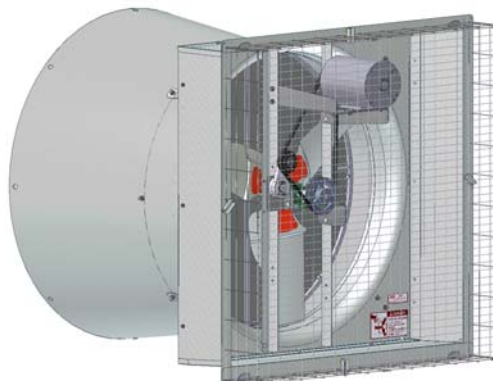
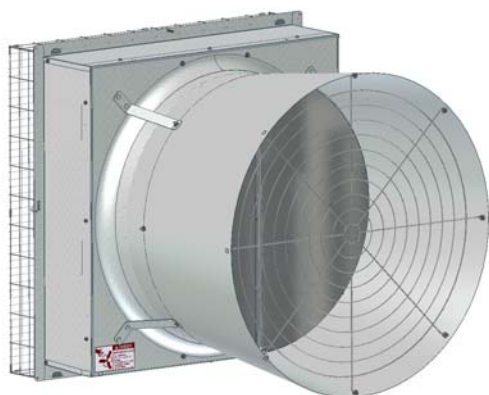
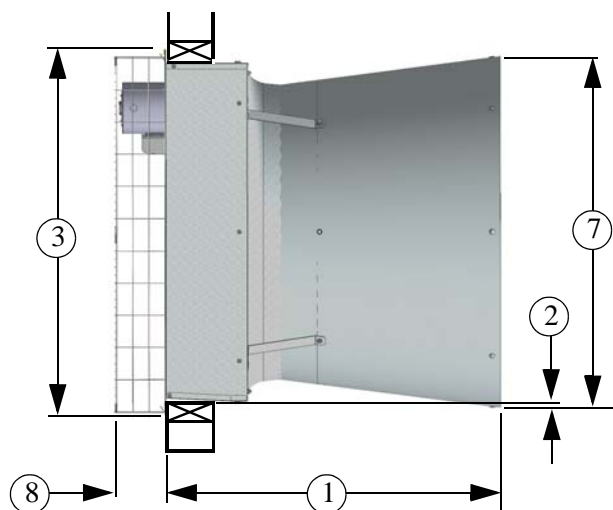


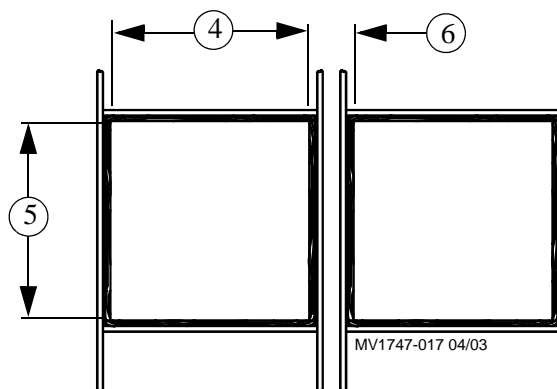
# 36" Galvanized Belt Drive Hyflo® Fans Installation and Operators Instruction Manual Fan Part No. 53096-52



## Fan and Fan Framing Dimensions



Planning the layout of the spacing between Fans is very important. Spacing too close together will cause interference between the discharge Cones. **The Rough Opening dimensions for Fans are shown above.**



Item	Description	Dimension
1	Bottom Length	41-1/2" [105.41cm]
2	Vertical Dim. of Cone	1" [2.54cm]
3	Height (Outside of Flanges)	45-1/2" [115.57cm]
4	Rough Opening Width	43" [109.22cm]
5	Rough Opening Height	42-1/2 [107.95cm]
6	Minimum Spacing	3-1/2" [8.89cm]
7	Outside Diameter of Cone	43-3/4" [111.13cm]
8	Depth inside Building	6-1/2" [16.51cm]

Figure 1. Fan Dimensions

**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 [37.4 pascal].

Fan Assembly/Installation

Screen Clips

Set the Fan into the framed opening, but leave it hang out a few inches to allow for the insertion of four Screen Clips (**Item 1, Figure 7**). With the Screen Clips oriented with the tab lock as shown, push them into the slots in the Fan Housing Panels and rotate them forward until they lock into place **as shown**. **Slide the Fan forward flush with the rough opening making sure that the Clips do not fall out.**

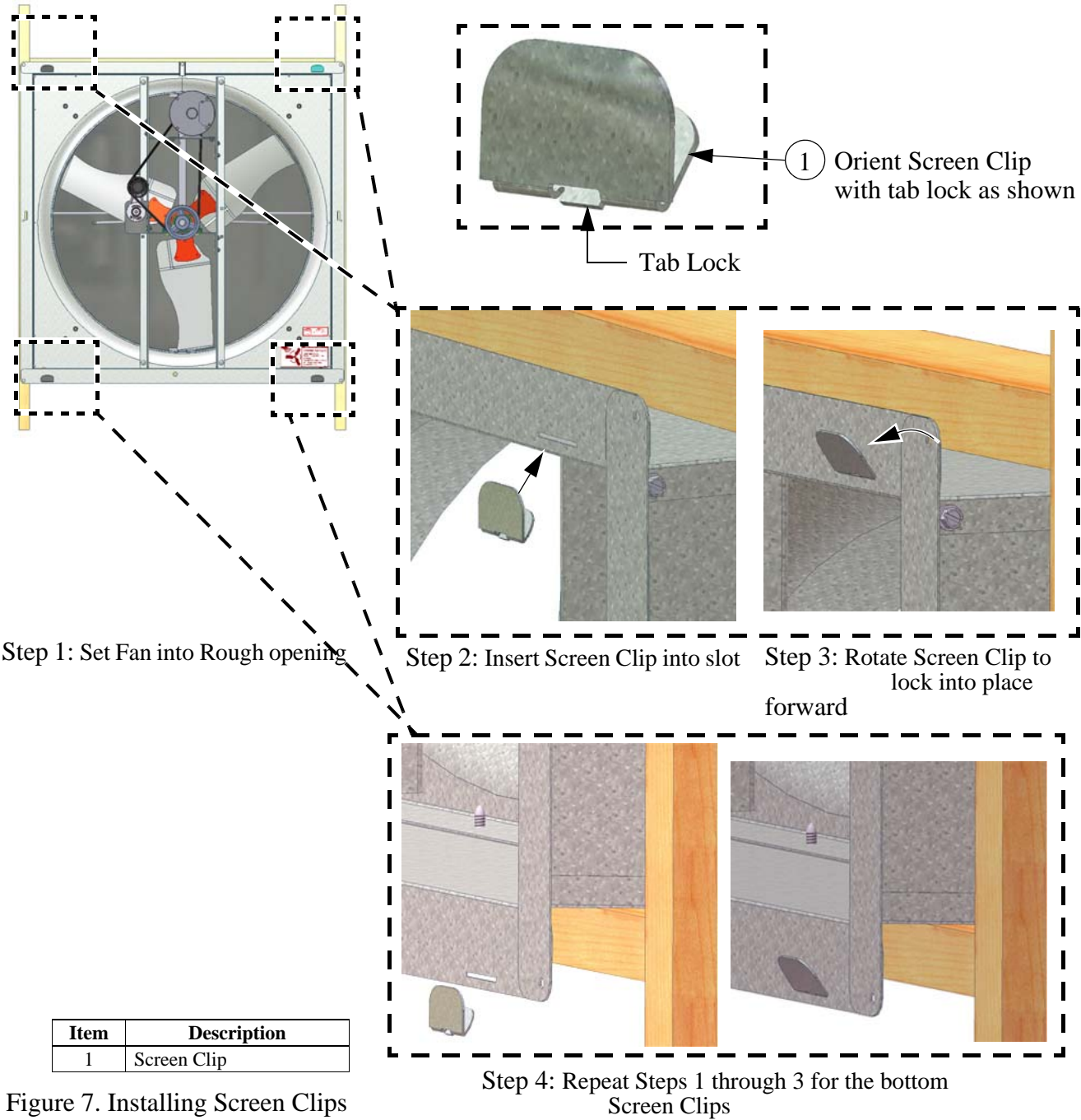


Figure 7. Installing Screen Clips

## Attaching the Fan to the Wall

Slide the Fan assembly into the rough opening and starting with the side hole locations (**Detail A**), use 1/4 x 1-3/4" Lag Screws (**Item 1, Figure 8**), two Nylon Washers (**Item 2**), and a Screen Retainer (**Item 3**) to attach the Fan to the Wall **as shown**. Use 1/4 x 1-3/4" Lag Screws to attach the Fan at the four corners (**Detail B**) **as shown**.

