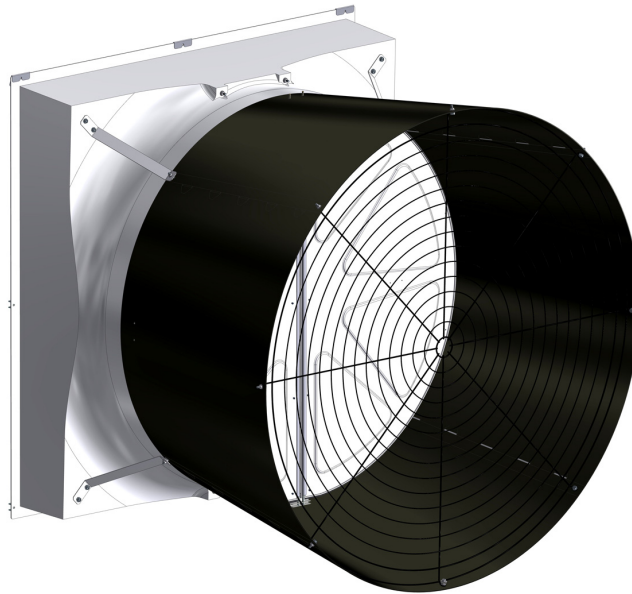


52" TURBO[®] Fan with HYFLO[®] Door & 4 Piece Cone

Installation & Operator's Instruction Manual



Fan Type	Fan Assembly Part No.	Sub Assembly Part No.	Bess Lab Test No.	Voltage	Hz	Ph	HP	Fan rpm	cfm @ .10" w.c.	cfm/Watt .10" w.c.
Standard	49740-22*	56258-22	04334	230	60	1	1.5	564	24900	20.8
High Capacity	49740-21*	56258-21	04312	230	60	1	1.5	611	27700	18.3
Standard	49740-42*	56258-42	04335	200-230/400-460	60	3	1.5	566	24800	20.5
High Capacity	49740-41*	56258-41	04318	200-230/400-460	60	3	1.5	615	27900	18.2
High Capacity	49740-51*	56258-51		200-230/380-415	50	3	1.5			

*Part Numbers shown are for White Fans with White Cones. Add a "B" to the Part Number *example: "56258-22B"* for a Black Fan w/ Black Cone. Add a "BW" for a Black Fan w/ White Cone.



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.



Limited Warranty

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**

Fan and Fan Framing Dimensions

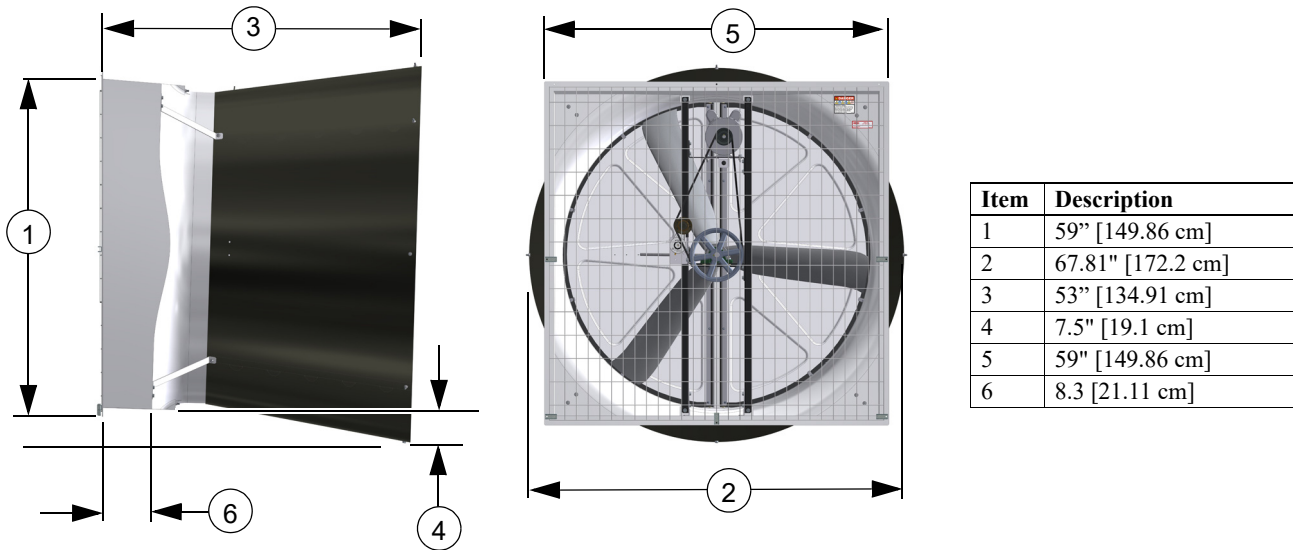


Figure 1.Fan and Framing Dimensions

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.

