2. Evaporator and condenser coils should be inspected and, if dirty, cleaned on a regular basis. Remove by hand any paper or debris that might have collected on the coils and blow compressed air through the coils. This should not have to be done very often unless the shaftway and installation are in a very dirty environment.

3. Inspect and clean the condensate drain pan. Ensure that the drain hole and hose are clear of debris to allow any condensate to properly drain.
4. If a condensate evaporator is used, inspect to ensure there is no debris on the guard or in the evaporator pan. Ensure drain hole and hose are clear of debris.
5. If an automatic thermostat is used, check the LCD display and observe if the word "BATTERY" is flashing. If it is displayed, the "AA" alkaline batteries are low and should be replaced. See thermostat operating manual for battery replacement instructions.

10. 115 (240) VOLT AC ELECTRICAL WIRING

WARNING - SHOCK HAZARD

To prevent the possibility of severe personal injury or equipment damage due to electrical shock, always be sure the electrical power is disconnected or off before beginning installation.

1. **Power supply wire size should be determined per code and losses for long cable runs should be taken into account to insure the proper voltage to the air conditioner at unit startup amperage.**
2. This air conditioner contains a compressor refrigeration system and requires power from a 115 (240) volt electrical circuit. The circuit connects to terminal lugs inside the unit.
3. High Voltage Routing Specifications - When routing the high voltage supply wiring, the following guidelines must be followed:
 - High voltage wiring must be routed through the separate opening in the outer cabinet of the air conditioner. This opening is shown on Figure 1 as Field Wiring Line Voltage Access. It is a 7/8 inch diameter opening for 1/2 inch conduit.
 - Do not allow excess wiring to contact the electrical terminals or allow sharp screw ends and edging that can damage the wire insulation.
- C After connecting ground wire to grounding lug, verify the grounding wire cannot come into contact with any high voltage terminals.

4. This unit is equipped with high and low pressure switches to protect against fan failure and refrigerant loss. If either activates, the unit will lock out until service personnel inspect and repair any problem and reset the unit by depressing the reset button located on the air conditioner.
5. The unit is equipped with a normally open contact (rated 30 amps at 115 volts). This contact closes when the high or low pressure switches are activated or when line voltage is interrupted. It can be used for customer external alarms or operation.
6. If line voltage is interrupted or there is a power failure, there will be a three (3) minute time delay after resumption of power before compressor will be allowed to restart and the air conditioner will resume operation.

DANGER

When using non-metallic sheath supply cables (Romex, etc.); if allowed by building, electrical or applicable codes, strip sheath back to expose 4-6 inches of the supply leads. Strip the individual wire lead ends for wire connection (about 3/4 inch bare wire). Insert the supply wires into the electrical connector clamp. Sheath must protrude past clamp bushing inside the box. Make sure the sheath cable is centered in the clamp before tightening it. Do not overtighten!! This could result in pinching through the plastic wire insulation and cause shorting or "hot" wires to ground (shock hazard). The clamp is intended for strain relief of the wires. Slight pressure is usually sufficient to accomplish this.

11. THERMOSTAT AND 24 VAC WIRING

THERMOSTAT OPERATING AND WIRING REQUIREMENTS

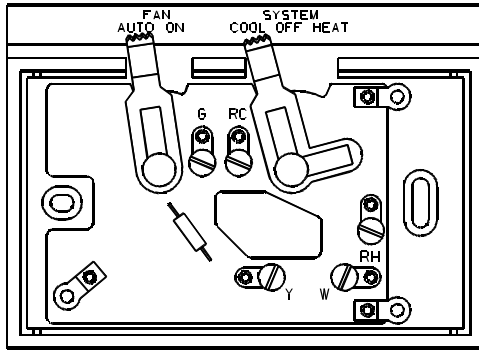
The 6533 (115 volt) and 6573 (240 volt) series air conditioners are designed to be controlled by the 24 VAC thermostat provided in the installation kit or by our optional automatic thermostat.

The thermostat should be mounted on the return air duct mounting bracket. The air conditioner and thermostat connect using the plug-in extension cable provided in the 6533-625 Installation Kit.

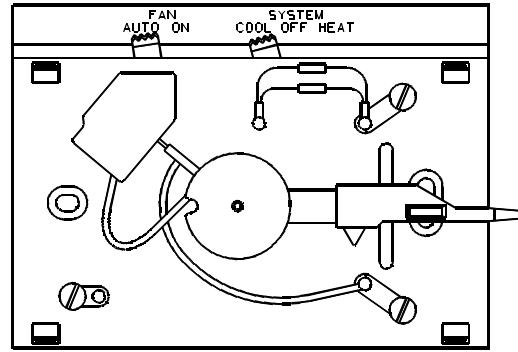
The chart below details system functions.

