



# TJERNLUND PRODUCTS, INC.

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## CRAWL SPACE VENTILATOR MODELS V1, V1D, V2D

**READ OWNERS INSTRUCTIONS CAREFULLY PRIOR TO INSTALLATION.  
THESE INSTRUCTIONS MUST REMAIN WITH EQUIPMENT. DO NOT DESTROY.**



MODEL V1



MODEL V1D



MODEL V2D

### DESCRIPTION

The Tjernlund UnderAire™ Series Crawl Space Ventilators are designed to circulate fresh outdoor air underneath homes and porches. Excessive humidity levels in Crawl Spaces is the leading cause of premature rotting of support columns, joists, floors and beam supports. Humidity can promote fungus growth and increased termite activity. Humidity may also cause plumbing failures due to rust and corrosion. Constant operation helps vent radon gases, treated wood off-gassing and other odors that might migrate into living areas. Deluxe models (V1D & V2D) are controlled by a dehumidistat which actuates the fan if the relative humidity rises above the selected set-point.

**IMPORTANT:** All Ventilator models are equipped with a factory installed and pre-wired thermostat which will prevent operation of the fan below 35°F outdoor temperature. Normal operation of the fan will resume once the temperature outside rises near 50° F.

### SPECIFICATIONS

#### MODEL V1 Ventilator:

Capacity: 110 CFM  
Motor: 115 Volts ~ 50/60 Hz  
0.30 amps maximum  
Thermostat: On at 50°F  
Off at 35°F  
Dimensions: 14 3/8" x 6 7/8" x 2"  
Mounting Plate Smallest  
Trimable Dimensions: 9 3/8" x 5 3/8"

#### MODEL V1D Ventilator:

Capacity: 110 CFM  
Motor: 115 Volts ~ 50/60 Hz  
0.30 amps maximum  
Thermostat: On at 50°F  
Off at 35°F  
Dehumidistat: 20% - 80% RH Range  
Dimensions: 18" x 9" x 2"  
Mounting Plate Smallest  
Trimable Dimensions: 9 3/4" x 6"

#### MODEL V2D Ventilator:

Capacity: 220 CFM  
Motors: 2 @ 115 Volts ~ 50/60 Hz  
0.60 amps maximum  
Thermostat: On at 50°F  
Off at 35°F  
Dehumidistat: 20% - 80% RH Range  
Dimensions: 18" x 9" x 2"  
Mounting Plate Smallest  
Trimable Dimensions: 14" x 6"

### GENERAL INFORMATION

Each UnderAire™ Crawl Space Ventilator is electrically factory line tested before shipment.

After opening carton, inspect thoroughly for shipment damage. Fan should rotate freely and all electrical wires and connections should be secured. If any damage is found, notify freight carrier and your distributor immediately and file a concealed damage claim.

### RECOMMENDED VENTILATION RATE

Calculate the cubic area of the crawl space by multiplying the length x width x height. Divide this number by 15 to determine the minimum CFM necessary to fully ventilate the space in 15 minutes. Example: 20' wide x 40' long x 3' high crawl space = 2,400 cubic ft. 2400 cubic ft. divided by 15 minutes = 160 CFM of ventilation. Choose two V1 or V1D ventilators or one V2D ventilator.

## INSTALLATION

### WARNING

The Crawl Space Ventilator must be installed by a qualified installer in accordance with these instructions and all local codes or in their absence in accordance with the latest editions of the International Residential Code and International Electrical Code. Improper installation can create a hazardous condition such as fire, electric shock or personal injury. To reduce these risks significantly, use this unit only in the manner intended by the manufacturer. If you have questions, contact Tjernlund Products. Always disconnect the Crawl Space Ventilator from its power source before installation and servicing.

**CAUTION:** For general ventilation use only. Do not use to exhaust hazardous or explosive materials and vapors.

**WARNING:** To reduce the risk of fire or electric shock, do not use this fan with any solid-state speed control device.

## TOOLS REQUIRED

- 5/16" Nut Runner or Flat Head Screw Driver
- Drill with 5/16" Masonry Bit if mounting on brick or foundation block
- Grounded Electrical Outlet within 6 feet of Ventilator location (Models V1D & V2D). Model V1 must be hard wired.