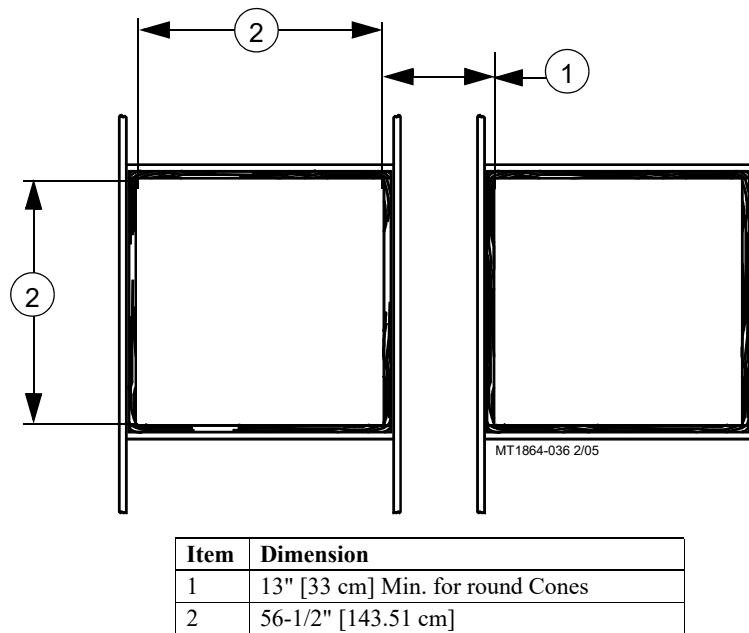


Figure 2.Rough Opening Spacing

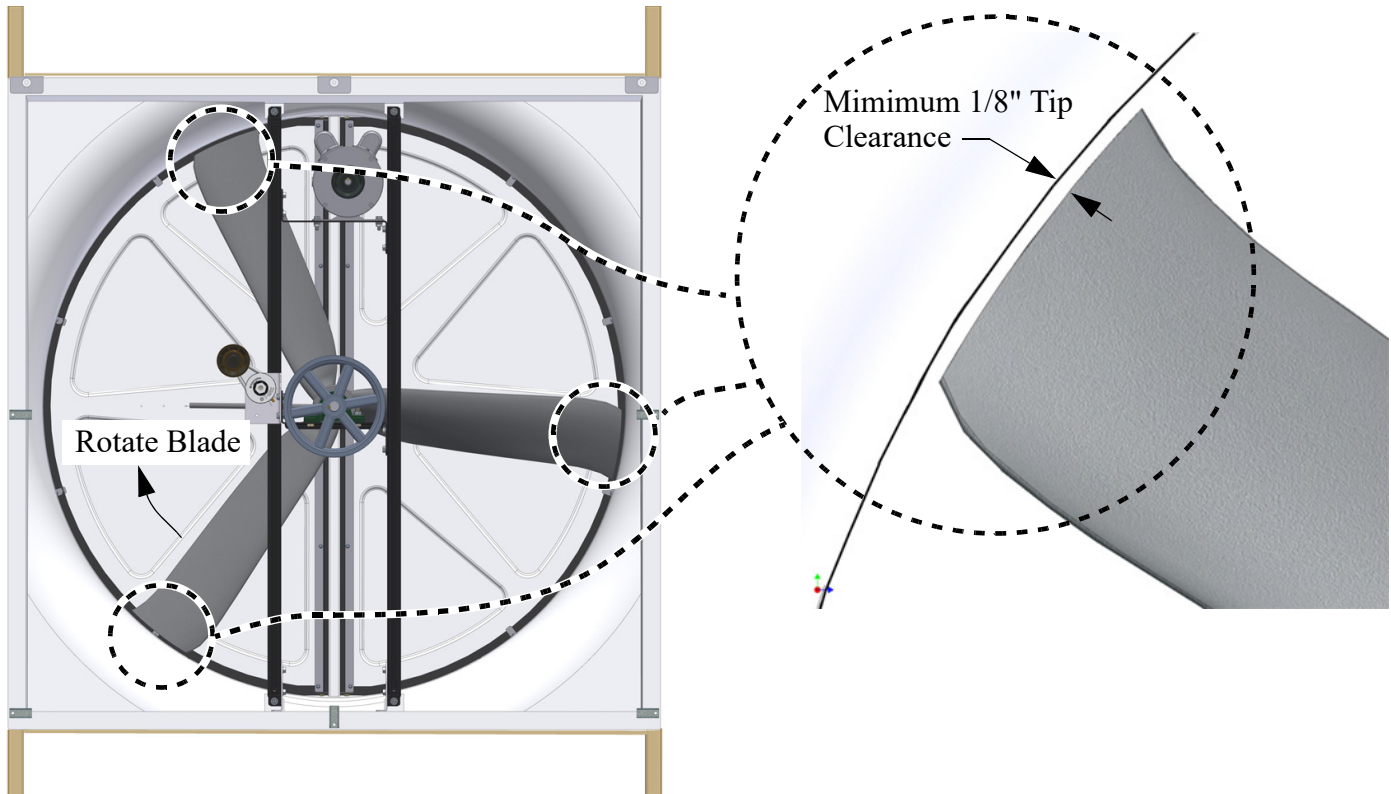
Important! The Fan Inlet and exhaust must be kept clear of obstructions. Failure to keep the Fan airflow path clear of obstructions could cause loss of Fan performance and Fan damage.

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.

Figure 3.Fan Mounting

Locate the three holes across the top Fan Shroud flange (**Item 5, Figure 4**). Line up the Screen Retainers included in the Parts Package (**Item 1**) 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**). 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**).

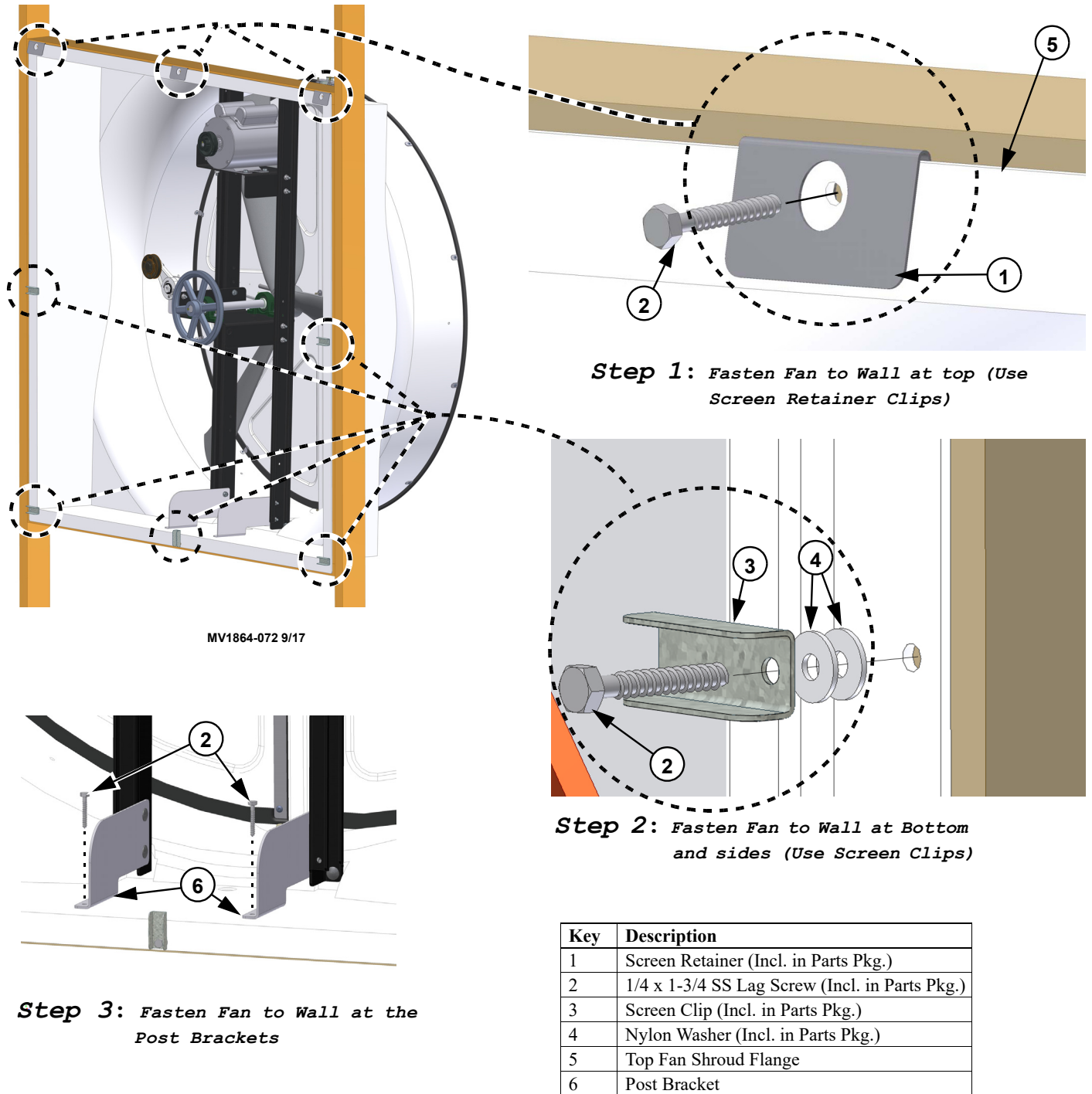


Figure 4. Installing Screen Clips

Assembling the Cone

- A. Lay one panel flat with the tabs oriented to the left. Place a 2x4 or similar underneath the panel just left of the slots on the right side.
- B. Place tabs of a second panel into the slots of the first and ensure they 'pop' together fully.
- C. Lay this second panel flat then move the 2x4 over just to the left of the slots again.
- D. Repeat these steps until all four panels are locked together.
- E. Lift the panels up and curl them into a ring so that the larger diameter is upwards.
- F. Snap the tabs of the first panel into the slots of the fourth panel.
-Ensure all tabs are toward inside of cone!
- G. Fasten all four bottom holes with (54287) bolts and (46764) nuts making sure the bolt heads are on the inside of the cone and the threads are sticking to the outside.
- H. Place the grill (56230) inside the cone and secure with eight more (46764) nuts and (54287) bolts. Make sure seven of these bolts are oriented with the head inside the cone and threads outside. The eighth bolt will be the bottom of the cone. It must be attached with threads inside the cone and head outside the cone. It should not be on any of the four seams between panels.

