36”, 48”, 54” HyperMAX™ (Galvanized and Z) Slant Wall Fans

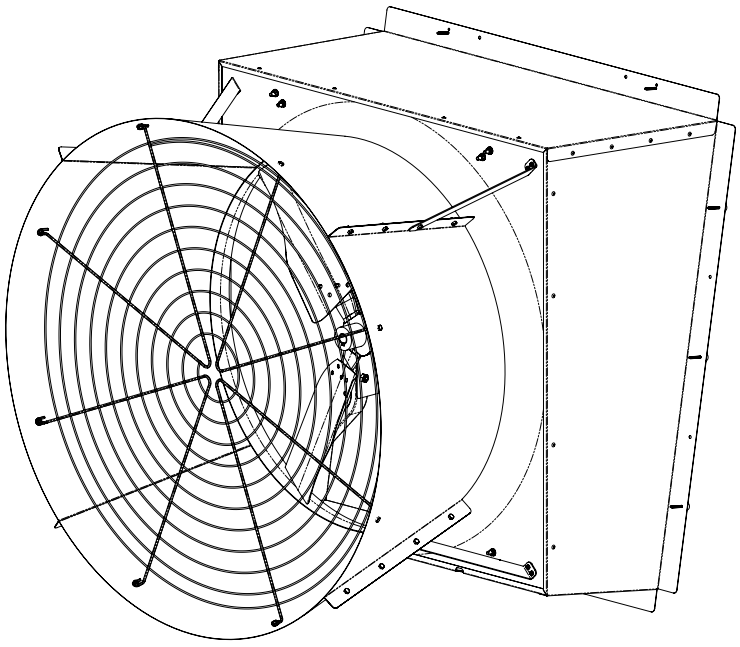
Installation and Operation Manual

36” Direct Drive Fans
936200

36” Belt Drive Fans
936150, 936150-ZM, 936155-ZM, 936250, 936270, 936270-ZM, 936290, 936290-ZM, 936320-ZM, 936340-ZM

48” Fans
948200, HGS48G340MGAT, HGS48G340MGAT-ZM, HGS48G340NGAT, HGS48G650LGAT

54” Fans
954290, 954290-ZM, 954310, 954310-ZM, 954350, 954350-ZM, 954400, 954400-ZM, 954710, 954710-ZM, 954720, 954720-ZM, 954725-ZM, 954730, 954730-ZM, 954735-ZM, 954750, 954750-ZM, 954770, 954770-ZM



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VAL PRODUCTS, INC. WARRANTIES

For Warranty claims information, please see the “Manufactured Products Standard Warranty” form QMS101 available from Val Products, Inc. by:

- Phone: 1-800-998-2526
- Email: marcom@val-co.com
- Online: http://val-co.it/warranty

Conditions and Limitations:

- Products and Systems involved in a warranty claim under the “Manufactured Products Standard Warranty” shall have been properly installed, maintained and operated under competent supervision, according to the instructions provided by Val Products, Inc.
- Malfunction or failure resulting from misuse, abuse, negligence, alteration, accident or lack of proper installation or maintenance shall not be considered a defect under the Warranty.

Symbols

Our concern is for your safety. The safety warnings are included in this manual as a guide to help and encourage the safe operation of your equipment. It is your responsibility to evaluate the hazards of each operation and implement the safest method of protecting yourself as owner and/or operator.



= NOTICE - Important information. Be sure to read.



= WARNING - The safety alert symbol is used on warning signs that describe the importance of a feature or explain a step that one should pay close attention to avoid problems or personal injury.







Introduction

Hypermax sheet metal Slant Wall Fans come pre-assembled, *(except for the cone, cone straps and cone screen)* or they can be ordered as un-assembled/Knock Down.

Please check your shipment for correct parts and condition.

- Read all safety information, instructions and illustrations before starting to assemble your new fan. Please review the complete assembly manual twice before starting and be sure to check your shipment with the packing list for any shortages. Please report shortages promptly.
- Metric measurements are shown in millimeters and in parentheses throughout the manual. Example: 13” (330mm)

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General Description

This manual contains information and instructions essential to the safe installation and use of the Hypermax™ Fans. This manual should be read thoroughly before attempting any installation or use of the fan. Keep this manual in a location that it can be readily accessible. Failure to read the manual and its safety instructions constitutes misuse of the product.

Correct Use of Your Fan

1. The fan is designed solely for the purpose of ventilating agricultural buildings. Use of the fan in any other way is a misuse of the equipment and may endanger your or another person's safety and health.
2. In the installation and use of the fan, only genuine Valco parts are to be used. Use of other non-genuine parts is a misuse and may lead to unexpected results.
3. **WARNING:** Ensure that the environment in which the fan(s) will be used does not contain explosive concentrations of dust, gases, vapors, or fumes. If there is any concern that an explosive atmosphere may be present, fans and all electrical or combustion appliances must NOT be used.

Tools Required:

- *Regular Flat Head Screwdriver*
- *Hammer*
- *7/16", 1/2", 9/16", 5/16", 15/16", 1-1/2" Open End Wrenches or Socket Wrench with 7/16", 1/2", 9/16", 5/16", 15/16", 1-1/2" Sockets*
- *Wire Cutters and Strippers*
- *1/8" Hex Key Wrench*
- *1/8", 5/32" Open End Wrench or a 12 Point 3/8" Socket and Ratchet*
- *1/4" Nut Driver*
- *Awl or Drift Pin*
- *Pop Rivet Gun*

Screw Driver



Hammer



Socket Set



Wire Cutter



Hex Key Wrench set



Pop Rivet Gun



Open End Wrench set



Nut Driver



Awl/Drift Pin



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Regulations (Caution and Warning)

⚠WARNING

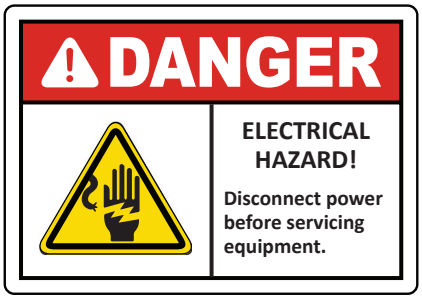
Do not install fan with moving parts within seven feet of floor or grade level without a guard that complies with OSHA Regulations. Do not use unless electrical wiring complies with all applicable codes. Do not wire without providing for power source disconnect at the fan itself. Do not service except by a qualified maintenance technician and only after disconnecting the power source. Do not install in room where flammable material is stored or flammable vapors might build up. Failure to observe all of these precautions can result in serious injury or death.

