CAUTION

READ THIS MANUAL CAREFULLY TO DIAGNOSE TROUBLE CORRECTLY BEFORE OFFERING SERVICE .

SERVICE MANUAL

Air Conditioners   MODEL: ESAX3186

Part # AC-8888-126

IMPORTANT INFORMATION
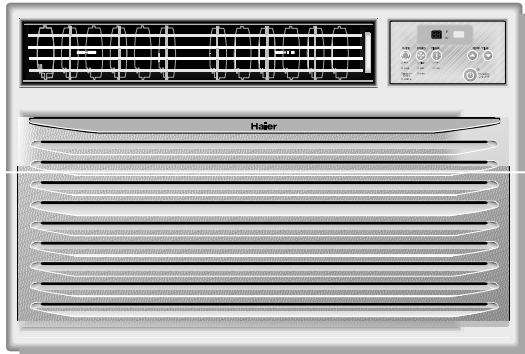
● Features

- ● Thermostat
- ● 3 Fan speed
- ● A/C Dehumid   Fan Only
- ● Energy saver
- ● Timer
- ● 4 way Air Flow

● Main Specification

- ● Cooling Capacity   17000BTU/h
- ● Rated Power/Current(cooling)   1500W /12.0A
- ● EER: 10.7
- ● Air Volume(Indoor/outdoor): 300 m^3/h
- ● Power: 115V~ 60 Hz

Safety Information

General Information

　This Service Manual describes the operation,disassembly,troubleshooting,and repair of Haier Room Air Conditioners,etc. It is intended for use by authorized servicers who troubleshoot and repair these units.

　NOTE:It is assumed that users of this manual are familiar with the use of tools and equipment used to troubleshoot and repair electrical,mechanical,and refrigeration systems;and understand the terminology used to describe and discuss them.

　Haier urges you read and follow all safety precautions and warnings contained in this manual. Failure to comply with safety information may result in severe personal injury or death.

Related Publications

　This is a base service manual,covering a range of similar models.It is intended to be used in conjunction with the Parts Manual and Technical Sheet covering specific model being serviced.

General Precautions and Warnings

⚠ WARNING

　To avoid risk of personal injury or death due to electrical shock,disconnect electrical power to unit before attempting to service the unit.

⚠ WARNING

　To avoid risk of personal injury or death due to electrical shock,**DO NOT**,under any circumstances,alter the grounding plug .Air conditioner must be grounded at all times.Do not remove warning tag from power cord.If a two-prong (non-grounding) wall receptacle is encountered,contact a qualified electrician and have the receptacle replaced with a properly grounder wall receptacle in accordance with the National Electrical Code.

⚠ WARNING

　To avoid risk of personal injury or death due to electrical shock,grounding wires and wires colored like grounding wires are **NOT** to be used as current carrying conductors.The standard accepted color coding for ground wires is **green** or **green with a yellow stripe**.Electrical components such as the compressor and fan motor are grounded through an individual wire attached to the electrical component and to another part of the air conditioner.Grounding wires should not to be removed from individual components while servicing,unless the component is to be removed and replaced.It is extremely important to replace all removed grounding wires before completing service.

⚠ WARNING

　To avoid risk of heat exposure,which may cause death or severe illness,air conditioner must be monitored when malfunctions or shuts down.

