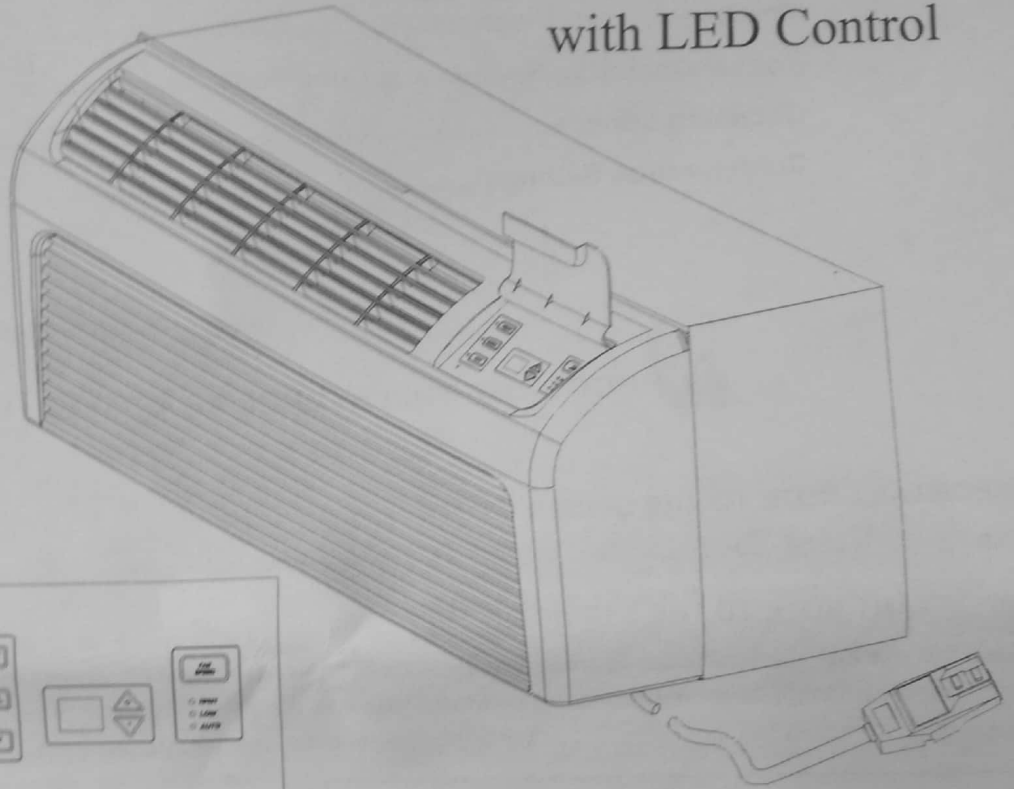


PACKAGE TERMINAL AIR CONDITIONER/HEAT PUMP

Standard and Remote Applications
INSTALLATION INSTRUCTIONS
& OWNER'S MANUAL
with LED Control

PTAC



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.

Part No. 10-326
January 2007
Printed in USA

This manual must be left with the owner of the equipment.



Installation Instructions

To ensure that the unit operates safely and efficiently, it must be installed, operated and maintained according to these installation and operating instructions and all local codes and ordinances or, in their absence, with the latest edition of the National Electric Code. The proper installation of this unit is described in the following sections. Following the steps in the order presented should ensure proper installation.

WARNING

HIGH VOLTAGE!

DISCONNECT ALL POWER BEFORE SERVICING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

- MAKE SURE THE ELECTRICAL ACCESSORIES ARE INSTALLED ONLY IN THE PRE-DRILLED MOUNTING HOLES.
- MAKE SURE THE ELECTRICAL WIRING IS NOT INSTALLED AND DOES NOT HANG BELOW THE PRE-DRILLED MOUNTING HOLES OR LIE IN THE UNIT BASE PAN.



SLEEVE STIFFENER AND REAR CLOSURE PANEL REMOVAL

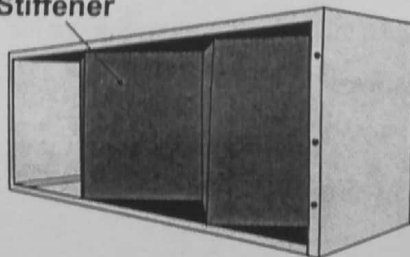
Before the chassis can be installed in the wall sleeve, the sleeve stiffener and the rear closure panel must be removed.

