



AirScape™

1.7/1.0 WHF

INSTALLATION AND OPERATION GUIDE

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CONGRATULATIONS on your purchase of the Airscape Whole House Fan. This fan is designed to provide you with quiet, economical cooling for many years.

Please take a few minutes to read over the sections below to make sure you are prepared for the installation. The building owner/occupant should read the section "Where to Locate" below so that the unit will be correctly located to maximize usefulness and economy of operation.

If you (or your installer) have any questions regarding the installation, operation, or maintenance, please call your supplier or retailer who has the experience and training to assist you.

WHAT'S IN THE BOX

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

- fan assembly
- grille (including attachment screws)
- dual-speed switch and plate (or optional remote control)
- roll of adhesive backed foam tape
- wood screws to attach fan assembly
- installation instructions

WHERE TO LOCATE

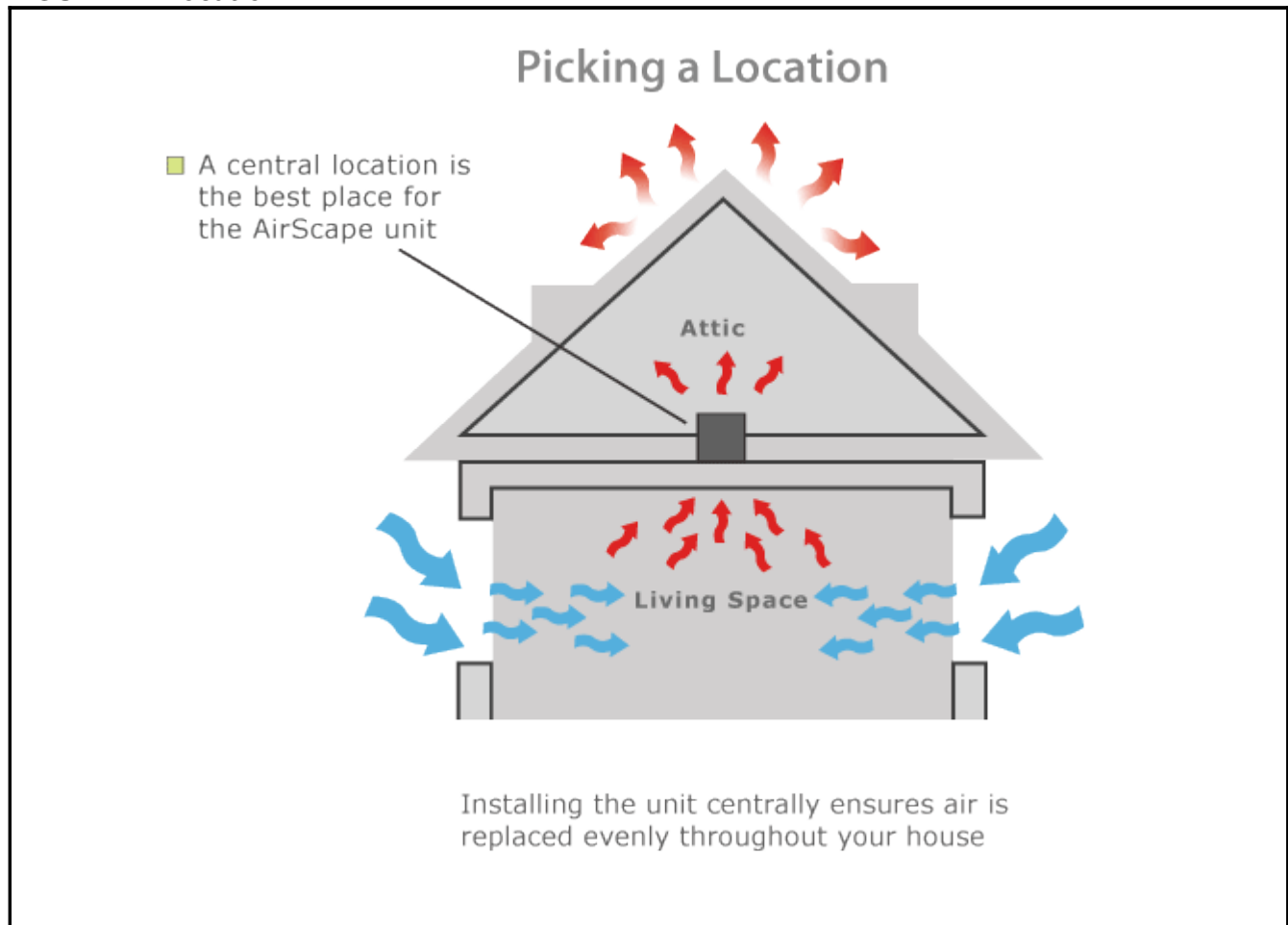
Let's start with a little theory of operation: As your house heats up during the summer day, a large amount of heat is retained in the building structure. Even though many summer evenings offer very comfortable outdoor conditions, we are forced to either endure the hot conditions of our houses, or turn on the air conditioning and subject ourselves to the expense and possibly unhealthy air conditions.