CONTENTS

SPECIFICATION

Model	ESAX3186			Brand Mark			haier	
Cooling	Cooling Capacity	17000BTU/h		Frequency Range			———	
	Rated Power/Current	1500W/12.0A		Power			1PH　　115V~60 Hz	
	Max Power/Current	———		Power Cord	Model×Sectional Area		———	
	EER	10.7BTU/h·W						
Heating	Heating Capacity	———			Refer. No.		———	
	Rated Power/Current	———		Compressor manufacturer/Type		SANYO/C-R105H2A		
	Max Power/Current	———		Compressor Oil charge		———		
	COP	———						
Power/Current of Electric Heating		———		Refrigerant	ype/Net Charge		R22/42.3Oz	
Operating temp. range		25°C-35°C			Additional Charge for exhausting air.		——	
Indoor Velocity	H	1040±40RPM			Charge if over Standrad Pipe length		——	
	M	970±50RPM		Capilary	Lenth×Internal/External Diametre		φ2.7*0.55*1000 mm	
	L	920±50RPM			Refer No.		——	
Outdoor Velocity	H	———		Height of rising radiator slice	Indoor		1.60	mm
	H	———			Outdoor		1.37	mm
	H	———		Weight	Net		129lbs	
					Gross		148lbs	
Air Volume (High)	Indoor	300CFM		Outdoor Weight	Net		———	
					Gross		———	
	Outdoor	———		Dimension(L×W×H)　inches		18 21/32x26 9/16x24 13/32		
Capacitor of Fan Motor		10uf/250v		Packaging Dimension(L×W×H)		22 3/8x29 13/16x 29		
Class of electric Shock Protection		———		Outdoor Dimension (L×W×H)		———		
Class of Water Proof		IP24		Outdoor Packaging dimension(L×W×H)		———		
Moisture Removal		———		Refrigerant Pipe	liquid /Gas pipe Diametre		———	
Remote Controller	Model	———			standard Lenth		———	
	Refer. No.	———			Max Lenth		———	
Remote Controller Bracket		———		Lenth/Diametre of Drain Hose			———	
Appearance		———		Max. pressure at warm side			380psig	
Climate Type		America standard		Max.pressure at cool side			170psig	
Installation Bracket Type		———		Plug Type(spec.)			———	
Area available for clooling/heating		12-18　　m²		Ammeter spec.			———	
Max.running temperature(cooling):		Dry/Wet ball(indoor) 32.2°C/22.8°C		Max.running temperature(heating):		Dry/Wet ball(indoor)　——/——		
		Dry/Wet ball(outdoor)43.3°C/25.6°C				Dry/Wet ball(outdoor) ——/——		

ACCESSORIES

Number	Name	Refer No.	Description	Quality	Failure Rate(%)	Remark
1	remote controller	0010403473	None	1	0.2	*
2	wood screw	001A5002292	fix function	10	0.1	
3	manual	0010555512	Serve guide	1	0.1	
4	window seal gasket	0010101353	Prevent that water permeates through chink	1	0.1	
5	installation bracket	0010100390(left) 0010100391(right)	supporting	2	0.1	
6	curtain attachment screws	001A5002115	fix function	10	0.1	
7	top rail	0010100724	Install top rail with four curtain attachment screws	1	0.1	
8	left and right side curtains	0010203054 0010203055	slide left-hand curtain assenbly into left end of top and bottom rails	2	0.1	
9	long flat head bolt and locknut	0010600034 001A5102003	connecting	2	0.1	
10	long screw and locknut	001A5102046 001A5002125	connecting	4	0.1	

4

OPERATION

Operating Guide

Normal Operating Sounds

The following sounds are normally heard during the operation of an air conditioner.

- Cool airflow movement as dictated by the set fan speed.
- Water sounds. This is normal as your air conditioner acts as a dehumidifier also. Thus you will hear water sounds from water drops falling on the condenser.
- As the refrigerant flows through the inner sealed tubing a rushing noise may be heard.
- Rattling or vibrating noises may be heard due to poor wall or window installation.
- High pitch compressor sound may be heard.

Operating Instructions

Following are the operating instructions of your electronic air conditioner.

Remote control and control panel operations

After installing your air conditioner plug it in to the proper electrical outlet in the wall. Keep the vent in the closed position. Now set the air conditioner at your comfort level. This full functional wireless remote allows you to operate your air conditioner without having to get up and go to the unit. The full function feature allows you to change the settings and turn the unit on or off from the remote itself. This control pad works the same as the control pad on the air conditioner.
(See Fig. # 1)

Fig. # 1
Remote Control

ON/OFF

MODE   SPEED   TIMER

TEMP/TIME

Haier
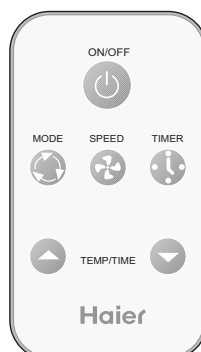
After you plug in the unit it will perform a self test. All the display lights will turn on for 3 seconds. The LED display will read "88". If any display light fails to turn on you may need service on the unit. After the 3 seconds self test the unit will automatically go to the stand by mode. Now all lights will be off and you will have to turn "ON" by pressing the On/Off key. After pressing "On/Off", the unit starts to work and enters the status of "Fan" with low setting.

