



## 2.5E WHOLE HOUSE FAN INSTALLATION AND OPERATION MANUAL

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CONGRATULATIONS on your AirScape Whole House Fan purchase. This fan is designed to provide you with quiet, natural, energy-efficient cooling for many years.

Please take a few minutes to read over this manual to make sure you are prepared for the installation. The building owner/occupant should read the "Theory of Operation" insert so that the 2.5e WHF will be correctly located to maximize effectiveness and efficiency of operation. Attic venting recommendations and calculations are also included in that insert.

*If you (or your installer) have any questions regarding the installation, operation, or maintenance of this fan, please call 1.866.448.4187 or email [experts@airscapefans.com](mailto:experts@airscapefans.com).*

## WHAT'S INCLUDED

Prior to beginning the installation, please verify that you received all the accessories with the whole house fan. The packages should include:

- BOX 1 of 3: damper door enclosure with grille, IOM, 8 metal and 4 wood screws, 4 S-hooks, and the 2<sup>nd</sup> Generation Control Package - including 1 hard wired wall control, 1 wireless remote receiver, 1 table top wireless transmitter (battery included), 1 wall mounting bracket, 1 red 50' CAT5 cable and 1 blue 5' CAT5 cable.
- BOX 2 of 3: fan assembly, chain, duct tape
- BOX 3 of 3: 20" diameter insulated acoustical flex duct

## WHAT YOU WILL NEED

- flat head screwdriver
- scissors or knife
- eye bolts or large nails for attaching chain to rafters
- cordless screwdriver w/ Philips head bit and misc drill bits
- lumber, matching dimensions of the attic joists (2x6, 2x8, etc....)
- high quality latex caulk
- drywall cutter

## SAFETY INFORMATION

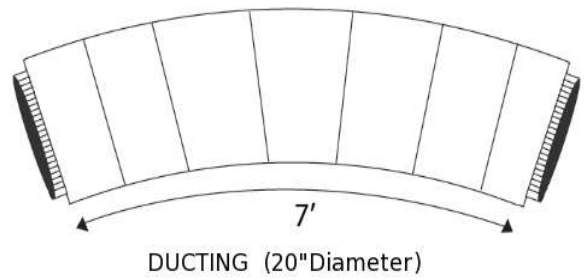
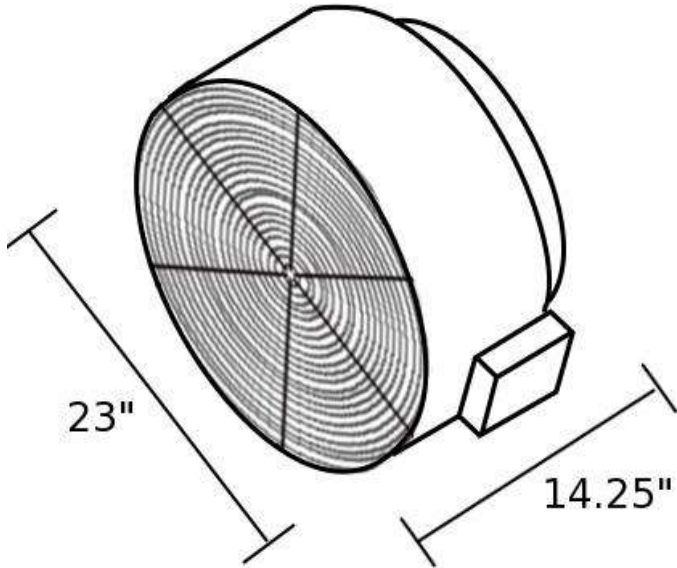
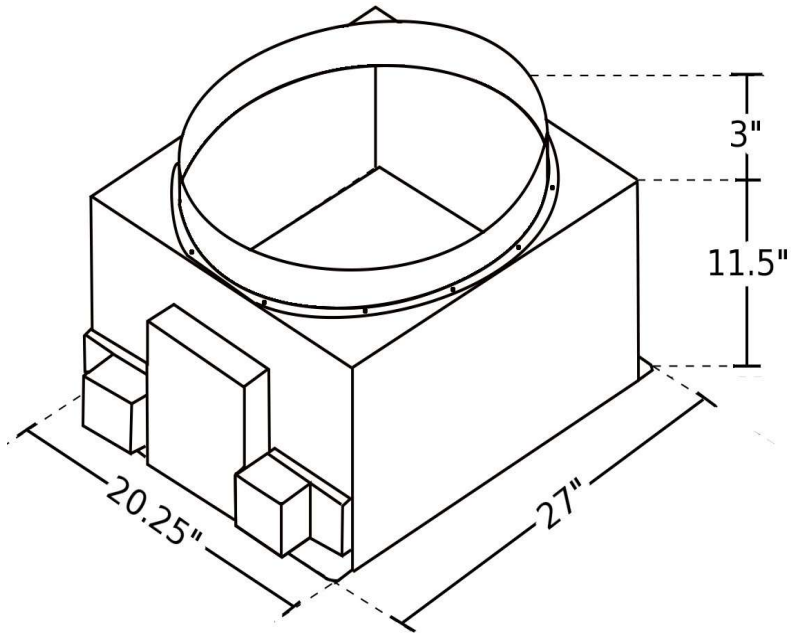


