

VANGUARD Series 48" Slant Wall and Cone Direct Drive Fans

Installation & Operator's Instruction Manual



Chore-Time Warranty

Chore-Time Equipment ("Chore-Time") warrants each new Chore-Time product manufactured by it to be free from defects in material or workmanship for one year from and after the date of initial installation by or for the original purchaser. If such a defect is found by the Manufacturer to exist within the one-year period, the Manufacturer will, at its option, (a) repair or replace such product free of charge, F.O.B. the factory of manufacture, or (b) refund to the original purchaser the original purchase price, in lieu of such repair or replacement. Labor costs associated with the replacement or repair of the product are not covered by the Manufacturer.

Conditions and Limitations

1. The product must be installed by and operated in accordance with the instructions published by the **Manufacturer or Warranty will be void.**
2. Warranty is void if **all components** of the system are not original equipment supplied by the **Manufacturer.**
3. This product must be purchased from and installed by an authorized distributor or certified representative thereof or the Warranty will be void.
4. Malfunctions or failure resulting from misuse, abuse, negligence, alteration, accident, or lack of proper maintenance shall not be considered defects under the Warranty.
5. This Warranty applies only to systems for the care of poultry and livestock. Other applications in industry or commerce are not covered by this Warranty.

The **Manufacturer** shall not be liable for any **Consequential or Special Damage** which any purchaser may suffer or claim to suffer as a result of any defect in the product. "**Consequential**" or "**Special Damages**" as used herein include, but are not limited to, lost or damaged products or goods, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs and operational inefficiencies.

THIS WARRANTY CONSTITUTES THE MANUFACTURER'S ENTIRE AND SOLE WARRANTY AND THIS MANUFACTURERE EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSES SOLD AND DESCRIPTION OR QUALITY OF THE PRODUCT FURNISHED HEREUNDER.

Chore-Time Distributors are not authorized to modify or extend the terms and conditions of this Warranty in any manner or to offer or grant any other warranties for Chore-Time products in addition to those terms expressly stated above. An officer of CTB, Inc. must authorize any exceptions to this Warranty in writing. The Manufacturer reserves the right to change models and specifications at any time without notice or obligation to improve previous models.

Effective: **April 2002**

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Thank You

The employees of Chore-Time Equipment would like to thank your for your recent Chore-Time purchase. If a problem should arise, your Chore-Time distributor can supply the necessary information to help you.

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General

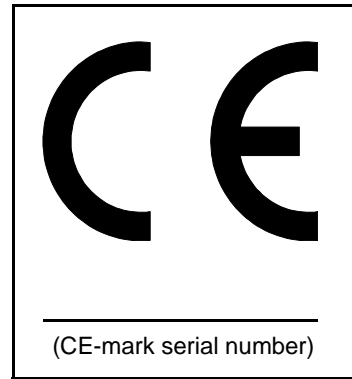
Support Information

The Chore-Time 48" Vanguard Series Cone and Slant Wall Fans are designed to be used as exhaust fans. The Fans are shipped assembled. Using this equipment for any other purpose or in a way not within the operating recommendations specified in this manual will void the warranty and may cause personal injury.

This manual is designed to provide comprehensive planning, installation, safety, operation, and parts listing information. The Table of Contents provides a convenient overview of the information in this manual. The Table of Contents also specifies which pages contain information for the sales personnel, installer, and consumer (end user).

IMPORTANT: CE stands for "Certified Europe". It is a standard which equipment must meet or exceed in order to be sold in Europe. CE provides a benchmark for safety and manufacturing issues. **CE is required only on equipment sold in Europe.**

Chore-Time Equipment recognizes the CE Mark and pursues compliance in all applicable products. *Fill in the CE-Mark serial number in the blank space provided for future reference.*



Distributor and Installer Information

Please fill in the following information about your Product.
Keep this manual in a clean, dry place for future reference.

Distributor's Name _____

Distributor's Address _____

Distributor's Phone _____ **Date of Purchase** _____

Installer's Name _____

Installer's Address _____

Installer's Phone _____ **Date of Installation** _____

System Specifications _____

About This Manual

The intent of this manual is to help you in two ways. One is to follow step-by-step in the order of assembly of your product. The other way is for easy reference if you have questions in a particular area.

Important ! Read ALL instructions carefully before starting construction.

Important ! Pay particular attention to all SAFETY information.

- *Metric measurements are shown in millimeters and in brackets, unless otherwise specified. " " equals inches and " ' " equals feet in English measurements.*

Examples:

1" [25.4]

4' [1 219]

- Optional equipment contains necessary instructions for assembly or operation.
- Major changes from the last printing will be listed on the back cover.
- This Planning Symbol is used in areas where planning needs to take place before construction continues.
- Very small numbers near an illustration (*i.e.*, 1257-48) are identification of the graphic, not a part number.



Safety Information

Caution, Warning and Danger Decals have been placed on the equipment to warn of potentially dangerous situations. Care should be taken to keep this information intact and easy to read at all times. Replace missing or damaged safety decals immediately.

Using the equipment for purposes other than specified in this manual may cause personal injury and/or damage to the equipment.



Safety–Alert Symbol

This is a safety–alert symbol. When you see this symbol on your equipment, be alert to the potential for personal injury. This equipment is designed to be installed and operated as safely as possible...however, hazards do exist.

Understanding Signal Words

Signal words are used in conjunction with the safety–alert symbol to identify the severity of the warning.



DANGER indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



CAUTION indicates a hazardous situation which, if not avoided, **MAY** result in minor or moderate injury.

Follow Safety Instructions

Carefully read all safety messages in this manual and on your equipment safety signs. Follow recommended precautions and safe operating practices.

Keep safety signs in good condition. Replace missing or damaged safety signs.

