



**INSTALLATION INSTRUCTIONS FOR
7,100 BTUH Package Air Conditioners
ELH07ACB (6531_692)
K/03621 (6531_625) Accessory Kit**

**14,000 BTUH Package Air Conditioners
ELH12ACB (6533_892)
K/03622 (6533_625) Installation Kit**

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Manufactured By:

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Chapter 1: Important Safety Precautions

- This unit uses an A2L, or mildly flammable, refrigerant. Extra precautions should be taken when handling or servicing the unit so as not to puncture the refrigerant tubing
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater)
- Do not pierce or burn
- Be aware that refrigerants may not contain an odor



Refrigerant
Safety Group
A2L

**WARNING - Risk Of Fire. Flammable Refrigerant Used.
To Be Repaired Only By Trained Service Personnel. Do
Not Puncture Refrigerant Tubing.**

**WARNING - Risk Of Fire. Dispose Of Properly In
Accordance With Federal Or Local Regulations.
Flammable Refrigerant Used.**

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

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

CAREFULLY FOLLOW ALL INSTRUCTIONS AND WARNINGS IN THIS BOOKLET TO AVOID DAMAGE TO THE EQUIPMENT, PERSONAL INJURY OR FIRE.

Installation and service personnel are required by some states to be licensed. **PERSONS NOT QUALIFIED SHALL NOT INSTALL NOR SERVICE THIS EQUIPMENT.**

This is the safety alert symbol . When you see this symbol on the unit and in the instruction manuals be alert to the potential for personal injury. Understand the signal words **DANGER**, **WARNING** and **CAUTION**. These words are used to identify levels of the seriousness of the hazard.

| | |
|--|--|
|  DANGER | Failure to comply will result in death or severe personal injury and/or property damage. |
|  WARNING | Failure to comply could result in death or severe personal injury and/or property damage. |
|  CAUTION | Failure to comply could result in minor personal injury and/or property damage. |
| IMPORTANT | Used to point out helpful suggestions that will result in improved installation, reliability or operation. |

WARNING

Improper installation may damage equipment, can create a hazard and may void the warranty.

The use of components not tested in combination with this unit may void the warranty, may make the equipment in violation of state codes, may create a hazard and may ruin the equipment.

We believe that you will be pleased with the performance of the Industrial Climate Engineering LiftAire™ Elevator Air Conditioner. This unique product was specifically designed for installation on elevators. Should you need assistance in the installation of the product, or should you need service assistance after the unit is installed, please contact our exclusive sales and service agent for this product line listed below:

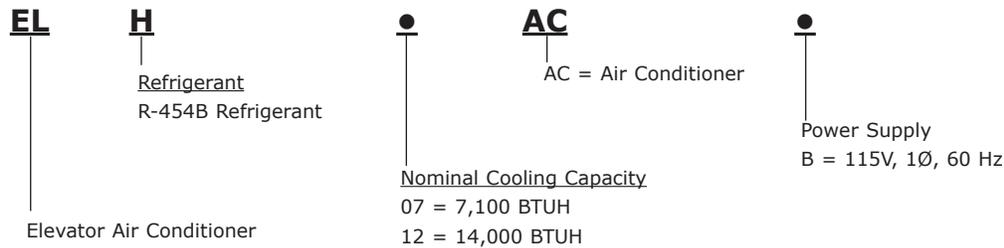
Elevator Motors Corporation
 80 Carolyn Blvd.
 Farmingdale, NY 11735-1525
 631-293-4220 (Voice) | 631-293-2714 (Fax) | info@elevatormotors.com

Chapter 2: Component Match-up

| AIR CONDITIONER | ACCESSORY KIT |
|---------------------|--------------------|
| ELH07ACB (6531_692) | K/03621 (6531_625) |
| ELH12ACB (6533_892) | K/03622 (6533_625) |

Chapter 3: Specification and Unit Identification

Package Air Conditioner Model Number Break-down



Electrical Characteristics

| BASIC MODEL | COMPRESSOR | | SINGLE AIR MOVER MOTOR | | CONDENSER MOTOR | | EVAPORATOR MOTOR | | ELECTRIC HEATER | MCA ⁶ | MFS ⁷ | RWC ^a | RWC ^b | RWH ⁸ | MSC ⁹ | |
|-------------|-------------|------------------|------------------------|--------------------|-----------------|--------------------|------------------|--------------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------|
| | VOLTS-HZ-PH | RLA ¹ | LRA ² | FLA ^{3,4} | HP | FLA ^{3,4} | HP ⁵ | FLA ^{3,4} | HP ⁵ | | | | | | | FLA ^{3,4} |
| ELH07ACB | 115-1-60 | 6.5 | 45.6 | 2.9 | 1/3 | N/A | N/A | N/A | N/A | 12.5 | 19.0 | 20 | 990 | 1,150 | 1,600 | #12 |
| ELH12ACB | 115-1-60 | 10.9 | 57.0 | N/A | N/A | 2.1 | 1/5 | 2.4 | 1/5 | 12.5 | 19.0 | 20 | 1,400 | 1,625 | 1,600 | #12 |

¹RLA = Rated Load Amps
²LRA=Locked Rotor Amps
³FLA=Full Load Amps
⁴Electrical data is for air conditioner only - it does NOT include the condensate evaporator
⁵HP = Horsepower
⁶MCA = Maximum Circuit Ampacity (Wiring Size Amps)
⁷MFS = Maximum Fuse Size
⁸RWC = Running Watts Cooling, Tested under the following conditions: 80°F(26.5°C)DB/67°F(19.5°C)WB Indoor, 95°F(35°C) DB Outdoor at 115 VAC.
⁹RWC = Running Watts Cooling, Tested under the following conditions: 100°F(37.8°C) DB/72°F (21.7°C). WB Indoor, 115°F(46.1°C) DB Outdoor at 103.5 VAC.
⁸RWH = Running Watts Heating
⁹MSC = Minimum Supply Conductor, Supply conductor gauge dependent upon conductor length, Full Load Amps and Locked Rotor Amps of the compressor.