The solution to this problem is certainly not new. Traditional, naturally ventilated, house designs and whole house fans have been around for a long time and offer some solution to this problem.

The AirScape whole house fan, has been designed to run quietly and efficiently all night long. Building materials give up their heat slowly (touch the brick on your house after sunset) and this method of slow cooling extracts as much heat as possible from your house structure. Since the AirScape one of the quietest whole house fans on the market, it also allows you to get a good night's sleep.

The diagram below (**Figure 1**) illustrates how cool air enters an open window and replaces hot air that is exhausted by the fan into the attic.

FIGURE 1 - Location



Ceiling or Wall?

Both the 1.0 & 1.7 can be mounted in the horizontal or vertical orientation. (*NOTE: For the 1.0, make sure the door hinge is in the vertical position.*) Our recommended location is in a ceiling in the horizontal orientation -- keep in mind that it makes sense to place the unit as high as possible to eliminate the hottest air first.

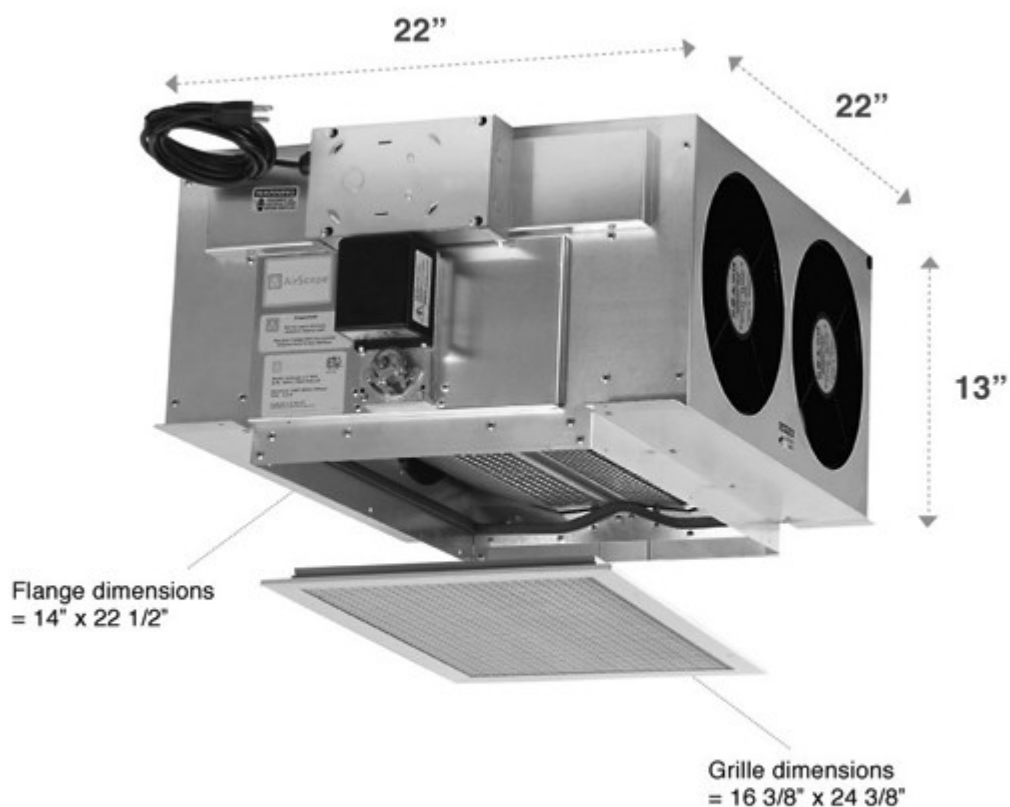
Acoustics:

Even though the fan is extremely quiet, we do not recommend installing the fan in a bedroom, since our perception of noise is far greater when the house is quiet. Hallways may be convenient, but the fan may "sound" noisier because of acoustic "reflections" from hard surfaces such as plaster. Generally, it is recommended to place the fan not in direct line of sight from a bedroom or other acoustically sensitive location. We recommend placing the fan in a central location. Because halls are relatively large "ducts" the fan can be placed virtually anywhere in your house.