1. Remove the zigzag folded cardboard sleeve stiffener.
2. Remove the rear closure panel by folding the four flaps.
3. Grasping the top and bottom flanges of the rear closure panel pull the entire panel out diagonally from one side.

DRAIN KIT INSTALLATION (Optional Accessory)

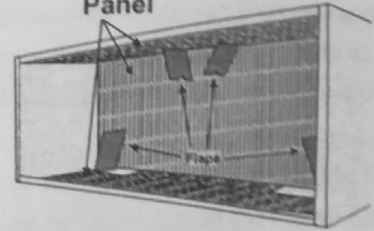
During normal reverse cycle heating operation, condensate water will drain out of the rear of the wall sleeve. If this water is objectionable, a drain kit should be installed. The drain kit has provisions for draining the water from either the right or left side of the sleeve externally or from the bottom of the sleeve internally. The drain kit must be installed before the outdoor grille is installed. Refer to the Installation Instructions supplied with the drain kit for a complete description of the installation procedure.

Sleeve Stiffener

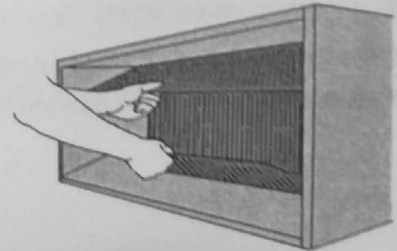


Wall Sleeve with Stiffener

Rear Closure Panel



Stiffener Removal



Rear Enclosure Panel Removal

WARNING

HIGH VOLTAGE!

DISCONNECT ALL POWER BEFORE SERVICING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH. DO NOT SERVICE THIS UNIT WITHOUT FIRST SHUTTING OFF POWER TO THE UNIT FROM THE CIRCUIT BREAKER AND/OR REMOVING THE UNIT CORD SET PLUG FROM THE WALL OUTLET.

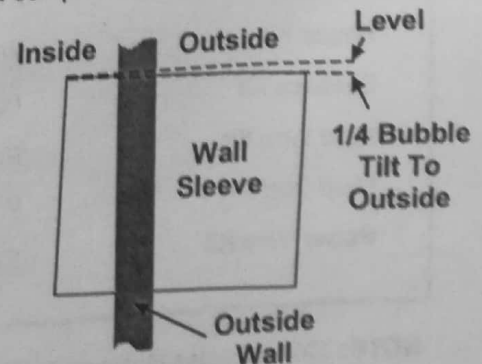


SLEEVE INSTALLATION

In order for condensate water to drain properly inside the unit, the sleeve must be installed properly:

- Level from right to left.
- A slight downward pitch from the indoor side to the outdoor side as shown below.

Refer to the Installation Instructions supplied with the PTAC wall sleeve for a complete description of the installation procedure.



Proper Sleeve Tilt

Installation Instructions

OUTDOOR GRILLE

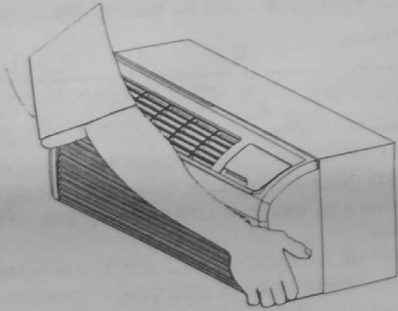
An outside grille must be installed to direct air flow for proper unit operation and also protect the outdoor coil. The grille must be installed before installing the chassis. Refer to the Installation Instructions supplied with the outdoor grille kit for a complete description of the installation procedure.

This model requires either a Stamped Grille Kit (Model SGK--B), a Polymer Grille Kit (Model PGK) or an Architectural Grille Kit (Model AGK--B). When replacing an old chassis with an existing grille or using a specialized grille in a new installation, please check with your sales representative to determine if the new chassis should be used with the non-standard specialized grille.

An improper outdoor grille can decrease cooling or heating capacity, increase energy usage and shorten compressor life and possibly void the warranty.