### Not So Obvious - Please Read:

- **NEVER** operate your whole house fan without a window or door open.
- This fan is meant for general ventilation. It has **NOT** been designed to vent particle laden and/or explosive mixtures of air.
- **NOT** for use in kitchens.
- **NEVER** force open the damper doors. Always use yellow clutch releases located on actuators before attempting to manually open or close damper doors.

# UNIT PARTS & DIMENSIONS

Parts & Dimensions (not to scale)



## INSTALLATION - CARPENTRY

The 2.5e WHF has been designed to fit on top of a 14½" x 22½" wall or ceiling opening. Since most modern houses have been built with either 16" or 24" on-center (O/C) spaced joists or studs, a simple "box" is constructed in the wall/ceiling.

**NOTE:** There are two different installation methods determined by how the 2.5e will be inserted into the attic. Please follow the instructions that apply to your install.

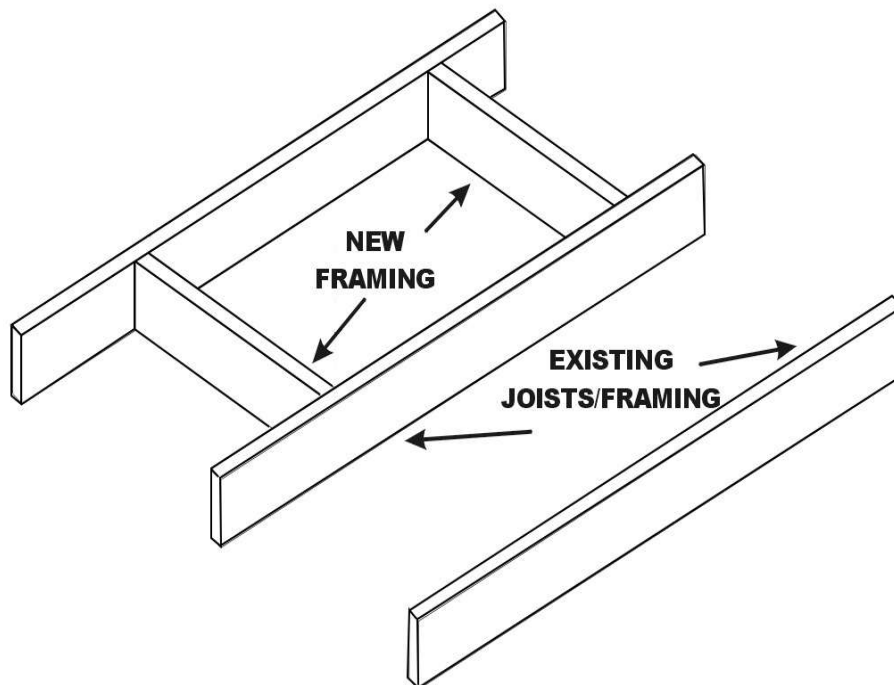
### There is an existing attic access large enough for the 2.5e fan to fit through:

#### **16" O/C Framing**

Step 1: Install two 14½" cross pieces creating a box with inside dimensions 14½" x 22½".  
Step 2: Cut out dry wall inside the framed box.