Decal Descriptions

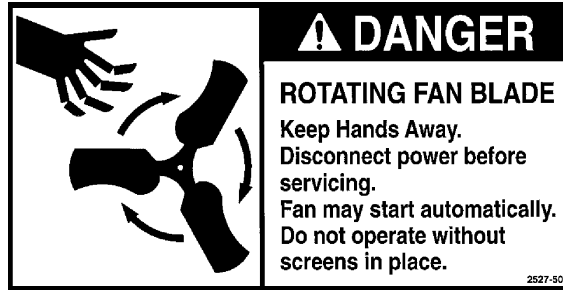


Figure 1. Danger Decal Part Number 2527-50

DANGER: Rotating Fan Blade (Part Number 2527-50)

- This Decal is placed on both sides of the shroud.
- Keep hands away.
- Disconnect power before servicing.
- The Fan may start automatically.
- Do not operate the Fan without the screens in place.

Disregard to the above mentioned **DANGER** will cause serious injury including death.

Decal Placement

This diagram shows the proper location of the safety decal “**DANGER—ROTATING FAN BLADE**” as shipped from the factory.

- Keep all Safety Signs and decals in good condition.
- Replace damaged or missing decals.
- Make sure the decals may be seen at all times.

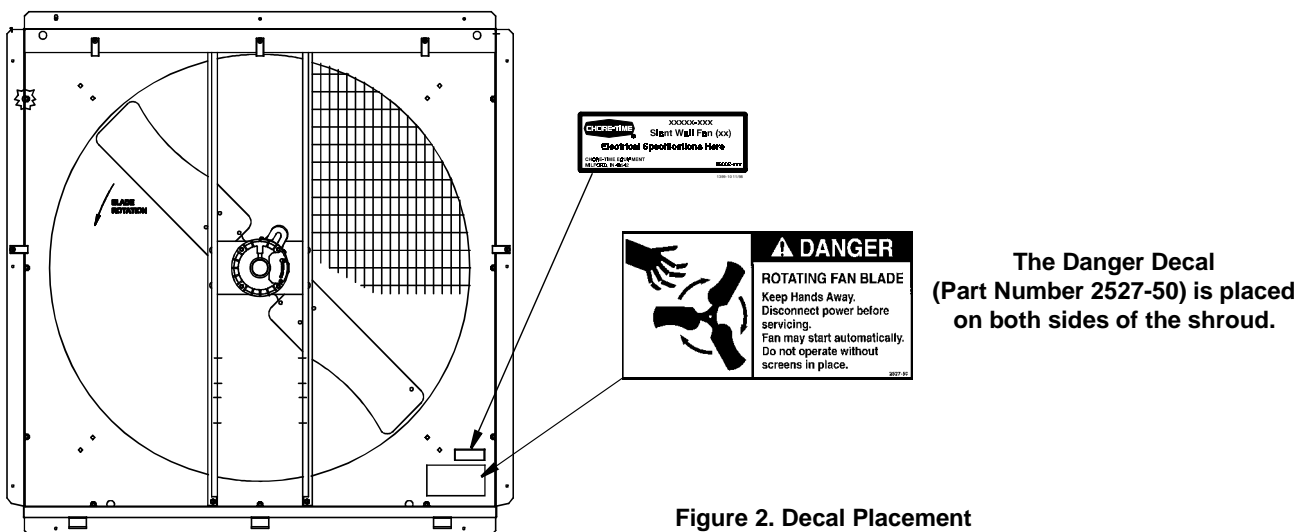


Figure 2. Decal Placement

MV1624-025 02/00

Technical Information

Motor choices and specifications are provided in the Parts List section of this manual. See **Page 15** Fan Motor specifications.

Important! **Chore-Time Equipment strongly recommends that a good alarm system should be installed in confinement buildings to warn of power failure and high temperature.**

Chore-Time Equipment also recommends that an alternate power source be available for confinement buildings in case of power failure.

Wiring: See wiring diagram on Motor for Motor electrical Specifications. Chore-Time Equipment recommends that you follow local, state and national electric codes for wiring.

Tools Required

- Regular Screwdriver
- Hammer
- 1/2" Open End Wrench or Socket Wrench with 1/2" Socket
- Wire Cutters & Strippers
- Adequate Size & Quantity of Electrical Wire
- 5/16" Hex Key Wrench
- 5/16" Open End Wrench or a 12 Point 3/8" Socket and Ratchet

Fan Installation

Important! The 48" Cone and Slant Wall Fan must be installed in a side wall.

Build Fan framing out of 2" [50 mm] lumber (not supplied). The required rough opening is provided in the table below. Allow a minimum 4" spacing between framed openings for adjacent Cone Fan. Allowing a 4" spacing will provide clearance for the mounting flange. The Slant Wall Fans can be mounted closer together, do not overlap flanges.

Insert the Fan Assembly in the framed opening in the side wall

Center the Fan Assembly in the framed opening, left to right. Allow the Fan Housing to set on the bottom of the framed opening.

Secure the Fan Assembly to the framed opening, using the included 1/4" x 1-3/4" Lag Screws starting with the center holes in each panel. The end holes will also be used for attaching the Corner Flange Angles.