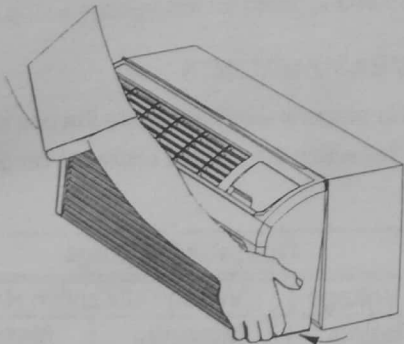
FRONT REMOVAL

1. Grasp the cabinet front.

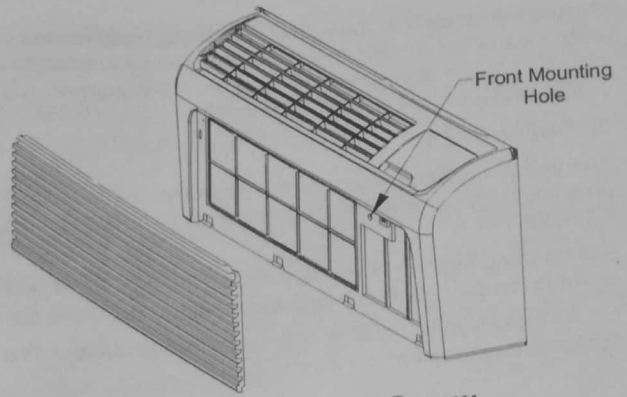


Cabinet Front Removal View 1

2. Pull the bottom of the cabinet front away from the chassis until the retaining clips disengage. **NOTE:** If front is secured with screws, remove front mounting screw, then follow front removal procedure.



Cabinet Front Removal View 2

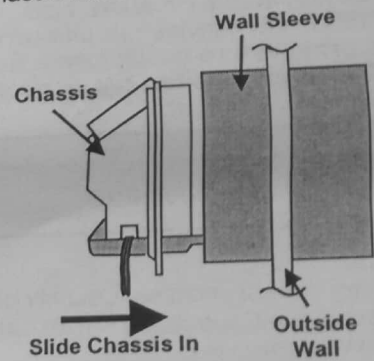


Front Mounting Screw

3. Lift the cabinet front off the chassis. Reverse this procedure to reinstall the cabinet front.

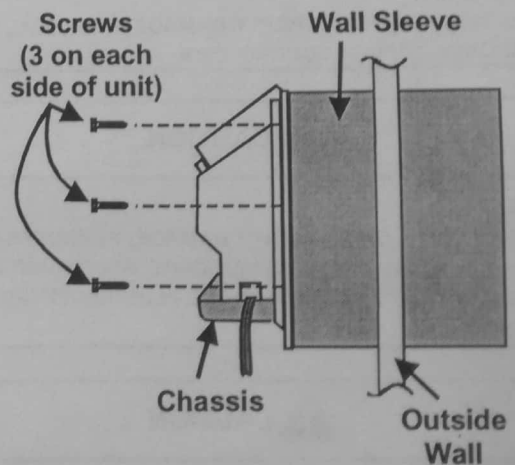
CHASSIS INSTALLATION

1. Remove the cabinet front from the chassis as described in Front Removal.
2. Insert the chassis into the wall sleeve.



Chassis Installation View 1

3. Slide the chassis into the wall sleeve until the chassis flanges contact the front edge of the wall sleeve.



Chassis Installation View 2

Installation Instructions

- Secure the chassis to the wall sleeve using *three* screws on each side of the chassis to ensure a proper seal between the chassis and the wall sleeve. The screws are supplied in a plastic bag attached to the power cord.
- Check the indoor and outdoor grilles for obstructions to air flow. The unit must be located where curtains, furniture, trees, or other objects do not block the air flow to and from the unit. If air is obstructed and/or deflected back into the unit, the air conditioner compressor may cycle on and off rapidly. This could damage the compressor or possibly void the warranty.

IMPORTANT NOTES:

- The unit is equipped with a rubber grommet mounted compressor. These grommets are factory set and require no adjustment.
- If a standard subbase is used, be sure the right hand subbase cover is removed before the chassis is installed in the sleeve.
- On 230V,30A units installed with an existing subbase, use the subbase cover extension kit.

Wiring

WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING.
MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH. DO NOT SERVICE THIS UNIT WITHOUT FIRST SHUTTING OFF POWER TO THE UNIT FROM THE CIRCUIT BREAKER AND/OR REMOVING THE UNIT CORD SET PLUG FROM THE WALL OUTLET.



WARNING

HIGH VOLTAGE!
TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO ELECTRICAL SHOCK, DO NOT USE AN EXTENSION CORD WITH THIS UNIT.