UNIT DIMENSIONS

FIGURE 2 – 1.7 Dimensions

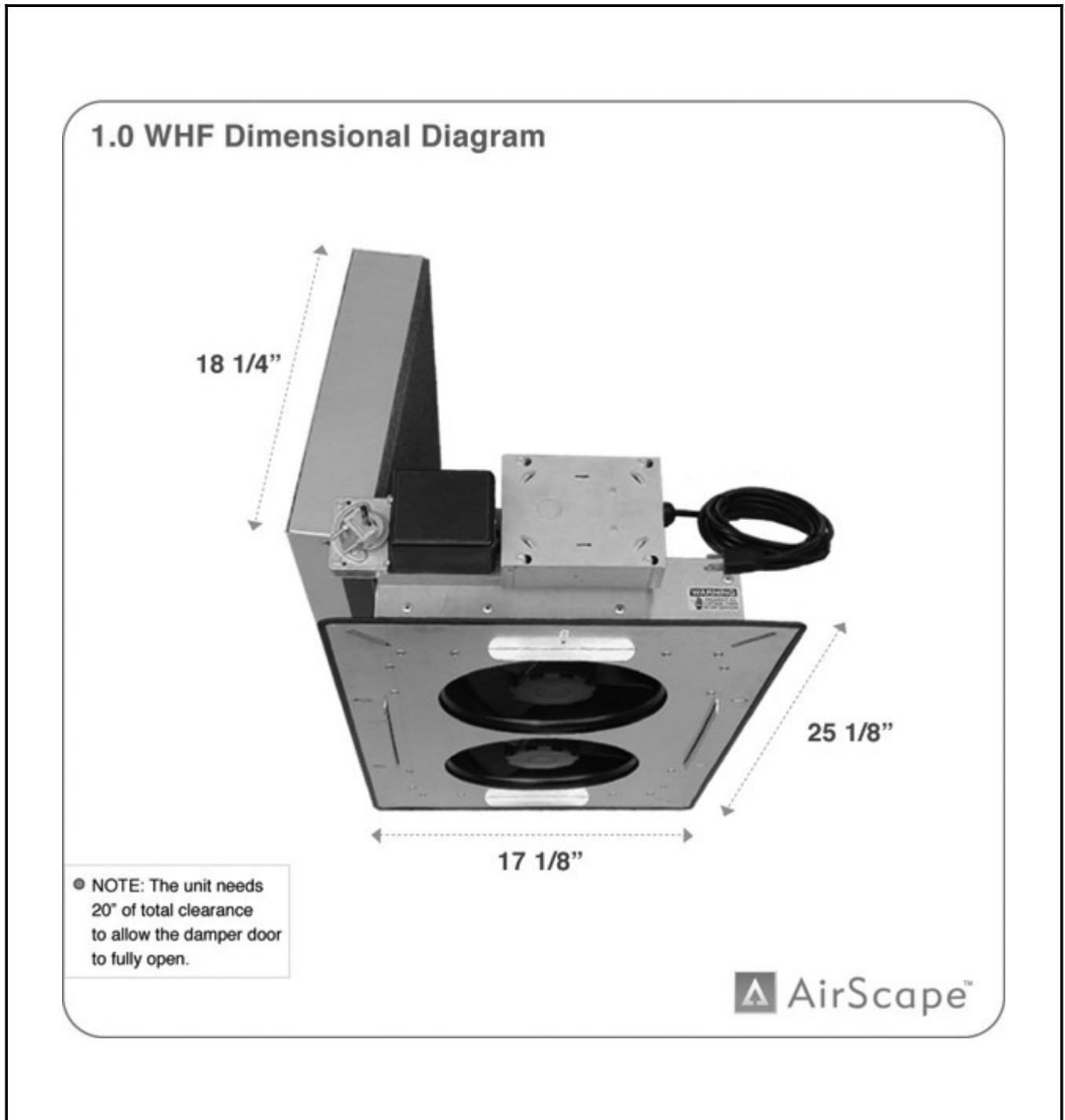
1.7 WHF Dimensional Diagram



- NOTE: The unit mounted junction box extends 3 1/2" beyond the 22" dimension.

 AirScape™

FIGURE 3 – 1.0 Dimensions



- For the 1.0 model, be sure to allow adequate space around the unit to allow the damper door to fully open.

REQUIRED VENTING AREA

For the **1.7 model**, we recommend that your attic has **4 square feet** of "net-free" venting area and for the **1.0 model**, we recommend that your attic has **2 square feet** of "net-free" venting area. First of all, let's define "net-free" area.

***"Net-free"** area is the area of an unobstructed opening that would be equivalent in terms of airflow to the louver or grille, etc.*

For example a 24" x 24" louver, with an area of 4 square feet, would have a net free area of 2 square feet (this is for a particular brand of louver, but the 50% ratio of net to actual is common).

You can obtain net-free area numbers from each manufacturer, but here is a set of handy table that errs on the side of caution.