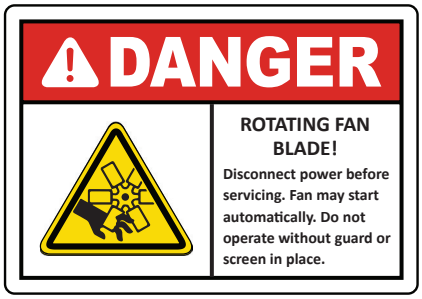
⚠WARNING

If these ventilation products are used to support life in agricultural structures where failure of the system could result in loss or injury, the user must provide an adequate backup and alarm system. The user must accept all risks of such loss or injury due to the possible failure of the ventilation system.

Wiring Regulations *(Diagram included with motor)*

Be sure power is “OFF” before doing any wiring. All wiring shall be installed in accordance with national, state and local electrical codes. Fans used to ventilate livestock buildings or rooms where continuous air movement is essential should be connected to individual electrical circuits. For electrical connection requirements, refer to diagram on the motor nameplate or the enclosed wiring diagram. A circuit breaker switch or slow blow motor type fuse must be used. Three phase motors do not include overload protection. Specifications are subject to change without notice.







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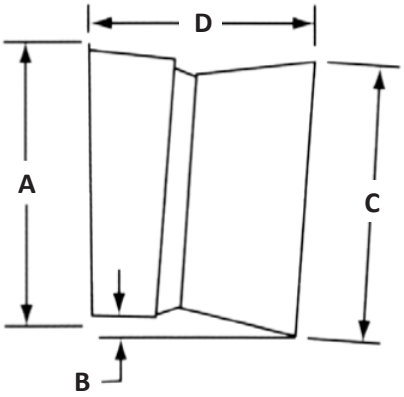
Assembly Instructions

Framing the Wall Opening

Before installing the fan(s) you MUST have the proper rough opening. Be sure to leave enough space between the framed openings so that the fan flanges do not overlap, allowing room for fan cones. The wall opening must be square, plumb and flat, for proper fan installation.

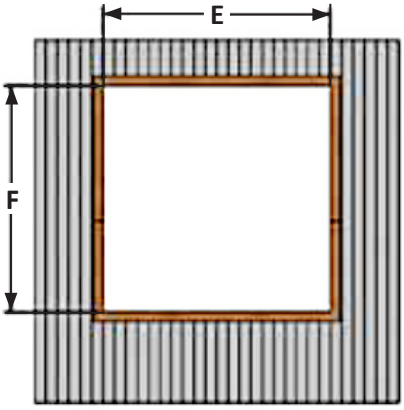
FAN DIMENSIONS

Figure 1



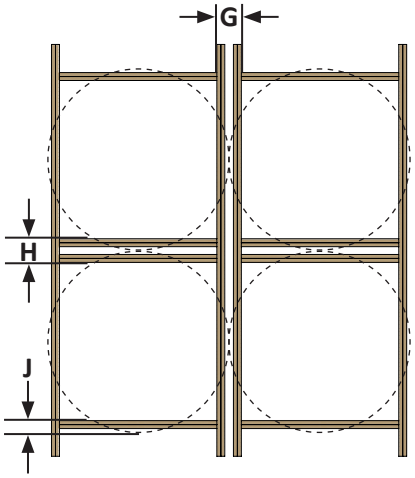
ROUGH OPENING DIMENSIONS

Figure 2



ALLOW FOR CONES IN SPACING

Figure 3



	SLANT WALL FAN SIZE								
	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"
36" Sheet Metal Slant Wall Fan	48.5" (123.2cm)	7.5" (19.05cm)	49" (124.46cm)	47" (119.38cm)	43.5" (110.49cm)	44.5" (113.03cm)	5.5" (13.97cm)	4.63" (11.76cm)	7.75" (19.69cm)
48" Sheet Metal Slant Wall Fan	59.5" (151.13cm)	8" (20.32cm)	59.5" (151.13cm)	60" (152.4cm)	55.5" (140.97cm)	55.5" (140.97cm)	4.63" (11.76cm)	4.5" (11.43cm)	8.88" (22.55cm)
54" Sheet Metal Slant Wall Fan, 26" cone	64" (162.56cm)	9" (22.86cm)	69" (175.26cm)	51.25" (130.17cm)	60" (152.4cm)	60.25" (153.03cm)	9.13" (23.19cm)	7.5" (19.05cm)	9.88" (25.1cm)
54" Sheet Metal Slant Wall Fan, 40" cone	64" (162.56cm)	11" (27.94cm)	69" (175.26cm)	64.5" (163.83cm)	60" (152.4cm)	60.25" (153.03cm)	9.25" (23.5cm)	8.13" (20.65cm)	11.88" (30.18cm)

Build the fan framing with 2" (38mm) nominal dimension lumber. *(This is not supplied.)* The required rough opening is provided in the table above. Planning the layout on spacing between cone fans is very important. ***If the space is too close together it will cause interference with the cones.***

