

# 14", 18" & 24" Fiberglass Turbo™ Fans Installation & Operator's Instruction Manual



MV1517-6 2/98

## Chore-Time Turbo™ Fan Extended Warranty

Chore-Time Equipment warrants new TURBO™ Fans and components manufactured by it to be free from defects in material or workmanship from the date of initial installation by the original purchaser until expiration of the appropriate period set forth below. If such a defect is found by Chore-Time to exist within the applicable 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. The extended warranty is provided to the original purchaser for the following periods:

- \*1. TURBO™ Fan fiberglass housings, polyethylene cones, and cast aluminum blades - for as long as the original purchaser owns the product.
- \*2. TURBO™ Fan motors and bearings - for two years from date of installation.
- \*3. TURBO™ Fan components, including plastic shutters - for three years from date of installation.

Conditions and limitations:

1. Original purchaser must give prompt notice of any defect to obtain warranty service. The notice must be mailed to Chore-Time Equipment, P.O. Box 2000, Milford, Indiana, 46542-2000, U.S.A. The remedies provided under this warranty, if applicable, shall be provided within a reasonable time after Chore-Time's receipt of such notice.
2. The product must be purchased from an authorized Chore-Time distributor or dealer and installed, operated and maintained in accordance with instructions published by Chore-Time Equipment or warranty is void.
3. Warranty is void if all structural and operational parts and components of the product were not supplied by Chore-Time Equipment.
4. Failure, damage, or malfunction resulting from misuse, abuse, negligence, alteration, accident, lack of proper maintenance, improper or insufficient power sources or electrical connections, impact of foreign objects, tornado, hurricane, other violent storm, flood, fire, pollutants, chemicals, acts of God, or other causes outside the reasonable control of Chore-Time shall not be considered defects under this warranty and are not covered in any way by this warranty.

Chore-Time shall not be liable for any consequential or special damages 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, property damage, 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(S) FURNISHED HEREUNDER.

\*TURBO™ Fans include: (1) 10" Tube Fans; (2) 14", 18" and 24" Hood and Door Fans; and (3) 14", 18", 24", 36" and 48" Cone Fans and Grill Fans.

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

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

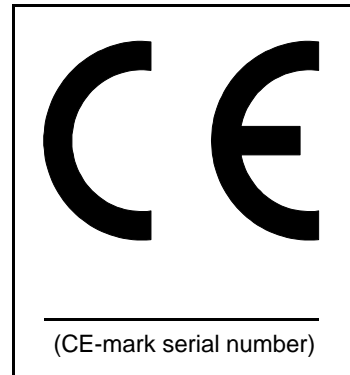
## Support Information

The Chore-Time 14", 18", and 24" Fiberglass Turbo™ Fans are designed to be used as exhaust fans in corrosive environments. The primary components are made from fiberglass, plastic, or stainless steel. 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, 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 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** \_\_\_\_\_

## 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 signs.

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.



### 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.



### DANGER: Electrical Hazard

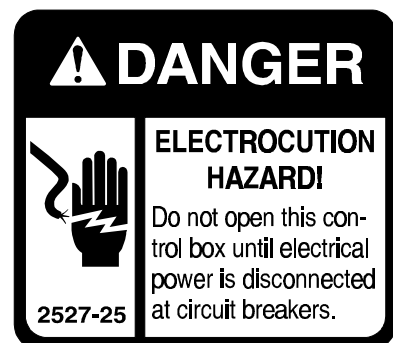
Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions specifically state otherwise.

Ground all electrical equipment for safety.

All electrical wiring must be done by a qualified electrician in accordance with local and national electric codes.

