

# IMPORTANT INSTRUCTIONS - OPERATING MANUAL

Models:  
FRAS50, FRAS60, FRAS70



Fire Rated Exhaust Fan

## READ AND SAVE THESE INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING TO ASSEMBLE, INSTALL, OPERATE OR MAINTAIN THE PRODUCT DESCRIBED. PROTECT YOURSELF AND OTHERS BY OBSERVING ALL SAFETY INFORMATION. FAILURE TO COMPLY WITH INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE!

**RETAIN INSTRUCTIONS FOR FUTURE REFERENCE.**

## GENERAL SAFETY INFORMATION

When using electrical appliances, basic precautions should always be followed to reduce the risk of fire, electric shock and injury to person, including the following:

1. Read all instructions before installing or using exhaust fan.
2. Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
3. Before servicing or cleaning the unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
4. Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-related construction.
5. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Protection Association (NFPA) and the American Society for Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), and the local code authorities.
6. When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
7. Ducted fans must always be vented to the outdoors.
8. This unit must be grounded.
9. To avoid motor bearing damage and noisy and/or unbalanced impellers, keep drywall spray, construction dust, etc. off power unit.
10. Acceptable for use over a bathtub or shower when installed in a GFCI protected branch circuit.
11. NEVER place a switch where it can be reached from a tub or shower.

**WARNING: TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, DO NOT USE THIS FAN WITH ANY SOLID-STATE SPEED CONTROL DEVICE.**

**WARNING: DO NOT USE IN KITCHENS**

**CAUTION: FOR GENERAL VENTILATING USE ONLY. DO NOT USE TO EXHAUST HAZARDOUS OR EXPLOSIVE MATERIALS AND VAPORS.**

## SAVE THESE INSTRUCTIONS

## INSTALLATION INSTRUCTIONS

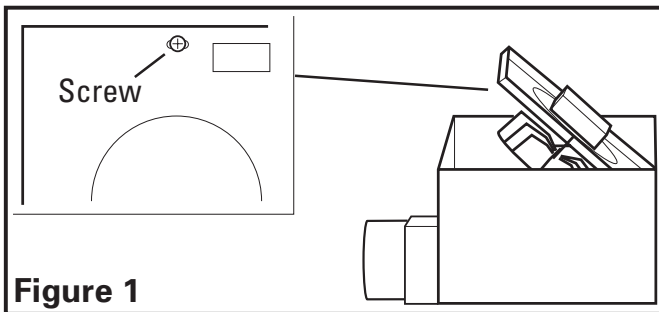
**CAUTION: MAKE SURE POWER IS SWITCHED OFF AT SERVICE PANEL BEFORE STARTING INSTALLATION.**

### SECTION 1

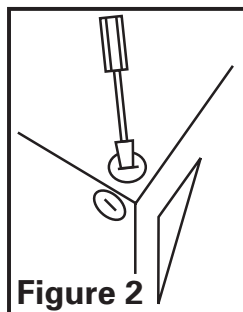
#### Preparing the Exhaust Fan

- Unpack fan from the carton and confirm that all pieces are present. In addition to the exhaust fan you should have:
  - 1 - Grill
  - 4 - Mounting Rails
  - 1 - Hardware bag containing:
    - 4 - #8 screws
    - 4 - Flat washers
  - 1 - Ceiling damper
  - 1 - Ceiling damper frame
  - 1 - Instruction/Safety Sheet

- Remove the fan's venturi assembly, which is secured in place with one screw through the venturi (**Figure 1**). This is a captive screw and will stay installed in the venturi. Keep the venturi assembly and the grill in the carton until needed so they do not get damaged or lost.