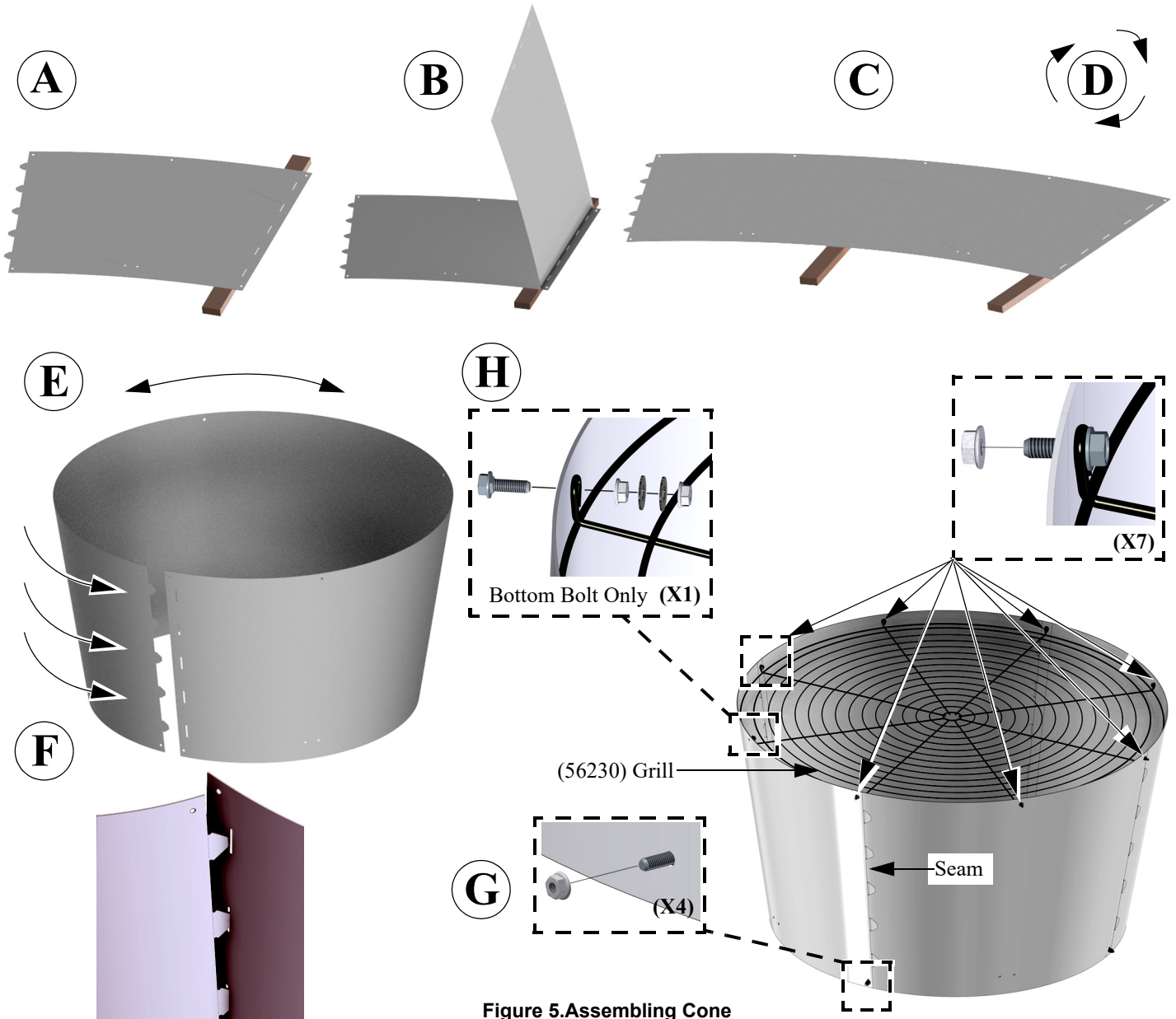


Figure 5. Assembling Cone

Attaching the Cone

1. Orient the the Cone with the Inward pointing Bolt toward the bottom **as shown**.

Important!

2. Hang the Cone on the Cone Bolts as shown in **Figure 6**. Seams between Cone Panels should be oriented toward corners of Shroud **as shown**.

3. Secure the Cone by attaching the Top (2) Cone Brackets to the Bolts in the Cone with additional 5/16-18 Nuts (**46764**) **as shown**.

