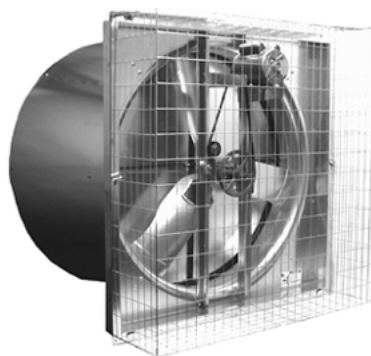




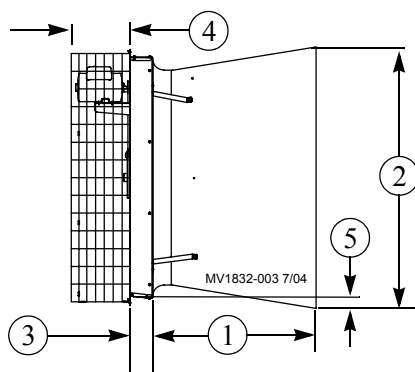
48" and 52" Hyflo® Fans Installation and Operators Instruction Manual

Thank You

The employees of Chore-Time Equipment would like to thank you for your recent Chore-Time purchase. If a problem should arise, your Chore-Time distributor can supply the necessary information to help you.

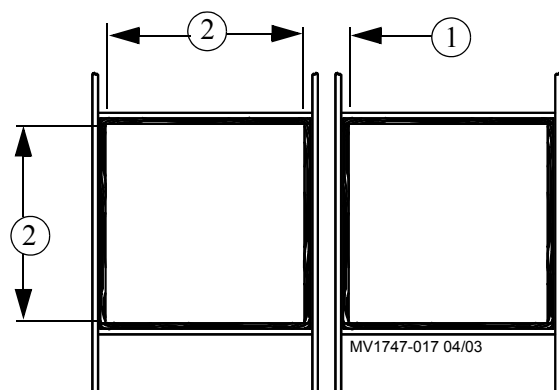


Fan and Fan Framing Dimensions



| Item | 48" Hyflo® 49451-XX | 48" Hyflo® (9 Inch Panels) 49515-XX | 52" Hyflo® 49511-XX | 52" Hyflo® (9 Inch Panels) 49519-XX |
|------|------------------------|---|------------------------|---|
| 1 | 41-7/8" [106.36 cm] | 41-7/8" [106.36 cm] | 44" [111.76 cm] | 44" [111.76 cm] |
| 2 | 59" [149.9 cm] | 59" [149.9 cm] | 64" [162.56 cm] | 64" [162.56 cm] |
| 3 | 5-1/8" [13.02 cm] | 9-1/8" [23.18 cm] | 5-1/8" [13.02 cm] | 9-1/8" [23.18 cm] |
| 4 | 12.35" [31.37 cm] | 12.35" [31.37 cm] | 12.35" [31.37 cm] | 12.35" [31.37 cm] |
| 5 | 2-5/16" [5.87 cm] | 2-5/16" [5.87 cm] | 4-1/8" [10.48 cm] | 4-1/8" [10.48 cm] |

Figure 1. Fan 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 | 48" Hyflo® | 52" Hyflo® |
|------|-----------------------|------------------------|
| 1 | 4" [10.16 cm] Minimum | 8" [20.32 cm] Minimum* |
| 2 | 55" [139.7 cm] | 56-1/2" [143.51 cm] |

*52" models can be mounted 3.5" apart if Cone Clips are used. See Figures 32 and 33.

Figure 2. Fan Spacing

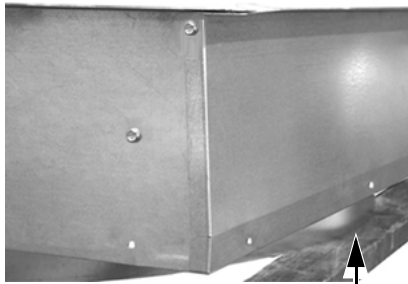
The Fan Inlet and exhaust must be kept clear of obstructions. Failure to keep the Fan airflow path clear of obstructions could cause loss of Fan performance and Fan damage.

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

Fan Assembly/Installation

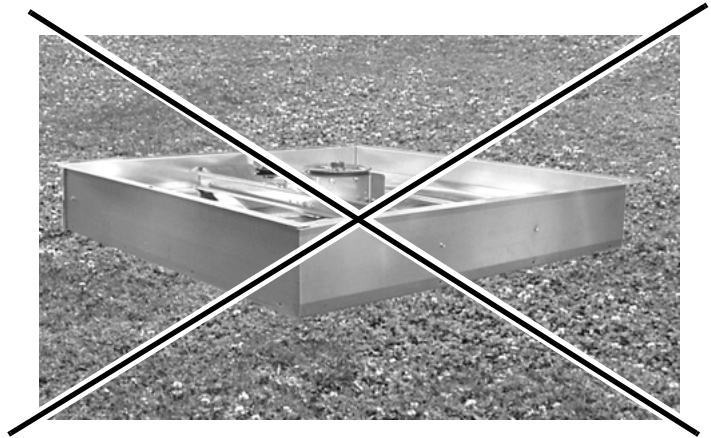
Assembly for 9" Panel Models (models 49515-XX and 49519-XX)

Hyflo® Fans with 9" panels need to be repositioned from their shipping position before they can be installed. Remove the Fan from the Crate, and with the Blade down, rest the Fan Shroud orifice on sawhorses. **Do Not** rest the Fan on the blade. (See Figure 3 below)



Fan Shroud orifice
resting on Sawhorse

Figure 3. Orifice resting on Sawhorse



Do Not lay Fan on the ground with the weight of the Fan on the Fan Blade.

Remove the 1/4 x 1/2" Screws from the Side Panels (**Figure 4**). Shift the Panels up until the second set of holes in the Panels line up with the holes in the Shroud (**Figure 5**). Re-attach the Panels with the 1/4 x 1/2" Screws as shown. Repeat the same procedure for the Top and Bottom Panels. The additional 1/4 x 1/2" Screws that are required are included in the Parts Package. Once all of the Panels have been shifted attach the Panels at the corners with 1/4 x 1/2" Screws.

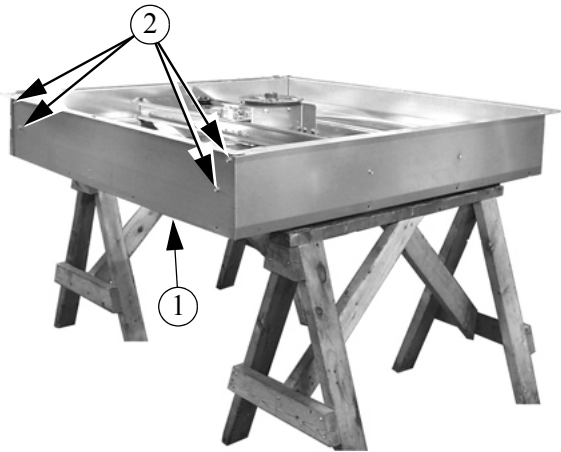


Figure 4. 9" Remove Screws

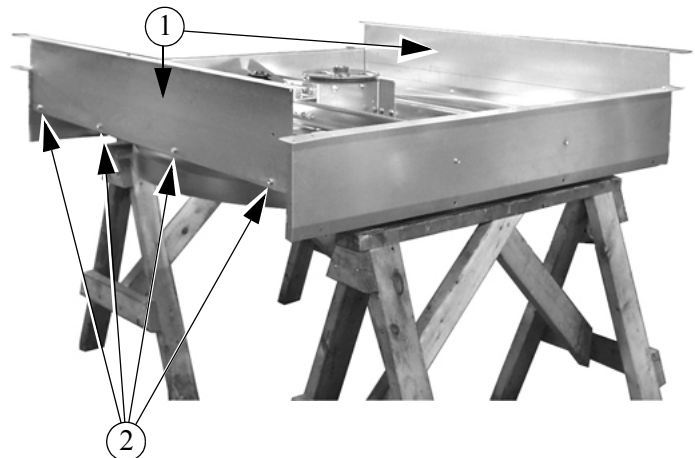


Figure 5. Shift Side Panels and re-attach

| Item | Description |
|------|------------------|
| 1 | Side Panel |
| 2 | 1/4 x 1/2" Screw |

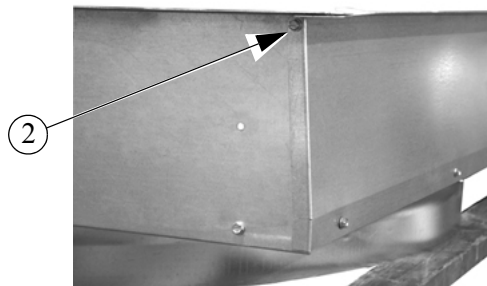


Figure 6. Attach Panels at Corners

Lift the Fan into Wall opening. The Fan should be oriented in the opening as **shown below**. In the center of the side panel mounting flange, use 1 Lag Screw, 2 Nylon Washers, and 1 Screen Clip to attach the Fan to the wall (**See Figure 7**). These Screen Clips will later be used to hold the Screen on. Install Lag Screws in the remaining 6 locations as shown in **Figure 7**.