Example Item	Length (inches)	Width (inches)	Fraction Net Free Area	Net Free Area (square feet)
	L	W	FNA	= L x W x FNA / 144
Louver	16	16	0.5	= 16 x 16 x 0.5 /144 = 0.89
Ridge Vent	48	not used	0.13	= 48 x0.13 /12 = 0.52
Eave Vent	12	4	0.5	= 12 x 4 x 0.5 /144 = 0.16

- In practice, less net-free area (than recommended) will decrease the airflow performance of the unit.
- If you are unsure as to how much net-free venting you have, please consult a roofing professional.
- Net-free venting area can be aquired by any combination of gable vents, eyebrow, soffit, ridge or any means that provide ventilation to the attic space.

INSTALLATION - CARPENTRY

The 1.7 & 1.0 units have been designed to fit into 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.

The illustrations below (*Figures 5 and 6*) show the fans sitting on top of 2"x8" joists. The joists are 16" on-center and have a net space between them of 14½". Two 2x8's (to match existing 2x8" joists), 14½" long have been nailed in place to form the box. If your joists or trusses use 2" x "another depth", please substitute the appropriate depth pieces. Its good practice to seal (caulking sealant) the inside of the formed box to ensure that all air drawn in by the unit will be from inside the house.

Use a stud finder to locate the studs from below or drill pilot holes from above to outline the grille opening in the drywall ceiling. Cut the opening with a drywall cutter. The opening should be 14½" x 22½".

Place the included gasketing over the top of the joists, position the fan on top of the joists, and attach the unit with the wood screws (included). Do not over tighten the screws, since this may reduce the vibration isolation qualities of the gasketing.

The last step is to attach the interior grille to the joists with the included wood screws.

