

Models and manufacturing
numbers in this manual

8V2S	P1212701R
10V2S	P1212702R

Service

Room Air Conditioners

Service Manual for
Amana®

This manual is to be used by qualified appliance technicians only. Amana does not assume any responsibility for property damage or personal injury for improper service procedures done by an unqualified person.

Amana
Raytheon Appliances

RS4110001
Revision 0
February 1997

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Important Information

Great pride and workmanship go into every product to provide our Customers with the highest possible quality. We realize, however, that during its lifetime the product may require service. The information contained in this manual is intended for use by a qualified service technician who is familiar with the safety procedures required in the repair and who is equipped with the proper tools and testing instruments.



WARNING

Repairs covered in this manual that are made by unqualified personal can result in hazards due to improper assembly or adjustments subjecting inexperienced persons making such repairs to the risk of injury or electrical shock which can be serious or even fatal.

Important Note to Consumer



CAUTION

If performing service on your own product, you must assume responsibility for any personal injury or property damage which may result. Amana will not be responsible for any injury or property damage arising from improper service and/or service procedures.

In order to locate an authorized service agency, please consult your telephone book or the dealer from whom you purchased this product. If you require further assistance, please contact:

CONSUMER AFFAIRS DEPT.
AMANA
AMANA, IOWA 52204

OR 1-319-622-5511
call and ask for the
Consumer Affairs

Users of products outside of the United States and Canada should contact:

AMANA
ATTN: CONSUMER AFFAIRS DEPARTMENT
AMANA, IOWA 52204, USA
Telephone: (319) 622-5511
Facsimile: (319) 622-2180

RECOGNIZE SAFETY SYMBOLS, WORDS AND LABELS



DANGER

Immediate hazards which **WILL** result in severe personal injury or death.



WARNING

Hazards or unsafe practices which **COULD** result in severe personal injury or death.



CAUTION

Hazards or unsafe practices which **COULD** result in minor personal injury or product or property damage.

Important Safety Information

Safety Precautions



WARNING

To reduce risk of fire, electrical shock, or personal injury, observe the following:

- Use this unit only in the manner intended by manufacturer. If any questions arise, contact the manufacturer, at the address or telephone number listed in “Important Information” section.
- Before servicing or cleaning unit, switch power off at service panel and lock service panel to prevent power from being switched on accidentally.
- Installation work and electrical wiring must be done by a qualified person in accordance with all applicable codes and standards, including fire-rated construction codes and standards.
- When cutting or drilling into walls, do not damage electrical wiring and other hidden utilities.
- This unit must be grounded.

Prior to returning product to service, ensure that the following is adhered to.

- All electrical connections are correct and secure.
- All electrical leads are properly dressed and secured away from sharp edges, high temperature components, moving parts.
- All uninsulated electrical terminals, connectors, heaters, ect. are adequately spaced away from all metal parts and panels.
- All safety grounds are correctly and securely connected.
- All panels are properly and securely reassembled.



WARNING

To avoid risk of electrical shock, property damage, personal injury, or death: when installing a grounded appliance in a home that does not have a three-prong grounded receptacle, under no conditions is the grounding prong to be cut off or removed. It is the personal responsibility of the consumer to contact a qualified electrician and have a properly grounded three-prong wall receptacle installed in accordance with the appropriate electrical code.

Servicing of Grounding Products

The standard accepted color coding for ground wires is green or green with yellow stripe. These ground leads are NOT to be used as current carrying conductors. It is extremely important that the servicer replaces any all grounds prior to completion of service. Under no condition should a ground wire be left disconnected causing a potential hazard to the servicer or consumer.

Replacement Parts

Use only replacement parts cataloged for this appliance. Substitutions may defeat compliance with safety standards set for home appliances.

Specifications

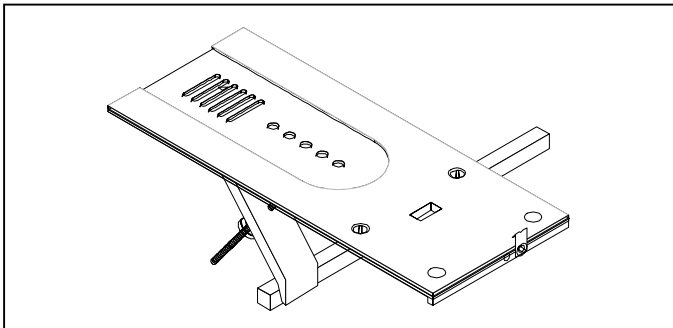
Amana Model Specifications		
Model	8V2S1	10V2S1
Chassis Type	Slider Casement	Slider Casement
Capacity Features		
Cooling Btu's	8,000	10,000
EER (Energy Efficiency Ratio)	10.5	9.5
Moisture Removal – Pints/Hour	2.0	2.5
Electrical Information		
Volts 60 Hz 1 PH	115	115
Amps Cooling	6.7	8.8
Watts Cooling	760	1050
Fuse Breaker (Delay)	15 Amps	15 Amps
Receptacle (Code)	A	15
Air Flow System		
Capacitor (MFD / Volts)	5 / 370	15 / 370
RPM / CFM (EVAP) High	1100 / 235	1375 / 305
RPM / CFM (EVAP) Medium	900 / 185	1140 / 245
RPM / CFM (EVAP)	700 / 135	940 / 195
Refrigeration System		
Compressor	Tecumseh	Tecumseh
Compressor Number	RG5472E	RG5490E
Compressor Type	Rotary	Rotary
Capacitor (MFD / Volts)	35 / 370	25 / 370
Refrigerant Charge R22 in oz.	24.25	22.00
Restrictor Tube I.D. (in.) / length (in.)	.0541 x 45.0	.046 x 45.0
Thermostat Type	Bulb	Bulb

Installation Instructions

Installing Your Air Conditioner

NOTE: These instructions describe installation in a typical wood framed window with a wood SLIDE-BY sash, or installation in a metal CASEMENT window. Modification may be necessary when installing in windows constructed differently than those illustrated herein.

High window accessory kit is available for window heights up to 62" (1575mm).



Electrical Requirements

WARNING

To avoid risk of electrical shock, personal injury, or death follow the following.

- Electrical ground is required on this appliance.
- DO NOT ground to a gas line.
- If cold water pipe is interrupted by plastic, non-metallic gaskets, or other insulating materials, DO NOT use for grounding.
- Check with a qualified electrician if you are in doubt as to whether the appliance is properly grounded.
- DO NOT modify the power supply cord plug. If it does not fit the outlet, have a proper outlet installed by a qualified electrician.
- DO NOT have a fuse in the neutral or grounding circuit. A fuse in the neutral, or grounding circuit could result in an electrical shock.
- DO NOT use an extension cord with this appliance.

Observe all local codes and ordinances.

Grounding Instructions

NOTE: Do not under any circumstances cut or remove grounding prong from the plug or bend power prongs to fit receptacle other than one for the equipment. Such abuse of the plug can result in electrical shock or overheating.

For your personal safety, this appliance must be grounded. This air conditioner includes a power supply cord with a three-prong grounding plug. To minimize possible electrical shock hazard, the cord must be plugged into a mating three-prong grounding wall receptacle; and grounded in accordance with the National Electrical Code (ANSI/NFPA 70-latest version) and all local codes and ordinances. If a mating three-prong grounding-type wall receptacle is not available, it is the responsibility of the consumer to have a properly grounded three-prong wall receptacle installed by a qualified electrician.

If codes permit, and a separate grounding wire is used; it is recommended that a qualified electrician determine that the grounding path is adequate and not interrupted by plastic, non-metallic gaskets, or other insulating materials.

Do not use an extension cord. If product power cord is too short, have a qualified electrician install an appropriate receptacle.

Receptacle Wiring

Receptacle wiring should be a minimum of 14 gauge. Use copper wire only. It is the responsibility of the consumer to provide proper and adequate receptacle wiring, installed by a qualified electrician.

Electrical Connection

Electrical ground is required on this appliance.

Electrical Requirements

A 115 volt (103.5 minimum, 126.5 maximum), 60 Hertz, AC only, 15 ampere fused electrical supply is required. A time delay fuse or time delay circuit breaker is also required. A separate circuit, serving only this appliance, MUST be provided.

Installation Instructions

Preparing for Installation

Installation Tips

For wood-frame casement windows: It may be necessary to construct a frame, using at least 1-inch thick wood, with a 15 1/2-inch wide opening.

For brick or cement building construction: It may be necessary to provide a wood stool strip under the air conditioner for mounting purposes.