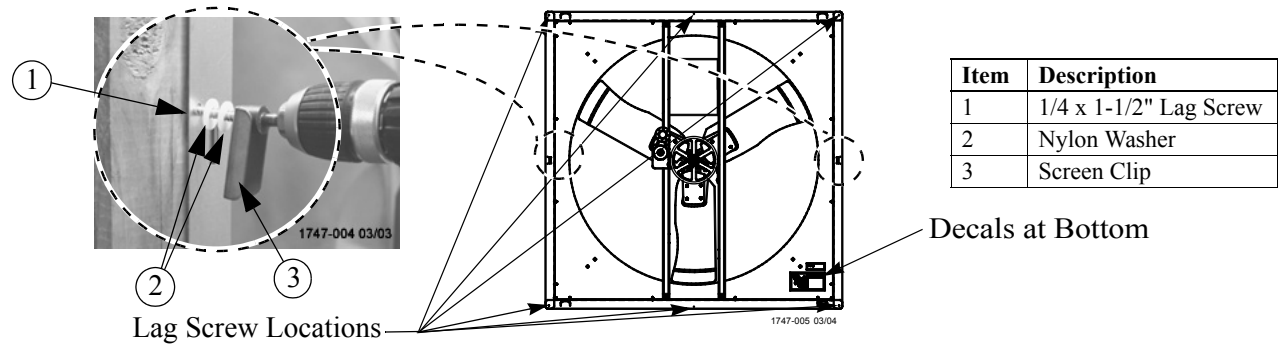


Figure 7. Installing Fan in Wall Opening

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 8**). 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**.

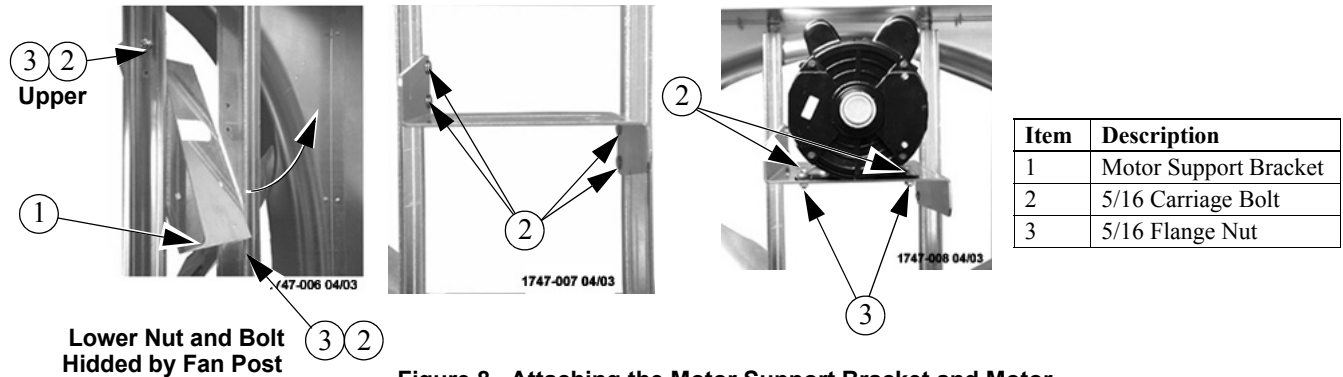


Figure 8. Attaching the Motor Support Bracket and Motor

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 9**. Make sure the Belt does not rub against the Motor Support Bracket.

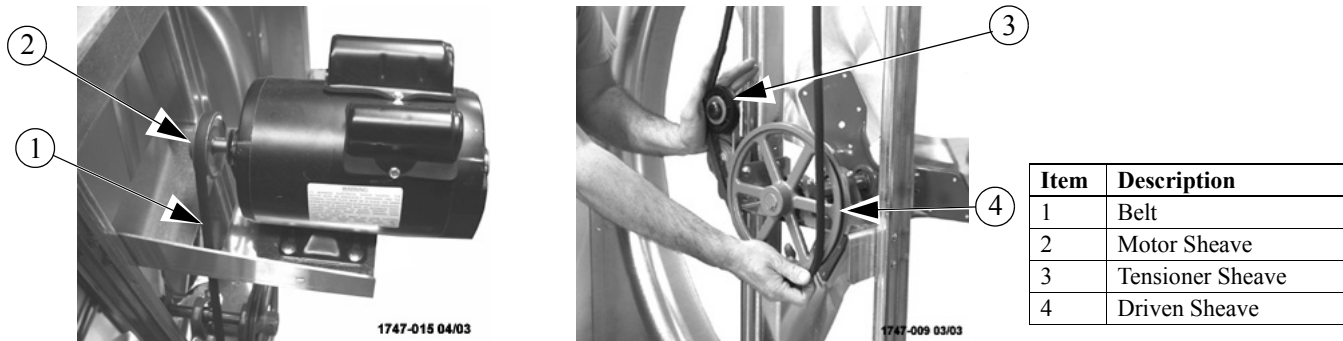


Figure 9. Installing the Belt

Cone Assembly

The Cone Panels can be identified by the number of notches at the edge of each Panel. Begin the Cone assembly by laying the Panel with **no tabs** on a couple of boards with the one notch end to the left and with the **Knock-out** at the Bottom as shown in Figure 10. Insert the tabs into the slots on the edge with the same number of notches.