You will have to press the (▲) or (▼) key on the Temp/Time to set the temperature at your desired comfort. You can choose between 61°F and 86°F. Once the temperature is set you can raise or lower it by pressing the (▲) or (▼) keys. (Only when the unit is cooling, energy saver or dehumidifying, can the temperature setting be adjusted.) (See Fig. # 2)

Having set the temperature you will set the function of the air conditioner.

Fig. # 2
Control Panel.
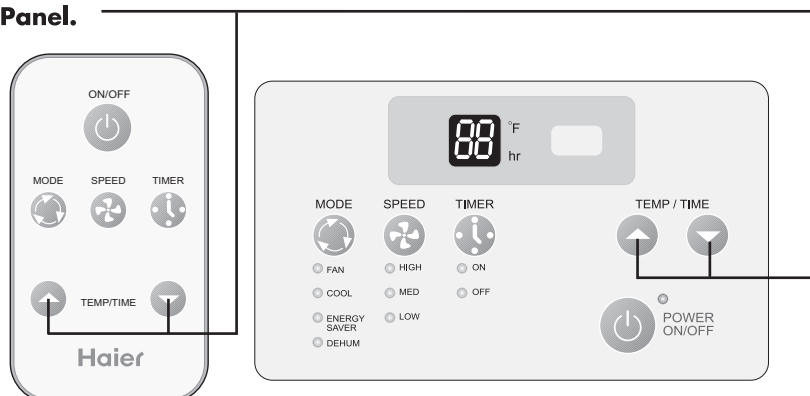
Every time you press the MODE button, it will change between FAN, COOL, ENERGY SAVER and DEHUM. (See Fig. # 3)

Fig. # 3
Control Panel.
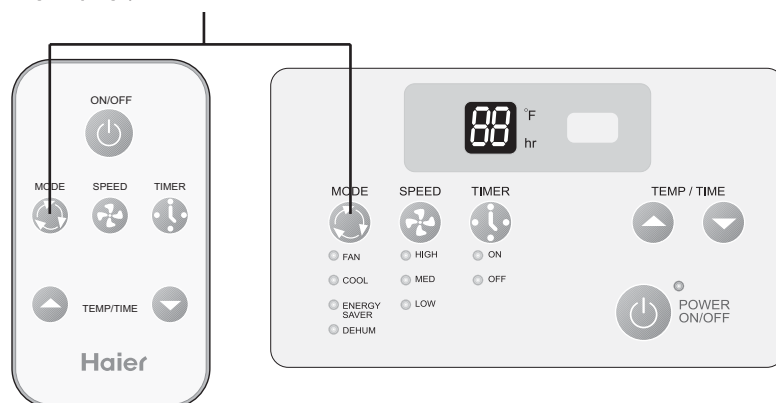
Once the function mode is decided you will have to set the fan speed.(See fig. #4)
Every time you press the SPEED button, fan speed will change between LOW, HIGH,MED.

1) If you choose the COOL mode you can run the fan in one of the 3 speeds HIGH, MED, LOW.

2) For cool days you may want to run the "FAN" function. The fan can be set to run at 3 speeds (HIGH fan, MED fan, LOW fan)as desired by you.

3) If you choose to use the Dehumid function. This will remove excess moisture from the air on excessively humid days.

Tr: temperature inside the room.

Ts: the set temperature.

1) When Tr>Ts+3 $^\circ$F, the compressor will run continuously the fan at the selected speed.

2)When Ts-1 $^\circ$F¡ Tr¡ Ts+3 $^\circ$F the compressor will cycle for 10 minutes on and 6 minutes off.

3)When Tr<Ts-1 $^\circ$F, the compressor will shut off.

The dehumidification process takes place between the set temperature -1 and 3 $^\circ$F above the set temperature.

4)Energy Saver : The unit runs the same as COOL setting in the ENERGY SAVER mode. But the fan will be off 3 minutes after the compressor cycle off.