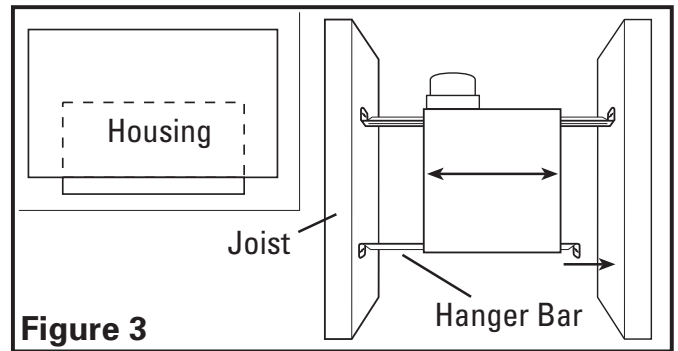
- Choose the location for your fan. To ensure the best air and sound performance, it is recommended that the length of ducting and the number of elbows be kept to a minimum, and that insulated hard ducting be used. Larger duct sizes will reduce noise and airflow restrictions. This fan will require at least 8" of clearance in the ceiling or wall, and will mount through drywall up to 3/4" thick. The fan mounts between 16" or 24" on center joists using the 4 provided mounting rails.
- Select the most convenient electrical knockout and remove using a straight-blade screw driver (**Figure 2**).



### SECTION 2

#### New Construction

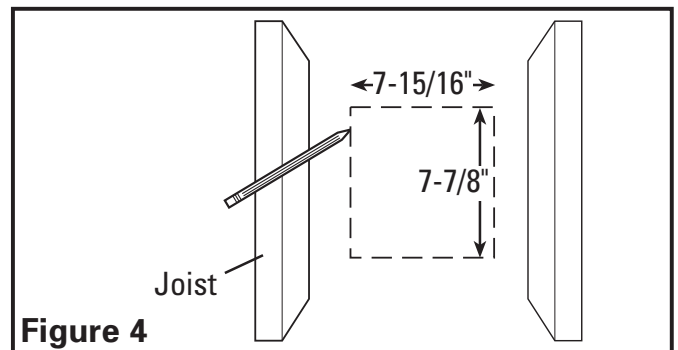
- Install the side rails on the housing and position the housing next to the joist. Line up housing so that it will be flush with the finished ceiling. Secure the ends of the rails with screws or nails (not included) to the joists and slide the housing into the final position (**Figure 3**).



### SECTION 3

#### Existing Construction

- Determine the housing position between the joist. Measure and draw out a 7-7/8" x 7-15/16" rectangle onto the ceiling material (**Figure 4**). Cut opening, being careful not to cut or damage any electrical or other hidden utilities. Install the side rails on the housing and position the housing in the previously cut hole so that it is flush with the finished ceiling. Secure the ends of the rails to the joists (**Figure 3**).

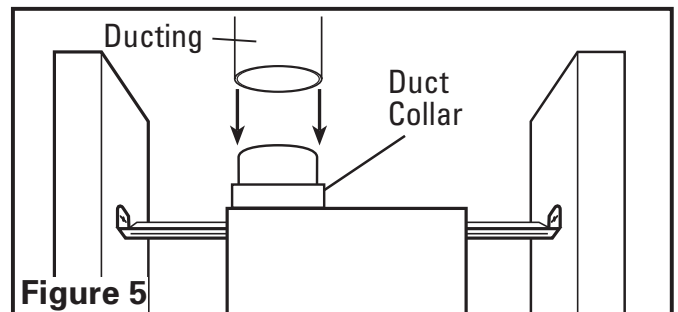


### SECTION 4

#### Ducting

**CAUTION: ALL DUCTING MUST COMPLY WITH LOCAL AND NATIONAL BUILDING CODES.**

- Connect the ducting to the fan's duct collar (**Figure 5**). Secure in place using tape or screw clamp. Always duct the fan to the outside through a wall or roof cap.