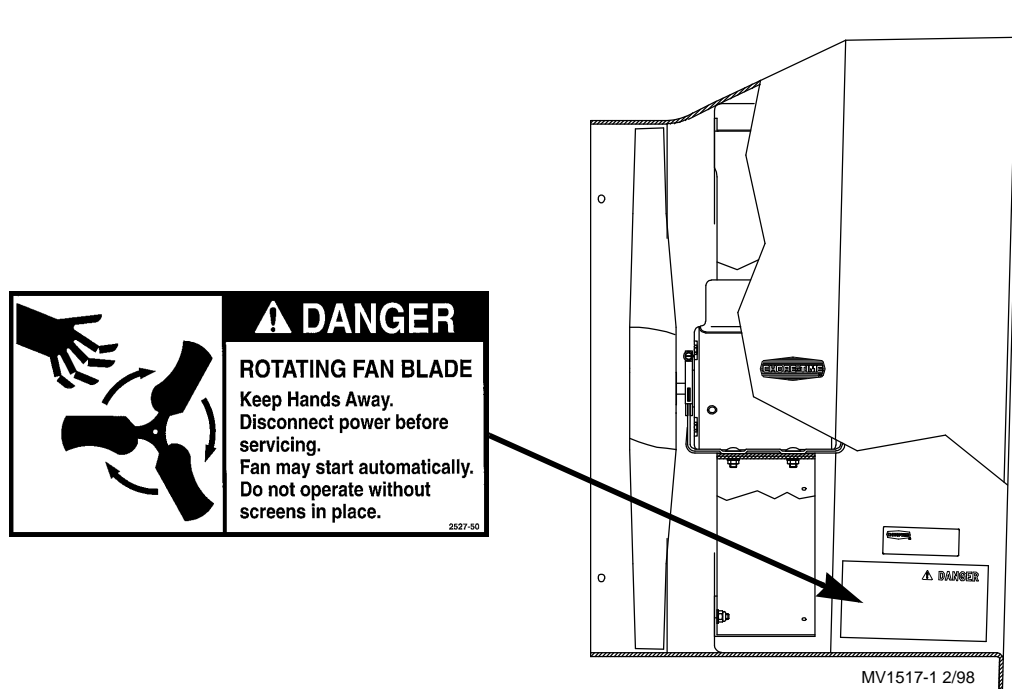
Ground all non-current carrying metal parts to guard against electrical shock.

With the exception of motor overload protection, electrical disconnects and over current protection are not supplied with the equipment.



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. Make sure the decal location shown below is clean and dry. Remove the backing of the decal and

affix it to the Fan Shroud.



## Technical Information

Motor Specifications:	14" Turbo Fan	18" Turbo Fan	24" Turbo Fan	24" Turbo Fan
Horsepower	1/8 H.P.	1/4 H.P.	1/3 H.P.	1/3 H.P.
Voltage	230 V	230 V	230 V	200-230 V
Hz.	60 Hz.	60 Hz.	60 Hz.	50 Hz.
Phase	Single Phase	Single Phase	Single Phase	Single Phase
R.P.M.	1625 R.P.M.	1625 R.P.M.	1075 R.P.M.	1350 R.P.M.

Blade:	14" Turbo Fan	18" Turbo Fan	24" Turbo Fan
Size	14" (356 mm)	18" (457 mm)	24"(610 mm)
Type	Cast Aluminum	Cast Aluminum	Cast Aluminum

