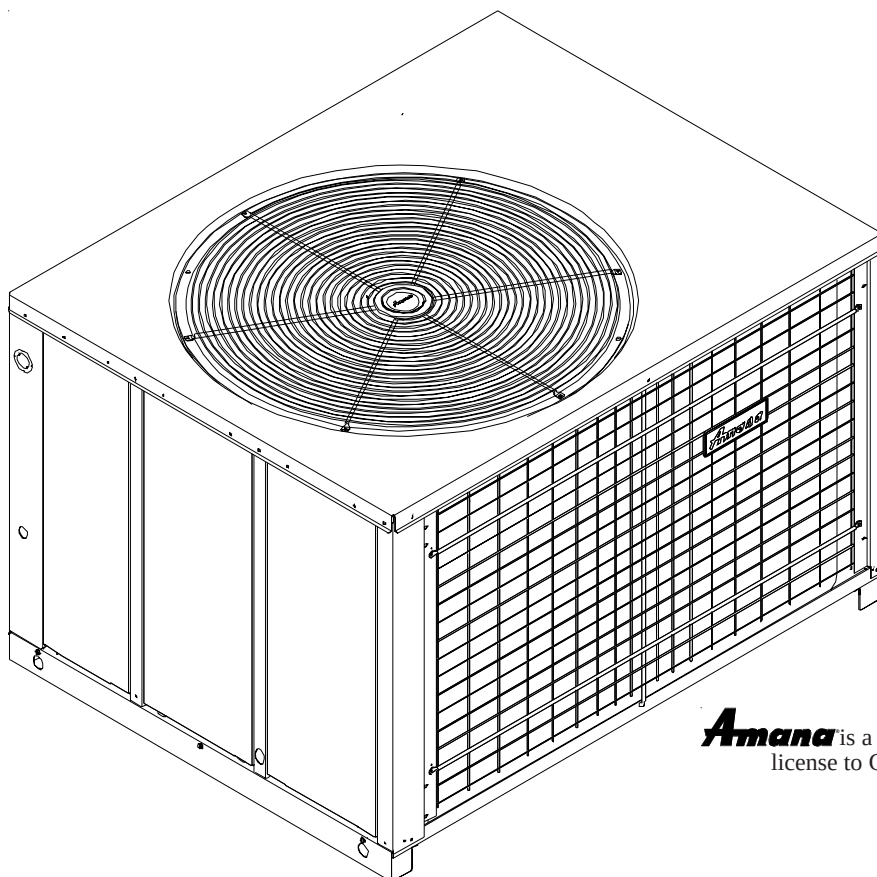


PACKAGE COOLING UNIT INSTALLATION INSTRUCTIONS

Installer: Affix literature adjacent to the unit.

Heating & Air Conditioning
Amana
LASTS AND LASTS AND LASTS.™



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RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION.

ATTENTION INSTALLING PERSONNEL

As a professional installer you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with this Instruction Manual. Pay special attention to all safety warnings. Often during installation or repair it is possible to place yourself in a position which is more hazardous than when the unit is in operation.

Remember, it is **your** responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense...a matter of thinking before acting. Most dealers have a list of specific good safety practices...follow them.

The precautions listed in this Installation Manual are intended as supplemental to existing practices. However, if there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.

*NOTE: Please contact your distributor or our website for the applicable product data book referred to in this manual.

SAFETY INFORMATION

To The Installer

Before installing this unit please read this manual to familiarize yourself on the specific items which must be adhered to such as maximum external static pressure to unit, air temperature rise, minimum or maximum CFM and motor speed connections.

To The Owner

It is important to complete the owner registration card and mail it immediately. This will assist us in contacting you if any service or warranty information should change in the future. When completing the registration card, be sure to include the Model, Manufacturing and Serial Numbers, plus the installation date.

The warranty certificate is also supplied with the unit. Read the warranty carefully and note what is covered. Keep the warranty certificate in a safe place so you can find it if necessary.

If additional operating instructions are required, call the dealer where the purchase was made. Keep this literature in a safe place for future reference.



WARNING

TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, DO NOT USE THIS UNIT IF ANY PART HAS BEEN UNDER WATER. IMMEDIATELY CALL A QUALIFIED SERVICE TECHNICIAN TO INSPECT THE FURNACE AND TO REPLACE ANY PART OF THE CONTROL SYSTEM AND ANY GAS CONTROL HAVING BEEN UNDER WATER.



WARNING

TO PREVENT PERSONAL INJURY OR DEATH DUE TO IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE, REFER TO THIS MANUAL. FOR ADDITIONAL ASSISTANCE OR INFORMATION, CONSULT A QUALIFIED INSTALLER, SERVICE AGENCY OR GAS SUPPLIER.



WARNING

THIS PRODUCT CONTAINS OR PRODUCES A CHEMICAL OR CHEMICALS WHICH MAY CAUSE SERIOUS ILLNESS OR DEATH AND WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

UNIT LOCATION



WARNING

TO PREVENT POSSIBLE EQUIPMENT DAMAGE, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, THE FOLLOWING BULLET POINTS MUST BE OBSERVED WHEN INSTALLING THE UNIT.

GROUND LEVEL INSTALLATIONS ONLY:

- When the unit is installed on the ground adjacent to the building, a level concrete (or equal) base is recommended. Prepare a base the same physical size as the unit or slightly larger and 3 inches thick.
- The base should also be located where no runoff of water from higher ground can collect in the unit.

ROOFTOP INSTALLATIONS ONLY:

- To avoid possible personal injury or property damage, the roof must have sufficient structural strength to carry the weight of the unit(s) and snow or water loads as required by local codes.
- If horizontal air delivery is used, the unit may be installed directly on wood floors or on Class A, Class B, or Class C roof covering material.
- To avoid possible personal injury, a safe, flat surface for service personnel must be provided.
- If vertical air discharge is used and the unit is installed on combustible flooring or class A, B, or C roofing material, then the Amana® brand roof curb (PRC06* or PRC08*) is required.

