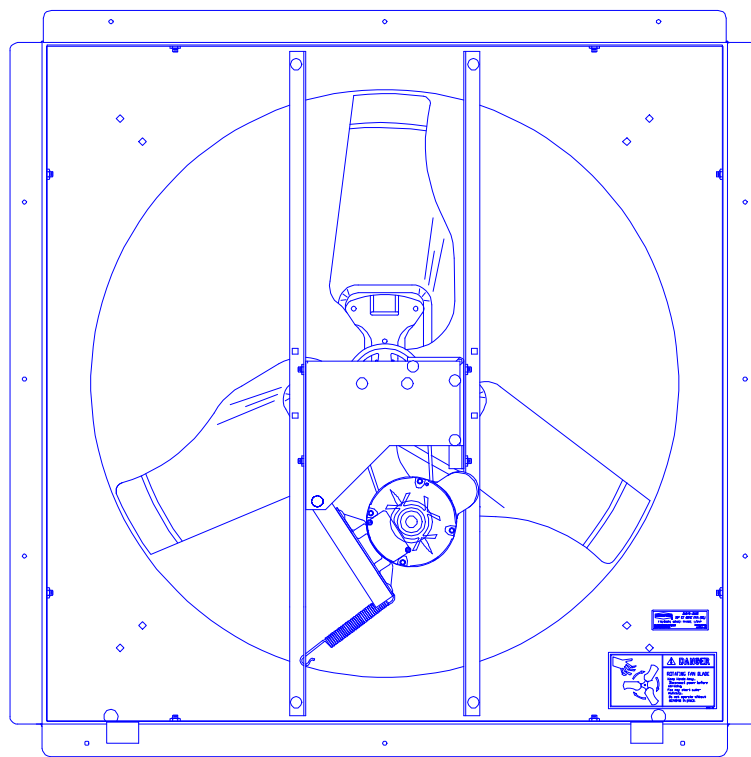


36" & 48" E-Z Cone Fan Installation Manual (Belt Drive)



MV1432-4 3/97

Chore-Time Warranty

Chore-Time Equipment warrants each new product manufactured by it to be free from defects in material or workmanship for one year from the date of initial installation by the original purchaser. If such a defect is found by Chore-Time to exist within the one year period, Chore-Time 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.

Conditions and limitations:

1. The product must be installed and operated in accordance with instructions published by Chore-Time or warranty will be void.
2. Warranty is void if all components of a system are not supplied by Chore-Time.
3. This product must be purchased from and installed by an authorized Chore-Time dealer 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 this 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.

Chore-Time shall not be liable for any consequential or special damage which any purchaser may suffer or claim to have suffered 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 CHORE-TIME'S ENTIRE AND SOLE WARRANTY AND CHORE-TIME EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE SOLD AND DESCRIPTION OR QUALITY OF THE PRODUCT FURNISHED HEREUNDER.

Any exceptions to this warranty must be authorized in writing by an officer of the company. Chore-Time reserves the right to change models and specifications at any time without notice or obligation to improve previous models.

**CHORE-TIME EQUIPMENT, A Division of CTB, Inc.
P.O. Box 2000, Milford, Indiana 46542-2000 U.S.A.**

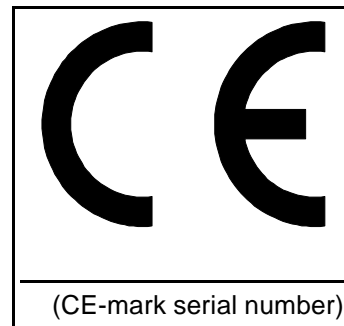
Support Information

The Chore-Time 36" & 48" E-Z Cone Fans are designed to be used as exhaust fans. The fans are shipped assembled. However, the Cone must be assembled and installed on the fan in the field. 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 and/or death.

This manual is designed to provide comprehensive planning, installation, wiring, 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 personal, 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.



Please fill in the following information about your fans. 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 _____

Table of Contents

<u>Topic</u>	<u>Page</u>	<u>User*</u>
Warranty Information	2	C, D
Support Information	3	C, D
Safety Information	4	C, I
Technical Information, Tools Required, Fan Dimensions.	5	C, I
Fan Assembly Procedure	6 - 8	I
Fan Installation	9-10	I
Cone Assembly and Installation	10 - 12	I
Wiring	12	I
Shutter Installation	13	I
Maintenance	13	C
Belt Drive E-Z Cone Fan Parts Part Numbers and Motor Specifications	14	C, I
Belt Drive E-Z Cone Fan Parts List	15	C, I

*Legend: C = Customer (end user), D = Distributor (sales), I = Installer of equipment

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.

Chore-Time equipment is designed to be installed and operated as safely as possible...however, hazards do exist. Using the equipment for purposes other than specified in this manual may cause personal injury or damage to the equipment.

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.