#### **24" O/C Framing**

Step 1: Install two 22½" cross pieces creating a box with inside dimensions of 14½" x 22½".  
Step 2: Cut out dry wall inside the framed box.



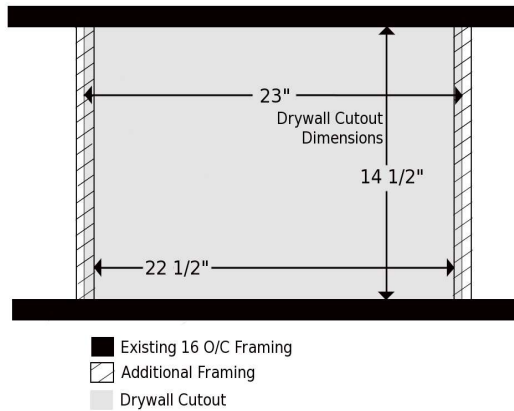
**The 2.5e fan needs to fit through the hole that is framed for it:**

**16" O/C Framing**

Step 1: Cut out the dry wall between the joists to create a 23" x 14½" rough opening.

Step 2: Fit the 2.5/2.5e fan through the rough opening and into the attic.

Step 3: Install two 14½" cross pieces creating a box with inside dimensions of 14½" x 22½". Make sure each cross piece partially covers the drywall cut out. Approximately ¼" of each cross piece should be visible from below.

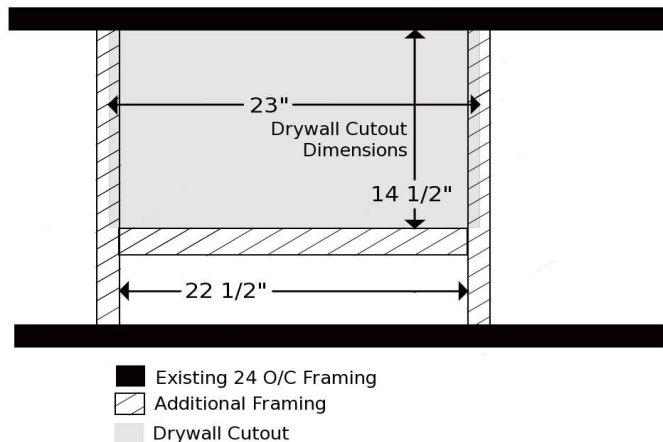


**24" O/C Framing**

Step 1: Cut a 23" x 14½" opening in the dry wall, use an existing joist as the 23" long side.

Step 2: Fit the 2.5/2.5e fan through the rough opening and into the attic.

Step 3: Install cross pieces creating a box with inside dimensions of 14½" x 22½". Make sure each cross piece partially covers the drywall cut out. Approximately ¼" of each cross piece should be visible from below.



## INSTALLATION - DAMPER BOX

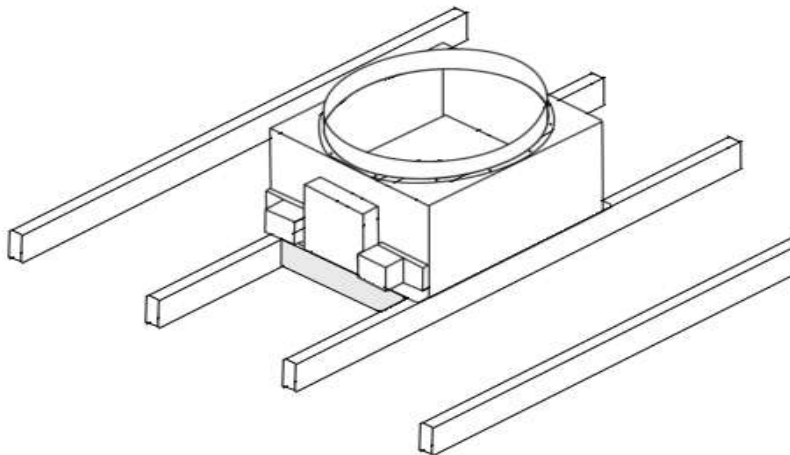
Position the 2.5e damper enclosure on top of the joists so that the damper doors are aligned with the framed rough opening, being sure that there is easy access to the electrical box located on the side of the unit.