GENERAL INFORMATION

This unit is approved only for an outdoor installation. To assure that your unit operates safely and efficiently, it must be installed, operated, and maintained in accordance with these installation and operating instructions, all local building codes and ordinances.

The heating and cooling capacities of the unit should be greater than or equal to the design heating and cooling loads of the area to be conditioned. The loads should be calculated by an approved method or in accordance with A.S.H.R.A.E. Guide or Manual J - Load Calculations published by the Air Conditioning Contractors of America.

Obtain from:

American National Standards Institute
1430 Broadway
New York, NY 10018

SHIPPING AND HANDLING

Units are securely packed in shipping containers approved by the International Safe Transit Association. Check the carton upon arrival for external damage. If damage is found, file a request in writing for inspection by the carrier agent immediately.

The carrier is responsible for making prompt inspection of damage and for a thorough investigation of each claim. The distributor or manufacturer will not accept claims from dealers for transportation damage. If no damage is found, carefully remove all shipping material and properly dispose of it.

Keep the unit as upright as possible. Laying the unit on its side or top could cause equipment damage.

RIGGING AND HANDLING



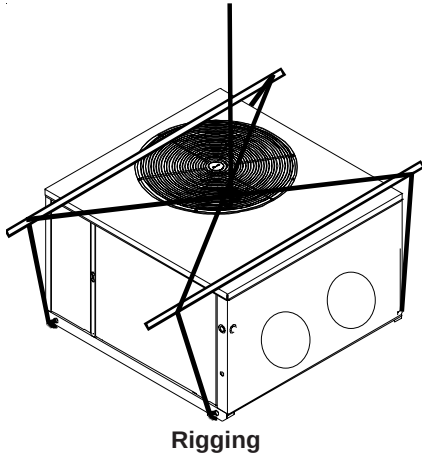
CAUTION

TO PREVENT PROPERTY DAMAGE, THE UNIT SHOULD REMAIN IN AN UPRIGHT POSITION DURING ALL RIGGING AND MOVING OPERATIONS. TO FACILITATE LIFTING AND MOVING WHEN A CRANE IS USED, PLACE THE UNIT IN AN ADEQUATE CABLE SLING.

Important: If using bottom discharge with roof curb, ductwork should be attached to the curb prior to installing the unit. Ductwork dimensions are shown in Amana® brand roof curb installation instructions.

Refer to the Amana® brand Roof Curb Installation Instructions for proper curb installation. Curbing must be installed in compliance with the National Roofing Contractors Association Manual.

NOTE: Lower unit carefully onto roof mounting curb. While rigging unit, center of gravity may cause condenser end to be lower than supply air end.



DUCT CONNECTIONS

Horizontal Airflow Installations - (24, 30, 36, 42, and 48 Models)

Two three-inch collar connections and two square flanges are shipped with the unit. The collar connections are located in the return air opening of the unit. The square flanges are inside the unit blower compartment. The square flanges can be used for either connecting 16x16 ductwork to the unit or used with a Horizontal Duct Cover kit (CHK001A).

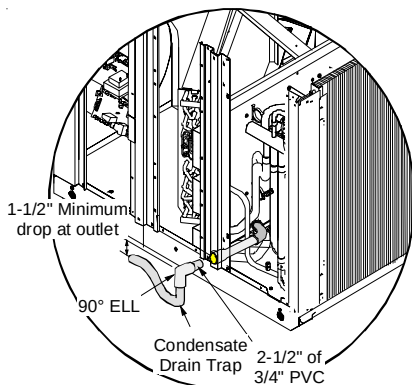
To install the collar connections, remove the two collars, reverse and snap them back into place in the outlet and inlet openings. Be sure the flanges are to the outside of the unit. Secure with screws provided.

(60 Models Only)

These units are equipped with 14x14 square supply and return air openings for horizontal air flow. The openings are flanged for ease of duct connection. A 16x16 Horizontal Duct Cover kit (CHK001A) can be used with the clips provided in the literature bag.

CONDENSATE DRAIN

An external condensate drain trap is required for this unit. See your distributor for details. For proper unit operation, the trap must be filled either before a cooling startup or during a unit "cycle-off" after 20 minutes of running on first cycle. This drain can be extended using 3/4" PVC piping.



Condensate Drain Connection

ELECTRICAL WIRING

! WARNING

SHOCK HAZARD!

DISCONNECT ALL ELECTRICAL POWER BEFORE ELECTRICALLY CONNECTING OR SERVICING THIS UNIT. FAILURE TO DISCONNECT THE ELECTRICAL POWER BEFORE WORKING ON THIS PRODUCT CAN CREATE A HAZARD LEADING TO PERSONAL INJURY AND/OR DEATH.

! WARNING

TO AVOID THE RISK OF ELECTRICAL SHOCK, WIRING TO THE UNIT MUST BE POLARIZED AND GROUNDED.

! CAUTION

TO AVOID PROPERTY DAMAGE OR PERSONAL INJURY DUE TO FIRE, USE ONLY COPPER CONDUCTORS.

! CAUTION

TO PREVENT IMPROPER AND DANGEROUS OPERATION DUE TO WIRING ERRORS, LABEL ALL WIRES PRIOR TO DISCONNECTION WHEN SERVICING CONTROLS. VERIFY PROPER OPERATION AFTER SERVICING.

! WARNING

TO AVOID PERSONAL INJURY OR DEATH DUE TO ELECTRIC SHOCK, WIRING TO THE UNIT MUST BE PROPERLY GROUNDED IN ACCORDANCE WITH LOCAL CODES OR IN THE ABSENCE OF LOCAL CODES, WITH THE NATIONAL ELECTRICAL CODE, ANSI/NFPA No. 70, AND/OR THE CSA C22.1 ELECTRICAL CODE, IF AN EXTERNAL SOURCE IS UTILIZED.

ELECTRICAL CONNECTIONS

NOTE: The units are designed for operation on 60 Hz current and at the voltages shown on the rating plate. All internal wiring in the unit is complete. The power supply may be brought into the contactor (see unit wiring diagram supplied with unit). Ensure 24 volt wiring is connected between the unit control panel and the room thermostat.

