OWNER'S MANUAL

PTAC Air Conditioner

AAA09AE-D3RNB2D

AAA12AE-D3RNB2D

AAA15AE-D3RNB2D

Thank you for choosing our product.
For proper operation, please read and keep this manual carefully.

◆ CONTENTS

The figures in this manual may be different with the material objects, please refer to the material objects for reference.

This symbol stands for the items should be forbidden

This symbol stands for the items should be followed

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.Children shall not play with the appliance.Cleaning and user maintenance shall not be made by children without supervision.

Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

EXPLANATION OF SYMBOLS

⚠ DANGER Indicates a hazardous situation that, if not avoided, will result in death or serious injury.

⚠ WARNING Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

⚠ CAUTION Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.

NOTICE Indicates important but not hazard-related information, used to indicate risk of property damage.

 Indicates a hazard that would be assigned a signal word WARNING or CAUTION.

◆ SAFETY CONSIDERATIONS

Recognize safety information. This is the safety--alert symbol ⚠.When you see this symbol on the unit and in instructions ormanuals, be alert to the potential for personal injury.
Understand these signal words: DANGER, WARNING, and CAUTION. These words are used with the safety--alert symbol.DANGER identifies the most serious hazards which will result in severe personal injury ordeath.WARNING signifies hazards which could result in personal injury or death.
CAUTION is used to identify unsafe practices which may result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which will result in enhanced installation, reliability, or operation.

⚠ WARNING

PERSONAL INJURY AND/OR PROPERTY DAMAGE HAZARD

Failure to follow this warning could result in personal injury, death and/or property damage.
For your safety, the information in this manual must be followed to minimize the risk of fire or explosion, electric shock, or to prevent property damage, personal injury, or loss of life.

- This unit must be properly installed in accordance with the Installation Instructions before it is used.
- Immediately repair or replace all electric service cords that have become frayed or otherwise damaged.
- Unplug or disconnect the unit at the fuse box or circuit breaker before making any repairs.
- Instructions for installation and use of this product are provided by the manufacturer.

◆ GENERAL INFORMATION

Package terminal air conditioners and heat pumps provide a high standard of quality in performance, workmanship, durability and appearance as they heat and cool the occupied air space year round.
This manual provides information for ease of installation, operation and maintenance.
All models are designed for through-the-wall installation. Separate installation instructions are included with all accessory components.

BEFORE YOU BEGIN
Read these instructions completely and carefully.

IMPORTANT: Save these instructions for local inspector's use.
IMPORTANT: Observe all governing codes and ordinances.

NOTE TO INSTALLER
Be sure to leave these instructions with the owner.

NOTE TO OWNER
Keep these instructions for future reference. Be sure to write down the model and serial number of unit on space provided on back page. The model and serial number can be located on the serial number plate attached to unit. These numbers are required for service. (See Fig. 1.)

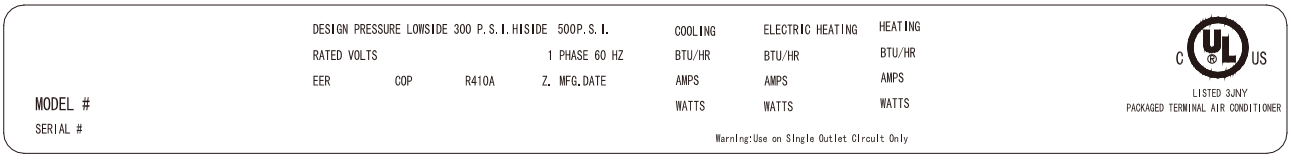


Fig. 1 – Sample Data Information Plate

◆UNIT FEATURES

This Premium unit has many exciting features which are different than those found on standard PTAC models. The owner must be familiar with these features in order to fully understand the operation and capability of the unit.

• Intelligence – Your Premium unit has an on board computer that utilizes real time diagnostics to prolong the life of your unit. There is an LED indicator on the control board, behind the front panel, that will flash an error code if the unit has detected some kind of fault condition. In many cases, the unit will automatically clear the fault condition and continue operating with no interruption. In some cases, the condition cannot be cleared and the unit will require service. In those cases, an “Fx” failure mode will be displayed on the digital display. For a detailed list of all error codes and “Fx” conditions, see Table 6 -Status LED Indicator Definitions for further details.

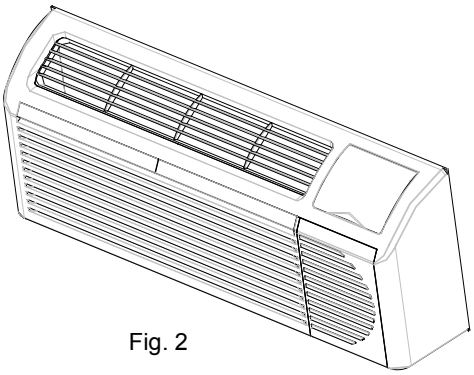


Fig. 2

• Memory – Your Premium unit also has memory. If power is lost, all of the control settings (setpoint, mode, fan speed, on/off and configuration) are remembered. So when power is restored, the unit will start back up in the mode (and configuration) it was in, when power was lost.

• Premium Sound – The unit not only doe s it have 2 fan motors and a tangential blower wheel for optimum sound, the outdoor fan will always run a minimum of 10 seconds before the compressor, to help reduce any compressor starting noise.

• Random Compressor restart - To help prevent power surges after a power outage (from many of your PTACs starting at the same time), the compressor is equipped with a ″165 to 195″random restart delay feature.Whenever the unit is plugged in, or power has been restarted, a random compressor restart will occur.

• Compressor Protection - To prevent short cycling of the compressor and maximize it’s life, there is a random start-up delay of 3 minutes on the compressor and a minimum compressor run time of 3 minutes.

• Automatic roomfreeze protection – automatically will keep the temperature in the room from getting too cold, where water pipes might freeze. If the unit is configured for the freeze protection feature to be active (which is the default condition), then whenever power is supplied to the unit, if the unit senses temperature below 40°F, the fan motor and electric heater are turned on and will warm the room to 50. If Freeze protection is not required, change the configuration switch to turn the feature off (see section on unit configuration).

• Automatic Quick Warm-up (for heat pump models only) – If the room temperature falls to 5°F below the set point temperature, the reverse cycle heat is shut off and the electric strip heat is turned on.

1. Mode indicator display: When the air conditioner operates in a certain mode, the corresponding mode indicator will be bright;
2. The ON /OFF indicator is in green when the controller is ON and in red when controller is OFF.
3. Fan speed display: When air conditioner operates at high, medium, low or auto fan speed, the corresponding indicator will be bright.
4. Dua-8 display: Ambient temperature can also be displayed in cooling and heating modes through setting the dial switch. Under cooling or heating mode, the dual-8 will display the set temperature (the dual-8 will display indoor ambient temperature under fan mode).
5. If the display data has three bits, the dual-8 will display “ten’s digit”+ “unit’s digit” at first and then display “BLANK”+ “hundred’s digit”. for one cycle, until heating is satisfied.

• Dual-8 Display and LED Display -- Two 8-segment nixie tubes, eleven LED indicators (They are HIGH,LOW,AUTO,DRY,COOL,FAN,HEAT,ON/OFF,SETPOINT,INDOOR,TIMER)

• Configure Fan to Optimize Selected Application - Unit can be optimized to selected application by configuring the fan to run in continuous mode or cycle on and off with the compressor and electric heater (can be different for both heating and cooling modes). In cycle mode, fan will continue to run after compressor or electric heater stops in order blow off any residual heat or cool left on coil.