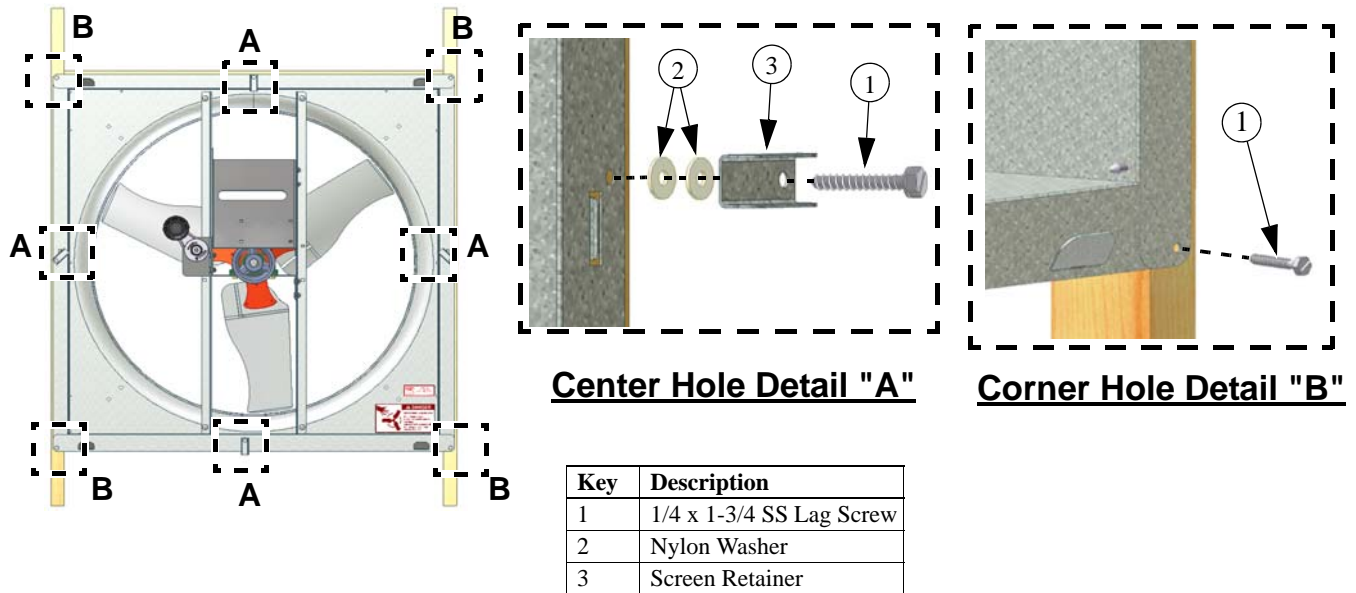


Figure 8. Attaching the Fan to the Wall

## Motor Installation

Rotate the Motor Support Bracket into the upright position by removing the **Upper** Carriage Bolt and Nut and loosening the **Lower** Bolt and Nut (**See Figure 9**). Rotate the Motor Support Bracket until it is perpendicular to the Fan Posts and fasten with (4) 5/16 Carriage Bolts and (4) 5/16 Flange Nuts. *Note that the Nuts go outside the Posts.* Remove the Motor from the Crate and attach it to the Motor Support Bracket with (4) 5/16 Carriage Bolts and (4) 5/16 Flange Nuts **as shown**.

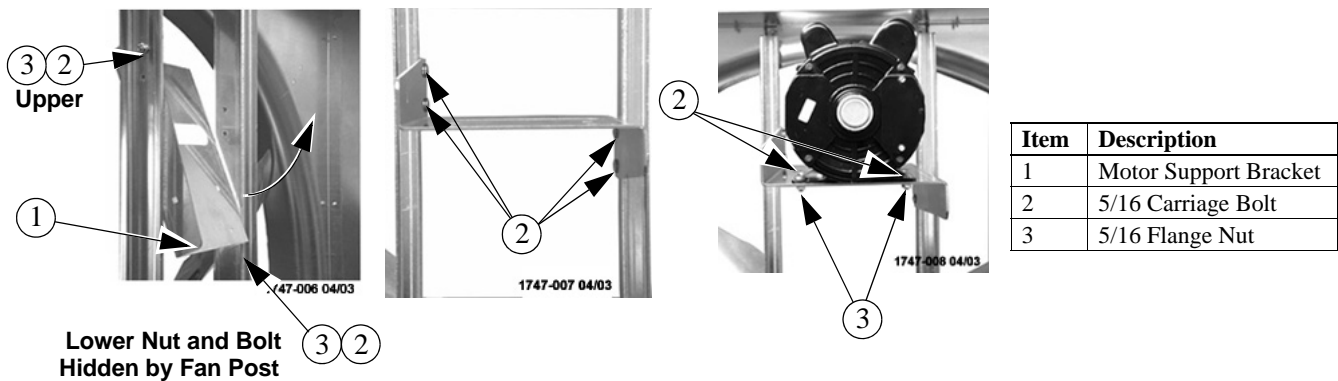


Figure 9. Attaching the Motor Support Bracket and Motor

**Belt Installation**

Guide the Belt through the Opening in the Motor Support Bracket and loop it over the Motor Sheave. Guide the Belt around the Tensioner Sheave and push on it to get enough slack to put the Belt on the Driven Sheave as shown in Figure 10. Make sure the Belt does not rub against the Motor Support Bracket.

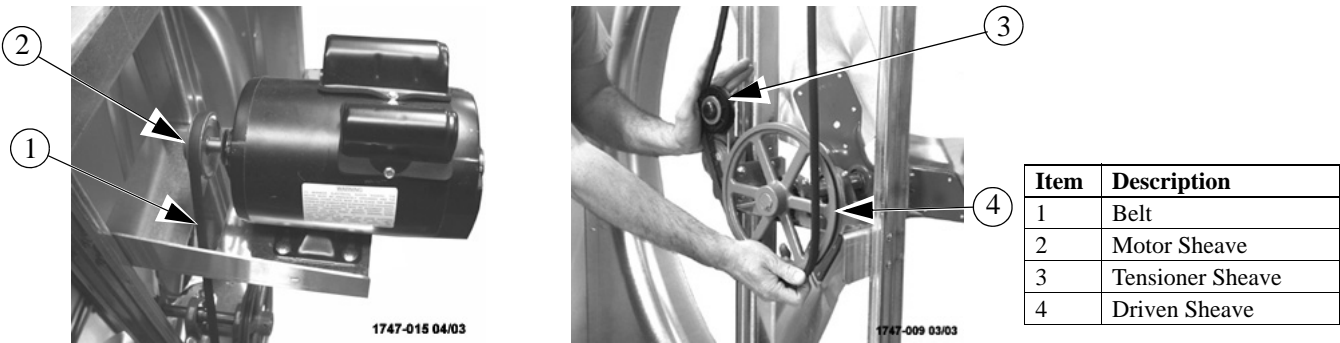
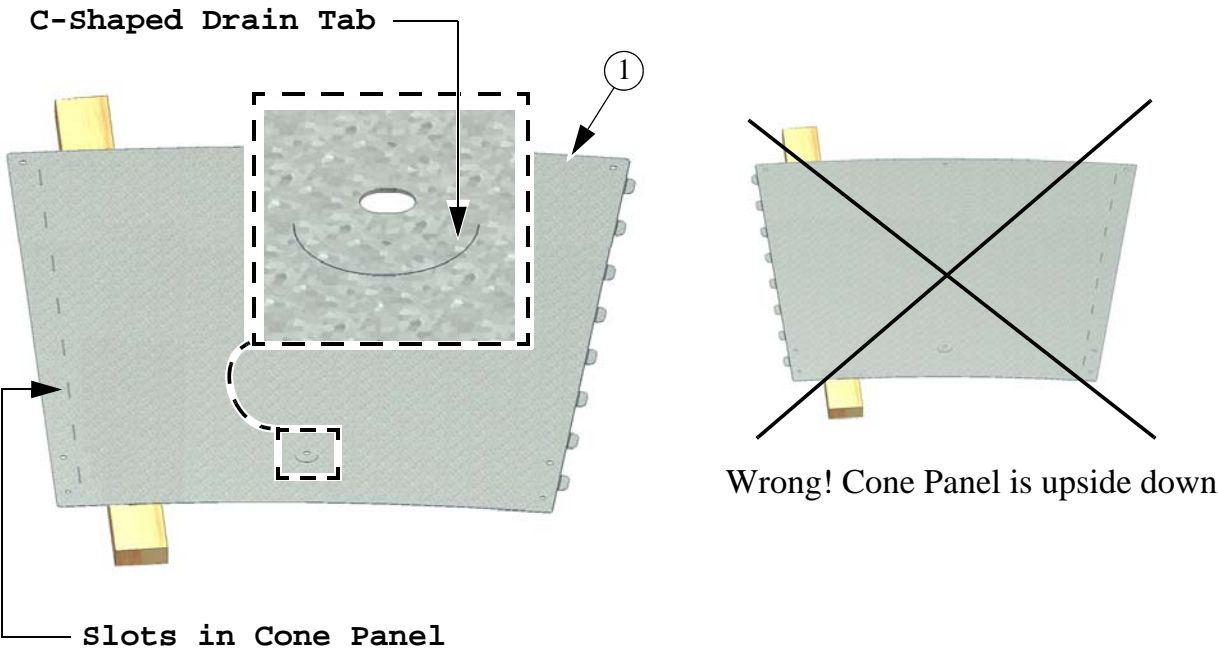


Figure 10. Installing the Belt

**Cone Assembly and Installation**

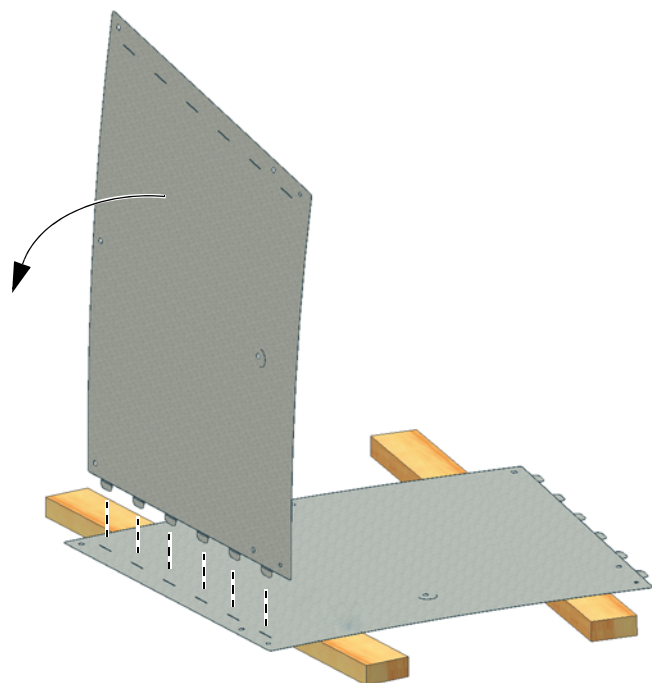
**Step 1:** Lay a Cone Panel down (Drain Tab at the bottom and slots to the left) and Prop the end up (Slotted end) with a 2 x 4 board.