Tools Required

- Flat-head screwdriver
- Phillips-head screwdriver
- Carpenter's level
- Tape measure
- Fine tooth saw
- Electric or hand drill
- 1/8-inch drill bit
- 9/64-inch drill bit



WARNING

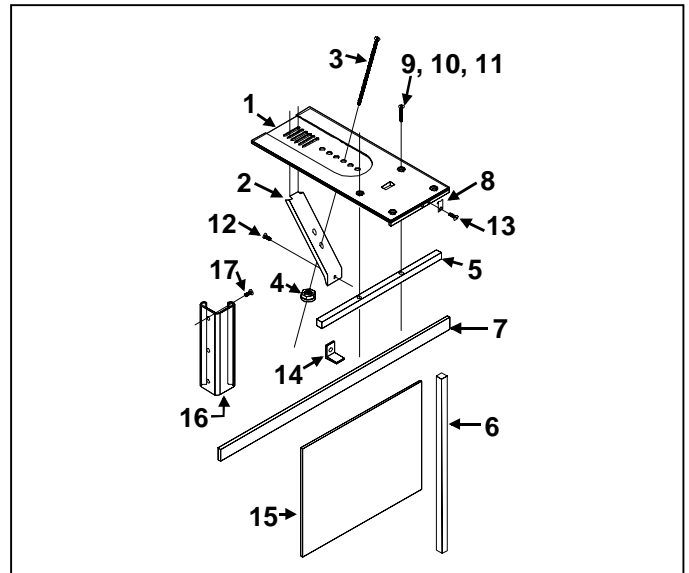
To avoid risk of personal injury or product damage follow the following precautions.

- Because this air conditioner weighs about 88 to 105 pounds, it is recommended that you have someone help you when you install your new unit, and that you both use proper lifting techniques. Inspect the condition of the window where the unit will be installed. Be sure it will support the weight of the unit.
- This appliance must be installed according to all applicable codes and ordinances.
- Handle the air conditioner with care. AVOID the sharp metal fins on the front and rear coils.
- Make sure your air conditioner does not fall during installation.
- Do not use the water collected in the unit for drinking purposes. It is not sanitary.

Installation Kit Contents:

Verify all parts are present.

- 1 Platform (1)
- 2 Support brace (1)
- 3 Adjustment bolt (1)
- 4 Hex flange nut—1/4" (1)
- 5 Track seal (1)
- 6 Side channel seal (1)
- 7 Foam seal strip/Sash seal
- 8 Safety bracket (1)
- 9 Screw—#10x2 1/2" flat-head (2),
- 10 Screw—#10x1 3/4" pan-head (2),
- 11 Screw—#10x1" pan-head (2)
- 12 Screw—#8x3/4" pan-head (6)
- 13 Screw—#8-32x3/4" self-threading (7)
- 14 Window locking bracket (1)
- 15 Plastic window panel (1)
- 16 Side channel (2)
- 17 Screw - #8x3/8" truss-head (6)

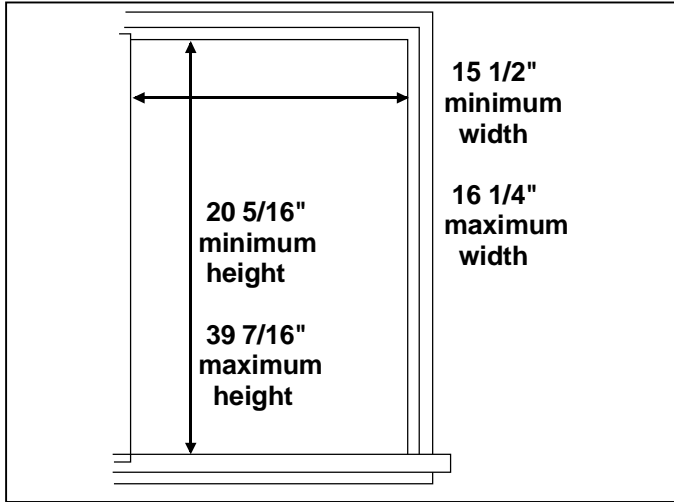


NOTE: Use the scale below to measure the length of screws. The scale will come in handy when separating screws for installation.

Installation Instructions

Determining the proper sized of the window.

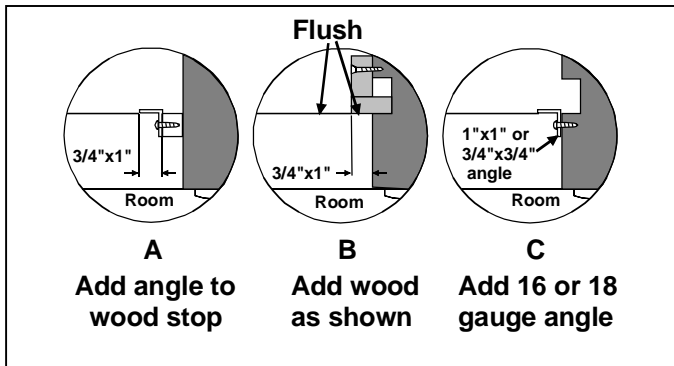
- 15 1/2-inches minimum width
- 16 1/4-inches maximum width (for casement windows)
- 21 1/4-inches minimum height (with window panel retainer)
- 20 5/16-inches minimum height (window panel retainer removed)
- 39 7/16-inches maximum height



NOTE: The height measurement must be of an unobstructed opening above the mounting platform. In some cases, due to a variety of stop and track arrangements, the above dimensions may vary slightly. If necessary, the installation can be made by altering the window jambs.

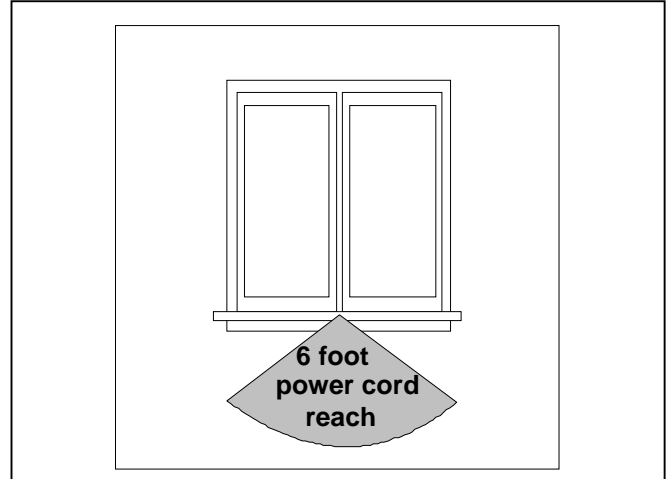
Alternate Window Jamb Applications

To install in windows having no flanges or wood stops on the top and side jambs, the channels and panel frame must fit against a mating flange (or 1/16-inch max. thick angle) attached to the window jambs. Figure A shows this angle installed. Figures B & C show alternate treatments. On the sash side of the opening, the leading corner of the inner sash becomes the flange. You can purchase the angle strip locally.



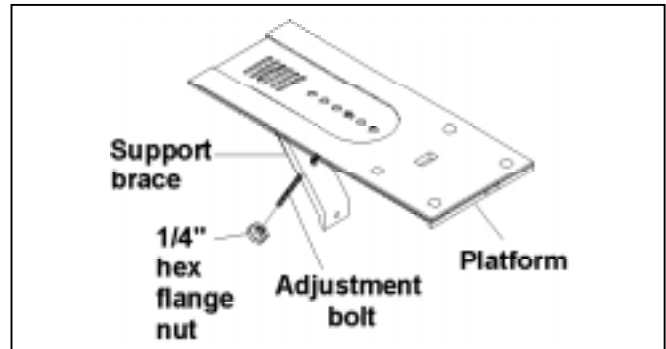
Choosing a proper window location.

- Choose a window that allows the cooled air to flow freely and directly into the room(s) wishing to cool. Remember, it is difficult to move air around corners. Also, choose a window that is within 6 feet of an electrical outlet.



Installing Unit in a Sliding Window

1. Attach support brace to platform. Use adjustment bolt and hex flange nut to complete the assembly. Choose the slot and adjustment bolt hole locations that will create a 45° angle between the platform and support brace.

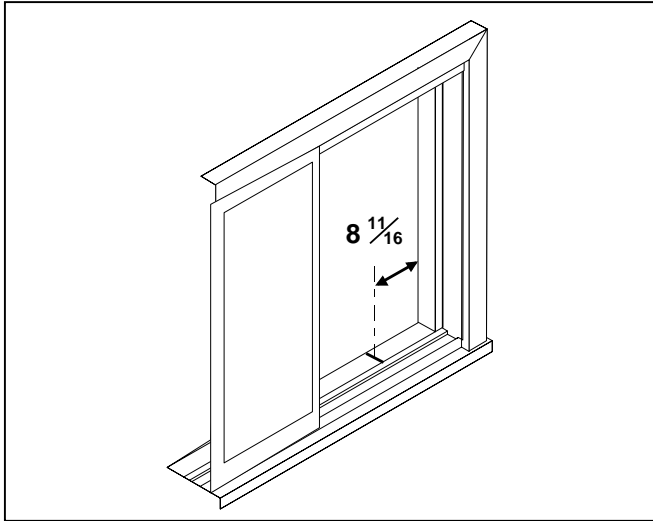


- Place assembly in the window to determine platform will rest properly, allow for proper sloping (3/16-inch lower on outside).