FIGURE 4 – Framing

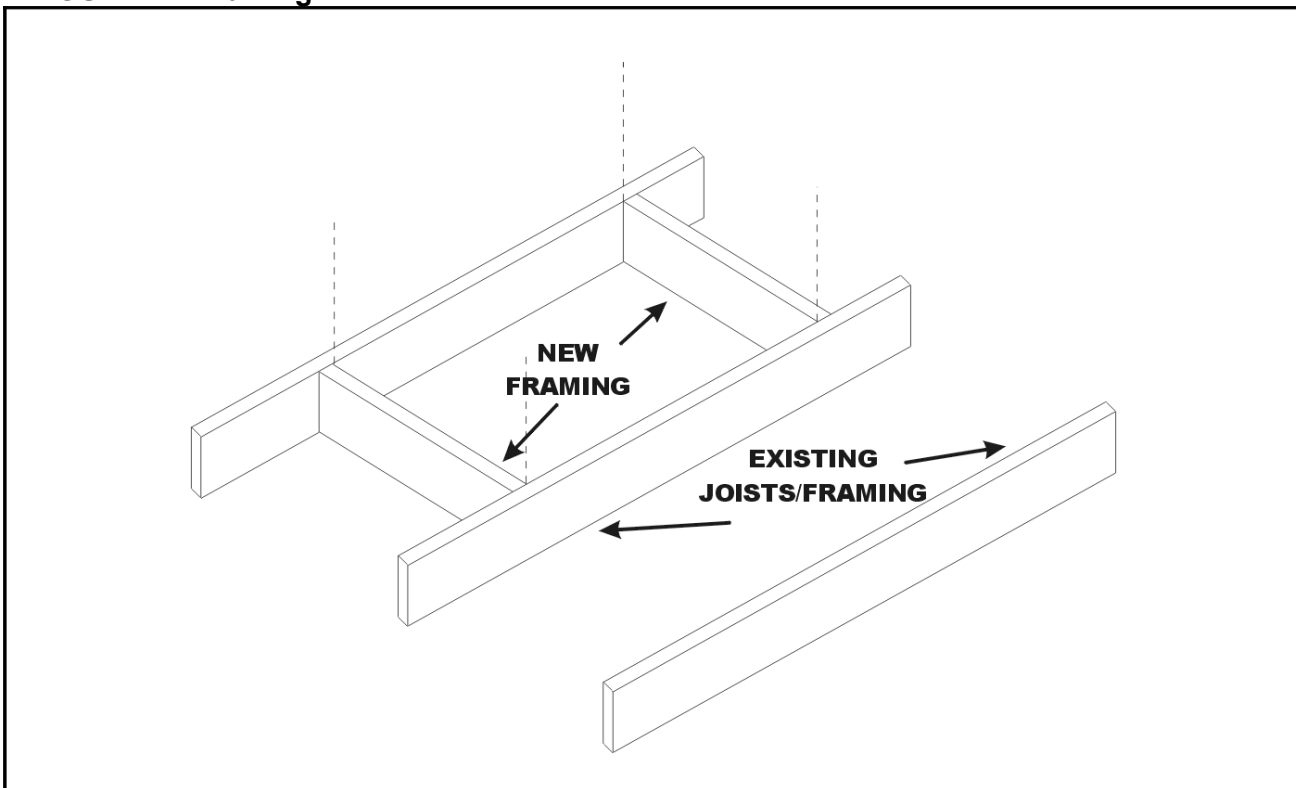
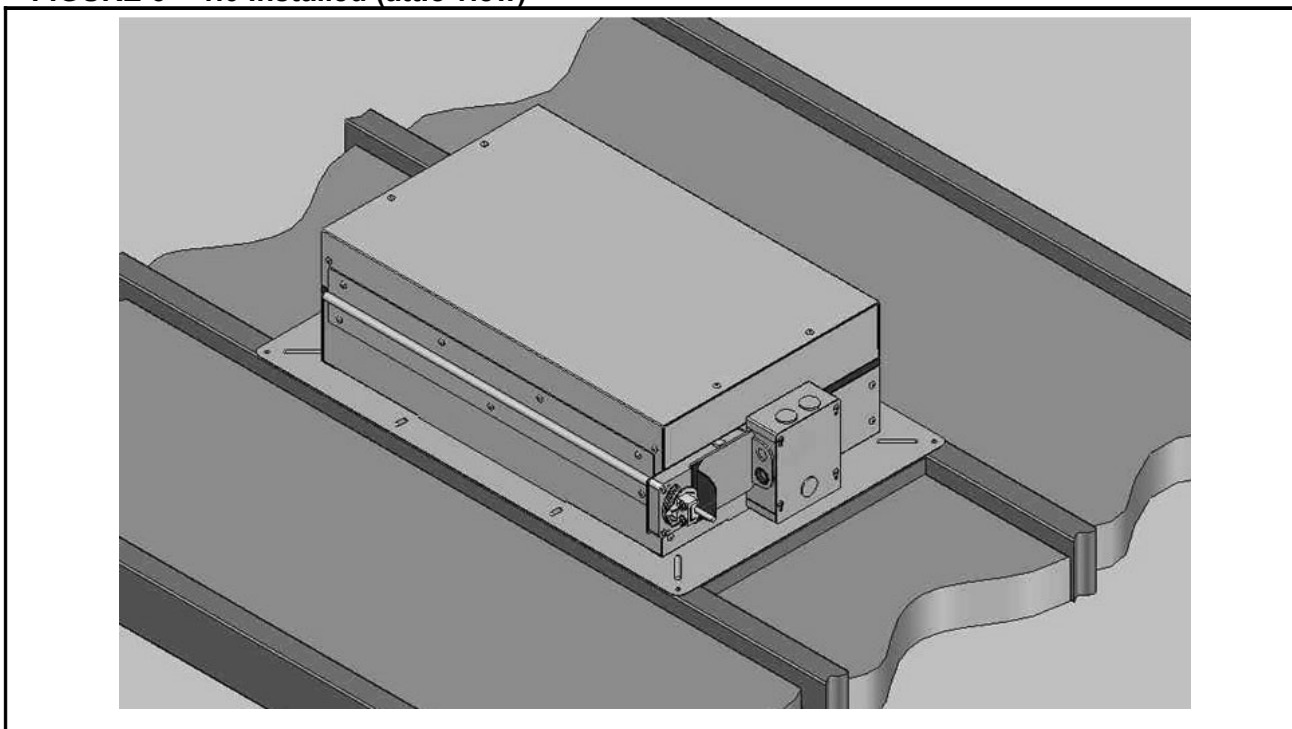


FIGURE 5 – 1.7 Installed (attic view)



FIGURE 6 – 1.0 Installed (attic view)



INSTALLATION – WIRING (HARDWIRED SWITCH)



Please make sure that local codes and standards are followed when performing the following steps. Make sure that the appropriate circuit breakers are turned off and that the unit is unplugged when performing these steps.

The easiest way to wire the 1.7 & the 1.0 is as follows. (see *Figure 7*)

Step 1: Run a 3-wire cable for the 24 VDC low-voltage wiring from the unit to the wall-mounted double switch (included). Connect the control wiring to the switch and the circuit board as shown in **figure 7** below.

Step 2: When ready, plug-in the power cord into a 120-volt outlet. Alternatively, if you want to hardwire the unit, remove the power cord and provide 120-volt power to the unit mounted control/junction box. Connect power to the circuit board inside the control box (see *figure 8*).

The control wall switch must be mounted in an approved electrical box large enough to accommodate the entering wires. Use approved methods such as wire nuts to connect wire ends.

General wiring notes:

- Local codes and standards must be followed in the installation of this unit.
- A dedicated circuit for this unit is not required, however the power requirements of **120 volts, 2 amps (for the 1.7 model)** and **120 volts, 1 amp (for the 1.0 model)** must be taken into account when allocating power from existing electrical circuits.