CAUTION

FIRE HAZARD!
TO AVOID THE RISK OF PROPERTY DAMAGE, PERSONAL INJURY OR FIRE, USE ONLY COPPER CONDUCTORS.

CAUTION

FIRE HAZARD!
TO AVOID THE RISK OF PROPERTY DAMAGE, PERSONAL INJURY OR FIRE, DO NOT INSTALL WITH POWER CORD STRETCHED OR UNDER A STRAIN AS THIS MAY CREATE A LOOSE PLUG/RECEPTACLE CONNECTION.

CAUTION

TO AVOID THE RISK OF PERSONAL INJURY, WIRING TO THE UNIT MUST BE PROPERLY POLARIZED AND GROUNDED.

230/208V and 115V units are equipped with LCDI or AFCI power cords and can open the electrical circuit to the unit. In the event the unit does not operate, check the reset button located on or near the head of the power cord as part of the normal troubleshooting procedure.

WARNING

THIS AIR CONDITIONER IS NOT MEANT TO PROVIDE UNATTENDED COOLING OR LIFE SUPPORT FOR PERSONS OR ANIMALS WHO ARE UNABLE TO REACT TO THE FAILURE OF THIS PRODUCT.
THE FAILURE OF AN UNATTENDED AIR CONDITIONER MAY RESULT IN EXTREME HEAT IN THE CONDITIONED SPACE CAUSING OVERHEATING OR DEATH OF PERSONS OR ANIMALS. PRECAUTIONS MUST BE TAKEN TO WARN OFF OR GUARD AGAINST SUCH AN OCCURRENCE.

PTAC WIRE HARNESS KIT (PWHK01C)

See PTAC Wire Harness Kit Installation Instructions for proper wire orientation and location for low voltage wiring.

VOLTAGE MEASUREMENTS

Once the unit is properly wired, measure the unit supply voltage. Voltage must fall within the voltage utilization range given in Table 1.

Operating Voltage		
Unit Voltage Rating	Voltage Utilization Range	
	Minimum	Maximum
230/208	197	253
265	238	292
115	103.5	126.5

Table 1 - Operating Voltage

Cord connection to a wall socket is not permitted for 265-volt units. All 265-volt units must be hard wired using the hard wire kit or make use of the plug-in receptacle in the standard subbase.

Operating Instructions

USERS CONTROLS

A 6 button touch key pad, located behind the control door, controls both temperature and operation mode. The key pads can be used alone or in combination.

THERMOSTAT SETTING

6 BUTTON TOUCH PAD WITH DISPLAY

Pressing the COOL thermostat control and the up or down arrows will provide a cooler room temperature. Pressing the HEAT thermostat control and the up or down arrow keys will provide a warmer room temperature.

LCDI OR AFCI POWER CORD

230/208V and 115V units are equipped with LCDI or AFCI power cords and can open the electrical circuit to the unit. In the event the unit does not operate, check the reset button located on or near the head of the power cord as part of the normal troubleshooting procedure.

FAN SPEED

The fan speed touch key will deliver high, low or auto fan speed to circulate room air. **NOTE:** The AUTO selection will not be available if a fan speed is selected without COOL or Heat selection.

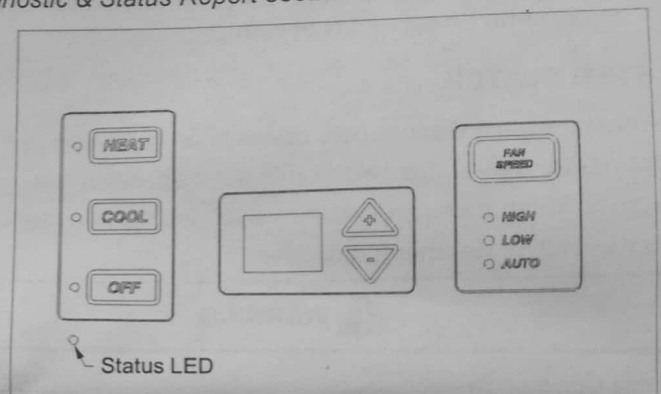
Fan Operation HIGH or LOW with HEAT or COOL mode selected

- The selected fan speed shall run in the selected speed.

Fan Operation AUTO with HEAT or COOL mode selected - The fan will run in low and high speed. The changes in fan speed are automatic.