NOTE: If planning to use a siding-protection board on the outside of your house, hold the board in place while testing assembly in the window.

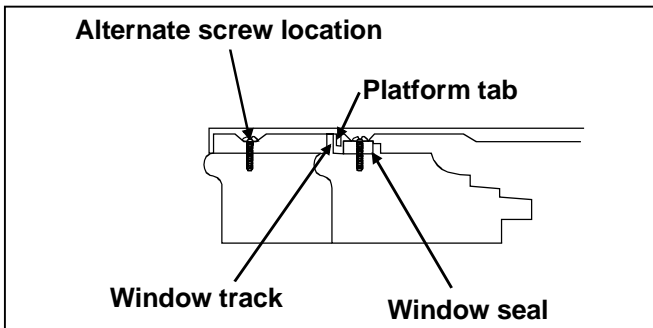
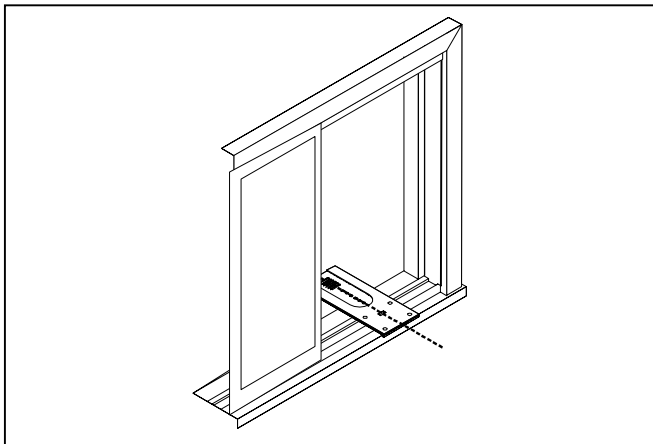
Installation Instructions

2. Measure, and lightly mark a line 8 11/16-inches from window jamb.



NOTE: If any sash stop protrudes more than 1 inch from side window jambs, 8 11/16-inch measurement must be increased accordingly. Screen and storm window frames may also require adjustments to the measurement.

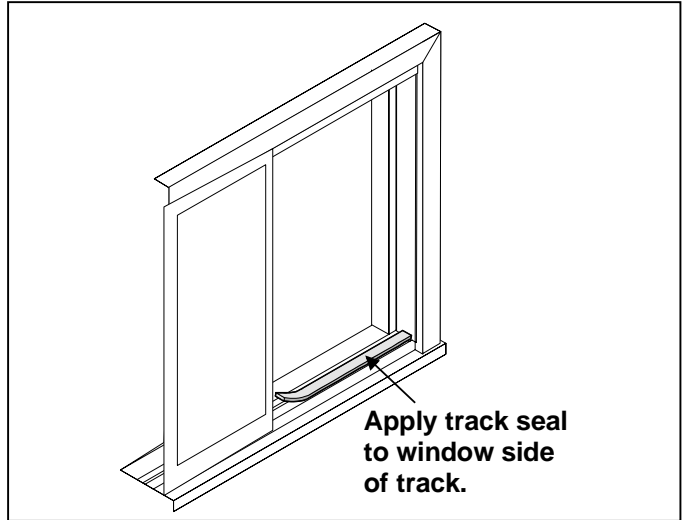
3. Center platform assembly on the line with inside platform tab pressed against inside edge of window track. Use holes provided in the platform as a guide, mark and drill two 9/64-inch diameter holes. Drill holes in either track or stool.



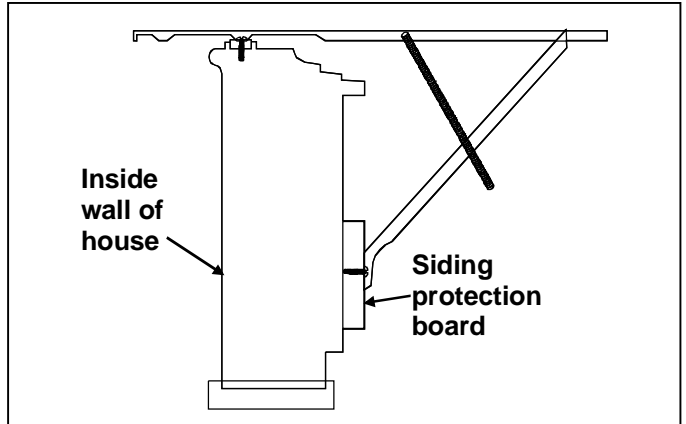
CAUTION

To avoid risk of property damage be sure the wood stool or window track is securely attached to the building construction. Use longer screws in the sub-framing if necessary.

4. Remove protective backing from the track seal. Apply seal to room side of the window track. Center of the seal strip should coincide with the line marked in Step 3. Two screw holes drilled in Step 4 should be directly above the seal strip in the inner track.



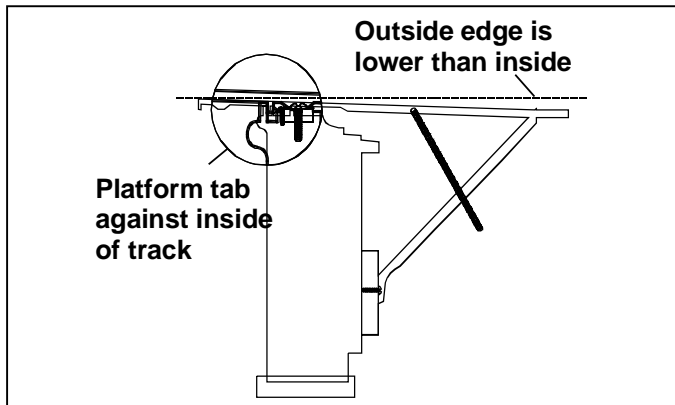
5. Securely attach siding-protection board to the side of the house.



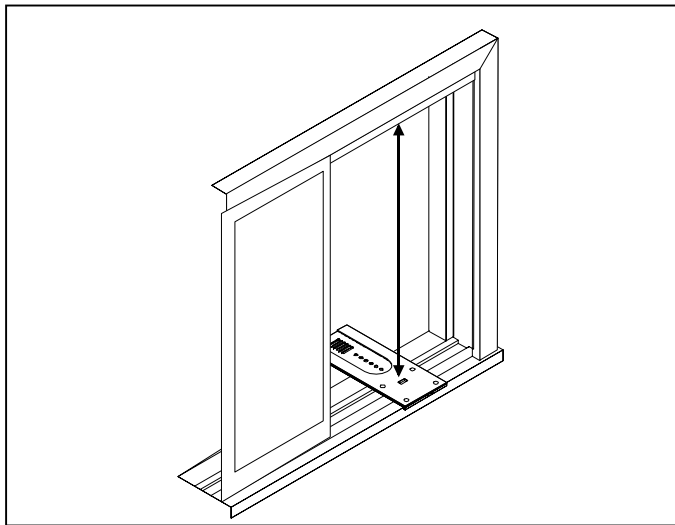
NOTE: Siding-protection board should be long enough to reach 2 wall studs.

Installation Instructions

- Place platform assembly, with platform tab against inside of window track, and attach it to the window jamb. Use appropriate length screws.
- Adjust platform assembly so that the outside edge is 3/16-inch lower than the inside. This will ensure proper water drainage from the air conditioner.

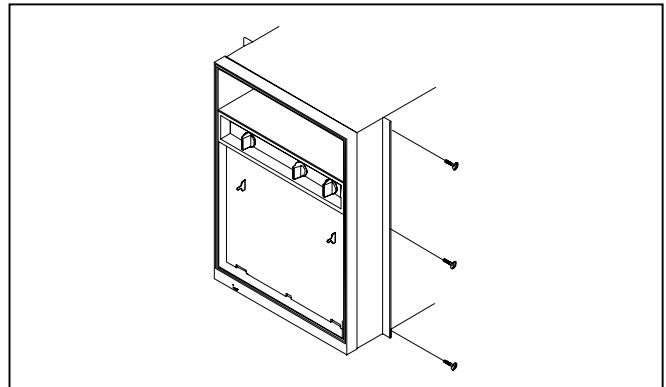


- Level platform assembly from side-to-side. Verify window track is level. Use leveling shims as necessary to ensure unit is level from side-to-side.
- Measure distance from the top of platform assembly to top of window opening. Subtract 20 1/2 to 20 5/8-inches. Mark this measurement on the plastic window panel, along the longer side.

