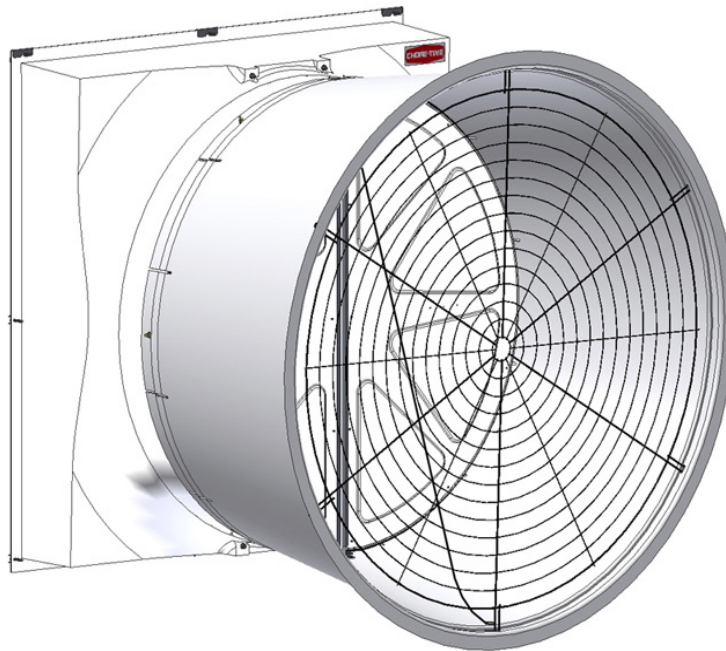


52" TURBO® Fan with HYFLO® Door and One Piece Cone Installation & Operator's Instruction Manual



Fan Type	Sub Assembly Part No.	Bess Lab Test No.	Voltage	Hz	Ph	HP	Fan rpm	cfm @ .10" w.c.	cfm/Watt .10" w.c.
Standard	49862-22*	04334	230	60	1	1.5	564	24900	20.8
High Capacity	49862-21*	04312	230	60	1	1.5	611	27700	18.3
Standard	49862-42*	04335	200-230/400-460	60	3	1.5	566	24800	20.5
High Capacity	49862-41*	04318	200-230/400-460	60	3	1.5	615	27900	18.2
High Capacity	49862-51*		200-230/380-415	50	3	1.5			

*Part Numbers shown are for White Fans. Add a "B" to the Part Number *example: "49862-22B"* for a Black Fan.



Limited Warranty

Chore-Time Group, a division of CTB, Inc. (“Chore-Time”) warrants new CHORE-TIME Turbo® Fans manufactured by Chore-Time to be free from defects in material or workmanship under normal usage and conditions, for One (1) year from the date of installation by the original purchaser (“Warranty”). Chore-Time provides for an extension of the aforementioned Warranty period (“Extended Warranty Period”) with respect to certain Product parts (“Component Part”) as set forth in the table below. If such a defect is determined by Chore-Time to exist within the applicable period, Chore-Time will, at its option, (a) repair the Product or Component Part free of charge, F.O.B. the factory of manufacture or (b) replace the Product or Component Part free of charge, F.O.B. the factory of manufacture. This Warranty is not transferable, and applies only to the original purchaser of the Product.

Component Part	Extended Warranty Period
TURBO® Fan fiberglass housings and cast aluminum blades	For as long as the original purchaser owns the product.
TURBO® Fan motors and bearings	Two years from date of installation.
TURBO® Fan components, including plastic shutters, fiberglass doors, and polyethylene cones	Three years from date of installation.

CONDITIONS AND LIMITATIONS

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, INCLUDING, WITHOUT LIMITATION, WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSES. CHORE-TIME shall not be liable for any direct, indirect, incidental, consequential or special damages 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. *Some jurisdictions prohibit limitations on implied warranties and/or the exclusion or limitation of such damages, so these limitations and exclusions may not apply to you. This warranty gives the original purchaser specific legal rights. You may also have other rights based upon your specific jurisdiction.*

Compliance with federal, state and local rules which apply to the location, installation and use of the Product are the responsibility of the original purchaser, and CHORE-TIME shall not be liable for any damages which may result from non-compliance with such rules.

The following circumstances shall render this Warranty void:

- Modifications made to the Product not specifically delineated in the Product manual.
- Product not installed and/or operated in accordance with the instructions published by the CHORE-TIME.
- All components of the Product are not original equipment supplied by CHORE-TIME.
- Product was not purchased from and/or installed by a CHORE-TIME authorized distributor or certified representative.
- Product experienced malfunction or failure resulting from misuse, abuse, mismanagement, negligence, alteration, accident, or lack of proper maintenance, or from lightning strikes, electrical power surges or interruption of electricity.
- Product experienced corrosion, material deterioration and/or equipment malfunction caused by or consistent with the application of chemicals, minerals, sediments or other foreign elements.
- Product was used for any purpose other than for the care of poultry and livestock.

The Warranty and Extended Warranty may only be modified in writing by an officer of CHORE-TIME. CHORE-TIME shall have no obligation or responsibility for any representations or warranties made by or on behalf of any distributor, dealer, agent or certified representative.

Effective: April 2014

Safety

Warning



This product has inherent dangers, which can cause damage or loss to persons or equipment if the warnings in this manual are not adhered to. Please read and follow all instructions.

Personnel Requirements



This product must only be used by persons adequately trained in the hazards, dangers, and risks of the equipment.

All users of this product must be trained in the following areas:

- Health and safety hazards relating to use of this machine throughout its entire life cycle
- Devices provided for safety of the operator
- Instructions for safe shutdown in case of emergency

The employer must assume the following responsibilities:

- To provide necessary personal protective equipment required
- To ensure normal maintenance operations are carried out
- To provide necessary repair parts in a timely manner

General Requirements



Safety devices must remain in good working condition and may not be bypassed or rendered ineffective. The fan must not be operated with guards removed. All maintenance work must be done with electrical power isolated from the machine via proper device in accordance with local and national laws. The user must ensure that the environmental and electrical supply conditions in which the fan operates are within the limits specified in this manual or on product labels. Modification to this machine in any way are prohibited unless given written consent by CTB, Inc. Unauthorized modifications will render the warranty void and can lead to hazardous situations.

Safety Devices



This machine has been designed to operate with fixed guards in order to protect users from physical hazards on both inlet and outlet sides of this fan. They were designed in accordance with national standards. They must not be altered. They must remain in their fixings at all times of operation. If damage or destruction should occur, exact replacements should be fitted immediately. **Reference the technical documentation section at the back of this manual** for more information.

At the time of installation, a proper device should be fitted in the direct vicinity of the fan to act as an emergency stop device. This device must be supplied by the installer. The device must be of a type to satisfy the emergency stop device requirements below.

EN-IEC 60204-1 Section 10.7.2:

- a push-button operated switch with a palm or mushroom head type

Section 10.7.3:

- actuators of emergency stop devices shall be colored RED.

Residual Risks

Despite the level of caution taken and the incorporation of safeguards, some risks will remain. This product has the following hazards:

Hazard	Safeguard	Operator Requirement
Cutting or trapping Ejection of parts	Fixed guards	Maintain all fixed guards in proper location and good condition
Stability	Design Installation Instructions	Maintain product in good operating condition according to manual
Electrical shock	Warning Labels Installation Instructions	Maintain hazard decals in good readable condition Install and operate in accordance with instruction in manual
Noise	Design	Wear hearing protection if in vicinity of product for extended time periods
Transport and Handling	Instructions	Reference manual for precautions to take during transport or handling of this product

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.



Fan and Fan Framing Dimensions

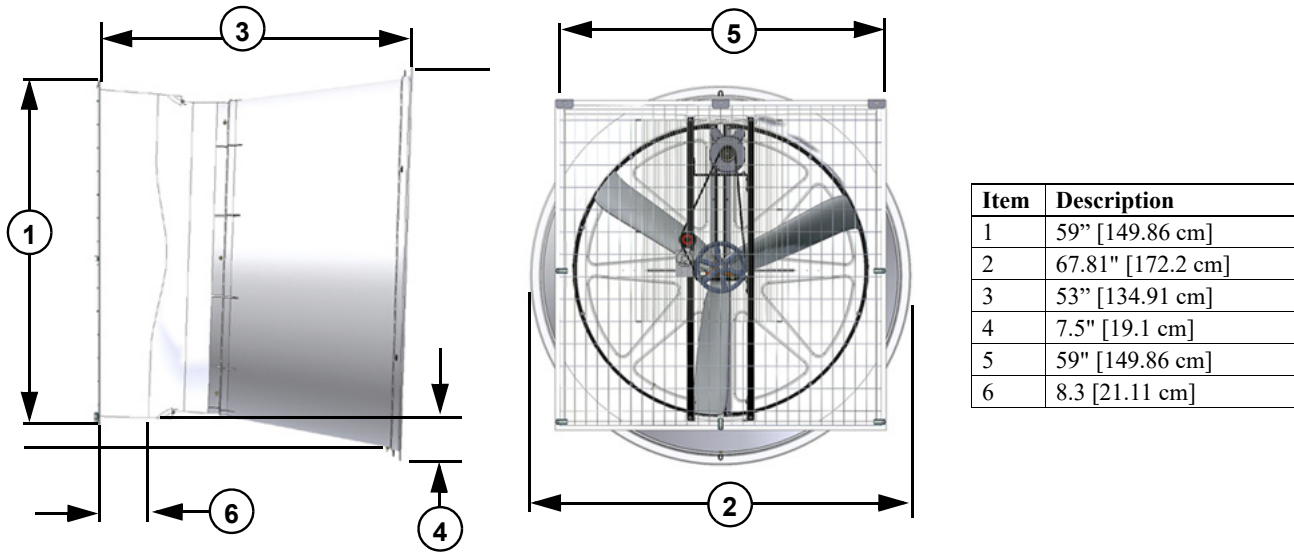
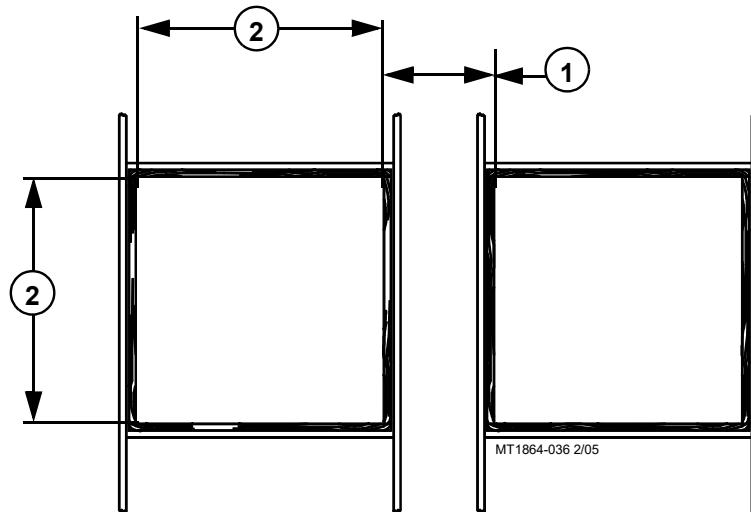