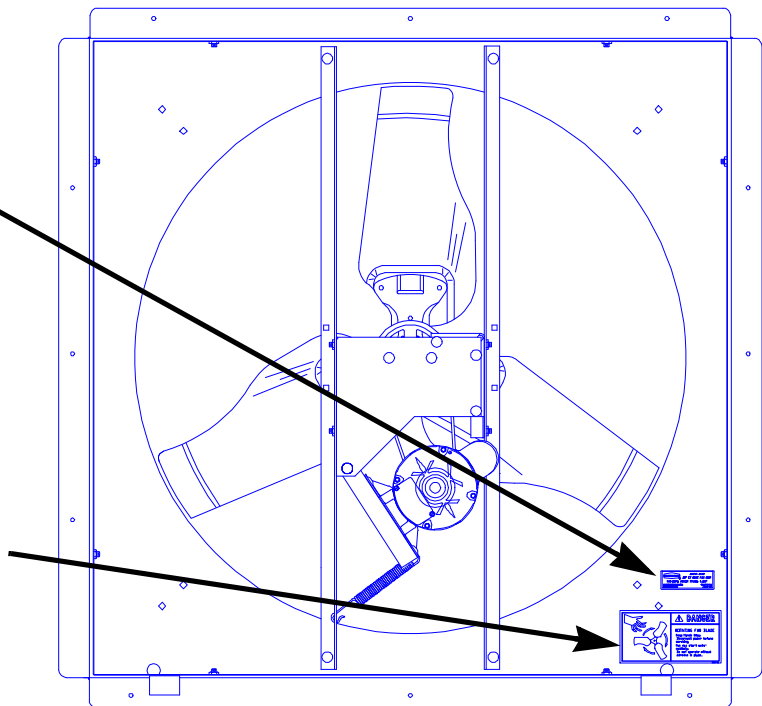
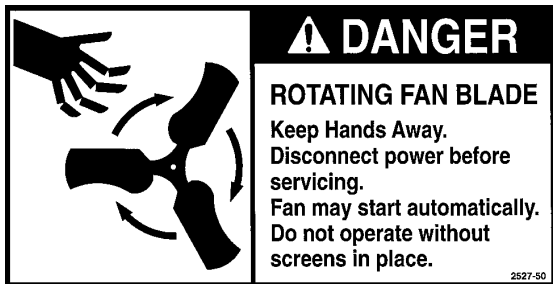
WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

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



This diagram shows the proper location of the safety decal (DANGER--ROTATING FAN BLADE) as shipped from the factory. Replace damaged or missing decals. Make sure the decals may be easily seen at all times.

If the fan is purchased unassembled, the Chore-Time Fan Assembly Part Number Decal will be packed with this instruction manual. Make sure the decal location shown below is clean and dry. Remove the backing of the decal and affix it to the Fan Shroud.



MV1432-4 3/97

Technical Information

Motor choices and specifications are provided in the Parts List section of this manual. See page 14 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.

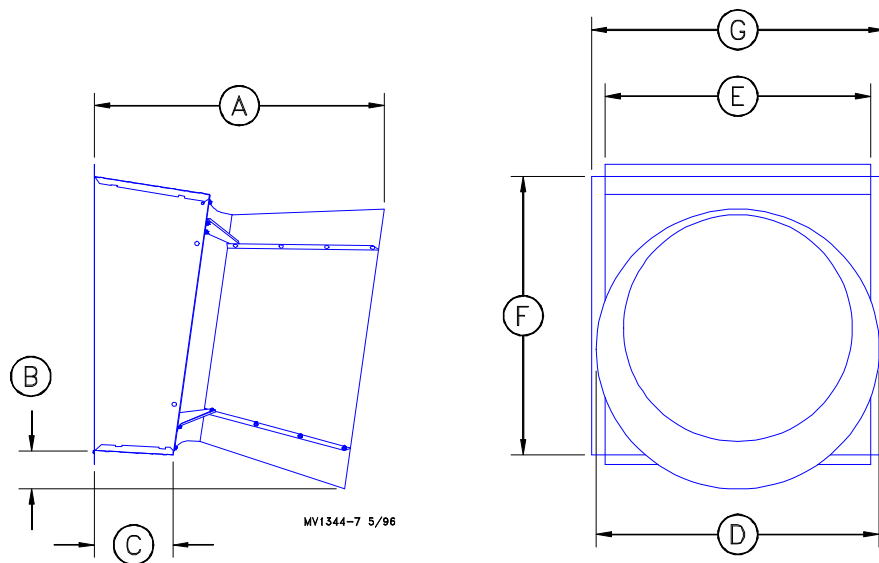
Chore-Time Equipment also recommends that an alternate power source be available for confinement buildings in case of power failure.

Tools Required

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

Fan Dimensions

	"A"	"B"	"C"	"D"	"E"	"F"	"G"
36" E-Z Fan	46" (116.8 cm)	3" (7.6 cm)	16.25" (41.3 cm)	45" (114.3 cm)	42.75" (108.6 cm)	42.5" (108.0 cm)	46.5" (118.1 cm)
48" E-Z Fan	46.75" (118.7 cm)	2.75" (7.0 cm)	16.25" (41.3 cm)	57" (144.8 cm)	54.5" (138.4 cm)	54.5" (138.4 cm)	58.25" (148.0 cm)



Fan Assembly Procedure

Position the Side Panels around the Fan Shroud, as shown in **Figure 1**. Loosely secure the Side Panels to the Fan Shroud using 5/16-18 hardware.

Important: Notice the orientation of the drain holes in the bottom of the Shroud. The narrow end of the Side Panels must be toward the bottom of the Shroud.

Note: 36" Fans use (2) bolts, washers, and nuts per side. 48" Fans use (3) bolts, washers, and nuts per side.

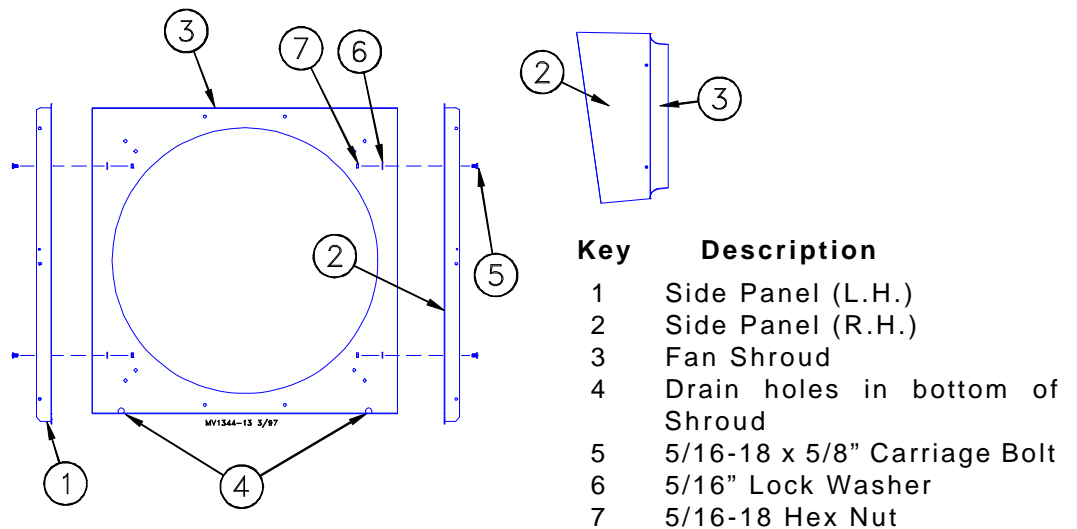


Figure 1. Shroud and Panel Assembly (top view).