Air Flow

| BASIC MODEL | POWER SUPPLY | NOMINAL COOLING CAPACITY BTUH (kW) | NOMINAL HEATING CAPACITY BTUH (kW) | AIRFLOW (HIGH SPEED) | |
|-----------------|--------------|------------------------------------|------------------------------------|----------------------|-----------------------------------|
| | | | | CFM ¹ | M ³ /HOUR ² |
| ELH07ACB (6531) | 115-1-60 | 7,100 BTUH (2.1 kW) | 5,600 BTUH (1.6 kW) | 150 | 255 |
| ELH12ACB (6533) | 115-1-60 | 14,000 BTUH (3.5 kW) | 5,600 BTUH (1.6 kW) | 430 | 645 |

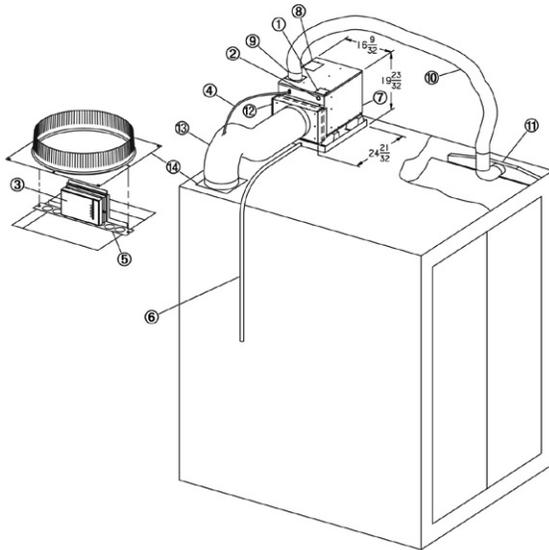
¹CFM = Cubic Feet per Minute
²M³/Hour = Cubic Meters per Hour

Dimensional Data and Weight

| BASIC MODEL | Weight | Dimensions Inches (cm) | | |
|-----------------|------------|------------------------|-----------|-------------|
| | lbs (kg) | Length | Depth | Height |
| ELH07ACB (6531) | 90 (40.9) | 22" (56) | 18 (46) | 19-1/4 (49) |
| ELH12ACB (6573) | 145 (65.9) | 39 (99) | 23 (58.4) | 18-1/8 (46) |
| ACCESSORY KIT* | 28 (12.7) | 38 (96.5) | 13 (33) | 20 (51) |

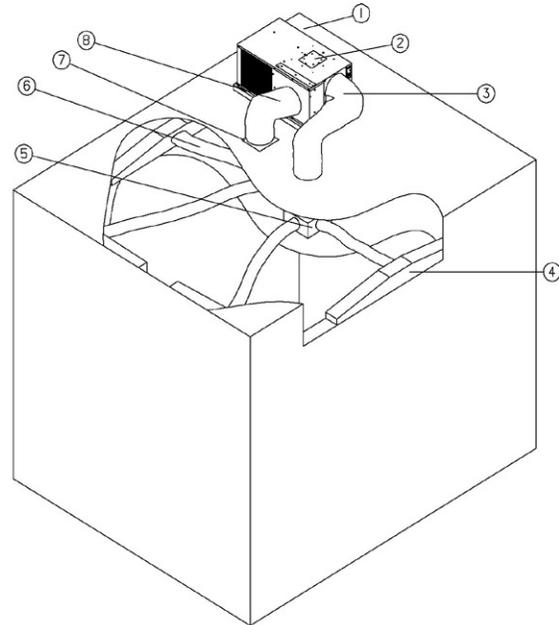
*Weights and dimensions are actual weights. Ship weight of the ELH07 is 103 lbs (46.8 kg). Ship weight of the ELH12 is 166 lbs (75.5 kg).

Chapter 4: Unit Depiction Figures



- ① FIELD WIRING ACCESS DOOR
- ② POWER WIRE ENTRY
- ③ THERMOSTAT
- ④ THERMOSTAT EXTENSION CABLE
- ⑤ THERMOSTAT MOUNTING BRACKET
- ⑥ CONDENSATE DRAIN HOSE
- ⑦ CONDENSER AIR INLET
- ⑧ CONDENSER AIR DISCHARGE
- ⑨ SUPPLY DUCT ADAPTOR ASSEMBLY
- ⑩ 4" DIA. INSULATED SUPPLY AIR FLEX DUCT
- ⑪ AIR DISTRIBUTION SCOOP
- ⑫ RETURN AIR BONNET & FILTER
- ⑬ 10" DIAMETER RETURN AIR FLEX DUCT
- ⑭ RETURN DUCT ADAPTOR ASSEMBLY