◆UNIT FEATURES

• Unit Configuration – There are many different configuration possibilities, through both dipswitches and the digital keypad, that allow you to configure the unit for your exact application. See section on unit configuration for more details. Following are the configuration selections that havenot previously been mentioned:
• °F or ℃ – The unit can display in either °F or ℃
• Indoor Temperature Sensor Biasing – Optimize the room temperature sensor reading to your exact application (One for cooling, one for drying and another for heating).
• Emergency Heat (for Heat Pump Only) –Disable the compressor during heating mode operation (heat only with Electric Heat).
• Display Setpoint OR Room Temperature –The unit can be configured to display the room temperature OR setpoint only, during heating and cooling modes. See section on unit configuration for more details.
• Limit the Setpoint Range –The unit can be configured to limit the controlling setpoint range.The display will always show the complete setpoint range, but the controlling setpoint will be limited to the configured minimum and maximum setpoint selected. See section on unit configuration for more details.
• Energy Management – Sometimes known as Front Desk Control, an input is provided so that the unit can be manually disabled from a different location. If the unit detects 24vac on this input, it will automatically turn itself off. If no voltage is detected on the input, the unit will run normally.
• Wall Thermostat Control – A wired wall thermostat can be connected to the unit. If it is, the unit must be configured to disable the keypad. See section on wired inputs and unit configuration for more details.

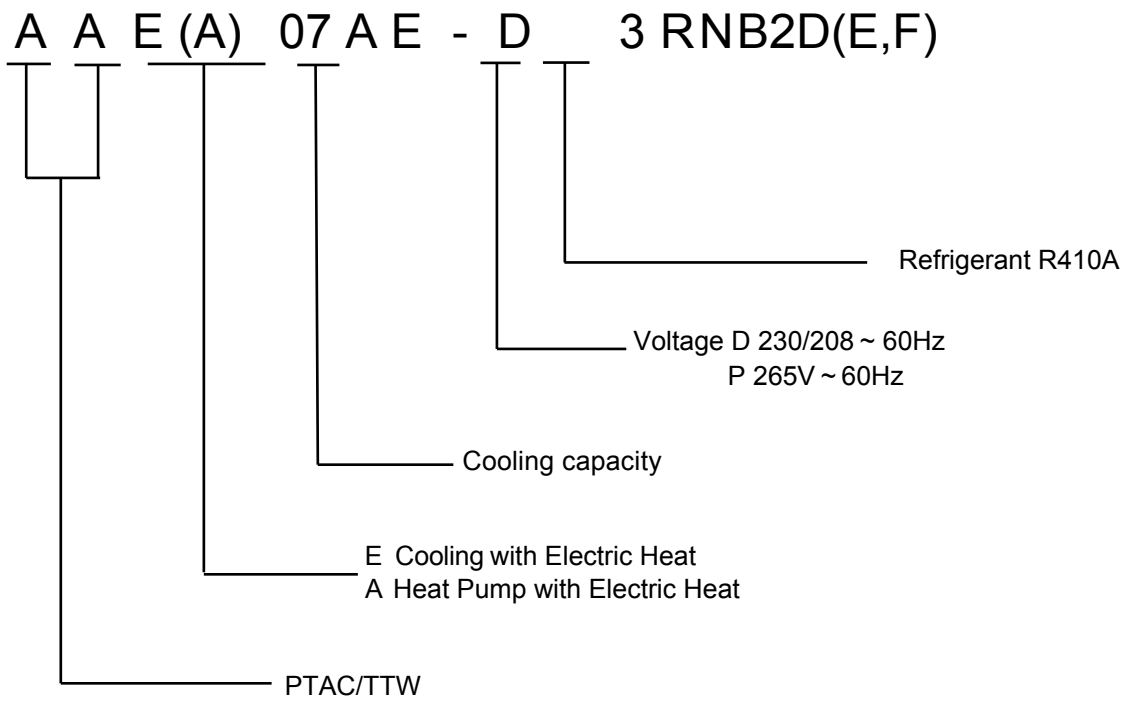


Fig. 3 – Catalog Number Nomenclature

◆ ELECTRICAL DATA

⚠ WARNING

ELECTRICAL SHOCK HAZARD
Failure to follow this warning could result in personal injury or death and/or property damage
DO NOT alter cord or plug or use an extension cord.

POWER CONNECTION OPTIONS
Appropriate power cord accessory kit is determined by the voltage, and amperage of the branch circuit.

IMPORTANT: For 265V units, if power cord accessory option is selected, the cord is only 18" long and must plug into the accessory electrical 265V subbase.
Be sure that your outlet matches the appropriate blade configuration of the plug and that it is within reach of the service cord. All wiring, including installation of the receptacle, must be in accordance with the NEC and local codes, ordinances and regulations. National codes require the use of an arc fault or leakage current detection device on all 208/230V power cords. Be sure to select the correct cord for your installation.

ALL UNITS
Wire Size
Use recommended wire size given in Table 1 and install a single branch circuit.All wiring must comply with local and national codes. All units are designed to operate off ONE single branch circuits only.
NOTE: Use copper conductors only.

Table 1—SUGGESTED BRANCH CIRCUIT WIRE SIZES*

NAMEPLATE AMPS	AWG WIRE SIZE
7.0 to 12	14
12.1 to 16	12
16.1 to 24	10

LEGEND
AWG --- American Wire Gauge
* Single circuit from main box.
Based on copper wire at 60℃(140°F) temperature rating.

Grounding
For safety and protection, the unit is grounded through the service cord plug or through separate ground wire provided on hard wired units. Be sure that the branch circuit or general purpose outlet is grounded.
VOLTAGE SUPPLY
Check voltage supply at outlet. For satisfactory results, the voltage range must always be within the ranges found on the data information plate.
Cord-connected Units
The 250-v field supplied outlet must match the plug for the standard 208/230-v units and be within reach of the service cord. The standard cord-connected 265-v units require an accessory electrical subbase for operation. Refer to Table 2 for proper receptacle and fuse type.
Power Cord Protection
The power cord for 230/208v units provide power cord fire protection.Unit power automatically disconnects when unsafe conditions are detected. Power to the unit can be restored by pressing the reset button on plug head.
Upon completion of unit installation for 230/208V models, an operational check should be performed using the TEST/RESET buttons on the plug head.
NOTE: The 265v models do not incorporate this feature as they require use of the electrical subbase accessory.

Table 2—RECEPTACLES AND FUSE TYPES -- 250, 277 VOLTS

RECEPTACLE						
AMPS	15	20	30	15	20	30
RATED VOLTS	250	250	250	277	277	277
TIME–DELAY TYPE FUSE (or HACR Circuit Breaker)	15	20*	30	15	20	30

LEGEND
HACR -Heating, Air Conditioning, Refrigeration
* May be used for 15-amp applications

◆ INSTALLATION

Proper installation is the responsibility of the installer.
Product failure due to improper installation is not covered under the Warranty.

CHASSIS INSTALLATION

Units are shipped without a sleeve. In applications where unit is a replacement, it is recommended that a AC Prosleeve be used.