The best protection for the wiring is the lowest rated fuse or circuit breaker which will supply power to the unit during normal operation without nuisance trips. Such a device will provide maximum circuit protection. **DO NOT EXCEED THE MAXIMUM OVERCURRENT DEVICE SIZE SHOWN ON UNIT DATA PLATE.**

All line voltage connections must be made through weatherproof fittings. All exterior power supply and ground wiring must be in approved weatherproof conduit. Low voltage wiring from the unit control panel to the thermostat requires coded cable.

Refer to the unit wiring diagram for electrical connections. When installed, the unit must be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA No.70, and/or the CSA C22.1 Electrical Code, if an external source is utilized.

THERMOSTAT PLACEMENT

Thermostat should be mounted 5 feet above the floor, on a vibration free inside wall in a room or a hallway that has good air circulation.

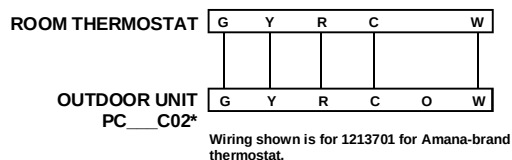
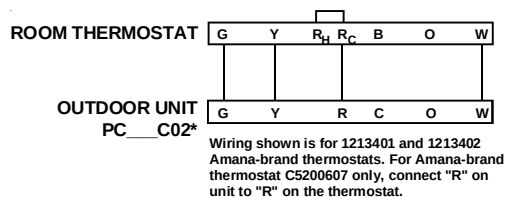
Movement of air should not be obstructed by furniture, door, draperies, etc. The thermostat should not be mounted where it will be affected by drafts, hot or cold water pipes or air ducts in walls, radiant heat from fireplace, lamps, the sun, television, etc. Consult the Instruction Sheet packaged with thermostat for mounting instructions.

THERMOSTAT WIRING

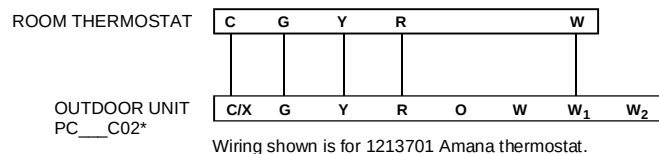
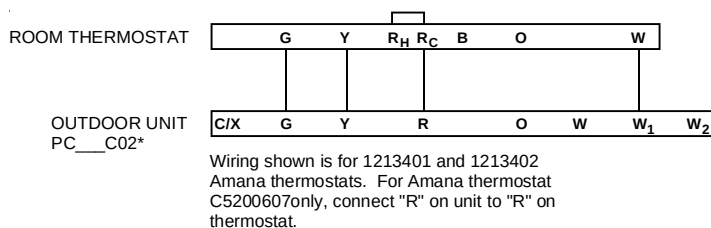
When an electric heater is installed, the thermostat wiring will be made at the heater accessory box.

If a unit is installed without electric heaters, the low voltage wiring can be made at the control box.

See the unit wiring diagram for electrical connections. Refer to pages 5 and 6 for proper thermostat wiring and low voltage terminal board.



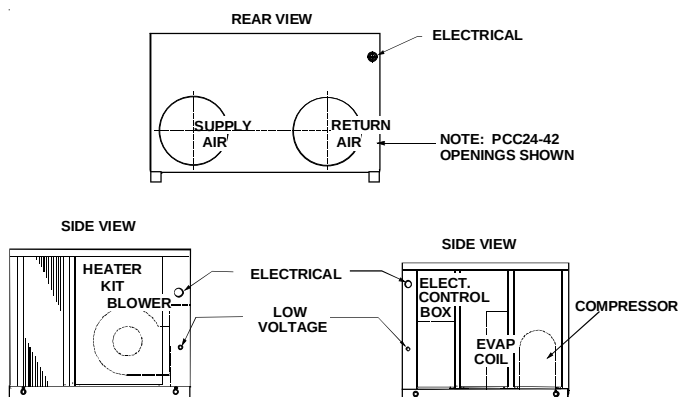
Thermostat Connections without Electric Heat (Connections at the Terminal Board in the Control Box)



Thermostat Connections with Electric Heat (Connections at Electrical Heater Accessory Box in Blower Compartment)

Flexible Wiring Setup With Electric Heater

Line and low voltage wiring can enter the unit from either side.



For knockout locations, see dimension drawing on the Product Data Book applicable to your model*. Use the Single Point wiring kit to add further flexibility to the installation wiring.

UNIT VOLTAGE

The unit transformer is factory connected for 230V operation. If the unit is to operate on 208V, reconnect the transformer primary lead as shown on the unit wiring diagram.

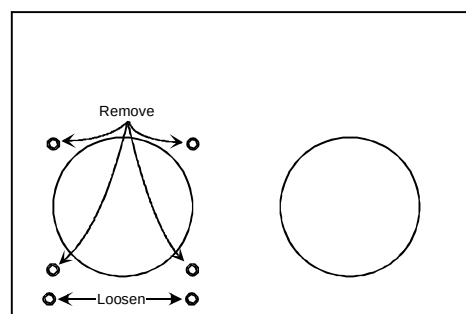
AIR CIRCULATION AND FILTERS

DOWNSHOT AIRFLOW CONVERSION

Units are shipped from the factory ready for horizontal airflow. These units can be easily converted from horizontal to downshot airflow delivery. If conversion to vertical airflow is necessary, proceed as follows:

Blower Rotation

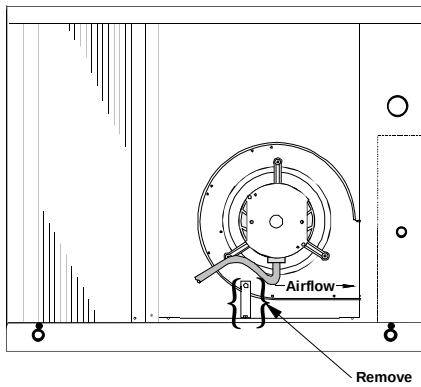
1. Cut insulation around bottom openings and remove panels from the bottom of the unit, saving the screws holding the panels in place.
2. From the rear of the unit, remove the four (4) screws securing the blower assembly in place and loosen the two (2) screws directly below the duct opening.