Fig. # 4
Control Panel.
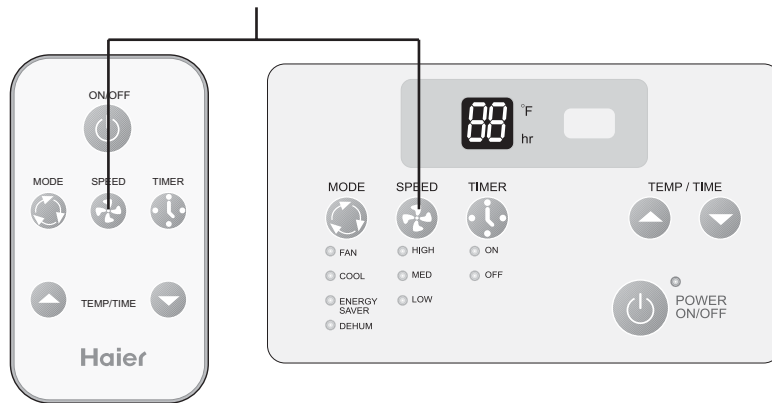
Timer on or Timer off mode is used to pre-start or shut off your unit in advance. You can program this up to 24 hours in advance. You can use the Timer in 4 functions i.e. COOL, Energy saver, Dehumid or Fan .

● Timer on (See Fig. # 5)

Unit must be on to set the timer. Unit will shut down automatically after it accepts the settings in 5 seconds. Use this mode to pre-set the start time of the unit 24 hours in advance.

a) Press TIMER ON, LED display will show "XX" (time set last time) when power is connected first time, LED display will show "01".

b) Set desired number of hours by pressing the (▲) pad of the Temp/Time buttons, one for each hour. If you passed the desired time use the (▼) pad key to lower the selection.

c) After set TIMER ON, LED display will show the time. This time displayed: unit will starts after X hours.

● Timer off (See Fig. # 5)

Unit must be running to set the timer off. Use this to preset the time you would like the unit to shut off.

a) Press TIMER OFF, LED display will show "XX" (time set last time) when power is connected first time, LED display will show "01".

b) Set desired number by pressing the (▲) pad of the Temp/Time buttons. One for each hour. If you passed the desired time, use the (▼) pad key to lower the selection.

c) After set TIMER OFF, LED display will show the room temperature about 5 seconds later.

When using the timer the unit will use/revert to the last COOL and fan settings when activated. The timer must be reset every time you choose to use it.
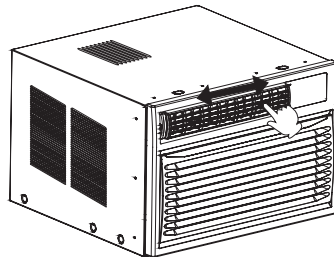
English

Fig. # 5
Control Panel.
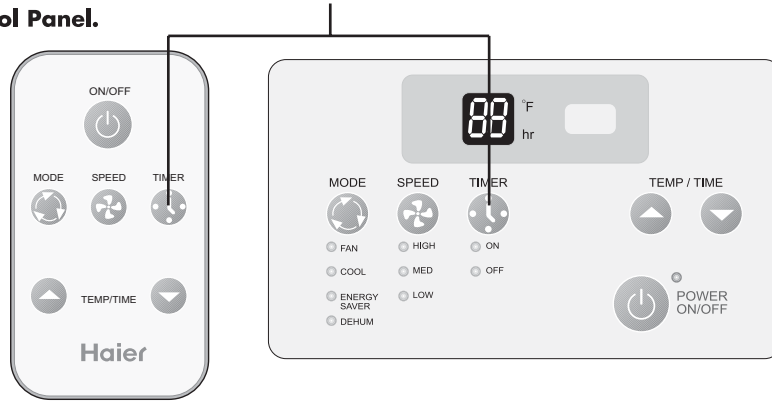
Adjusting the Air Flow Direction

Airflow can be adjusted by changing the direction of the air conditioner's louvers.
This can also increase the cooling efficiency of the air conditioner.

Adjusting Horizontal Air Flow Direction

Adjusting the vertical louvers left and right will change horizontal airflow.

Adjusting Vertical Air Flow Direction

Adjusting the Horizontal vane up and down will change vertical airflow. The vane can be adjusted by nudging the back or up and down of the vane.