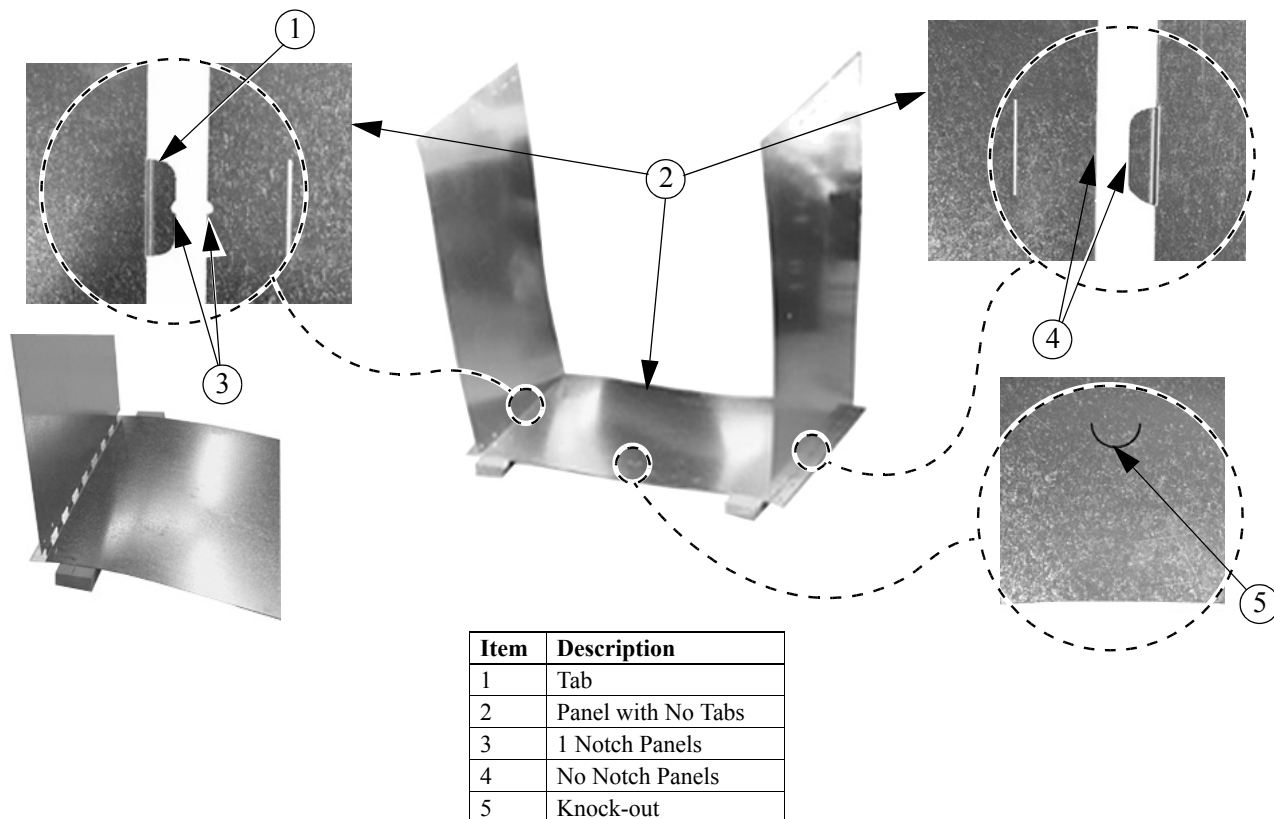


Figure 10. Assembling Cone Panels

When all four Cone Panels are connected stand the panels up on edge and curl the Cone around with the smaller diameter of the Cone up as **shown below**. Assemble the final Panels together and allow the Cone to take its shape. If the Cone is assembled correctly the Tabs should all be on the Inside of the finished Cone. Fasten the Cone Panels together with (4) 5/16 x 1/2" Hex Bolts Threaded in from the inside of the finished Cone as shown in Figure 11. *Do not tighten down the Nuts at this time.* Leave the Nuts loose until the Cone is attached to the Fan.

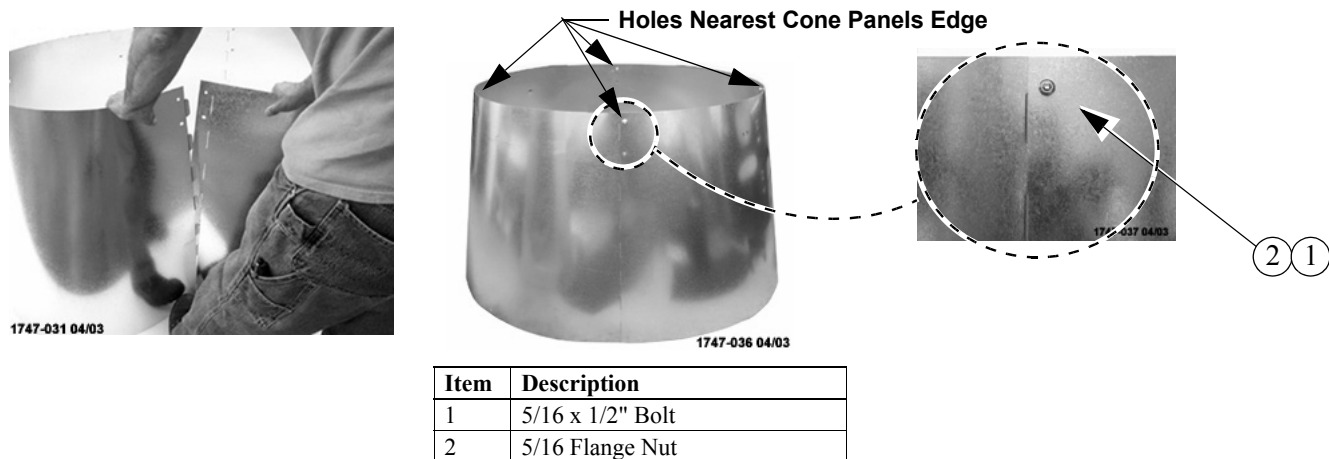
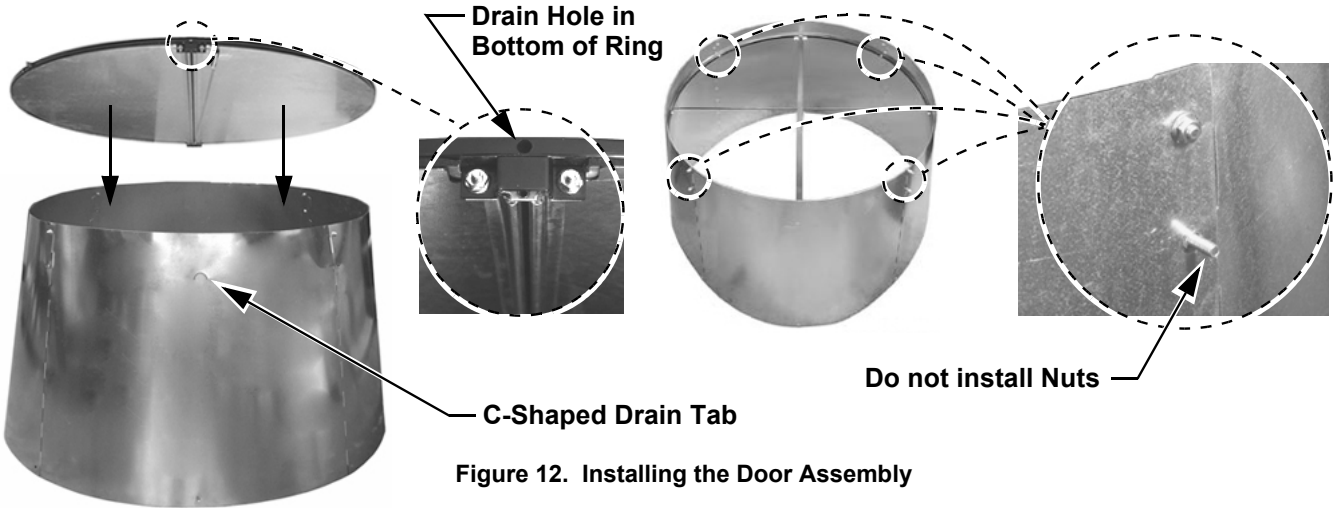