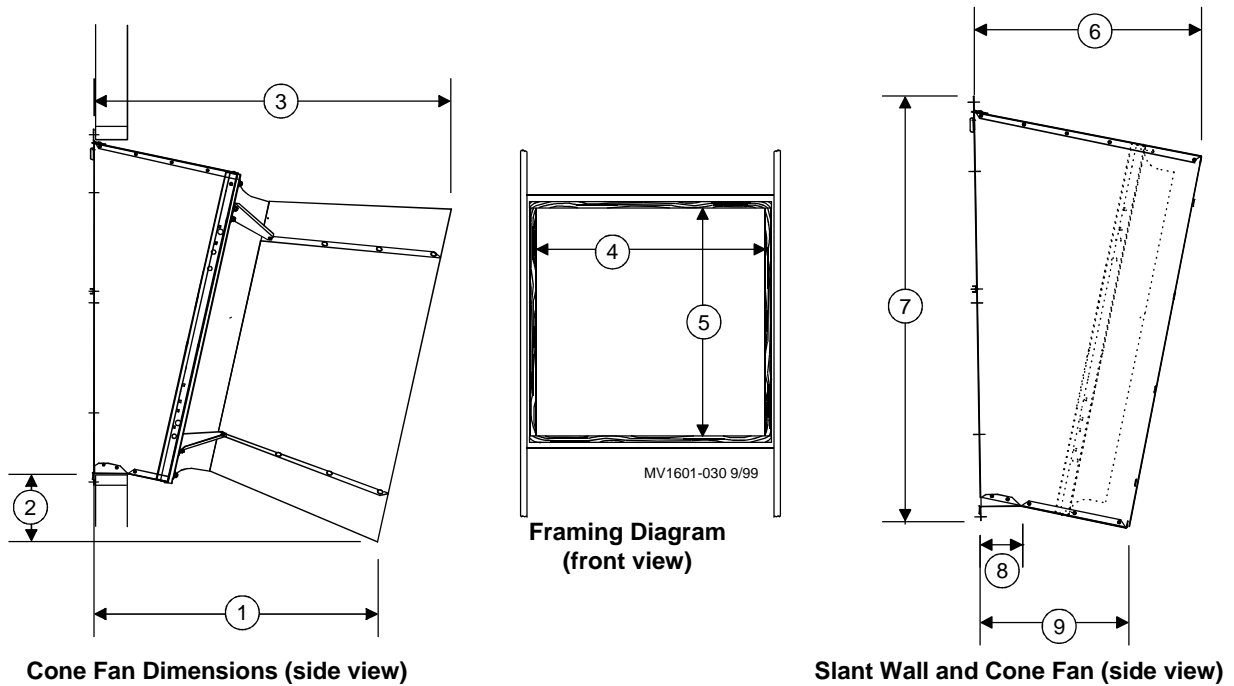


Table 1. Framing Size

Item	Description	Dimension
1	Bottom Length	41"
2	Vertical Dim. of Cone	8"
3	Top Length	53-1/4"
4	Rough Opening	55"
5	Rough Opening	57-1/2"
6	Top Length	33-3/8"
7	Height	60-7/8" x 58.3"
8	Slant Dim.	5-3/4"
9	Bottom Length	21"

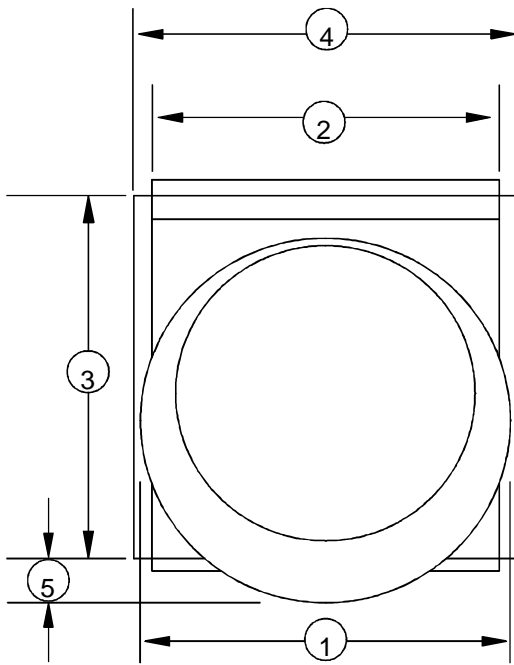
Figure 3. Slant Wall and Cone Fan Framing Dimensions

Fan Dimensions

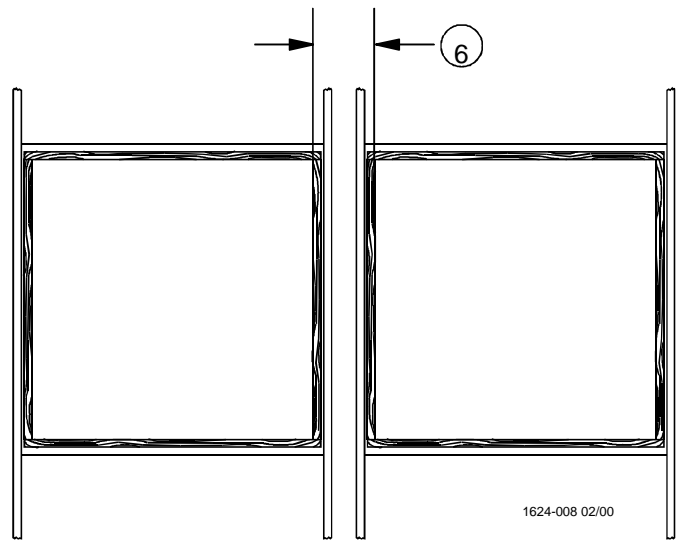


Planning the layout of the spacing between Cone Fans is very important. **SPACING TO CLOSE TOGETHER WILL CAUSE INTERFERENCE** with the cones.

Allow a minimum 4" spacing between framed openings for adjacent Cone Fans.