Figure 1. Fan and Framing Dimensions

Planning the layout of the spacing between fans is very important. A Minimum of 13" between Fan rough openings is required so the Cones do not interfere. Dimensions for rough openings for Fans are shown in **Figure 2 below**.



Item	Dimension
1	13" [33 cm] Min. for round Cones
2	56-1/2" [143.51 cm]

Figure 2. Rough opening Spacing

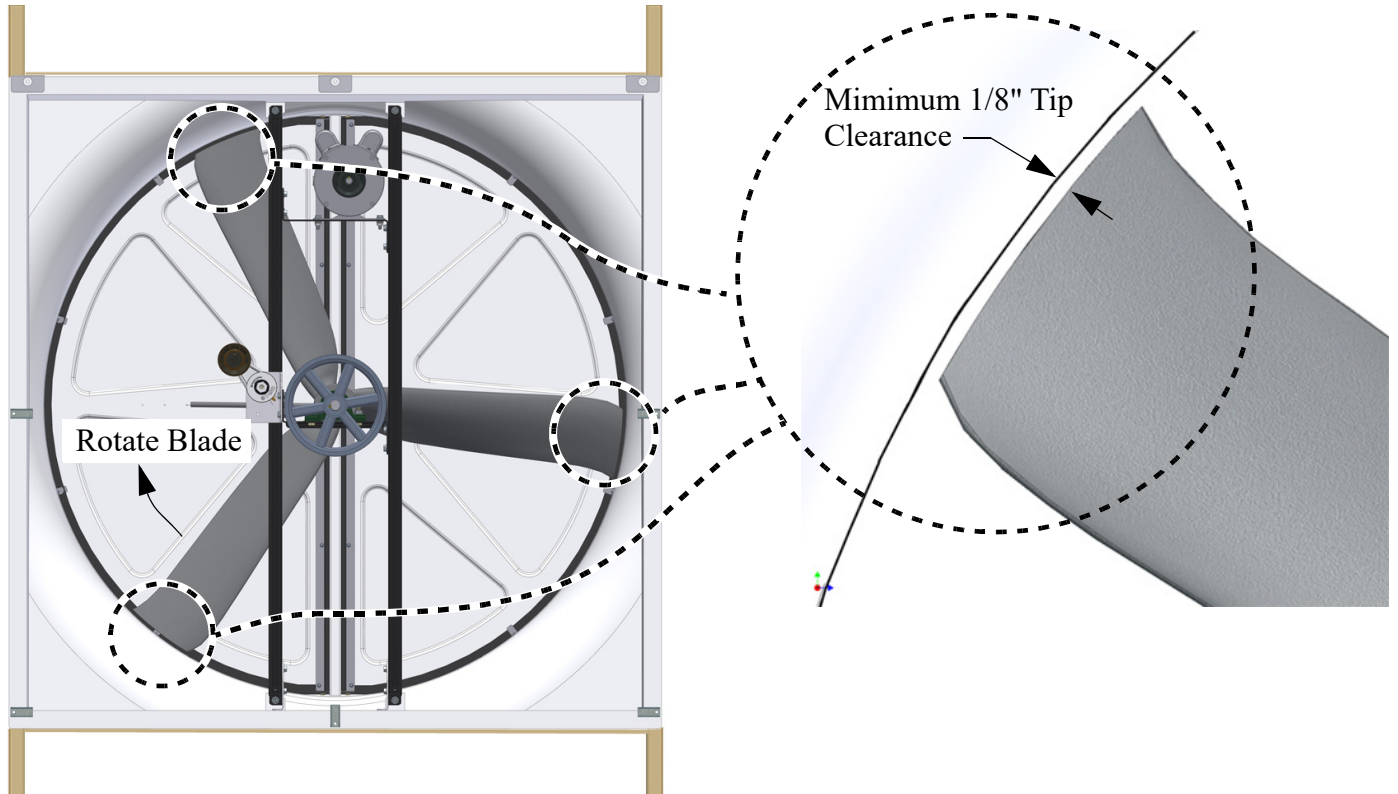
Important! The Fan Inlet and exhaust must be kept clear of obstructions. Failure to keep the Fan airflow path clear of obstructions could cause loss of Fan performance and Fan damage.

Do Not operate these Fans with a variable speed control device. Operating static pressure should be less than 0.15 inches water column.

Installation

Fan Mounting

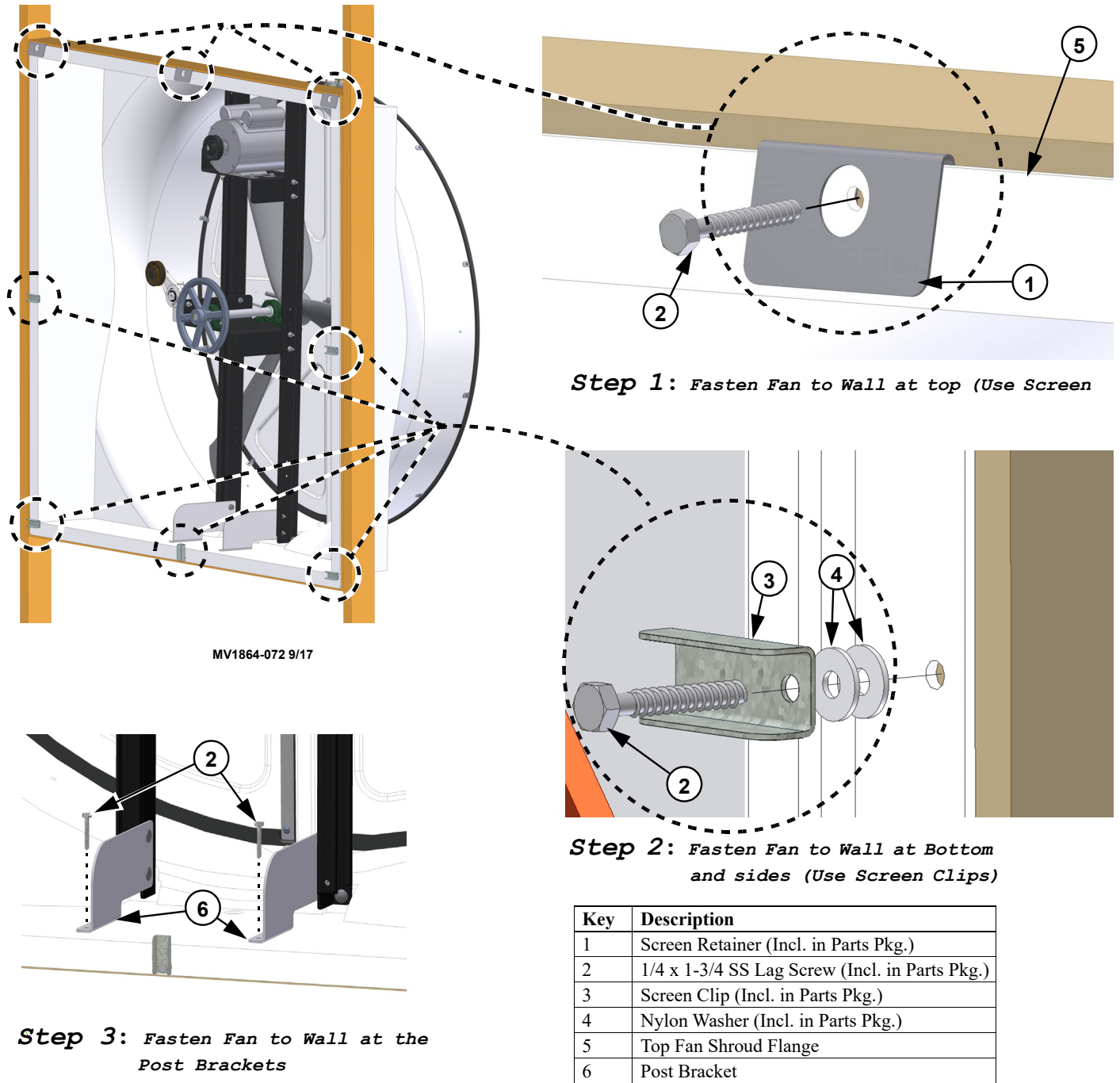
Insert the Fan Assembly in the wall opening. Rotate the Fan Blade by hand and check to make sure that there is a minimum of 1/8" Blade clearance all the way around the Shroud orifice. Shift the Fan around in the wall opening, if needed, to achieve at least 1/8" clearance all the way around. Now the Fan is ready to be attached to the wall.