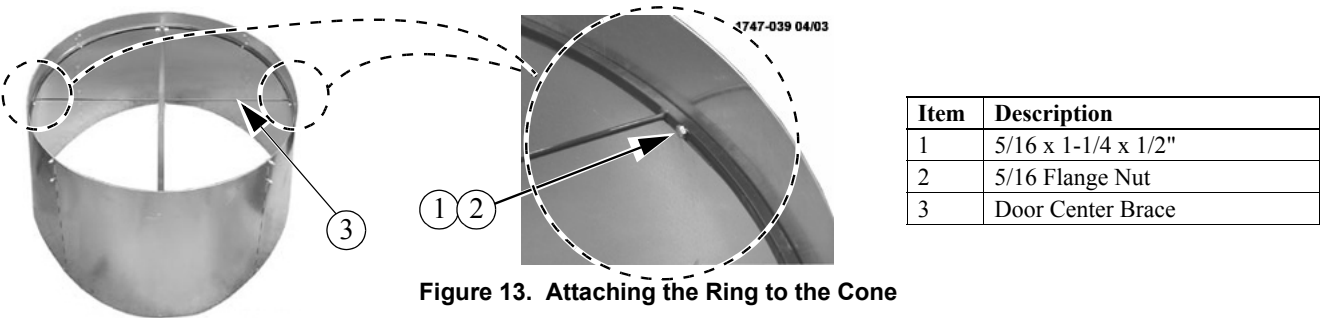
Figure 11. Bolting Cone Panels

Door Assembly/Installation

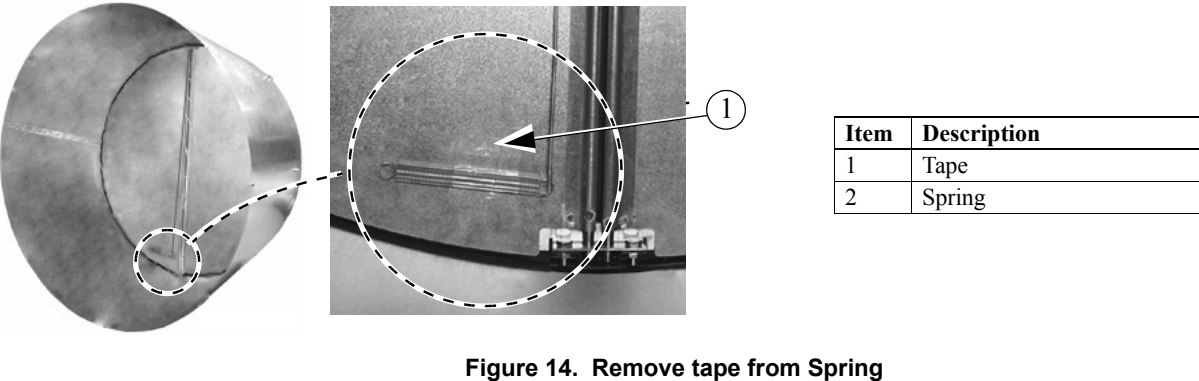
To install the Door in the Cone you must first identify the bottom of the Cone and the Door Assembly. The bottom of the Cone has a C-shaped Drain Tab in it. (See Figure 30). The bottom of the Door Assembly can be identified by a drain hole in the Ring (See Figure 12). Line up the Four Holes in the Door Ring with the holes in the Cone and thread (4) 5/16 x 1.25" Bolts 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.



Use (2) 5/16 x 1.25" Bolts and 5/16 Flange Nuts to attach the Ring to the Cone using the Holes located on both sides near the Door Center Brace as **shown below**. *Note that the Nuts go on the outside of the Cone.*



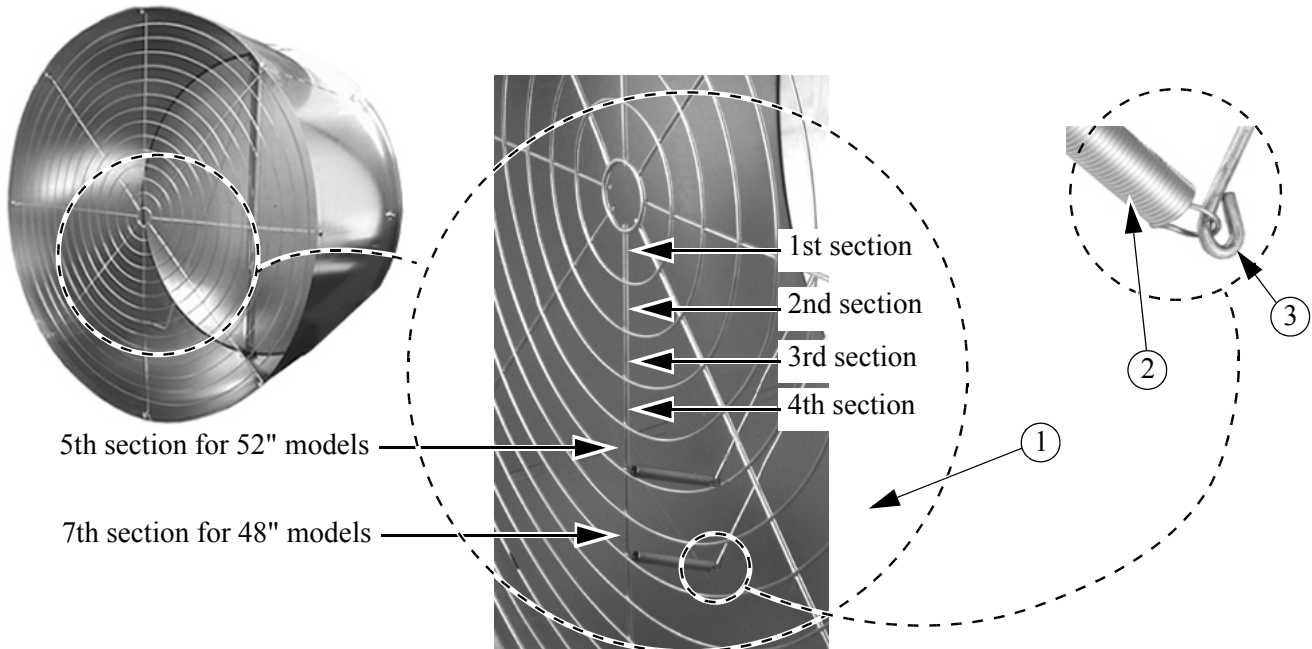
Turn the Cone over and remove the tape (Item 1, Figure 14) from the Spring.



Before attaching the Grill you need to attach the Door Stop Spring to the Grill.

For 48" Fan models hold the Grill and hook the Door Stop Spring on the 7th section from the center of the Grill (See **Figure 15**). Be sure that the spring is not twisted. **Figure 15** shows the Spring and Wire in the correct position.

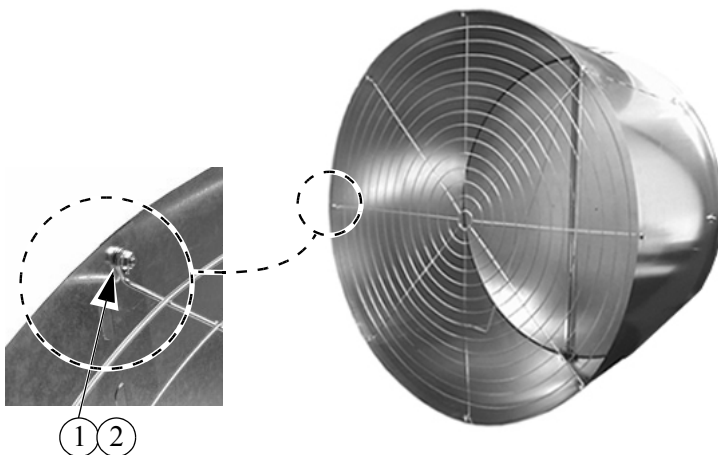
For 52" Fan models hook the Spring on the 5th section from the center of the Grill.



| Item | Description |
|------|------------------|
| 1 | Grill |
| 2 | Door Stop Spring |
| 3 | Wire |

Figure 15. Attaching Door Stop Spring

Fasten the Grill on with (8) 5/16 x 1/2" Carriage Bolts and Flange Nuts **as shown below**. *Note that the Nuts are to the Inside of the Cone.*



| Item | Description |
|------|---------------------------|
| 1 | 5/16 x 1/2" Carriage Bolt |
| 2 | 5/16 Flange Nut |

Figure 16. Attaching the Grill

Assembling the Cone to the Fan

Use 5/16 x 1/2" Carriage Bolts and 5/16 Flange Nuts to attach the Cone Brackets to the Fan Shroud as shown in Figure 17.

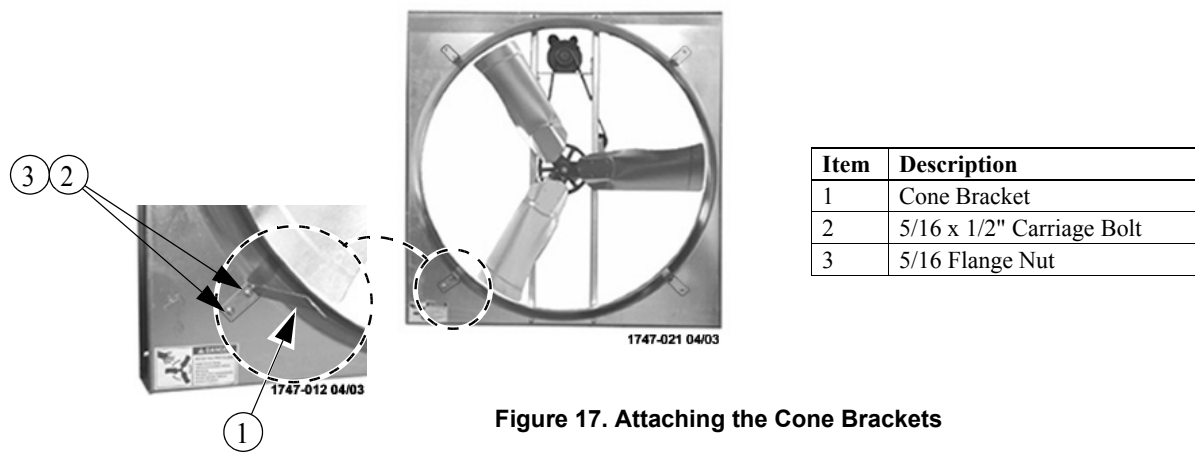


Figure 17. Attaching the Cone Brackets

Mounting the Cone and Door Assembly on the Fan requires at least two people. Pick up and orient the Cone with the C-shaped Drain Tab (shown in Figure 12) to the bottom of the Cone. Rest the Cone on top of the Fan Orifice as shown in Figure 18. Attach the top of the Cone to the Cone Brackets with the Bolts that were previously threaded through the Ring and Cone and secure with 5/16 Flange Nuts (Figure 18). 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 (Figure 19). Use a Level and rotate the Cone until the Door center rail is Vertical (Figure 20). Now tighten all Hardware.