### 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.

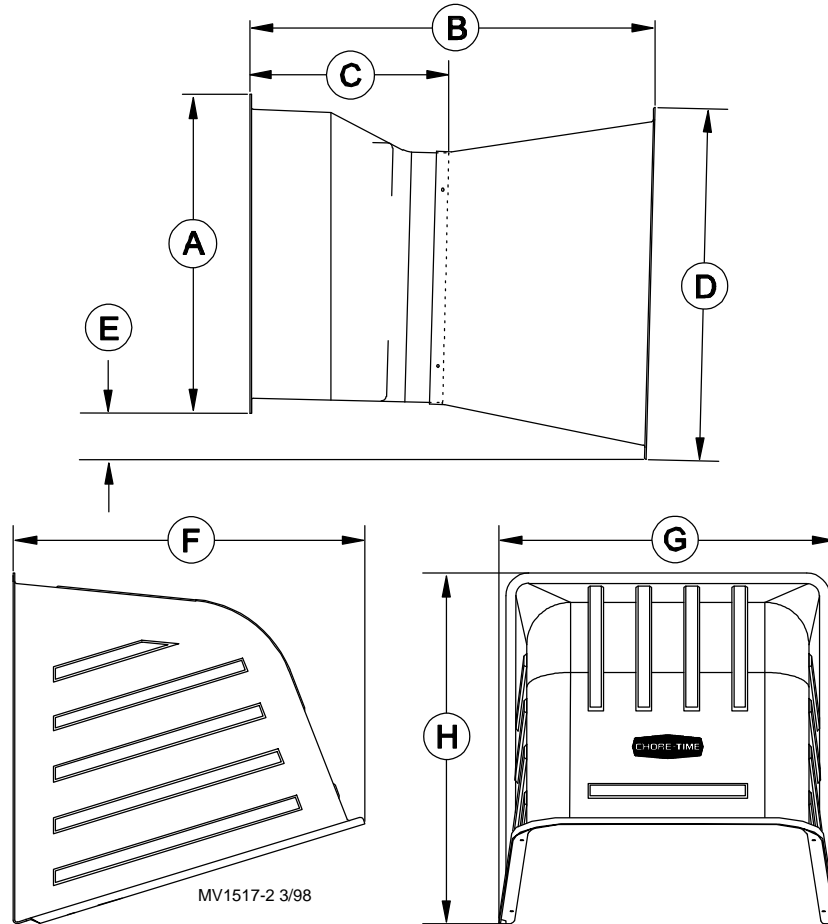
## Tools Required

- 7/16" Open End Wrench or Socket Wrench with 7/16" Socket

- Wire Cutters & Strippers
- Adequate Size & Quantity of Electrical Wire

## Planning the Turbo Fan Installation

Carefully plan the installation. Dimensions are provided for the Turbo Fans with Cones and the Turbo Fan Covers. See **Figure 1**. Be sure to allow enough space to install fans without interfering with other fans or equipment.



**Figure 1. Fan Dimensions**

	<b>A Sq.</b>	<b>B</b>	<b>C</b>	<b>D Dia.</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
14" Turbo Fan	20.50 (52.07 cm)	38.25 (97.16 cm)	17.75 (45.09 cm)	24.75 (62.87 cm)	4.50 (11.43 cm)	21.50 (54.61 cm)	22.25 (56.52 cm)	22.00 (55.88 cm)
18" Turbo Fan	25.00 (63.50 cm)	38.50 (97.79 cm)	17.50 (44.45 cm)	28.75 (73.03 cm)	4.50 (11.43 cm)	28.00 (71.12 cm)	26.25 (66.68 cm)	29.00 (73.66 cm)
24" Turbo Fan	31.50 (80.01 cm)	40.00 (101.6 cm)	19.75 (50.17 cm)	34.75 (88.27 cm)	4.50 (11.43 cm)	34.75 (88.27 cm)	33.50 (85.09 cm)	34.75 (88.27 cm)