Step 1: Set the Fan in the Framed Opening. Rotate Fan Blade and Check for 1/8" Blade Tip Clearance

Note: Fan shown without components for clarity.

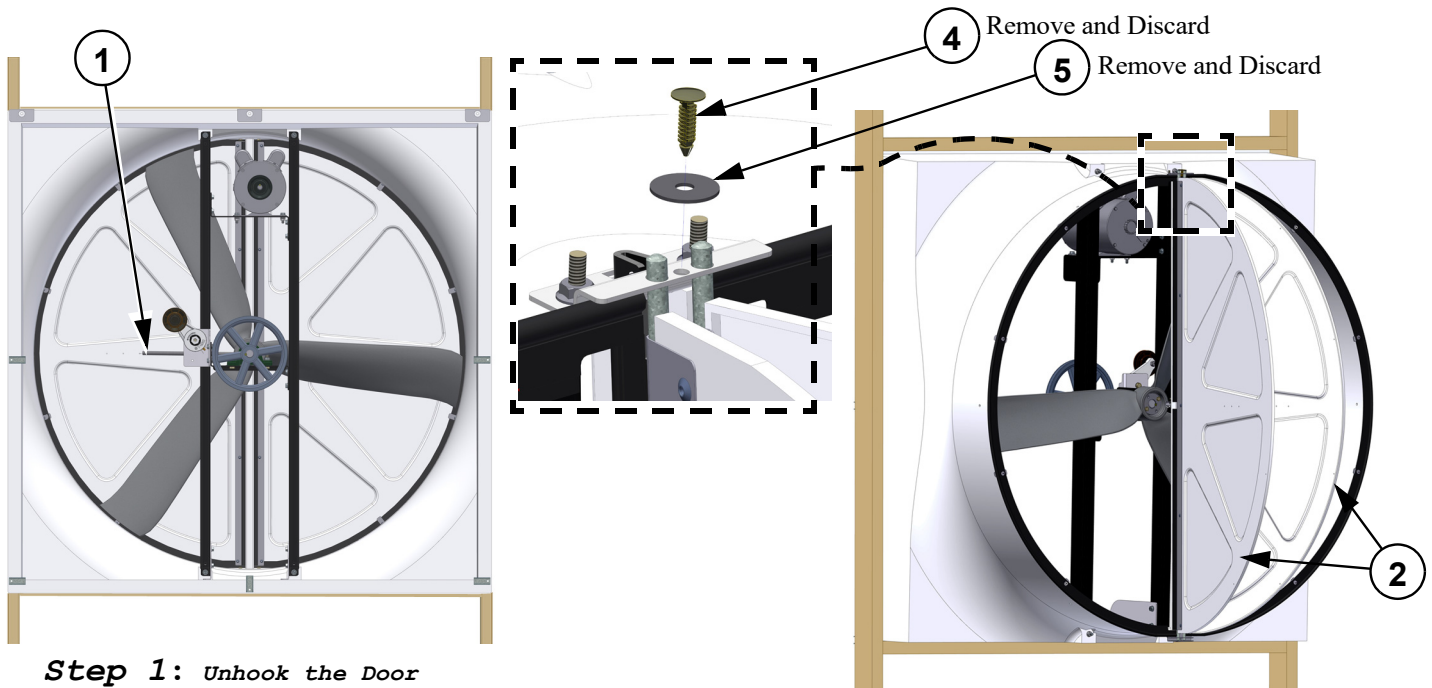
Locate the three holes across the top Fan Shroud flange (**Item 5, Figure 3**). Line up the Screen Retainers included in the Parts Package (**Item 1, Figure 3**) with these three holes, slip them over the top Fan Shroud flange, and using (3) 1/4 x 1-3/4 Lag Screws included in the Parts Package attach the Fan to the Wall (**Step 1, Figure 3**). In each of the remaining 5 holes in the Fan Shroud flange, use a 1/4 x 1-3/4 Lag Screw, two Nylon Washers, and a Screen Clip, all included in the Parts Package, to secure Fan to the Wall as shown below in **Step 2**. Only tighten the Lag Screws enough that the Clip will retain it's position, but can still be rotated by hand. Use two more Lag Screws to attach the Fan to the Wall through the holes in the Post Brackets (**Step 3, Item 6**).



MV1864-072 9/17

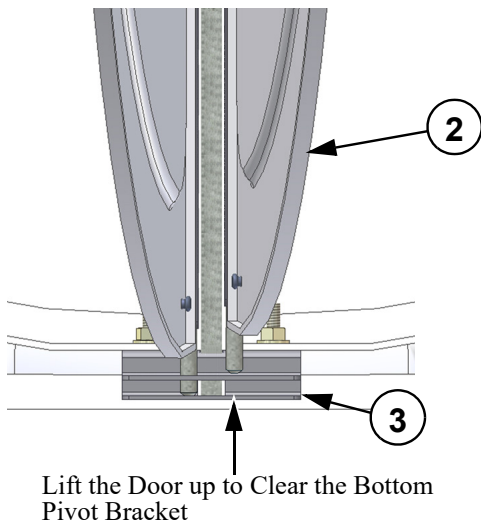
Removing the Doors

To avoid damaging the Fan Doors it is best to remove them before attaching the Cone. Unhook the Door Springs from the Door and leave them attached to the Fan so they are not lost (**Figure 4, Step 1**). Remove the Door Clip and Washer and open up the Doors (**Step 2**). You can discard the Door Clip and Washer. Lift one Door up so it will clear the Bottom Pivot Bracket (**Step 3**), and Pull the Door out (**Step 4**). Set the Door aside. Repeat the same process to remove the second Door.