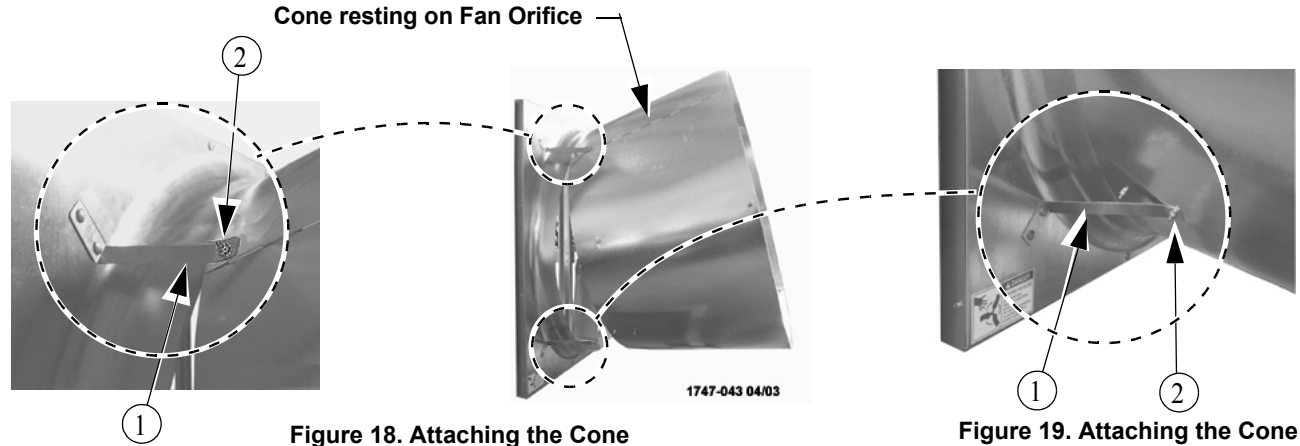


Figure 18. Attaching the Cone

Figure 19. Attaching the Cone

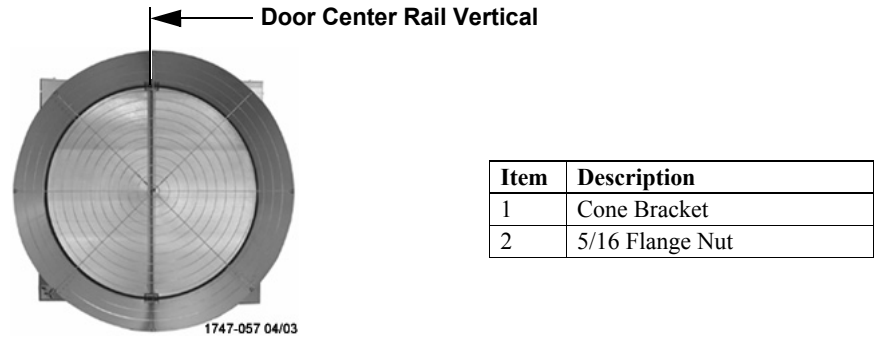


Figure 20. Attaching the Cone

| Item | Description |
|------|-----------------|
| 1 | Cone Bracket |
| 2 | 5/16 Flange Nut |

Door Spring Assembly

On the Cone side of the Door, at the middle of the Door Center Brace, attach the Spring Mounting Bracket (**Included in the Parts Package**) as shown in **Figure 21** to the right.

| Item | Description |
|------|-------------------------|
| 1 | Door Center Brace |
| 2 | Spring Mounting Bracket |

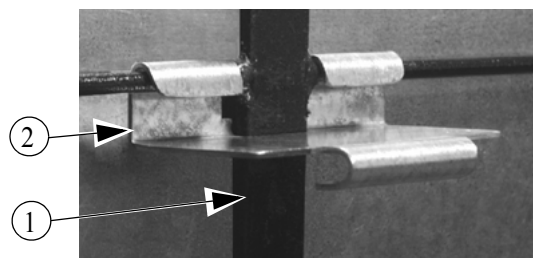
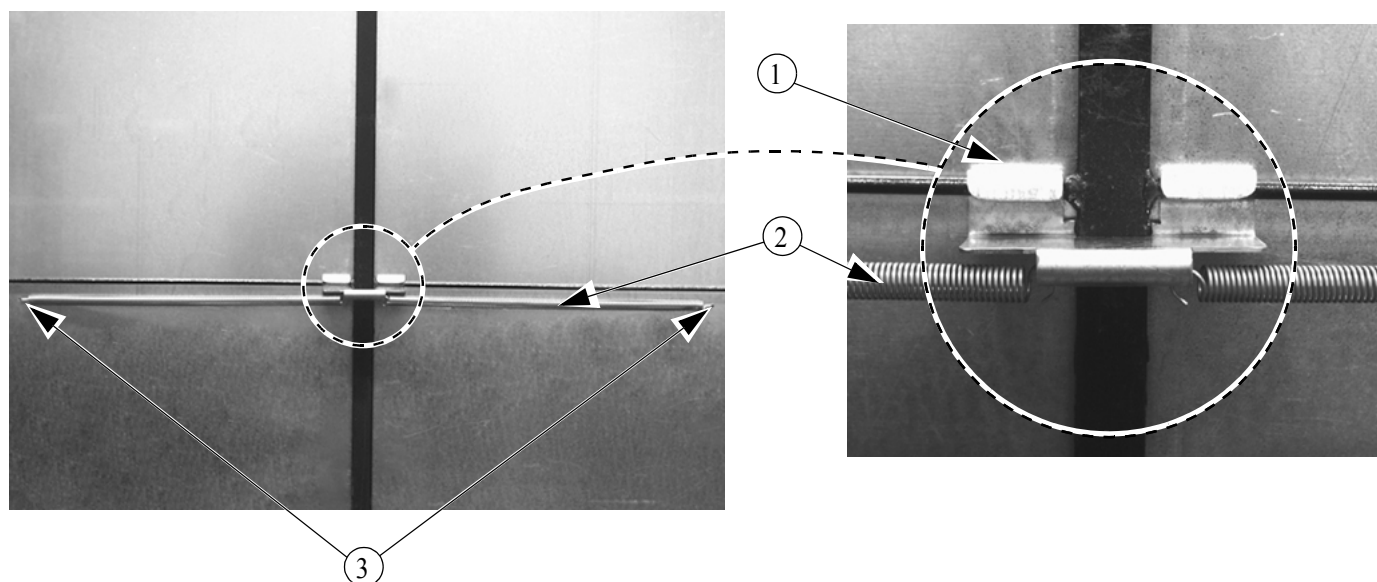


Figure 21. Attaching the Spring Mounting Bracket

Hook the rounded ends of the Door Springs onto the Spring Mounting Bracket. Stretch the Door Springs out and hook them on the 3/32" holes in the Doors (**See Figure 22**).