Duct Removal

3. Remove the clamp securing the blower assembly to the bottom of the unit. Discard clamp and screws.

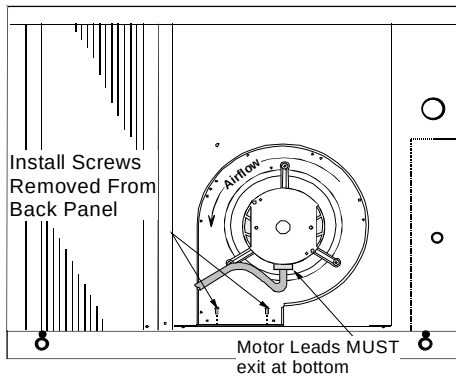
*NOTE: Please contact your distributor or our website for the applicable product data book referred to in this manual.



Clamp Removal

5. Rotate the blower assembly 90° clockwise, setting the blower assembly outlet on the panel removed from bottom of the unit.

Ensure the blower motor is oriented with the motor wires at the bottom. This keeps condensate from puddling inside the blower motor and causing motor failure. If the motor is not oriented correctly, loosen the motor belly band and rotate the motor to the correct position, then retighten the motor belly band.



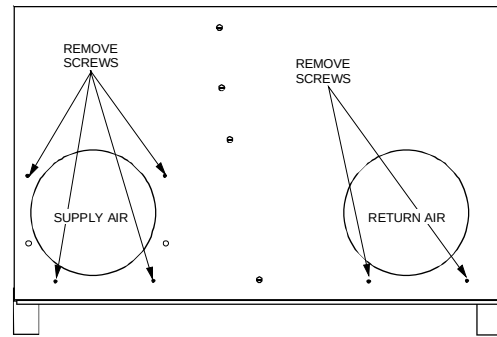
Vertical Blower Assembly

6. Secure the blower assembly with screws removed in step 1.
Use the Horizontal Duct Cover Kit (CHK001A) to complete the conversion.

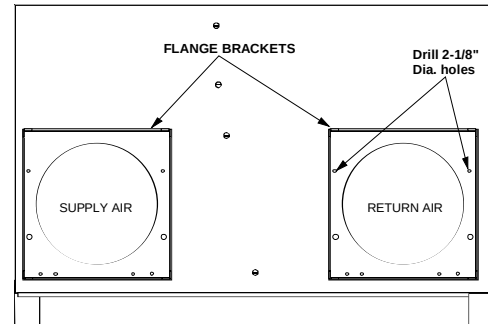
HORIZONTAL DUCT COVER INSTALLATION

For 24, 30, 36, 42, and 48 Models:

1. Remove and set aside the four (4) Supply Air side screws.
2. Remove and set aside the two (2) Return Air side screws.
3. Center flange bracket and unit openings. Attach flange brackets to the unit using the removed screws in Step 1. Retighten screws.
4. Drill two (2) 1/8" diameter holes on the return air side.
5. Secure the return air side flange bracket with the two self-tapping screws included with the unit.

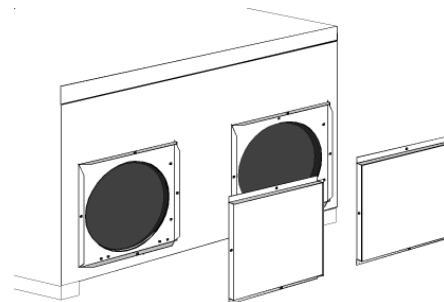


Supply Air Side Screws Location



Flange Bracket Location

NOTE: If Horizontal Duct Cover kits are required, align the horizontal duct covers over the flange brackets just installed and secure with screws included in the Horizontal Duct Cover kit.



Horizontal Duct Cover Alignment

DUCTWORK

Duct systems and register sizes must be properly designed for the C.F.M. and external static pressure rating of the unit. Ductwork should be designed in accordance with the recommended methods of Air Conditioning Contractors of America Manual D (Residential) or Manual Q (Commercial). All ductwork exposed to the outdoors must include a weatherproof barrier and adequate insulation.

A duct system should be installed in accordance with Standards of the National Board of Fire Underwriters for the Installation of Air Conditioning, Warm Air Heating and Ventilating Systems. Pamphlets No. 90A and 90B.

The warm air supply duct from the unit through a wall fabricated of combustible material may be installed without clearance. However, minimum clearances for the unit must be observed as shown in the Product Data Book applicable to your model*. The outlet duct should be provided with an access panel.

For vertical airflow, the ductwork should be attached to the roof curb prior to installing the unit. Ductwork dimensions are shown in the Amana® brand PRC roof curb installation manual. If desired, supply and return duct connections to the unit may be made with flexible connections to reduce possible unit operating sound transmission.

FILTERS



WARNING

TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, DISCONNECT ELECTRICAL POWER BEFORE REMOVING FILTERS. NEVER OPERATE FURNACE WITHOUT A FILTER INSTALLED BECAUSE DUST AND LINT WILL BUILD UP ON INTERNAL PARTS RESULTING IN LOSS OF EFFICIENCY, EQUIPMENT DAMAGE AND POSSIBLE FIRE.

Even though a return air filter is not supplied with this unit, there must be a means of filtering all return air.

Refer to the table below or the Product Data Book applicable to your model* for filter size information.

MODEL	DISPOSABLE FILTER (ft ²) ¹	PERMANENT FILTER (ft ²) ²	RATED COOLING AIRFLOW (CFM)
PCA24C02*	3.0	1.5	800
PCA30C02*	3.4	1.7	1000
PCA36C02*	4.0	2	1200
PCA42C02*	4.5	2.3	1400
PCA48C02*	5.0	2.5	1500
PCA60C02*	6.5	3.3	1450
PCC24C02*	3.0	1.5	825
PCC30C02*	3.4	1.7	930
PCC36C02*	4.0	2	110
PCC42C02*	4.5	2.3	1400
PCC48C02*	5.0	2.5	1500
PCC60C02*	6.5	3.3	1750

¹Based on a face velocity of 300 ft./min.