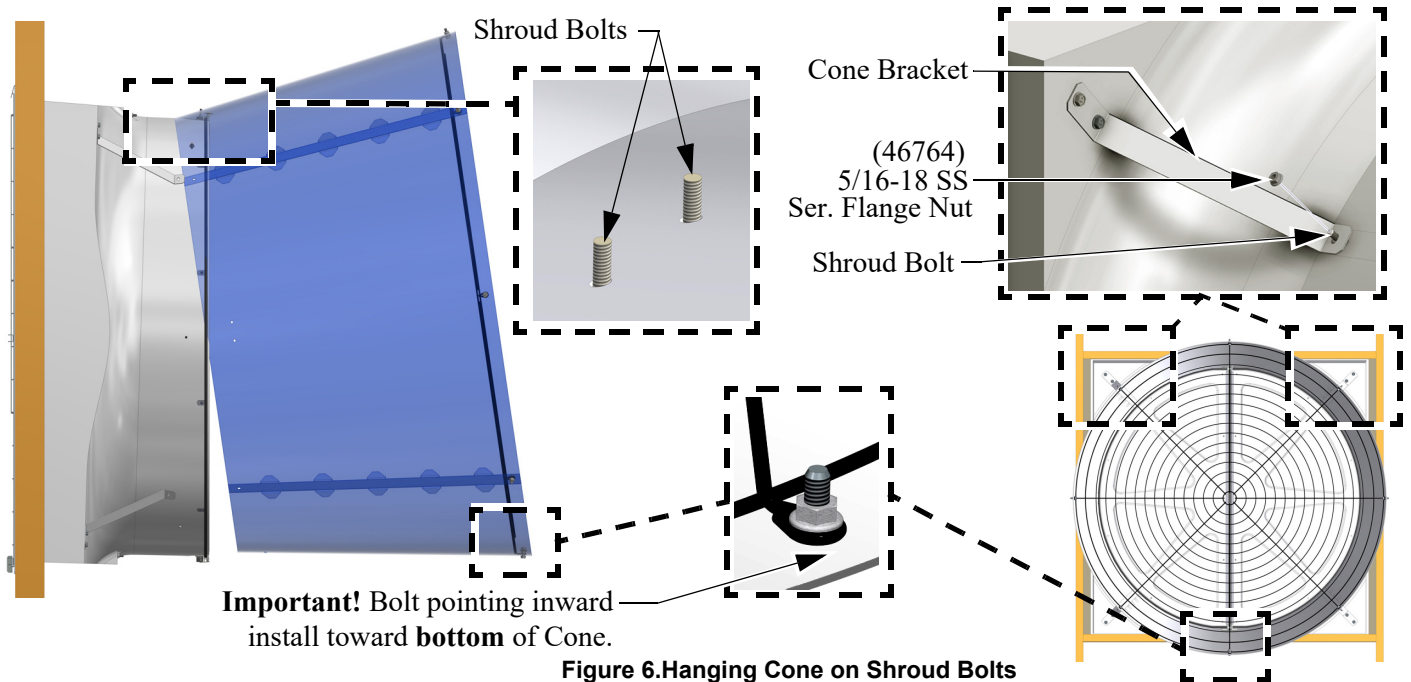


Figure 6. Hanging Cone on Shroud Bolts

4. Use a piece of metal or Pry bar to work the Cone around the Shroud orifice and over the Bottom Plate.

5. Fasten the Bottom (2) Cone Brackets to the Cone with 5/16-18 Nuts (**46764**).

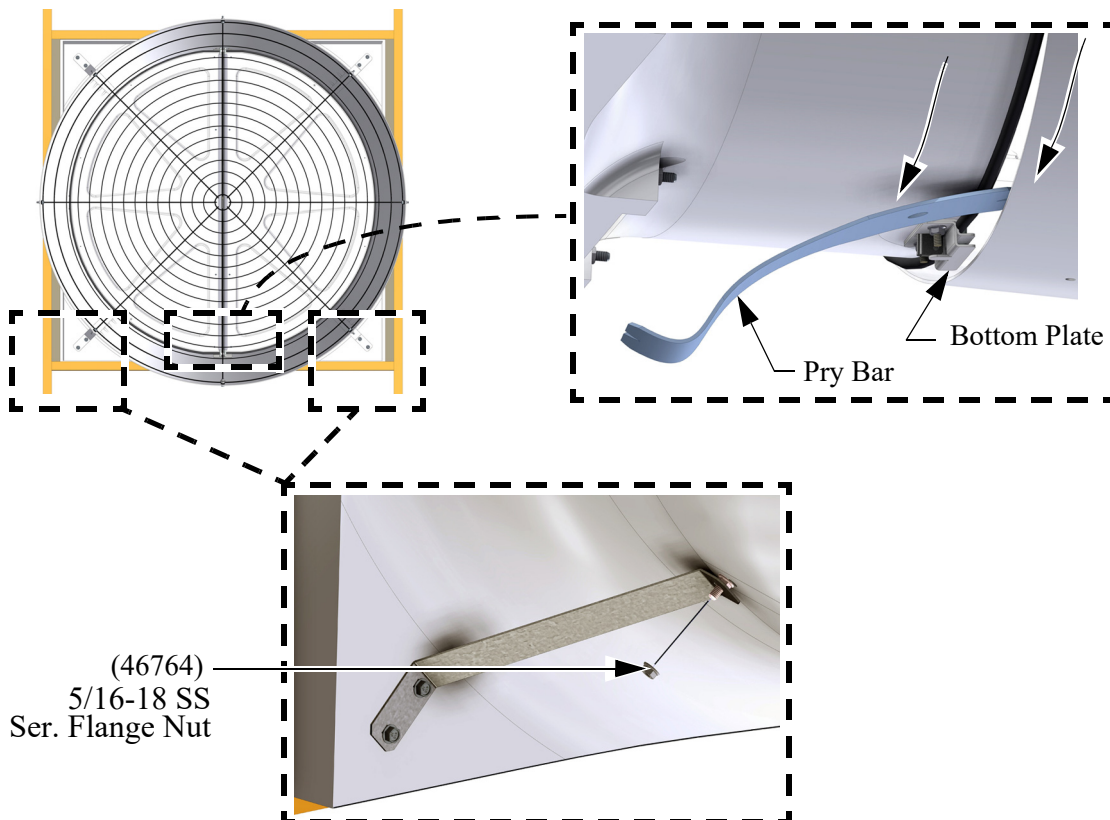


Figure 7. Fasten Cone to Cone Brackets

Attaching the Door Stop Cable

Secure the Door Stop Cable to the bottom Grill/Cone Bolt using two (ST99070) Washers and a (46764) Nut.