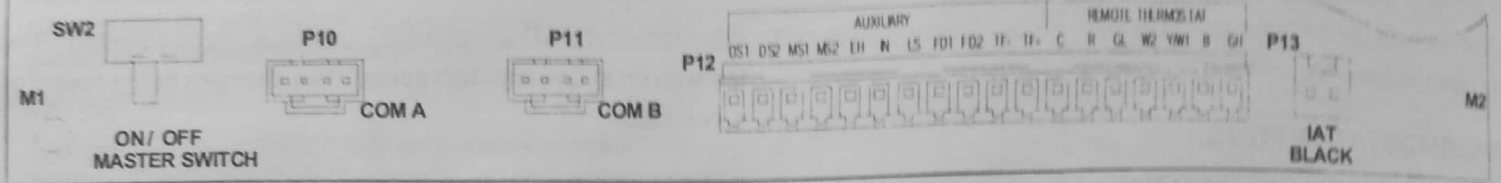
DIAGNOSTIC LIGHT

The green diagnostic light located in the lower left hand corner of the touchpad and indicates operation warnings. This light usually indicates that either the filter or coils need cleaning. Please refer to the *Maintenance and Cleaning* section for the proper cleaning procedure. If this light is still on after cleaning, please refer to the *Diagnostic & Status Report* section for assistance.



Touch Pad With Display User Controls

Operating Instructions



Control Board User Inputs*

*NOTE: The PTAC Wire Harness Kit (PWHK01C) is required for the auxiliary or remote thermostat options.

ADDITIONAL CONTROL INPUTS

The control inputs shown above provide additional unit control and features. To access these control inputs, the cabinet front must be removed (see Front Removal).

MASTER SWITCH

The master switch disconnects power to all of the system components. When this switch is in the off position, the compressor, fan motor, reversing valve, and electric resistance heater will all be de-energized.

WARNING

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unit.

If the unit is configured for wired unrented setback energy management (see *Configuration Settings* section c2), EH and IN terminals are used instead of FD1 and FD2. If EH and IN are shorted, the unit will go into setback temperatures for cooling and heating as configured in c3 and c4 (see *Configuration Settings*). Unit operation will be disabled. "Fd" (see *Diagnostic Codes*) will appear on the display. This allows the room to quickly recover to a comfortable temperature when the room is occupied.

Maximum Wire Length	
Wire Size (AWG)	Maximum Length Allowed
#24	400 ft
#22	600 ft
#20	900 ft
#18	1500 ft
#16	2000 ft

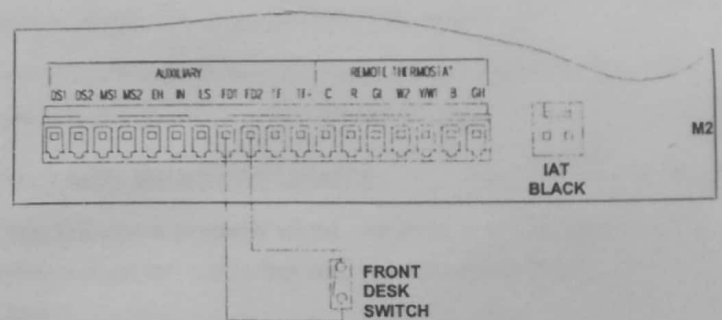
Table 2 - Maximum Wire Length for Front Desk Switch

REMOTE CONTROL INPUTS

The C, R, GL, W2, Y/W1, B/O, and GH terminals provide control inputs for a "manufacturer-approved" remote wall mounted thermostat. The "B" terminal can be configured to become "O" if needed see *Configuration Settings* For remote control thermostat operation, refer to the *Remote Thermostat Operation* section.

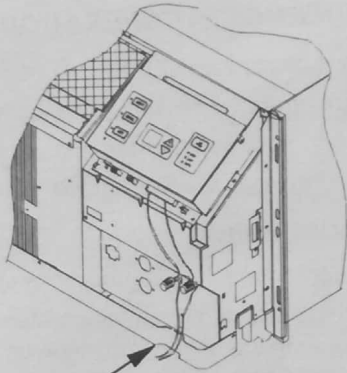
FRONT DESK CONTROL (FD1, FD2, EH, IN)

The FD1, FD2, EH and IN terminals provide control inputs for a front desk switch. Shorting across the FD1 and FD2 terminals will disable unit operation. The only control function which will remain active when these terminals are shorted is freeze protection. Any switch which will produce a short circuit across these two terminals can be used as a front desk switch. The contact resistance of the switch, when closed, must be less than 200 ohms for the front desk feature to operate properly. Table 2 shows the maximum wire length and corresponding gage size for installation of a front desk switch. The following figure shows a wiring schematic for connecting the front desk switch to the



Front Desk Switch Wiring Schematic

Operating Instructions



No holes are permitted in chassis basepan or wallsleeve when routing low voltage wire. Route the low voltage wires through the indentation on the front of the basepan.