The actuator end of the damper box has two “key holes” which are used to attach the damper box to the joists. Mark the location of the “key holes” on the joists by placing the damper box over the rough opening. Remove the damper box and fasten two of the provided wood screws so that the screw head is slightly above the joist. Position the damper box over the “key holes” and slide to lock into position. Use the remaining screws to attach the opposite side of the damper box.

Use a good quality latex caulk to seal all wood-to-wood and wood-to-metal joints to create an airtight enclosure. This is important to ensure that all air drawn in by the fan will be from inside the house.

Attach the interior grille to the joists with the included wood screws.

### 2.5e WHF Damper Enclosure Installed

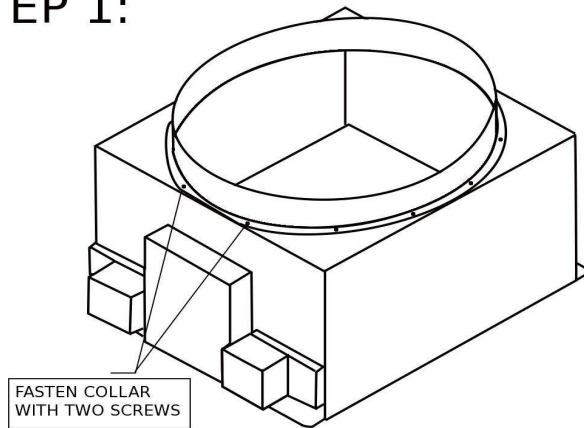


## INSTALLATION - DAMPER COLLAR

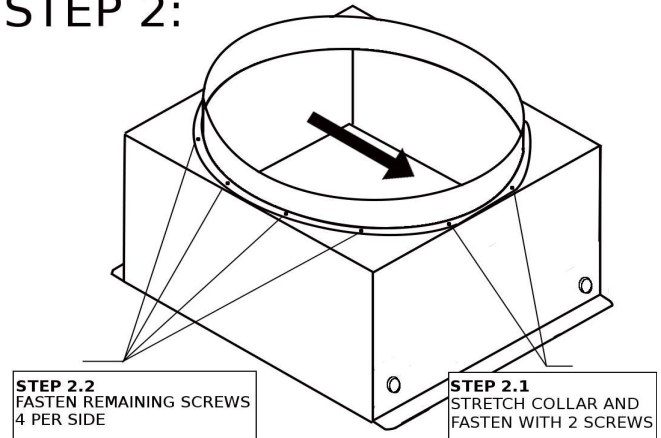
- Remove the two screws holding damper collar in place for shipping and flip collar.
- Position elliptical collar over damper box opening.
- Secure 2 screws at the top of the elliptical as shown below.
- Stretch the collar down until the bottom 2 holes line up with the holes on the damper box body. Fasten.
- Fasten all remaining screws