Adjusting Horizontal Air Flow

Adjusting Vertical Air Flow

Recommended orientation of louvers
Adjust louvers to face upwards when cooling to maximize cooling efficiency.
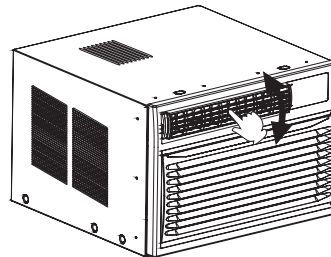
TROUBLESHOOTING

Maintenance Service and Trouble Shooting

Air conditioner working but room not cooling:

- Room may have appliances that produce heat. Use an exhaust fan to remove excess heat.
- Redirect the airflow. Remove any obstacles.
- All doors and windows need to be closed so cool air does not escape the room.
- Air filter may need cleaning.
- Unit BTU may be too low for the required cooling area.
- On extreme hot & humid days air conditioners may take a little longer to cool.
- **Vent may be in the open position. Vent has to be closed for optimum cooling.**

Air conditioner is making noise when cooling:

You may hear sounds of air movement, water, compressor clicking on and off or window vibrations. Read Operating Guide – Normal Operating Sounds. (See page 6)

Water in the air conditioner cabinet:

This is normal as your air conditioner not only cools but also dehumidifies the air. If there is water dripping inside the room, check the installation of the unit. The unit may need to be reinstalled. (See page 16)

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INSTALLATION

Installation and Accessory Parts

Installing Unit into A Window

Window Opening Requirements

The air conditioner is designed to fit into double or single hung sash type windows. Each of the units comes with an installation kit that provides adjustable mounting louvers, to fill the gaps between the sides of the unit, and the window frame. The chart below reflects the dimensions of the units with, and without installation kits. Measure your window opening width and compare it to the chart below to ensure that it meets the minimum and maximum window width requirements.
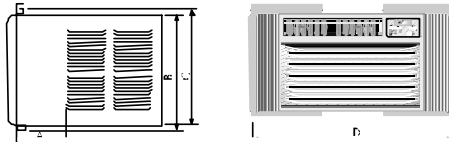
ESAX3186

Model / Dimension	ESAX3186
A(inch)	$11\frac{2}{5}$"
B(inch)	$18\frac{3}{5}$"
C(inch)	$18\frac{3}{5}$"
D(inch) Max	$42\frac{5}{6}$"
D(inch) Min	$30\frac{1}{8}$"
Case High	$18\frac{21}{32}$"
Case Width	$26\frac{9}{16}$"
Case Depth	$24\frac{13}{32}$"

1 PREPARE UNIT FOR INSTALLATION

Unpack unit on floor next to installation location.
Remove two front attachment screws.
Separate the outer case from the front with a putty knife at the catch points designated by the arrows.
Remove the two screws on top of the outer case.
Using the basepan handle, slowly and evenly pull chassis out from outer case.
Note: Cover putty knife blade with masking tape to guard against damage of the unit finish.
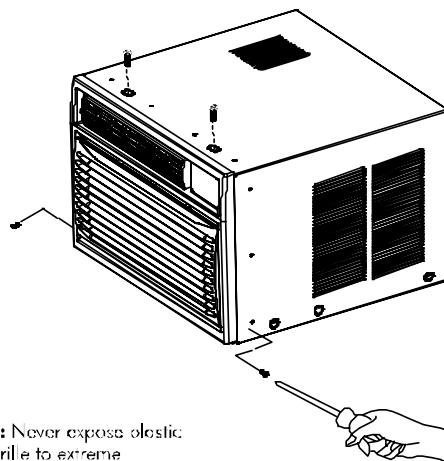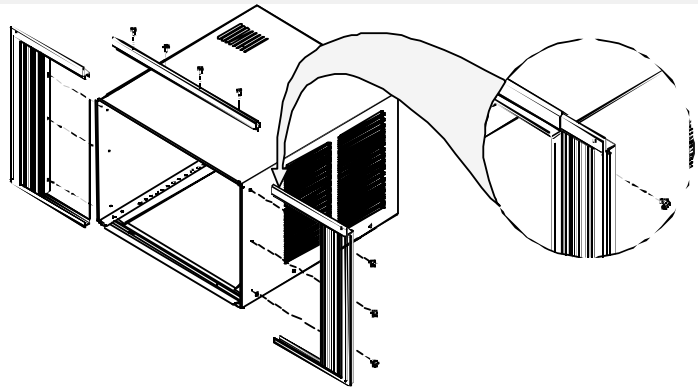
Caution: Never expose plastic front or grille to extreme temperatures.