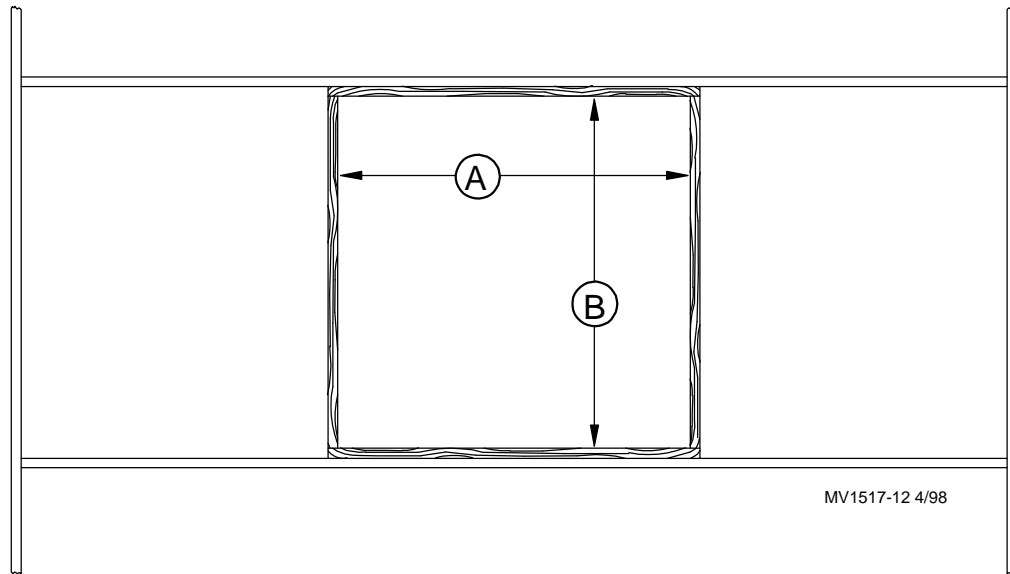
## Fan Installation

The installation procedure is similar for the 14", 18", & 24" Turbo Fans, unless otherwise noted. The primary difference is the size of opening required. See **Figure 2**.

### Step 1 - Build the Wall Framing

Build wall framing as specified in **Figure 2**. The required wall opening for each fan is included in the chart below.

The Fans are shipped completely assembled and need only to be fastened to the wall.



	<b>A</b>	<b>B</b>
14" Turbo Fan	17.75 (45.08 cm)	17.75 (45.08 cm)
18" Turbo Fan	22.25 (56.52 cm)	22.25 (56.52 cm)
24" Turbo Fan	28.50 (72.39 cm)	28.50 (72.39 cm)

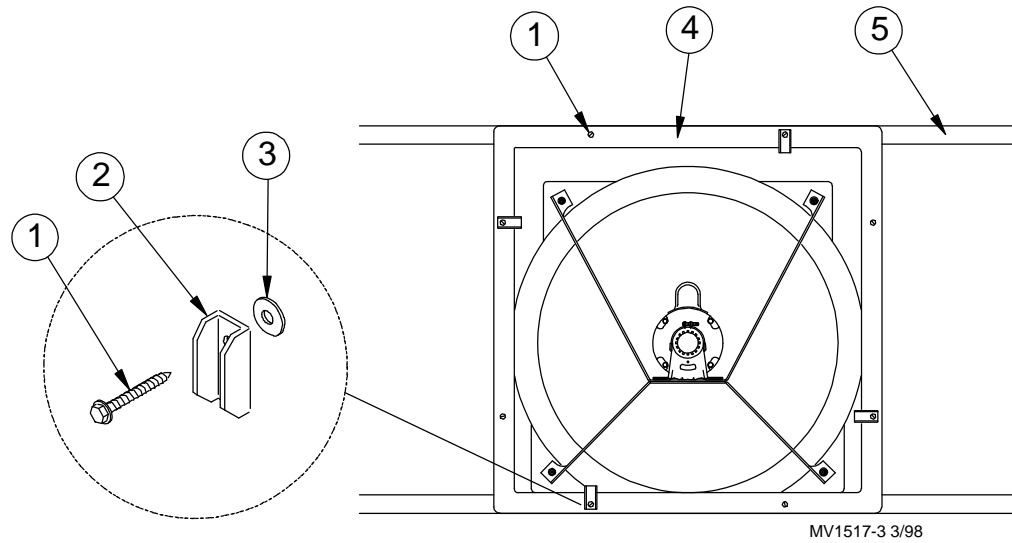
**Figure 2. Framing Dimensions**



## Step 2 - Install Fan in Opening

The Hardware Kit, supplied, includes (8) 1/4 x 1-3/4 Lag Screws, (4) Shutter Clips, and (4) Nylon Washers to secure the fan to the framed opening. Install as shown in **Figure 3**.

The Shroud Flange should be secured square in the opening.