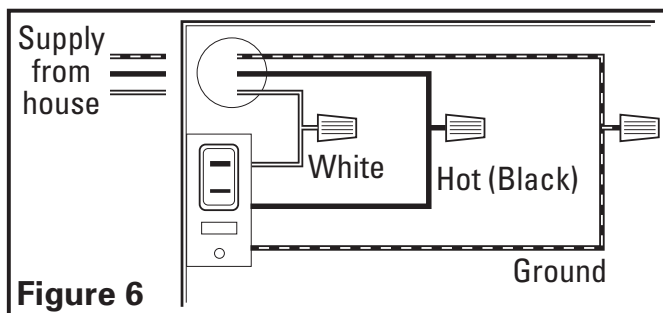
## SECTION 5

### Wiring

**CAUTION:** MAKE SURE POWER IS SWITCHED OFF AT SERVICE PANEL BEFORE STARTING INSTALLATION.

**CAUTION:** ALL ELECTRICAL CONNECTIONS MUST BE MADE IN ACCORDANCE WITH LOCAL CODES, ORDINANCES, OR NATIONAL ELECTRICAL CODE. IF YOU ARE UNFAMILIAR WITH METHODS OF INSTALLING ELECTRICAL WIRING, SECURE THE SERVICES OF A QUALIFIED ELECTRICIAN.

1. Run wiring from an approved wall switch carrying the appropriate rating. One neutral (white), one ground (green or bare copper), and one hot (black lead connected to the switch). Secure the electrical wires to the housing with an approved electrical connector. Make sure you leave enough wiring in the box to make the connection to the fan's receptacle.
2. From where you have access to inside the fan's junction box, connect the white wire from the house to the white wire from the fan's receptacle. Connect the black wire from the wall switch to the black wire from the fan's receptacle. Connect the ground wire from the house to the green wire from the fan's receptacle (**Figure 6**). Use approved methods for all connections.

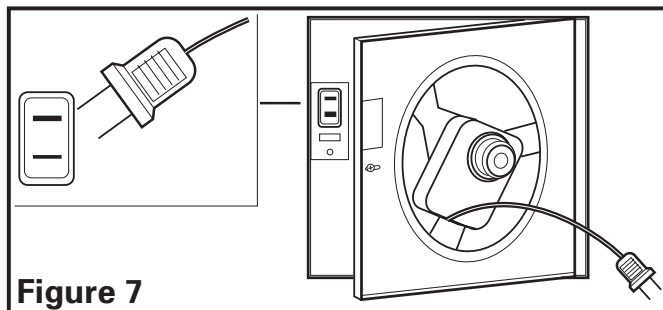


**Figure 6**

## SECTION 6

### Completing the Installation

1. Reinstall the fan's venturi by holding it at approximately a 45 degree angle, hook the two tabs on the venturi into the slots on the housing and secure in place by tightening the venturi screw. Rotate the blower wheel by hand to ensure it spins freely. Now plug the fan motor into the receptacle (**Figure 7**).

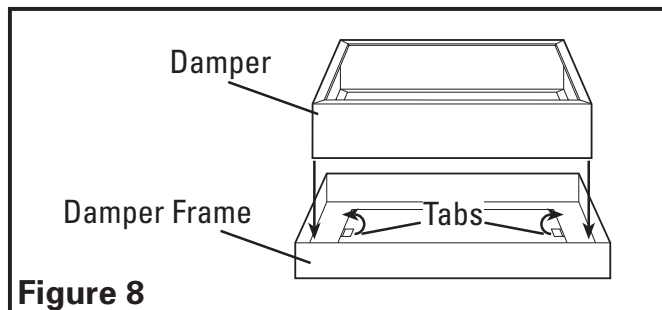


**Figure 7**

**CAUTION:** THE CEILING DAMPER SUPPLIED WITH THIS UNIT IS SPRING LOADED AND HAS THE POTENTIAL TO RELEASE SUDDENLY WHEN HANDLED IMPROPERLY. A DAMAGED SPRING OR DEFECTIVE FUSIBLE LINK CAN ALLOW THE THE DAMPER TO CLOSE VIOLENTLY INTO THE HANDLER'S HAND OR ARM, CAUSING SERIOUS INJURY. CARE SHOULD BE EXERCISED WHEN HANDLING AND INSTALLING SPRING LOADED DAMPERS. IT IS RECOMMENDED THAT GLOVES BE WORN BY HANDLERS AND INSTALLERS.