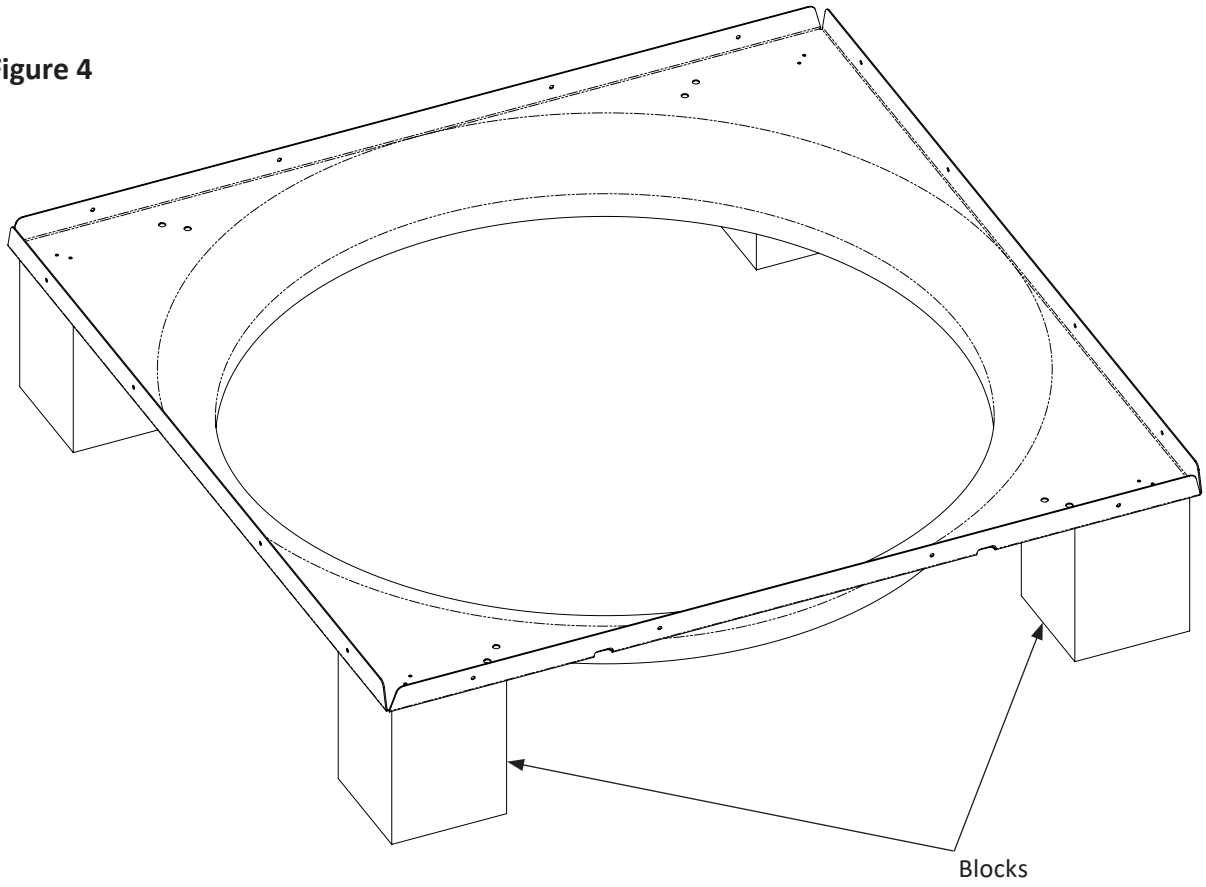
If you have received pre-assembled fans, insert the fan assembly in the framed opening from the inside wall of the building. For detailed directions on how to assemble the cone and installation of the fan into the framed opening, please refer to the section ***Installing the Fan into the Wall Opening***.

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Panel/ Housing Assembly

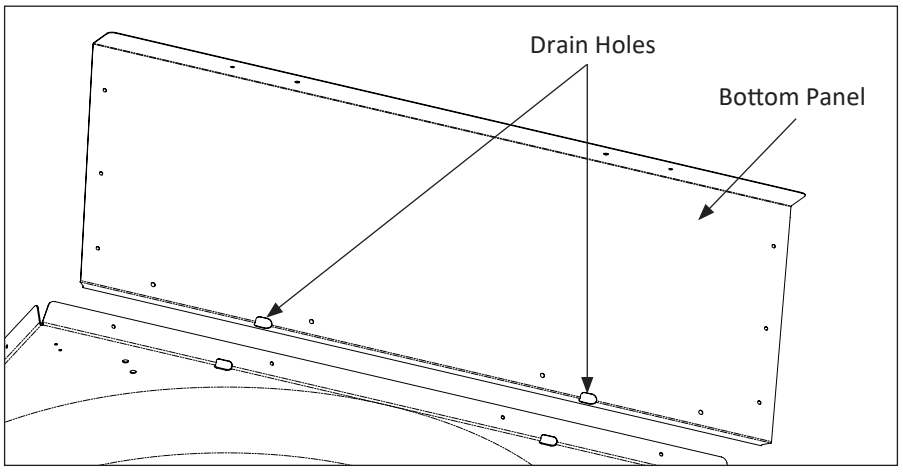
1. Elevate the orifice onto blocks, with the housing flanges up, locating the blocks near the corners of the housing, to support the orifice, as shown in Figure 4. If the fan is already assembled, skip ahead to the section on **Installing the Fan into the Wall Opening** (Page 16).

Figure 4



2. Assemble the bottom panel first, making sure the outbound drain holes in the orifice are in line with those found in the bottom panel, as shown in Figure 5. Align the (4) holes in the bottom panel with those found in the orifice using an awl or drift pin. Fasten the bottom panel to the orifice using 3/16” rivets (954099), as shown in Figure 6.

Figure 5



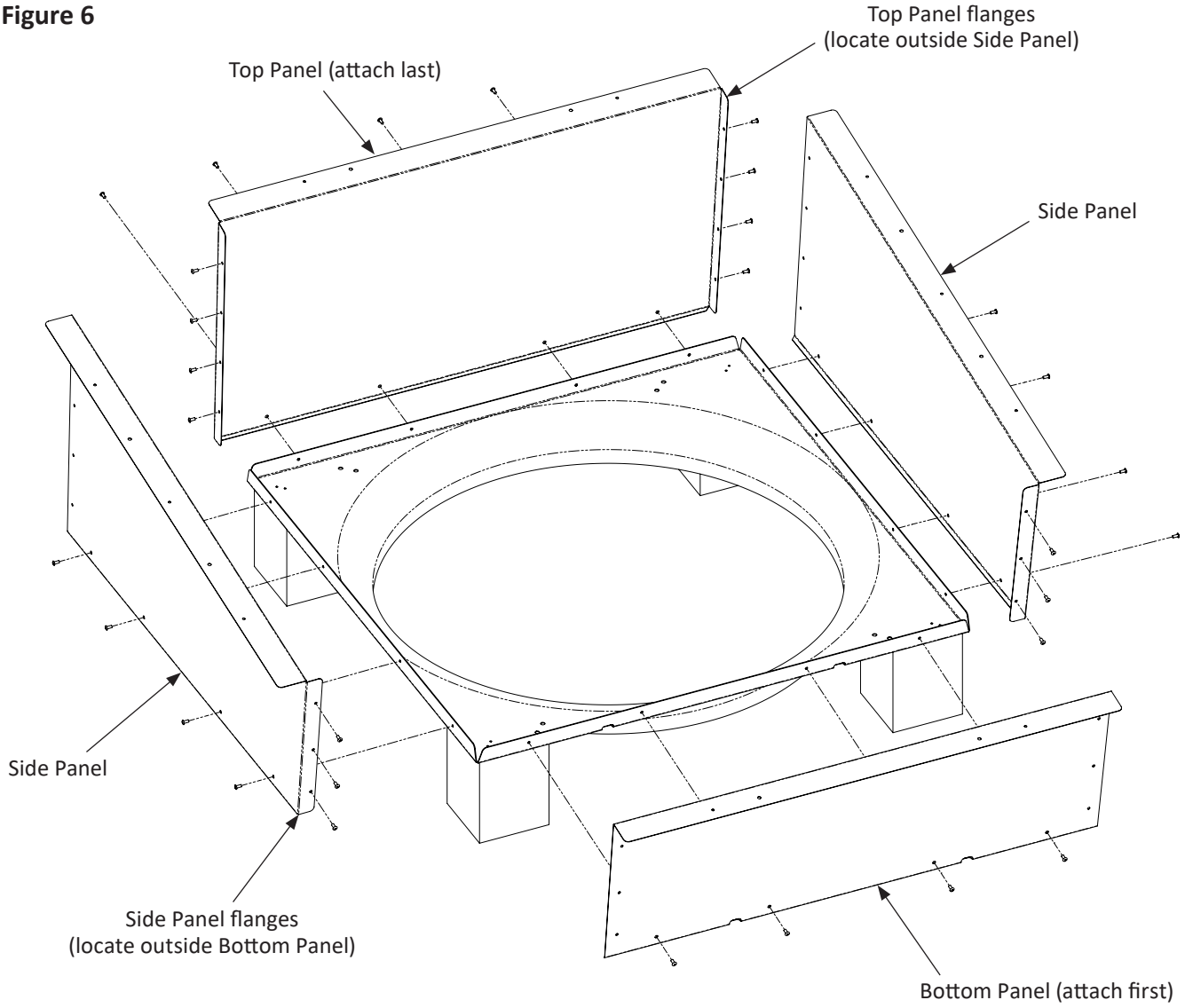
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3. Attach the side panels next. Align the (4) holes in the side panels with those found in the orifice using an awl or drift pin. Be sure that the flanges on the side panels are located on the outside of the bottom panel, as shown in Figure 6. Secure using (4) 3/16” rivets on each side of the orifice, and (4) 3/16” rivets on each bottom flange.