Cone Fan Dimensions
(Item 5. is for Cone Fans Only)



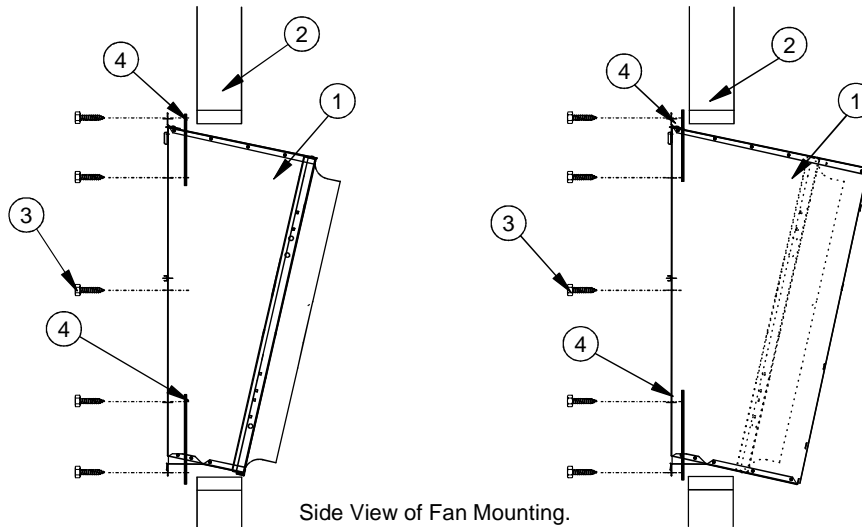
Spacing between framed openings 4".

Table 2. Fan Dimensions						
	1	2	3	4	5	6
48" DD Fans	58.25" [148.0 cm]	54.5" [138.4 cm]	57" [144.8 cm]	57" [144.8 cm]	9.5" [24.13 cm]	4" Min. Spacing [10.16 cm] Critical for Cone Fans

Figure 4. Slant Wall/Cone Fan spacing between framed openings.

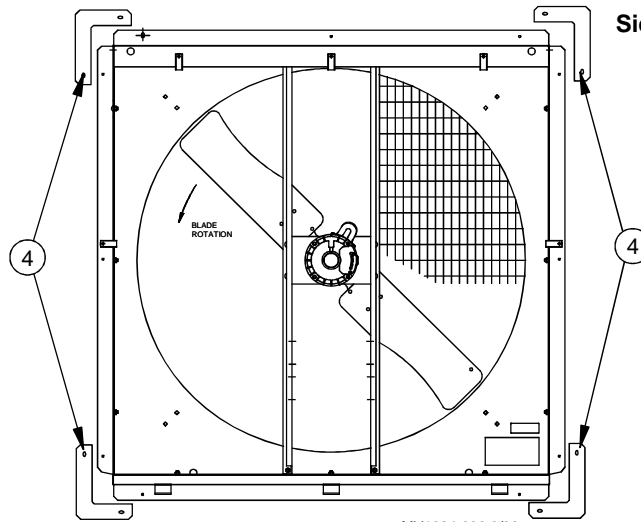
Fan Assembly

Assemble the Corner Flange Angles in each corner of the Fan, by sliding the Corner Flange Angle under all edges of Flange Corners, secure with lag screws. The Slant Wall and Cone Fans are mounted the same way, as shown.



Side View of Cone Fan and Flange Assembly

Side View of Slant Wall Fan and Flange Assembly



Front View of Corner Flange Angle Assembly to the Fan.

Front View of Flange Angle and Fan assembly.
The Flange Angles are to be placed between the building and the Fan Flange.

Item	Description
1	Fan Assembly
2	Side Wall of Building
3	1/4"x1-3/4" Lag Screw
4	Corner Flange Angles

Figure 5. Corner Flange Angle Assembly

Cone Assembly

The Cone must be assembled and installed in the field.

Important! The Fan must be installed in the wall before installing the Cone to the Fan.

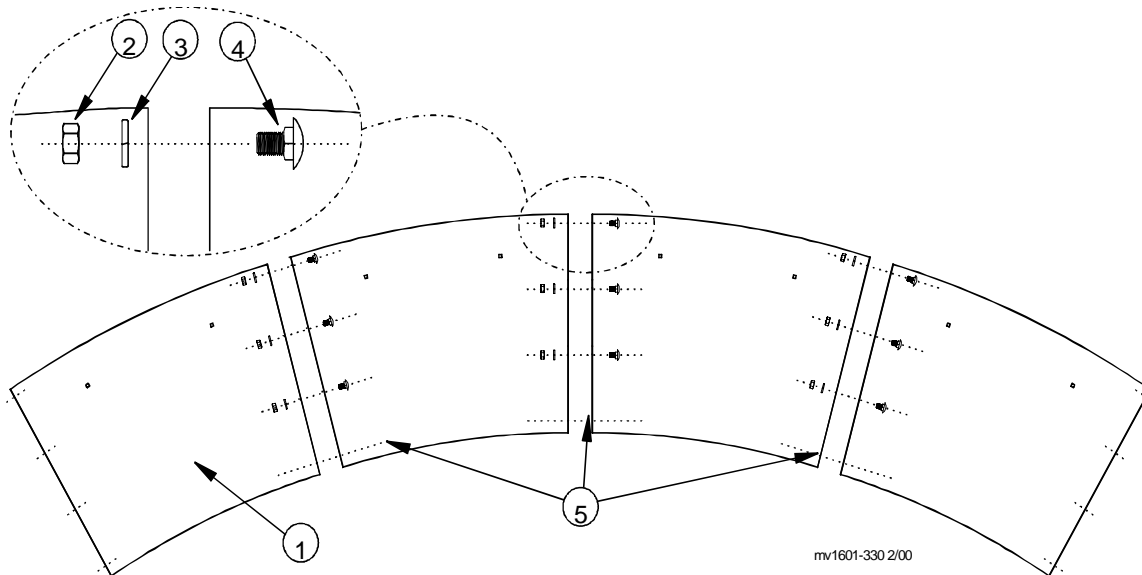
Lay the Cone Panels, with the flanges up, on a flat surface, as shown in **Figure 6**.

Important! Do not tighten the hardware.