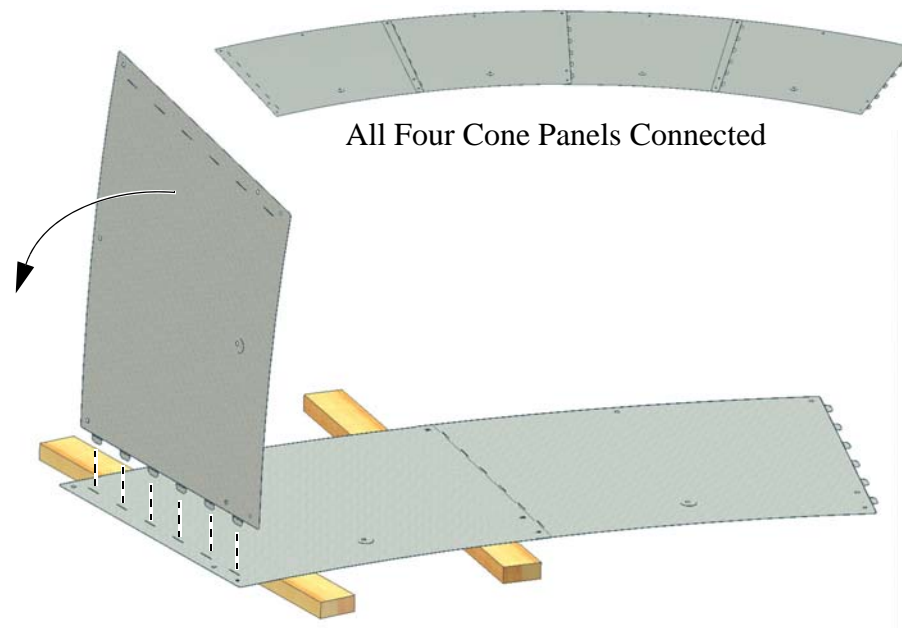
Item	Description
1	Cone Panel

Figure 11. Assembling Cone Panels

**Step 2:** Insert the Tabs of a second Cone Panel into the slots of the 1st Panel and Lay it down locking the two Panels together.



**Step 3:** Repeat Step 2 until all four Cone Panels are locked together.

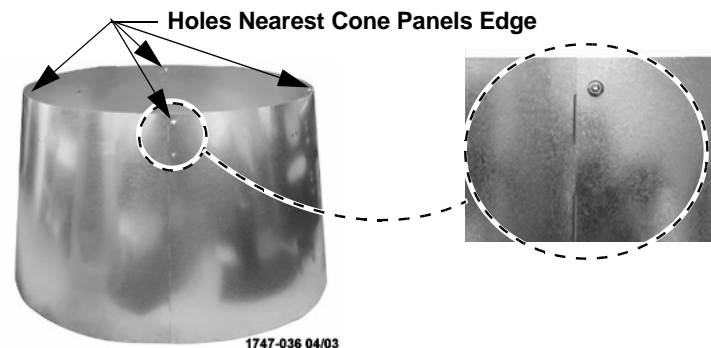


**Step 4:** Stand the Panels up on edge and curl the Panels around making a Cone shape with the smaller diameter up. Insert the Tabs of the last Panel into the Slots of the 1st and allow the Cone to take its shape.



1747-031 04/03

**Step 5:** Fasten the Cone Panels together with (4) 5/16" x 1/2" Hex Bolts threaded from inside the finished Cone. Do not tighten down the Nuts at this time. Leave the Nuts loose until the Cone is attached to the Fan.



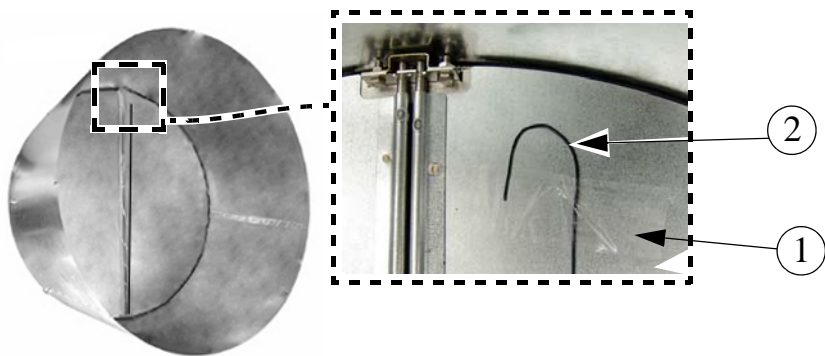
1747-036 04/03

Figure 12. Assembling Cone Panels

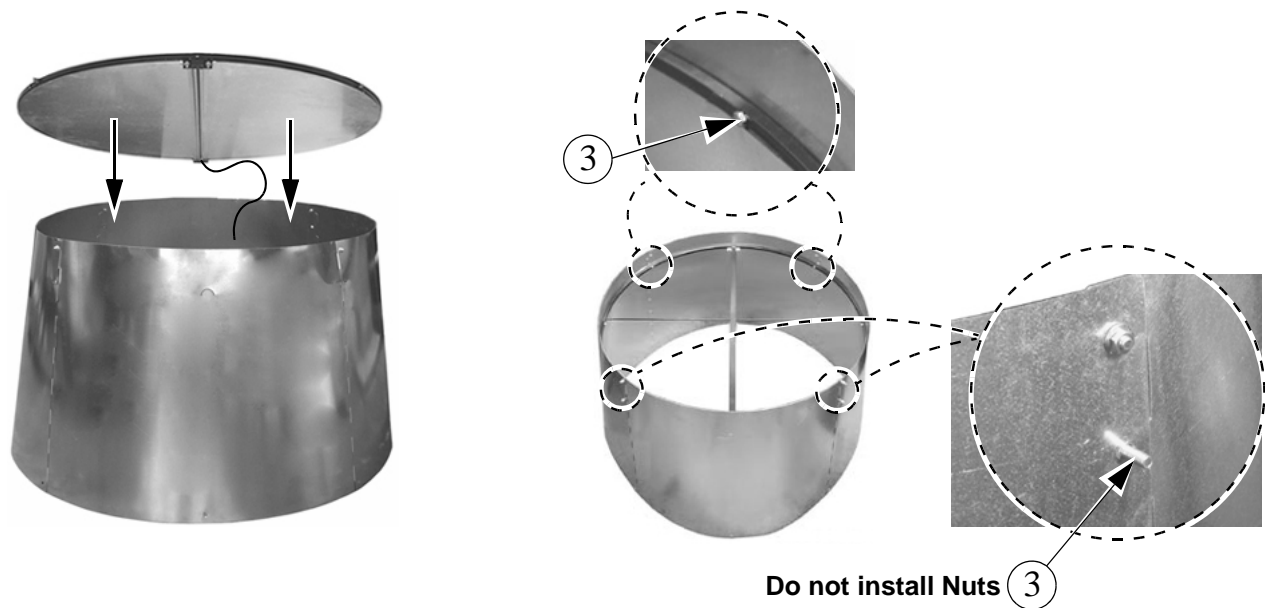


## Installing Door Assembly

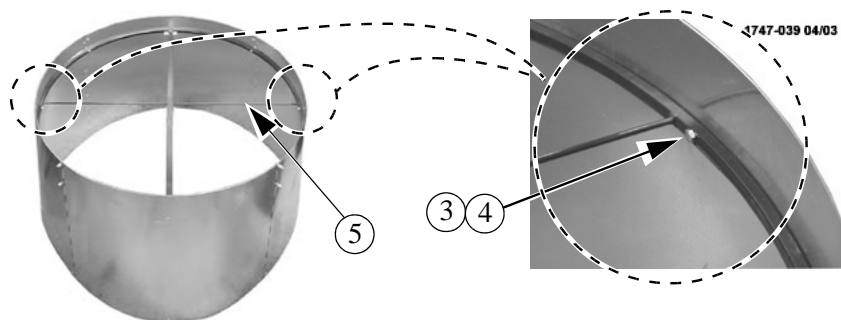
**Step 1:** Remove Tape (Item 1) holding the Nylon Cable (Item 2) to the Door.



**Step 2:** Line up the Four Holes in the Door Ring with the holes in the Cone and thread (4) 5/16 x 1-1/4" Bolts (Item 3) in until they are tight. Do not install Nuts at this time. These Bolts will be used later to attach the Cone Brackets to the Cone Assembly.



**Step 3:** Use (2) 5/16 x 1-1/4" Bolts (Item 3) and (2) 5/16" Flange Nuts (Item 4) to attach the Ring to the Cone using the holes located on both sides near the Door Center Brace (Item 5) as shown. The Nuts go outside the Cone.