**CAUTION:** THE CEILING DAMPER (AKFD1) SUPPLIED IS DESIGNED TO INSTALL ONLY INTO THE SUPPLIED AIR KING MODEL AKFH1 HOUSING.

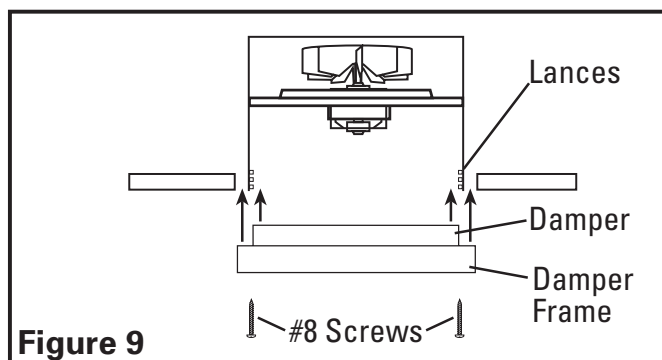
2. Position the damper inside of the damper frame and secure the damper by bending the two tabs up and around the lip of the damper (**Figure 8**).



**Figure 8**

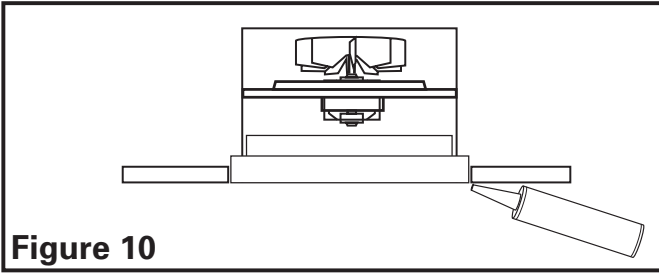
**NOTE:** The damper will only fit into the damper frame one way. If the damper is not fitting flush against the damper frame, turn the damper 90°.

3. Line up the slots in the damper frame with the lances on the housing and install the damper frame and damper up into the housing. The damper will fit inside of the housing while the damper frame will fit outside of the housing. Secure in place by inserting the included #8 screws through the slots of the damper frame and into the lances of the housing (**Figure 9**).



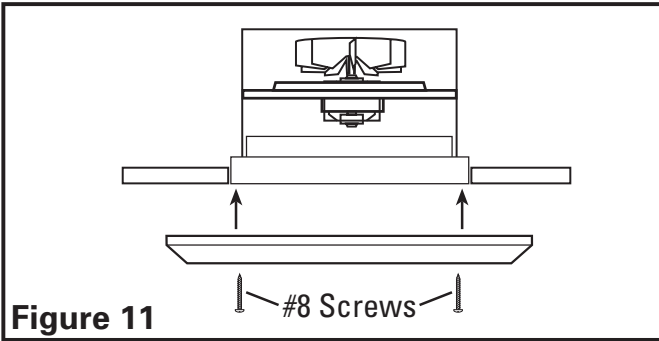
**Figure 9**

4. If there are any gaps between the drywall and the ceiling damper frame, seal them with caulk carrying the appropriate UL rating (**Figure 10**).



**Figure 10**

5. Install the grill by lining up the holes in the grill with the holes in the damper frame. Using the remaining #8 screws, secure the grill in place (**Figure 11**).



**Figure 11**

6. Restore power and test your installation.

## SECTION 7

### Use and Care

**CAUTION: MAKE SURE POWER IS SWITCHED OFF AT SERVICE PANEL BEFORE SERVICING THE UNIT.**

1. **Cleaning the Grill:** Remove grill and use a mild detergent, such as dishwashing liquid, and dry with a soft cloth. NEVER USE ANY ABRASIVE PADS OR SCOURING POWDERS. Completely dry grill before reinstalling. Refer to instructions in **Section 6 Finishing the Installation**, to reinstall grill.
2. **Cleaning the Fan Assembly:** Wipe all parts with a dry cloth or gently vacuum the fan. NEVER IMMERSE ELECTRICAL PARTS IN WATER.