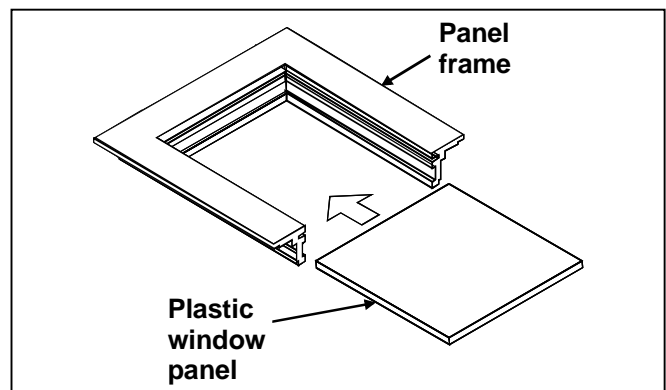


- Clamp plastic window panel between a board and work table, cut along the line with a fine tooth saw. Remove any burrs with a file.

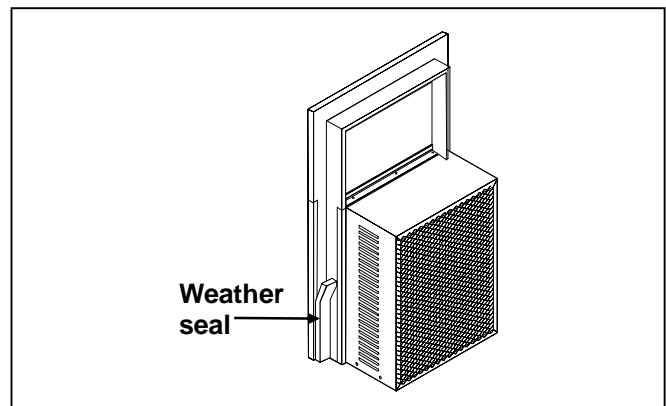
- Fasten side channels to unit using 3 screws per channel. Start with the first screw at the top of the channel. Verify hook ends of the channels face toward back of the unit.



- Slide plastic window panel into panel frame, with smooth side to the room. Slide panel frame assembly into side channels of the air conditioner cabinet. Verify plastic window panel is firmly enclosed on all sides by retainer grooves.



- Cut side channel seal into 2 equal lengths. Remove protective backing and apply to rear side of cabinet side channels, starting just below panel frame assembly. Pinch off excess length so the seal is even with the bottom of cabinet side channel.

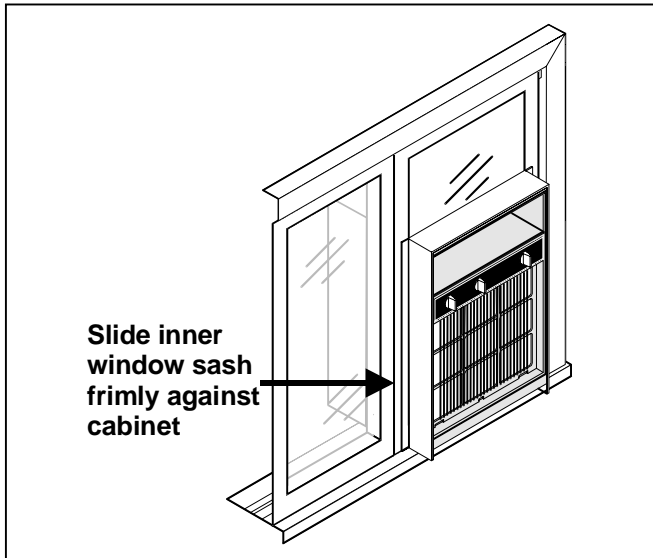


Installation Instructions

14. Remove front panel frame and filter. Remove 2 screws securing front panel frame in place. Press down on top edge of front panel frame, tilt forward, and lift up off the bottom spring clips. Remove filter.

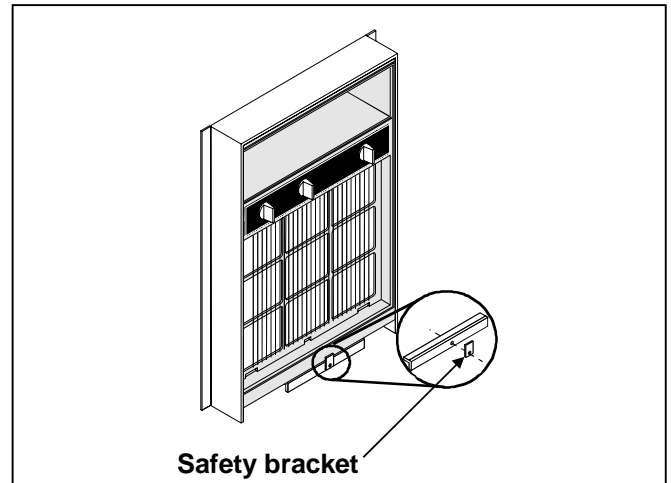
NOTE: DO NOT push or pull the air direction louvers.

15. Place unit into the window opening on platform assembly. Place window panel frame, and cabinet side channels against the top and side window jambs.



16. Slide inner window sash firmly against side of cabinet. Make sure not to peel seal strips from window track and cabinet side channels. If panel frame does not fit snugly to inner window sash, secure panel frame to the sash with #8x3/4-inch screws, or #8-32x3/4-inch self-threading screws. Use partially plugged holes in panel frame to drill 1/8-inch pilot holes for screws.

17. Hook safety bracket over base of the unit and fasten to the front of platform assembly. Use a #8-32x3/4 inch self-threading screw.



NOTE: Bracket prevents movement of air conditioner (either in or out) after completing installation.

18. Stuff foam seal strip/sash seal between vertical sash and window glass.

19. Use window locking bracket to lock inner window sash to base of outer window sash. Use a #8x3/4-inch screw, or #8-32x3/4-inch self-threading screw. (Drill 1/8-inch pilot hole.)

20. Replace air conditioner filter and front panel frame. Make sure to replace screws that secure front panel frame in place.

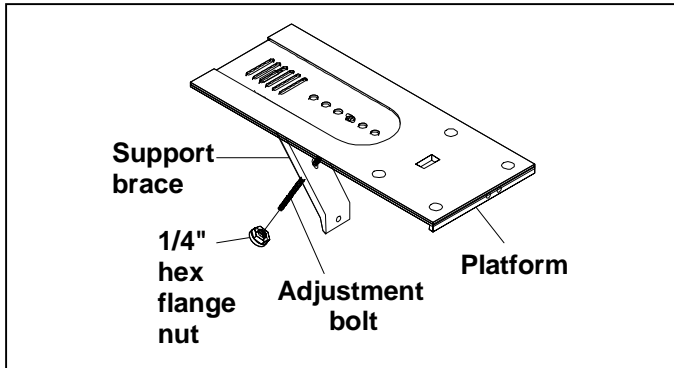
Installation Instructions

Installing the Unit in a Casement Window

NOTE: Open window to maximum amount allowed for clearance of the cabinet. Crank handle should be removed to allow platform to be fastened to the jamb. If window cannot open far enough (more than 15 1/2-inches) for cabinet to clear the window, remove window entirely by drilling out the rivets. Bolts can serve as the pivots in the future.

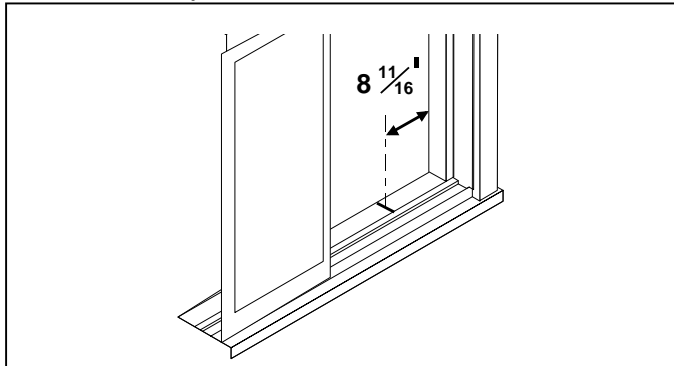
To avoid crank handle and window clearance problems, the unit can be installed in a stationary sash section. However, the horizontal mullion and the 2 glass panels must be removed before installation.

1. Attach support brace to platform. Use adjustment bolt and hex flange nut to complete assembly. Choose the slot and adjustment bolt hole locations that will create a 45° angle between the platform and support brace. Try assembly in window to determine if platform will rest properly, and allow proper sloping (3/16-inch lower on outside).

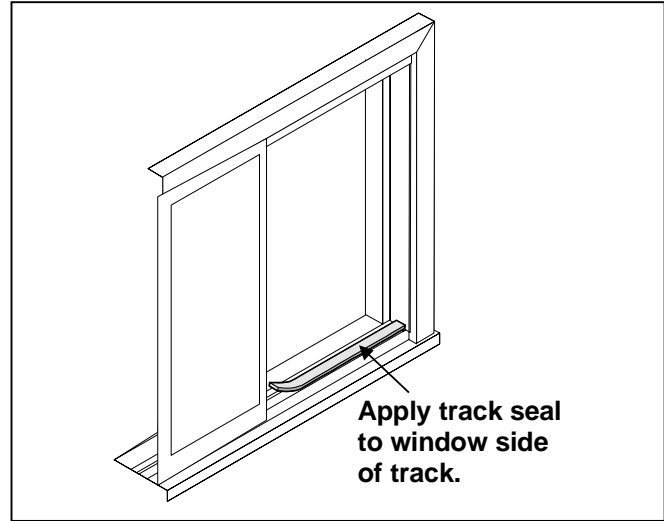


NOTE: If planning to use siding-protection on the outside of the house, hold the board in place when testing assembly in the window.