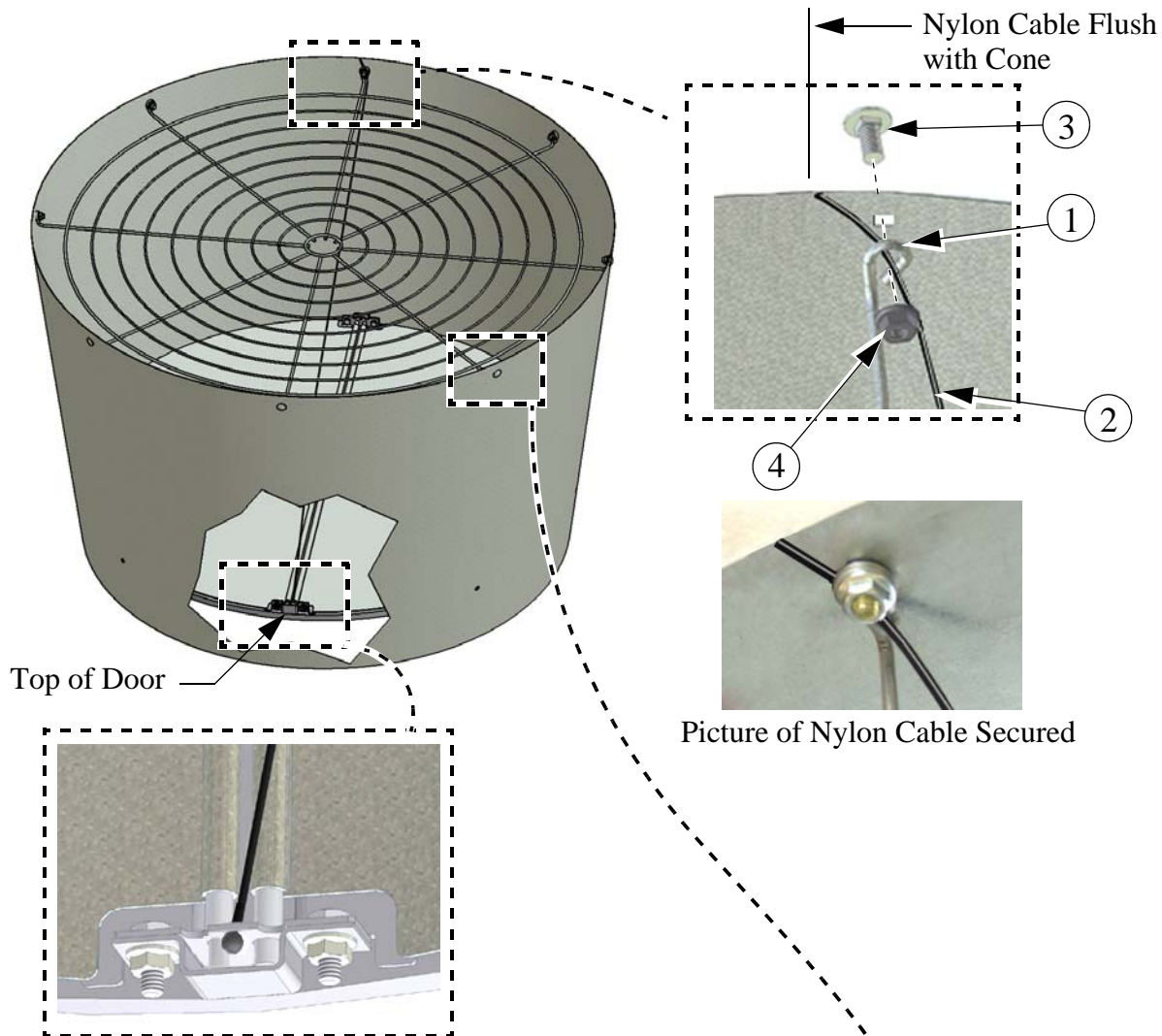


Item	Description
1	Tape
2	Nylon Cable
3	5/16 x 1-1/4" Bolt
4	5/16 Flange Nut
5	Door Center Brace

Figure 13. Installing the Door Assembly

## Attaching the Door Stop Cable (Nylon Cable) and Grill.

**Step 1:** Line up the Grill Eyehooks with the holes in the Cone. Thread the free end of the Nylon Cable (**Item 2**) through the bottom Grill Eyehook (**Item 1**) until it is flush with the Cone and secure it with a 5/16-18 Carriage Bolt (**Item 3**) and Flange Nut (**Item 4**) as shown.



**Step 2:** Use 5/16 Carriage Bolts (**Item 3**) and Nuts (**Item 4**) to fasten Grill to Cone at remaining 7 locations.

Item	Description
1	Bottom Grill Eyehook
2	Door Stop Cable (Nylon Cable)
3	5/16-18 x .625 Carriage Bolt
4	5/16-18 Flange Nut

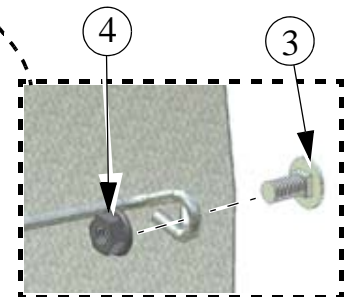
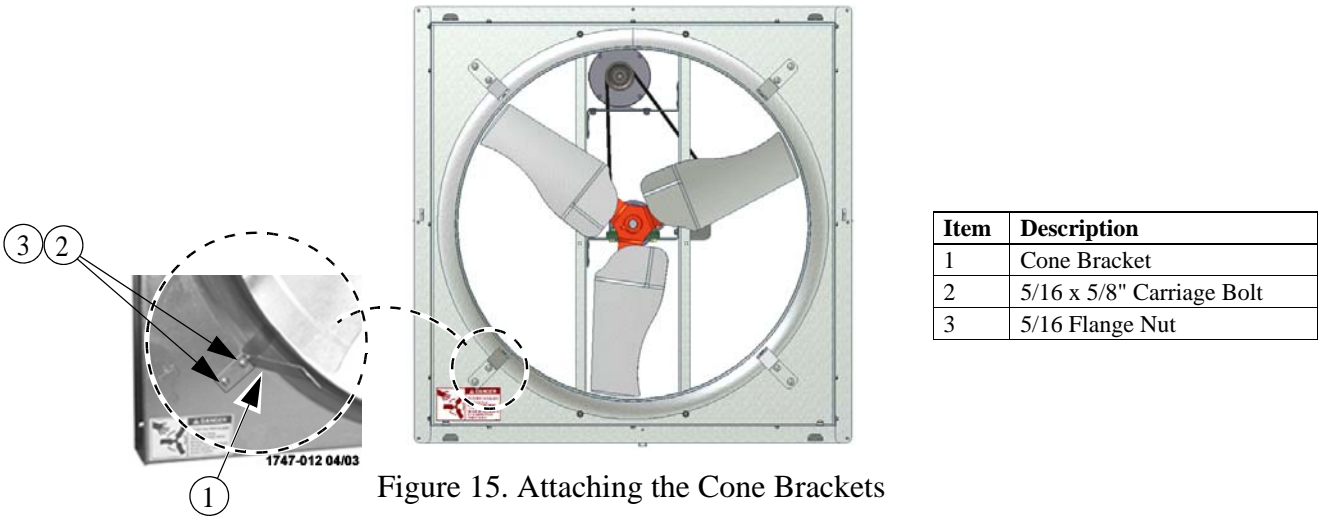


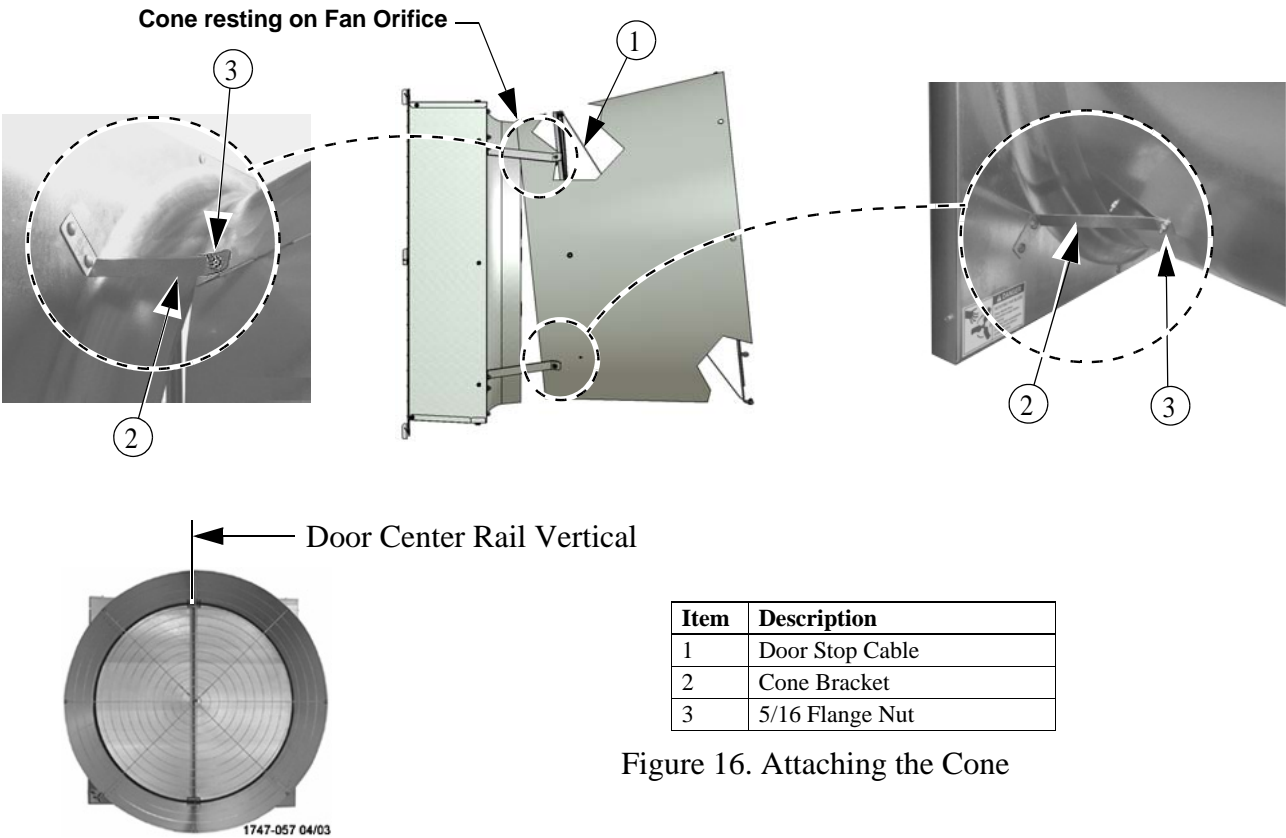
Figure 14. Installing the Door Stop Cable