Figure 1a, ELH07, 6531 Units



- ① CONDENSER AIR OUTLET
- ② OPTIONAL TOP COLD AIR OUTLET
- ③ END COLD AIR OUTLET
- ④ CONDITIONED AIR DIVERTER
- ⑤ PLENUM BOX
- ⑥ FOUR INCH FLEX DUCT
- ⑦ TEN INCH RETURN AIR ADAPTER
- ⑧ RETURN AIR DUCT

Figure 1b, ELH12, 6533 Units

Chapter 5: General Information

The ELH07, 6531_692 and ELH12, 6533_892 series package air conditioners are intended for installation on the roof of elevator cabs or like-sized indoor use contrivances. It is understood that the manufacturer has provided an installation area which allows for cutouts and unit mounting without cutting vital frame members or electrical wiring and that structural members do not create restrictions by passing through airways required by the air conditioner. A recommended installation is shown in Figures 1a & 1b. Conditioned air is delivered from the air conditioner to the interior of the enclosure through ducting that is supplied in Accessory Kit K/03621 (6531_625) for the ELH07, 6531_692 and Accessory Kit K/03622 (6533_625) for the ELH12, 6533_892 Models.

The system return air duct, return air filter and thermostat are also found in the Accessory Kit.

The LiftAire I 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 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 each other to ensure proper air recirculation in the cab and back to the air conditioner.
2. While the installation kit provides 12.5 ft (381 cm) of supply and return air flexible duct, in order to limit air flow 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 (pages 6-10) 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 the 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 air conditioners and cooling of the elevator cab as designed.
4. If you are retrofitting an existing cab for normal operating conditions, it may not be necessary to use the fan supplied in the original cab. The LiftAire series of air conditioners 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 allowing warm hoistway air into the cab during ascent and descent of elevator. Or insure the fan only operates if the air conditioner cannot operate due to power loss, etcetera.
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.
8. Power cables must be sufficiently sized for the FLA, LRA required and the length of cable required.
9. Additional hoistway ventilation at the bottom and top is recommended.

Chapter 6: The LiftAire I Series (ELH07, 6531_692) Unit Installation

Prechecks

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.

The following checks shall be applied to installations using FLAMMABLE REFRIGERANTS:

- The ventilation machinery and outlets are operating adequately and are not obstructed;
 - If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
 - Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
 - Refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.
 - Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.
1. The air conditioner draws in topside air to cool the condensing coil. The condenser air is drawn in from the end of the air conditioner (across the condensing coil), and discharged out through the top of the appliance (through the discharge opening). To provide adequate condenser air flow and access for service, allow a minimum of 15" (38 cm) of clearance on the top and all sides of the air conditioner to any obstruction. To provide adequate condensing air flow, the installer must adhere to the following guidelines:
 - a) The topside air path to the condensing coil should be as direct and non-restrictive as possible.
 - b) Any decorative grille or louver used as an opening for condenser air flow should have a minimum of 90 square inches (580.6 sq. cm) of free area.
 - c) Do not block or restrict the discharge air opening.
 - d) Insure that there are no structural members or panels which would serve to cause condenser discharge air recirculation into the condenser return air.
 2. Mount the air conditioning unit. The four shipping brackets may be used to secure the unit to the mounting surface, or the installer may choose to use bands or other types of bracket. If using a condensate evaporator with the air conditioner, elevate the air conditioner 4-5 inches (10 -12 cm) to ensure that the condensate will drain from the air conditioner to the evaporator.
 3. Attach the supply duct adapter (start collar) to the top of the unit with the four existing screws in the unit top.
 4. Mount the thermostat to the thermostat bracket using the screws provided with the thermostat.
 5. Cut a 10 1/8" (25.7 cm) square opening in the canopy. The opening should be as remote as possible from the intended position of the supply air distribution scoop and away from any heat source such as lighting. There must be adequate space between the false ceiling and the cab top to insure proper return air flow to the air conditioner. If not, the collar must be positioned in the false ceiling.

6. Fasten the thermostat/bracket and the return air duct adaptor over the square opening with screws or rivets. Use a quality duct tape to seal around the perimeter of the adaptor plate.
7. Install the supply air distribution scoop inside the conditioned space in an area as remote from the return air as possible. Air from the scoop should have a clear path into the conditioned area. Attach the scoop with adhesive, straps, brackets or by fastening through the part. If attaching with fasteners, pre-drill any clearance holes in the scoop to prevent cracking during installation. It is good practice to mount the scoop as far as possible from heat producing devices, such as lights, fixtures, etc.
8. Cut a 6" (15.2 cm) dia. hole in the roof to allow passage of the insulated 4" (10.2 cm) flex duct. The duct connects between the 4" (10.2 cm) collar at the unit and the oval opening at the air scoop. Secure the duct with 2 of the 4 cable ties provided in the accessory kit.
9. Secure the 7/8" (2.2 cm) I.D. condensate drain hose to the unit drain pan with the hose clamp provided in the kit.
10. Mount the return air bonnet to the unit using existing unit screws. Clearance holes on the return air bonnet align with existing unit fasteners. Use a good quality duct tape to seal the bottom and side seams between the unit and return air bonnet.
11. Insure the return air filter is properly located inside the bonnet assembly.
12. Attach the unit end of the return air flex duct to the return air bonnet with one cable tie provided in the kit.
13. Cut a small slit through the return air flex duct directly above the adaptor plate to provide clearance for the thermostat cable to enter the return air opening.
14. Route the thermostat extension cable through the flex duct and plug one end into the thermostat, the other end into the unit.
15. Attach the return air flex duct to the adaptor plate and secure with one cable tie provided in the kit.
16. Use a quality duct tape to seal the opening in the return air flex duct around the thermostat cable.