Installation and Accessory Parts

2 ASSEMBLE CURTAINS/TOP RAIL

Install top rail with four13/32"screws.

Slide left-hand curtain assembly into left end of top and bottom rails. Repeat for right-hand curtain assembly. Fasten curtain retainer strips to sides of outer case with six 13/32" screws.

3 PREPARE WINDOW FOR INSTALLATION

Inspect window track, sash, and sill for its ability to support the weight of air conditioner.

Measure width between window moldings to ensure Instant Mount will fit window frame. Instant Mount models are designed for windows wide (the detail see page 15)

Instant Mount kit supplied with unit is designed for mounting in most double-hung windows **without storm windows.** For installation in window frame with storm window, modify sill by adding wood strips(not included) to inner and outer sills. This raises unit and eliminates interference of storm window frame.
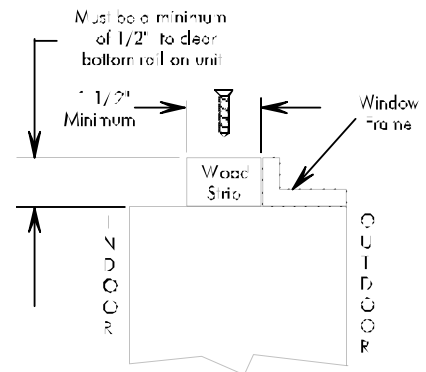
Storm window installation

If storm window frame does not allow adequate clearance below sill (1/2" required), remove storm window frame or create clearance by adding a wood strip (at least 1 1/2" wide) along entire width of sill. Fasten wood strip to sill with at least three countersunk wood screws (not supplied with kit). This provides a smooth surface for mounting air conditioner.
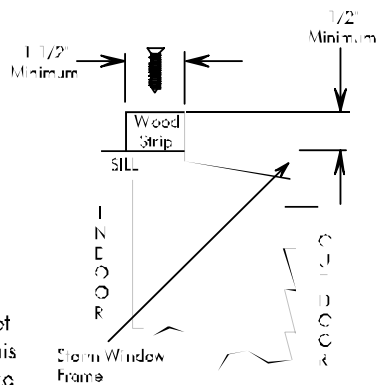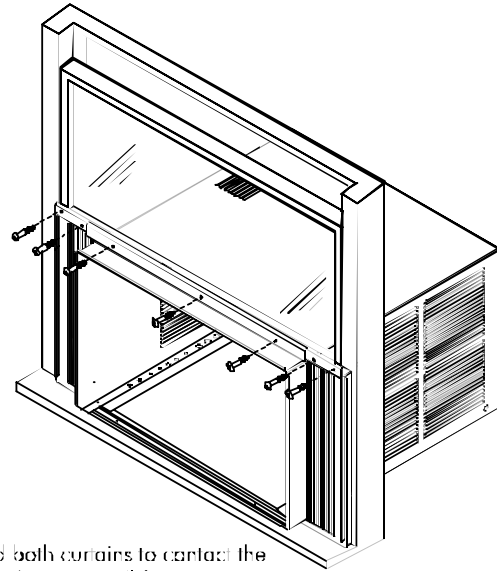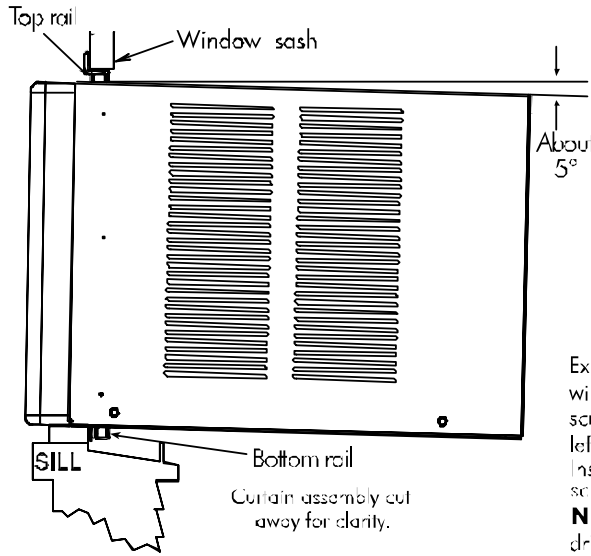
Mobile home window installation