## Assembling the Cone to the Fan

Use 5/16 x 5/8" Carriage Bolts and 5/16 Flange Nuts to attach the *four* Cone Brackets to the Fan Shroud **as shown in Figure 15**.



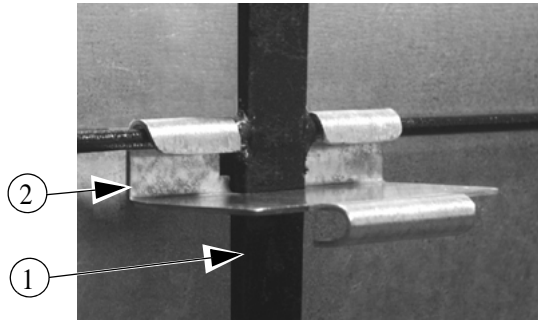
Mounting the Cone and Door Assembly on the Fan requires at least two people. Pick up and orient the Cone with the Door Stop Cable (**Item 1, Figure 16**) attached at the top and rest the Cone on top of the Fan Orifice **as shown**. Attach the top of the Cone to the Cone Brackets (**Item 2**) with the Bolts that were previously threaded through the Ring and Cone and secure with 5/16 Flange Nuts (**Item 3**). Only hand tighten the Nuts at this time. Working around the Fan Orifice from inside the fan, in a circular motion Slide the Cone over the Fan Orifice. The Cone will Fit snug. Use the Bolts previously threaded through the Ring and Cone and the 5/16 Flange Nuts to secure the bottom of the Cone to the Fan **as shown**. Use a Level and rotate the Cone until the Door center rail is Vertical (**See Figure**). Now tighten all Hardware.



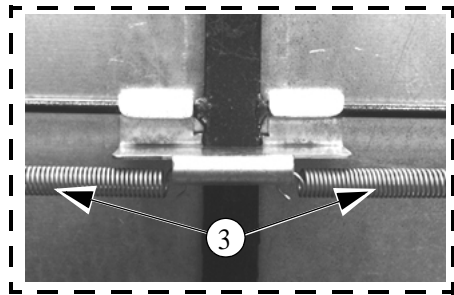
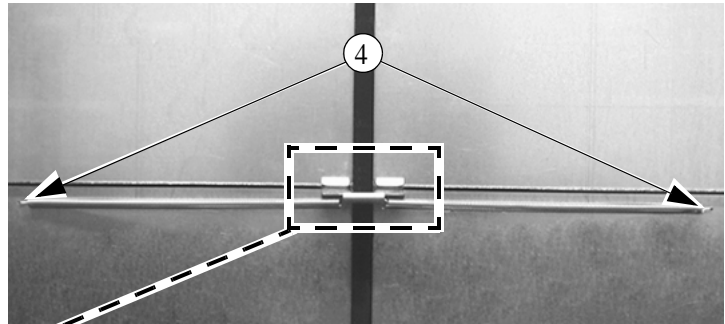


## Door Spring Assembly

**Step 1:** On the Door Assembly, at the middle of the Door Center Brace, attach the Spring Mounting Bracket (**Included in the Parts Package**)



**Step 2:** Hook the rounded ends of the Door Springs onto the Spring Mounting Bracket. Stretch the Door Springs out and hook them in the 3/32" holes in the Doors.



Item	Description
1	Door Center Brace
2	Spring Mounting Bracket
3	Door Spring
4	3/32" hole in Door

Figure 17. Attaching the Spring Mounting

## Cone Drain Tabs

The Fan Cone is designed with a C-Shaped Drain Tab located at the back of the Bottom Cone Panel. Use a screw driver to push the Drain Tab out as shown in **Figure 18 below**.

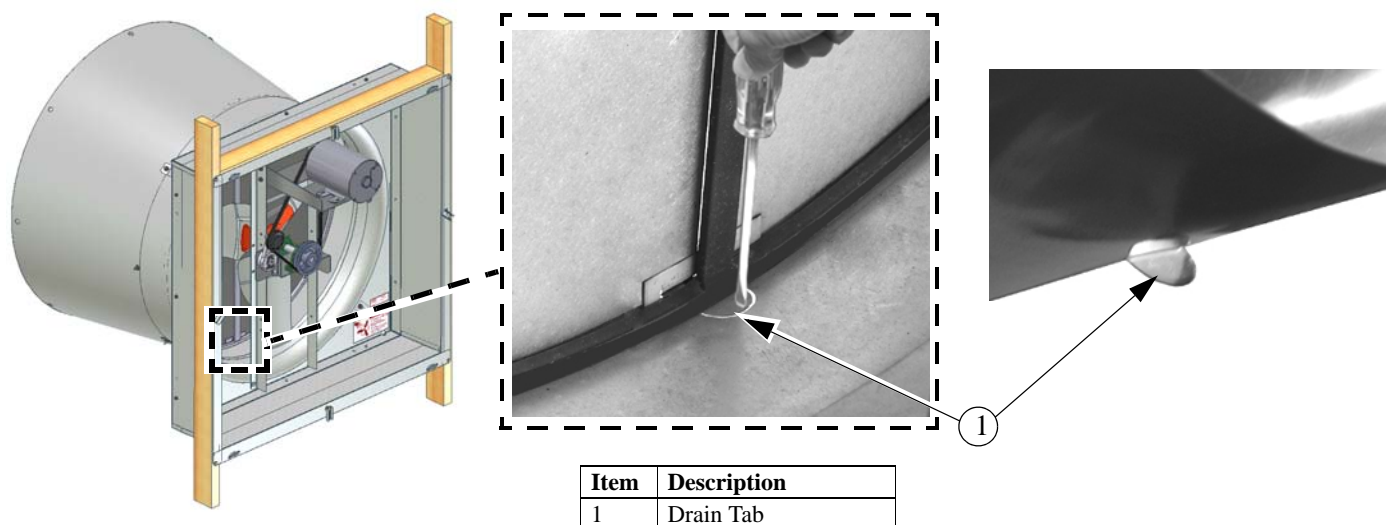


Figure 18. Cone Drain Tab

## Assembling the Screen

Use two Nylon Cable Ties per Corner in the locations **shown below**. Trim off excess Cable tie. (**Cable ties shown before being cut off for clarity**).