4. Assemble the top panel last. Align the (4) holes in the top panel with those found in the orifice using an awl or drift pin. Make sure the flanges on the top panel are located on the outside of the side panels, as shown in Figure 6. Fasten the top panel to the orifice using (4) 3/16” rivets.

5. To complete the assembly, align the (4) holes on each side flange of the top panel with the side panels using an awl or drift pin. Complete the assembly by fastening with (4) 3/16” rivets per side, as shown in Figure 6.

Figure 6



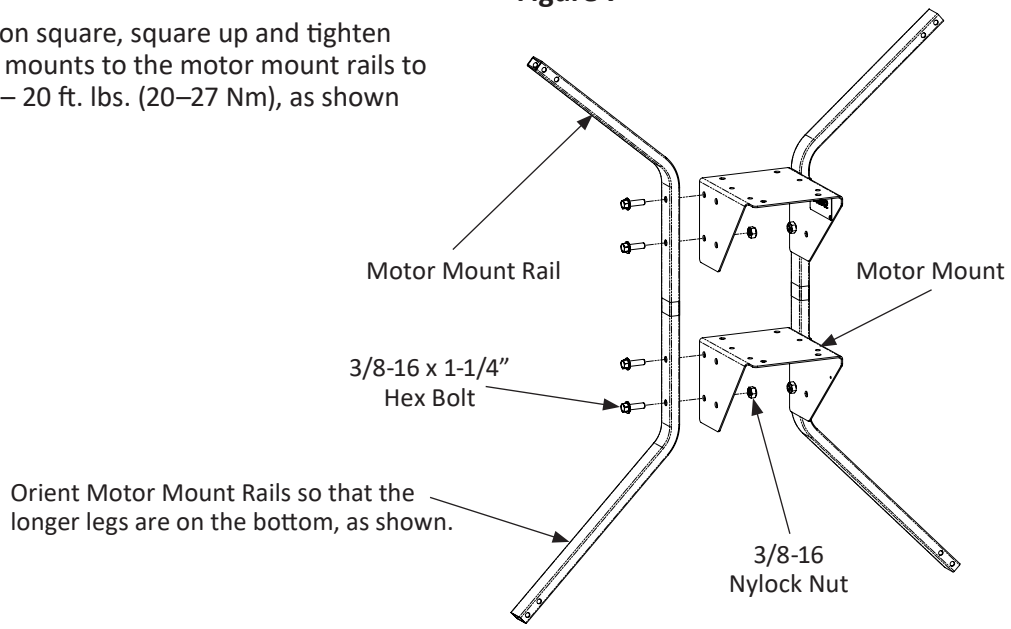
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Motor Mount and Rail Assembly

1. Assemble the belt drive motor mount (936008) to the motor mount rails (936007 for 36” fan or 948007 for 48” & 54” fan) using the 3/8-16 x 1-1/4” hex head bolts (936026) and securing with the 3/8-16 nylock nuts (936054). Insert the bolts through the outside of the rails toward the inside of the mount. It is important to use the front holes, as shown in Figure 7.

   Using a combination square, square up and tighten the two (2) motor mounts to the motor mount rails to approximately 15 – 20 ft. lbs. (20–27 Nm), as shown in Figures 8 and 9.

Figure 7



Use SLOWEST SPEED and LOWEST TORQUE SETTING when using power tools.

Figure 8

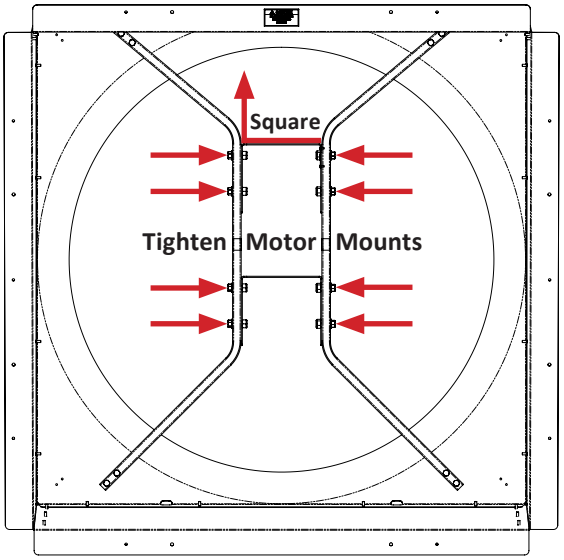
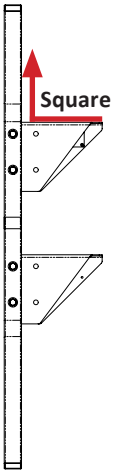