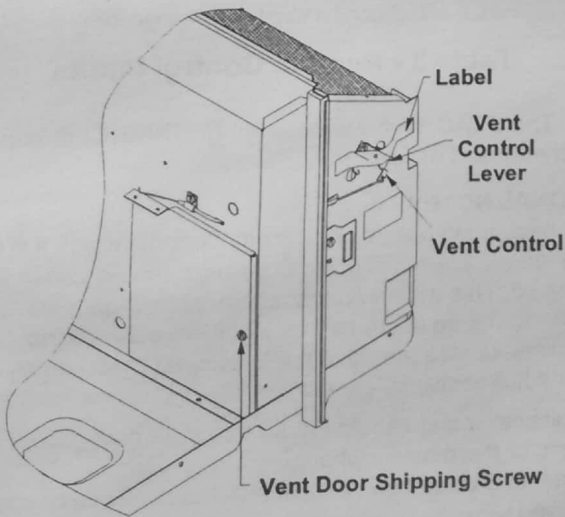
Low Voltage Wires Routing

VENT CONTROL

The vent control allows outside air to be drawn into the conditioned area. This outside air can provide ventilation when the blower is operating, but it will increase the heating or cooling load and operating costs.

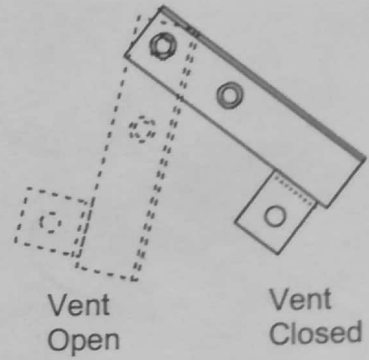
To obtain access to the vent control:

1. Remove the cabinet front (see Front Removal).
2. Remove the shipping screw (if installed) from the vent door.
3. Remove the label (if present) from over the vent control lever on the left side of the chassis. Remove the vent door shipping screw.



Vent Control Lever

4. Rotate the vent control lever to either open or close the damper.



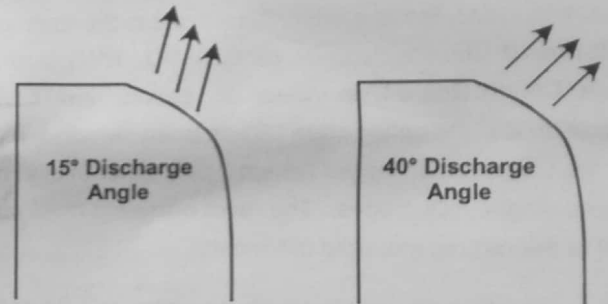
Vent Door Lever Positions

Hydronic Heat Installations

To avoid the risk of freezing the steam or water coil during prolonged shut down periods, the vent door must be left closed when the outdoor temperature might fall below freezing.

AIR DISCHARGE GRILLE

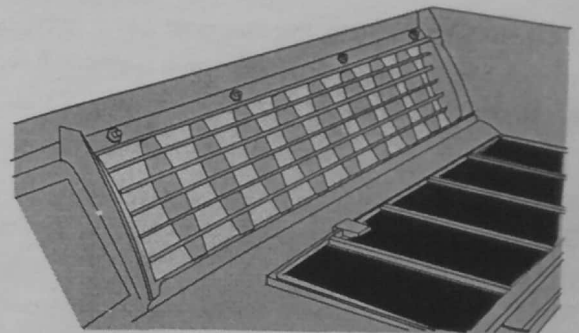
The discharge grille can be adjusted to expel air at either a 15° or 40° angle.