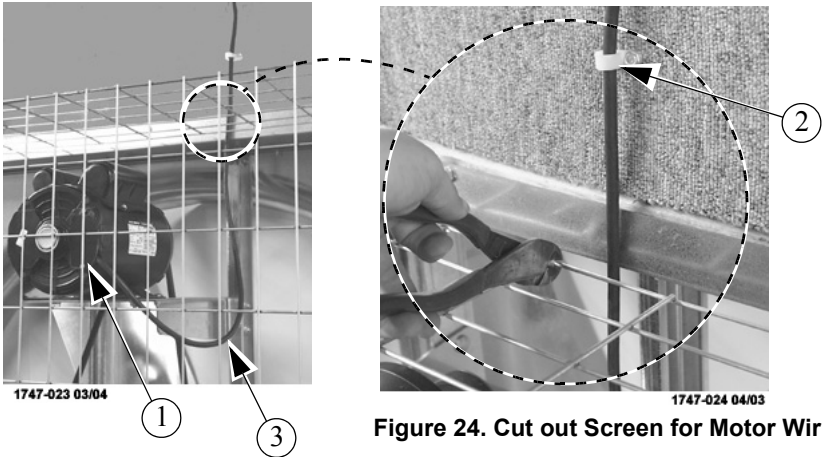


| Item | Description |
|------|-------------------------|
| 1 | Spring Mounting Bracket |
| 2 | Door Spring |
| 3 | 3/32" Hole in Door |

Figure 22. Attaching the Door Springs

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 24). 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.

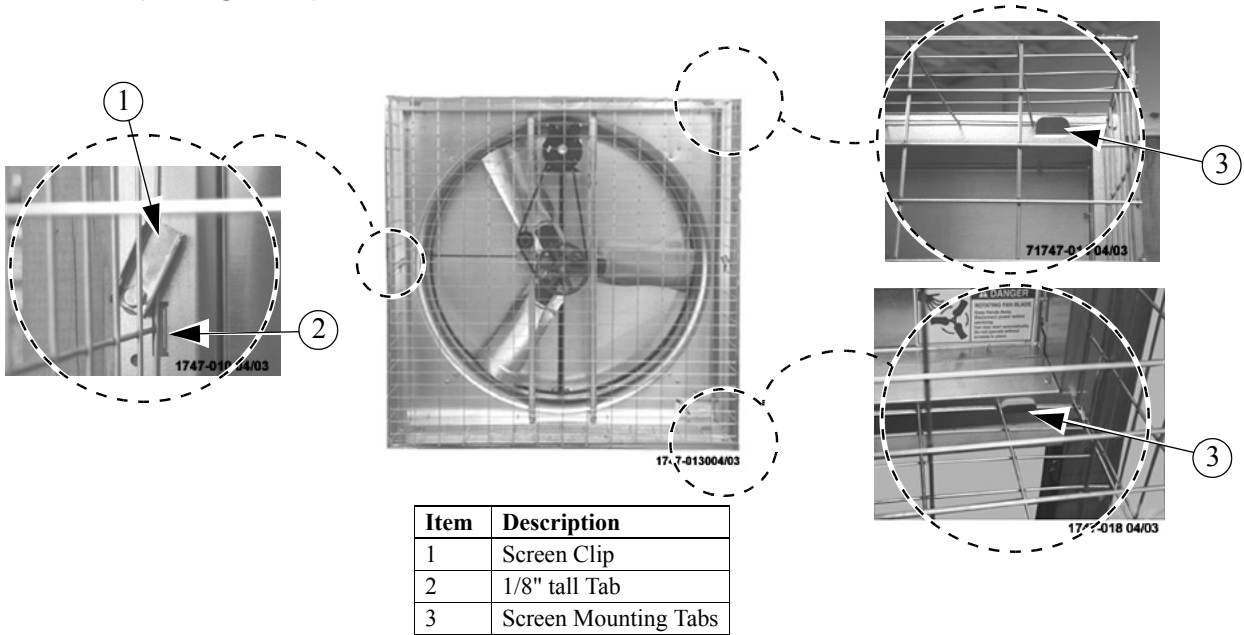


| Item | Description |
|------|--------------------|
| 1 | Motor Access Cover |
| 2 | Cord Clip |
| 3 | Drip Loop |

Figure 24. Cut out Screen for Motor Wiring

Installing the Screen

Hang the Rear Screen on the four tabs located in the corners of the Fan Mounting Flange. Position the Screen so that the Screen wire is captured between the 1/8" tall tabs and the Screen Clips. Rotate the two Screen Clips to capture the Screen (See Figure 25).



| Item | Description |
|------|----------------------|
| 1 | Screen Clip |
| 2 | 1/8" tall Tab |
| 3 | Screen Mounting Tabs |

Figure 25. Installing the Screen

Drain Tabs

The Fan is designed with Drain Tabs located in the bottom corners of the Shroud (**Item 1, Figure 26**). From the inside of the Fan, using a screw driver, Push the drain tabs out. From the outside of the Fan, use pliers to bend the Drain Tab down to create a place for water to drain out and away from the building (See **Figure 27**). The Drain Tab should look like it does in **Figure 28** for proper drainage.

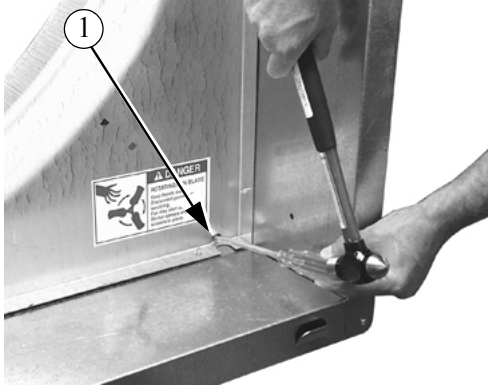


Figure 26. Use a screwdriver to push Drain Tab out

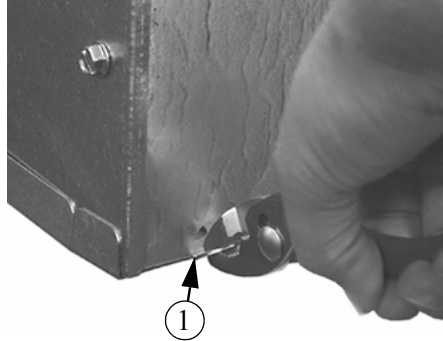


Figure 27. Use Pliers to bend Drain Tab down

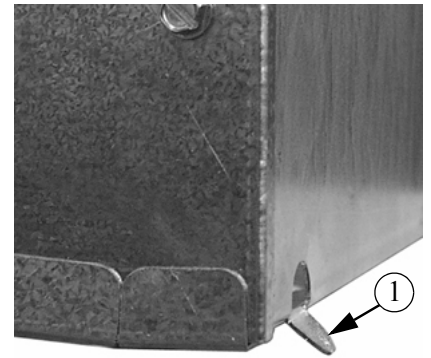


Figure 28. Drain Tab Bent down so water drains out of the Fan and away from building

| Item | Description |
|------|-------------|
| 1 | Drain Tab |

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 29** below.

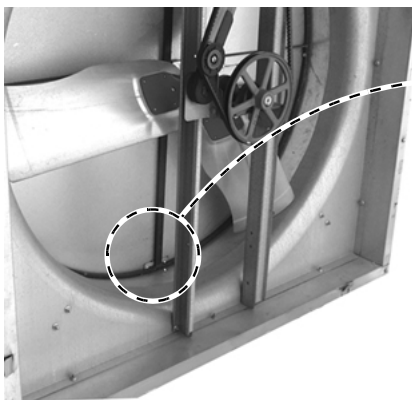


Figure 29. Drain Tab at back of Bottom Panel

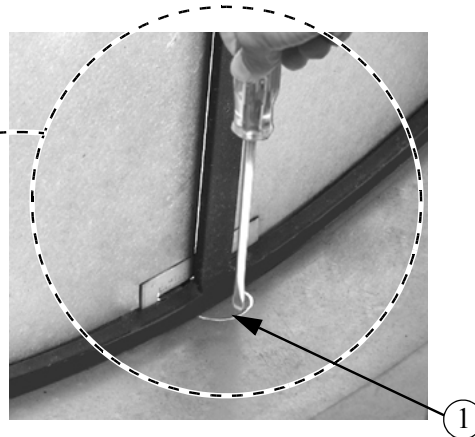


Figure 30. Use screw driver to push Drain Tab out

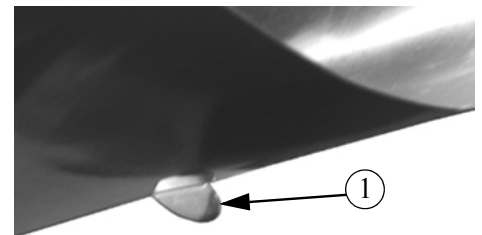


Figure 31. Drain Tab Pushed out (Shown from under Cone)

| Item | Description |
|------|-------------|
| 1 | Drain Tab |

Installing Fans 60"-64-1/2" on Center

If 52" Fans need to be installed 60"-64-1/2" on center, Cone Clips can be used to keep Cones from interfering with one another. First, cut the two legs from the horizontal Screen wire as shown in **Figure 32** below.