Assemble the Top and Bottom Panels to the Fan Shroud, using the 5/16-18 hardware supplied. See **Figure 2**.

Note: The Bottom Panel is narrow, the Top Panel is wide.

The Side, Top, and Bottom Panels lock together by inserting the tabs of one Panel into the slot in the end of another Panel. See the detail in **Figure 2**.

Use a hammer to carefully bend the corner tabs over to secure the Side Panels together.

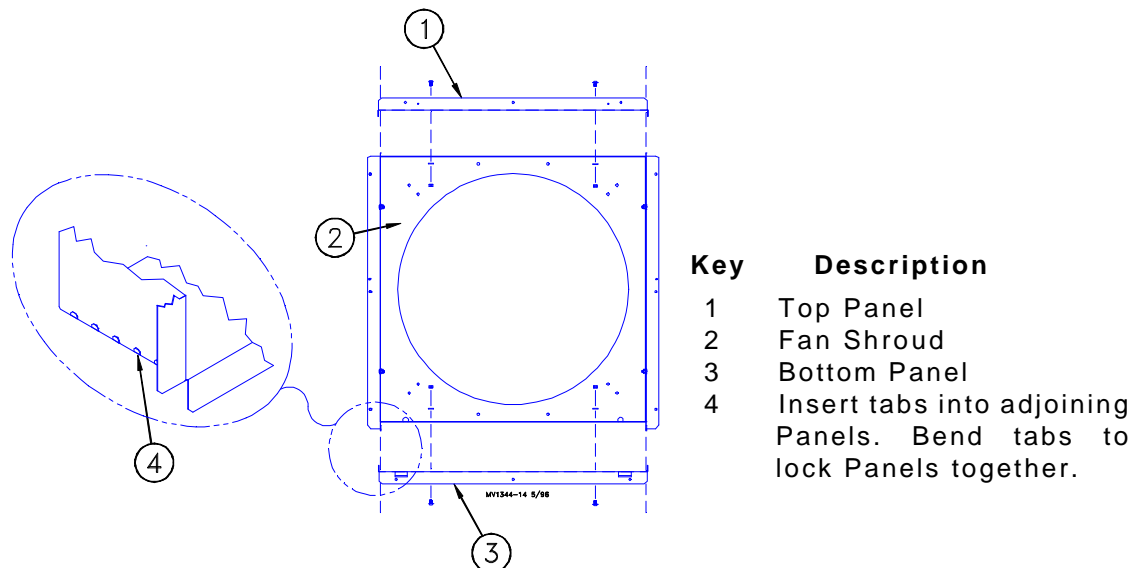


Figure 2. Shroud and Panel Assembly (top view).

Secure the Motor Mount Post to the Fan Shroud using the 5/16-18 x 5/8" carriage bolts and hex nuts provided in the Hardware Package. See **Figure 3**. The Motor Mount Post must be installed as shown in **Figure 3**.

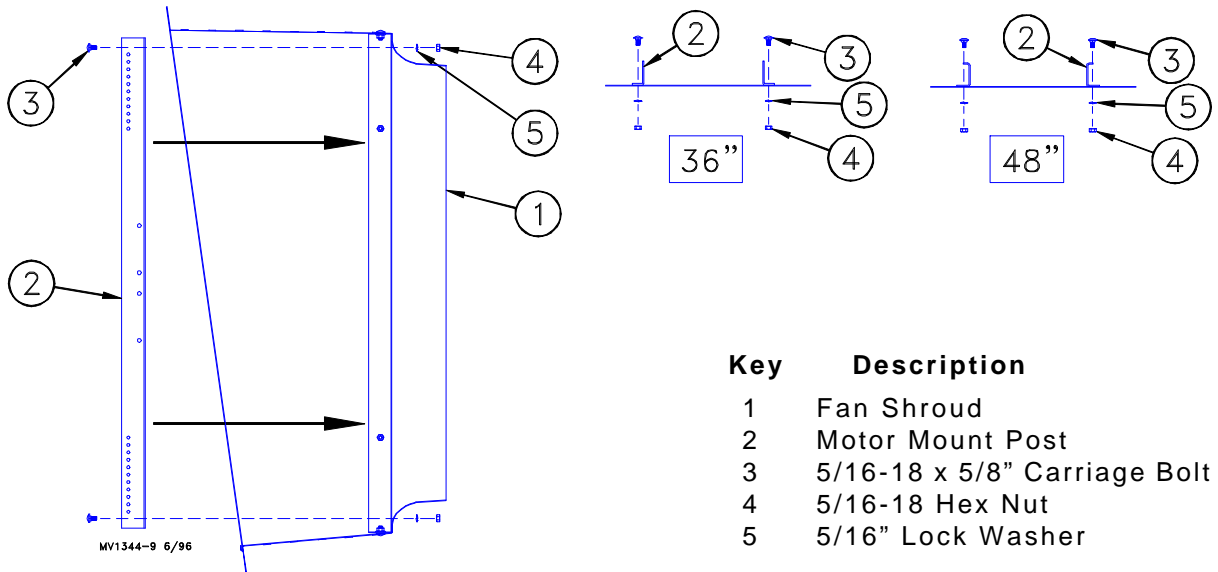


Figure 3. Motor Mount Post Installation (side view).