²Based on a face velocity of 600 ft./min.

If using the Over/Under Transition Kit, the filter(s) may be located in the return air duct(s) or return air filter grille(s). Filters installed external to the unit should be sized in accordance with their manufacturer recommendations. A throwaway filter must be sized for a maximum face velocity of 300 feet per minute.

Filter Installation

Important: When installing a filter, the air flow arrows on the filter must point toward the circulating air blower.

NORMAL SEQUENCE OF OPERATIONS

NOTE: There is a fan delay on initial power to unit before the low voltage board resets and is operational.

COOLING

1. Thermostat calls for cooling. The compressor and outdoor fan start.
2. Ten seconds later, the indoor fan starts and cool air is delivered to the conditioned space until the thermostat is satisfied.
3. After the thermostat is satisfied, the compressor and outdoor fan shut off; 60 seconds later, the indoor fan shuts off.

NOTE: The extra fan time allows additional cooling from the indoor coil to be transferred to the conditioned space.

HEATING (ELECTRIC)

1. Thermostat calls for heating.
2. Ten seconds later, the indoor fan starts and heat is delivered to the conditioned space until the thermostat is satisfied.
3. In another 60 seconds, the indoor fan shuts off.

STARTUP AND ADJUSTMENT



WARNING

THIS UNIT MUST NOT BE USED AS A "CONSTRUCTION HEATER" DURING THE FINISHING PHASES OF CONSTRUCTION ON A NEW STRUCTURE. THIS TYPE OF USE MAY RESULT IN PREMATURE FAILURE OF THE UNIT DUE TO EXTREMELY LOW RETURN AIR TEMPERATURES AND EXPOSURE TO CORROSIVE OR VERY DIRTY ATMOSPHERES.

COMPRESSOR PROTECTION DEVICES

This package cooling unit compressor includes components which are designed to protect the compressor against abnormal operating conditions.

OPERATING INSTRUCTIONS

1. Turn on the electrical power supply to the unit.
2. Place the room thermostat selector switch in the COOL or HEAT position (or AUTO if available, and if automatic changeover from cooling to heating is desired).
3. Set the room thermostat to the desired temperature.

MAINTENANCE



WARNING

TO AVOID PERSONAL INJURY OR DEATH DUE TO ELECTRIC SHOCK, DISCONNECT ELECTRICAL POWER BEFORE PERFORMING ANY MAINTENANCE.



WARNING

TO AVOID PERSONAL INJURY OR DEATH DUE TO ELECTRIC SHOCK, DO NOT REMOVE ANY INTERNAL COMPARTMENT COVERS OR ATTEMPT ANY ADJUSTMENT.



CAUTION

ALWAYS VERIFY PROPER OPERATION AFTER SERVICING.

REPLACING OR CLEANING FILTER

A return air filter is not supplied with this unit; however, there must be a means of filtering all of the return air. The filter(s) may be located in the return air duct(s), or return air filter grille(s). Consult with your installing dealer for the actual location of the return air filter(s) for your unit.

Dirty filters are the most common cause of inadequate heating or cooling performance. Filter inspection should be made at least every two months; more often if necessary because of local conditions and usage.

Dirty throwaway filters should be discarded and replaced with a new, clean filter. Dirty permanent filters should be washed with water, thoroughly dried and sprayed with a filter adhesive before being reinstalled. (Filter adhesives may be found at many hardware stores.) Permanent filters should last several years; however, should one become torn or uncleanable, it should be replaced.

MAINTAINING CABINET FINISH

Use a fine grade automotive wax on the cabinet finish to maintain the finish's original high luster. This is especially important in areas with high ultraviolet radiation.

CLEAN OUTSIDE COIL (QUALIFIED SERVICER ONLY)

The coil with the outside air flowing over it should be inspected annually and cleaned as frequently as necessary to keep the finned areas free of lint, hair and debris.

CONDENSER AND EVAPORATOR MOTORS

Bearings on the evaporator motor and the condenser motor are permanently lubricated. No additional oiling is required.

Additional accessories, as described above, can be purchased to fit specific application needs. Accessories can be ordered by the part numbers in the table and each accessory includes its own separate instructions.

ACCESSORIES

Additional accessories can be purchased to fit specific application needs. Accessories can be ordered by the part numbers in the table and each accessory includes its own separate instructions.

Accessories:

Horizontal Duct Covers (CHK001A)
Single Point Power Connections (SPK**A)
Roof Curb - Heat Pump (PRC06A1)
Roof Curb - Universal (PRC08A1)
Over-Under to Side by Side (PDTR04A)*

HEATER CAPACITY @ 240 VAC						
Heater Kit	kW	BTUH	Minimum Circuit Ampacity		Maximum Overcurrent Protection	
			L1-L2	L3-L4	L1-L2	L3-L4
PHCB05C1	5.0	16400	21	----	25	----
PHCB07C1	7.5	24500	32	----	40	----
PHCB10C1	10.0	32800	42	----	50	----
PHCB15C1	15.0	49100	42	21	50	25
PHCB20C1	20.0	65500	42	42	50	50

NOTE: Details for installing and wiring electric heater kits and single point wiring kits are contained in the installation instructions for these accessories.