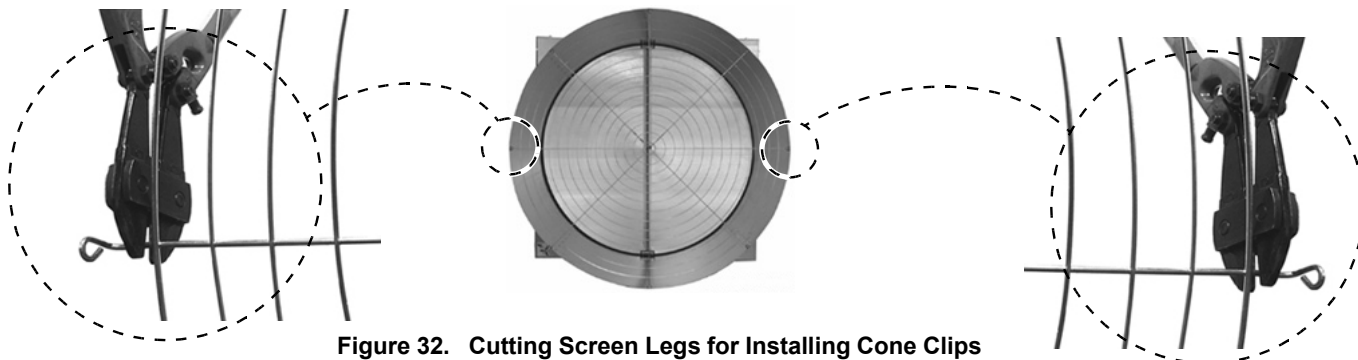
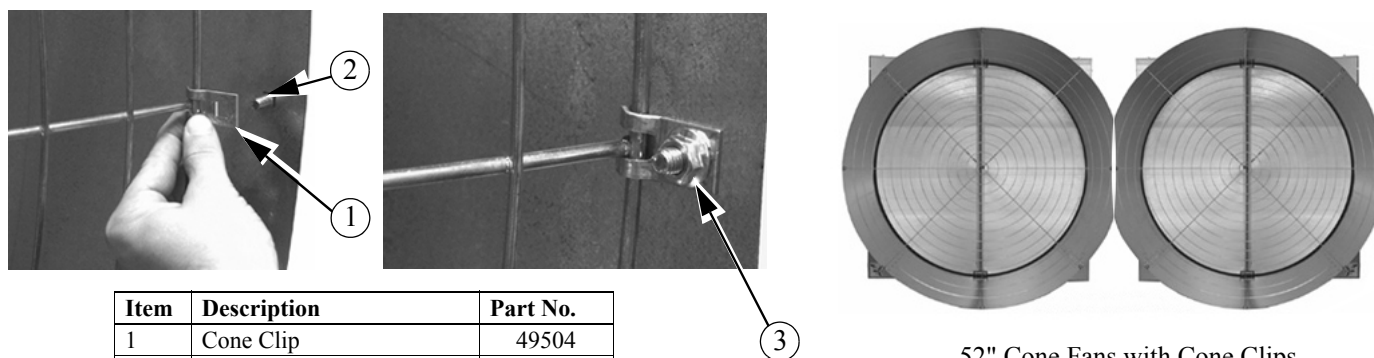


Figure 32. Cutting Screen Legs for Installing Cone Clips

Holding a Cone Clip in place, Push in the side of the Cone and fasten with 5/16 x 1/2" Carriage Bolts and Flange Nuts as shown in **Figure 33** below.



| Item | Description | Part No. |
|------|--------------------------|----------|
| 1 | Cone Clip | 49504 |
| 2 | 5/16 x 1/2 Carriage Bolt | - |
| 3 | 5/16 Flange Nut | - |

52" Cone Fans with Cone Clips

Figure 33. Attaching Cone Clips

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.
- Keep the fan clean for maximum life and best performance. **Do Not spray water on Fan Shaft Bearings or 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 34 below**)

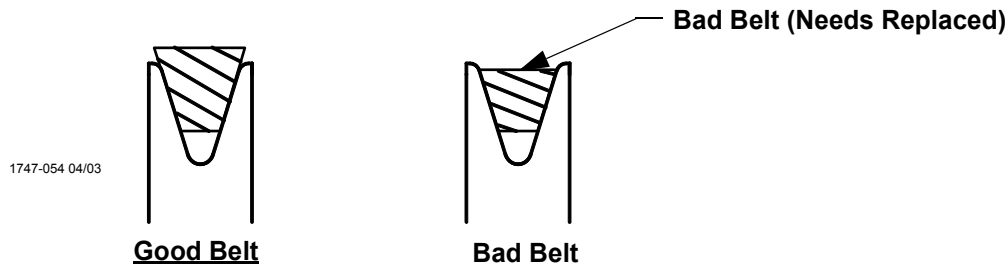


Figure 34. Belt Condition

- 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 35**).

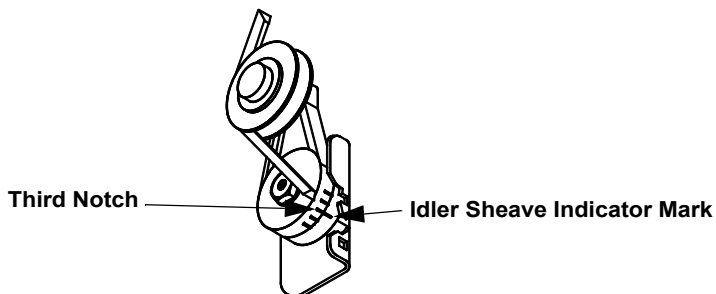


Figure 35. Idler Sheave Indicator Mark

- 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 36**)

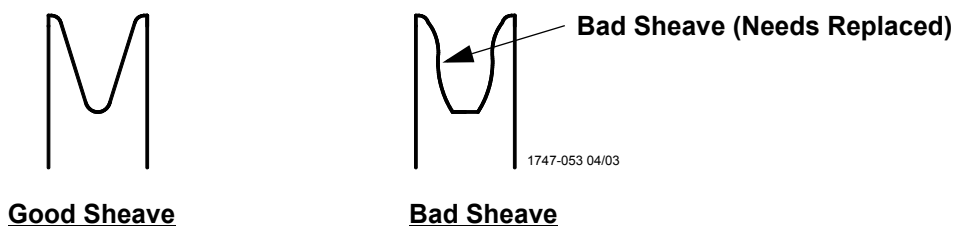
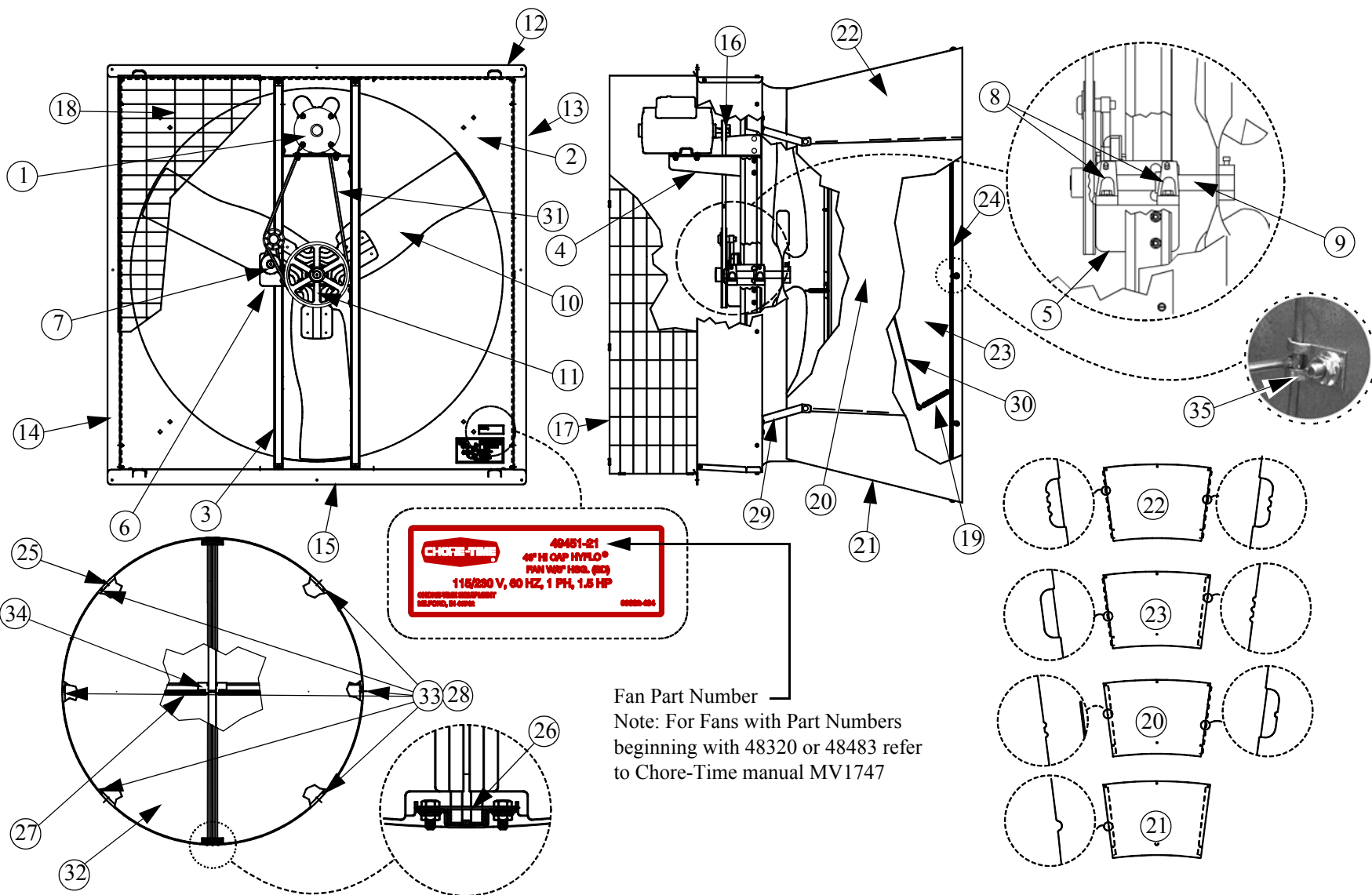