FIGURE 7 - Wiring with the hardwired switch and the power cord

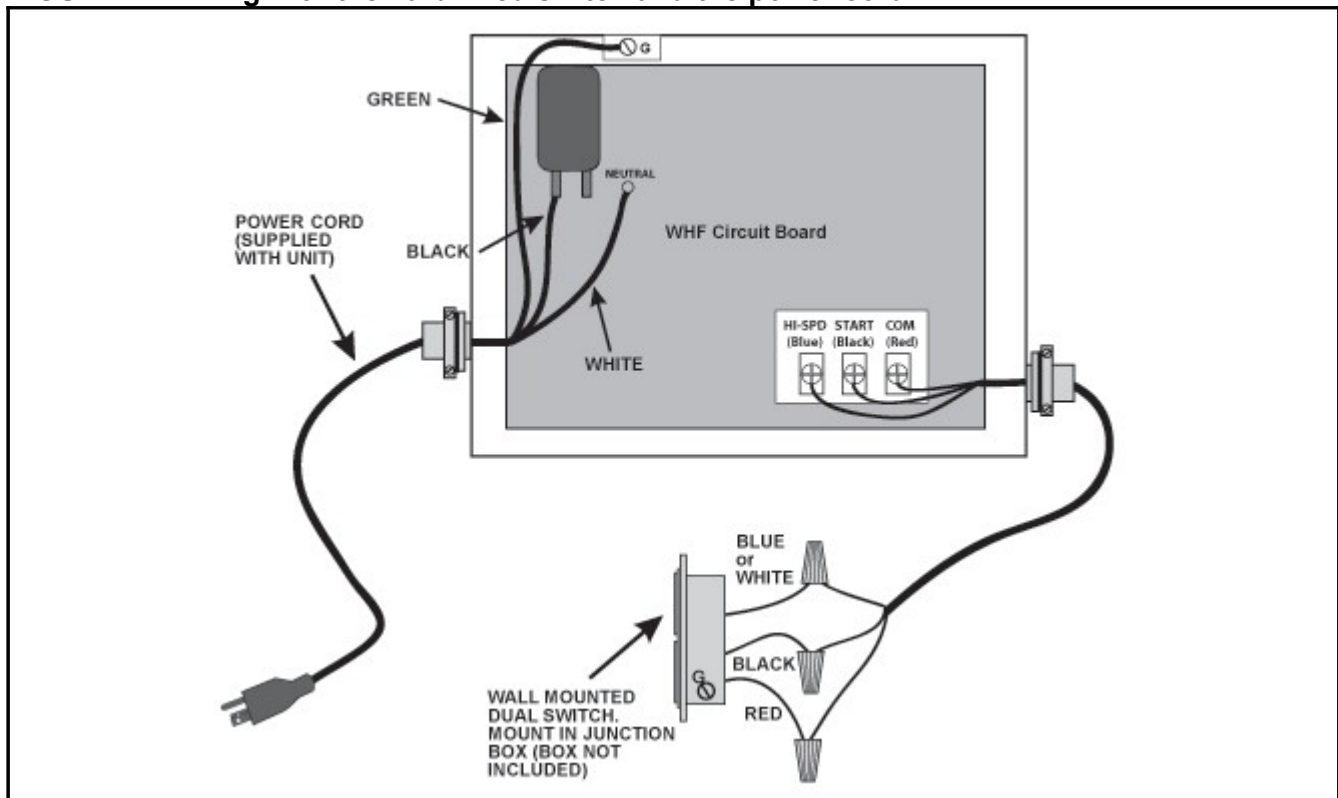
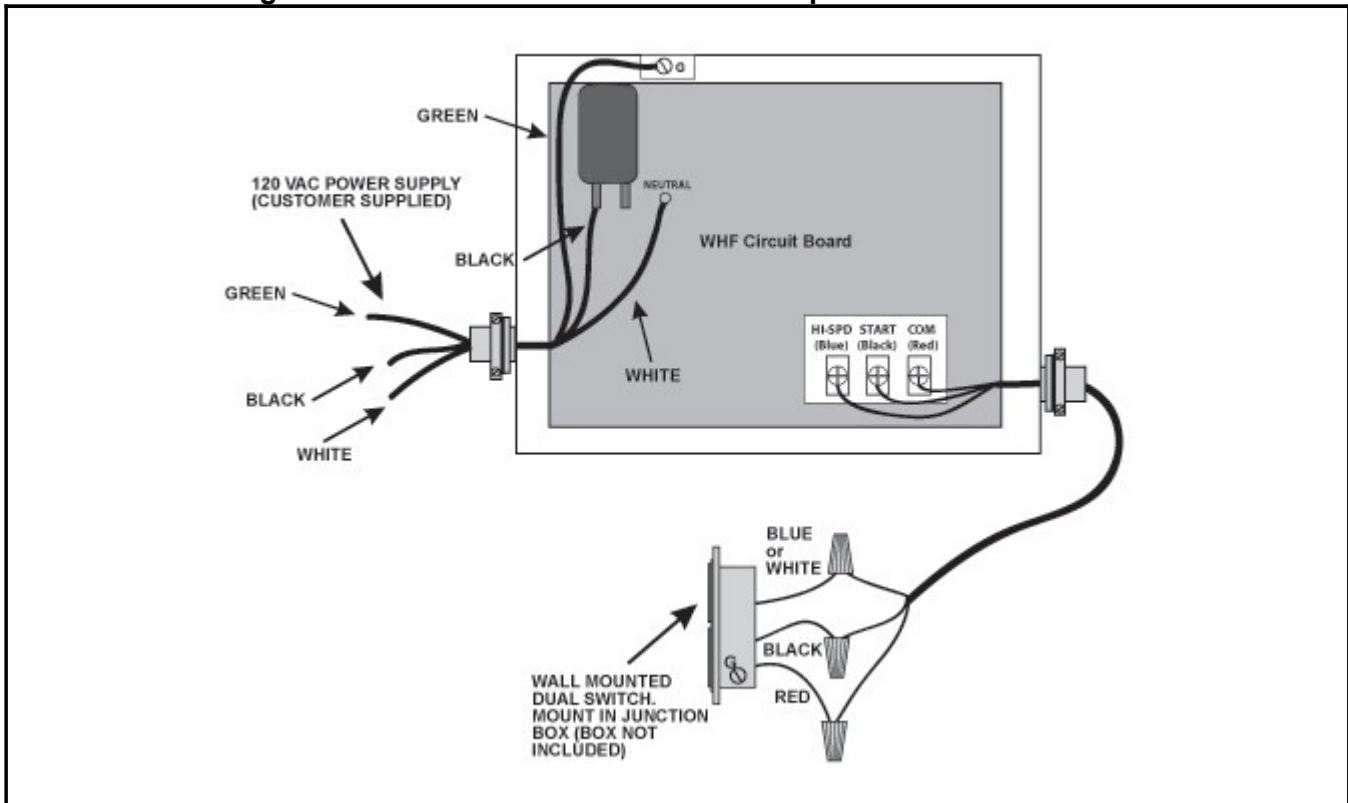