## Damper Collar Installation

### STEP 1:



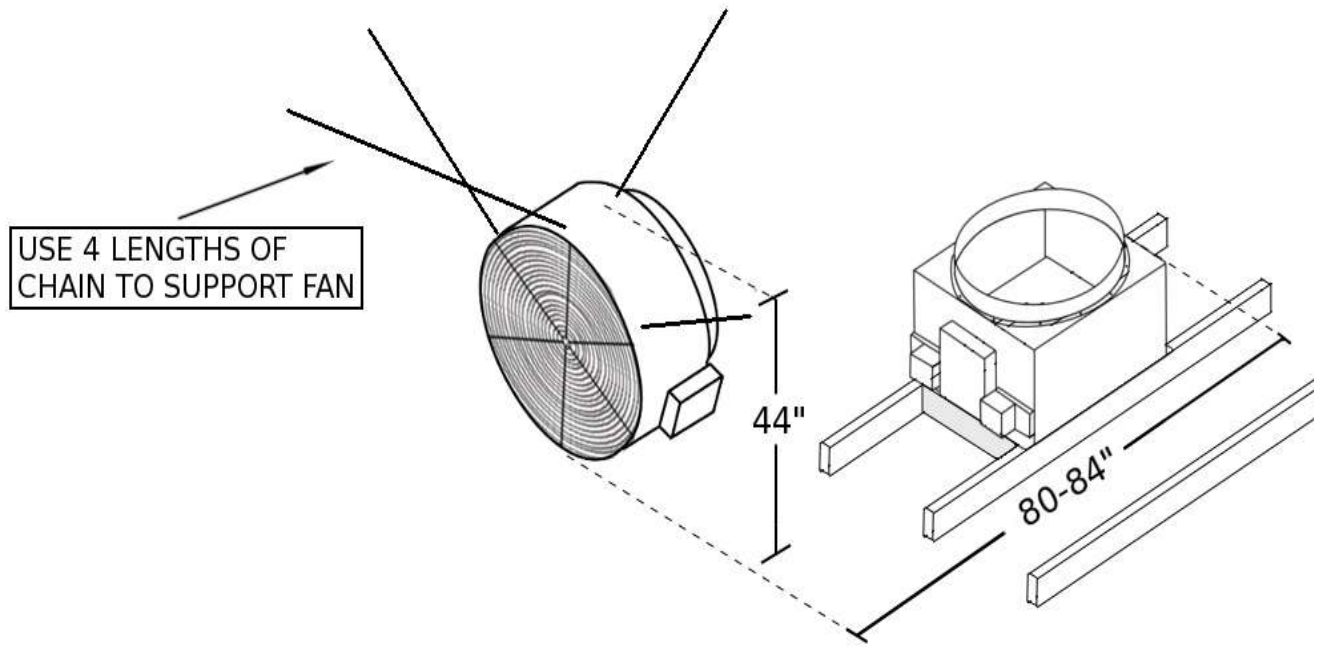
### STEP 2:



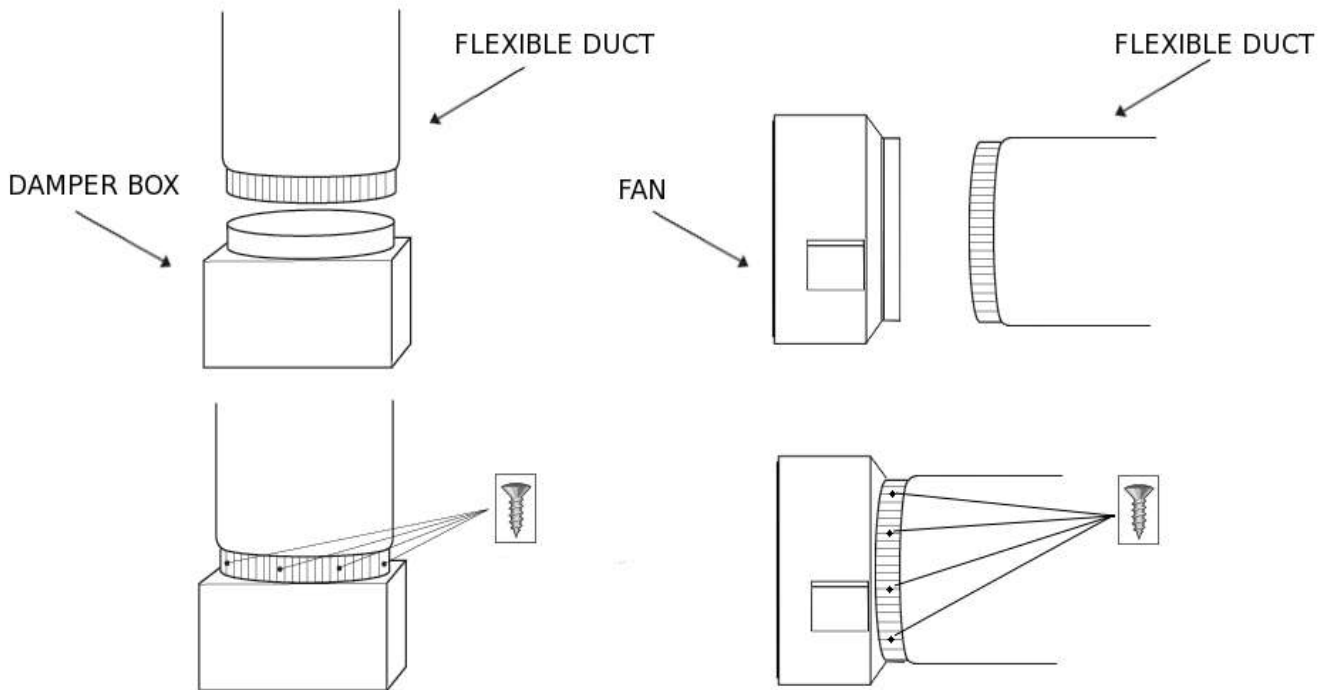
## INSTALLATION - FAN AND DUCT

- Attach 4 S-hooks to 4 of the D-hooks on the fan housing. Hang the fan from the attic rafters using 4 lengths of the supplied chain. The 4 lengths of chain are used to support the weight of the fan and to eliminate any swaying motion. Tape down any unused D-hooks to avoid excess rattling.
- Slide one end of the flexible duct over the damper box collar and fasten with 4 self tapping sheet metal screws. Seal the joint with the included duct tape to make the seam airtight.
- Attach the other end of the flexible duct to the collar on the back of the fan using the remaining sheet metal screws. Finish by wrapping the joint with the provided tape to make the seam airtight.
- The duct should be gently bent 90 degrees for maximum sound attenuation & airflow. Avoid sharp bends in the duct or contact with metal fixtures, pipes, or conduits. The duct section immediately before the fan should be as straight as possible to ensure smooth airflow to the fan.
- Once the fan is balanced and secure, close all S-hooks with pliers to ensure stability.
- Plug the fan control cord with the white male end into the white connector on the damper box.