Figure 9



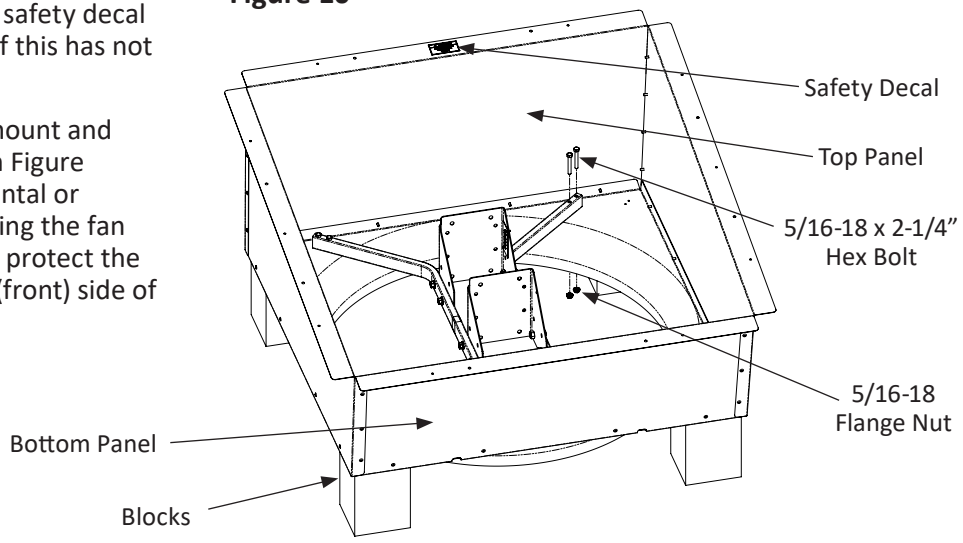
Mounts *MUST* be Square and Level

It is critical that the mounts are square and level.

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2. Place the ROTATING FAN BLADE safety decal in place, as shown in Figure 10, if this has not already been done.
3. Position the assembled motor mount and rails onto the orifice as shown in Figure 10. This may be done in a horizontal or vertical position. When positioning the fan in an upright position be sure to protect the mounting flanges on the intake (front) side of the housing.

Figure 10



4. Attach the motor mount rail assembly to the orifice using (8) 5/16-18 x 2-1/4" hex head bolts (690257) and (8) 5/16-18 flange head nuts (501441). Insert bolts through the rails toward the inside of the orifice, as shown in Figure 10. Tighten rails securely once they are aligned properly on the orifice to approximately 140 – 150 in. lbs. (16 – 17 Nm).

Position rails and motor mount so the flat plate of the motor mount is to the top of the housing.

Shaft and Pillow Block Bearing

NOTE: The shaft and pillow block bearings come pre-assembled.

1. **Center the pillow block bearings on the motor mounts**, matching the holes on the pillow bearing and motor mount, as shown in Figure 11. The long end of the shaft should stick out towards nose of orifice. The shaft **MUST** be centered in the orifice, as shown in Figure 12.

Figure 11

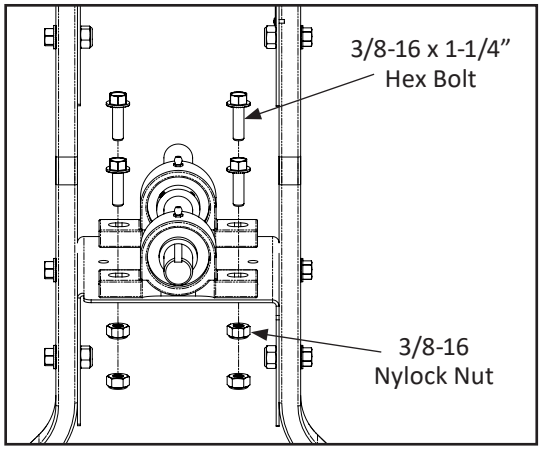
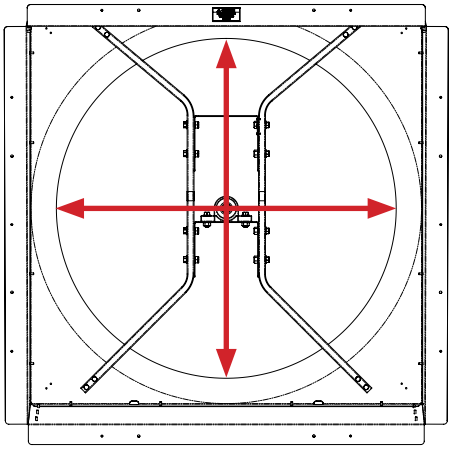


Figure 12



2. Attach the drive shaft/bearing subassembly onto the lower motor mount using (4) 3/8-16 x 1-1/4" flanged hex bolts (936026) and 3/8-16 nylock nuts (936054). Tighten the (4) bolt sets, as shown in Figure 11.

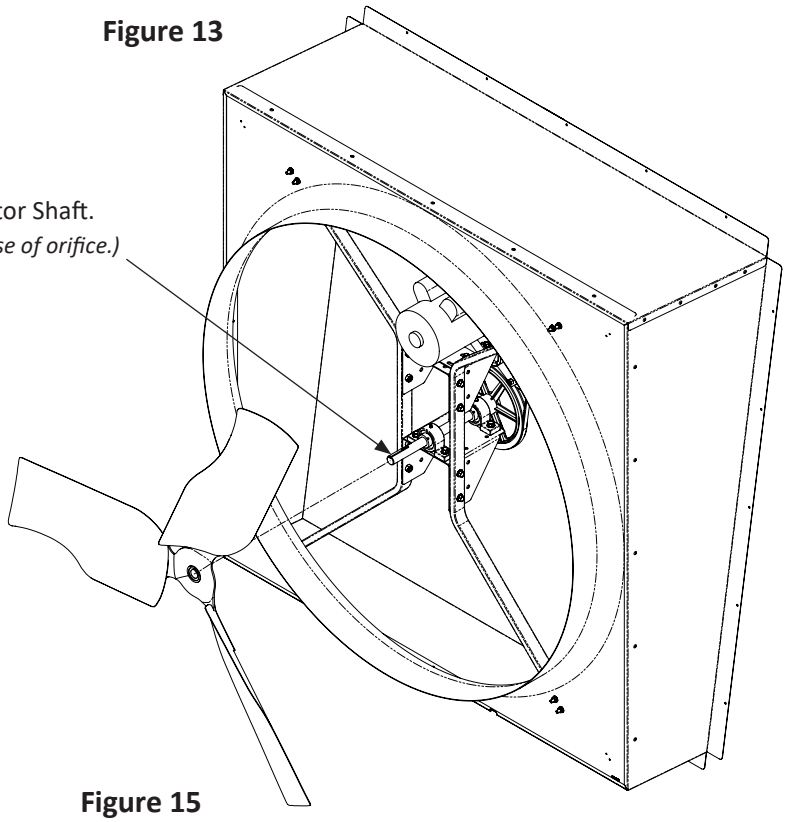
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Blade Assembly

1. Rotate fan housing to upright position and slide fan blade onto motor shaft, as shown in Figure 13. Attach fan blade to motor shaft according to the dimensions and torque specifications shown in the table below, and Figures 14 and 15.