Item	Description	Part No.
1	1/4 x 1-3/4 Lag Screw	40938
2	Shutter Clip	36729
3	Nylon Washer	4856
4	Turbo Fan	
5	Side Wall Framing	

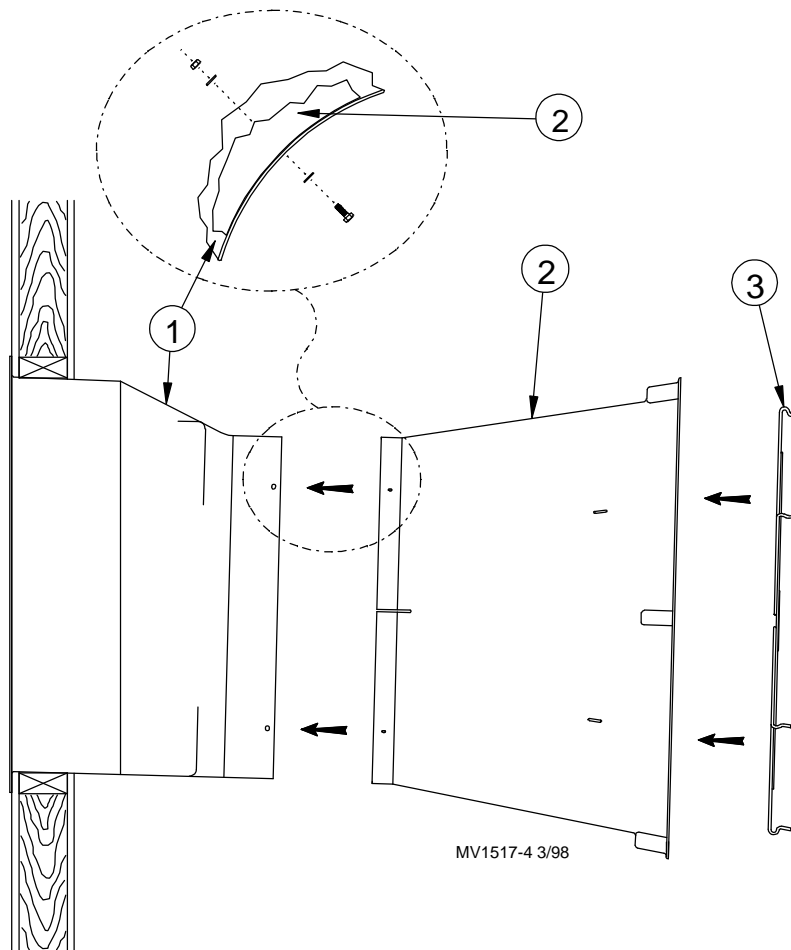
**Figure 3. Installing Turbo Fan into Framed Wall**

## Step 3 - Installing the Cone and Grill or Cover and Guard

### Installing the Cone and Grill

Cones may be installed to improve the performance of the Turbo Fans. Slide the Cone over the Turbo Fan and align the holes and assemble using the included 1/4-20 x 3/4 bolts, 5/8 outside diameter flat washers, and 1/4-20 plastic nuts, as shown in **Figure 4**.

A Grill **must** be installed inside the Cone to prevent injury from rotating blades. Assemble as shown in **Figure 4**.



Item	Description
1	Turbo Fan
2	Cone
3	Grill

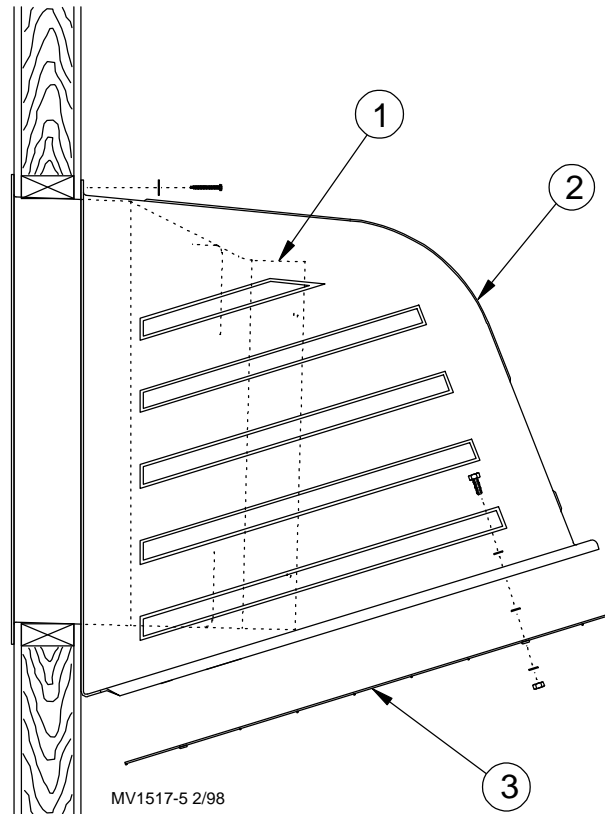
**Figure 4. Installing the Cone and Grill**

## Installing the Weather Cover and Cover Guard

The Plastic Hood should be installed over the fan as shown in **Figure 5**.