## Hanging the Fan

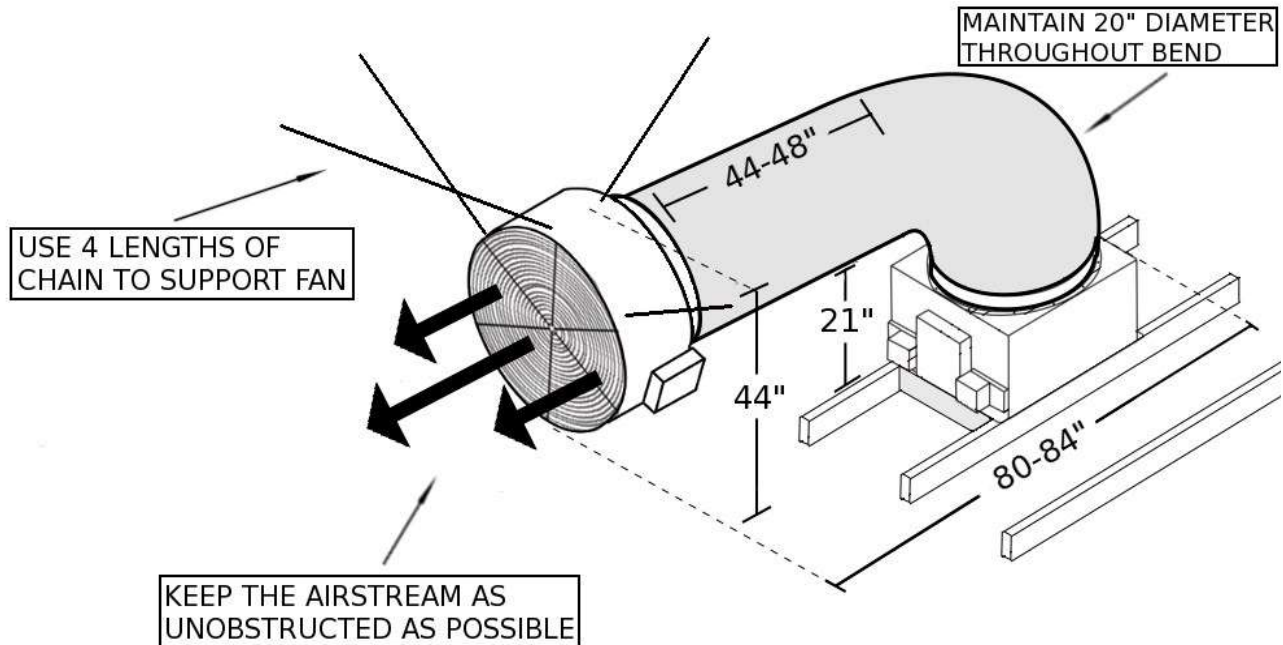


## Duct to Damper and Duct to Fan Connections





## Fully Installed Attic View



## INSTALLATION - WIRING

**Step 1:** Locate the electrical box mounted on the side of the damper box. Look for a series of 5 RJ45 ports on the side of the electrical box with this label:



**Step 2:** Connect the green CAT5 cable from the fan to the green FAN port.

**Step 3:** Run the supplied red CAT5 cable down the wall to the desired location. A 50ft cable is provided for your convenience. Plug the cable into the red W/S port on the electrical box.

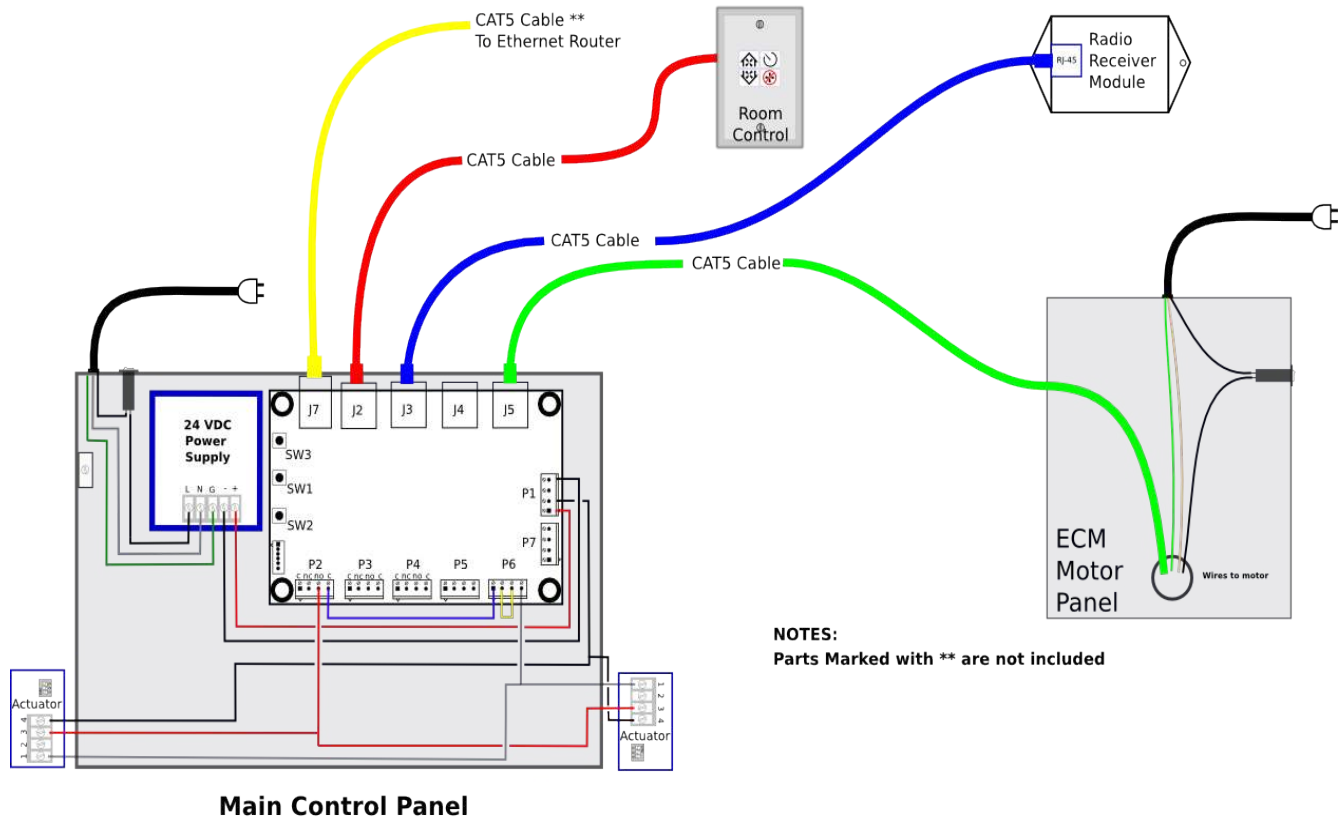
**Step 4:** Using the provided mounting bracket as a template, trace an outline on the wall where you want the wall switch located. Cut out the hole for the mounting bracket.