■ SHOWS POSITION OF SWITCH					OPERATION
FAN AUTO ON		SYSTEM COOL OFF HEAT			
■	□	■	□	□	Compressor and blower cycle as required.
■	□	□	■	□	No functions occur.
■	□	□	□	■	Heater and blower cycle as required.
□	■	■	□	□	Blower runs continuously. Compressor cycles as required.
□	■	□	■	□	Blower runs continuously. <u>No</u> heating or cooling function occurs.
□	■	□	□	■	Blower runs continuously. Heater cycles as required.

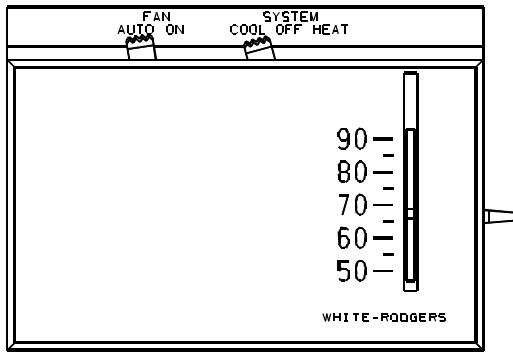
Adjusting Setpoint: To adjust the temperature control setpoint, move the temperature select lever located on the side of the thermostat to the temperature desired. For automatic thermostat settings, see specific manual provided with thermostat.



SUB-BASE



BI-METAL PLATE



COMPLETE ASSEMBLY
BI-METAL PLATE SCREWED
TO SUB-BASE AND WITH
SNAP-ON COVER

12. PRE-CHECK PRIOR TO POWER UP

1. Before engaging power to any system, ensure the following:
 - A) All tools have been removed from the equipment;
 - B) All wiring is attached, routed and properly secured according to applicable codes;
 - C) All panels (both mechanical and electrical) are properly in place;
 - D) The thermostat system is switched to the "OFF" position; and
 - E) All co-workers have been warned that the equipment is about to be energized.
2. System wiring may be checked by referring to the wiring diagram located on either the back of the wiring box door or in this manual (See page 12).
3. After complying with Steps 1 and 2, engage power to all systems and begin checkout procedure.

13. INSTALLATION INSTRUCTIONS FOR 6533-3252 (115 VAC-25 AMPS) AND 6573-3252 (240 VAC-12.5 AMPS) CONDENSATE EVAPORATOR

PACKAGE CONTENTS

- 1 - Condensate Evaporator Assembly
- 1 - Unit Drain Filter Pad
- 2 - Filter Pad Hold-Down Clips
- 1 - 3/8" I.D. x 4 Ft. Overflow Hose
- 1 - Hose Clamp
- 4 - Evaporator Mount Clips
- 1 - Evaporator Guard

FILTER INSTALLATION

Center filter pad over condensate drain fitting inside of unit drain pan and secure filter pad with hold-down clips which slide over the edge of the unit drain pan to hold the filter in place (See Figure 5).

EVAPORATOR INSTALLATION

1. The elevator air conditioner should first be installed following the instructions provided with the unit. The air conditioner **must be installed** at least 5" higher than the mounting surface for the condensate evaporator to allow for proper drainage (See Figure 6).
2. Install the condensate evaporator with four screws through the mounting flanges so the evaporator is level and will not shift. Position the evaporator guard basket over the evaporator, routing the conduit through a grid section. Secure evaporator guard to the base using the four clips provided. Position the guard to allow the overflow hose direct entry through a grid section to the evaporator.

3. Route a length of 7/8" I.D. drain hose provided with the air conditioner through a grid section to provide drainage into the evaporator without touching the evaporator. The drain hose will fit snugly through a grid section. **Do not allow the drain hose to route above the a/c unit drain pan at any point.**
4. Attach the 3/8" I.D. hose to the evaporator using the clamp provided. This hose will pass through an evaporator guard grid section. Free end of this hose will be inserted and secured into the remaining 7/8" I.D. hose which passes to the bottom of the elevator. The 7/8" I.D. hose should be clamped to the elevator side. Ensure that a minimum of 4 inches of evaporator overflow hose is inserted and secured into the larger drain hose. **Do not allow the overflow hose to route above the evaporator pan at any point.**
5. Connect power supply to evaporator per local electrical, building or applicable codes.