## Troubleshooting Guide

Trouble	Probable Cause	Suggested Remedy
1. Fan does not operate when the switch is on.	1a. A fuse may be blown or a circuit tripped. 1b. Connector plug from motor is not plugged in. 1c. Wiring is not connected properly. 1d. Motor has stopped operating.	1a. Replace fuse or reset circuit breaker. 1b. Turn off power to unit. Remove Grill and plug motor into receptacle in housing. Restore power to unit. 1c. Turn off power to unit. Check that all wires are connected. 1d. Replace motor.
2. Fan is operating, but air moves slower than normal.	2. Obstruction in the exhaust ducting.	2. Check for any obstructions in the ducting. The most common are bird nests in the roof cap or wall cap where the fan exhausts to the outside.
3. Fan is operating louder than normal.	3a. Motor is loose. 3b. Fan blade is hitting housing of unit.	3a. Turn off power to unit. Remove grill and check that all screws are fully tightened. Restore power to unit. 3b. Call your dealer for service.

## LIMITED WARRANTY

All products manufactured by Air King Limited are warranted for one year from the date of purchase against defects in workmanship and/or material. In addition, all ventilating/exhaust fans, heaters, combination fan lights and/or heaters, and range hoods are guaranteed for five years from the date of purchase against defects in workmanship and/or material.

This warranty does not cover any labor or shipping costs or the cost of replacement components as part of routine maintenance such as: range hood grease filters, charcoal filters or combination charcoal/grease filters; replacement light bulbs in range hoods or bathroom fan/light/bulb heater combinations. As well, any damage or failure caused by abuse, misuse, abnormal usage, faulty installation, or improper maintenance will not be covered by this warranty.

In order to make a claim on this warranty, you must be the original consumer of the product. You will be required to present to Air King the original bill of sale showing: date of purchase, place of purchase and model purchased. Failure to meet these requirements will void your warranty.

Air King will not be held responsible for any bodily injury or damages to personal property or real estate whether caused directly or indirectly by the product. Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages and some states do not allow limitations on how long an implied warranty lasts, so these exclusions or limitations may not apply to you. This warranty gives you specific legal rights and you may have other rights which vary from state to state and province to province.