These units can retrofit General Electric, Amana, Trane, and Friedrich sleeves/grilles (be sure outdoor grille is installed on the sleeve). See Table 3 for details.

For any sleeve retrofit applications, be sure that the foam seals (factory-installed on the tube sheets) provide a good seal between the grille and outdoor coil tube sheets. These foam seals provide a barrier to separate outdoor coil leaving air from mixing with the outdoor incoming air (known as air recirculation).

⚠ CAUTION

UNIT DAMAGE AND/OR OPERATION HAZARD
Failure to follow this caution may result in equipment damage or improper operation.
For retrofit applications, foam seals on outdoor coil tube sheets must make a seal between the coil and the grille or loss of performance and premature damage to the major components can result.

Table 3—Retrofit Wall Sleeves

Manufacturer	Wall Sleeve Part Number
AC Pro(standard)	Metal Sleeve TL10500030
	Knock-Down Metal Sleeve TL12500210
General Electric	Metal Sleeve RAB71
	Plastic Sleeve RAB77
Amana	Metal Sleeve WS900B
Trane	Metal Sleeve SLV149
Friedrich	T–Series Metal $11^{1/2}$–in. Deep Wall Sleeve*
	Standard Depth Wall Sleeve 16 X 42 X $13^{3/4}$–in. PXWS

* FR---SLEEVE---EXT accessory is required for retrofit into Friedrich (T---Series) wall sleeves.

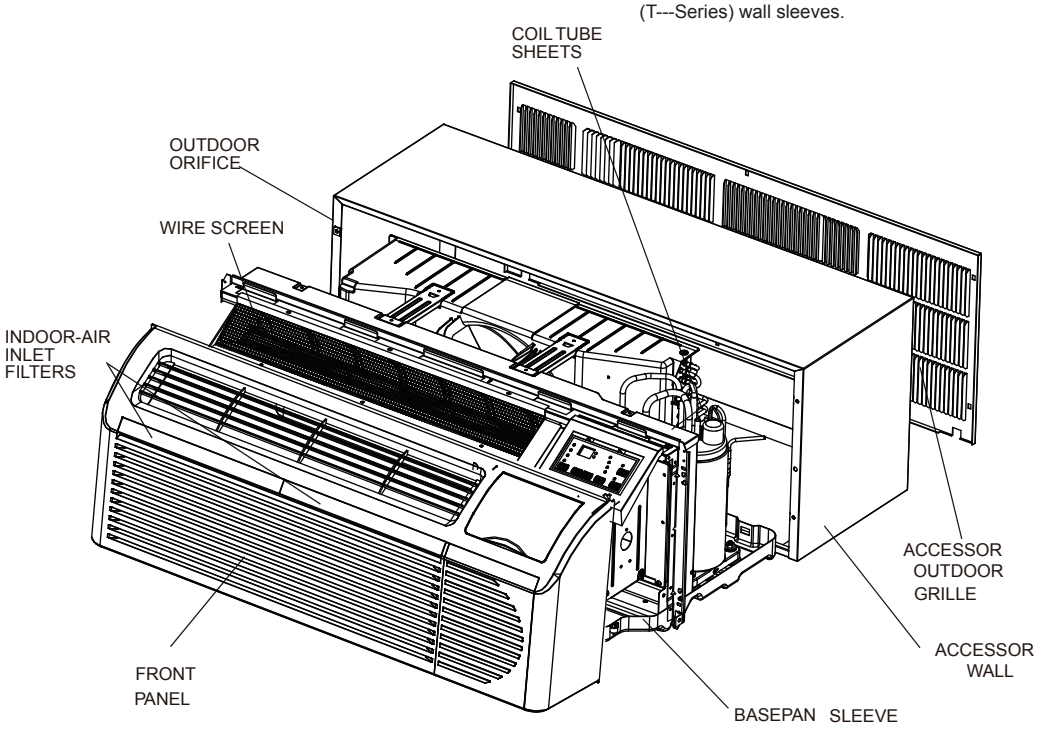


Fig. 4 – Unit Components

RETRO FIT SLEEVE PREPARATION

IMPORTANT: Inspect wall sleeve thoroughly prior to installation. Manufacturer does not assume responsibility for costs or damages due to defects in sleeve or for improper installation.

WARNING

ELECTRI CAL SHOCK HAZARD
Failure to follow this warning could result in personal injury or death.
Disconnect all power to unit to avoid possible electrical shock during installation.

Remove any existing foam baffles that are installed on competitive outdoor grille, if present. See Fig. 5.
GE Sleeves Only
GE Meta l Wall Sleeve -GE metal sleeve is interchangeable with AC Pro wall sleeve. See Fig. 6.
GE Plastic Sleeve - Remove bottom seal from plastic sleeve. See Fig. 7.

INSTALLATION OF AN AC Pro WALL SLEEVE USING A NON-AC Pro GRILLE

This application has become more common due to pre-manufactured windows with built-in grilles or renovations where a AC Pro sleeve is used with an existing non -- AC Pro grille.
Use of a AC Pro wall sleeve with a non-AC Pro grille requires installation of an Accessory Baffle Kit (see Fig. 8), which ensures a good seal between the unit and exterior grille to prevent air recirculation.
Air recirculation is a large contributor to performance loss and and premature damage to major components.
Notes: AC Pro stamped grille is interchangeable with CARRIER'S.

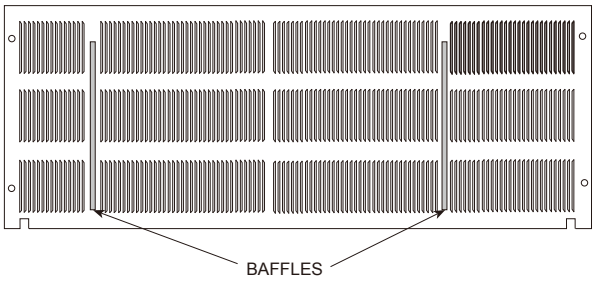


Fig. 5 – Remove Existing Outdoor Grille Baffles on Competitive Grille

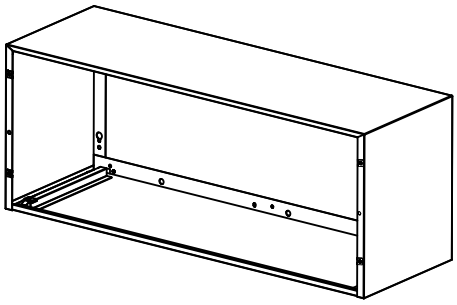


Fig. 6 – GE Metal Sleeve

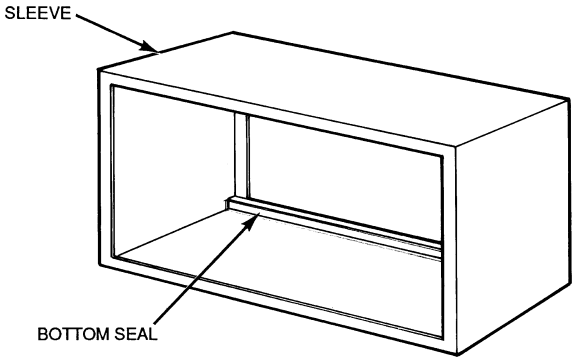


Fig. 7 – Remove Bottom Seal From GE Plastic Sleeve

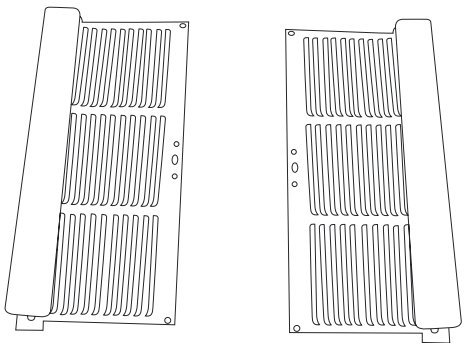


Fig. 8 – Accessory Baffle Kit
Note: contact your units supplier to get the kit and it may be different from the shape showed above.