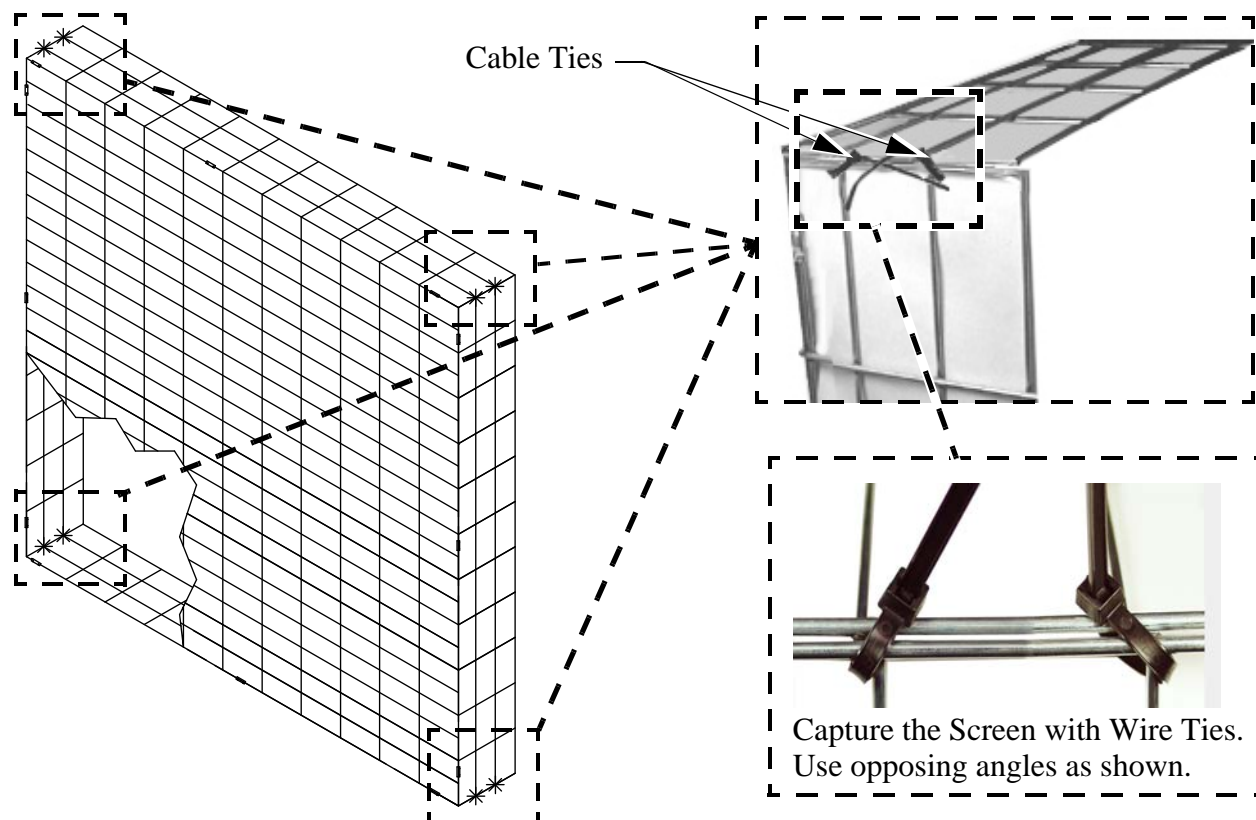
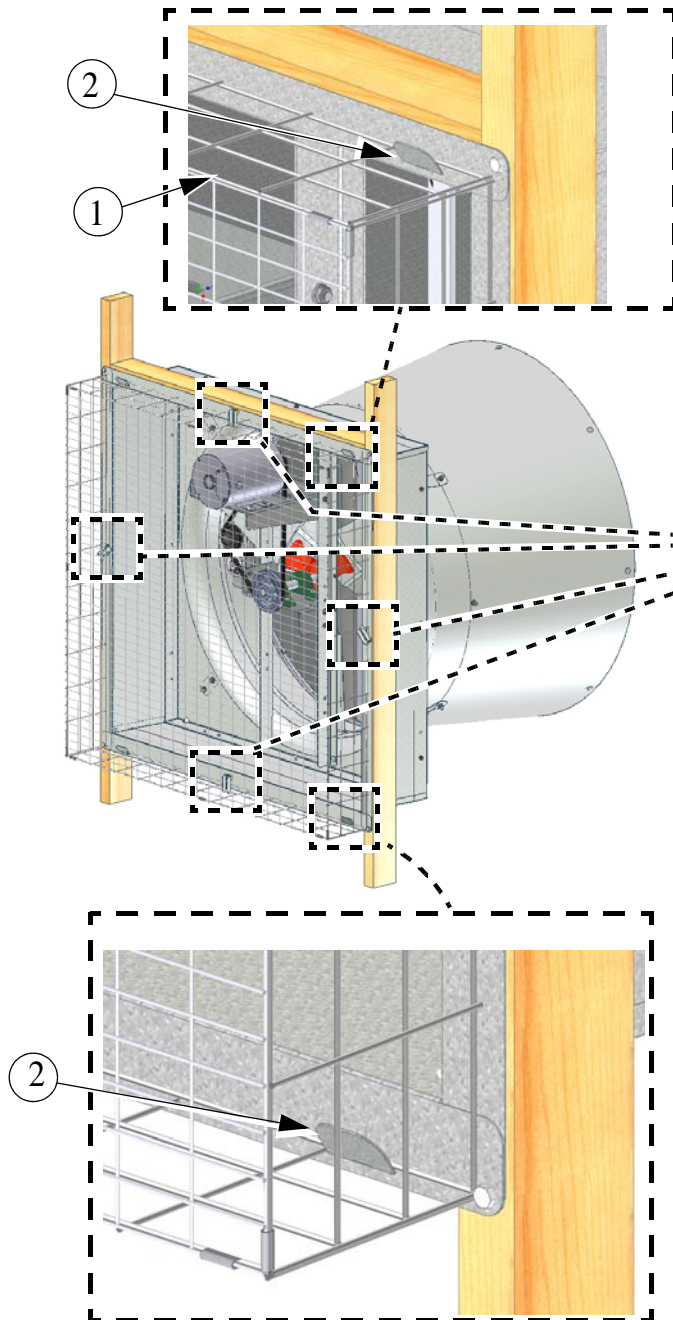


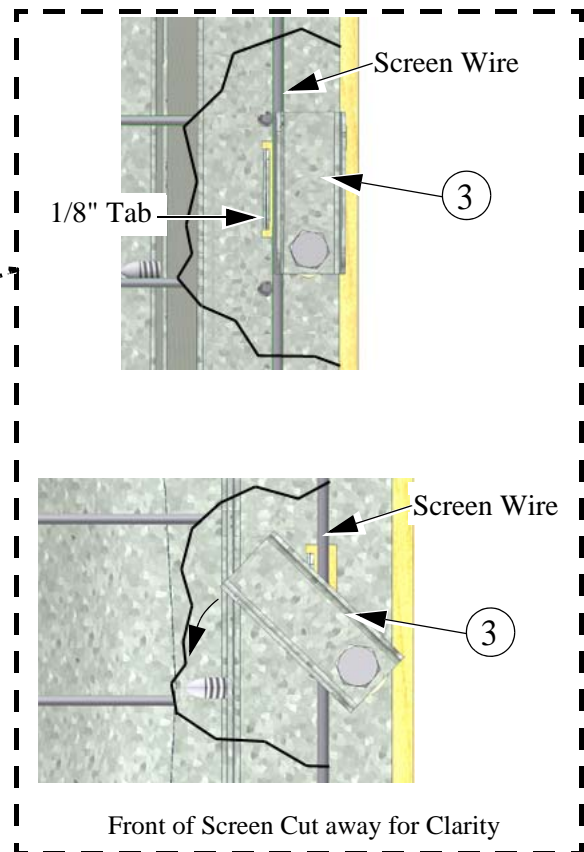
Figure 19. Assembling the Screen

## Installing the Screen

**Step 1:** Hang the Screen (**Item 1**) on the four Screen Clips (**Item 2**) and position so that Screen Wire is captured between 1/8" tall Tabs and Screen Retainers (**Item 3**).



**Step 2:** Rotate the four Screen Retainers to capture the Screen.

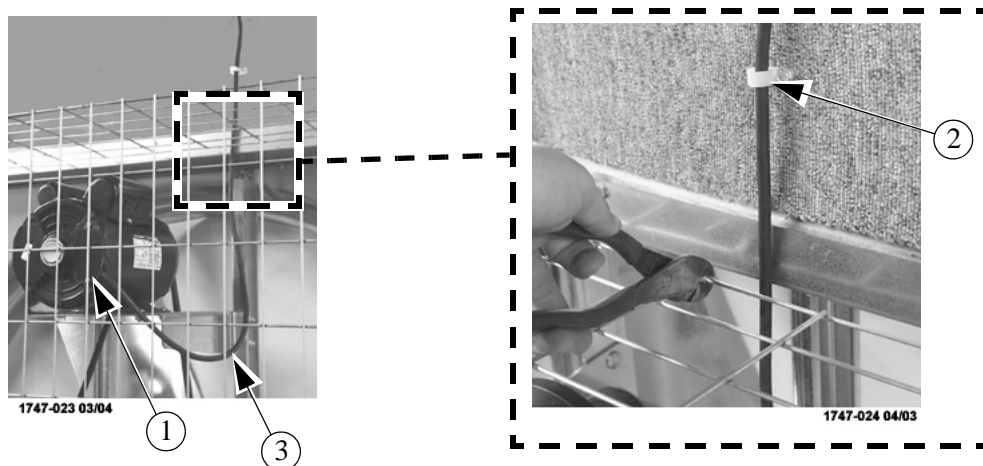


Item	Description
1	Screen
2	Screen Clip
3	Screen Retainer

Figure 20. Installing the Screen

## Wiring

1. Check that the electrical power being supplied to the Fan matches the electrical Specifications on the Fan and Motor Decals.
2. Remove the Motor Access Cover.
3. Install an electrical disconnect within reach of each Fan installed.
4. Connect the cord to the motor according to the wiring diagram on the motor. Verify that the motor is connected for counter clockwise rotation (viewing the back of the motor, opposite the shaft end.)
5. Follow local, state, and national electrical codes for wiring. Cut out one section of the Screen to route the cord out of the Fan: This will allow for the Screen to be removed without interfering with the Cord. (**See Figure 21**). Attach the cord to the Wall using a Lag Screw and Cord Clip. Allow enough slack in the cord to form a "drip loop" for moisture to fall away from the cord and not into the motor