## FOR PARTS OR TECHNICAL ASSISTANCE

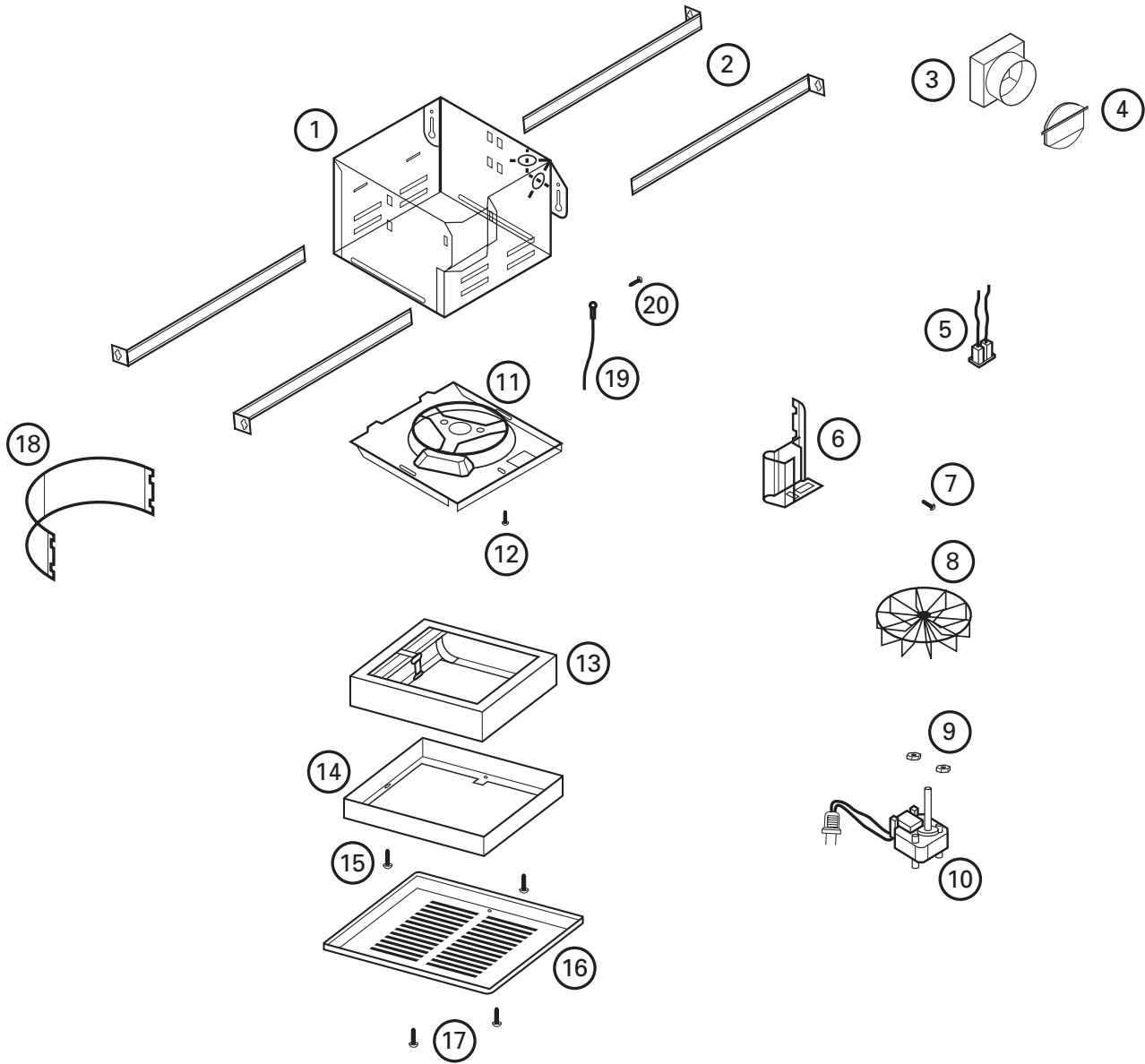
Please call: 1-800-465-7300, **MONDAY THROUGH FRIDAY, BETWEEN THE HOURS OF 8 AM AND 4:00 PM EST.**  
**PLEASE DO NOT RETURN PRODUCT TO PLACE OF PURCHASE.**

Reference the type and style of product (located on label inside of the product) when you call.  
For more information please visit our website: [www.airkinglimited.com](http://www.airkinglimited.com)

Installer: \_\_\_\_\_ Installation Date: \_\_\_\_\_

Place of Purchase: \_\_\_\_\_ Model Number: \_\_\_\_\_

# REPLACEMENT PARTS DIAGRAM



#	Qty.	Description	Replacement Part #
1	1	Fan Housing	5S1201009
2	4	Mounting Rails	5S1299002
3	1	Metal Collar	5S1214001
4	1	Metal Damper	5S1214002
5	1	Polarized Receptacle	5S1999001
6	1	Goose Neck Wire Cover	5S1201004
7	1	#8 Screw	5S1999004
8	1	Impeller	5S1299001
9	2	Hex Nut	5S1999006
10	1	Motor - FRAS50	5S2201001
		Motor - FRAS60	5S2201002
		Motor - FRAS70	5S2201003

#	Qty.	Description	Replacement Part #
11	1	Motor Plate	5S1201005
12	1	Captive Screw	5S1999005
13	1	Fire Damper FD-1	5S1214003
14	1	Fire Damper Frame FD-1	5S1214004
15	2	Screw	5S1214005
16	1	Grill	5S1214006
17	2	Screw	5S1214007
18	1	Scroll	5S1201006
19	1	14 ga Ground Wire	5S1999003
20	1	#10 Ground Screw	5S1999002

Installer: \_\_\_\_\_

Installation Date: \_\_\_\_\_

Place of Purchase: \_\_\_\_\_

Model Number: \_\_\_\_\_