The Hardware Kit includes 2" screws or 2-1/2" nails and 1" outside diameter washers to secure the Hood to the building.

Install the Guard Cover on the Weather Cover opening, using the 1/4-20 x 7/8 plastic bolts, 5/8 outside diameter flat washers, and 1/4-20 plastic nuts supplied. See **Figure 5**.



Item	Description
1	Turbo Fan
2	Weather Cover
3	Cover Guard

**Figure 5. Installing the Weather Cover and Cover Guard**

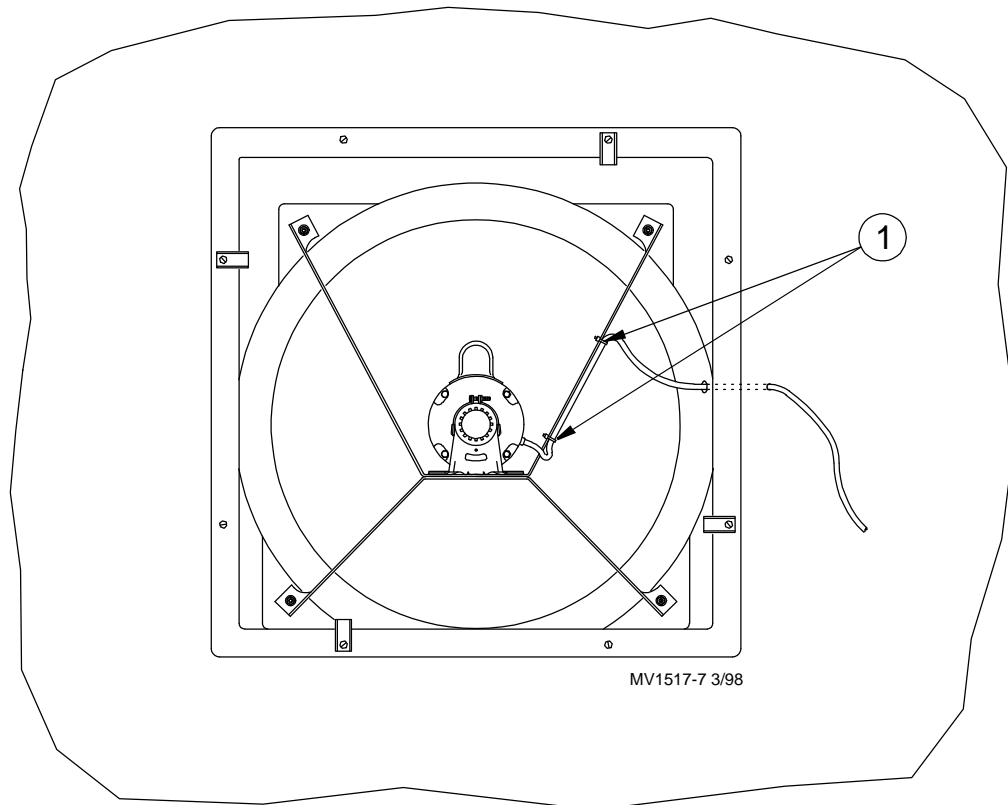
## Step 4 - Motor Cord Routing

Install an electric disconnect within reach of each Fan.

Route the Motor Cord along the Upper Motor Mount Bracket and attach with the included Wire Ties. See **Figure 6**.

Some installations may require an exit hole for the motor cord be drilled in the side of the Turbo Fan. These installations must have electrical wires routed through conduit to protect them from damage. See **Figure 6**.