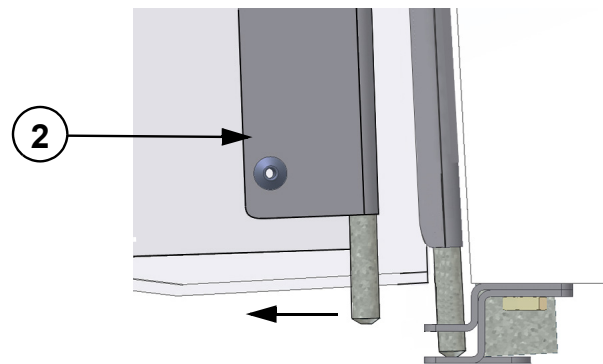
Step 1: Unhook the Door Springs

Step 2: Remove Door Clip and Open the Doors



Lift the Door up to Clear the Bottom Pivot Bracket

Step 3: Lift up the Door



Pull the Door to Clear the Bottom Pivot Bracket

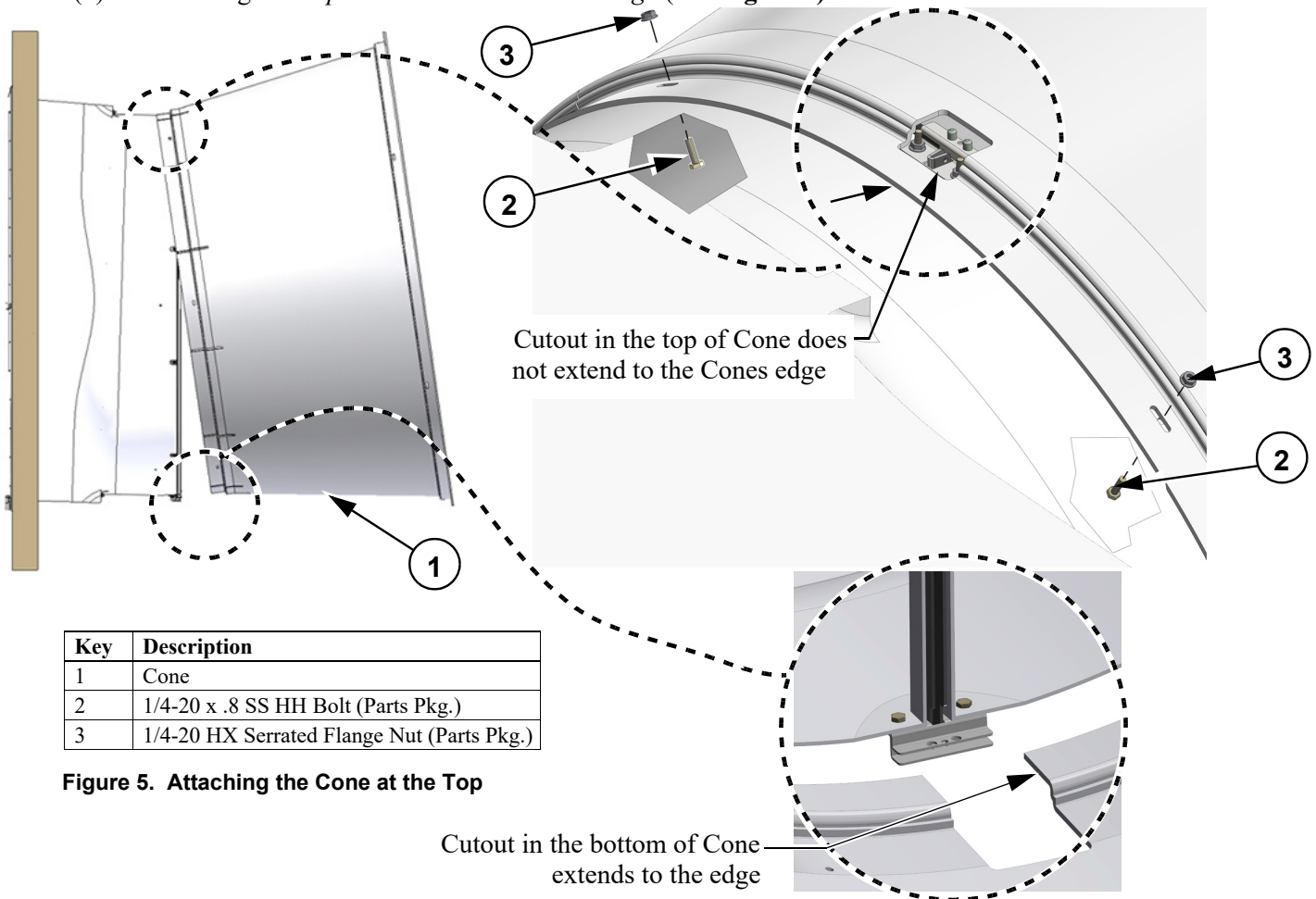
Step 4: Pull the Door out

Key	Description
1	Door Spring
2	Door
3	Bottom Pivot Bracket
4	Door Clip
5	Washer

Figure 4. Removing the Doors

Attaching the Cone

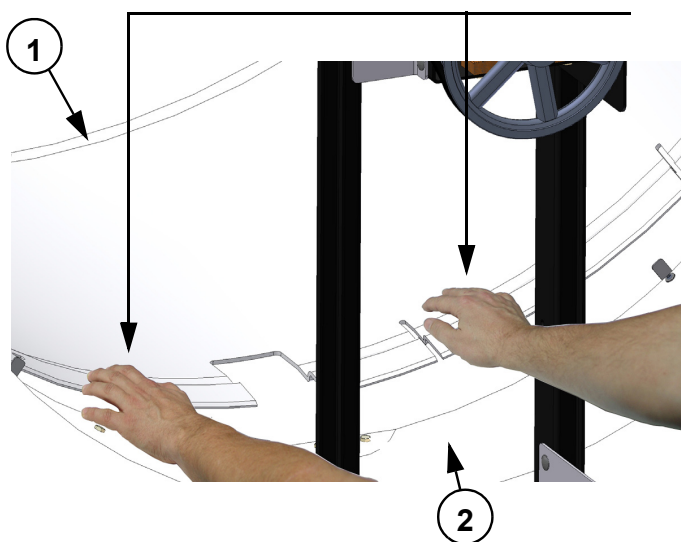
To install the Cone you must first identify the Top of the Cone. The cutout in the **top of the Cone** does not extend out to the Cones edge (See **Figure 5**). Begin Installing the Cone by hooking the top of the Cone over the top of the Fan orifice. At this time only attach the Cone to the Shroud at the upper most two holes using (2) 1/4-20 Bolts and (2) 1/4-20 Flange Nuts *provided in the Parts Package* (See **Figure 5**).



Key	Description
1	Cone
2	1/4-20 x .8 SS HH Bolt (Parts Pkg.)
3	1/4-20 HX Serrated Flange Nut (Parts Pkg.)

Figure 5. Attaching the Cone at the Top

Slide the Remaining Cone over the Shroud orifice, working around the Cone from top to bottom. When you get to the bottom of the Cone it is best to have a second person push down on the Cone from **inside** the Fan as you push the Cone on. (See **Figure 6** below).

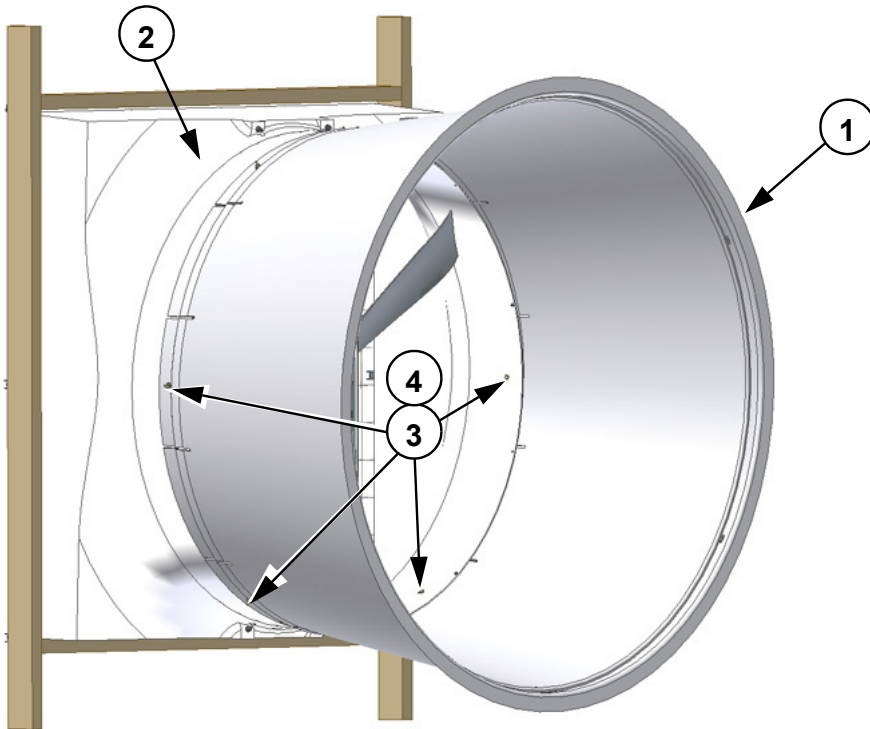


From inside of Fan push down on the Cone while a second person pushes the Cone onto Shroud from the outside.

Key	Description
1	Cone
2	Shroud

Figure 6. Sliding the Cone on at the Bottom

Finish attaching the Cone to the Fan Shroud with (4) 1/4-20 x 7/8 Bolts and Flange Nuts in the (4) remaining holes pre-drilled in the Cone (**Figure 7 below**).

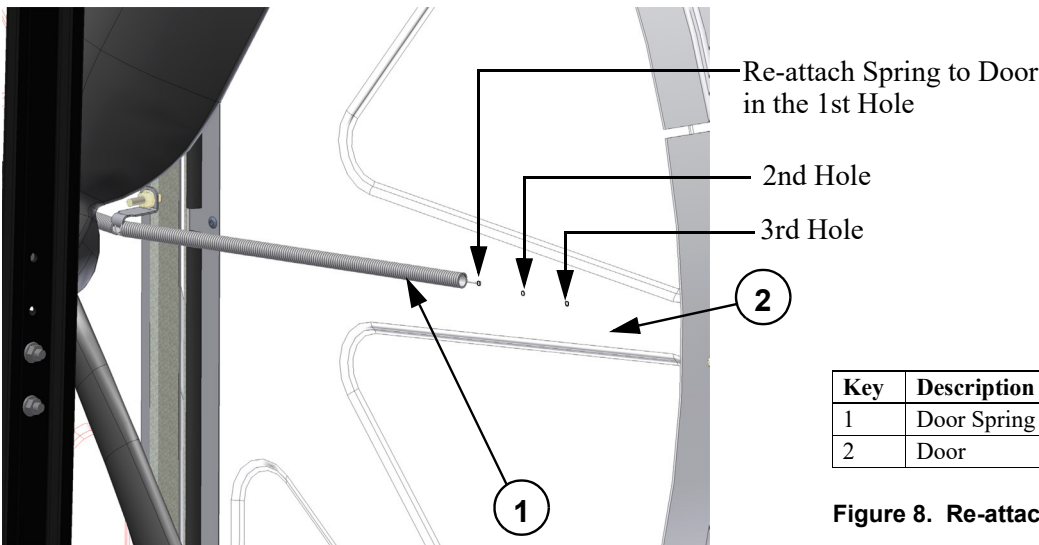


Key	Description
1	Cone
2	Shroud
3	1/4-20 x 7/8 SS HH Bolt (Included in Parts Pkg.)
4	1/4-20 HX Serrated Flange Nut (Included in Parts Pkg.)

Figure 7. Attaching Cone

Replacing the Doors

Replace the Doors by reversing the steps used to remove them in the **Removing the Doors** section of this manual. **Important:** Re-attach the Door Springs to the 1st Hole in the Doors (**Figure 8**). *In windy conditions:* If the Fan Doors do not close when the Fan is off, or if the Doors open before the Fan turns on; increase the Spring tension by re-attaching the Spring to the second or third hole in the Doors.