## INSTALLATION

### LOCATION

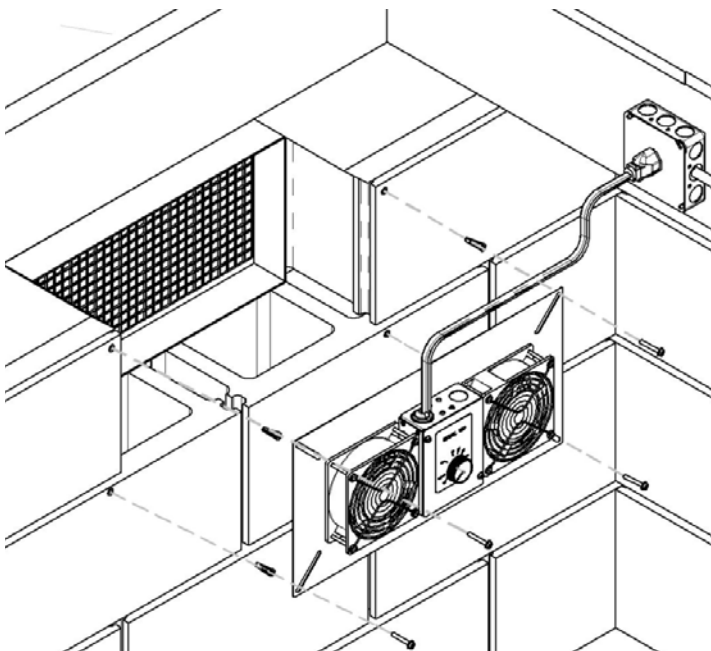
Mount Crawl Space Ventilator inside the crawl space behind existing foundation ventilation openings. Ventilation openings shall be within three feet of each corner of the building.

**NOTE:** Crawl Space Ventilator must be mounted with the electrical control box and motor facing the interior of the crawl space.

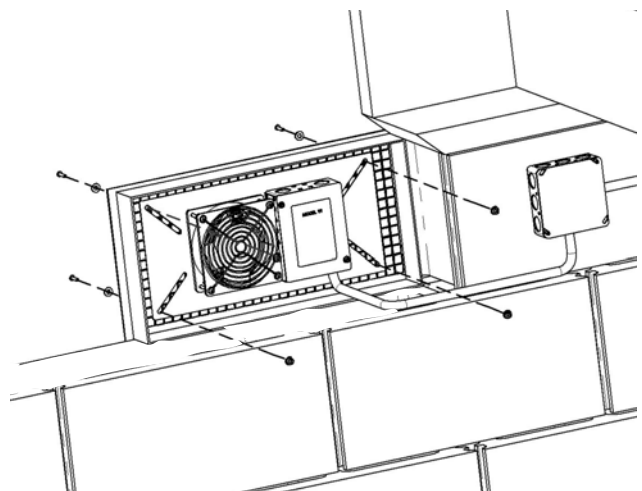
1. Remove existing doors or covers on ventilation openings around the perimeter of the building.
2. Position the Crawl Space Ventilator over the ventilation opening.
3. If installing on foundation block or brick, mark location in the four corners of the metal face plate and drill 5/16" holes with masonry bit. Install wall anchors into openings and secure Crawl Space Ventilator to the wall with four screws.

If installing on a wood header, rim joist or mesh on existing crawl space vent, secure Crawl Space Ventilator with screws, washers and nuts in the four corners of the Ventilator metal face plate.