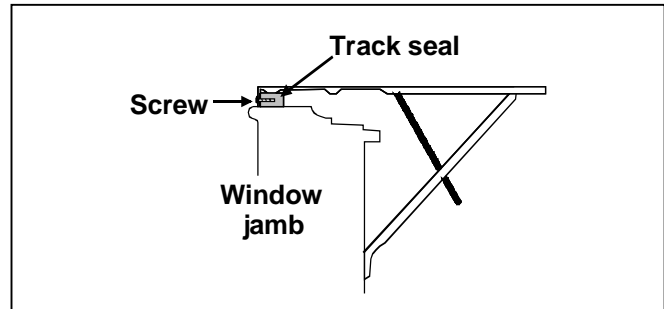
2. Drill a 9/64-inch diameter pilot hole in window jamb equal distance from each side of jamb, and 3/16-inch up from the window sill. If the hole coincides with the window lever slot in the jamb bottom, an additional hole will have to be drilled through the platform edge and window jamb to miss this slot.



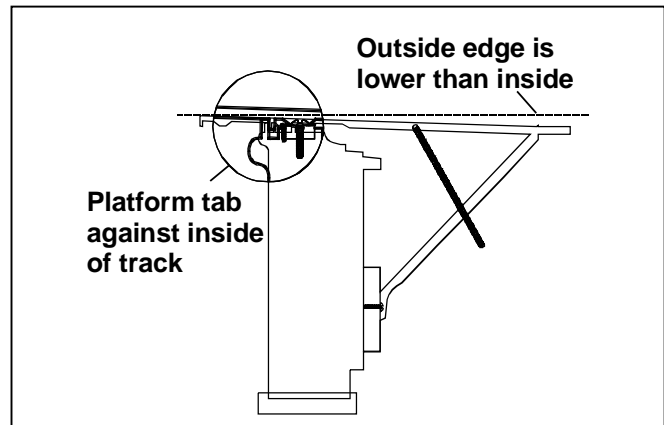
3. Peel off protective backing from track seal, and stick the seal to the window sill on the outside of bottom jamb.



4. Screw platform assembly to window jamb through pilot hole drilled in Step 2. Use #8x3/4-inch self-threading screw.



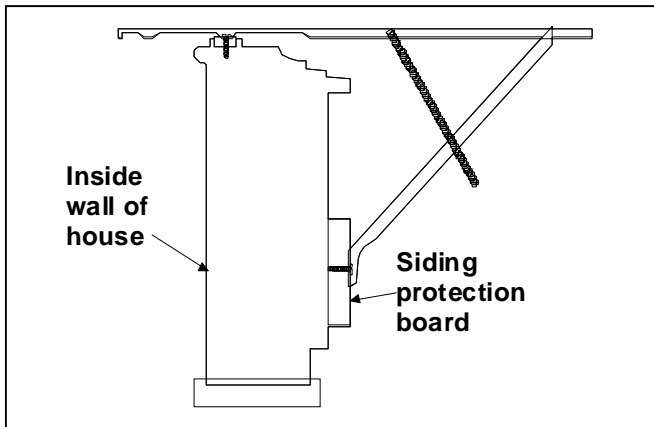
5. Adjust platform assembly so that rear until be 3/16-inch lower than the front. This will ensures proper water drainage from the air conditioner.



NOTE: Projection below the base of air conditioner will require the rear of platform to be 7/16-inches lower than the front to create the 3/16-inch slant from front to rear.

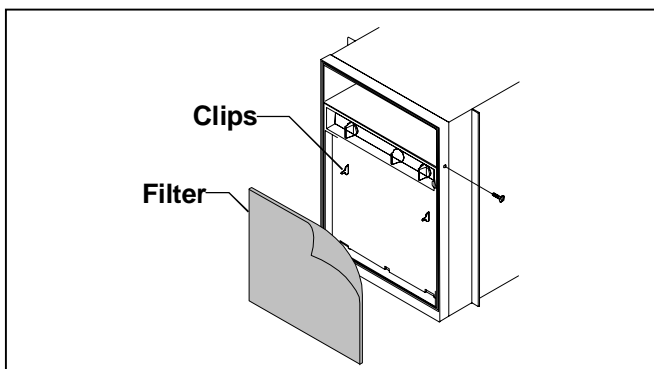
Installation Instructions

- Securely attach siding-protection board to the side of the house.



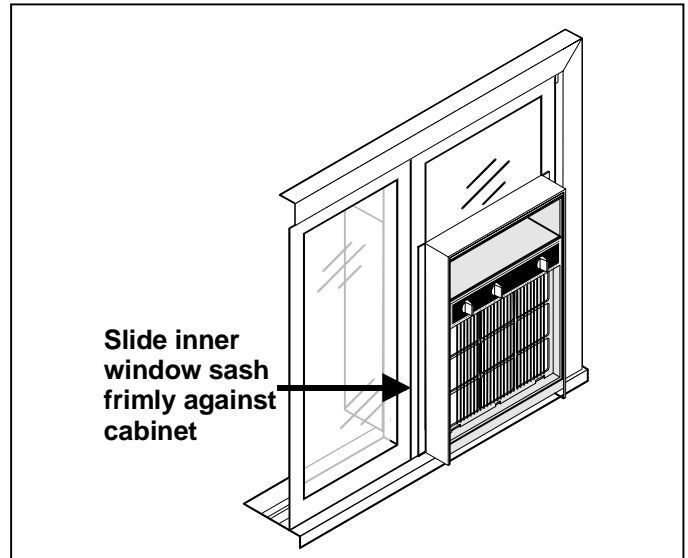
NOTE: Siding-protection board should be long enough to span 2 wall studs.

- Measure distance from the top of platform assembly to top of window opening. Subtract 20 1/2 to 20 5/8-inches. Mark this measurement on the plastic window panel, along the longer side.
- Clamp plastic window panel between a board and work table, cut along the line with a fine tooth saw. Remove any burrs with a file.
- Fasten side channels to unit using 3 screws per channel. Start with the first screw at the top of the channel. Verify hook ends of the channels face toward back of the unit.
- Slide plastic window panel into panel frame, with smooth side to the room. Slide panel frame assembly into side channels of the air conditioner cabinet. Verify plastic window panel is firmly enclosed on all sides by retainer grooves.
- Cut side channel seal into 2 equal lengths. Remove protective backing and apply to rear side of cabinet side channels, starting just below panel frame assembly. Pinch off excess length so the seal is even with the bottom of cabinet side channel.
- Remove front panel frame and filter. Remove 2 screws securing front panel frame in place. Press down on top edge of front panel frame, tilt forward, and lift up off the bottom spring clips. Remove filter.



NOTE: DO NOT push or pull the air direction louvers.

- Place unit into the window opening on platform assembly. Place window panel frame, and cabinet side channels against the top and side window jambs.



- Drill two 9/64-inch diameter pilot holes in top of window jamb in line with the partially plugged holes in panel frame. Secure panel frame to window jamb with two #8-32x3/4-inch self-threading screws. If additional holding is necessary, two screws may be used on the sides of panel frame.
- Drill two screw-clearance holes in cabinet side channels (near bottom) and two 9/64-inch diameter pilot holes in side window jambs. Secure cabinet side channels to window jambs with two #8-32x3/4-inch self-threading screws.

NOTE: Be careful not to twist side channel seals. Inserting screws will prevent unit from being pushed into the room.

- Replace unit front panel frame and filter. Replace screws that hold the panel in place. Do not push or pull front panel louvers.

Operating Instructions

Using Air Conditioner

NOTE: If unit is turned off, wait 3 minutes before restarting. This will allow pressure inside the compressor to equalize. Failure to follow these instructions may cause inefficient operation.


WARNING

To avoid risk of fire, electric shock, or personal injury, read **IMPORTANT SAFETY INSTRUCTIONS** before operating this appliance.

To begin operating air conditioner, follow these steps:

1. Plug in air conditioner.

NOTE: To avoid electrical hazards, do not use an extension cord or adapter plug.

2. Place exhaust vent to *CLOSED* position.
3. Turn **TEMPERATURE CONTROL** knob to highest number setting or *COLDER* setting.
4. Turn **FAN CONTROL** knob to *COOL MODE HIGH* setting.
5. Adjust louvers for comfortable air circulation.
6. Once room has cooled, turn temperature control knob to setting more comfortable.