Note: The E-Z Fans may be ordered with or without the Motor.

Secure the Module Assembly and Motor between the Motor Support Posts, as shown in **Figure 4**. Hardware is included in the Hardware Package.

If your Fans do not have factory-included motors, set the Motor on the Module Assembly and secure in place with the 5/16-18 x 5/8 carriage bolts, 5/16" lock washers, and 5/16-18 hex nuts, as shown in **Figure 4**.

The Motor is mounted in the rear set of holes.

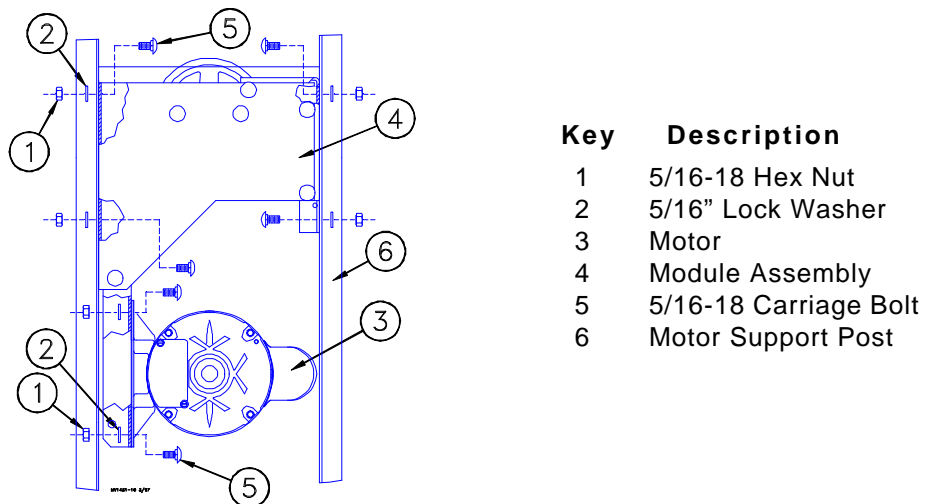


Figure 4. Fan Module and Motor installation.

Install the Motor Sheave on the Motor Shaft. The outside edge of the Motor Sheave should be flush with the end of the Motor Shaft. See **Figure 5**.

Align the Fan Shaft Sheave with the Motor Sheave and tighten the set screws. The Sheaves must be aligned so that the Belt will track straight.

Install the Belt Tensioning Spring between the Motor Mount Post and the Motor Support Plate. Install Belt Tensioning Spring in the fifth and sixth hole from the bottom of the Motor Mount Post. See detail in **Figure 5**.

Install Belt around the sheaves.

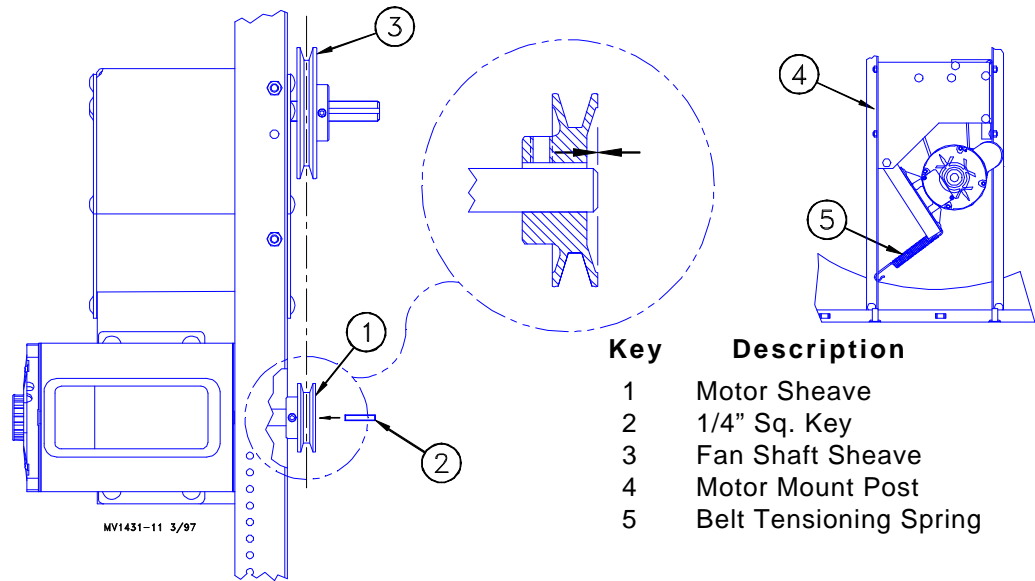


Figure 5. Motor Sheave Installation (side view).

Slide the Blade Assembly onto the shaft. The Hub of the Fan Blade should be flush with the end of the Shaft. See **Figure 6**. Apply grease or an anti-seize compound to the Fan Shaft before mounting the Fan Blade.

Insert key into keyway on shaft.

Tighten the set screw(s) using a 5/16" open end wrench (or 12 point 3/8" socket and ratchet).

Torque the set screws to approximately 150 in./lbs.

See the decal placement instructions on page 4.