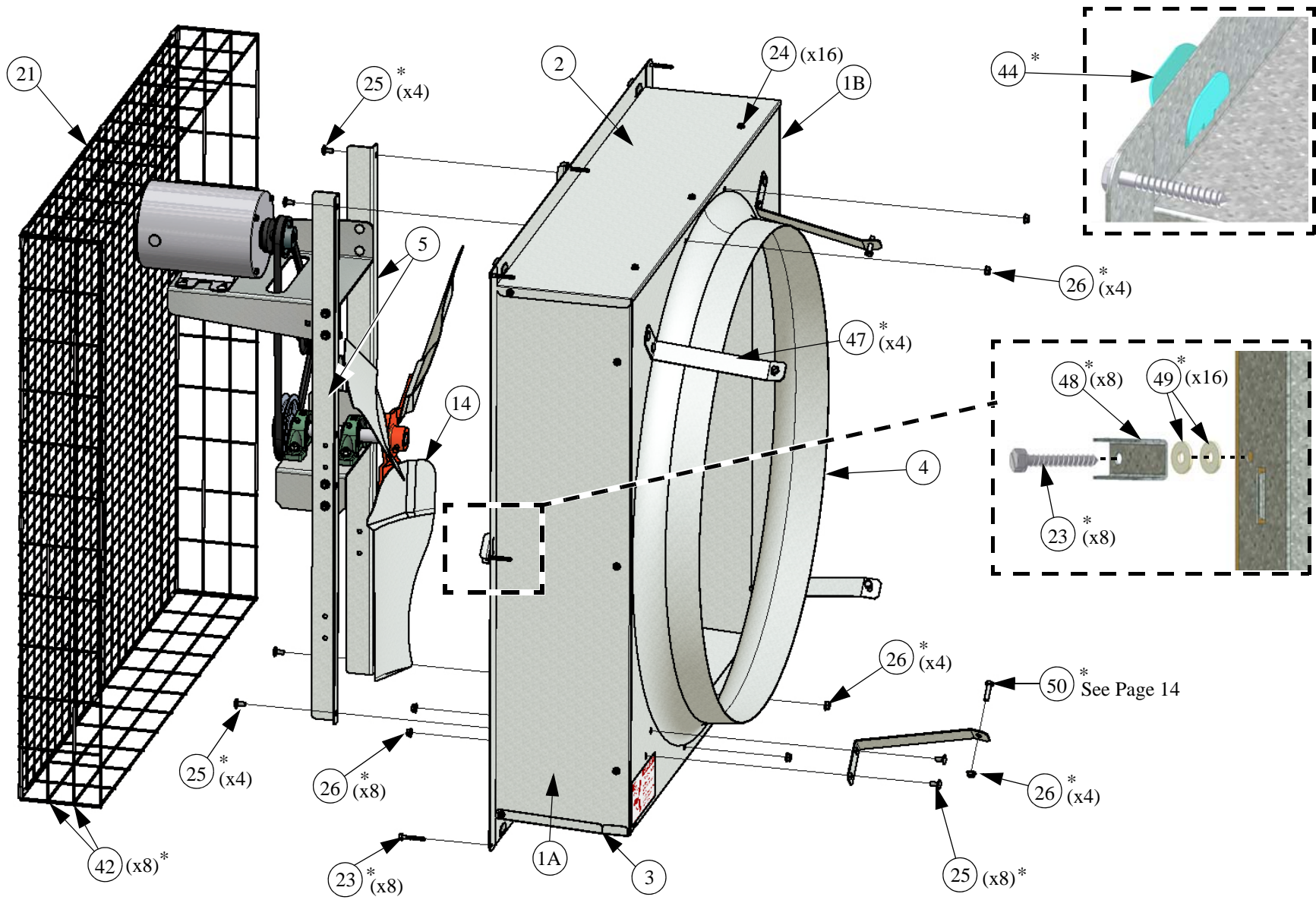
Item	Description
1	Motor Access Cover
2	Cord Clip
3	Drip Loop

Figure 21. Cut out Screen for Motor Wiring

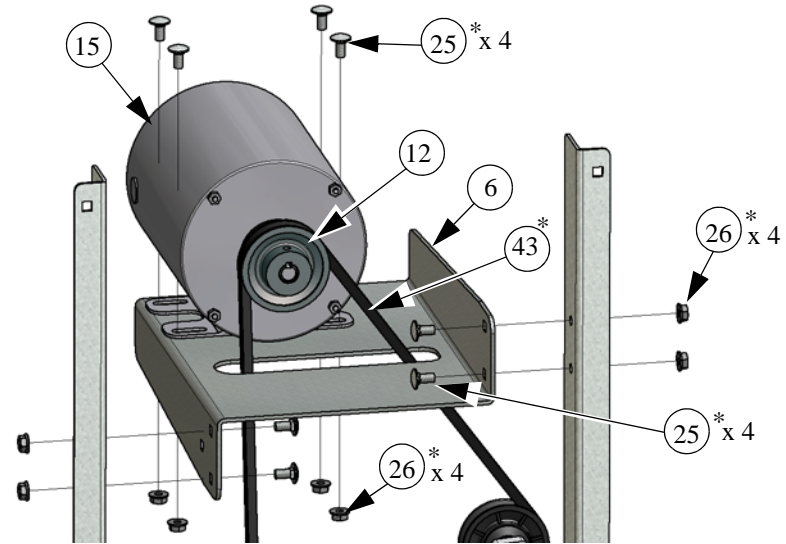
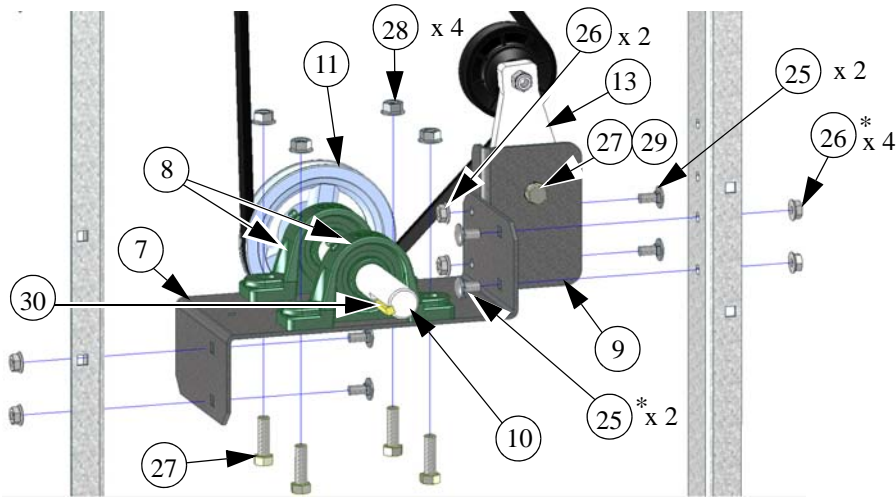
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Itemized Parts