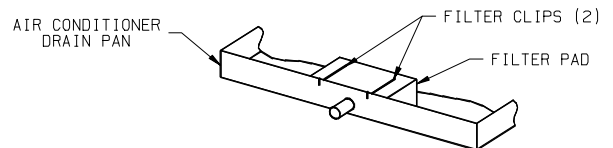


FIGURE 5

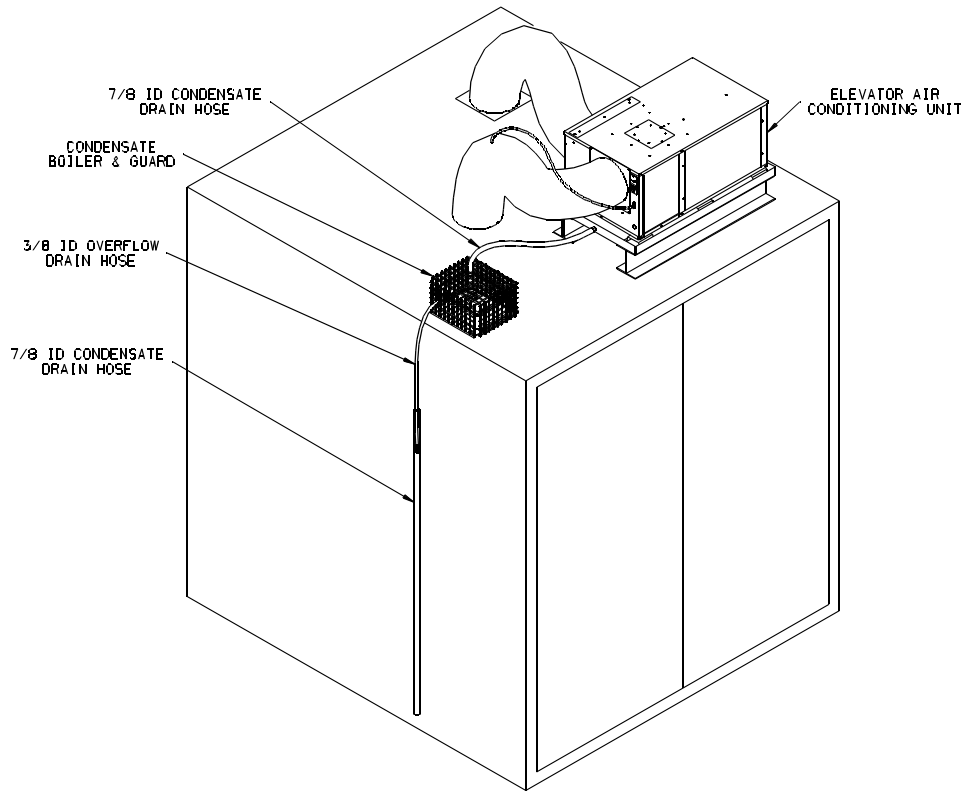
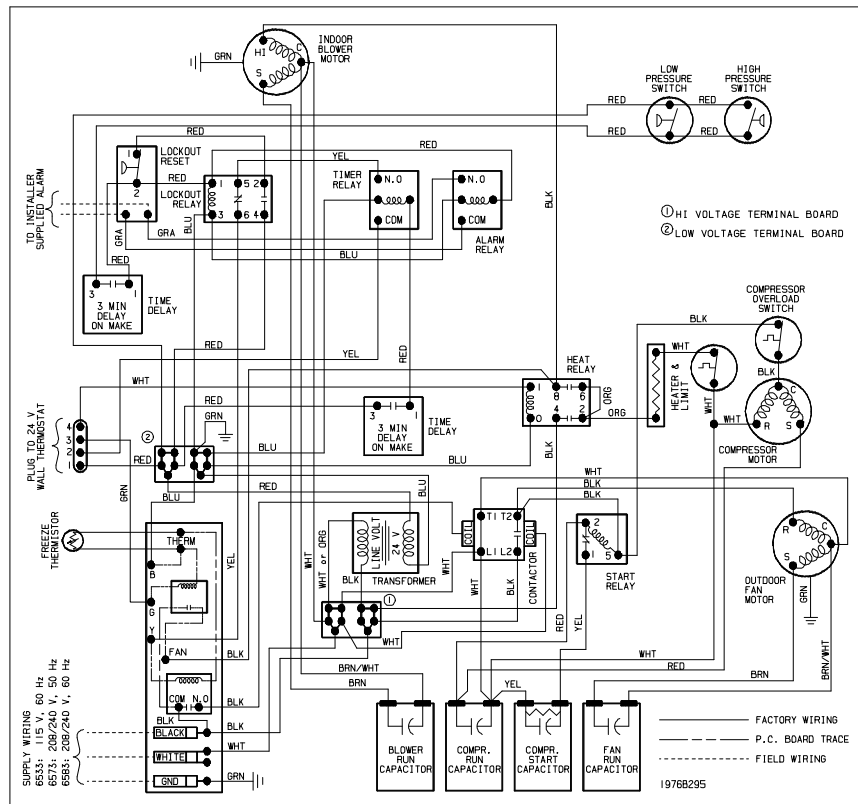