INSTALL UNIT INTO WALL SLEEVE

1. Carefully remove shipping tape from the front panel and vent door. See Fig. 9.
2. Remove shipping screw from the vent door, if present. See Fig. 10.
3. Remove front panel. See Fig. 11.
4. Lift unit level and slide unit into wall sleeve until foam seal rests firmly against front of wall sleeve.
5. Secure with four screws (supplied) through the unit flange holes. See Fig. 12.
6. Reinstall front panel. See Fig. 13.

⚠ CAUTION

UNIT DAMAGE HAZARD
Failure to follow this caution may result in equipment damage or improper operation.
Failure to remove shipping tape and screw will prevent fresh air vent door from opening and may result in damage to vent door cable

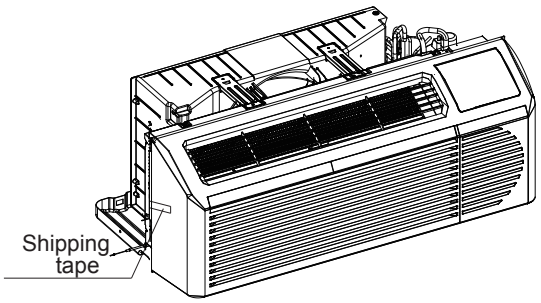


Fig.9-Shipping Tape Location

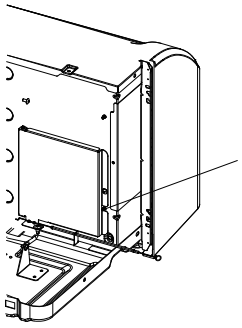
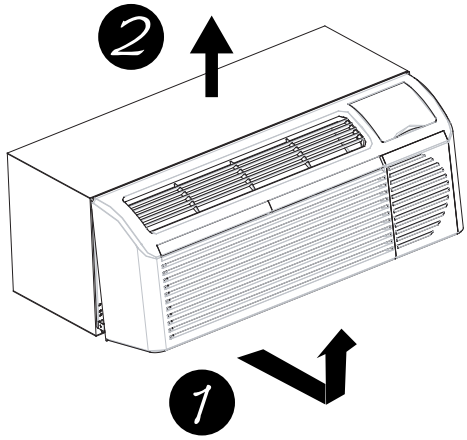


Fig.10-Shipping Screw Location



Pull out at the bottom to release it from the tabs (1). Then lift up (2).

Fig. 11 – Removing Front Panel

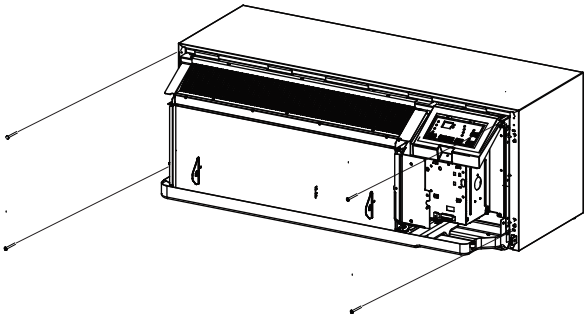
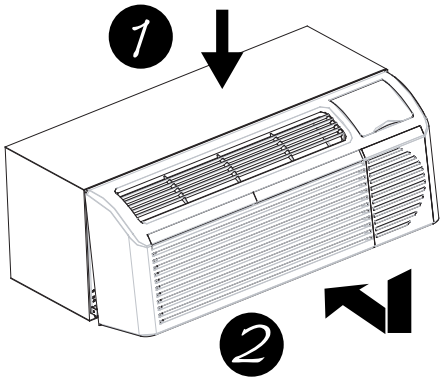


Fig. 12 – Securing Unit



Place tabs over top rail (1). Push Inward at bottom until panel snaps into place (2).

Fig. 13 – Replacing Front Panel

◆ SYSTEM CONFIGURATION

VENTILATION CONTROL

The ventilation control lever is located at left side of unit, behind front panel.

NOTE: The vent door shipping hardware must be removed before using vent control lever. See Installation Instructions.

When set at CLOSE, only the air inside the room is circulated and filtered.

When set at OPEN, some outdoor air will be drawn into room. This will reduce heating or cooling efficiency.

Energy Tip:Keep the vent control at CLOSE. Room air will be filtered and circulated.

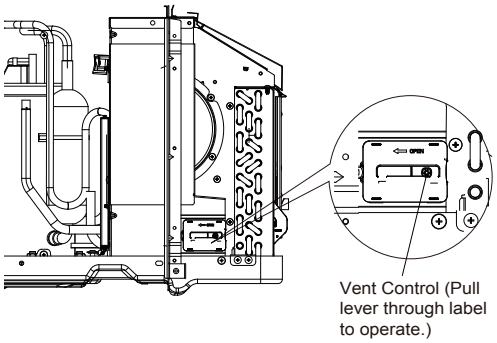


Fig.17-Ventilation Control Location

ADJUSTING AIR DIRECTION

To adjust air direction:

1. Remove front panel. See Fig. 11.
2. Remove louver screws that hold louver insert in place (from back side of front panel). See Fig. 18.
3. Turn louver insert and rotate 180°. See Fig. 19.
4. Replace louver insert.
5. Replace screws and front panel.

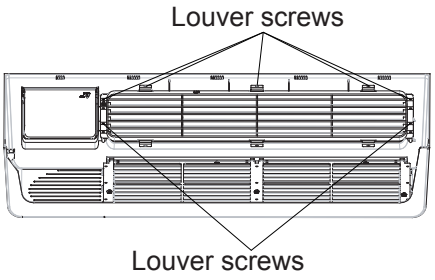


Fig.18-Backside of Front Panel

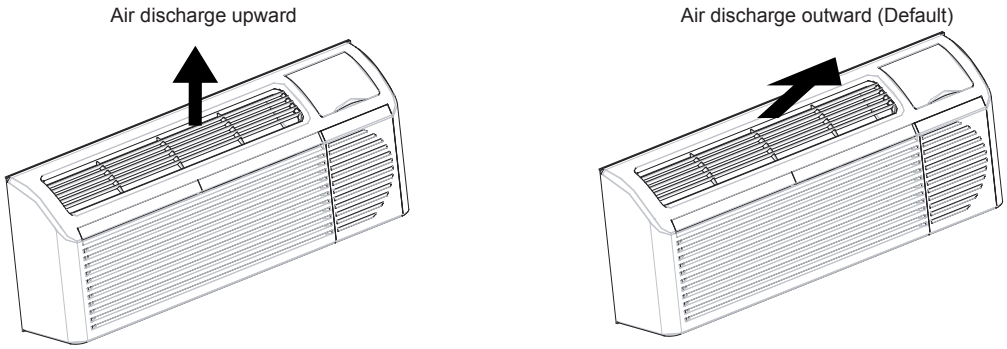


Fig.19-Adjusting Louvers

◆ DIP SWITCHES

Auxiliary dip switch controls are located behind front panel, through an opening below the control panel. To access, remove front panel. See Fig. 11.
Dip switches are accessible without opening the control box. Unit must be powered OFF to effectively change their status.
Factory settings for dip switches will be in the DOWN position. See Table 5 - Dip Switch Functions for functions of each dip switch position.