 **WARNING - SHOCK HAZARD**

Do not drill any openings into this air conditioner. When attaching ducting 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.

The LiftAire II Series (ELH12, 6533_892) Unit Installation (Refer to Figure 1b)

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 (25.4 cm) diameter collar assembly using the existing screws supplied on top of the air conditioner.
 3. Mount the 10-inch (25.4 cm) 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 inch (10.2-12.7cm) 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 (25.4 cm) collar assembly using two (2) sheet metal screws.
 6. Cut a 10 1/8" (25.7 cm) square opening in the cab top as far as possible from the intended location of the supply air distribution scoops. Position 10-inch (25.4 cm) diameter collar assembly with the thermostat/bracket over the opening. There must be adequate space between the false ceiling and the cab top to insure proper return air flow to the air conditioner. If not, the collar must be positioned in the false ceiling. 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 (25.4 cm) 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 (25.4 cm) starting collar by crimping the existing tabs and attach four 4 inch (10.1 cm) 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 (35.6 cm) diameter hole in the cab top for the 10-inch (25.4 cm) 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 (25.4 cm) 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 (25.4 cm) diameter uninsulated return air flex duct to the 10-inch (25.4 cm) diameter collar installed in Step 6. Cut a small slit through the 10-inch (25.4 cm) diameter uninsulated return air flex duct directly above the 10-inch (25.4 cm) 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.

 **WARNING - SHOCK HAZARD**

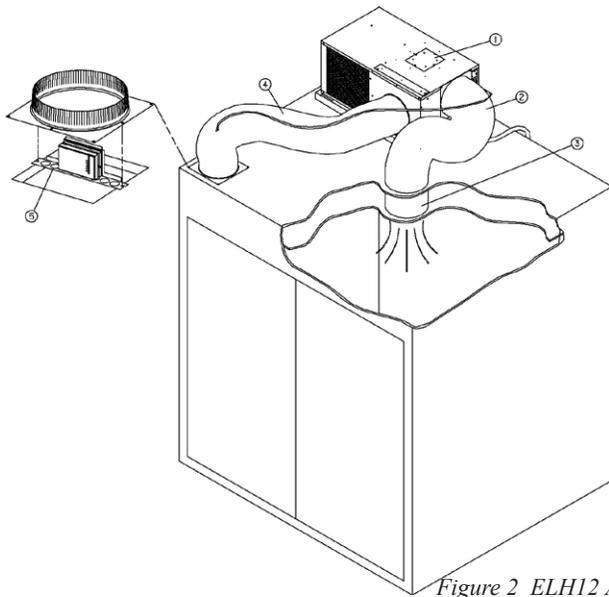
Do not drill any openings into this air conditioner. When attaching ducting directly to the air conditioner, use only the pilot holes already provided. Drilling new openings and inserting screws may damage either the refrigeration circuit or electrical wiring causing possible equipment damage, personal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

The LiftAire II Series (ELH12, 6533_892) Alternate Unit Installation

Refer to Figure 2

1. The air conditioner draws topside air to cool the condensing coil 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 (25.4 cm) diameter collar assembly using the existing screws supplied on top of the air conditioner.
3. Mount the 10-inch (25.4 cm) 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 at least 5 inches (12.7cm) 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 (25.4 cm) collar assembly using two (2) sheet metal screws.
6. Cut a 10 1/8 inch (25.7 cm) 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 (25.4 cm) diameter collar assembly with the thermostat/bracket over the opening. There must be adequate space between the false ceiling and the cab top to insure proper return air flow to the air conditioner. If not, the collar must be positioned in the false ceiling. 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 (supplied by others) in the cab in an area as far as possible from the return air 10-inch (25.4 cm) 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 (35.6 cm) diameter hole in the cab top for the 10-inch (25.4 cm) 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 (25.4 cm) 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 (25.4 cm) diameter uninsulated return air flex duct to the 10-inch (25.4 cm) diameter collar assembly installed in Step 6. Cut a small slit through the 10-inch (25.4 cm) diameter uninsulated return air flex duct directly above the 10-inch (25.4 cm) 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 conditioners thermostat 4-pin connector.
12. Attach the 7/8 inch (2.2 cm) 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" Diameter Insulated Supply Air Flex Duct
3. Supply Air Distribution Diffuser By Installer
4. 10" Dia. Uninsulated Return Air Flex Duct Connected To 10" Diameter Assemblies
5. Thermostat With Mounting Bracket

Figure 2 ELH12 Alternate Installation

⚠ 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.

Chapter 7: Electrical Wiring

1. This air conditioner contains a compressor refrigeration system and requires power from an electrical circuit. The circuit connects to a terminal block inside the air conditioner. See table below.

| Model Number | Power Supply |
|---------------------|-----------------|
| ELH07ACB (6531_692) | 115V, 1Ø, 60 Hz |
| ELH12ACB (6533_892) | |

2. High Voltage Routing Specifications

When routing the high voltage supply wiring, the following guidelines must be followed:

- a) High voltage wiring must be routed through a separate opening in the outer cabinet. This opening is referred to as the “power wire entry” (See Figure 1). There is a 7/8" (2.22 cm) diameter opening for 1/2" (1.27 cm) conduit. A knockout for 3/4" (1.91 cm) conduit is also provided.
- b) Do not allow excess wiring to contact electrical terminals, sharp screw ends or edging that can cut or damage the wiring insulation.
- c) After connecting the ground wire to the grounding lug, verify that the ground wire (which in some instances will be bare copper) cannot come into contact with any high voltage terminal.
- d) High voltage power supply must be sized according to code and to prevent losses from long cable runs to insure proper voltage and amps to the air conditioner at unit startup amperage.