Air Conditioner Features

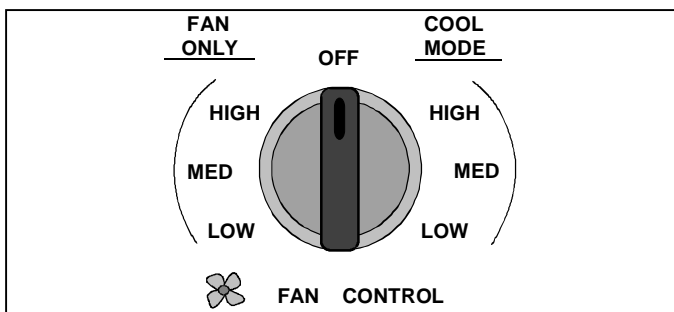
Controls featured in this manual represent 82VS and 102VS models.

Fan Control Knob

Turns unit on, off, and allows you to select either cooling air, or allows air to circulating at existing temperature.

Operate *FAN ONLY* and *COOL MODE* according to the following suggestions:

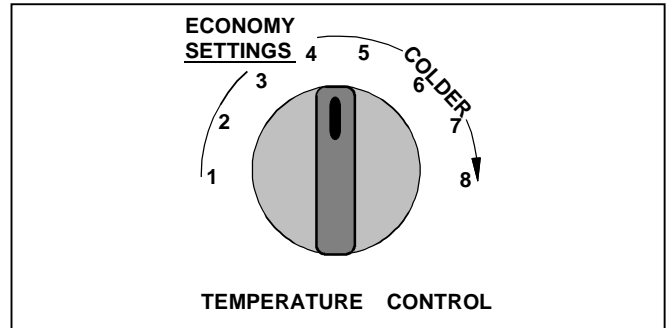
Mode	Function
OFF	Turns unit off.
HIGH COOL	Maximum cooling speed, start unit in this mode.
MED COOL	Moderate cooling speed.
LOW COOL	Minimum cooling speed.
HIGH FAN	Maximum air circulation speed.
MED FAN	Moderate air circulation speed.
LOW FAN	Minimum Air circulation speed.



Temperature Control Knob

When any *COOL MODE* setting is selected, thermostat controls the amount of cooling by automatically turning cooling compressor on and off in response to room temperature.

Turn **TEMPERATURE CONTROL** knob to highest number for the coldest cooling setting. Once room reaches desired temperature, adjust **TEMPERATURE CONTROL** knob to desired number comfortable for cooling room.

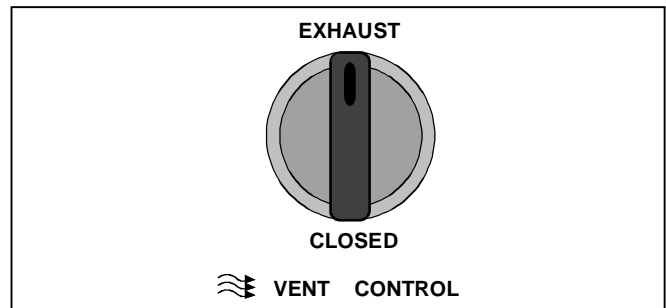


NOTE: Higher numbers provide lower room temperatures. Lower numbers provide higher room temperatures.

Vent Control Knob

Allows unit to either recirculate inside air *CLOSED*, or exhaust air to the outside *EXHAUST*.

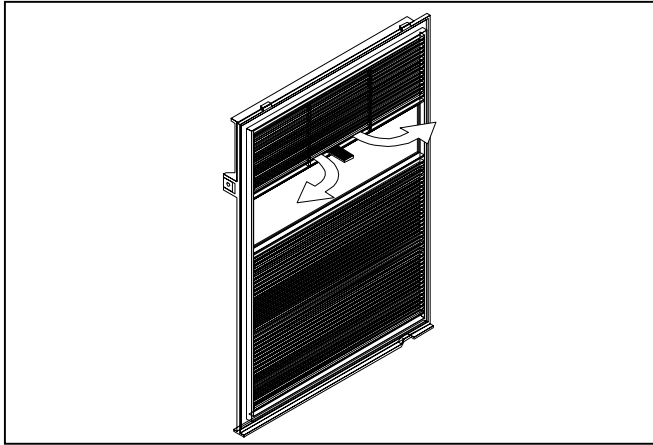
- *CLOSED* position is used when maximum cooling is desired. It may also be used for air recirculation without cooling when air conditioner is turned to *FAN ONLY* position.
- *EXHAUST* position removes stale air from the room, and exhausts it to the outside. Fresh air is drawn into the room through normal air passages found in homes.
- The *EXHAUST* or *CLOSED* position can be used with any fan selection.



Operating Instructions

Air Directional Louvers

Controls air flow direction. Louvers at the top front of unit permit side-to-side adjustment of air flow direction. Move lever to direct airflow either to the left or right.



Night Time Cooling

When outside temperatures drop below 70° F (21° C) and unit is cooling, frost may form on coils and block air flow into room. If this occurs, operate unit on FAN ONLY setting to defrost coil.

If cooling while outside temperature is low, set thermostat to middle position. Make sure louvers are open. This will prevent frost build-up.

Care and Cleaning Instructions

Winter Storage

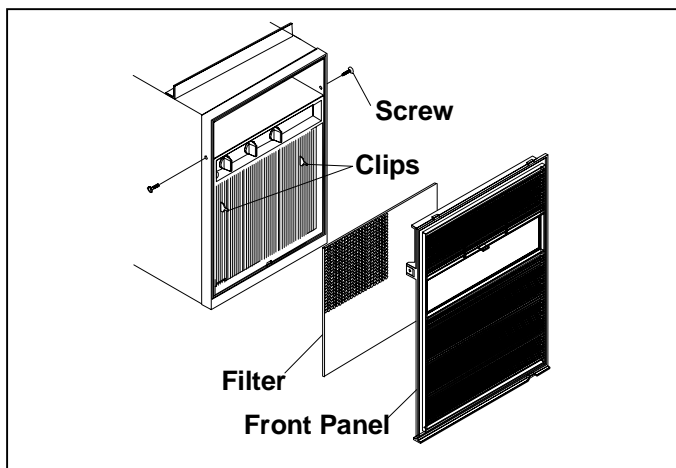
If you plan to store air conditioner during the winter, remove it carefully from window according to the installation instructions. Cover it with plastic, or return it to the original carton.

NOTE: To prevent rust or electrical connections from being damaged, store unit in a dry place in an upright position.

A winter cover can be purchased from your dealer. Cover will protect unit if left in place through the winter.

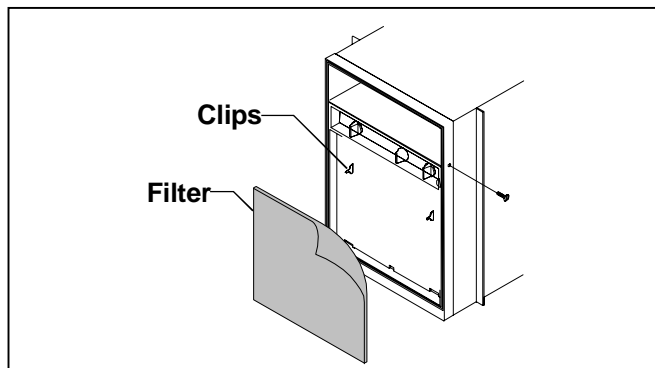
Air Filter Cleaning

Air filter needs to be checked at least once a month to verify if cleaning is necessary. Trapped particles in filter can build up and cause frost accumulation on cooling coils.



NOTE: To avoid reducing cooling capacity clean air filter monthly.

1. Remove front retaining screw on each side of cabinet.
2. Push front panel down, and pull toward forward to release front panel from retaining lock.
3. Gently pull filter forward off of clips.
4. Wash filter using a liquid detergent and warm water. Rinse filter thoroughly.
5. Gently shake excess water from filter and dry filter thoroughly.
6. Reassemble in reverse order.



Cabinet Cleaning



WARNING

To avoid risk of to electrical shock or fire hazard unplug unit.

- Cabinet and front may be dusted with an oil-free cloth, or washed with a cloth dampened using a mild liquid detergent and warm water. Rinse thoroughly and wipe dry.
- Never use harsh cleaners, wax, or polish on cabinet front.
- Be sure to squeeze excess water from cloth before wiping around controls. Excess water in or around controls may cause damage to unit.
- Cabinet front can be removed for more thorough cleaning. See "Air Filter Cleaning" section.
- Clean front panel in a sink, using a mild liquid detergent and warm water. Rinse thoroughly and dry. Be careful not to disturb soft seals on the front panel.

Troubleshooting Procedures



WARNING

To avoid electrical shock, personal injury, or death, disconnect power before servicing unless testing requires it.