REPLACEMENT PARTS

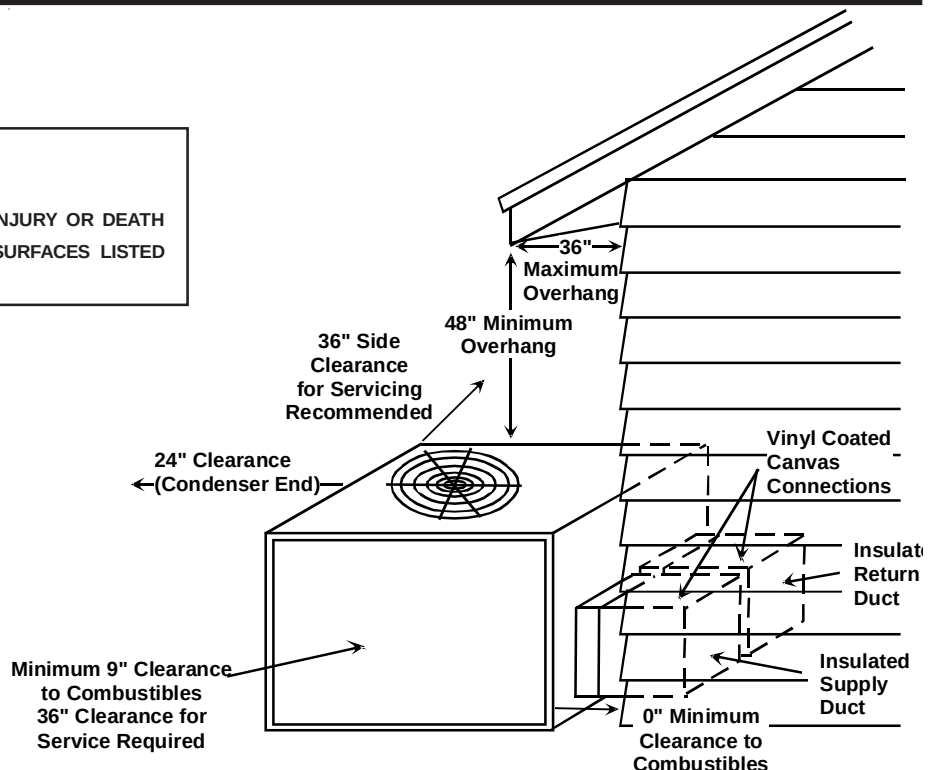
Refer to the description in the Parts Catalog when ordering any part. Be sure to provide the unit model, manufacturing, and serial numbers with the order.

CLEARANCES



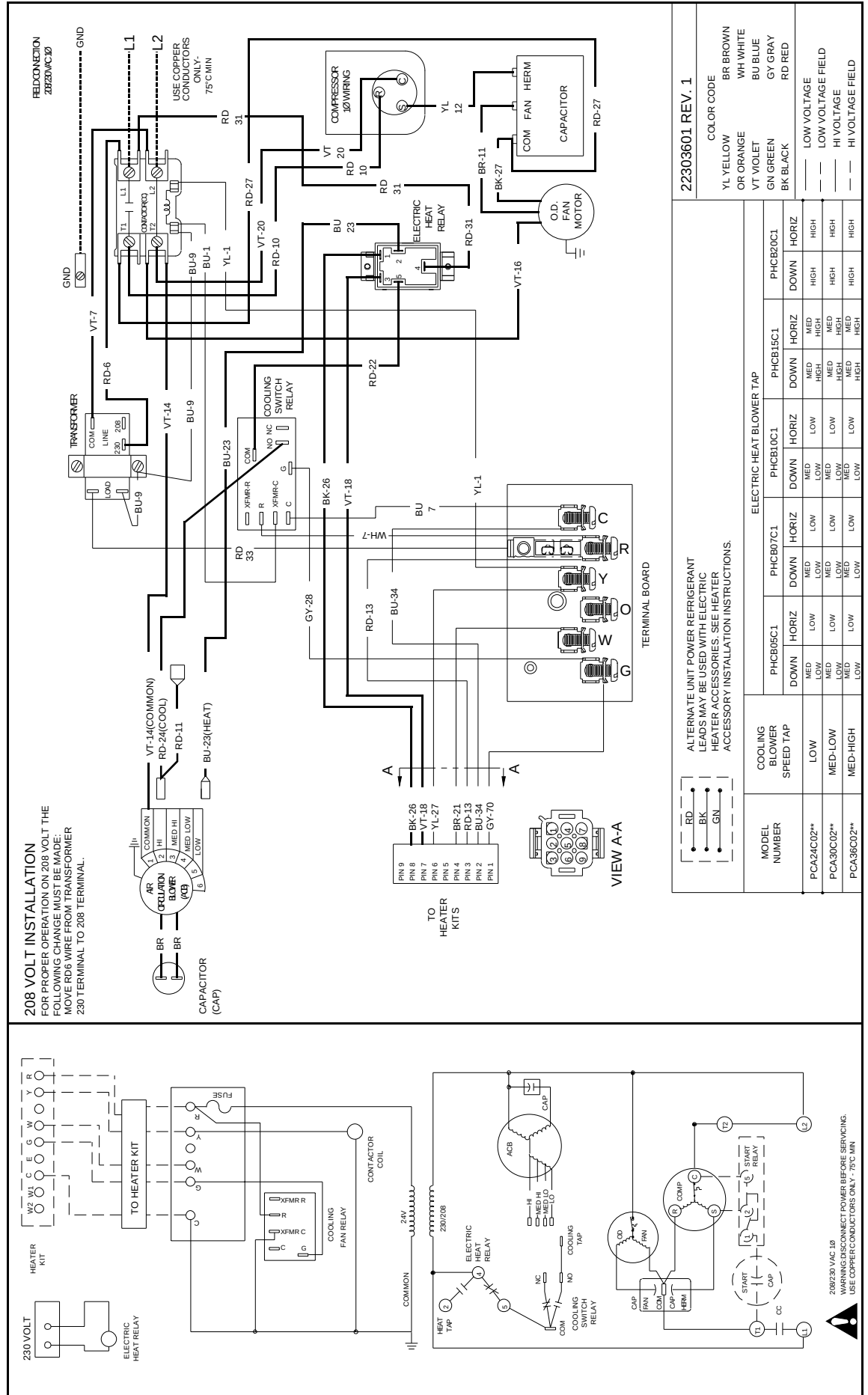
WARNING

TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO FIRE, CLEARANCES TO COMBUSTIBLE SURFACES LISTED AS SHOWN MUST BE OBSERVED.