DANGER - SHOCK HAZARD

When using non-metallic sheath supply cables (romex, etc.), strip sheath back to expose 4-6 inches of the supply leads. Strip the individual wire lead ends for wire connection (about 3/4" bare wire). Insert the supply wires into the electrical connector clamp. Sheath must protrude past clamp bushing inside the box. Make sure sheath cable is centered in clamp before tightening it. Do not over-tighten! 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. If other than non-metallic cables are used for supply conductors, appropriate strain relief connectors or clamps should be used. In no case should clamping or pinching action be applied to the individual supply leads (neutral and “hot” wires).

To prevent the possibility of shock injury from appliance operation, the white wire must be connected to neutral in the service box entrance and the mechanical ground must be connected to a grounding lug either in the service box or the motor generator compartment.

In order to utilize smaller gauge, less expensive follower cables, it may be economical to provide a step down transformer at the elevator car to provide power for the air conditioner.

Chapter 8: Thermostat and 24 VAC Wiring

Thermostat Operating and Wiring Requirements

The ELH 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 (see Figure 1). The air conditioner and thermostat connect using the plug-in extension cable provided in the K/03621 (6531_625) and K/03622 (6533_625) Installation Kit.

The chart below details system functions.

| SHOWS POSITION OF SWITCH | | | | | OPERATION |
|--------------------------|----|--------|-----|------|--|
| FAN | | SYSTEM | | | |
| AUTO | ON | 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. No heating or cooling function occurs. |
| □ | ■ | □ | □ | ■ | Blower runs continuously. Heater cycles as required. |



Chapter 9: Start-Up

1. Before engaging power to any system, insure the following:
 - a) all tools have been removed from the equipment;
 - b) all wiring is attached, routed and properly secured;
 - c) all panels (both mechanical and electrical) are in place;
 - d) the thermostat system switch is placed into the “OFF” position and;
 - e) all co-workers have been warned that the equipment is being energized.
2. System wiring may be checked by referring to the wiring diagram located on the side of the unit.
3. Before beginning the checkout procedure, thoroughly read the checkout instructions.
4. After complying with steps 1 through 3, engage power to all systems and begin checkout procedure.

Important: Prior to starting the air conditioner, double check all electrical connections.

Check out of Cooling Cycle

1. Set the cooling set point temperature on the thermostat to a temperature higher than the ambient temperature. Set the heating set point temperature to a temperature that is lower than the ambient temperature.
2. Set the thermostat system to COOL. Nothing should operate at this time. Slowly lower the thermostat’s cooling set point to a temperature until the switch closes. The compressor and both fans should begin operating at this time.

To stop cooling, slowly raise the set point temperature to a temperature higher than the ambient temperature.

Check out of Heating Cycle.

1. Raise the heating set pint temperature to a temperature which is higher than the ambient temperature. The fan and electric heat should turn on.
2. To stop heating, slowly raise the set point temperature to a temperature lower than the ambient temperature.

Important Notes:

1. The air conditioner ELH12, 6533 LiftAire II Model 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.
2. The unit is equipped with a normally open contact. 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.
3. If line voltage is interrupted or there is a power failure, there will be a three (3) minute time dELHy after resumption of power before compressor will be allowed to restart and the air conditioner will resume operation.

Chapter 10: Service and Charging/Recovery

Service: Prior to beginning work on systems containing FLAMMABLE REFRIGERANTS, safety checks are necessary to ensure that the risk of ignition is minimized. For repair to the REFRIGERATING SYSTEM, the following shall be completed prior to conducting work on the system.

- Work shall be undertaken under a controlled procedure to minimize the risk of flammable gas or vapor being present while the work is being performed.
- All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided
- The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection
- If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO2 fire extinguisher adjacent to the charging area.
- No person carrying out work in relation to a REFRIGERATING SYSTEM which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. “No Smoking” signs shall be displayed.
- Ensure that the area is open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

The minimum test pressure for the low side of the system shall be the low side design pressure and the minimum test pressure for the high side of the system shall be the high side design pressure, unless the high side of the system, cannot be isolated from the low side of the system in which case the entire system shall be pressure tested to the low side design pressure.

Leak Detection: Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used. The following leak detection methods are deemed acceptable for all refrigerant systems. Electronic leak detectors may be used to detect refrigerant leaks but, in the case of FLAMMABLE REFRIGERANTS, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25 % maximum) is confirmed. Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipework. *NOTE:* Examples of leak detection fluids are

- bubble method
- fluorescent method agents

If a leak is suspected, all naked flames shall be removed/extinguished. If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak.

Charging Procedures: In addition to conventional charging procedures, the following requirements shall be followed.