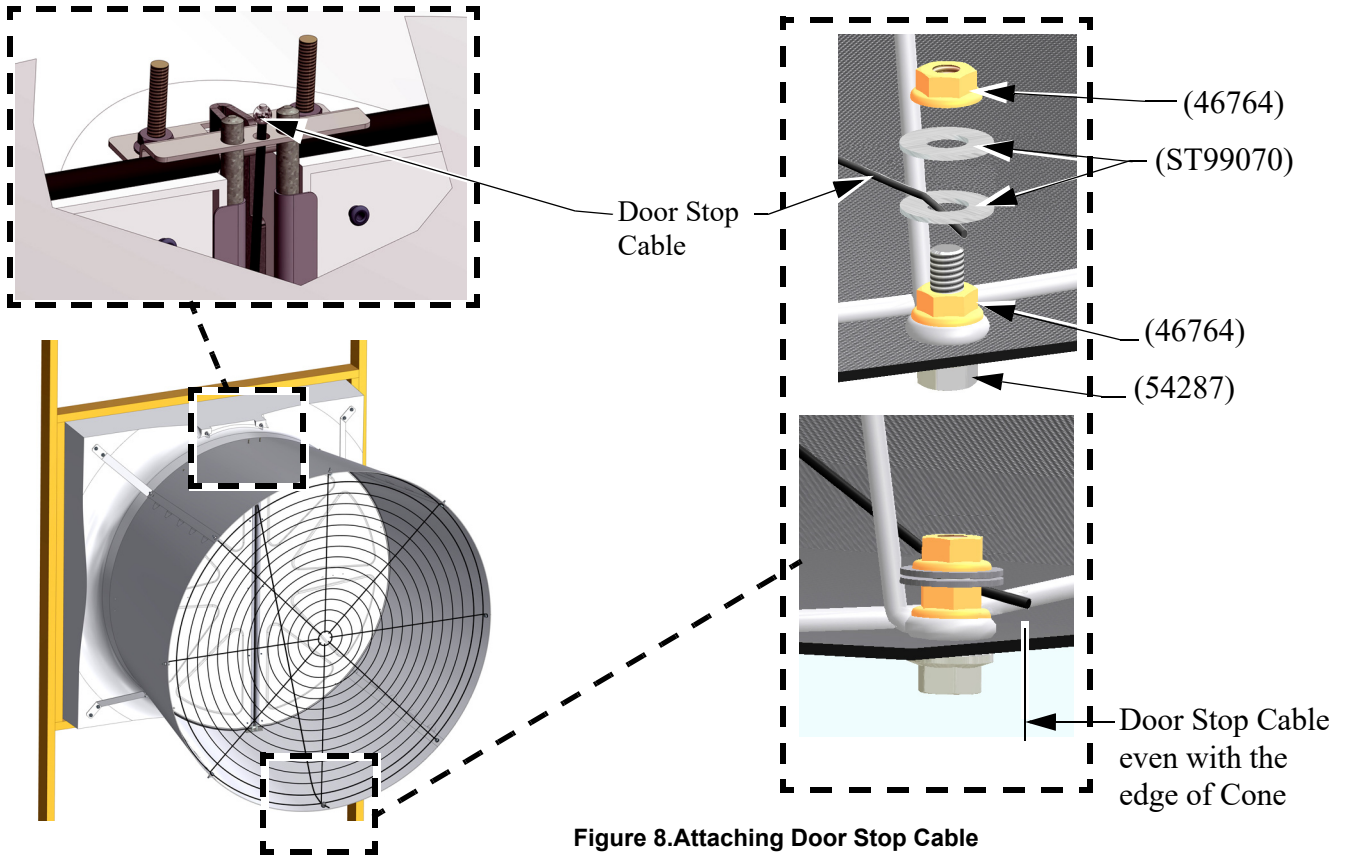


Figure 8. Attaching Door Stop Cable

Installing the Belt

Install the belt as shown in Figure 11.

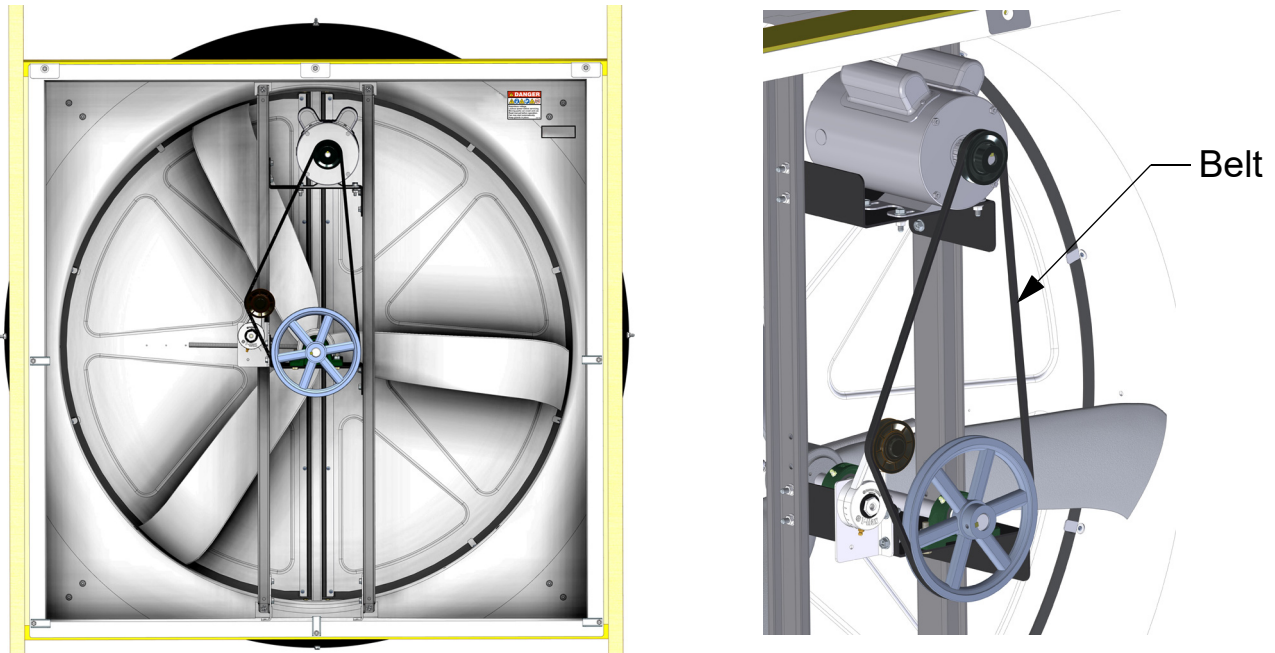
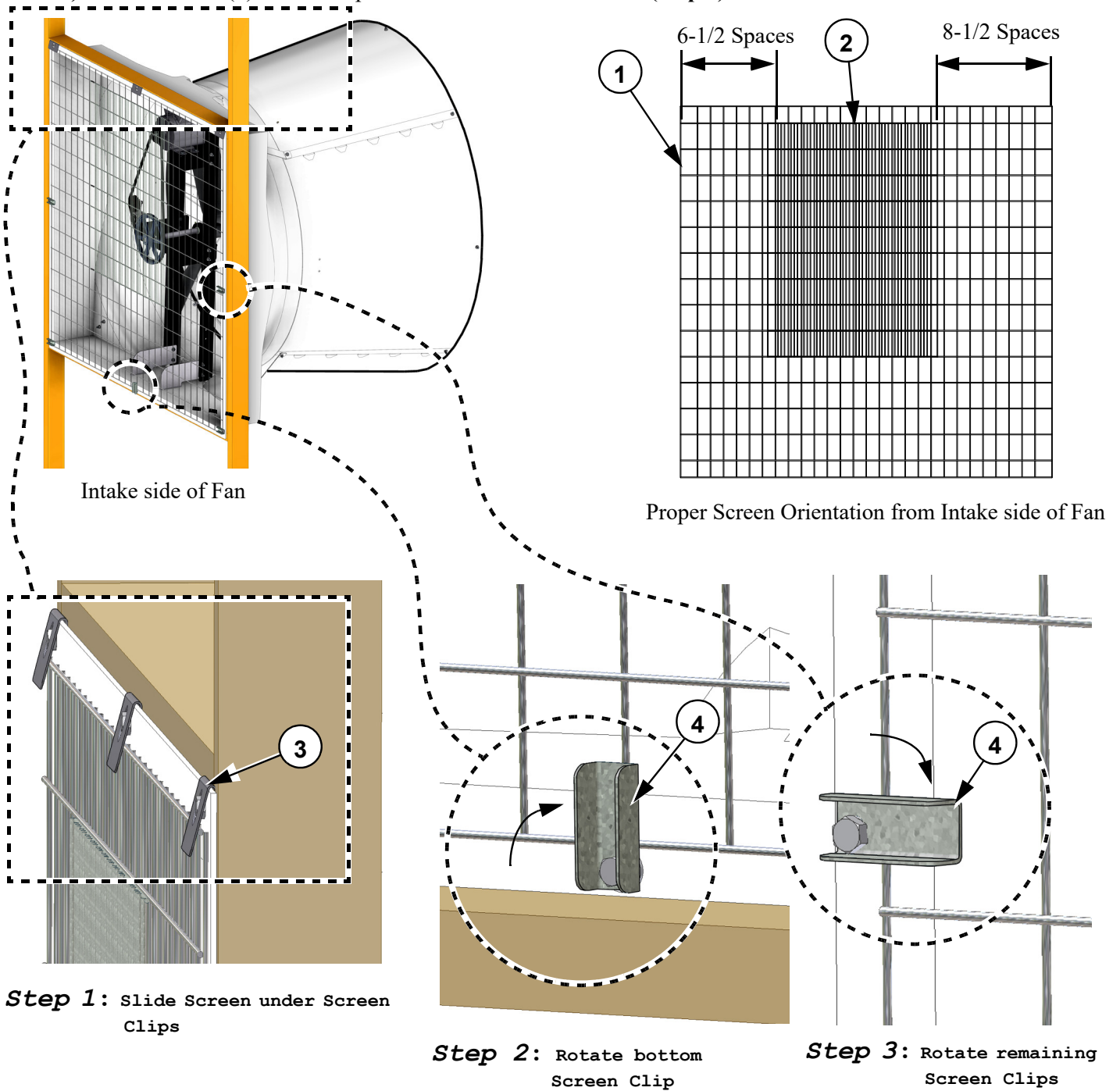