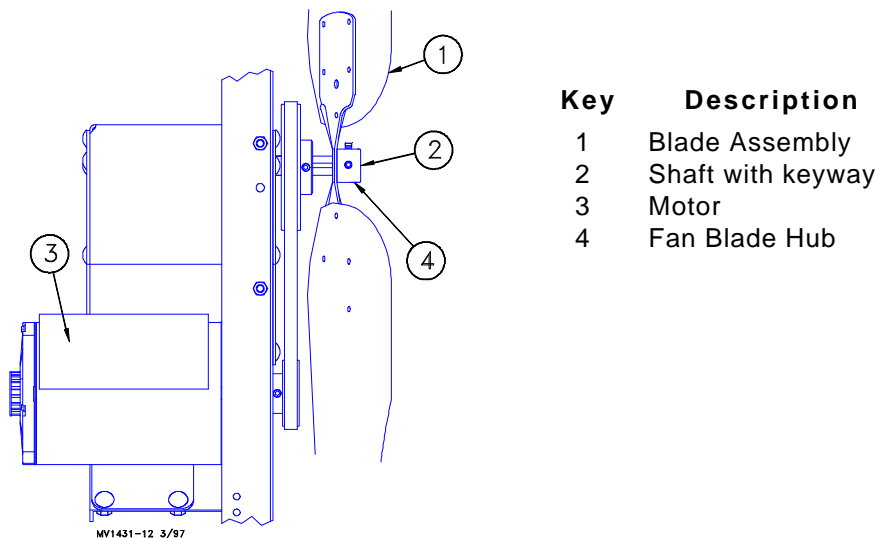


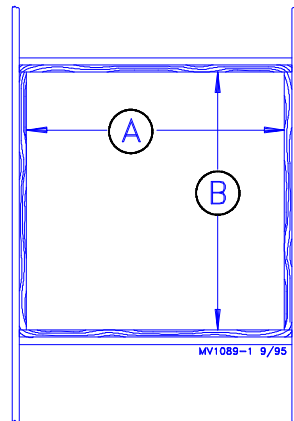
Figure 6. Blade Assembly Installation (side view).

Fan Installation

The 36" and 48" E-Z Belt Drive Cone Fans must be installed in a side wall. Build fan framing out of 2"(50 mm) lumber (not supplied).

The required wall opening is provided in the chart below. See **Figure 7**.

Additionally, the chart on page 5 provides fan dimensions that may be required for installation.



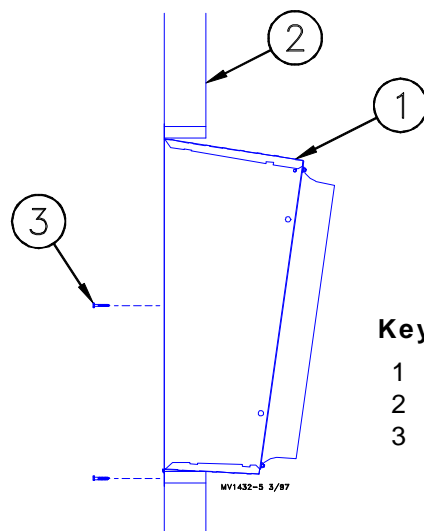
Dimension (minimum)	A	B
36" E-Z Cone Fan	43" (109.2 cm)	43" (109.2 cm)
48" E-Z Cone Fan	55" (139.7 cm)	55" (139.7 cm)

Figure 7. Framing Diagram (front view).

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.

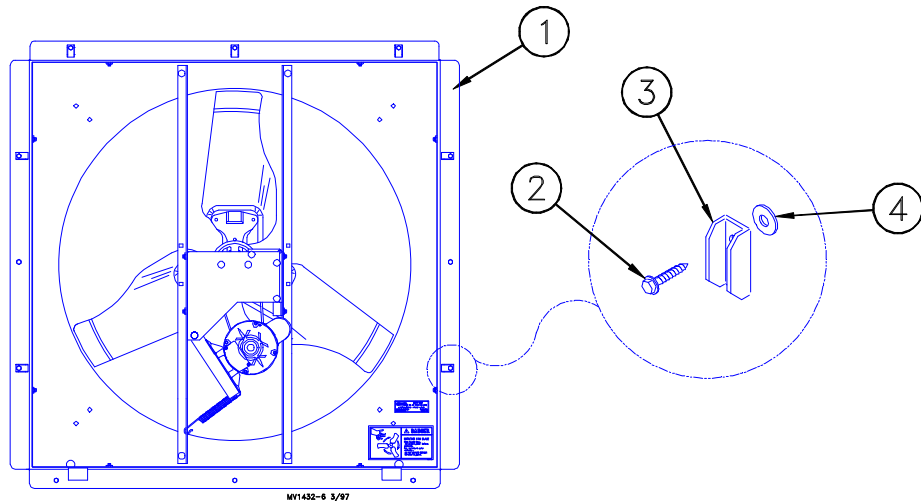
Secure the Fan Assembly to the framed opening, using (1) 1/4" x 1-3/4" Lag Screw through the middle hole on each side and (3) 1/4" x 1-3/4" Lag Screws across the bottom panel. See **Figure 8**. Lag Screws are supplied in the Hardware Package.



Key	Description
1	Cone Fan Assembly
2	Side Wall of Building
3	1/4" x 1-3/4" Lag Screws (5 used)

Figure 8. Cone Assembly (side view).

Install the Shutter Clips, as shown in **Figure 9**, in the remaining holes on the sides and top of the Slant Wall Kit. The Shutter Clips need to be tight, but loose enough to be turned.



Key	Description
1	Cone Fan Assembly
2	1/4 x 1-3/4" Lag Screw
3	Shutter Clip
4	Nylon Flat Washer

Figure 9. Shutter Clip installation (front view).