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
- Cylinders shall be kept in an appropriate position according to the instructions.
- Ensure that the REFRIGERATING SYSTEM is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the REFRIGERATING SYSTEM.
- Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

Refrigerant Recovery: When removing refrigerants from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely. When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, for flammable refrigerants it is important that best practice be followed, since flammability is a consideration. The following procedure shall be adhered to:

- safely remove refrigerant following local and national regulations.
- evacuate.
- continuously flush or purge with inert gas when using flame to open circuit
- open the circuit
- The REFRIGERANT CHARGE shall be recovered into the correct recovery cylinders. For appliances containing FLAMMABLE REFRIGERANTS other than A2L REFRIGERANTS, the system shall be purged with oxygen-free nitrogen to render the appliance safe for FLAMMABLE REFRIGERANTS. This process may need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems.
- For appliances containing flammable refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum (optional for A2L). This process shall be repeated until no refrigerant is within the system (optional for A2L). When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place
- The outlet for the vacuum pump shall not be close to any potential ignition sources, and
- ventilation shall be available.
- When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
- The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of the flammable refrigerant. If in doubt, the manufacturer should be consulted. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition.
- The recovered refrigerant shall be processed according to local legislation in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.
- If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The compressor body shall not be heated by an open flame or other ignition sources to accelerate this process. When oil is drained from a system, it shall be carried out safely.

Chapter 11: Maintenance Instructions

The LiftAire I and LiftAire II 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. 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. If compressed air does not thoroughly clean the evaporator and condenser coils, proper application of a commercial solvent intended for cleaning coils should be used. **TURN POWER OFF BEFORE CLEANING!**
3. Inspect and clean the condensate drain pan. Ensure 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.

Chapter 12: Installation Instructions for the Condensate Evaporator (115V-20 Amps)

ELH07 (6531):115v.- 20 Amps

ELH12: (6533) 115v.- 25 Amps

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. (.95 I.D. x 121.9 cm) 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 2).

Evaporator Installation

- A. The elevator air conditioner should first be installed following the instructions provided with the unit. The air conditioner must be installed at least 5" (12.7 cm) higher than the mounting surface for the condensate evaporator to allow for proper drainage (See Figure 3).
- B. 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.

- C. Route a length of 7/8" (2.2 cm) 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.
- D. Attach the 3/8" (.954 cm) ID 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" (2.2 cm) I.D. hose which passes to the bottom of the elevator. The 7/8" (2.2 cm) 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.**
- E. Connect power supply per all building, electrical and other applicable codes.