FIGURE 6



LIFTAIRE II™ ELEVATOR AIR CONDITIONER

FEATURES

- Lightweight unit mounts easily in virtually any position on top of the elevator.
- Self-contained, packaged design for easy installation.
- Compact rotary compressor saves space and weight.
- Rated at 14,000 BTUH nominal cooling capacity.
- Mechanical heat/cool thermostat mounted in return air flex duct for secure settings and more accurate temperature sensing. 15' umbilical for remote thermostat mounting. Optional automatic changeover heat/cool thermostat available.
- Standard 1600 watt electric heater delivers 5,600 BTUH heat capacity on 120 volt model; 2,600 watt model delivers 8,800 BTUH heating capacity on 240 volt model.
- Fan can be set to operate continuously for improved air circulation and filtration.
- 450 cubic feet per minute airflow rate.
- Compressor hermetically sealed at factory for leakproof refrigerant flow and efficient operation.
- Black finish on supply air diverter conceals it in the gap between the false ceiling and interior wall.
- Compressor and outer cabinet are mounted on shock absorbing rubber for added durability and noise reduction.
- Long lasting copper tubing is fabricated with shock loops to strengthen the system's vibration resistance.
- Gas-flux brazed joints on the tubing to resist corrosion.
- Start circuit with start capacitor and relay makes starting easier on the compressor.
- All galvanized steel construction of the outer cabinet ensures corrosion resistance.
- Heavy-duty, galvanized steel drain pan is specially designed for corrosion-resistant durability with bronze-brazed corners and powder-coated corners and powdered-coated epoxy paint.
- Freeze protection is provided to prevent evaporator freeze-up, along with high and low pressure switches to protect against fan failure or refrigerant loss.
- 4-pin connector plugs into air conditioner for easy thermostat hookup.
- Field wiring accomplished simply and easily to lugs on Printed Circuit Board.
- Washable filter drops into return air bonnet.
- Normally open contact for remote monitoring of unit shutdown or power outages.

OPTIONAL ACCESSORIES

- Automatic Thermostat - Programmable for 7-day operation, on/off, heat/cool
- Condensate Evaporator - 1/60/115 volt or 1/50/240 volt, 3,000 watts complete with pan, filter, overflow tube and connection cables
- Overflow Detection Device

SPECIFICATIONS

Nominal BTUH Cooling Capacity.....	14,000	14,000
Delivered BTUH Heating Output.....	5,600	8,800
Electrical Rating.....	1/60/115V	1/50/240V

Locked Rotor Cooling Amps.....	67*	32*
Approximate Full-Load Amps/Cooling.....	16.1*	8.0*
Approximate Full-Load Amps/Heating.....	15.7*	12.0*
Running Watts (1).....	1,537	1,576
Running Watts (2).....	1,909	1,933
Running Watts/Heating.....	1,600	2,600
Evaporator Air Delivery CFM (high speed).....	450	450

- (1) Tested under the following conditions: Cooling A.R.I. Standard Conditions 80°F. DB/67°F. WB Indoor, 95°F. DB Outdoor at 115 VAC.
 (2) Tested under the following conditions: Cooling A.R.I. Standard Conditions 95°F. DB/71°F. WB Indoor, 115°F. DB Outdoor at 103.5 VAC.

Coleman is a registered trademark of The Coleman Company, Inc. used under license. Mach is a registered trademark and LiftAire is a trademark of Recreation Vehicle Products.

* Air conditioner only. Does not include condensate evaporator.

Length	39"
Width	23"
Height	18 1/8"
Weight	A/C Unit 180 lbs. Installation Kit 38 lbs.

Length	21"
Width	13"
Height	7"
Weight	20 lbs.