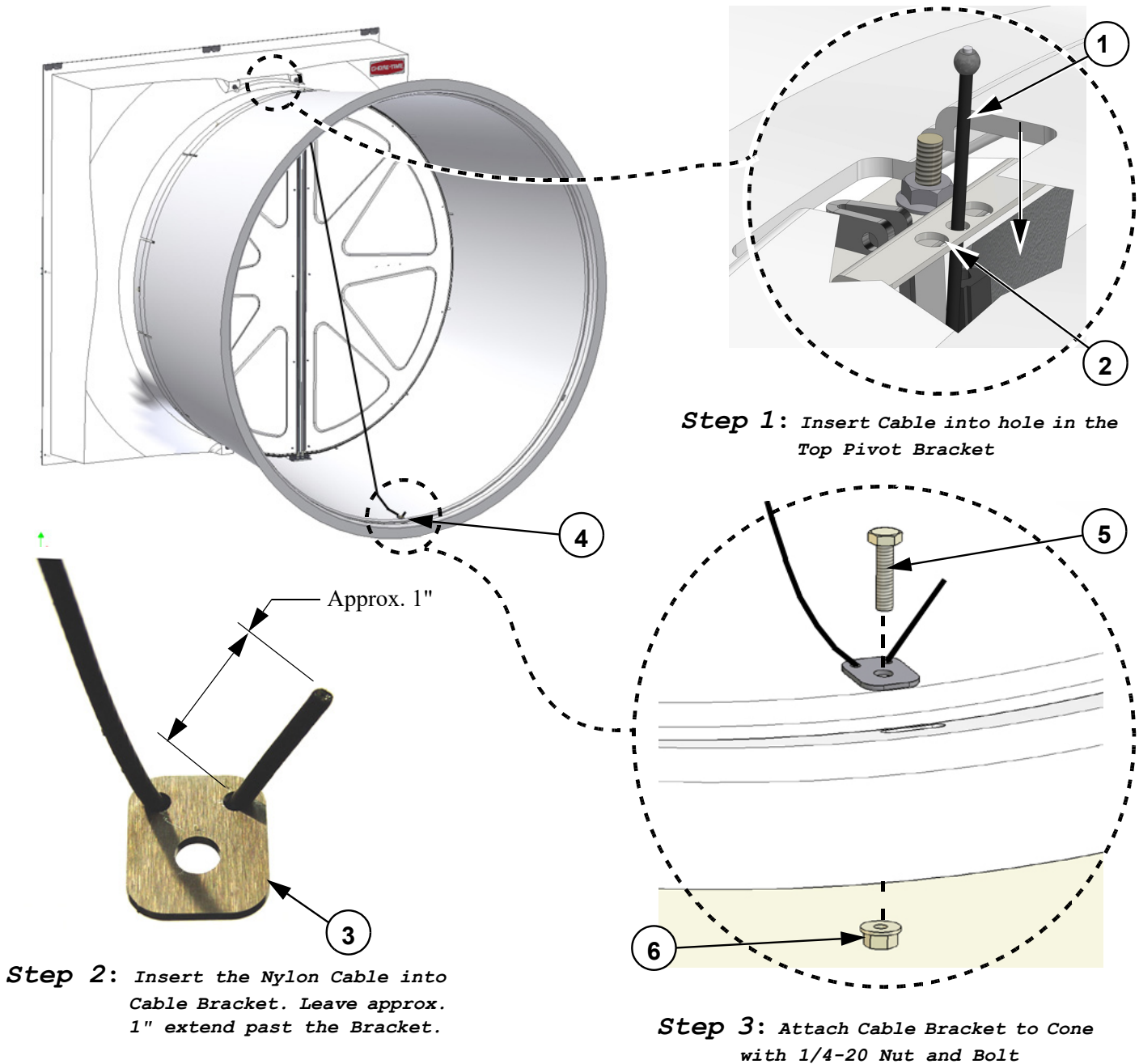


Key	Description
1	Door Spring
2	Door

Figure 8. Re-attaching Door Spring

Attaching the Nylon Cable

Remove the Nylon Cable (**Item 1, Step 1**) from the parts package and insert it into the hole in the Top Pivot Bracket (**Item 2**) as shown. Insert the other end of the Nylon Cable into the Cable Bracket (**Item 3, Step 2**) included in the parts package leaving approximately 1" extend past the Bracket as shown. Attach the Cable Bracket to the hole at the bottom of the Cone (**Item 4**) with a 1/4-20 Flange Bolt (**Item 5**) and Nut (**Item 6**) as shown in **Step 3**



Item	Description
1	Nylon Cable
2	Top Pivot Bracket Hole
3	Cable Bracket
4	Hole in Cone
5	1/4-20 Flange Bolt
6	1/4-20 Flange Nut

Figure 9. Attaching Nylon Cable

Attaching the Grill

Attach the Grill to the Cone by inserting the Grill ends into the slots in the Cone as shown in **Figure 10** below.

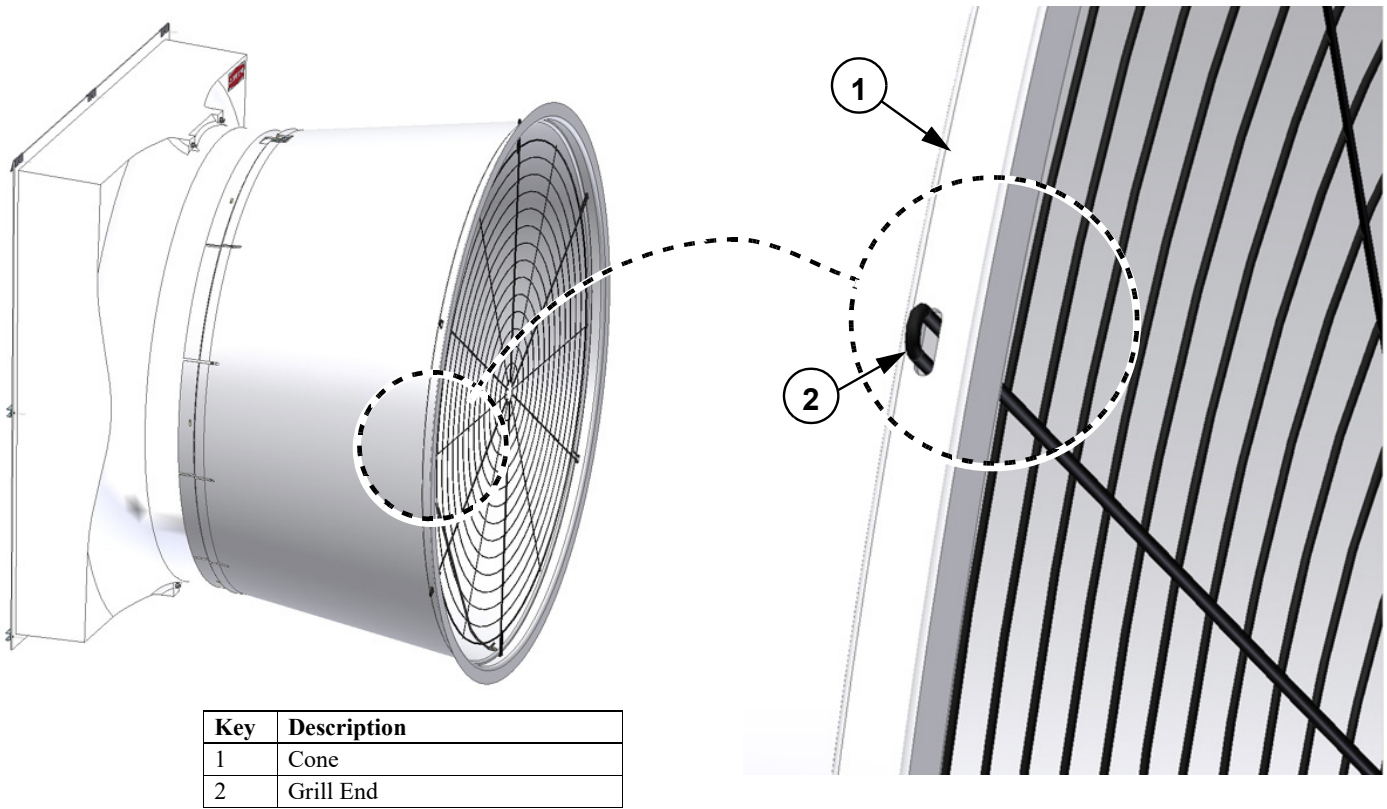


Figure 10. Attaching Grill

Installing the Belt

Install the belt as shown in **Figure 11**.