Loosely, fasten the Side Panels together with (3) 5/16-18 x 5/8" carriage bolts, (3) 3/8" lock washers, and (3) 5/16"-18 hex nuts per joint. Only install hardware at the locations shown in **Figure 6**.

Set the Cone Side Panels up and align the ends to create the cone shaped housing. **Loosely**, secure the ends similar to the other joints

Note: The flanges should be on the outside of the Cone



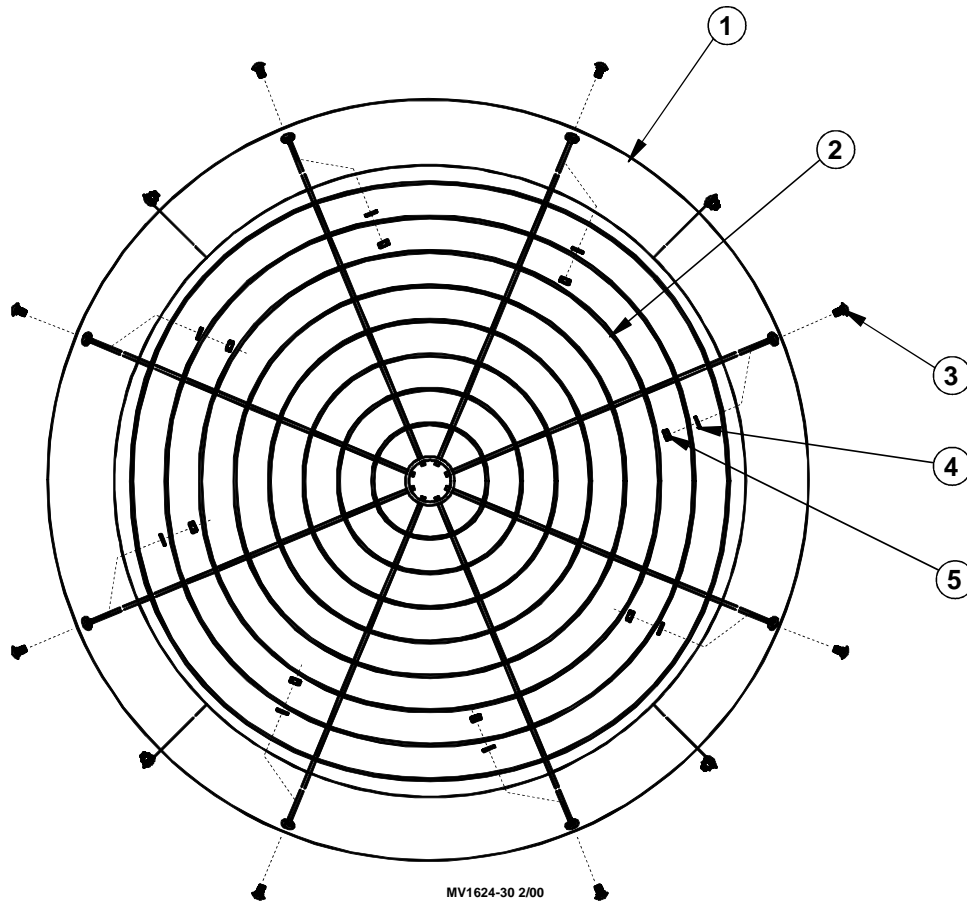
Cone Assembly		
Item	Description	Part Numbers
1	Cone Panel	37805
2	5/16-18" Hex Nut	2145
3	3/8" Lock Washer	5747
4	5/16-18 x 5/8" Carriage Bolt	8282
5	Do not install Hardware here.	

Figure 6. Cone Assembly (Top View)

Grill Installation

Notice: Position the Grill in the larger end of the Cone Assembly.
 Secure the Grill in place using the 5/16"-18 carriage bolts, 3/8" lock washers, and 5/16"-18 hex nuts. See Figure 7.

This will help maintain the shape of the Cone Assembly while it is being secured to the Fan Shroud.



Grill Installation		
Item	Description	Part Numbers
1	48" EZ Fan Cone Kit	37935
2	Grill	37630
3	5/16-18" Hex Nut	2145
4	3/8" Lock Washer	5747
5	5/16-18 x 5/8" Carriage Bolt	8282

Figure 7. Grill Installation Diagram

Secure each Cone Hanger Bracket to the Fan Shroud, using 5/16"-18 carriage bolts, 3/8" lock washers, and 5/16"-18 hex nuts. See Figure 8.

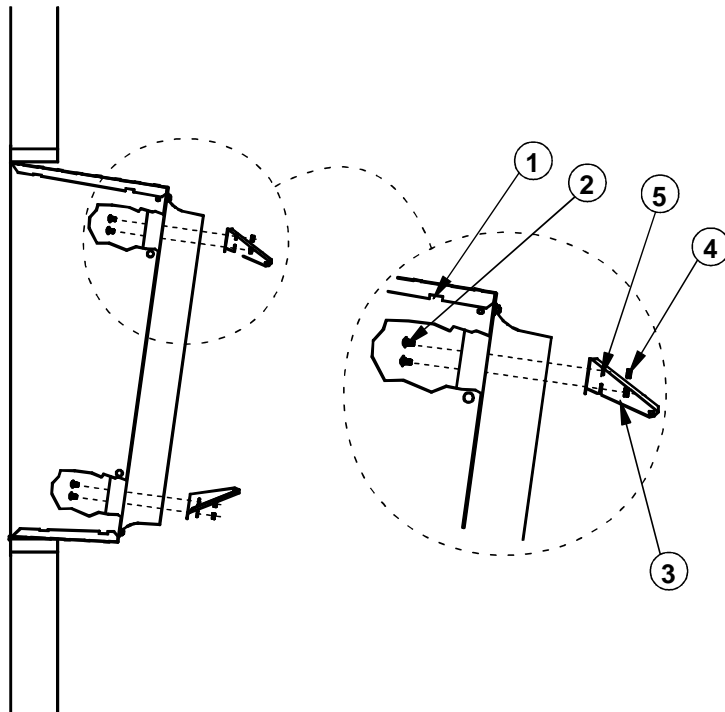


With the help of an assistant, lift the Cone Assembly to the Fan Shroud.