Part Numbers

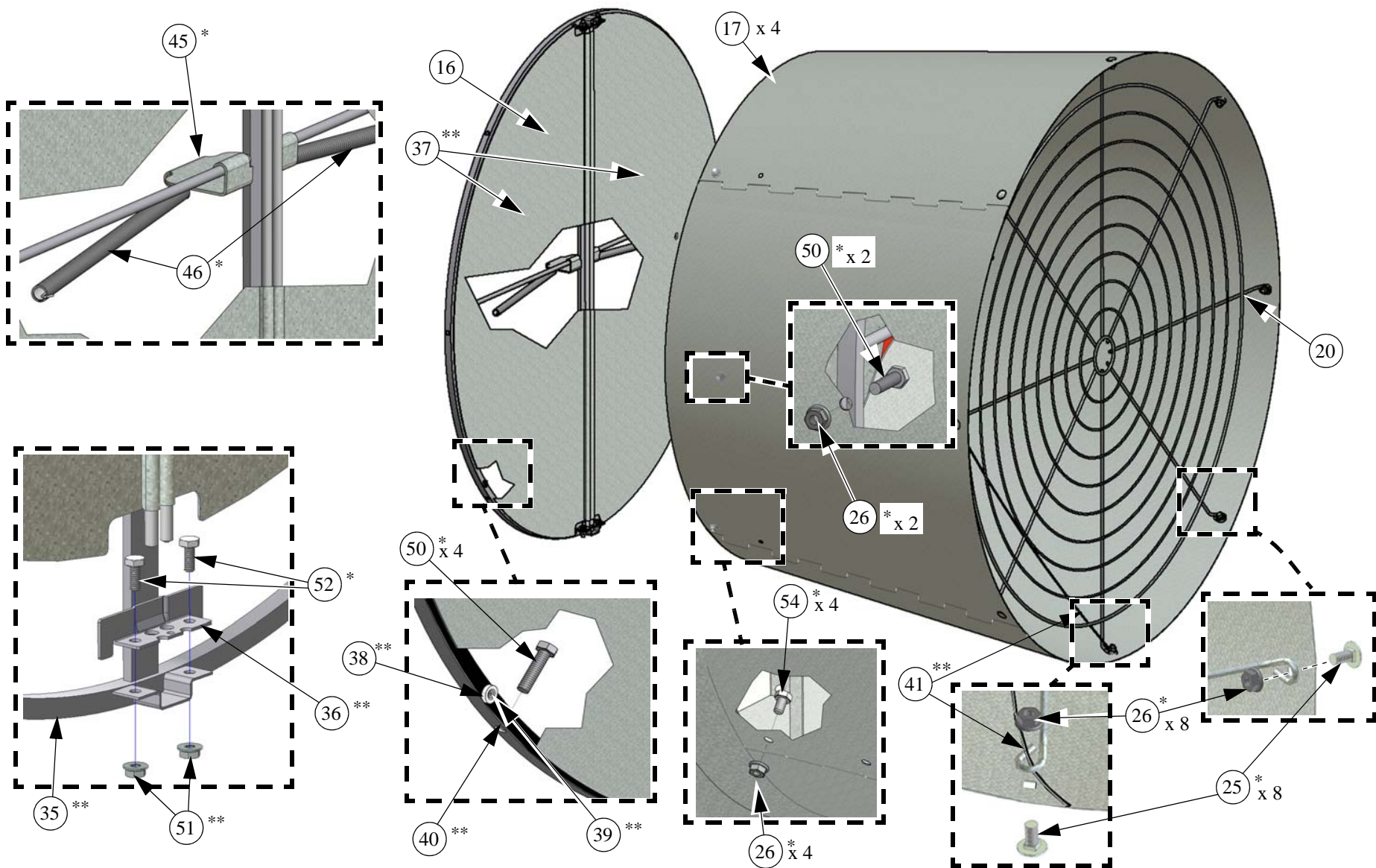


36" Fan Part Numbers

Item	Qty.	Part Description	Part No.
1A	1	R.H. Side Housing Panel	50278-2
1B	1	L.H. Side Housing Panel	50278-1
2	1	Top Housing Panel	50276
3	1	Bottom Housing Panel	50277
4	1	36" Fan Shroud	5538
5	2	36" Fan Post	53097
6	1	Idler Drive Motor Support	53099
7	1	Idler Drive Bearing Support	48395
8	2	1" Cast Pillow Block Bearing	50553
9	1	Tensioner Support	48394
10	1	1" Dia. (9.849") Fan Shaft	53098
11	1	AK51 x 1.00 Bore Sheave	42338
12	1	AK30 3" O.D. x 5/8 Bore	8773
13	1	3.5" Tensioner Assembly	48429
14	1	36" Fan Blade	46126
15	1	5HP 3Ph Motor	38566
17	4	36" Hyflo Cone Panel	50285
18	2	Danger Decal	2527-50
(* Included in Parts Package 53104) ( ** Included in Door Assembly 50311)			

Item	Qty.	Part Description	Part No.
19	1	Fan Description Decal	39002-XXX
21	1	44" Wire Screen	53103
23*	9	1/4-10 x 1.75" Lag Screw	51039
24*	16	1/4-14 x 1/2" HXWH Screw	48439
25*	34	5/16-18 x .625 Carriage Bolt	8282
26*	44	5/16-18 HX Ser. Flange Nut	8490
27	5	3/8-16 x 1.25 HHCP Bolt	39-20414
28	4	3/8-16 Ser. Flange Nut	39-45692
29	1	3/8 Lock Washer	5747
30	2	1/4" Sq. x 1.13 Key	2419-2
31	1	Hardware Package	53104
32	AR	Anti-Seize	RML092
34	2	Wire Tie	RML120
42*	8	11" Black Cable Tie	6635
43*	1	48.2" (AX46) V-Belt	4409
44*	4	Hyflo Screen Clip .06 Offset	50409
47*	4	Cone Support Bracket	49445
48*	4	Screen Clip	36729
49*	8	.260 x .69 x .060 Nylon Washer	4856
50*	6	5/16-18 x 1.25 HH5 Bolt	2150

# Itemized Parts (Continued).....



## Part Numbers (Continued)

Item	Qty.	Part Description	Part No.
16	1	36" Hyflo Door Assembly	50311
20	1	36" Cone Grill	37629
25*	34	5/16-18 x .625 Carriage Bolt	8282
26*	44	5/16-18 HX Ser. Flange Nut	8490
35*	1	36" Hyflo Fan Frame	50293
36*	2	Fan Door Pivot Plate	49598
37**	2	36" Hyflo Fan Door	50292
38**	2	.125 x Ø.50 Magnet	48427
39**	2	1/8 x .40 Pop Rivet	48936
40**	10'	1/2" Foam Tape	48425
41**	1	46.75" Cable Assembly	50618-3
45*	1	Door Spring Support	49450
46*	2	.055 x .50 x 11" Spring	49629
51**	4	1/4-20 Serrated Flange Nut	46460
50*	6	5/16-18 x 1.25 HH5 Bolt	2150
52**	6	1/4-20 x 5/8" Bolt	2152
53*	1	Nylon Clip (Not Shown) Used to secure Cord to the Wall.	565
54*	4	5/16-18 x .50 HH5 Bolt	1839
(* Included in Parts Package 53104) ( ** Included in Door Assembly 50311)			

## Maintenance

**IMPORTANT!** 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.
- Minimize contact of moisture or corrosive chemicals to the surfaces of the fan components to maximize fan life.
- After washing fans, operate fans long enough to remove moisture from all fan surfaces.
- Keep the fan clean for maximum life and best performance. **Do Not spray water on the Fan Shaft Bearings, the Belt Tensioner, or the Motor.**
- Periodically check the V-Belt and replace if necessary. A worn Belt will cause a substantial drop in Fan performance or it can break and cause Fan failure. If a Belt rides below the Sheave edge, replace the belt. (See **Figure 22 below**)

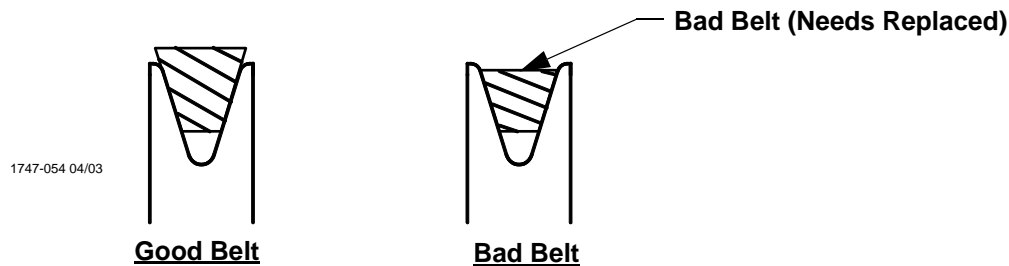


Figure 22. Belt Condition

- Check Belt Tension. The Belt should be tensioned just tight enough to minimize Belt slippage. Over tensioning the belt will cause premature Belt and Bearing wear. With a new Belt the Idler Sheave indicator mark should line up with the third notch in the Tensioner Housing (See **Figure 23**).

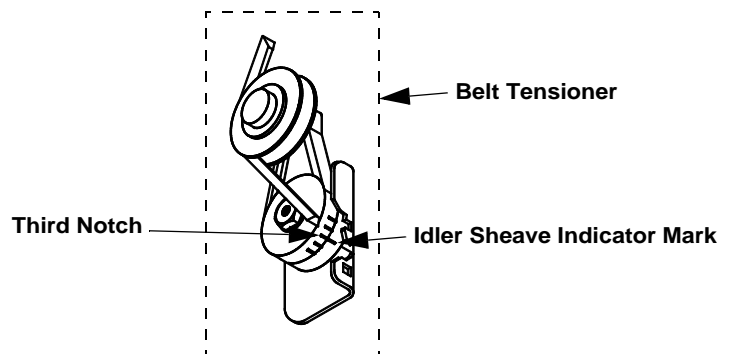


Figure 23. Idler Sheave Indicator Mark

- Keep Shutters, Blades, and Housing clear of obstacles for best air performance.
- The motor and Fan Shaft Bearings are pre-lubricated. Grease zerks are provided on the fan shaft bearings for installations where re-lubrication is needed. Add only a small amount of grease to purge impurities out of the bearing seals. Use only high quality lithium soap base grease and clean all dirt from zerk before applying grease. Chore-Time recommends using Shell Alvania # 2 in the fan shaft bearings.
- Check Sheaves for wear. Replace if a Sheave groove is worn. (See **Figure 24**)

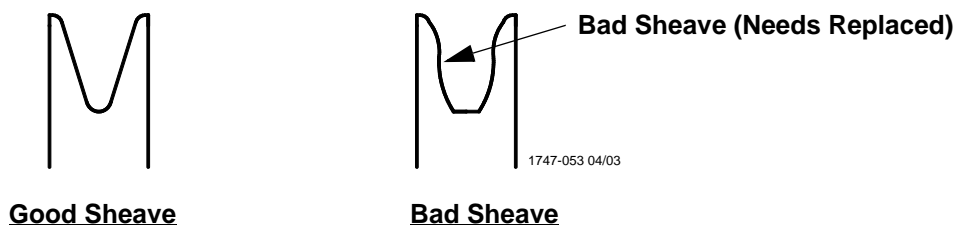


Figure 24. Sheave Condition



## Safety Information

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.

### DANGER: Electrical Hazard

Disconnect electrical power before inspecting or servicing equipment. 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.



### DANGER: Rotating Fan Blade

Keep Hands away. Disconnect power before servicing. Fan may start automatically. Do not operate the Fan without the screens in place. Disregard to these things will cause serious injury including death.



## Warranty

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

### Conditions and Limitations

1. The product must be installed by and operated in accordance with the instructions published by the **Manufacturer or Warranty will be void.**
2. Warranty is void if **all components** of the system are not original equipment supplied by the **Manufacturer.**
3. This product must be purchased from and installed by an authorized distributor or certified representative thereof or the Warranty will be void.
4. Malfunctions or failure resulting from misuse, abuse, mismanagement, negligence, alteration, accident, or lack of proper maintenance, or from lightning strikes, electrical power surges or interruption of electricity shall not be considered defects under the Warranty. Corrosion, material deterioration and/or equipment malfunction caused by or consistent with excessive additions or application of chemicals, minerals, sediments or other foreign elements with the product shall not be considered defects under the Warranty."
5. This Warranty applies only to systems for the care of poultry and livestock. Other applications in industry or commerce are not covered by this Warranty.

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

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### **Revisions to this Manual**

<b>Page No.</b>	<b>Description of Change</b>
Various	Added Balloons for Items 24, 27, 29, and 17 to BOM pages.

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

**CTB Inc.**

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