Figure 9. Installing the Belt

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 10**) 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 10. 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**)

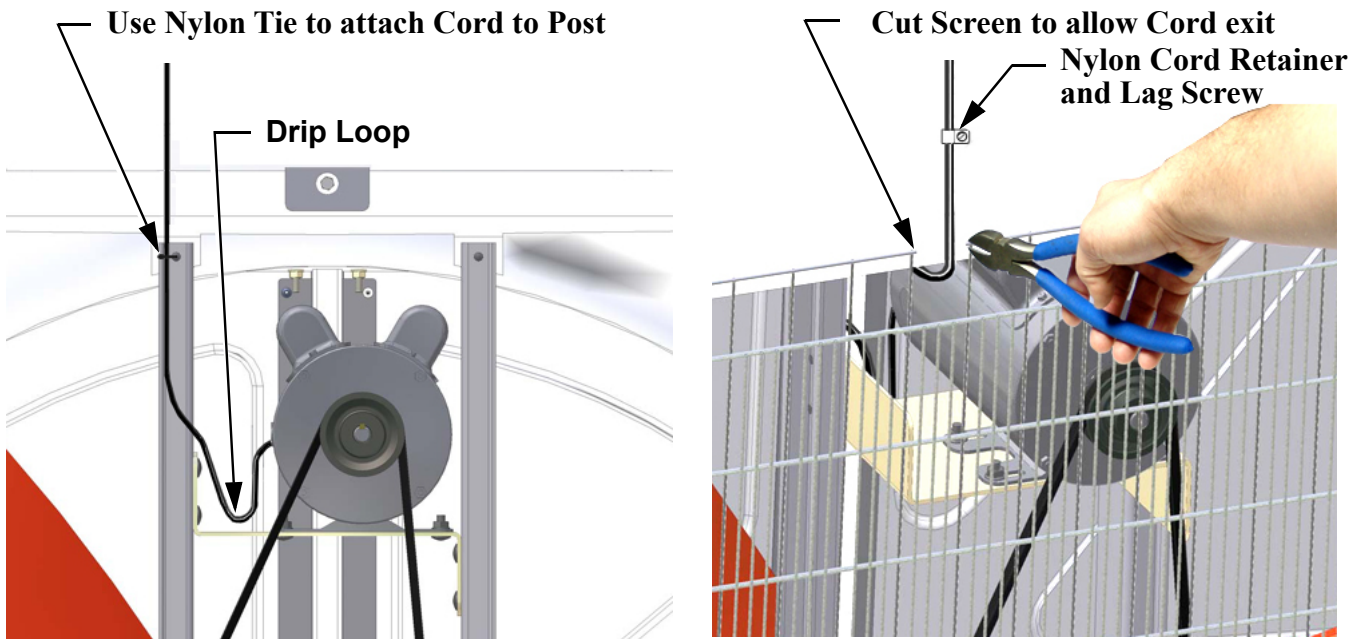


Figure 13. Wiring / Cord Routing

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).

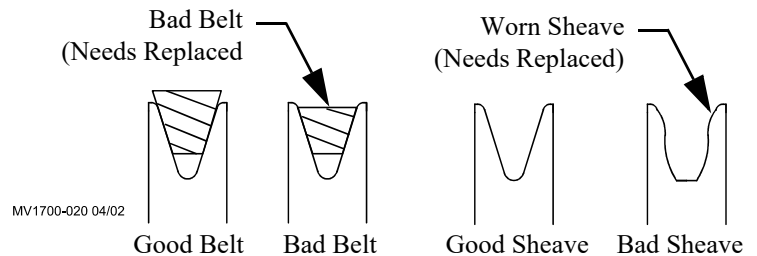


Figure 14. Belt/Sheave Wear

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.