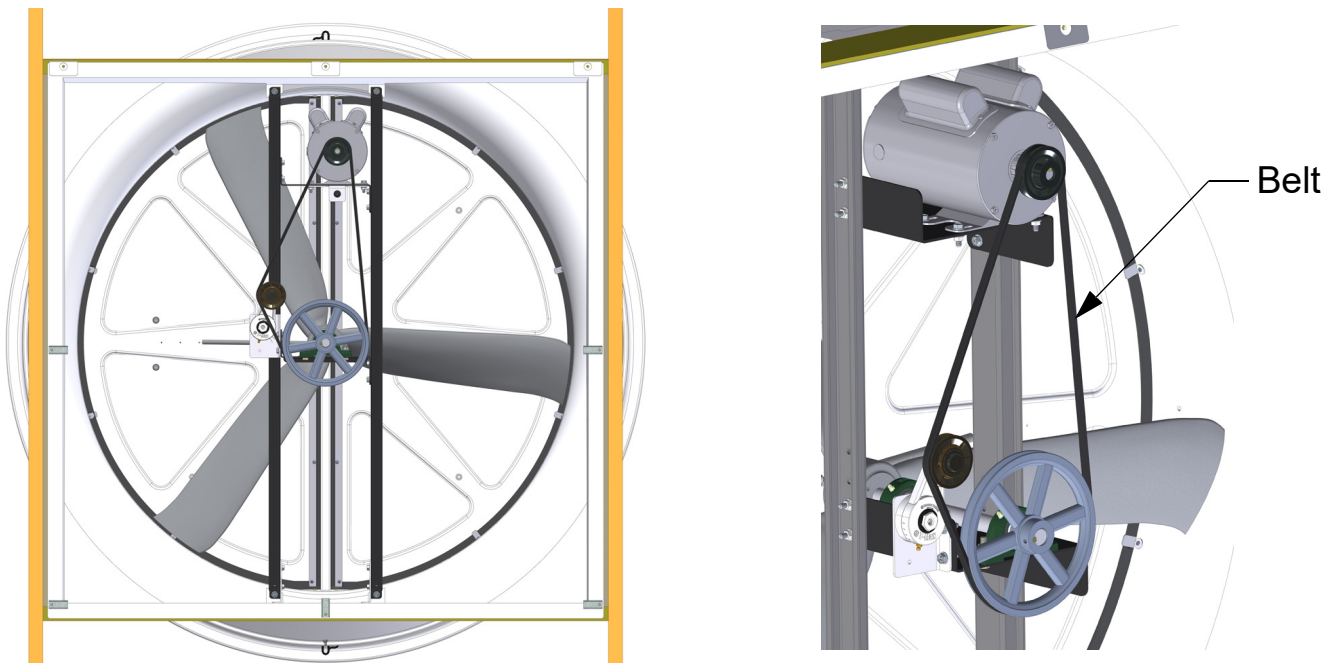
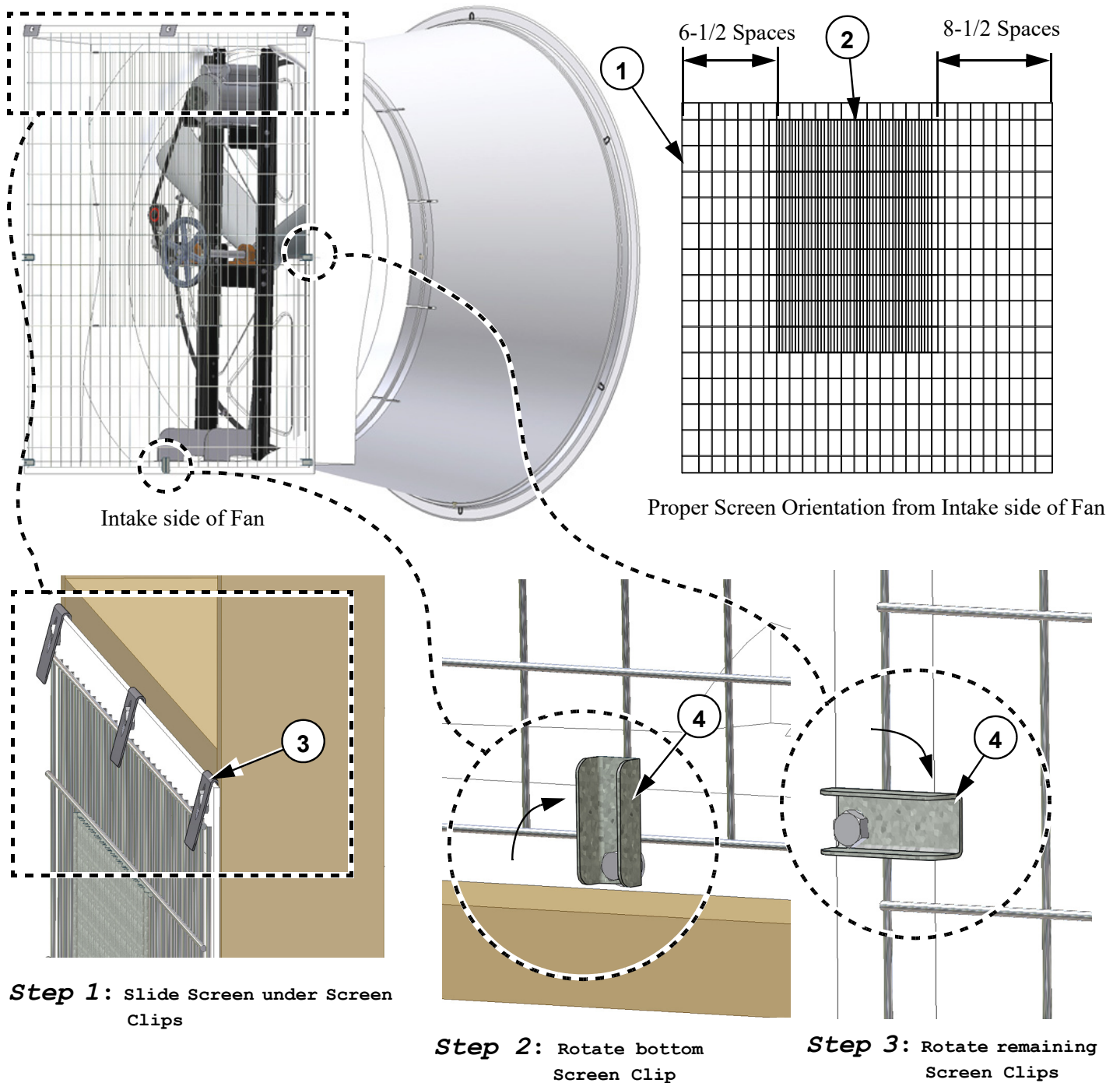


Figure 11. Installing Belt

Installing the Screen

Orient the Screen as shown below with the fine mesh section on the outside of the Fan. Slide the top of the Screen under the Screen Retainers (**Step 1, Figure 12**) and turn the bottom Screen Clip to hold the Screen in place (**Step 2**). Turn the other (4) Screen Clips to secure the Screen in Place (**Step 3**).



Key	Description
1	Screen
2	Insert Screen
3	Screen Retainer (Included in Parts Pkg.)
4	Screen Clip (Included in Parts Pkg.)

Figure 12. Attaching the Screen

Wiring

1. See Wiring diagram on Motor for Motor electrical connections. Follow local, state, and national electrical codes for wiring
2. Install an electrical disconnect within reach of each Fan.
3. Route the motor cord (not supplied) toward the upper left corner of the Fan and attach the cord to the Motor Mount using the Cable Tie—included in the hardware package. Leave a Drip Loop so that moisture collecting on the Cord will not run down and damage the Motor (**See Figure 13**). Cut out a section of the Screen where you want the Cord to exit the Fan, so that the Screen can be removed without the Cord getting in the way (**Figure 13**). Use the Nylon Cord Retainer and Lag Screw provided to secure the Cord to the Wall outside of the Fan. (**Figure 13**)

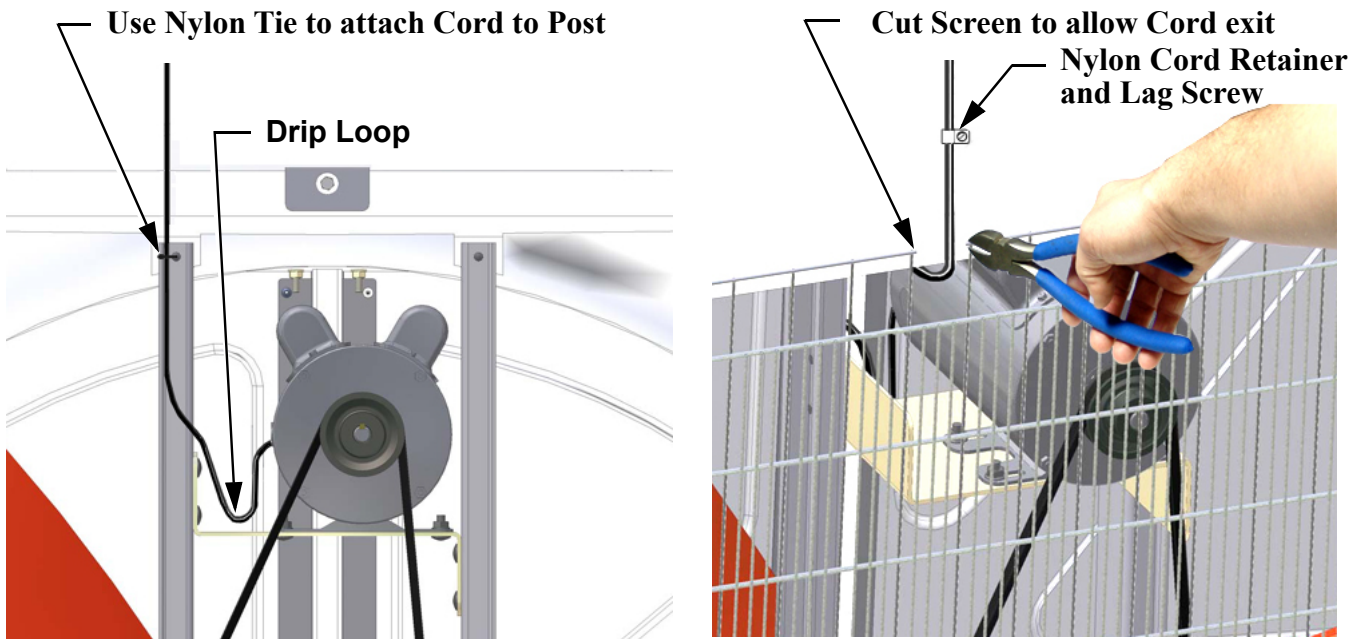


Figure 13. Wiring / Cord Routing

Maintenance

- 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. **Do Not spray water on Fan Shaft Bearings, Belt Tensioner, or the Motor.**
- Periodically check the V-Belt and replace if necessary. A bad Belt will cause a substantial drop in Fan performance or can break and cause Fan failure. If a Belt rides below the Sheave edge, replace the Belt. (See Figure 14)
- Keep HYFLO® Doors, Blades, and Housing clear of obstacles for best air performance.

• Check Sheaves for wear. Replace if Sheave groove is worn. (See Figure 14 to the Right).