**Step 5:** Place the mounting bracket in the hole and secure with the locking tabs by tightening the silver screws.

**Step 6:** Connect the red CAT5 cable to the back of the wall switch and set the wall switch in place on the mounting bracket. Secure face plate to the mounting bracket using the attached white screws.

**Step 7:** Plug in the two power cords (one from the fan module and one from the damper unit) into 120-volt outlets with uninterrupted power.

## Wiring Diagram



## OPTIONAL STEPS:

### WIRELESS REMOTES

(see control manual for complete instructions)

**Step 1:** Plug the blue CAT5 cable into the remote receiver and into the blue RMT port on the electrical box. Remove the top cover of the receiver.

**Step 2:** Press and release the black button on the receiver to begin the merge sequence. The transmission LED on the receiver will illuminate.

**Step 3:** Press and release any button on the wireless transmitter while the LED is illuminated.

**Step 4:** Repeat steps 2 and 3 for any additional transmitters.

### WEB CONTROL

Visit our blog: [blog.airscapfans.com](http://blog.airscapfans.com) and type "web control" into the search field. Email [experts@airscapfans.com](mailto:experts@airscapfans.com) or call AirScape at 866-448-4187 for additional questions.

## START UP AND OPERATION

- Verify that there are two (2) plugs from the unit connected to an outlet with uninterrupted 120v power. One from the fan module and one from the damper unit.
- Make sure that all wiring and connections have been made per this manual and acceptable wiring standards and that no tools or construction debris have been left in, on or around the 2.5e WHF.
- Turn the unit ON using the arrow up button on the control. The damper doors will open and there will be a slight delay before the fan turns on. Once the fan starts running, continue turning the fan up until it is running at high speed to verify that the unit runs in all speeds. Allow for a slight delay when changing speeds for the fan to adjust torque. When the fan is turned off the doors will shut tightly within 60 seconds. Use the arrow up and down buttons to increase or decrease speed. The 2.5e has 5 speed settings.
- For additional operating tips, maintenance information or troubleshooting tips, please see the warranty card.

## UNIT SPECIFICATIONS

### 2.5e WHF

<b>Fan Energy Consumption:</b>	5 speed settings: High to low - 210/123/71/39/21 Watts
<b>Airflow</b>	5 speed settings: High to low – 2590/2100/1635/1200/725 CFM
<b>Acoustical:</b>	50 dBA high / 37 dBA low
<b>Damper Box Size:</b>	27"x20.25"x14.25" -- LxWxH
<b>Duct Length:</b>	7 feet
<b>Duct Diameter:</b>	20"
<b>Rough Opening:</b>	14.5"x22.5"
<b>Grille Outer Dimensions:</b>	16"x24"
<b>Grille Build:</b>	Aluminum with cube core center - powder coated white
<b>Electrical:</b>	115 VAC, 60 Hz, 3.3 Max Amps
<b>Speeds:</b>	5
<b>Installation:</b>	Installs easily between 16" O/C joists or 24" O/C joists.
<b>Operation:</b>	Wall mounted hardwired timer switch, Wireless remote with table top transmitter, Web interface capable
<b>Insulation:</b>	R10 insulated damper doors
<b>Warranty:</b>	3 years