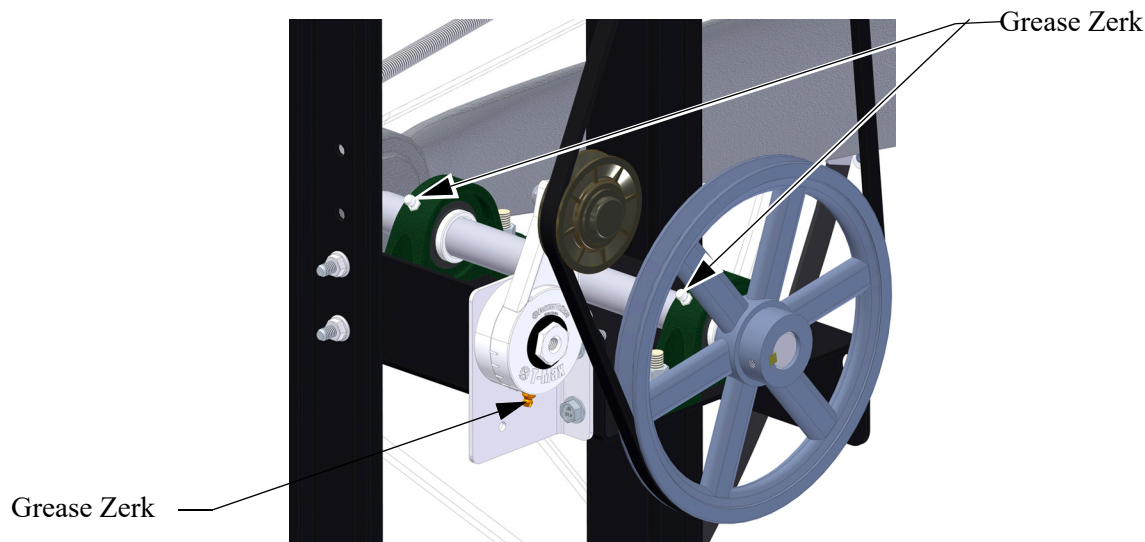
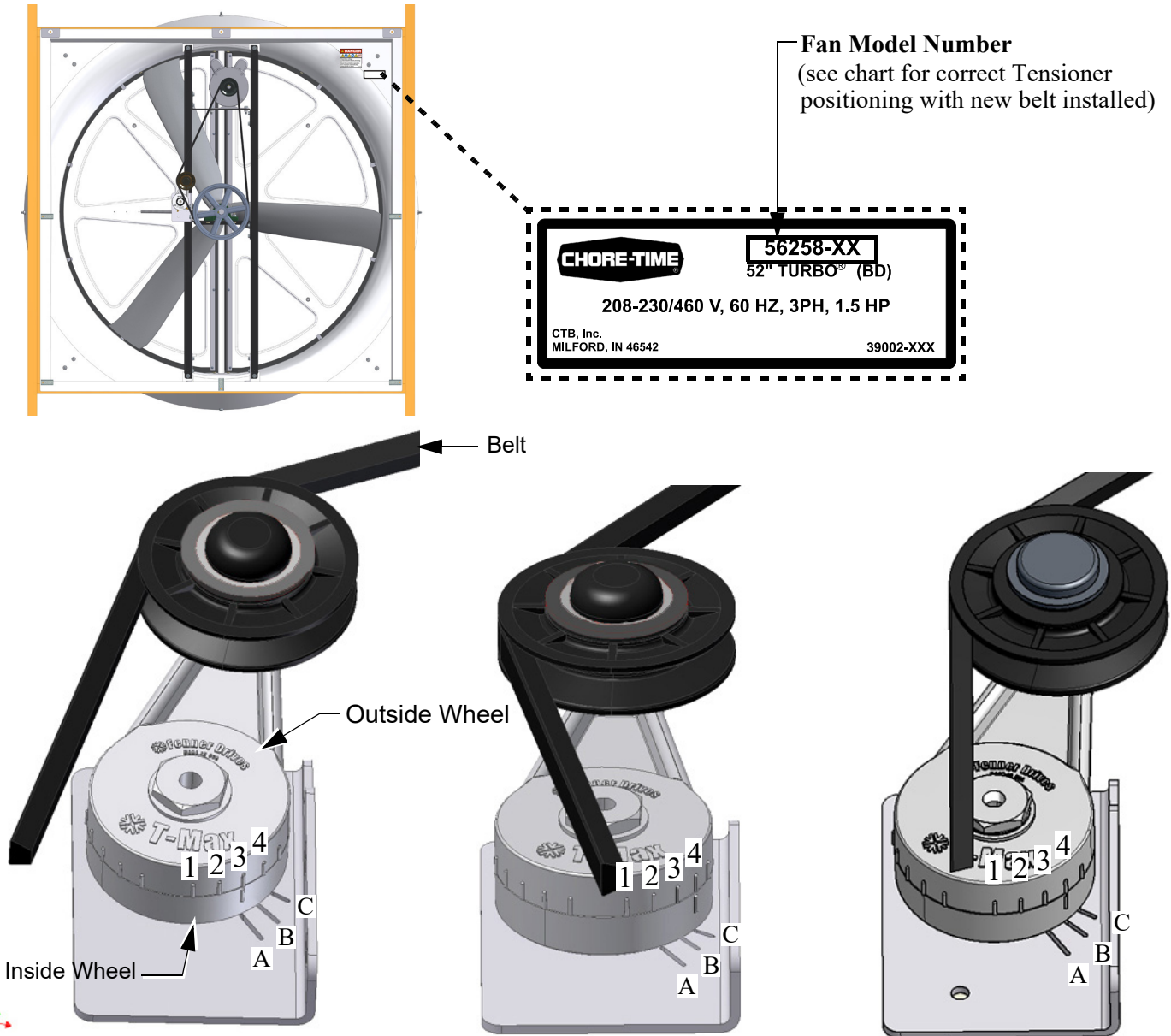


Figure 15. Fan Bearing and Belt Tensioner Lubrication

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
56258-22 Series	3rd Notch
56258-42 Series	"A" etched mark

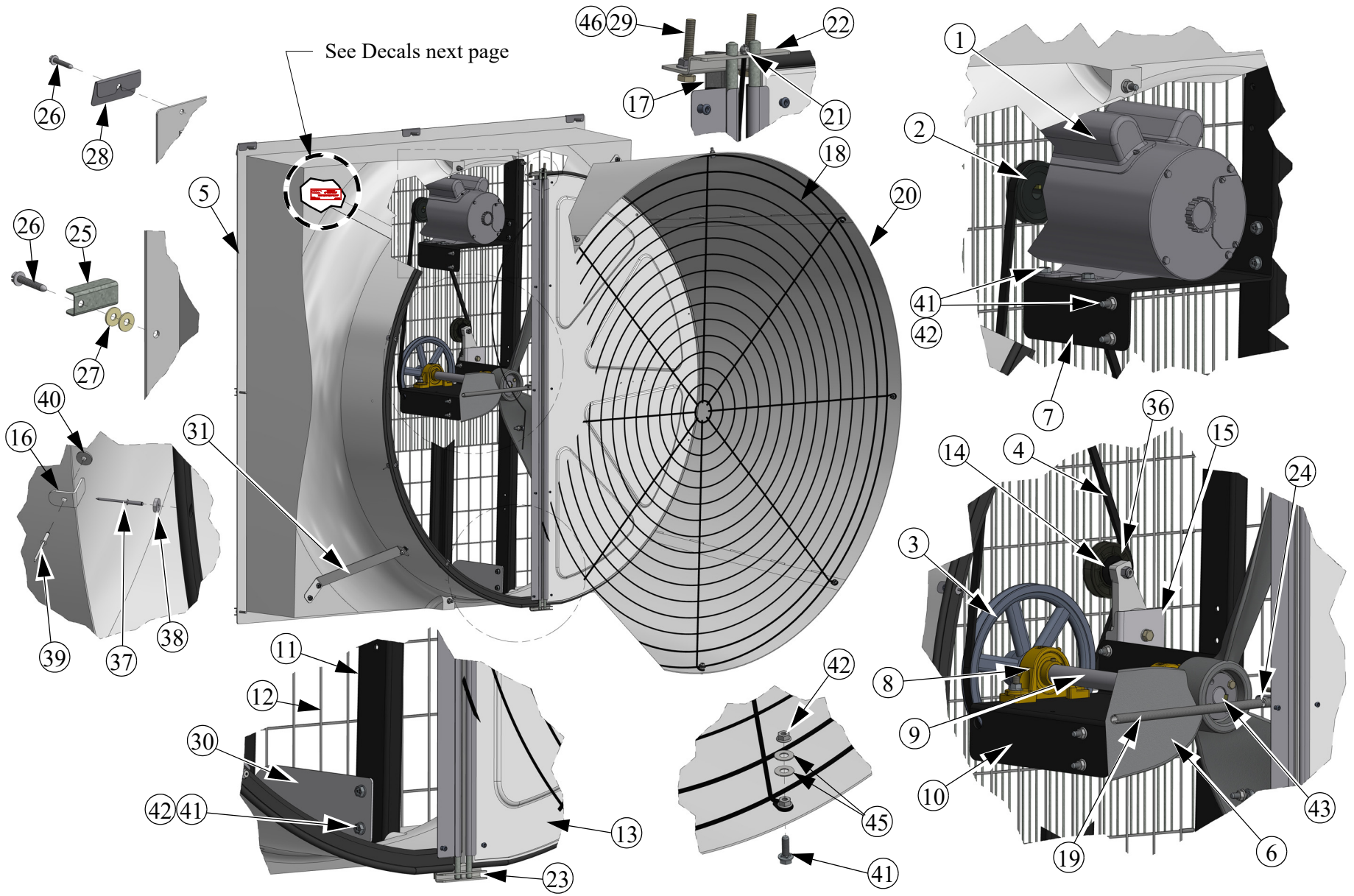
Fan Part No.	Tensioner Position
56258-21 Series	4th Notch
56258-41 Series	"C" etched mark