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



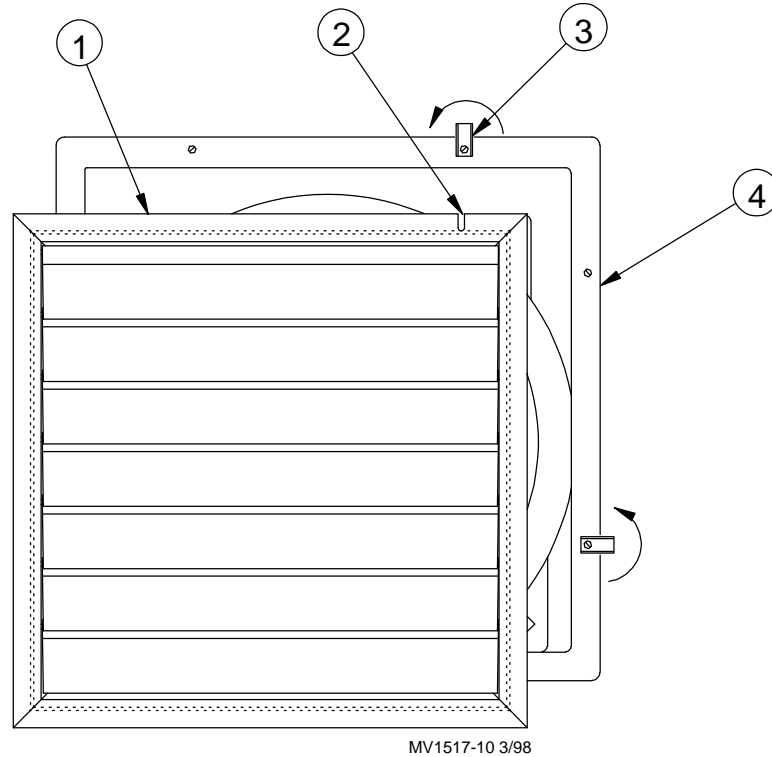
Item	Description
1	Wire Tie

**Figure 6. Routing the Motor Cord**

## Step 5 - Shutter Installation

If the cord is not routed through the side wall of the fan, cut a 3/8" slot in the top flange of the shutter to route the Motor Cord through when the Shutter is installed. See **Figure 7**.

Place the Shutter in the Turbo Fan opening and lock it in place by rotating the Shutter Clips. See **Figure 7**.



Item	Description
1	Shutter
2	3/8" Slot in Shutter Flange
3	Shutter Clip
4	Turbo Fan Housing

Figure 7. Installing the Shutter

## 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.

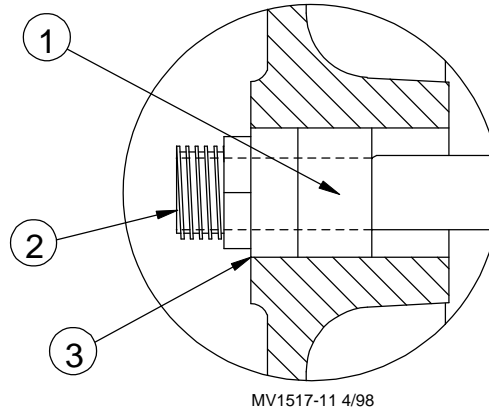
Keep the fan clean for maximum life and best performance.

## Fan Blade Mounting

To mount the fan blade, align blade, bushing and shaft as shown in **Figure 8**. Use 3/4" socket or closed end wrench to torque nut on bushing to 175 in. lbs.