**TYPICAL MODEL V1D & V2D MOUNTING**  
(Model V2D Shown)



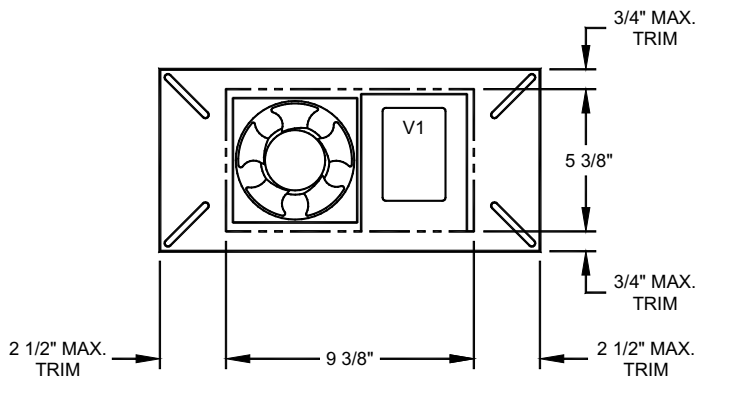
**TYPICAL MODEL V1 MOUNTING**



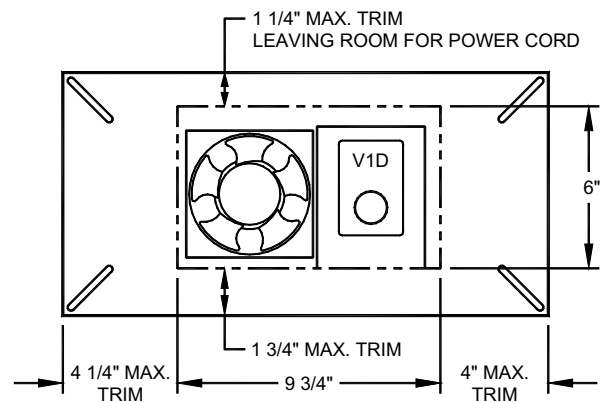
## MOUNTING PLATE TRIM DIMENSIONS

The following trim recommendations should be followed if the mounting plate needs to be modified to fit opening.  
**IMPORTANT:** Use caution when trimming mounting plate so power cord is not damaged.