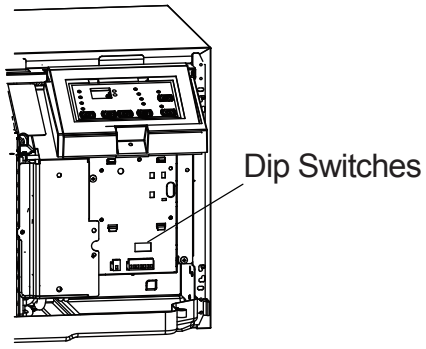


Fig.20-Dipswitch Location on Unit

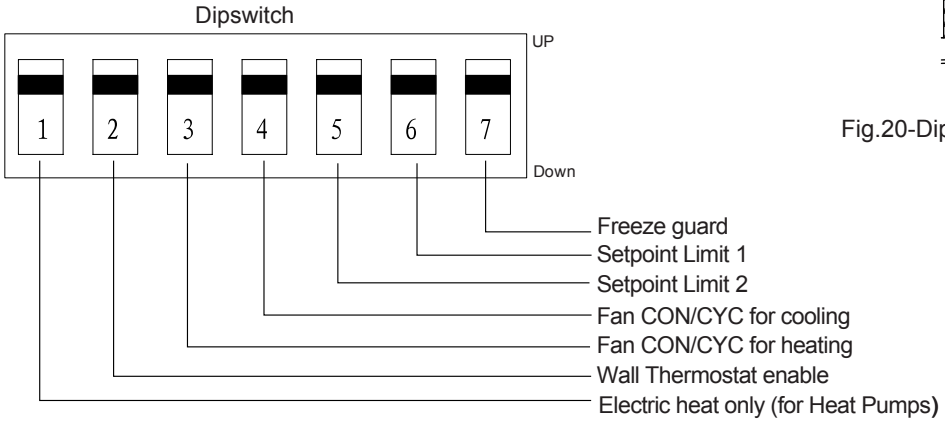


Fig.21-Dip Switches

Table 5—DIP SWITCH FUNCTIONS

No,	UP		DOWN		REMARKS	DEFAULT
1	Electric Heat Only		Heat Pump		For Heat Pump unit only.	DOWN
2	Wall Thermostat Enable		Control Panel Enable			DOWN
3	Fan Continuous Run for Heating		Fan Cycle for Heat			DOWN
4	Fan Cycle for Cool		Fan Continuous Run for Cooling			DOWN
6*5	UP*UP 68–75°F 20–24℃	UP*DOWN 63–80°F 18–28℃	DOWN*UP 65–78°F 19–26℃	DOWN*DOWN 61–86°F 16–30℃ (full range)	Two configurations (5*6) combine to select set point range. When set point limit set, display always shows full range.	DOWN*DOWN 61–86°F 16–30℃
7	Freeze Guard Disable		Freeze Guard Enable			DOWN

Electric Heating Only / Emergency Heat (For Heat Pump Units Only)
This function is only available for heat pump units.
Wall Thermostat Enable
A wired wall thermostat can be connected to the unit. If it is, this dipswitch must be moved to the Wall Thermostat Enable Position, before the wall thermostat will begin control.
Heat and Cool Fan CON/CYC Dip-switches
Allows the fan to operate in continuous or cycle modes while the unit is in heating or cooling mode. (continuous or cycle):
CON (Continuous)
Allows fan to run continuously, circulating air even when the temperature setting has been satisfied. This switch helps to maintain the room temperature closer to the thermostat setting.
CYC (Cycle)
This setting allows the fan to cycle on and off with the compressor or electric heater. The fan stops a short time after the temperature setting is satisfied.
Setpoint Temperature Limits
Provides a restricted range of temperature control.
Room Freeze Protection
If unit senses a room temperature below 40°F, the fan motor and electric strip heat will turn on and warm the room to 50°F. The fan stops a short time after the temperature is satisfied.

KEYPAD CONFIGURATION

Keypad Configuration

Allows further configuration of system to desired application. Changes do not take affect until power is cycled on the unit.

To enter Keypad configuration:

Cycle power to unit. Press and hold the FAN SPEED Button and COOLER button for 5 continuous seconds, within 30 seconds of the unit being powered up. If the unit has had power for more than 30 continuous seconds, keypad configuration cannot be entered. When keypad configuration mode is first entered, it will default to Fahrenheit/Celsius Display Mode.

To scroll through the Keypad Configuration Options:

Press and release the Fan Speed button. The stored value will be displayed.

To modify configuration settings:

Press and release the WARMER or COOLER buttons.

To exit Keypad Configuration:

Keypad Configurationwill end on its own 30 seconds after the last button press or when the MODE button on the Keypad is pressed.

Fahrenheit/Celsius Display Switch:

Change between degrees Fahrenheit and Celsius on the display. An “F” indicates Fahrenheit display and ‘C’ indicates Celsius. Default is degrees “F”.

Indoor Air Temperature Sensor Biasing for Cooling mode:

Sometimes known as an anticipator, the air temperature sensor bias is used to adjust the room air temperature reading when in cooling mode. (Not normally required.)

Indoor Air Temperature Sensor Biasing for Dry mode:

Sometimes known as an anticipator, the air temperature sensor bias is used to adjust the room air temperature reading when in dry mode. (Not normally required.)

Indoor Air Temperature Sensor Biasing forHeating mode:

Sometimes known as an anticipator, the air temperature sensor bias is used to adjust the room air temperature reading when in heating mode. (Not normally required.)

Indoor Temperature Display:

Change between showing setpoint only on the display during heating and cooling modes “SP” or displaying room temperature during heating and cooling modes “AA”. “SP” mode is the default mode.

If “SP” is selected, only the setpoint will be displayed during heating and cooling modes, regardless of what the real temperature is in the room.

If “AA” mode is selected, the room temperature will be displayed during heating, cooling and fan only modes.

- If the mode button has been changed to either heating or cooling modes, setpoint will be displayed for 10 seconds. After the 10 seconds, the room temperature will again be displayed.
- If the on/off button is depressed (when the unit is off) and the last mode was either cooling or heating mode, the setpoint will be displayed for 10 seconds before displaying room temperature.
- During heating and cooling modes, if either the up or down setpoint key is depressed, the display will show the setpoint until 10 seconds after the last up or down key press.

Switchover between Emergency Auto Cooling Allowed and Emergency Auto Cooling Rejected:

Press WARMER or COOLER to switch between the display of Emergency Auto Cooling.

Allowed and Emergency Auto Cooling Rejected.

Emergency Auto Cooling Allowed: the diode displays CA.

Emergency Auto Cooling Rejected: the diode displays Cd.

Room temperature will be displayed again.