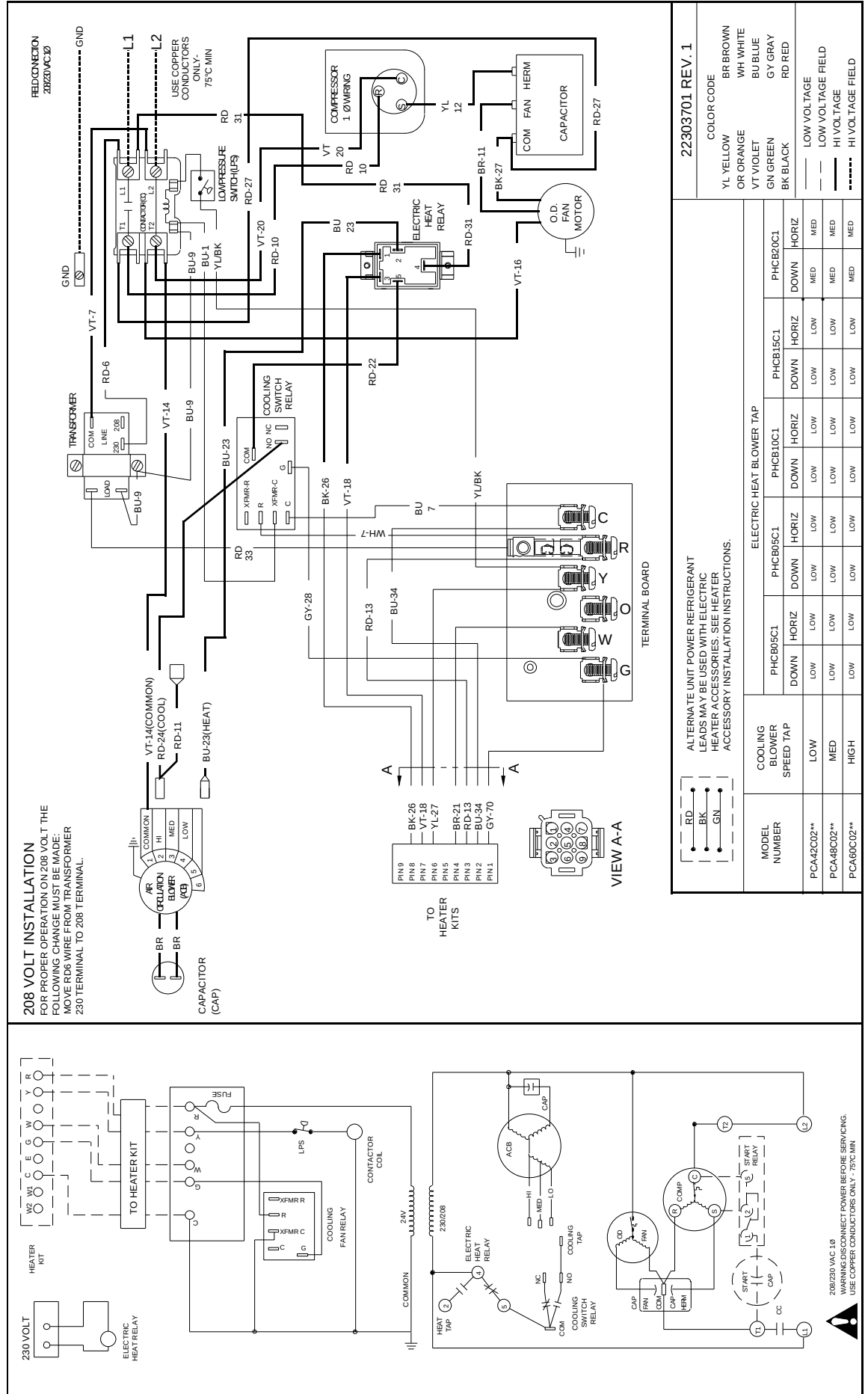


WARNING

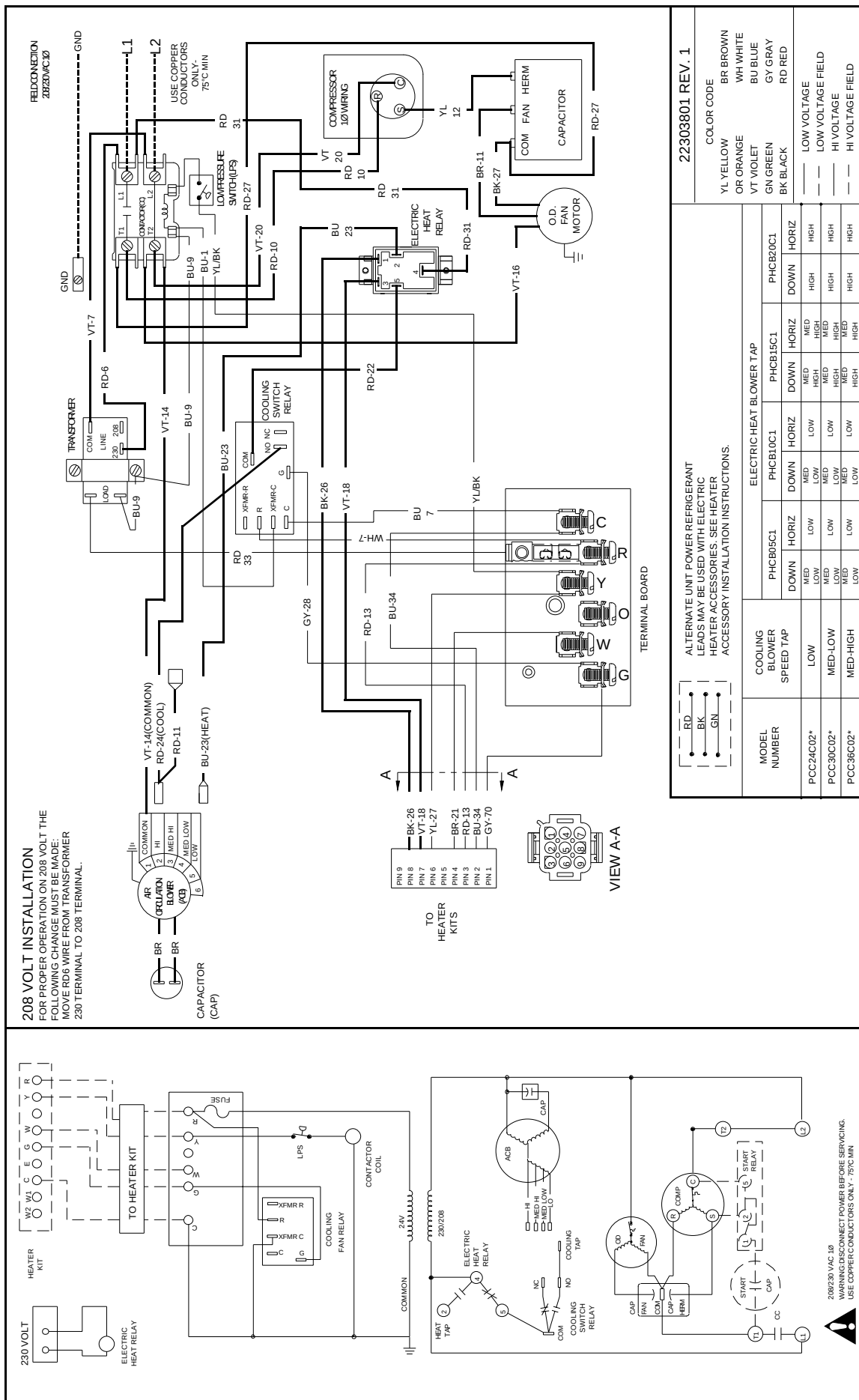
TO PREVENT PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, DISCONNECT ELECTRICAL POWER TO THIS FURNACE BEFORE SERVICING OR PERFORMING MAINTENANCE.