Cone Assembly and Installation

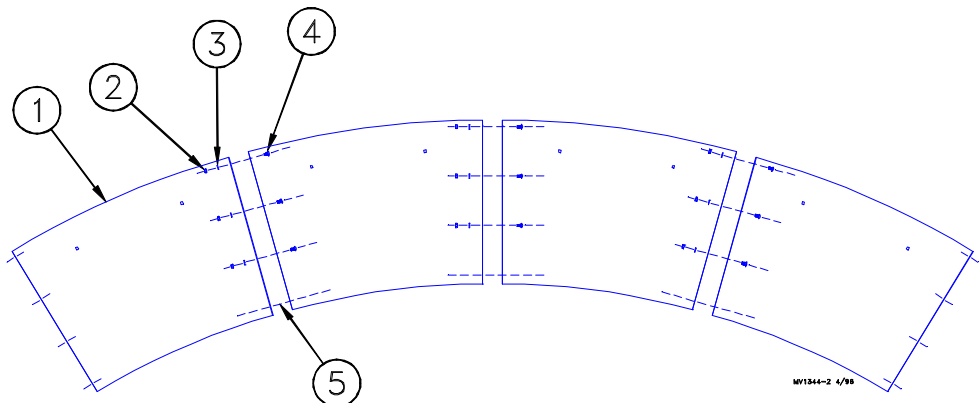
The Cone must be assembled and installed in the field.

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 10**.

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 10**.

Do not tighten the hardware.



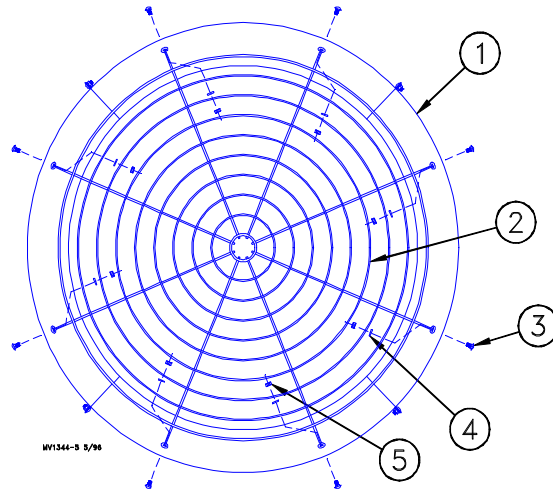
Key	Description
1	Cone Panel
2	5/16-18 Hex Nut
3	3/8" Lock Washer
4	5/16-18 x 5/8" Carriage Bolts
5	<i>Do not install hardware here.</i>

Figure 10. Cone Assembly (top view).

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.

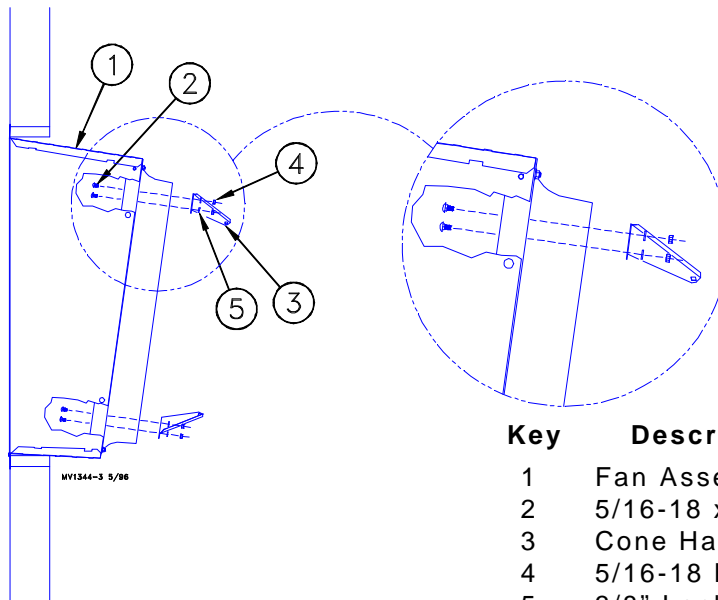
Position the Grill in the larger end of the Cone Assembly. Secure the Grill in place using the 5/16-18 carriage bolts, 3/8" lock washers, and 5/16-18 hex nuts. See **Figure 11**. This will help maintain the shape of the Cone Assembly while it is being secured to the Fan Shroud.



Key	Description
1	Cone Assembly
2	Grill
3	5/16-18 Carriage Bolt
4	3/8" Lock Washer
5	5/16-18 Hex Nut

Figure 11. Grill Installation (front view).

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 12**.



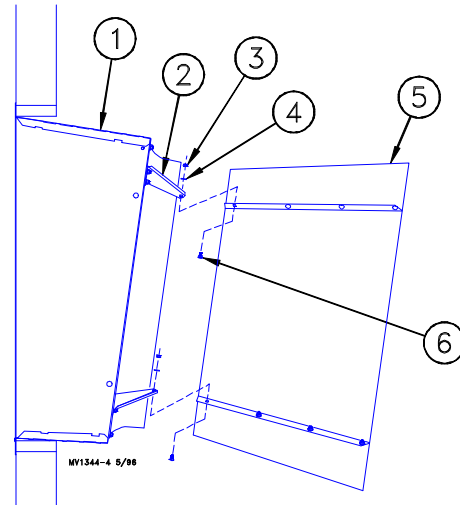
Key	Description
1	Fan Assembly
2	5/16-18 x 5/8" Carriage Bolt
3	Cone Hanger Bracket
4	5/16-18 Hex Nut
5	3/8" Lock Washer

Figure 12. Hanger Bracket Installation (side view).

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 13**.

Tighten all the hardware.



Key	Description
1	Fan Assembly
2	Cone Hanger Bracket
3	5/16-18 Hex Nut
4	3/8" Lock Washer
5	Cone Assembly
6	5/16-18 x 5/8" Carriage Bolt

Figure 13. Cone Installation (side view).

Wiring:

See wiring diagram on Motor for Motor electrical connections. Follow local, state and national electric codes for wiring.