◆ AUXILIARY CONTROLS

WALL THERMOSTAT TERMINAL

IMPORTANT: Only trained, qualified personnel should access electrical panel on unit electrical accessories. Please contact your local electrical contractor, dealer, or distributor assistance.

Thermostat Wire Routing

Thermostat wire is field supplied. Recommended wire gauge is 18 to 20 gauge solid thermostat
NOTE: It is recommended that extra wires are run to unit in case any are damaged during installation.
Thermostat wire should always be routed around or under, NEVER through, the wall sleeve.
should then be routed behind the front panel to the easily accessible terminal connector.

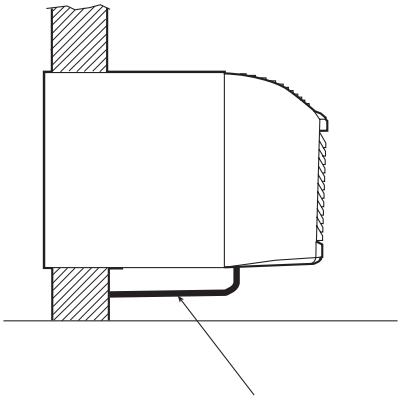


Fig. 22 – Proper Wire Routing Beneath Unit A07074

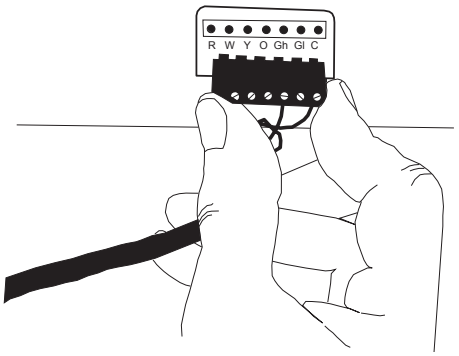


Fig. 23 – Terminal Connector Removal and Replacement A07073

Wiring Thermostat To Unit

Wire wall thermostat input as defined in Fig. 25.

NOTE: Terminal connector can be removed and replaced to simplify the wiring.

NOTE: For heat pump models, anytime there is a second--stage call for heating from the wall thermostat, the unit will automatically switch over to electric heating.

Install Thermostat Wiring

1. Check to be sure power to unit is disconnected.
2. Pull terminal connector to remove.

NOTE: Terminal connector can be removed and replaced to simplify thermostat wiring.

3. Connect wires from the thermostat to terminals on unit terminal connector.
4. Reinstall terminal connector.
5. Ensure that unit is cofigured for wall thermostat enable.
6. Replace control panel label with wall thermostat label (included).
7. Restore power to unit.

NOTE: Refer to thermostat installation instructions for details on installing wall thermostat.

NOTE: For thermostats that have only one fan speed output (on or auto), the fan speed is determined by how the terminal connector is wired. If Low fan is desired, wire the G output from the thermostat to GL on the unit's terminal block. If Hi fan is desired, wire the G output from the thermostat to GH on the unit's terminal block.

NOTE: After proper installation, if your thermostat is not working properly, refer to the Trouble Shooting section.

TERMINAL CONNECTIONS

The wall thermostat terminal block is located behind the front panel and is easily accessible on front of control panel.

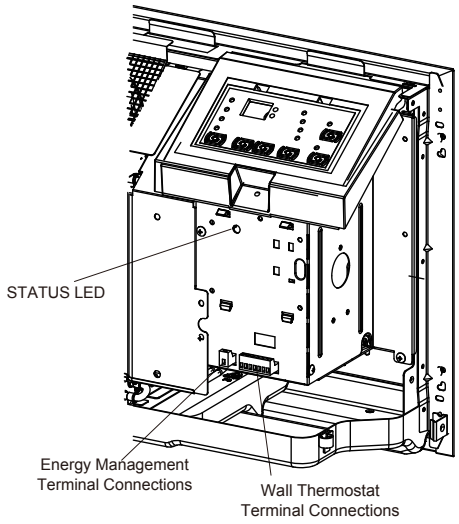
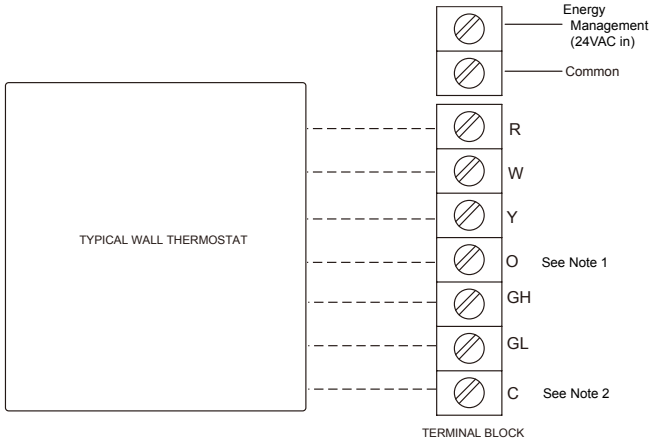


Fig. 24– Terminal Connector and Status LED Location



NOTES:
1. Use termina l “O” for heat pump conne ction only.
2. Terminal “C” (common) is typically only required for digital thermostats.

A07076

TERMINAL	DESIGNATION
R	24 VAC
W	Electric Heat
Y	Compressor
O	Reversing Valve
GH	High Fan
GL	Low Fan
C	Common

NOTE: Any illegal input combinations will be captured as thermostat wiring failures and will light the STATUS LED indicator on main board (see Intelligent Self ---Checking Control section)
Fig.25 – Wiring Connections

NOTE: 1. It is recommended to equip a AC Pro brand compatible thermostat.
2. If a thermostat of other brand is equipped, make sure O signal gives start-up command in cooling mode, and shutdown command in heating mode. Please contact AC Pro technical support personnel.

⚠ CAUTION

UNIT DAMAGE HAZARD
Failure to follow this caution may result in equipment damage or improper operation.

Improper wiring may damage unit electronics. Common busing is not permitted. Damage or erratic operation may result.

ENERGY MANAGEMENT INPUT (FRONT DESK CONTROL)

The controller can handle a switch signal from remote energy management input, called EMsignal or front desk control. Input must be 24VAC. If system receives a 24VAC signal, it will turn unit off; otherwise, the unit runs in normal control. This function will be disabled under Freeze Guard protection. See Fig. 24 and Fig. 25 for terminal connections.

INTELLIGENT SELF-CHECKING CONTROL

Your GREE PTAC has a computer board that continuous ly checks key components of the unit to ensure they are operating properly. Under normal operation, unit status indicator (STATUS, on main PCB), light is steadilyON. If there is a major problem, the unit will shut down and display a diagnostic failure code on the unit’s display. If it is only aminor failure and unit is correcting the fault by itself, the diagnostic code will be flashed on the status LED that can easily be seen when the front panel is removed (see Fig. 24). Failure STATUS codes are defined in the table below.