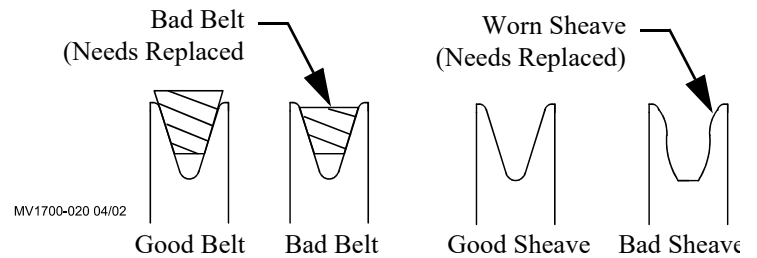


Figure 14. Belt/Sheave Wear

Fan Bearing and Belt Tensioner Lubrication

- Grease zerks are provided for lubrication on the fan shaft bearings and the belt tensioner.
- Lubricate the fan every 2-6 months or whenever these components get wet.
- Disconnect power to the fan before lubricating.
- Clean the zerk before lubricating to prevent contamination from entering the bearing.
- Use a high quality lithium based, NLGI #2, grease such as Shell Gadus S2 V100 2. Do not use incompatible greases containing aluminum, barium, calcium, bentonite clay or polyurea thickeners.
- Slowly rotate the fan shaft by hand while slowly applying the grease. Rapidly applying grease to a stationary bearing can damage the bearing seals.
- Apply about .10 oz (2.8 g, 3.1 cc) of grease at a time or until a slight amount of grease can be seen purging from the seal.

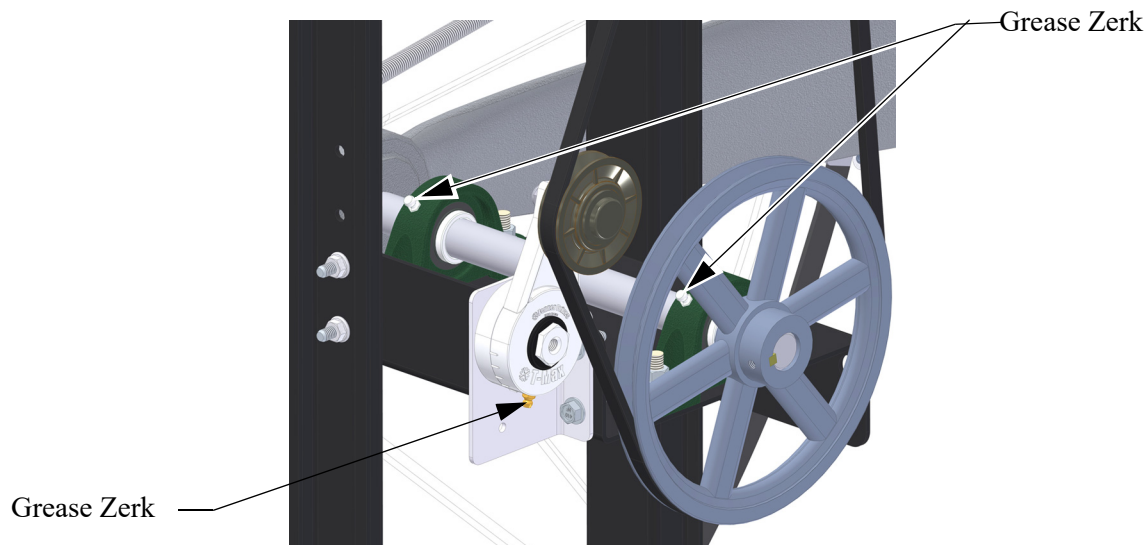
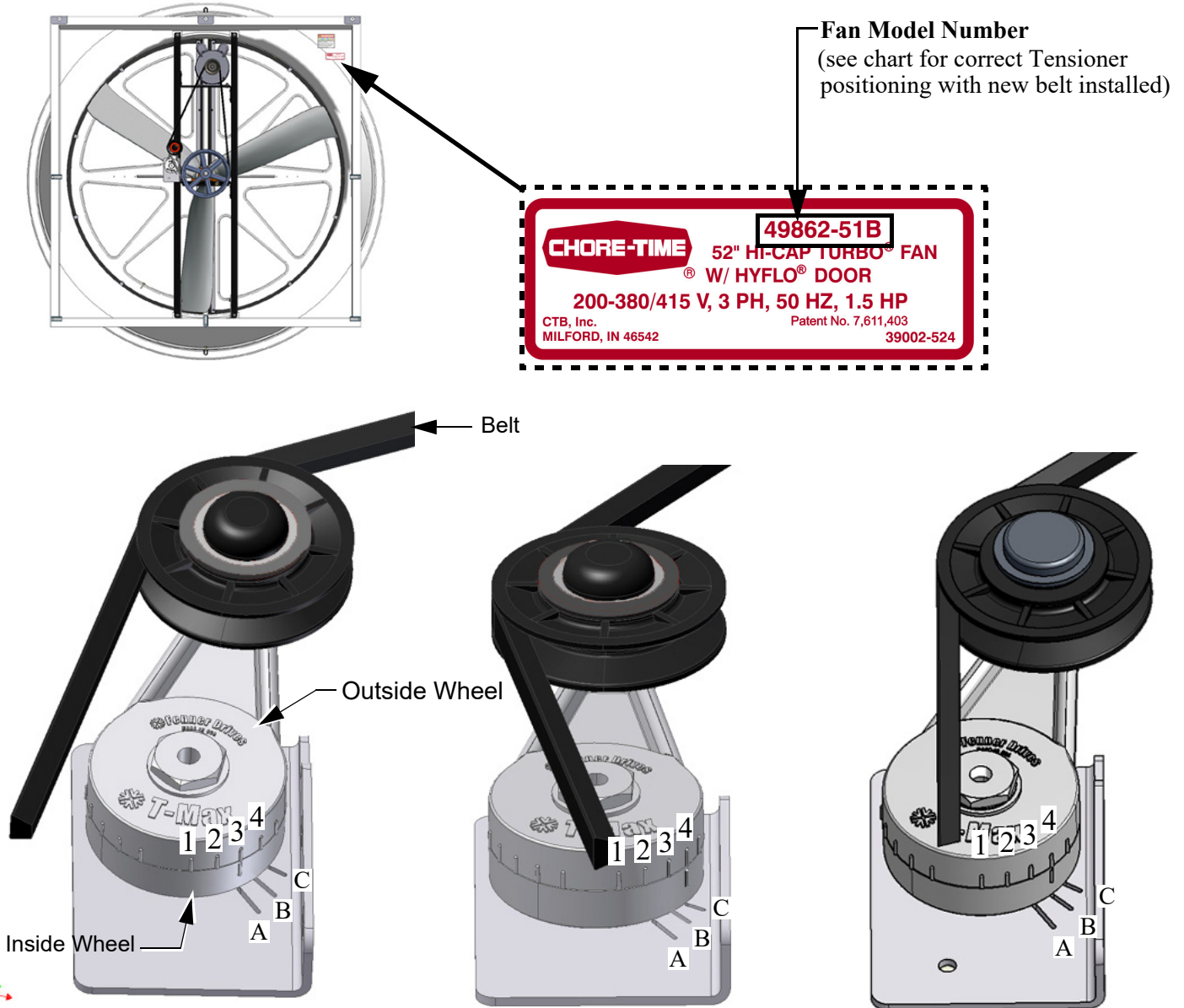


Figure 15. Fan Bearing and Belt Tensioner Lubrication

Belt Tensioner Position

When the Belt is installed the Tensioner will rotate to a set position. The notches on the outside wheel of the Tensioner should line up with the etched mark (A,B, or C *per chart*) on the inside wheel of the Tensioner based on the **chart below**.

Note: When a Belt is worn the Tensioner position may vary as much as 1 full notch from new.



Fan Part No.	Tensioner Position
49862-22 Series	3rd Notch
49862-42 Series	"A" etched mark