Slide the smaller end of the Cone Assembly over the Fan Shroud. Rotate the Cone Assembly to align the Panel Joints with the Cone Hanger Brackets.

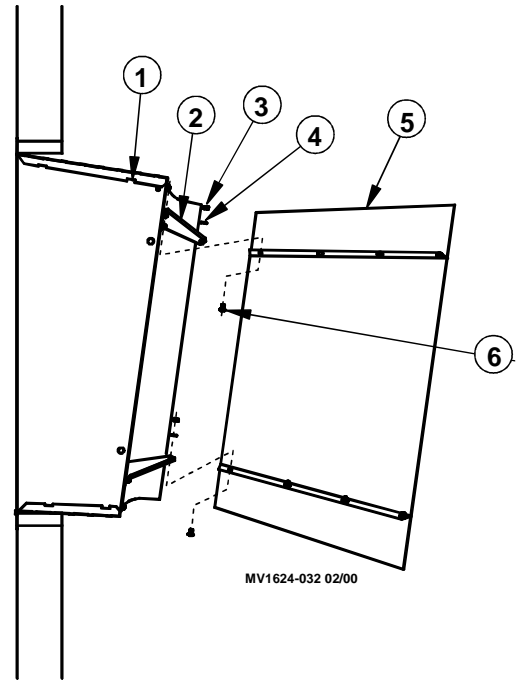
Secure the Cone Assembly to the Cone Hanger Brackets using (1) 5/16"-18 carriage bolt, 3/8" lock washer, and 5/16"-18 hex nut. See **Figure 8 and 9**.

Tighten all the hardware after the cone assembly is secure and in place.



Hanger Bracket Installation		
Item	Description	Part Number
1	Fan Assembly	44647-4820
2	5/16-18 x 5/8" Carriage Bolt	8282
3	Cone Hanger Bracket	37806
4	5/16-18" Hex Nut	2145
5	3/8" Lock Washer	5747

Figure 8. Hanger Bracket Installation (Side View)



Cone Assembly		
Item	Description	Part Number
1	Fan Assembly	44647-4820
2	Cone Hanger Bracket	37806
3	5/16-18" Hex Nut	2145
4	3/8" Lock Washer	5747
5	48" EZ Fan Cone Kit	37935
6	5/16-18 x 5/8" Carriage Bolt	8282

Figure 9. Cone Installation (Side View).

Shutter Installation and Part Numbers

Plastic and Aluminum Shutters are available.

The Bottom Panel is designed with 3 tabs to hold either Shutter. **Shown in Figure 10.** Slide the bottom of the Shutter into position in the Bottom Panel Slots, lean the Shutter back and lock it in place by rotating the Shutter Clips. Check the Shutter for proper operation—the shutter must be able to open and close freely without obstructions.

Note: For both the Aluminum or Plastic Shutter, route the motor cord through the Knock-outs.

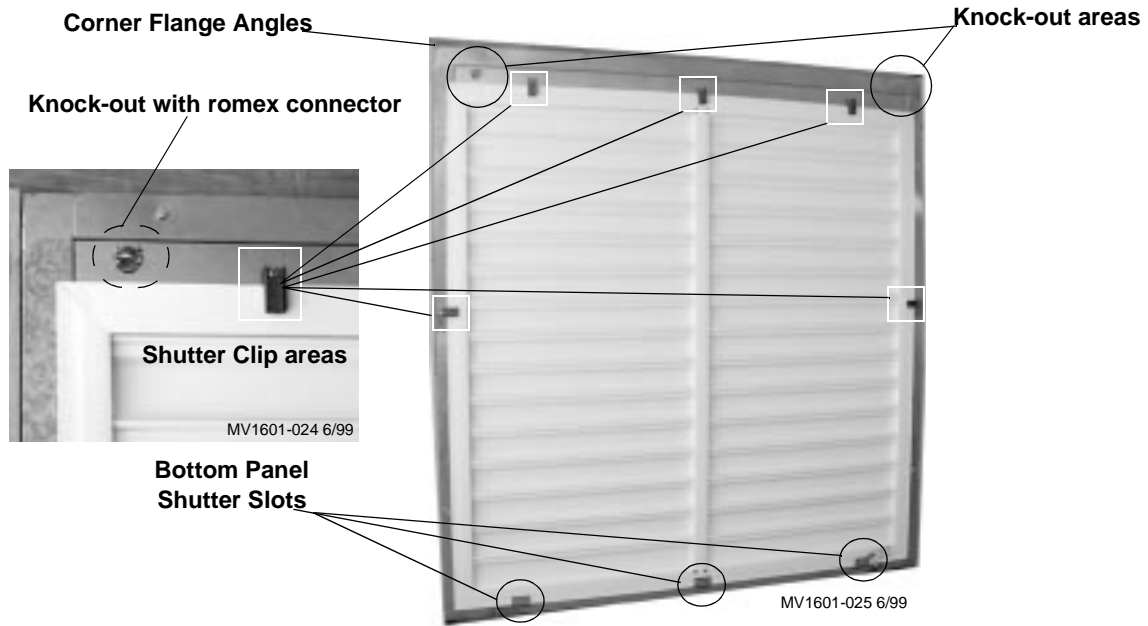
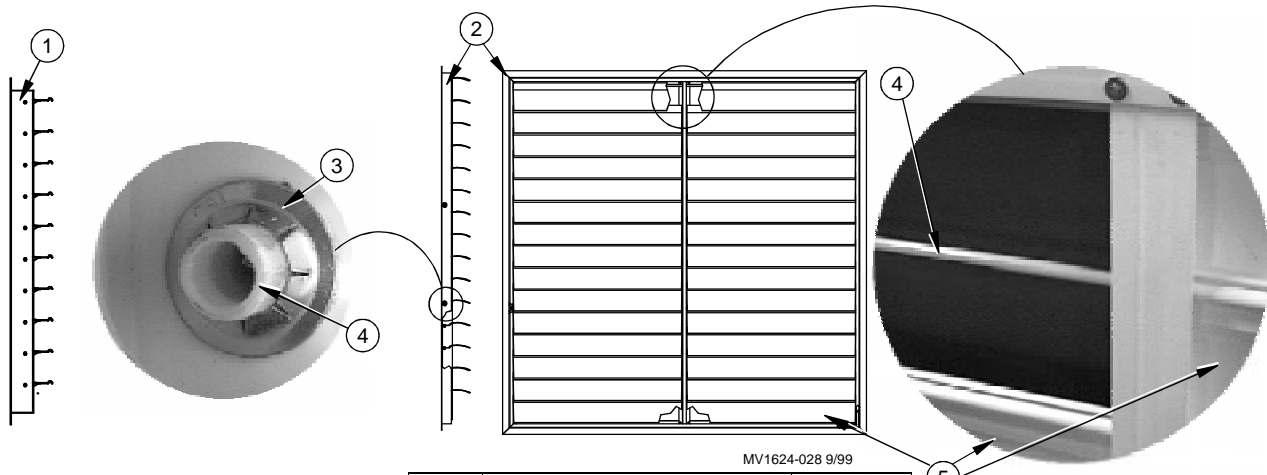