Table 6—STATUS LED Indicator Definitions

1	Indoor air temp. sensor open/short	8-segment display ‘F1’, with STATUS light flash 1 times and off 3 sec, repeat
2	Indoor coil sensor open or short	8-segment display ‘F2’, with STATUS light flash 2 times and off 3 sec, repeat
3	Outdoor coil sensor open/short	8-segment display ‘F4’, with STATUS light flash 3 times and off 3 sec, repeat
4	Freeze Guard protection	8-segment display ‘FP’
5	Indoor coil freeze protection	STATUS light flash 5 times and off 3 sec, repeat
6	Outdoor coil high temp. protection	STATUS light flash 6 times and off 3 sec, repeat
7	Defrost (heat pump type)	STATUS light flash 7 times and off 3 sec, repeat
8	Indoor coil high temp. protection	STATUS light flash 8 times and off 3 sec, repeat
9	Thermostat wiring error	STATUS light flash 9 times and off 3 sec, repeat
10	Malfunction of temperature sensor at air	outlet FJ Dual-8 nixie tube displays “FJ”
11	Malfunction protection for electric heating	Dual-8 nixie tube displays “A2”

◆ OPERATION

Button function: (Press the button and then the corresponding function will be started up after 2s) Display will be started up immediately.

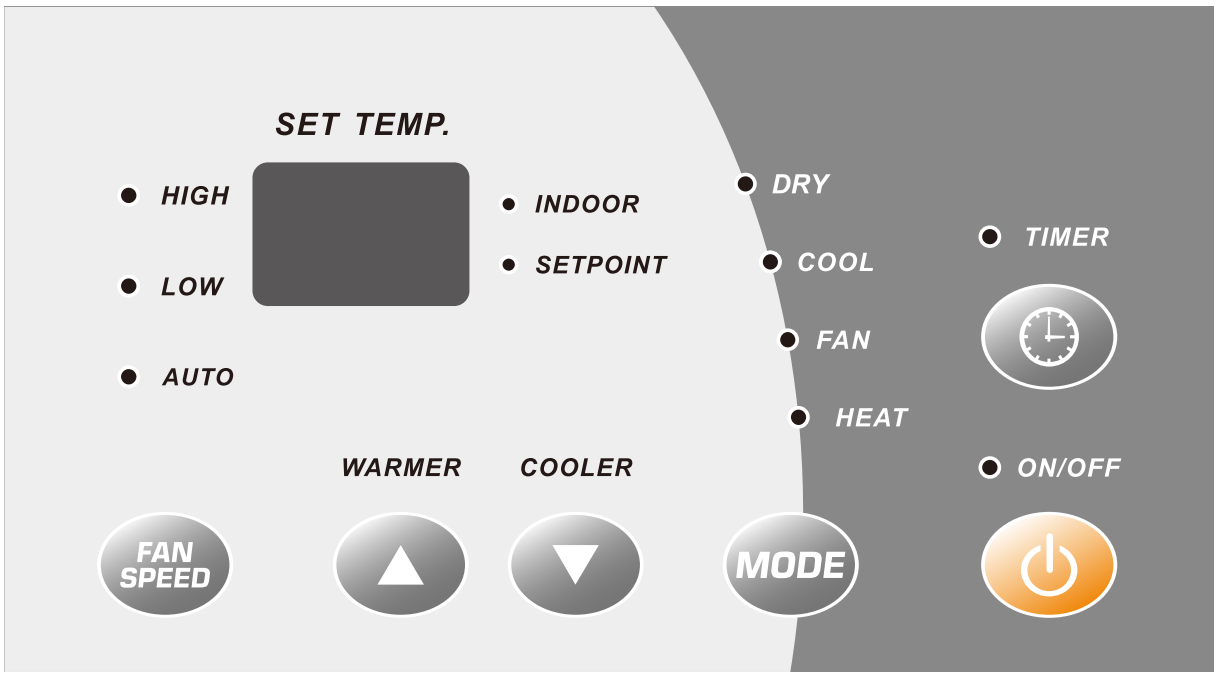


Fig. 26 – PTAC CONTROLS

ABOUT THE CONTROLS ON YOUR UNIT

There are ON/OFF, WARMER, COOLER, MODE, FAN SPEED and TIMER six buttons in all;
1. Press ON/OFF button under OFF mode to turn on the unit. If press WARMER or COOLER button under OFF mode, the dual 8 nixie tube will display indoor temperature for 15s and then turn off. If press MODE button under OFF mode, the controller will resume to the operation status before power-off. Operation indicator is in green.

2. Under ON status, every button is in valid
(1) ON/OFF: It is used for turning OFF the system.
(2) MODE: It is used for switching between Cool, Fan, Heat and Dry (optional).
(3) WARMER or COOLER: 1. It is used for increasing temperature or timer setting.
2. It is used for decreasing temperature or timer setting.
(4) FAN: It is used for setting high, medium, low or auto fan speed. The corresponding LED will be on.
(5) TIMER: It is used for setting timer function

3. Timer function: It can be set either by buttons on control panel or by remote controller
(1) Timer ON: When the unit is off, timer ON can be set. Setting range is 0.5~24h. When timer ON time is reached, the system will operate according to the set mode.
(2) Timer OFF: When the unit is off, timer OFF can be set. Setting range is 0.5~24h. When timer OFF time is reached, the system will stop operation.
(3) Timer Setting: Press TIMER button to set timer function and Timer icon will be on. Dual 8 nixie tube will display selected time which can be adjusted by pressing “+”or“-”buttons. The range of timer setting is from “--” to 24h. 5s after timer setting, the timer function will be activated and TIMER LED will be on. If “--” is displayed, the system will stop timer setting.
(4) Timer Preview: when timer function has been set, press TIMER button to preview the remaining time of timer.
(5) If Time function has been set, turning on/off the unit or power failure will cancel timer setting.

4. Sleep function: This function can be set only by remote controller. This mode will bring a more comfortable sleeping environment. Please contact customer service center or refer to the service manual for more details.

5. DRY function: Without reducing the room temp. , air conditioner can dehumidify and make the room air dry and comfortable.

6. Buzzer: optional
When controller is energized, or valid remote control signal/button signal is received, the buzzer will give out a beep.

7. Auto fan speed
Fan speed can be automatically selected according to different modes or indoor temperature to achieve higher comfort.

8. Emergency cooling operation: Emergency cooling, Subject to your choice – allowed or rejected)
When indoor ambient temperature ≥30℃(86℉), the unit will start cooling automatically. When indoor ambienttemperature reaches 27℃(81℉), the unit will stop operation.

9. Fcode remote controller: optional

◆ CARE AND CLEANING

FRONT PANEL AND CASE

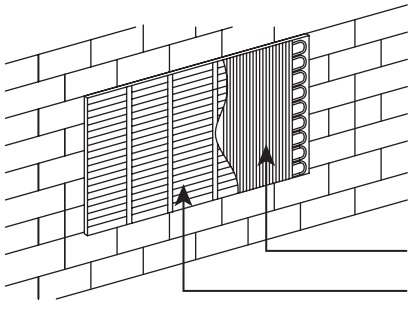
Turn unit off and disconnect power supply.

To clean, use water and a mild detergent. DO NOT use bleach or abrasives. Some commercial cleaners may damage the plastic parts.

OUTDOOR COIL

Coil on outdoor side of unit should be checked regularly. Unit will need to be removed to inspect dirt build--up that will occur on the inside of the coil. If clogged with dirt or soot, coil should be professionally cleaned.

NOTE: Never use a high--pressure spray on coil.



Clean inside and outside of outdoor coils regularly.

Fig.27-Outdoor Coil

⚠ CAUTION

UNIT DAMAGE HAZARD

Failure to follow this caution may result in equipment damage or improper operation.
Airflow restriction may cause damage to the unit.

BASE PAN

In some installations, dirt or other debris may be blown into unit from outside and settle in base pan (bottom of unit).