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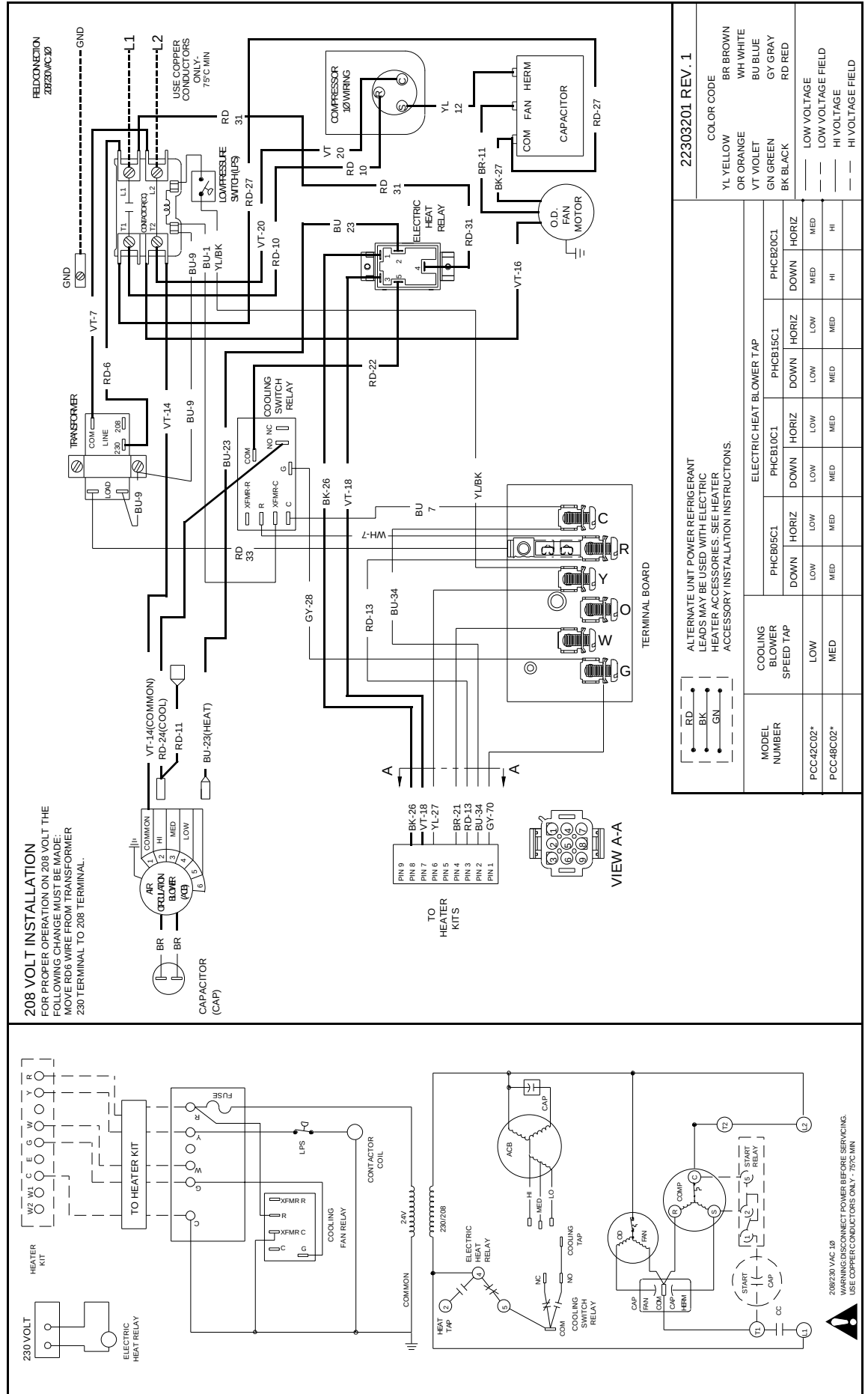
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WARNING

TO PREVENT PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, DISCONNECT ELECTRICAL POWER TO THIS FURNACE BEFORE SERVICING OR PERFORMING MAINTENANCE.

PCC[42-48]C02*





TO PREVENT PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, DISCONNECT ELECTRICAL POWER TO THIS FURNACE BEFORE SERVICING OR PERFORMING MAINTENANCE.