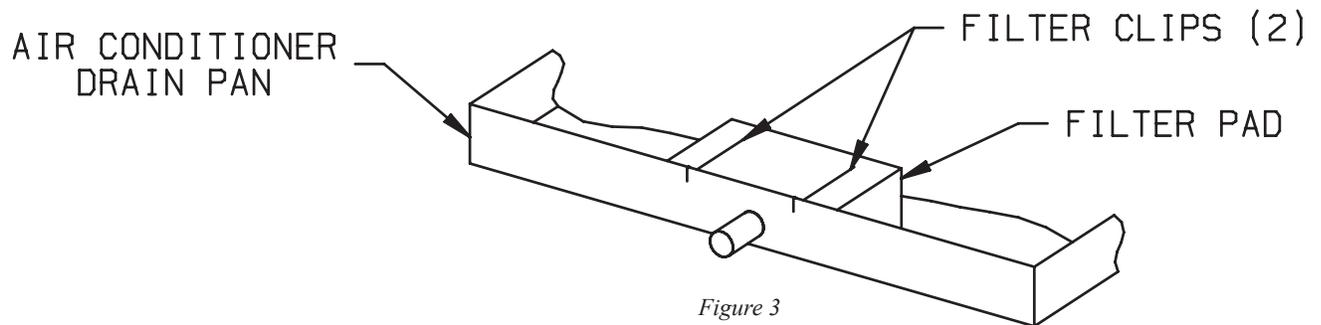


Figure 3

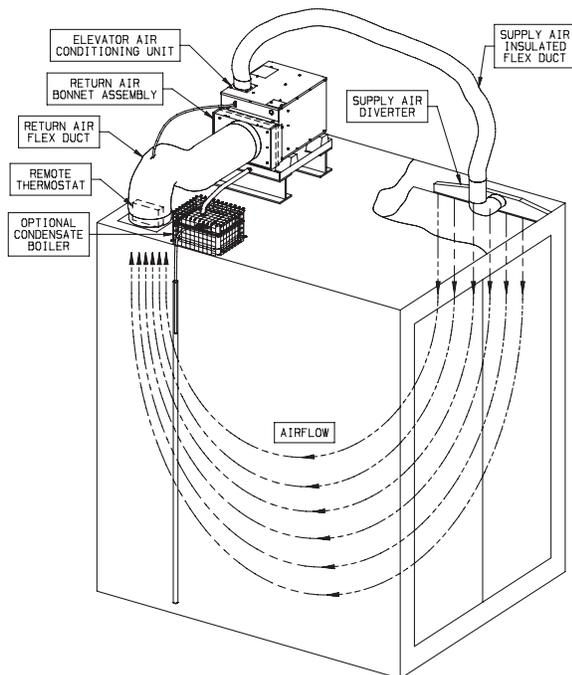


Figure 4a ELH07

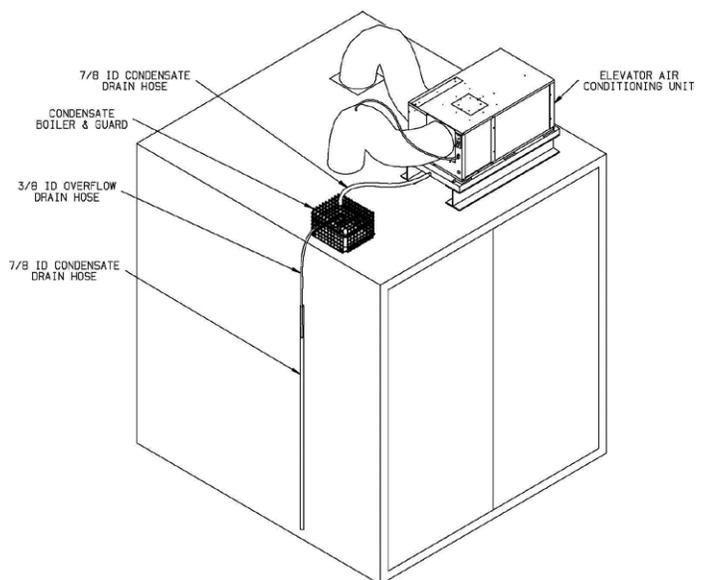


Figure 4b ELH12

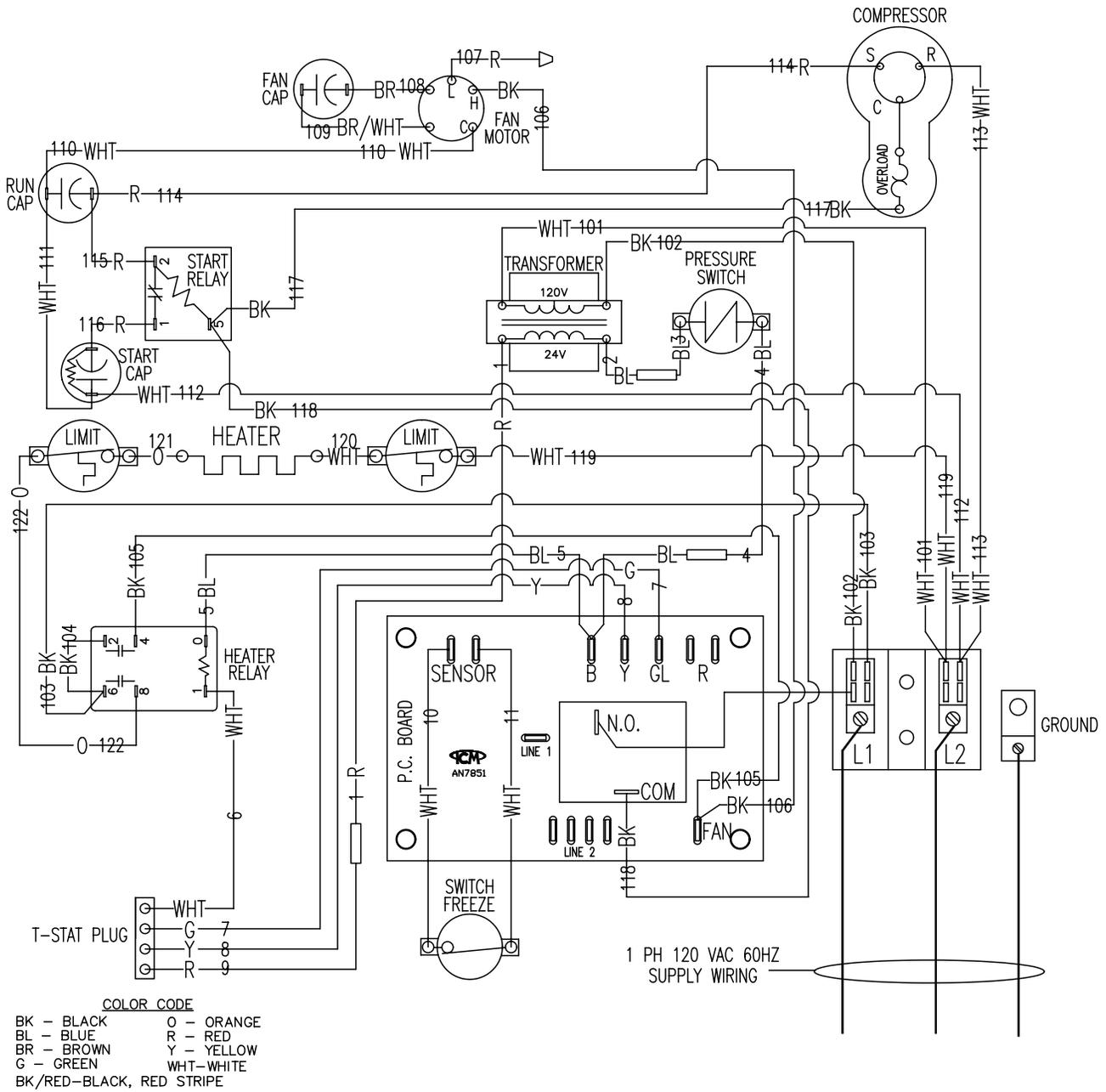


Figure 5. Electrical Schematic, Model ELA07ACB

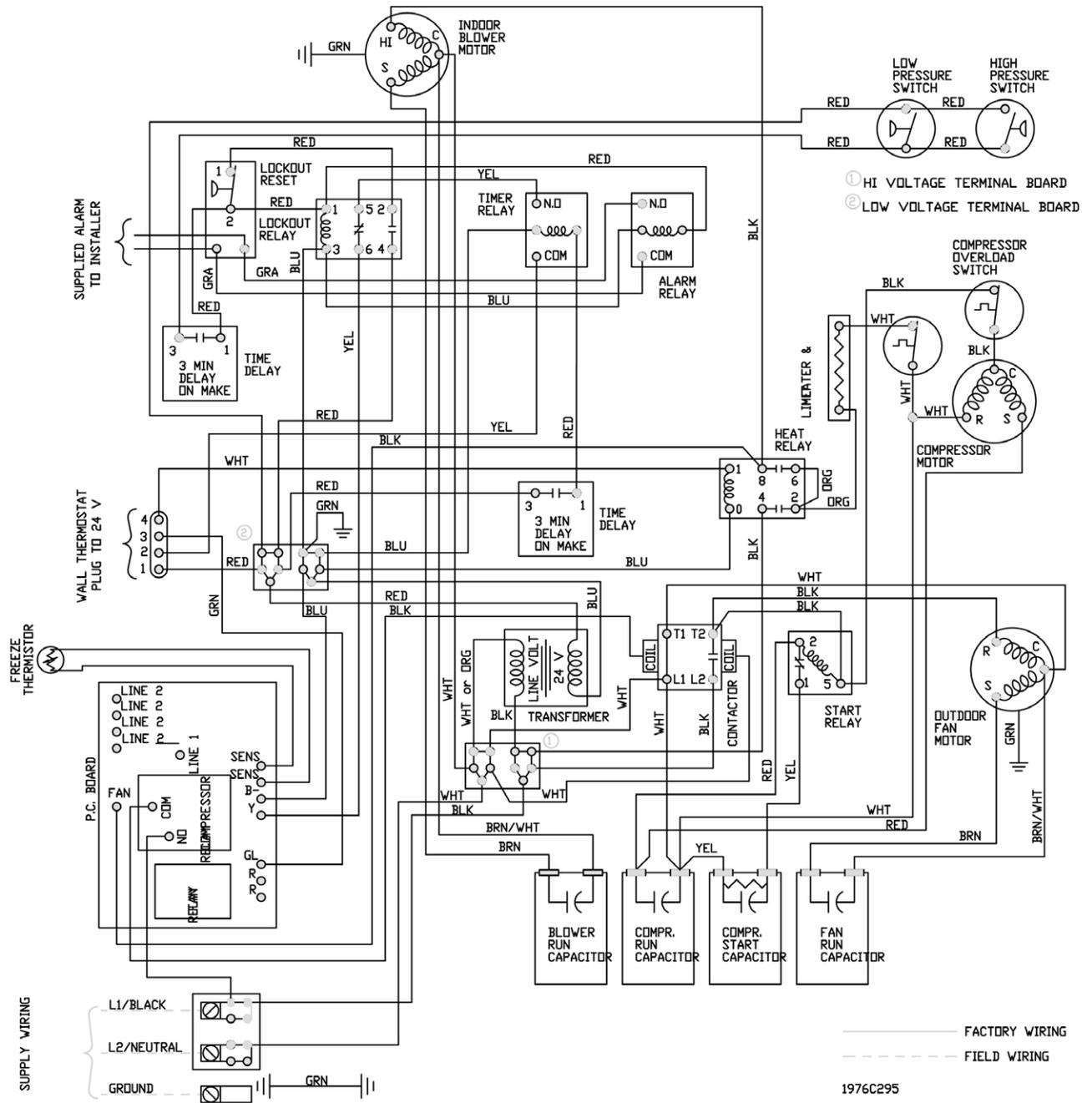


Figure 6. Electrical Schematic, Model ELH12ACB

Chapter 13: Features and Options

FEATURES

- Lightweight. ELH07 weighs 90 lbs (40.9 kg) and the ELH12 weighs 145 lbs (65.9 kg). The unit mounts easily. 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 7,100 BTUH (ELH07) and 14,000 BTUH (ELH12) nominal cooling capacity.
- Mechanical heat/cool thermostat mounted in return air flex duct for secure settings and more accurate temperature sensing. Fifteen foot (405 cm) umbilical for remote thermostat mounting. Optional automatic changeover heat/cool thermostat available.
- Standard 1600 watt electric heater delivers 5,600 BTUH heat capacity.
- Fan can be set to operate continuously for improved air circulation and filtration.
- 150 cfm (255 m³/hr) for the ELH07 and 450 cfm (765 m³/hr) for ELH12 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 rELHy 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.
- Freeze protection is provided to prevent evaporator freeze-up.
- 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.

OPTIONAL ACCESSORIES

- Automatic Thermostat - Programmable for 7-day operation; on-off, heat/cool
- Condensate Evaporator - 115V complete with pan, filter, overflow tube and connection cables
- Overflow Detection Device

Chapter 14: Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its details. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task commences.

- a) Become familiar with the equipment and its operation
- b) Isolate the system electrically.
- c) Before attempting the procedure, ensure that:
 - Mechanical handling equipment is available, if required, for handling refrigerant cylinders.
 - All personal protective equipment is available and being used correctly.
 - The recovery process is supervised at all times by a competent person.
 - Recovery equipment and cylinders conform to the appropriate standards.
- d) Pump down the refrigerant system, if possible.
- e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate in accordance with instructions.
- h) Do not overfill cylinders (no more than 80 % volume liquid charge).
- i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
- j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- k) Recovered refrigerant shall not be charged into another REFRIGERATING SYSTEM unless it has been cleaned and checked.

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing FLAMMABLE REFRIGERANTS, ensure that there are labels on the equipment stating the equipment contains FLAMMABLE REFRIGERANT.

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