Air Conditioning Voltage Limits

This unit operates on a 115 VAC, 60 Hz power source. Minimum voltage required to operate this unit is 103.5 VAC and maximum voltage is 126.5 VAC.

Low Voltage

Low voltage is a common cause of trouble during operation of any room air conditioner

Improper voltage can result in one or more of the following:

1. Unit will not operate.
2. Compressor motor cycling on motor protector.
3. Premature failure of motor protector.
4. Blown fuses.
5. Premature failure of compressor or fan motor.
6. Noticeable dimming of lights when unit is operating.
7. Evaporator icing, caused by low voltage reducing fan speed resulting in an inadequate air flow over the evaporator.

Low voltage will result from inadequately wired circuit, extension cords, and loose fuses or connections in the power supply. Voltage supplied by the electrical company can also result in low power, (responsibility of local power company).

All units will operate and run on minimum voltage stated in "Air Conditioning Voltage Limits", and will perform satisfactorily if voltage remains constant. Low voltage caused by defective wiring will not remain constant under load.

Testing for low voltage, use a reliable voltmeter with sufficient capacity to measure the required voltage. Verify voltage at electric power entry point and at electrical outlet serving the unit. Verify readings with the unit off, while the unit is starting, and again while the unit is operating. Lowest reading should not drop below the lowest minimum value.

High Voltage

High voltage can be equally troublesome, causing motor to overheat, cycle on their protectors, or break down electrically. This problem can only be solved by the local power company.

Electronic Control

Control is not repairable. If any component in the control is defective, entire control must be replaced.

NOTE: Repair or replace any malfunctioning line voltage component before testing or replacing the electronic control. Do not assume service problem is directly caused by the electronic control system. A line voltage component (including power cord and wiring) that has opened, shorted, grounded or otherwise malfunctioned, may have created a service problem.

Troubleshooting Chart

Problems	Possible Causes
Fan motor will not operate.	No power supplied to unit. Power supply cord faulty. Selector switch faulty. Energy saving switch faulty. Energy control system faulty. Wire disconnected or loose. Capacitor is faulty. Faulty fan motor windings. Fan blade will not rotate. Fan blade hitting shroud or blower wheel hitting scroll.
Fan motor operates intermittently.	Cycles on motor protector.
Fan motor operates noisy.	Condenser fan blade or evaporator blower wheel. Loose blower clamp or set screw. Worn bearings. Grommets (if applicable).
Compressor will not run, but the fan motor runs.	Voltage. Wiring. Selector switch. Temperature Control. Capacitor. (Discharge capacitor before testing.) Compressor. Motor protector (external). Motor protector (internal). Electronic Control (if applicable). Hard Starting.
Compressor cycles on motor protector.	Voltage. Motor protector (external). Motor protector (internal). Fan Motor. Condenser air flow restriction. Condenser fins damaged. Capacitor. Wiring. Refrigerant system.
Insufficient cooling.	Low Capacity. Air filter. Exhaust door open. Unit undersized
Excessive noise.	Evaporator Blower wheel. Condenser fan. Copper tubing. Compressor internal noise. Fan motor.
Excessive water or condensation.	Unit operating under extremely high humidity conditions.
No cooling.	Refrigerant leak.
Unit is cooling but room is not cool.	Amps and watts. Sealed Refrigeration System.
Wattage decreases slowly until abnormally low.	Undercharged, restricted strainer or plugged restrictor tube.
Wattage decreases immediately.	No Refrigerant. Compressor defective.
Wattage continuously high.	Overcharged of refrigerant.
Evaporator coil partially frosted.	System low on refrigerant.
Evaporator completely iced.	Low outside temperature.
No Heat. (Heat/Cool models only.)	No Power. Selector switch position. Temperature control position. Fan Motor. Heating element. Selector switch. Temperature control. Terminals and connectors.
Fan motor will not rotate during a heat cycle. (Heat/Cool models only.)	Thermostatic drain valve. (Water level control, if applicable.)

Disassembly Procedures



WARNING

To avoid electrical shock, personal injury, or death, disconnect power before servicing unless testing requires it.

Front Panel Removal

1. Disconnect power supply from unit.
2. Remove screw securing each side of front panel.
3. Slide panel downward, pull top of panel forward, then lift panel up and off tabs located at the bottom.

Wrapper Removal

1. Disconnect power supply from unit.
2. Remove front panel, see "Front Panel Removal".
3. Remove screws securing wrapper to bottom of unit.
4. Remove screws on top of unit. One on each end of the top mounting rail (leave the middle screw in) and the screw in the middle of the unit itself.
5. Lift wrapper up and off the base of the unit.

Control Box Access

1. Disconnect power supply from unit.
2. Remove front panel, see "Front Panel Removal".
3. Remove control knobs and dial plate.
4. Disconnect thermostat bulb from evaporator coil.
5. Remove screws securing top of control panel to control box.
6. Remove screws securing front bottom of control panel to control box.
7. Raise control panel up to gain access to switch, thermostat, and capacitor.

Fan Motor Removal

1. Disconnect power supply from unit.
2. Remove front panel, see "Front Panel Removal".
3. Remove wrapper see "Wrapper Removal".
4. Lift and remove expanded metal rear panel.
5. Disconnect thermostat bulb from evaporator coil.
6. Remove screws securing control panel to control box and lift panel back.
7. Disconnect compressor and fan motor leads from thermostat, selector switch, and capacitor.
8. Remove control panel.
9. Remove vent door actuator arm.
10. Remove screws securing control box to bulkhead.
11. Remove compressor and fan motor leads from control box and remove control box.
12. Remove screws securing evaporator coil to bulkhead.

13. Lift evaporator coil upward and swing evaporator coil out and away to the left.

NOTE: Do not bend tubing any more than necessary.

14. Remove blower scroll, bending bulkhead sides outward while pulling blower scroll up and out of unit.
15. Squeeze hub clamp and remove. Remove blower wheel.

NOTE: Position blower wheel for reassembly.

16. Remove screws securing condenser end brackets to compressor pedestal.
17. Remove tape from top of condenser shroud to condenser end bracket. Hinge top of shroud back.
18. Remove screw securing condenser mounting bracket.
19. Release plastic tabs from condenser shroud of condenser end brackets.
20. Lift condenser coil upward and swing coil away.

NOTE: Do not bend tubing any more than necessary.

21. Loosen condenser blade hub screw and remove blade.

NOTE: Position blades for reassembly.

22. Remove fan motor mount screws located behind evaporator coil.
23. Reverse procedures to reinstall.

NOTE: Verify wires and tubing holes through bulkhead are properly sealed.