### IMPORTANT

**Do not lubricate or clean bushing.**



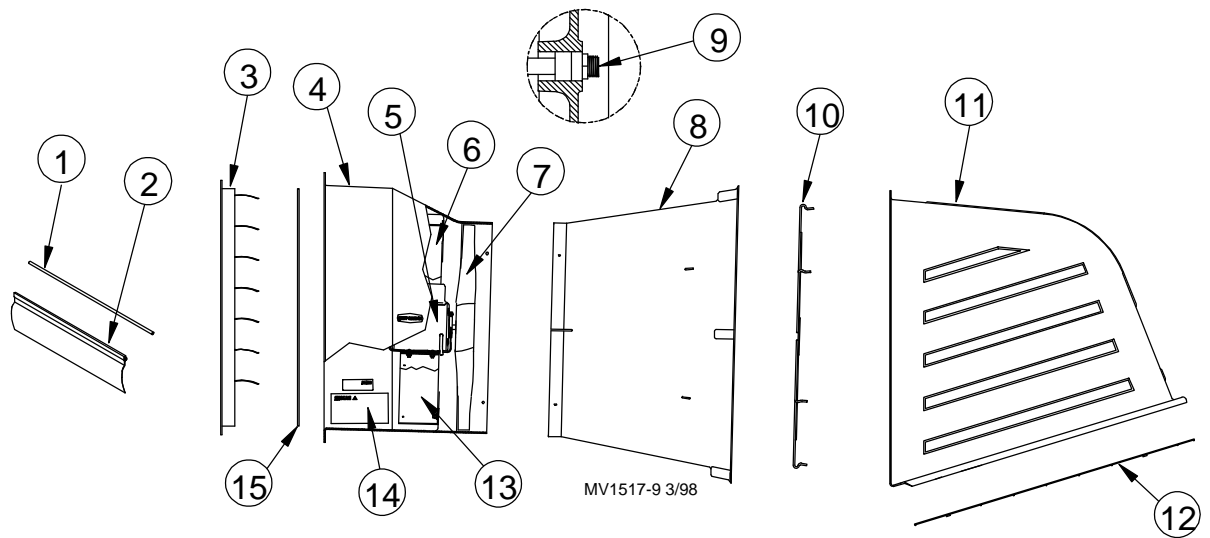
Item	Description
1	Fan Motor Shaft
2	Align end of Fan Motor Shaft flush with 1/2" Expanding Bushing
3	Align Fan Blade Hub flush with 1/2" Expanding Bushing as shown

**Figure 8. Aligning Blade, Bushing and Shaft**

## Part Numbers for Fiberglass Turbo Fans

	60 Hz			50 Hz	
	14" Part No.	18" Part No.	24" Part No.	18" Part No.	24" Part No.
Fan with Cone and Shutter	40452-1422	40452-1822	40452-2422	40452-1832	40452-2432
Fan with Weather Cover and Shutter	40453-1422	40453-1822	40453-2422	40453-1832	40453-2432

# Fiberglass Turbo Fan Parts Listing



Item	Description	60 Hz			50 Hz	
		14" Part No.	18" Part No.	24" Part No.	18" Part No.	24" Part No.
1	Shutter Pivot Rod	38702-8	38702-7	38702-9	38702-7	38702-9
2	Shutter Louver	38038-8	38038-7	38038-9	38038-7	38038-9
3	Shutter	40604	40603	40602	40603	40602
4	Fiberglass Housing	40437	40324	40177	40324	40177
5	Motor	7296	7034	33893	7034	3005
6	Upper Motor Mount	40456	40439	40123	40439	40123
7	Fan Blade	40673	40672	40671	40672	4146
8	Fan Cone	40459	40441	40179	40441	40179
9	Expanding Bushing 1/2"	40674	40674	40674	40674	-
10	Fan Grill	40460	40442	35338	40442	35338
11	Weather Cover	7442	6948	6950	6948	6950
12	Weather Cover Guard	7374	7440	7009	7440	7009
13	Lower Motor Mount	40455	40440	40124	40440	40124
14	Danger Decal	2527-50	2527-50	2527-50	2527-50	2527-50
15	Winter Shutter Insert (Optional)	41141-1	41141-2	41141-3	41141-2	41141-3



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

**Revisions to this Manual**

<b>Page No.</b>	<b>Description of Change</b>
14	Added Fan Blade Mounting instruction.
14-15	Added 50 Hz Part Numbers to the tables.
6	Added 50 Hz to Motor Specifications table.

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

**CTB, Inc.  
P.O. Box 2000  
Milford, Indiana 46542-2000 U.S.A.  
Phone: 219-658-4101 · E-Mail: [ctb@ctbinc.com](mailto:ctb@ctbinc.com)**

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