Figure 36. Sheave Condition

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| Item | Part Description | 48" Fan Part Numbers | | 52" Fan Part Numbers | |
|------|---------------------------------|--|--------------------|--|---------------------|
| | | 5" Deep Housing 49451-XX 9" Deep Housing 49515-XX | | 5" Deep Housing 49511-XX 9" Deep Housing 49519-XX | |
| | | Part No. | Models-XX | Part No. | Models-XX |
| 1 | Motor, 1ph, 1.5hp, 1725 rpm | 49903 | -21 | 49903 | -22 |
| | Motor, 1ph, 1hp, 1725 rpm | 37729 | -22, -23 | -- | -- |
| | Motor, 3ph, 1.5hp, 1725 rpm | 47693 | -52 | -- | -- |
| | Motor, 3ph, 1hp, 1725 rpm | 40157 | -42 | -- | -- |
| | Motor, 1ph, 1.5hp | -- | -- | 48580 | -21 |
| | Motor, 3ph, 1.5hp | 48608 | -41,-51 | 48608 | -41,-51,-42,-52 |
| 2 | Shroud, Fan | 48362 | All | 47710 | All |
| 3 | Post, Fan | 48393 | All | 48072 | All |
| 4 | Motor Support, Idler Drive | 48396 | All | 48396 | All |
| 5 | Bearing Support, Idler Drive | 48395 | All | 48395 | All |
| 6 | Tensioner Support | 48394 | All | 48394 | All |
| 7 | Tensioner, Assy | 48429 | All | 48429 | All |
| 8 | Bearing, 1" Pillow Block | 48428 | All | 48428 | All |
| 9 | Fan Shaft | 48397 | All | 48397 | All |
| 10 | Fan Blade, High Efficiency | 45932 | -23 | -- | -- |
| | Fan Blade, Standard | 28140 | -22, -42, -52 | 48507 | -22, -42, -52 |
| | Fan Blade, High Capacity | 46748 | -21, -41, -51 | 48125 | -21, -41, -51 |
| 11 | Sheave, Driven AK84 | 28143 | -51, -52, -23 | 28143 | -51, -52 |
| | Sheave, Driven AK94 | 40274 | -21, -22, -41, -42 | 40274 | -21, -22, -41, -42, |
| 12 | 5" Hyflo® Top Panel | 48671 | All | 48685 | All |
| | 9" Hyflo® Top Panel | 49207 | All | 49459 | All |
| 13 | 5" Hyflo® R.H. Side Panel | 49474-2 | All | 49510-2 | All |
| | 9" Hyflo® R.H. Side Panel | 49514-2 | All | 49518-2 | All |
| 14 | 5" Hyflo® L.H. Side Panel | 49474-1 | All | 49510-1 | All |
| | 9" Hyflo® L.H. Side Panel | 49514-1 | All | 49518-1 | All |
| 15 | 5" Hyflo® Bottom Panel | 49473 | All | 49509 | All |
| | 9" Hyflo® Bottom Panel | 49513 | All | 49517 | All |
| 16 | Sheave, Driver AK27 | 1381 | -23 | -- | -- |
| | Sheave, Driver AK30 | 8773 | -21, -22, -41, 42 | 8773 | -21, -22, -41, -42 |
| | Sheave, Driver AK32 | 48504 | -51, -52 | 48504 | -51, -52 |
| 17 | Screen, 12" x 56" Mesh | 48340 | All | 48340 | All |
| 18 | Screen, 56 x 56, 2 x 4 Wire | 48228 | All | 48228 | All |
| 19 | Spring, Door Stop | 49596 | All | 49596 | All |
| 20 | Cone Panel, RH Hyflo® | 49444 | All | 49508 | All |
| 21 | Cone Panel, Bottom Hyflo® | 49442 | All | 49506 | All |
| 22 | Cone Panel, Top Hyflo® | 49441 | All | 49505 | All |
| 23 | Cone Panel, LH Hyflo® | 49443 | All | 49507 | All |
| 24 | Grill, Galv. Cone | 49447 | All | 49501 | All |
| 25 | Frame, Hyflo® Door | 49439 | All | 49499 | All |
| 26 | Plate, SS Fan Door Pivot Bottom | 49598 | All | 49598 | All |
| 27 | Spring, Door Closing | 49629 | All | 49629 | All |
| 28 | Magnet, .125 Thk. x .50 Dia. | 48427 | All | 48427 | All |
| 29 | Bracket, Cone Support | 49445 | All | 49445 | All |
| 30 | Wire, Hyflo® Door Stop | 49597 | All | 49597 | All |
| 31 | V-Belt A59 | 48505 | -23,-51,-52 | 48505 | -23,-52 |
| | V-Belt A60 | 48430 | -21,-22,-41,-42 | 48430 | -22, 42 |
| | V-Belt AX59 | -- | -- | 48615 | -51 |
| | V-Belt AX60 | -- | -- | 48541 | -21,-41 |
| 32 | Door, Hyflo® Shutter | 49446 | All | 49500 | All |
| 33 | Pop Rivet, SS 1/8 x .40 | 48936 | All | 48936 | All |
| 34 | Support, Hyflo® Door Spring | 49450 | All | 49450 | All |
| 35 | Cone Clip (Optional) | -- | -- | 49504 | All |

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, negligence, alteration, accident, or lack of proper maintenance 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.

THIS WARRANTY CONSTITUTES THE MANUFACTURER'S ENTIRE AND SOLE WARRANTY AND THIS MANUFACTURER EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSES SOLD AND DESCRIPTION OR QUALITY OF THE PRODUCT FURNISHED HEREUNDER.

Chore-Time Distributors are not authorized to modify or extend the terms and conditions of this Warranty in any manner or to offer or grant any other warranties for Chore-Time products in addition to those terms expressly stated above. An officer of CTB, Inc. must authorize any exceptions to this Warranty in writing. The Manufacturer reserves the right to change models and specifications at any time without notice or obligation to improve previous models.

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

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Printed in the U.S.A.