   NOTE: Do not let the fan blade rest on the ground under the full weight of the pre-assembled orifice, as it can bend and distort the blade, voiding the warranty.

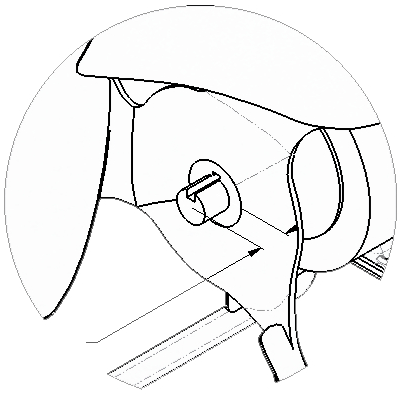
Figure 13



Slant Wall Belt-Driven Fans		
Size	**Blade Material**	**Blade Position**
36”	Galvanized	Flush*
36”	Cast Aluminum	3/4” (19mm) back on shaft
48”	Galvanized	Flush
54”	Galvanized	3/4” (19mm) back on shaft
54”	Cast Aluminum	1/2” (13mm) back on shaft

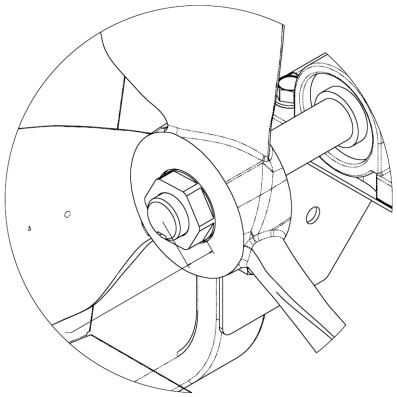
**If using model 936250 with 980032 motor, then blade must stick out past end of shaft 1/2” (13mm).*

Figure 14



Galvanized Fan Blade

Figure 15



Cast Aluminum Fan Blade

2. **Galvanized Fan Blades:** Once the blade has been positioned properly using a 1/4” x 1/4” x 1-3/4” key (936032), tighten the set screw to approximately 80-85 in lbs (9 Nm). Be sure the blade is centered in the orifice all around. Adjust if necessary.

   Cast Aluminum Fan Blades: Secure the blade onto the shaft using 1” I.D. X 1-3/4” O.D. Tran Torque (ZFB302). Once the blade has been positioned properly, tighten the Tran Torque to approximately 125 ft lbs (169 Nm). Be sure the blade is centered in the orifice all around. Adjust if necessary.

NOTE: Blades and fan shaft *MUST BE CENTERED* in orifice.

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Motor and Auto Tensioner Assembly

1. Attach the auto tensioner bracket at the same time the motor is being attached to the motor mount. *Attaching the auto tensioner bracket at this point will eliminate having to unbolt the motor later.* Use (4) 5/16-18 x 3/4" hex bolts (690389) and (4) 5/16-18 flange nuts (501441). Two of each will be used to attach the auto tensioner bracket, as shown in Figure 16. Tighten to approximately 140 – 150 in. lbs. (16 Nm).
2. Attach the auto tensioner (980066) to the auto tensioner bracket using a 3/8-16 x 1-1/4" flange bolt (936026) as shown in Figure 17, and **leave the bolt finger tight until instructed to tighten.**

Figure 16

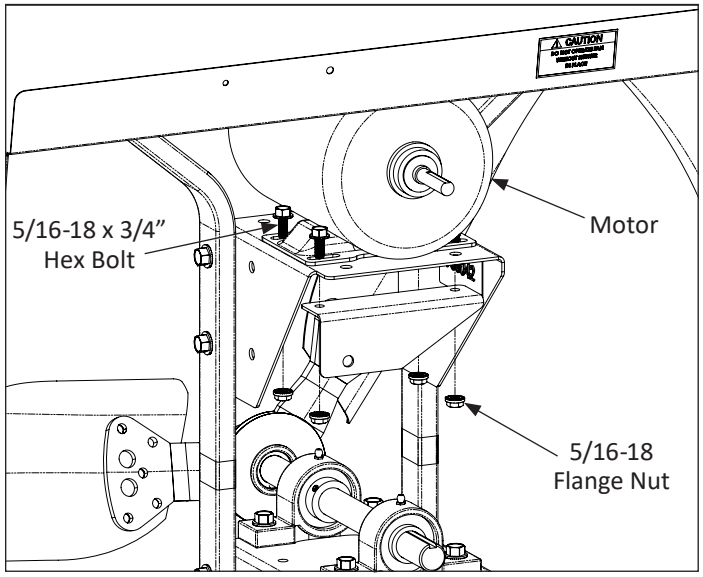
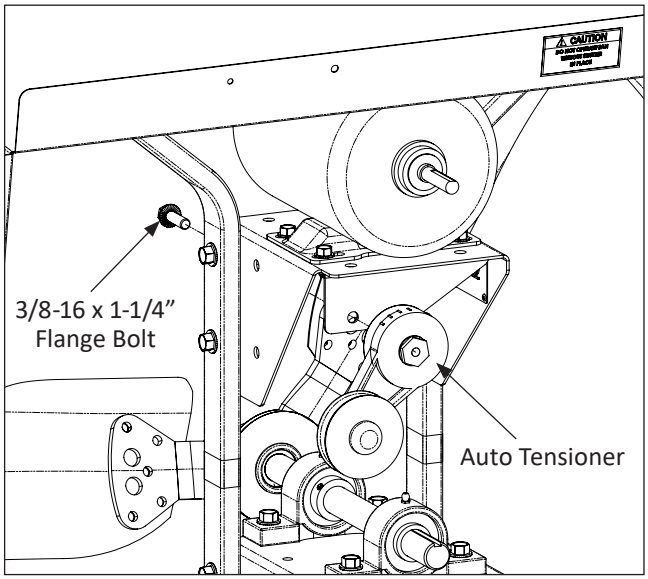


Figure 17



NOTE: Motor *MUST BE CENTERED*

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Pulley for Standard Drive Configuration Assembly

1. Install the drive (motor) pulley to the motor shaft using the 3/16” x 3/16” key supplied with the motor. The pulley goes onto the shaft with the hub facing outward. Do not tighten the set screws at this time.
2. Install the drive (fan) pulley onto the fan shaft using a 1/4” x 1/4” x 1-3/4” key. It is generally a good practice on galvanized fans to place the pulley with the hub toward the pillow block bearings. Align the pulleys using a straight edge along the pulley faces. Tighten all the set screws securely, approximately 80 – 85 in. lbs. (9 Nm).