Discharge Grille Orientation Options

Use the following procedure to change the angle of the discharge air flow:

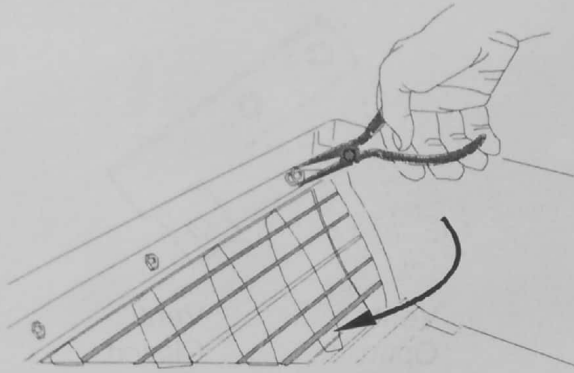
1. Remove the front cabinet (see Front Removal).
2. Position the front so that the backside is accessible (see figure below).



Discharge Air Flow

3. Remove the four (4) nuts which secure the discharge air grille to the cabinet front.

Operating Instructions



Discharge Air Flow Grille Removal

4. Rotate the grille 180° clockwise.
5. Reinstall the nuts securing the discharge air grille to the cabinet front. Reinstall the cabinet front on the unit.

REMOTE THERMOSTAT

To operate this unit with a "manufacturer-approved" remote thermostat, configure the control to be operated by the remote thermostat. Enter configuration mode C1 and then select option Code L5 (see Configuration Settings in back of manual). When in the remote mode, the unit will only respond to the thermostat inputs (terminal strip positions GL (or GH), W2, Y/W1, and B* shown in "Control Board User Inputs" illustration). **NOTE:** Once configuration C1 with option code L5 has been selected, the control touchpad will no longer accept inputs other than configuration and diagnostics modes. The room occupant must operate the unit at the remote mounted thermostat.

NOTE: In remote mode, the 3-minute compressor time delay, the random restart feature and the freeze protection feature are all active (see *Unit Features* section).

THERMOSTAT LOCATION

This unit is designed to be operated with remote wall mounted thermostats. For further information on thermostats approved for use with this unit, contact your sales representative.

For best performance results, the thermostat should be located approximately five feet above the floor on a vibration free, inside wall in an area with good air circulation.

Do not install the thermostat where it may be affected by the following:

- Dead spots behind doors, in corners or under cabinets
- Hot or cold drafts from air ducts
- Radiant heat from the sun, appliances, or fireplaces
- Concealed pipes and chimneys
- Unheated (uncooled) areas behind the thermostat, such as an outside walls

Consult the instruction sheet packaged with the thermostat for further details on mounting and operation.

REMOTE THERMOSTAT OPERATION

Approved thermostats vary slightly in construction and, with few exceptions, are operated similarly. The following operational description pertains to approved nonprogrammable thermostats that energize G in Heat and Cool mode.

HEAT/OFF/COOL Switch

- OFF - cooling and heating functions are defeated.
- HEAT - the selected room temperature is maintained by cycling either in the heat pump mode or electric strip heat. A heat pump unit is switched from the heat pump mode to electric strip heat when the coil temperature is 20°F or when the heat pump cannot keep up with the heating load and a two stage thermostat is used.
- COOL - the selected room temperature is maintained by cycling the air conditioner.

Table 3 summarizes the thermostat input combinations and the respective unit functions. The following wiring schematic illustrations show wiring schematics for heat pump and straight cool units with electric resistance heat, respectively.

Unit Function	Heat Pump Thermostat Input	Electric Heat Thermostat Input
	R Terminal to:	R Terminal to:
OFF	NONE	NONE
HEAT	Stage 1	GL*, Y/W1, B**, O
	Stage 2	GL*, W2
COOL	GL*, Y/W1, B**, O	GL*, Y/W1

*or GH depending on speed required

**If configured, B and O can be used interchangeably.

Table 3 - Remote Control Inputs

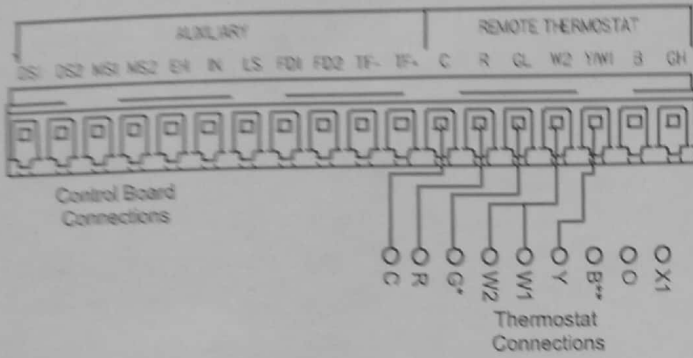
NOTE: The PTAC Wire Harness Kit (PWHK01C) is required for remote thermostat options.