FIGURE 8 – Wiring with hardwired switch and hardwired power



STARTUP AND OPERATION

- Make sure that all wiring and connections have been made per this manual and acceptable wiring standards.
- Make sure that no tools or construction debris have been left inside of the whole house fan.
- Verify that the whole house fan power switch is in the "off" position and turn on electrical power at the circuit breaker.
- Put the power switch to the "on" position, and toggle the fan speed switch, verifying that the unit runs in both high and low speed.
- When the power switch is moved to the "off" position, the fans should shut down and the damper doors begin to close. The doors will shut tightly within 60 seconds.

MAINTENANCE

There is no routine maintenance required for the whole house fan other than to make sure that the fan blades and damper are kept clean of any possible build up of lint or other debris. Blocking the fan discharge during operation could cause premature fan failure if internal temperatures rise to a very high level. Ensure that no items are placed within 2 feet of the fan discharge path.

- Both units have a circuit breaker located at the top of the control box. To reset. Simply push the button back in.

TROUBLESHOOTING

The whole house fan has been factory tested. If you have problems with the unit please take a few minutes to run through the following troubleshooting procedures before calling your installer or retailer.

- 1) Symptom: Unit does not start
Possible causes: No power to unit.
Suggestion 1: Check power to the unit and wiring at both the switches and the unit mounted junction box.
Suggestion 2: Verify that your circuit breaker has been turned back on.
Suggestion 3: If power is verified at the unit, remove all control wiring from the low voltage control side. Jumper 24COM RED terminal to START (BLK). The fans should start and the damper door should open. When the jumper is removed the fans should stop and the damper should close. If the start/stop sequence checks out then there is an issue with field wiring to the switch or remote.
- 2) Symptom: Dampers do not open
Possible causes: No power to damper actuator or damper shaft loose.
Suggestion for **1.7 Models**: Check power to unit and wiring. The actuator (actuator mounted terminal block, not circuit board) should always have power to terminal 3, and terminal 2 when fans running (open damper). Terminal 1 should be the neutral. Verify that the actuator jaws are closed tight on the damper shaft.
Suggestion for **1.0 Models**: Check power to unit and wiring. The actuator (actuator mounted terminal block, not circuit board) should always have 120 V power to terminal 2 and 4, and terminal 3 only when fans running (open damper). Terminal 1 should be the 120 V neutral. Verify that the actuator jaws are closed tight on the damper shaft.
- 3) Symptom: One or more fans do not run
Possible causes: Wiring issue with fan or damaged fan.
Suggestion: Verify factory fan wiring connections at circuit board.
- 4) Symptom: Unit does not run on low speed
Possible causes: Wiring issue.
Suggestion: Verify wiring connections to the low/high speed selector.
- 5) Symptom: Unit does not run on high speed
Possible causes: Wiring issue.
Suggestion: Verify wiring connections to the low/high speed selector.