Add wood strip (at least 1 1/2" wide) along entire width of window sill. Thickness of wood strip should match height of front lip on window frame. Fasten wood strip to sill with a minimum of three countersunk wood screws (not supplied with kit). This provides a smooth surface for mounting air conditioner.

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Installation and Accessory Parts


4 INSTALL OUTER CASE IN WINDOW

Place outer case in window. Lower sash until it rests behind front flange of top rail. Bottom rail must rest behind window sill.

Top rail

Window sash

About 5°

SILL

Bottom rail

Curtain assembly cut away for clarity.

Use two wood screws 31/32" to fix the case to windows sash. Install left & right installation bracket and as shown in fig. Install bolt(2 1/2" long flat head bolt and locknut) to the installation bracket and adjust them to proper length ,then use 4 (19/32)screws to fix the bracket on the case.

Expand both curtains to contact the window frame. Install four wood screws 31/32". Two in each upper right and left of the curtains.
Install three wood screws 31/32" top mounting rail screws.
NOTE: To make screws easier to drive, drill a pilot hole into sash through clearance hole in curtains.
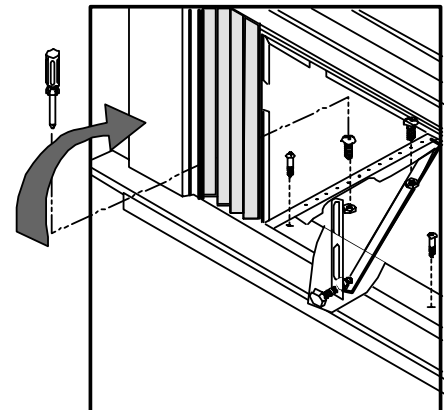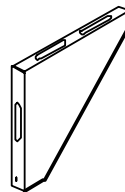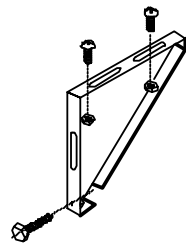
Installation and Accessory Parts

5 INSTALL SASH BRACKET
   & SEAL GASKET

Install sash bracket on top of indoor window sash with one wood screw 3"/32" to prevent raising of window from the outside. Screw anchor directly into side of window frame. For hard wood or metal window frames, drill a pilot hole to start screw.

Important:Be careful not to drill pilot hole too deep. Add a piece of tape to the drill bit as a depth gauge. Also stay clear of glass. Be careful not to damage the function of the window.

Cut window seal gasket to width of window. Stuff window seal strip between outdoor window glass and top of indoor sash. This will stop air leakage which reduces efficiency.
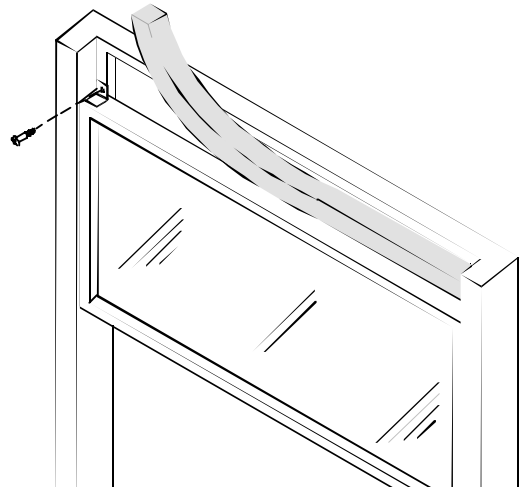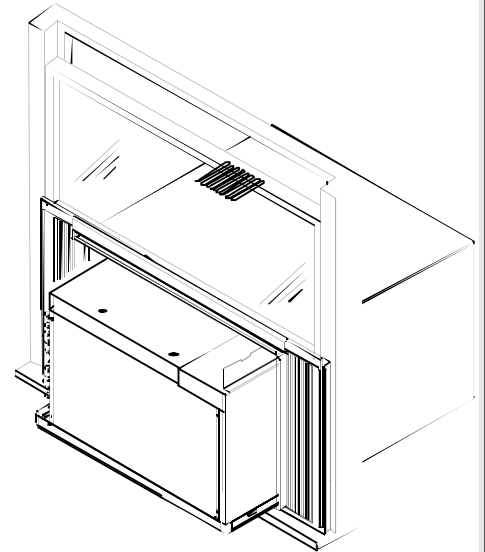
6 RETURN
   CHASSIS TO
   OUTER CASE