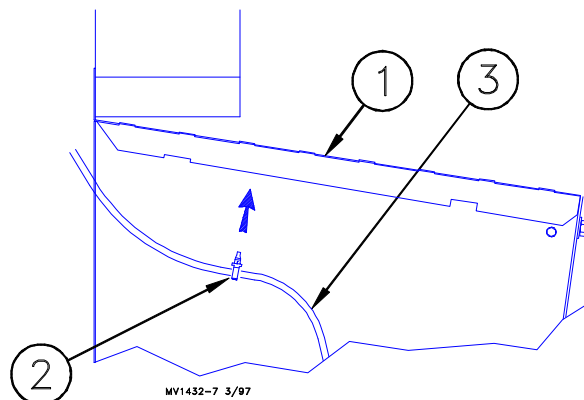
Install an electric disconnect within reach of each Fan.

Route the motor cord (not supplied) toward the upper left corner of fan and attach the cord to the top panel using the 3/8" cord clip mounted in the 1/4" hole in the top panel. See **Figure 14**.

Important: If an Aluminum Shutter will be installed, route the motor cord through the Rubber Grommet.

Some installations may require an exit hole for the motor cord be drilled in the side of the Housing. These installations must have electrical wires routed through conduit to protect them from damage.

Note: Make sure the conduit or wires do not interfere with the Fan Blades or Shutter operation.



Key	Description
1	Slant Wall Top Panel
2	Cord Clip
3	Cord

Figure 14. Installing Cord Clip.

Shutter Installation

Install the Grommet in the corner of the Aluminum Shutter only. See **Figure 15**. For fans with plastic shutters, cut a 3/8" slot in the upper left flange of the shutter to route the cord through when the shutter is installed. See detail in **Figure 15**. The Slant Wall Bottom Panel is designed to hold the Shutter. Slide the bottom of the Shutter into position in the Bottom Panel of the Slant Wall kit, lean the Shutter back and lock it in place by rotating the Shutter Clips. See **Figure 15**.

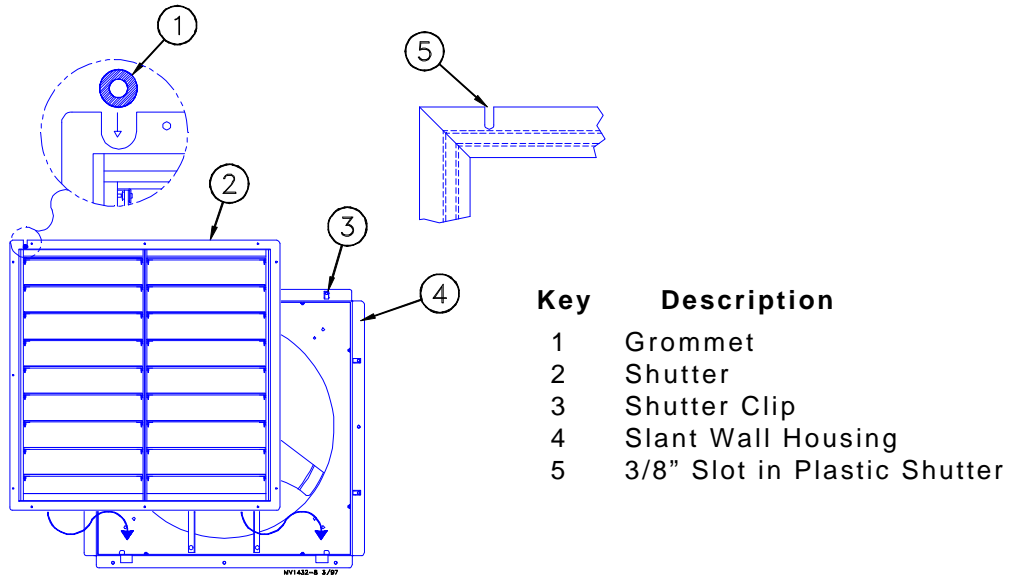


Figure 15. Shutter Installation (front view).

MAINTENANCE:

Service and maintenance of fans should be done only by a qualified technician.

DISCONNECT POWER PRIOR TO MAINTAINING OR CLEANING THE FAN!
The fan may start automatically causing serious injury or death.

Keep the fan clean for maximum life and best performance. Do not spray water on Fan Shaft Bearings.

Periodically check the V-Belt. If necessary, adjust the spring tension to prevent the belt from slipping. The spring should be stretched to an overall length of 6" to 7" for proper belt tension.

Two options are available for V-Belt replacement. The first option is to use Red Link V-Belt (see parts list), which does not require disassembly of the fan. The second option is to use a black V-Belt (see parts list), which requires removal of the Fan Blade or Fan Shaft.

The Motor and Fan Shaft Bearings are permanently lubricated. Grease Zerk are provided on the Fan Shaft Bearings for installations where relubrication is needed. Relubrication is required whenever water comes in contact with the Fan Shaft Bearings. Slowly rotate the Fan Shaft as bearing is filled with Grease. Use only high quality lithium soap base grease and clean all dirt from Zerk before applying grease.