It should be noted that the drive (fan) pulley can be put on the shaft with hub toward or away from pillow bearings if necessary to align pulleys, depending on motor and length of shaft.

Figure 18

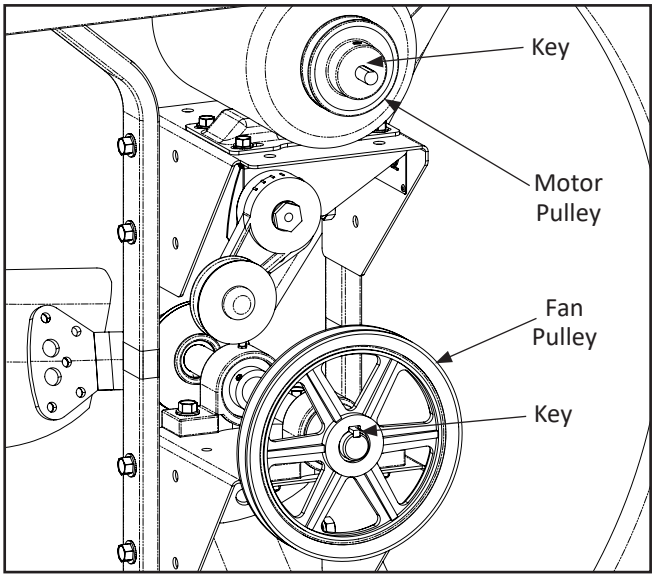
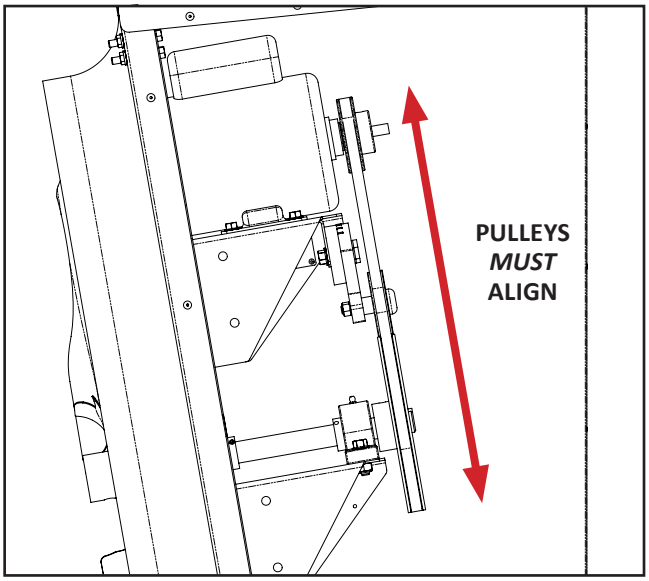


Figure 19



PULLEYS MUST ALIGN WITH STRAIGHT EDGE!

DO NOT USE HEAD OF HAMMER TO DRIVE ON PULLEYS!

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Drive Belt Assembly / Auto Tensioner Settings

1. Loosen the 3/8-16 x 1-1/4” flanged hex head bolt (936026) used to mount the tensioner to the bracket, then apply the belt to the drive (motor) pulley, around the tensioner pulley and onto the driven (fan) pulley.

IMPORTANT!

Do not roll the belt onto pulleys since this can damage the polyester cords in the belt.

2. Use a 15/16” wrench on the large hex head nut on the front of the tensioner and a 9/16” wrench to tighten the 3/8-16 x 1-1/4” flanged hex head bolt (936026) at the rear of the tensioner bracket. Rotate the tensioner clockwise and set the tensioner between the 1st and 2nd markings as shown in Figures 20 and 21.

Figure 20

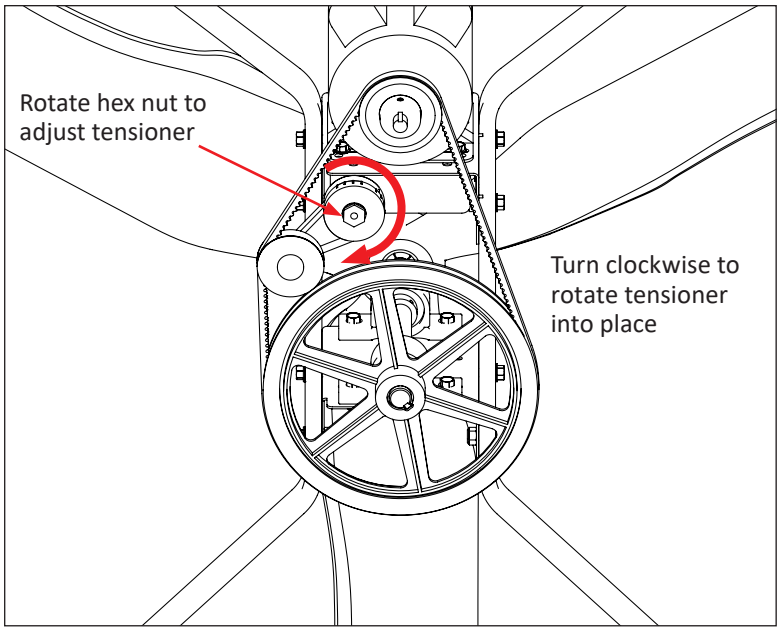
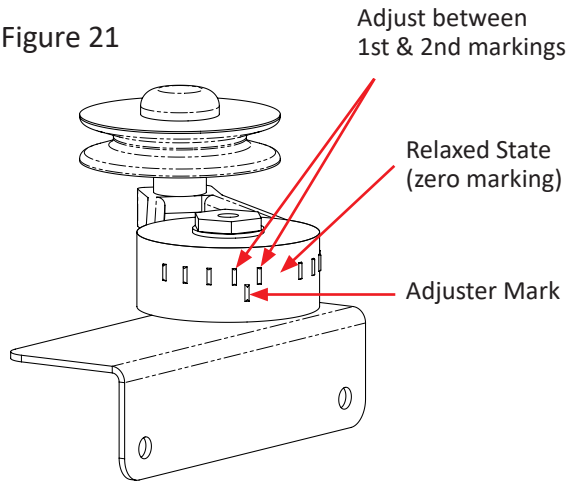
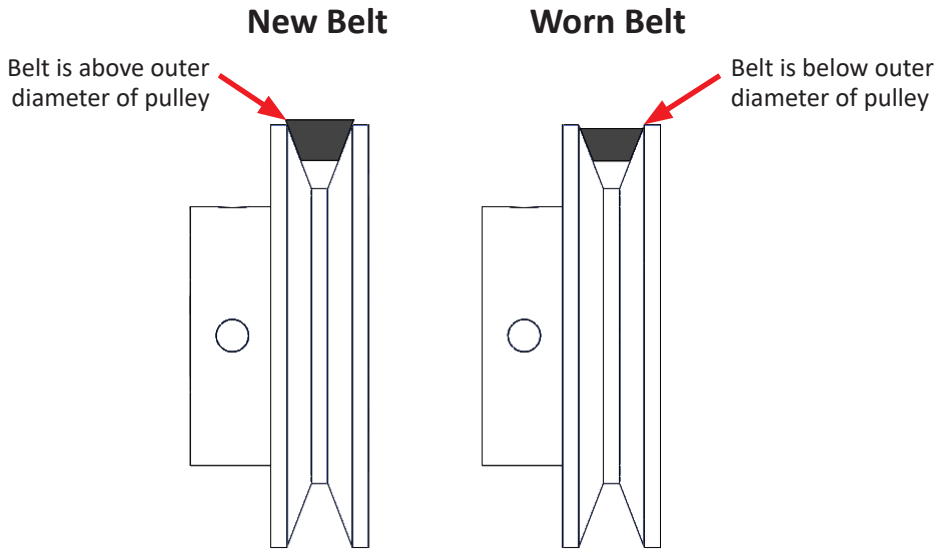