Evaporator Blower and/or Condenser Fan Removal

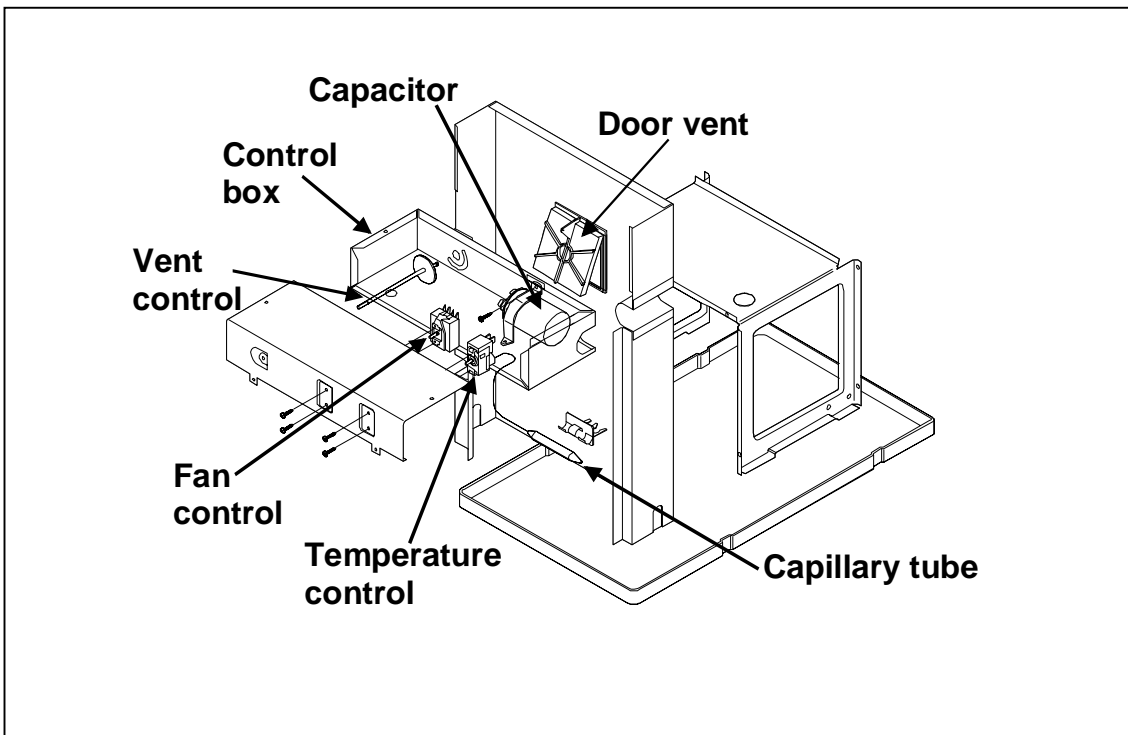
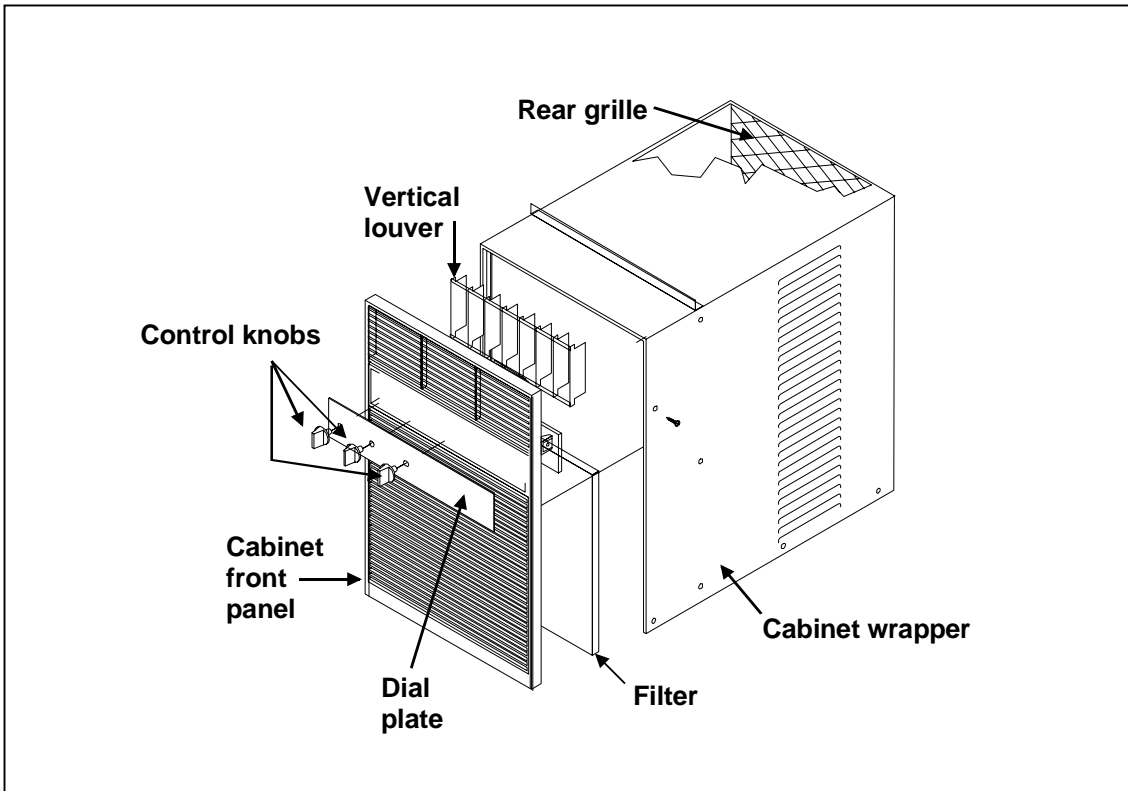
- To replace evaporator blower and/or condenser fan, see "Fan Motor Removal". Follow the appropriate disassembly procedures necessary for repair.

Compressor Mounting Pedestal Removal

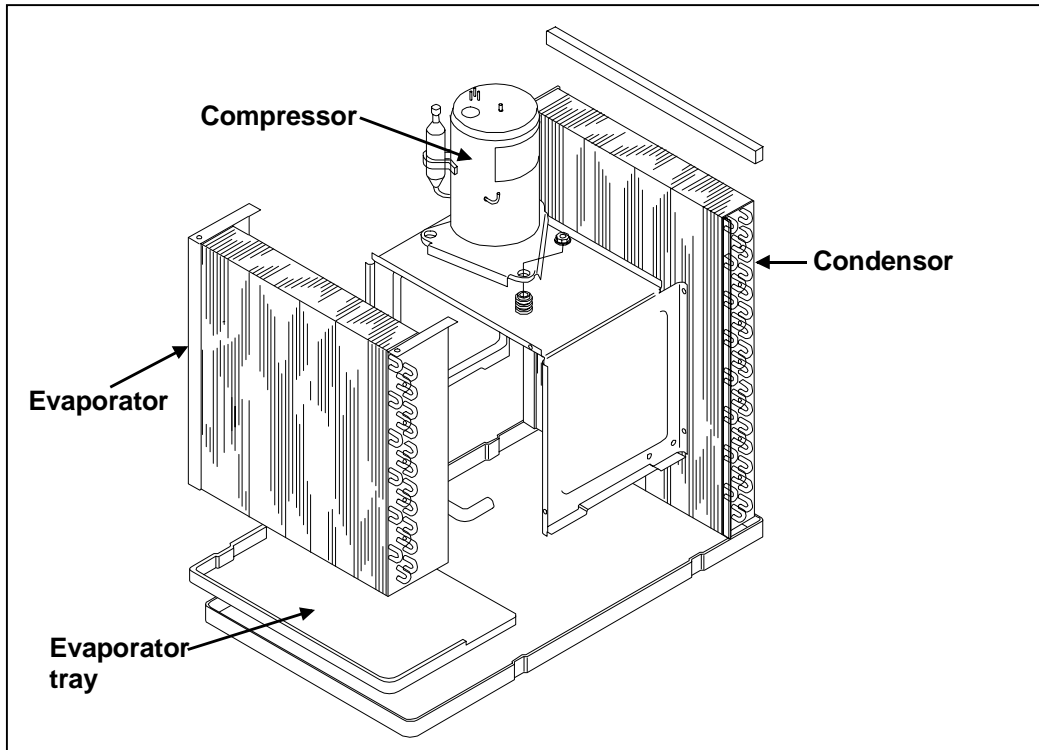
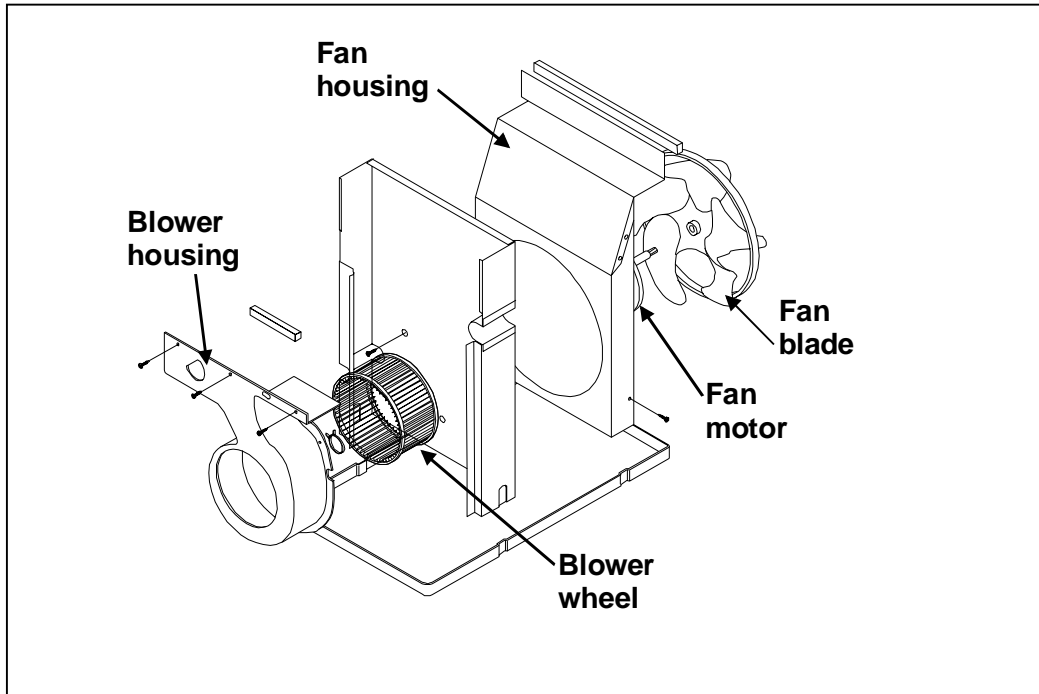
1. Disconnect power supply from unit.
2. Remove motor, see "Fan Motor Removal".
3. Remove screws securing pedestal to bulkhead.
4. Remove plastic nuts securing compressor to mounting studs.
5. Support compressor and remove pedestal.
6. Reverse procedures to install.

Disassembly Procedures

Component Location Illustrations



Disassembly Procedures



Wiring Diagram