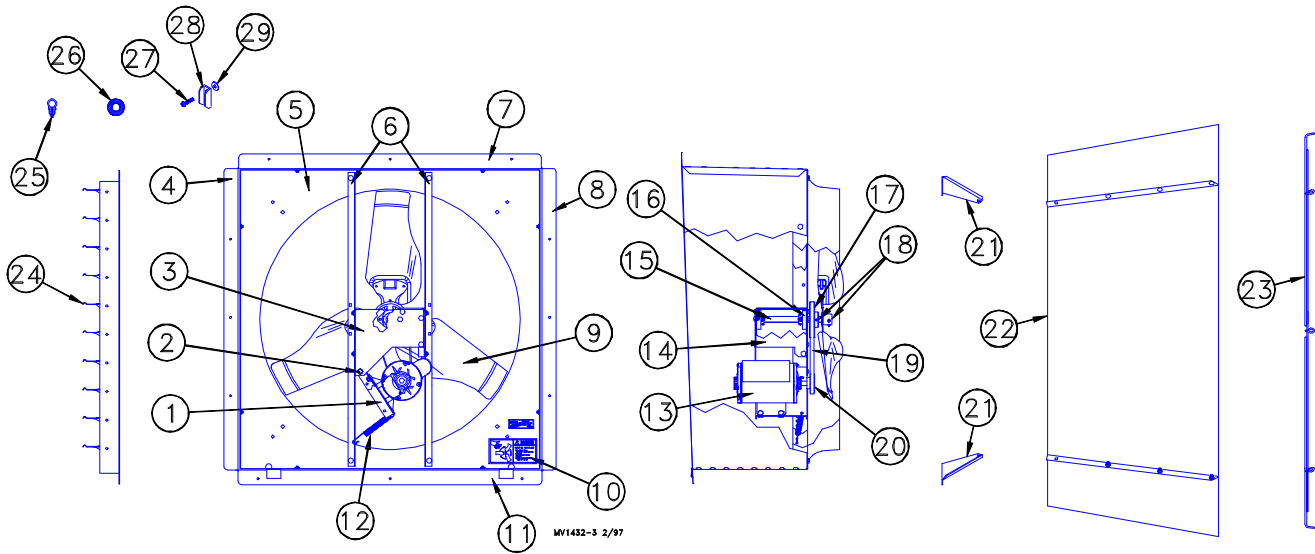


Belt Drive Cone Fans

Fan Description		Assembled Fans	Unassembled Fans	Electrical Specs.					
		Fan P/N +	Fan P/N +	Voltage	HZ	Phase	HP	Motor P/N	Motor Sheave P/N
36" Belt Drive E-Z Fans	Cone	39010-362X	39006-362X	115/230	60	1	1/2	39331	4906
		39010-363X	39006-363X	230	50	1	1/2	39332	8773
		39010-364X	39006-364X	208-230/460	60	3	1/2	4714	4906
		39010-365X	39006-365X	220-240/380-415	50	3	1/2	38556	8773
48" Belt Drive E-Z Fans	Cone	38441-482X	38781-482X	115/230	60	1	1	39317	35333
		38441-483X	38781-483X	230	50	1	1	39317	8773
		38441-484X	38781-484X	208-230/460	60	3	1	36143	35333
		38441-485X	38781-485X	220-240/380-415	50	3	1	36142	24697
		38441-486X	38781-486X	230/380-415	60	3	1	36142	35333

+ Replace "X" in fan P/N with "1" for an aluminum shutter, or "2" for a plastic shutter

Belt Drive E-Z Cone Fans



36" Fans

Item	Description	Part No.
1	Motor Mount	38895
2	Module Bushing	38896
3	Module Bracket	38893
4	36" Side Panel (L.H.)	39016-1
5	36" Fan Shroud	5538
6	Motor Mount Post	37209
7	36" Top Panel	39014
8	36" Side Panel (R.H.)	39016-2
9	36" Fan Blade	29736
10	Danger Decal	2527-50
11	36" Bottom Panel	39015
12	Spring	7551
13	Motor	See Chart
14	Module Bracket Support	38894
15	Fan Shaft	38535
16	3/4" Bore Bearing	38536
17	5" Sheave	27737
18	3/16" Square Key	2112-1
19	Black V-Belt (AX28)	39316
	Red Link V-Belt (2.33' Req'd)	30374
20	Motor Sheave	See Chart
21*	Cone Bracket	37806
22*	Cone Panel	37804
23	Grill	37629
24	36" Aluminum Shutter	38259
	36" Plastic Shutter	38027
25	Cord Clip	7242
26	Grommet	7256
27	1/4 x 1-3/4 Lag Screw	39217
28	Shutter Clip	36729
29	Nylon Washer	4856

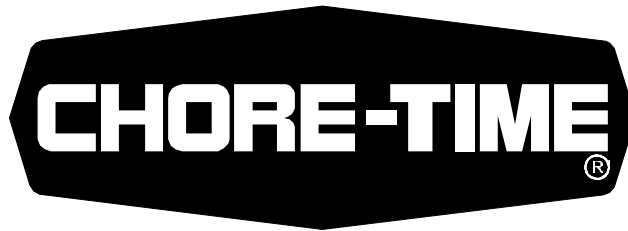
*These items included in 36" E-Z Fan Cone Kit Part Number 37936.

48" Fans

Item	Description	Part No.
1	Motor Mount	38895
2	Module Bushing	38896
3	Module Bracket	38893
4	48" Side Panel (L.H.)	38444-1
5	48" Fan Shroud	37583
6	Motor Mount Post	38390
7	48" Top Panel	38442
8	48" Side Panel (R.H.)	38444-2
9	48" Fan Blade	28140
10	Danger Decal	2527-50
11	48" Bottom Panel	38443
12	Spring	7551
13	Motor	See Chart
14	Module Bracket Support	38894
15	Fan Shaft	34723
16	1" Bore Bearing	38382
17	8-1/4" Sheave	35009
18	1/4" Square Key	2419-2
19	Black V-Belt (AX35)	4468
	Red Link V-Belt (3.0' Req'd)	30374
20	Motor Sheave	See Chart
21*	Cone Bracket	37806
22*	Cone Panel	37805
23	Grill	37630
24	48" Aluminum Shutter	38260
	48" Plastic Shutter	38029
25	Cord Clip	7242
26	Grommet	7256
27	1/4 x 1-3/4 Lag Screw	39217
28	Shutter Clip	36729
29	Nylon Washer	4856

*These items included in 48" E-Z Fan Cone Kit Part Number 37935.

***THANK-YOU for purchasing a Chore-Time
E-Z Cone Fan.***



Made to work.
Built to last.™

Revisions to this Manual

Page No

Description of Change

Contact your nearby Chore-Time distributor or representative for additional parts and information.

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