Find someone to help you replace chassis in outer case. Replace front panel, and grille.
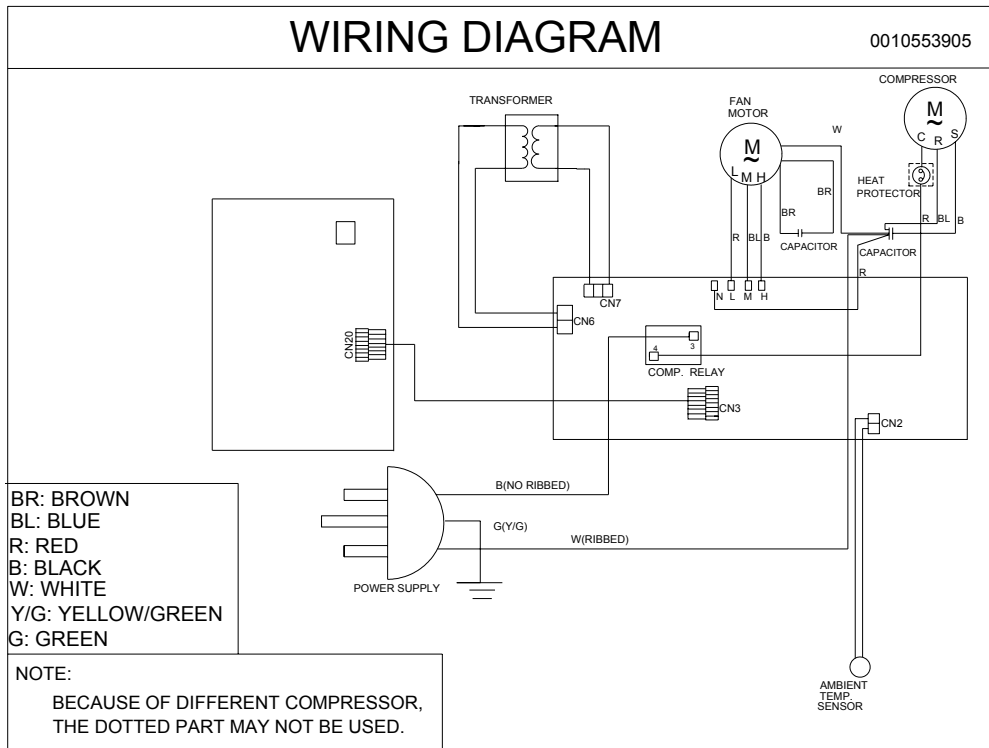**Caution:**
For security purpose, reinstall screws at cabinet's sides. Where possible install two screws on top of the outer case, removed in step one.

IMPORTANT: Because window sash helps keep unit in window, make certain window sash contacts outer case before reinstalling chassis.

WIRING DIAGRAM

Wiring Diagram

WIRING DIAGRAM

0010553905

TRANSFORMER

FAN MOTOR

COMPRESSOR

M ~ (C R S)

HEAT PROTECTOR

W

BR

BR

CAPACITOR

CAPACITOR

R BL B

R

M ~ (L M H)

R BL B

CN7

CN6

N L M H

CN20

COMP. RELAY

CN3

CN2

B(NO RIBBED)

G(Y/G)

W(RIBBED)

POWER SUPPLY

AMBIENT TEMP. SENSOR

BR: BROWN
BL: BLUE
R: RED
B: BLACK
W: WHITE
Y/G: YELLOW/GREEN
G: GREEN

NOTE:

    BECAUSE OF DIFFERENT COMPRESSOR,
    THE DOTTED PART MAY NOT BE USED.

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Sincere Forever