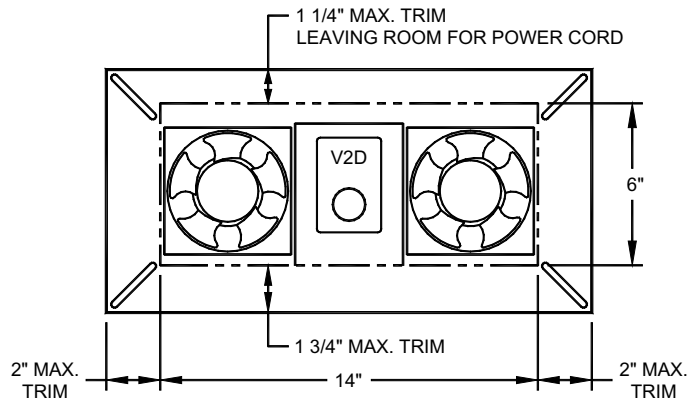
### MODEL V1



### MODEL V1D

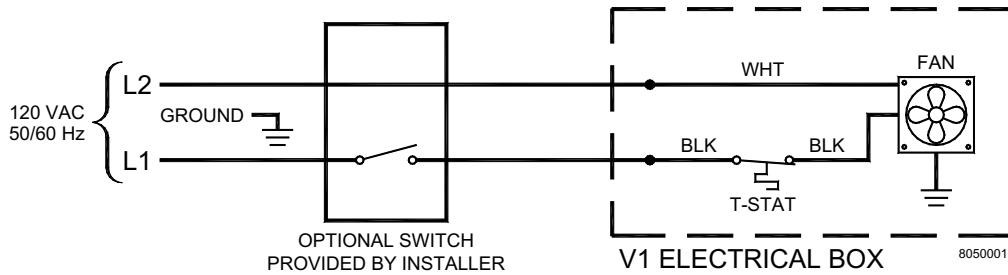


### MODEL V2D

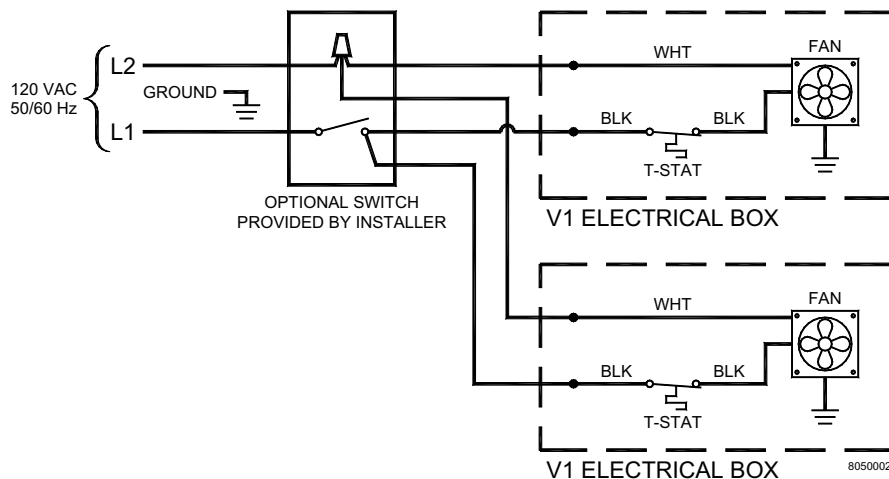


## WIRING

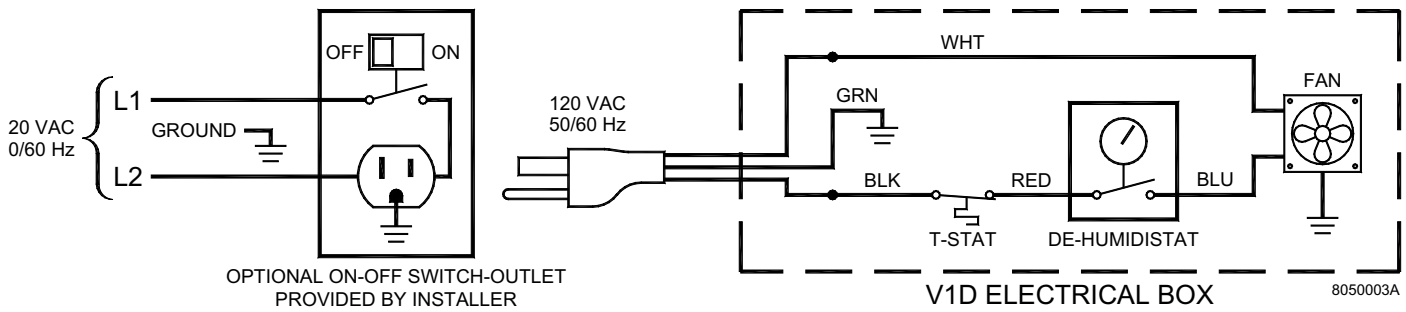
### WIRING A SINGLE MODEL V1



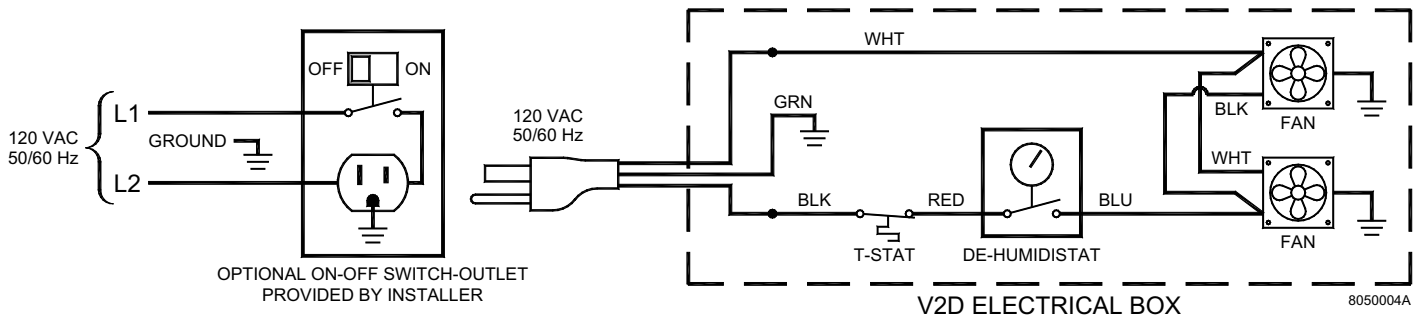
### WIRING MULTIPLE MODEL V1's



## MODEL V1D INTERNAL WIRING



## MODEL V2D INTERNAL WIRING



## FREEZE PROTECTION THERMOSTAT ACTIVATION RANGE

**IMPORTANT:** All Ventilator models are equipped with a factory installed and pre-wired thermostat which will prevent operation of the fan below 35°F outdoor temperature. Normal operation of the fan will resume once the temperature outside rises near 50° F. **NOTE:** Models V1D & V2D with dehumidistat control also will not operate if the freeze protection thermostat senses low outdoor temperatures.

## WARRANTY

### TJERNLUND LIMITED ONE YEAR WARRANTY

Tjernlund Products, Inc. warrants to the original purchaser of this product that the product will be free from defects due to faulty material or workmanship for a period of (1) year from the date of original purchase or delivery to the original purchaser, whichever is earlier. Remedies under this warranty are limited to repairing or replacing, at our option, any product which shall, within the above stated warranty period, be returned to Tjernlund Products, Inc. at the address listed below, postage prepaid. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF, AND TJERNLUND PRODUCTS, INC. EXPRESSLY DISCLAIMS LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF THIS PRODUCT. THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES AND NO AGENT IS AUTHORIZED TO ASSUME FOR US ANY LIABILITY ADDITIONAL TO THOSE SET FORTH IN THIS LIMITED WARRANTY. IMPLIED WARRANTIES ARE LIMITED TO THE STATED DURATION OF THIS LIMITED WARRANTY. Some states do not allow limitation on how long an implied warranty lasts, so that limitation may not apply to you. In addition, some states do not allow the exclusion or limitation of incidental or consequential damages, so that above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which may vary from State to State. Send all inquiries regarding warranty work to Tjernlund Products, Inc. 1601 9th Street, White Bear Lake, MN 55110-6794. Phone (651) 426-2993 • (800) 255-4208 • Fax (651) 426-9547 • Email fanmail@tjfans.com.