Figure 10. Shutter Placement Assembly



Item	Description	Part No.
1	Shutter Aluminum (complete)	38260
2	Shutter Plastic (complete)	38029
3	Push Nut 1/4"	38032
4	Shutter Rod Pivot	38702-4
5	Shutter Louver	38038-4

Figure 11. Plastic Shutter Parts

Maintenance



Danger! Disconnect Power Prior To Maintaining Or Cleaning The Fan. The fan may start automatically causing serious injury or death.

- Service and repair of fans should be done only by a qualified technician.
- Keep the fan clean for maximum life and best performance. **Avoid spraying water on fan motor.**
- Keep Shutters, Blades, and Housing clear of obstacles for best air performance. The motor bearings are pre-lubricated.

Motor Specifications

Table 3. Motor Specifications and Part Numbers

Fan Specifications (assembled)	Motor Specifications							
Description	*Part No.	Voltage	HZ	Phase	HP	Motor Part No.	Motor Sheave Part No.	Fan Sheave Part No.
48" Slant Wall Direct Drive Fan	44646-482X	230	60	1	1	37726	_____	_____
48" Slant Wall Direct Drive Fan	44646-484X	230/460	60	3	1	39465	_____	_____
48" Cone Direct Drive Fan	44647-482X	230	60	1	1	37726	_____	_____
48" Cone Direct Drive Fan	44647-484X	230/460	60	3	1	39465	_____	_____
48" Slant Wall Belt Drive Fan	43679-482X	230	60	1	1	37729	35333	42072
48" Slant Wall Belt Drive Fan	43679-484X	208-230/460	60	3	1	40157	35333	42072
48" Cone Belt Drive Fan	43680-482X	230	60	1	1	37729	35333	42072
48" Cone Belt Drive Fan	43680-484X	208-230/460	60	3	1	40157	35333	42072
48" Slant Wall Belt Drive Fan	45576-482X	230	60	1	1	37729	35333	41989
48" Cone Belt Drive Fan	45575-482X	230	60	1	1	37729	35333	41989
48" Cone Belt Drive Fan	45962-482X	230	60	1	1	37729	1381	42072
48" Cone Belt Drive Fan	45962-484X	208-230/460	60	3	1	40157	1381	42072