ADDITIONAL NOTES:

1. For heat pump operation, a room thermostat with a B (heating changeover) terminal or an O terminal (cooling changeover) is required. This will mean that some "auto changeover" thermostats cannot be used, as many of them either do not have a B terminal, or else energize the B terminal continuously when in the "auto" position.
2. Additional wiring should be run for future changeover to Heat Pump or thermostat options.
3. Run 6 to 8 wires during initial installation. Tape or cap off any unused wires.

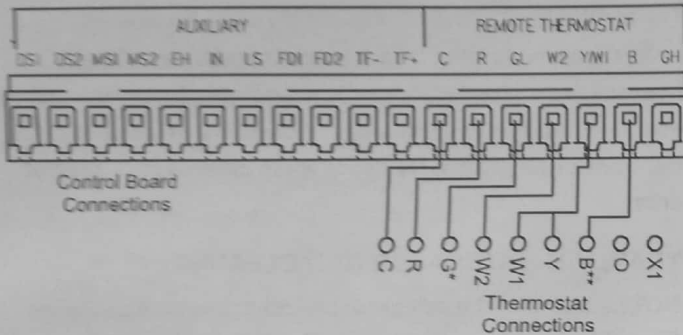
NOTE: Using a thermostat with an O terminal will require that the 6 button with display control be configured (see Configuration Settings).

Operating Instructions



Wiring Schematic for Straight Cool Unit

*NOTE: For high speed fan operation, connect "G" to "GH".



Wiring Schematic for Remote Heat Pump

*NOTE: For high speed fan operation, connect "G" to "GH".

Table 4 shows the maximum wire length and corresponding gage size for installation of a remote thermostat.

Maximum Wire Length	
Wire Size (AWG)	Maximum Length Allowed
#24	400 ft
#22	600 ft
#20	900 ft
#18	1500 ft
#16	2000 ft

Table 4 - Maximum Wire Length for Remote Control Connection

WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



NOTE: If configured, B and O input terminals can be used interchangeably.

Maintenance and Cleaning

WARNING

HIGH VOLTAGE!
TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO ELECTRICAL SHOCK, CLEAN AIR FILTERS OR COILS REGULARLY. CLOGGED OR SEVERELY RESTRICTED FILTERS OR COILS REDUCE AIRFLOW WHICH CAN CAUSE DRASTIC EFFICIENCY LOSS AS WELL AS SEVERE COMPONENT DAMAGE TO COMPRESSORS, ELECTRIC HEATER OR FAN MOTOR. IN EXTREME CASES, CLOGGED FILTERS AND/OR COILS MAY CREATE A FIRE HAZARD AND WILL VOID THE WARRANTY.



WARNING

SOME LOCAL CONDITIONS AND ENVIRONMENTS CAN CAUSE FUNGI AND OTHER MATERIAL TO GROW INSIDE THE PTAC UNIT. THIS MATERIAL WHEN DRIED, AS WELL AS OTHER FOREIGN MATERIAL, SIMILAR TO DRYER LINT IN YOUR CLOTHES DRYER, ARE FIRE HAZARDS. BE SURE TO THOROUGHLY CHECK AND CLEAN THE UNIT'S COILS, BLOWER WHEEL, AND BASE PAN PER INSTRUCTIONS CONTAINED IN THIS MANUAL.

MONTHLY MAINTENANCE AND CLEANING

Intake Air Filter

To properly maintain the operational performance of your PTAC unit, it is **extremely** important that the inlet air filter be cleaned once per month or more often if operated in dusty or dirty locations or conditions. The intake air filter is constructed of durable polypropylene. The "air intake" air filter can be easily inserted into the cabinet front using the cabinet filter guides. The intake air grille swings out for easy access to the filter. Before cleaning the intake filter, turn the unit off by setting the mode switch to the OFF position. Filter should be cleaned as required.

The following procedure is used to remove the intake filter:

1. Open the intake grille by grasping the top intake louver.
2. Pull the intake grille open.
3. Slide filter upward and remove.
4. Clean filter with vacuum or with running water.

Reverse this procedure to reinstall the filter.