Fan Part No.	Tensioner Position
56258-51 Series	4th Notch "B" etched mark

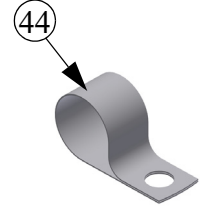
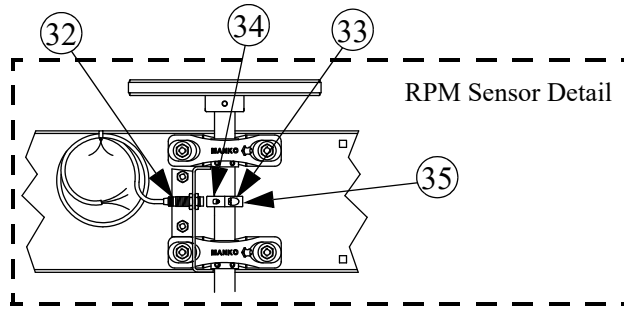
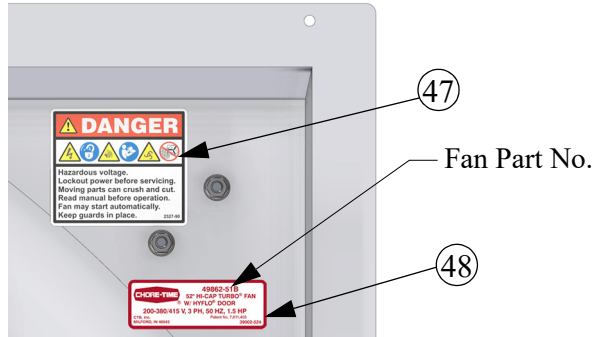
Figure 16. Tensioner position

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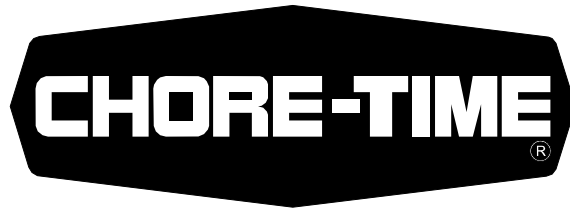
Part Numbers



Itemized Part Numbers



52" TURBO [®] Fan with HYFLO [®] Door 56258-XX (Sub Assembly) See page 1 for ordered Fan Part Number								
Item	Part Description	Part No.	Models-XX		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,-42B,-42BW,-41,-41S,-41B,-41BW,-41BS,-51,-51B,-51BW		21	Cable Assembly	50618-1	All
	Motor, 1ph, 1.5hp, 60-230V	56708	-21,-21B,-21BW		22	Pivot Bracket	49750	All
	Motor, 1ph, 1.5hp, 60-2230V	56850	-22,-22B,-22BW		23	Pivot Support	49751	All
2	Sheave, 3" Motor (AK30)	8773	-22,-22B,-22BW,-21,-21B,-21BW,-41,-42B,-42BW,-41,-41S,-41B,-41BW,-41BS		24	Door Spring Support	49799	All
	Pulley, 3.45" Driven (AK34)	37919	-51,-51B,-51BW		25	Clip, 2.00 x .7 SS	36729	All
3	Sheave, 9.25" Driven (AFD94100)	54898	01,-01B,-21,-21B,-21BW,-41,-41S,-41B,-41BW,-41BS		26	Lag Screw 1/4-10 x 1.5"	41561	All
	Sheave, 8.25" Driven (AFD84100)	54897	-02,-02B,-22,-22B,-22BW,-42,-42B,-42BW		27	Nylon Washer	4856	All
	Sheave, 7.75" Driven (AK79)	41989	-51,-51B,-51BW		28	Screen Retainer	49908	All
4	V-Belt (AX59)	48615	-01,-01B,-21,-21B,-21BW,-41,-41S,-41B,-41BW,-41BS		29	Bolt, 1/4-20 x 1.5 HH	4404-30	All
	V-Belt (AX60)	48541	-02,-02B,-22,-22B,-22BW,-42,-42B,-42BW		30	52" Post Support	50122	All
	V-Belt (AX58)	46676	51,-51B,-51BW		31	Cone Bracket	53185	All
5*	Shroud, 52" (White Interior)	55204-1	-01,-02,-22,-21,-42,-41,-41S,-51		32	RPM Sensor Cord Assembly	46111	-41BS,-41S
	Shroud, 52" (Black Interior)	55204-1B	-01B,-02B,-22B,-22BW,-21B,-21BW,-42B,-42BW,-41B,-41BW,-41BW,-51B,-51BW		33	Nylon 1/4-28 x .50 Sensor Bolt	46134	-41BS,-41S
6	Blade, Cast Aluminum w/ Bushing	49731	All		34	Steel Sensor Collar Half	46135	-41BS,-41S
7	Motor Support	49734	All		35	Nylon Sensor Collar Half	46136	-41BS,-41S
8	Bearing, 1" Pillow Block	50553	All		36	Idler with Bushings (For Repair)	50879	All
9	Shaft, 1" dia. x 15.75" SS	49822	All		37	1/8" Pop Rivet	50461	All
10	Bearing Support	49735	All		38	.125 x .50 Magnet	48427	All
11	Fan Post	49733	All		39	3/16" x 3/8" Pop Rivet	49869	All
12	Screen, 52" HYFLO [®] TURBO [®] Fan	50049	All		40	.192 x .55 Washer	50231	All
13	Door Assembly (White)	49767	-01,-02,-22,-21,-42,-41,-41S,-51		41	5/16-18 x 1 SS Shoulder Bolt	54287	All
	Door Assembly (Black)	49767B	-01B,-02B,-22B,-22BW,-21B,-21BW,-42B,-42BW,-41B,-41BW,-41BW,-51B,-51BW		42	5/16-18 SS Ser. Flange Nut	46764	All
14	Tensioner Assembly	48429	All		43	1/4 x 1-1/8 Square Key	2419-2	All
15	Tensioner Support	49737	All		44	Nylon Cable Clip	565	All
16	Magnet Stop Bracket	49738	All		45	3/8 Flat Washer	ST99070	All
17	Fan Post Brace	56240	All		46	1/4-20 HX Serrated Flg. Nut	46298	All
18	Grill	56230	All		47	Fan Danger Decal	2529-90	All
19	Spring, .055 x .50 O.D. x 11"	49629	All		48	Fan Description Decal	39002-XXX	All
20	Cone Panel (White) (4 required)	53184	-01,-02,-22,-22BW,-21,-21BW,-42,-42BW,-41,-41S,-41BW,-51,-51BW		*Includes items 16,39, and 40			
	Cone Panel (Black) (4 required)	53184B	-01B,-02B,-22B,-21B,-42B,-41B,-41BS,-51B					



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BUILT TO LAST.®

Revisions to this Manual

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

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