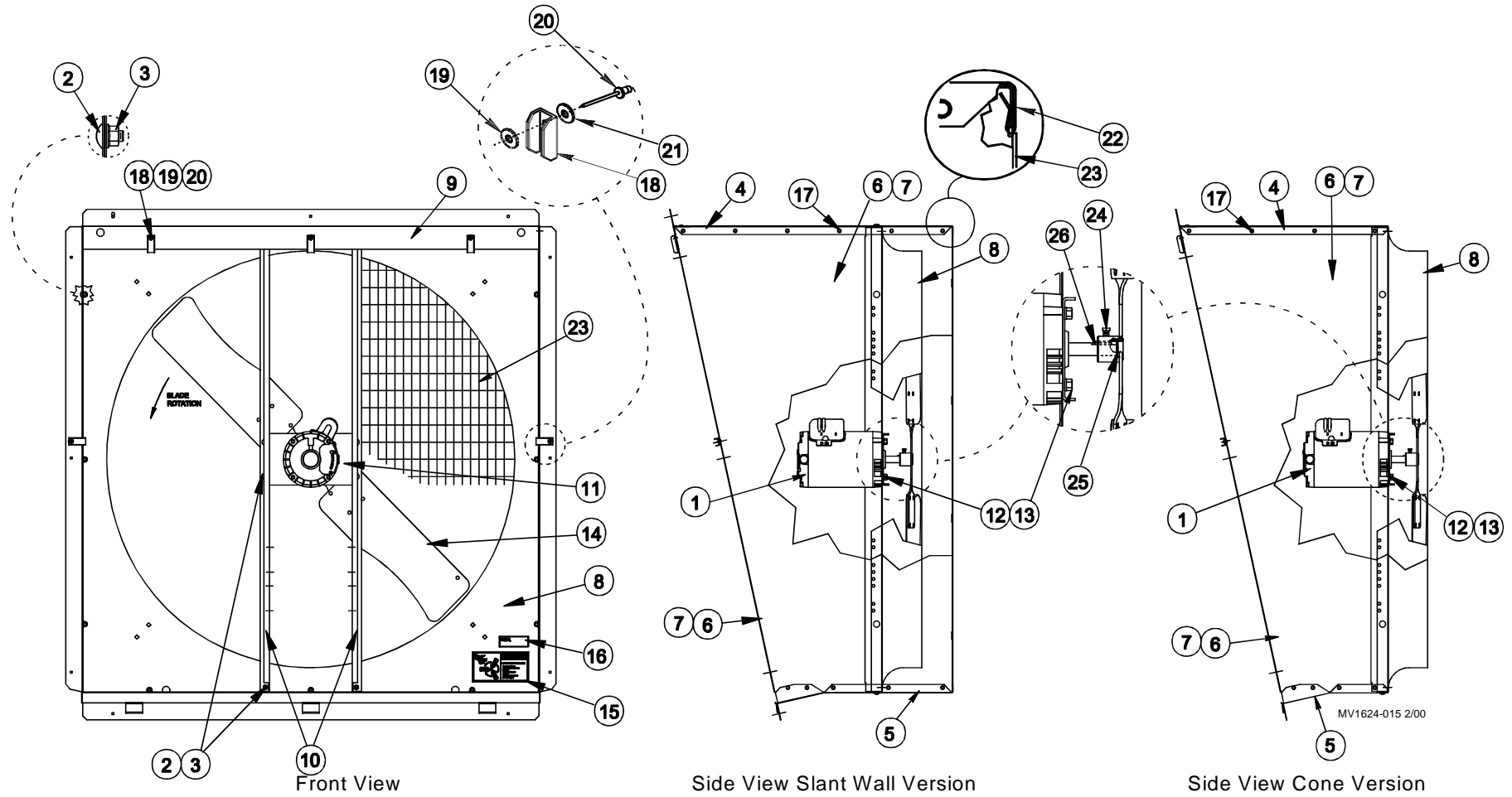
*Replace the "X" in fan P/N with "1" for an aluminum Shutter, "2" for a plastic shutter.

Parts Listing

Cone Version			
Item	Qty.	Description	Part No.
1	1	Motor	Varies
2	20	Bolt, Carriage 5/16-18 x .625	8282
3	20	Flange nut, Hex 5/16-18	8490
4	1	Panel, Top 48" SW 12.5°	43670
5	1	Panel, Bottom 48" SW 12.5°	43671
6	1	Panel, Side 48" SW 12.5° RH	43672-2
7	1	Panel, Side 48" SW 12.5° LH	43672-1
8	1	Shroud 48" Fan	37583
9	1	Brace, 48" Fan Shutter Mounting	43673
10	2	Post, 48" x 12.5° Fan	43688
11	1	Support, 48" DD Fan Motor	37941
12	4	Washer, Lock .388 x .683 x .095 c/z	5747
13	4	Bolt, HH 3/8-16 x .75 c/z	2182
14	1	Blade, 48" Fan	37727
15	2	Decal, Danger	2527-50
16	1	Decal, 48" SW Cone Fan (DD)	39002-212
17	16	Screw, HXWH SFTP 10-16 x .50	3037
18	5	Clip, Shutter SS 2.00 x .70	36729
19	5	Washer, Nylon .260 x .69 x .060	4856
20	9	Pop Rivet 3/16 x 3/8	2569
21	2	Flat Washer	2955-19
24	Set Screw Torque to 150-165 in/lbs.		
25	Fan Hub is to be flush with end of the motor shaft.		
26	Assemble the key supplied with motor as shown.		
—	1	Kit, 48" Fan Cone	37935
—	1	Grill, 48" Fan Cone	37630
—	1	Pkg, Fan Hardware	44648

Slant Wall (SW) Version			
Item	Qty.	Description	Part No.
1	1	Motor	Varies
2	20	Bolt, Carriage 5/16-18 x .625	8282
3	20	Flange nut, Hex 5/16-18	8490
4	1	Panel, Top 48" SW 12.5°	43667
5	1	Panel, Bottom 48" SW 12.5°	43668
6	1	Panel, Side 48" SW 12.5° RH	43669-2
7	1	Panel, Side 48" SW 12.5° LH	43669-1
8	1	Shroud 48" Fan	37583
9	1	Brace, 48" Fan Shutter Mounting	43673
10	2	Post, 48" x 12.5° Fan	43688
11	1	Support, 48" DD Fan Motor	37941
12	4	Washer, Lock .388 x .683 x .095 c/z	5747
13	4	Bolt, HH 3/8-16 x .75 c/z	2182
14	1	Blade, 48" Fan	37727
15	2	Decal, Danger	2527-50
16	1	Decal, 48" SW Cone Fan (DD)	39002-211
17	16	Screw, HXWH SFTP 10-16 x .50	3037
18	5	Clip, Shutter SS 2.00 x .70	36729
19	5	Washer, Nylon .260 x .69 x .060	4856
20	9	Pop Rivet 3/16 x 3/8	2569
21	2	Flat Washer	2955-19
22	16	Clip, Screen EZ Fan	38891
23	1	Screen, Wire 52 x 52	6023-22
24	Set Screw Torque to 150-165 in/lbs.		
25	Fan Hub is to be flush with end of the motor shaft.		
26	Assemble the key supplied with motor as shown.		
—	1	Pkg, Fan Hardware	44648

Itemized Parts



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Notes:



**Made to work.
Built to last.**

Revisions to this Manual

Page No.	Description of Change
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Contact your nearby Chore-Time distributor or representative for additional parts and information.

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