If you continue to have issues with the unit, or have questions about the installation and wiring, please contact the manufacturer or your local retailer.



Before servicing the unit, switch power off at the electrical panel to reduce the risk of electrical shock, fire, or injury.

TIMECLOCKS – AUTOMATED CONTROLS

Customers may want to control their with a timeclock or other automated device. General considerations for this are:

- The device must have dry contacts (no power on contacts).
- Do not use any automated device which may repeatedly turn the fan on and off or switch speeds within a 3 minute period.
- Please consult your installer, retailer, or the manufacturer if you have any questions regarding the suitability of an electric control device.

SAFETY INFORMATION



Not so obvious - Please Read:

Do not operate the 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.

If people or pets are expected to be in proximity to an operating whole house fan, there is risk of personal injury from the fan blades. If you feel this situation will occur, **DO NOT** operate the fan without a fan guard. Contact the manufacturer for more information on this subject.

LIMITED WARRANTY

AirScape Inc. (Distributor) warrants from the date of purchase that the product supplied by Distributor is free of defects in material and workmanship for a period of 3 years. This includes all moving parts, motors, dampers, and damper actuators.

If a failure of the product occurs, contact Distributor at 866.448.4187 and give the model number of the product, the purchase date, proof of purchase, and a description of the problem. The Distributor will cover shipping charges during the first 6 months of warranty. Customer is responsible for all inbound and outbound shipping charges after the initial 6 month period.

Once a problem is diagnosed, and proof of purchase is verified, the Distributor will have the option of shipping the necessary repair part(s) to the Customer or having the product returned to the Distributor for repair or replacement.

If the Distributor finds the returned product to be in operating condition, the product will be returned to the customer at customer's expense. Distributor reserves the right to obtain a credit card authorization for possible freight charges or non-return of defective parts/unit.

Specific warranty exclusions:

Except as provided by this express warranty, the goods are sold without any implied warranties.

This limited warranty does not cover labour or field diagnosis, nor does it cover failure of the installer to follow installation instructions, damage resulting from accident, misuse or abuse, lack of maintenance, improper installation.

In no event, shall the Distributor be liable for any special, incidental, or consequential damages resulting from any defect in material or workmanship. It is expressly understood that Buyer's sole and exclusive remedy shall be repair or replacement of defective parts.

1.7 UNIT SPECIFICATIONS

Unit Size:	22"x22"x13" (LxWxH)
Weight:	35 lbs
Rough Opening:	14.5"x22.5"
Grille Outer Dimensions:	16 3/8" x 24 3/8"
Grille Build:	Aluminum with cube core center - powder coated white
Electrical:	115 VAC, 60 Hz
Fan Energy Consumption:	140 watts total (4 fans)
Speeds:	Two-Speed (High/Low)
Airflow - High Speed:	1700 CFM
Airflow - Low Speed:	1000 CFM
Acoustical - High Speed:	3.5 Sones
Acoustical - Low Speed:	2 Sones
Installation:	Installs easily between either 16" or 24" O/C joists
Operation:	Dual SPST switch (Decora style). Supplied with unit. Optional remote control available.
Insulation:	2-inch fiberglass R-7
Warranty:	3 years

1.0 UNIT SPECIFICATIONS

Unit Size:	27.5" x 17.25" x 8" (LxWxH) - <i>requires at least 20" of overhead clearance for the damper door.</i>
Weight:	26 lbs
Rough Opening:	14.5" x 22.5"
Grille Outer Dimensions:	16 3/8" x 24 3/8"
Grille Build:	Aluminum with cube core center - powder coated white
Electrical:	115 VAC, 60 Hz
Fan Energy Consumption:	70 watts total (2 fans)
Speeds:	Two-Speed (High/Low)
Airflow - High Speed:	1000 CFM
Airflow - Low Speed:	600 CFM
Acoustical - High Speed:	3 Sones
Acoustical - Low Speed:	2 Sones
Installation:	Installs easily between either 16" or 24" O/C joists
Operation:	Dual SPST switch (Decora style). Supplied with unit. Optional remote control available.
Insulation:	3" PolyISO R-22
Warranty:	3 years