In some areas of the United States, a “jell--like“ substance may be seen in the base pan. Check base pan periodically and clean, if necessary.

AIR FILTERS

IMPORTANT: TURN UNIT OFF BEFORE CLEANING

⚠ CAUTION

UNIT DAMAGE HAZARD

Failure to follow this caution may result in equipment damage or improper operation.
Do not operate unit without filters in place. If a filter becomes torn or damaged, it should be replaced immediately. Operating without filters in place or with damaged filters will allow dirt and dust to reach indoor coil and reduce cooling, heating, airflow and efficiency of unit. Airflow restriction may cause damage to unit.

Themost important thing you can do to maintain unit efficiency is to clean the filters at least every 30 days (or sooner depending on application). Clogged filters reduce cooling, heating and airflow.

Keeping filters clean will:

- Decrease cost of operation.
- Save energy.
- Prevent clogged indoor coil.
- Reduce risk of premature component failure.

To Clean Air Filters:

- Vacuum off heavy soil.
- Run water through filters.
- Dry thoroughly before replacing.

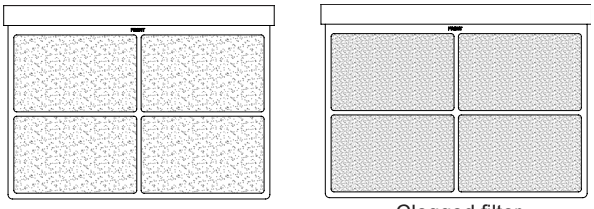


Fig. 28– Identifying Clogged Filter

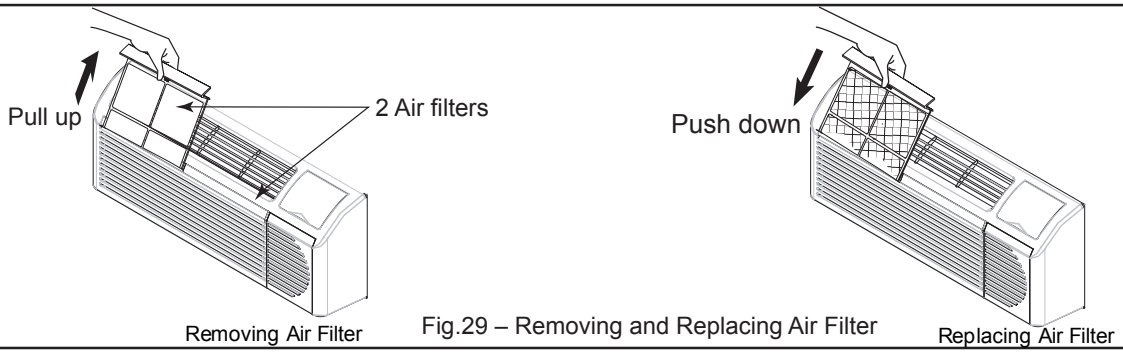


Fig.29 – Removing and Replacing Air Filter

◆ PREVENTATIVE MAINTENANCE

Preventative maintenance is essential to proper unit operation, efficiency and longevity.
To ensure equipment operates properly, it must be properlymaintained. Equipment operation should be checked and verified several times during each year. During regular unit inspection and maintenance, follow the guidelines below:

- Clean both sides of outdoor coil. (Never use high pressure spray on coils.)
- Clean basepan and outdoor vent filter.
- Clean outdoor orifice and fan.
- Clean indoor coil. (Never use high pressure spray on coils.)
- Clean indoor fan, wire screen and front panel.
- Clean or install new indoor--air inlet filter(s).
- Clean wall sleeve and outdoor grille.
- Inspect cord and receptacle.
- Secure electrical connections.
- Ensure front panel is properly mounted and not damaged.
- Ensure wall sleeve is installed properly.
- Ensure heat and cool cycles operate properly.

◆ TROUBLESHOOTING

POSSIBLE CAUSES	SOLUTIONS
UNIT DOES NOT START • Unit may have become unplugged • Fuse may have blown • Circuit breaker may have been tripped • Unit may be off or in wall thermostat mode. Check section on dipswitch settings to verify dipswitches are set properly. • Unit may be in a protection or diagnostic failure mode. See section on Intelligent Self-checking Control.	• Check that plug is plugged securely in wall receptacle. Note:Plug has a test/reset button on it. Make sure that the plug has not tripped. • Replace the fuse. See Note 1. • Reset circuit breaker. See Note 1. • Turn unit on (bottom right button on keypad). Note: If the unit turns on, the LED will be green. If the unit is off, the LED will be red. If there is no LED on, there is a problem with power or damage to the control.
UNIT NOT COOLING/HEATING ROOM • Unit air discharge section is blocked • Temperature setting is not high or low enough Note: Setpoint limits may not allow the unit to heat or cool the room to the temperature desired. Check section on dipswitch settings. • Unit air filters are dirty. • Room is excessively hot or cold when unit is started. • Vent door left open • Unit may be in a protection or diagnostic failure mode. Check section on Intelligent Self–checking Control. • Compressor is in time delay. There is a protective time delay (approx. 3 minutes) on starting the compressor after a power outage (or restarting after it has been turned off), to prevent tripping of the compressor overload.	• Make sure that curtains, blinds or furniture are not restricting or blocking unit airflow. • Reset to a lower or higher temperature setting. • Remove and clean filters. • Allow sufficient amount of time for unit to heat or cool the room. Start heating or cooling early before outdoor temperature, cooking heat or gatherings of people make room uncomfortable. • Close vent door. • Check dipswitch settings for desired comfort. Wait approximately 3 minutes for compressor to start.
DISPLAY HAS STRANGE NUMBERS/CHARACTERS ON IT	• The unit may be in a diagnostic condition. Check Intelligent Self–checking Control section to determine if unit has had a failure. • The unit may be set for ℃(instead of ℉), see the keypad configuration section.
UNIT MAKING NOISES	• Clicking, gurgling and whooshing noises are normal during operation of unit.
WATER DRIPPING OUTSIDE	• If a drain kit has not been installed, condensation runoff during very hot and humid weather is normal. See Note 2. If a drain kit has been installed and is connected to a drain system, check gaskets and fittings around drain for leaks and plugs.
WATER DRIPPING INSIDE • Wall sleeve is not installed level	• Wall sleeve must be installed level for proper drainage of condensation. Check that installation is level and make any necessary adjustments.
ICE OR FROST FORMS ON INDOOR COIL • Low outdoor temperature • Dirty filters	• When outdoor temperature is approximately 55℉ or below, frost may form on the indoor coil when unit is in Cooling mode. Switch unit to FAN operation until ice or frost melts. • Remove and clean filters.
COMPRESSOR PROTECTION • Power may have cycled, so compressor is in a restart protection.	• Random Compressor restart --- Whenever the unit is plugged in, or power has been restarted, a random compressor restart will occur. After a power outage, the compressor will restart after approximately 3 minutes. • Compressor Protection -To prevent short cycling of the compressor, there is a random startup delay of 3 minutes and a minimum compressor run time of 3 minutes.

NOTES:
1. If circuit breaker is tripped or fuse is blown more than once, contact a qualified electrician.
2. If unit is installed where condensation drainage could drip in an undesirable location, an accessory drain kit should be installed and connected to drain system.

AC Pro

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