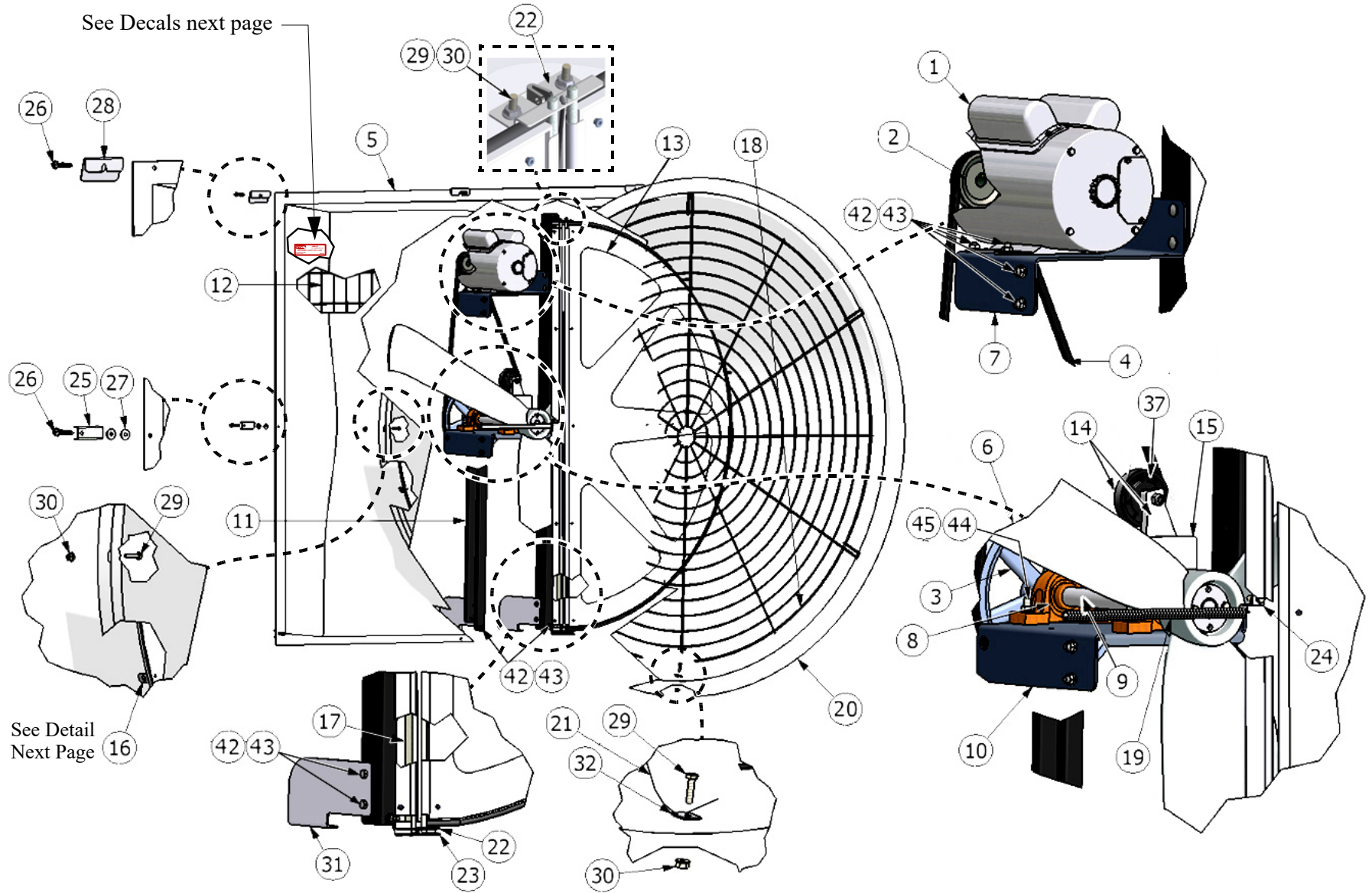
Fan Part No.	Tensioner Position
49862-21 Series	4th Notch
49862-41 Series	"C" etched mark

Fan Part No.	Tensioner Position
49862-51 Series	4th Notch "B" etched mark

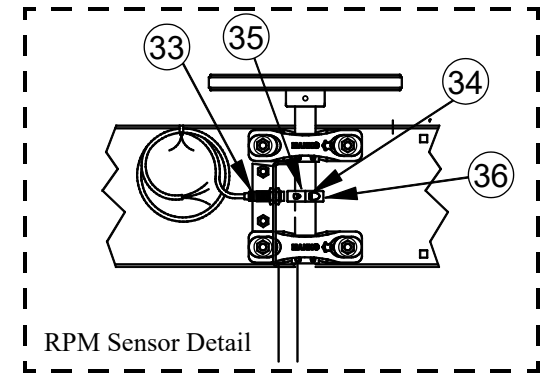
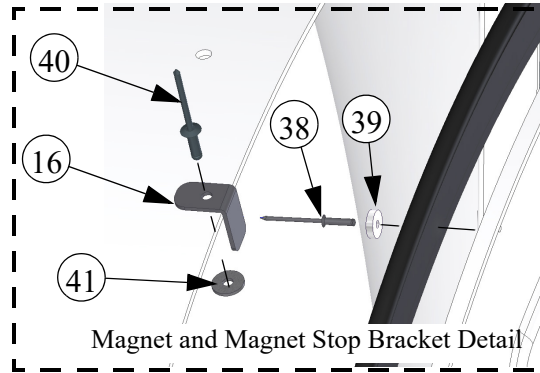
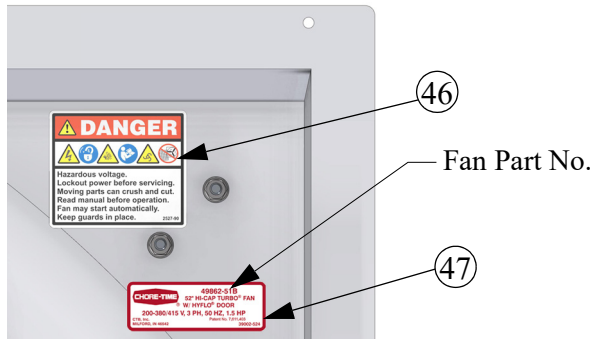
Figure 16. Tensioner position

This page left blank intentionally.....

Part Numbers



Itemized Part Numbers



52" TURBO® Fan with HYFLO® Door 49862-XX (Sub Assembly) See page 1 for ordered Fan Part Number

Item	Part Description	Part No.	Models-XX
1	Motor, 1.5H, 1.67SF 3PH-60HZ, 230/460V, 1.3SF 3PH-50/60HZ, 200-230/380-480V	56102	-42,-41,-51,-51B
	Motor, 1ph, 1.5hp, 60-230V	56708	-22,-21
2	Sheave, 3" Motor (AK30)	8773	All
	Pulley, 3.45" Driven (AK34)	37919	-51,-51B
3	Sheave, 9.25" Driven (AFD94100)	54898	-21,-41
	Sheave, 8.25" Driven (AFD84100)	54897	-22,-42
	Sheave, 7.75" Driven (AK79)	41989	-51,-51B
4	V-Belt (AX59)	48615	-21,-41
	V-Belt (AX60)	48541	-22,-42
	V-Belt (AX58)	46676	-51,-52
5	Shroud, 52" (White Interior)	55204*	-22,-21,-42,-41,-51
	Shroud, 52" (Black Interior)	55204B*	-21B,-22B,-41B,-42B,-51B
6	Blade, Cast Aluminum w/ Bushing	49731	All
7	Motor Support	49734	All
8	Bearing, 1" Pillow Block	50553	All
9	Shaft, 1" dia. x 15.75" SS	49822	All
10	Bearing Support	49735	All
11	Fan Post	49733	All
12	Screen, 52" HYFLO® TURBO® Fan	50049	All
13	Door Assembly (White)	49767	-21,-22,-41,-42,-51
	Door Assembly (Black)	49767B	-21B,-22B,-41B,-42B,-51B
14	Tensioner Assembly	48429	All
15	Tensioner Support	49737	All
16	Magnet Stop Bracket	49738	All
17	Fan Post Brace	56240	All
18	Grill	49693	All
19	Spring, .055 x .50 O.D. x 11"	49629	All

Item	Part Description	Part No.	Models-XX
20	Cone (White)	49686	See Page 1
	Cone (Black)	49686B	See Page 1
21	Cable Assembly	50618-1	All
22	Pivot Bracket	49750	All
23	Pivot Support	49751	All
24	Door Spring Support	49799	All
25	Clip, 2.00 x .7 SS	36729	All
26	Lag Screw 1/4-10 x 1.5"	41561	All
27	Nylon Washer	4856	All
28	Screen Retainer	49908	All
29	Bolt, 1/4-20 x .8 HH	4404-17	All
30	Nut, 1/4-20 HX FLG Ser.	46298	All
31	52" Post Support	50122	All
32	Cable Assembly Bracket	50622	All
33	RPM Sensor Cord Assembly	46111	-41BS,-41S
34	Nylon 1/4-28 x .50 Sensor Bolt	46134	-41BS,-41S
35	Steel Sensor Collar Half	46135	-41BS,-41S
36	Nylon Sensor Collar Half	46136	-41BS,-41S
37	Idler with Bushings (For Repair)	50879	All
38	1/8" Pop Rivet	50461	All
39	.125 x .50 Magnet	48427	All
40	3/16" x 3/8" Pop Rivet	49869	All
41	.192 x .55 Washer	50231	All
42	5/16-18 x 1 SS Shoulder Bolt	54287	All
43	5/16-18 SS Ser. Flange Nut	46764	All
44	3/8-16 x 1.5 SS Bolt	4413-10	All
45	3/8-16 SS Ser. Fl. Nut	50191	All
46	Fan Danger Decal	2529-90	All
47	Fan Description Decal	39002-XXX	All

*Includes items 16,40 and 41



MADE TO WORK.

BUILT TO LAST.®

Revisions to this Manual

Page No.	Description of Change	ECO
19	Added 2527-90 (Decal not called out before)	36204
Various	Pictorial changes to show 2527-90	
2-3	Updated Safety Information	

Note: The original, authoritative version of this manual is the [English] version produced by CTB, Inc. or any of its subsidiaries or divisions, (hereafter collectively referred to as "CTB"). Subsequent changes to any manual made by any third party have not been reviewed nor authenticated by CTB. Such changes may include, but are not limited to, translation into languages other than [English], and additions to or deletions from the original content. CTB disclaims responsibility for any and all damages, injuries, warranty claims and/or any other claims associated with such changes, inasmuch as such changes result in content that is different from the authoritative CTB-published [English] version of the manual. For current product installation and operation information, please contact the customer service and/or technical service departments of the appropriate CTB subsidiary or division. Should you observe any questionable content in any manual, please notify CTB immediately in writing to: CTB Legal Department, P.O. Box 2000, Milford, IN 46542-2000 USA

**For additional parts and information, contact your nearest Chore-Time distributor or representative.
Find your nearest distributor at: www.choretime.com/contacts**

CTB, Inc.
PO Box 2000
Milford, Indiana 46542-2000 USA
Phone (574) 658-4101 Fax (877) 730-8825
Email: choretime@choretime.com
Internet: www.choretime.com