Figure 21



When to replace the Drive Belt

Belts will periodically need maintenance or possibly replaced. A worn or loose belt will cause a reduction in blade RPM. If the belt rides below the outer diameter of the pulley it should be replaced.

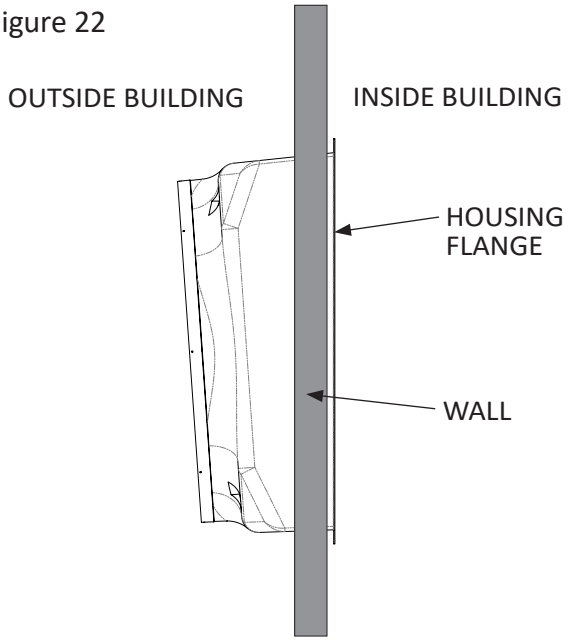


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Installing the Fan into the Wall Opening

1. Install the assembled fan into the wall opening (the wall opening must be square, plumb, and flat), taking care to ensure the housing slopes downward as shown in Figure 22.

Figure 22



NOTICE

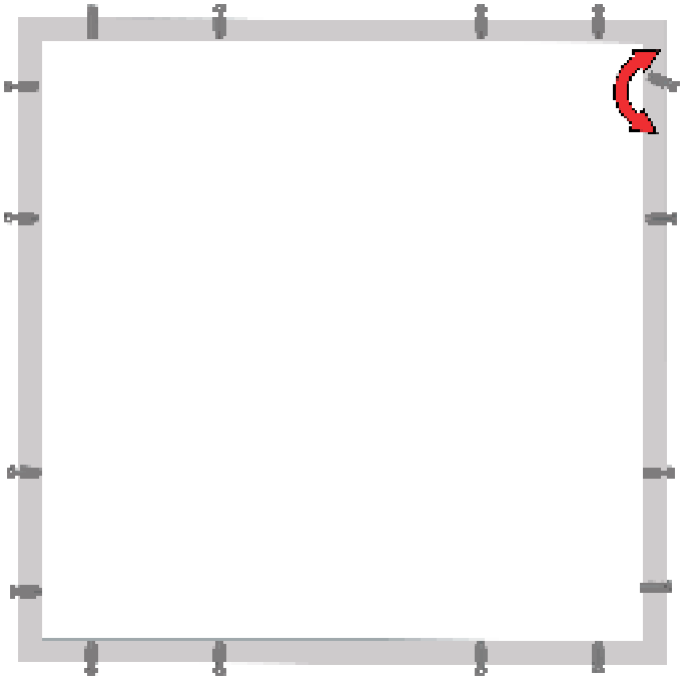
IMPORTANT!

1. **FAN MUST BE INSTALLED WITH DOWNWARD SLOPE.**
2. **It is of the utmost importance to have the opening in the wall square, plumb, and flat (to within 1/8”). These conditions must be verified prior to installing.**

2. Use the appropriate shutter clips and screws at each pre-drilled hole on housing flange, for the material type of your structure, to fasten the fan to the wall.

Number of shutter clips required	
54” Sheet Metal Fan	16
48” Sheet Metal Fan	12
36” Sheet Metal Fan	12

Figure 23



3. Screw the shutter clips through the predrilled shutter clip holes in the fan housing flanges.
4. Manually rotate the fan blade to check for centering. Check belt alignment across pulleys. Adjust if necessary.
5. Check belt tension
6. Wire motor.
7. Energize the fan, use controller to run the fan and make note of direction of prop rotation. Note: *Make sure the prop turns counterclockwise when viewed from inside the house.*

Be sure power is “OFF” before doing any wiring. All wiring shall be installed in accordance with national, state and local electrical codes. For electrical connection requirements, refer to diagram on the motor nameplate or the enclosed wiring diagram. Specifications are subject to change without notice.

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Discharge Cone Assembly

1. Assemble the four cone sections together using the 1/4-20 x 1/2” hex bolts (010615) and 1/4” hex flange nuts (012792) into the flange ends of each cone section. Do not tighten hardware.

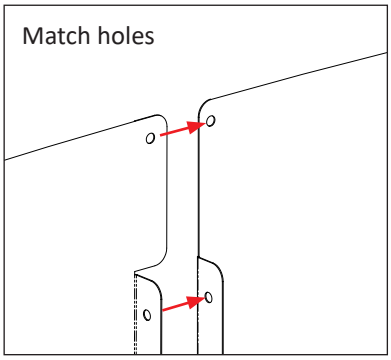
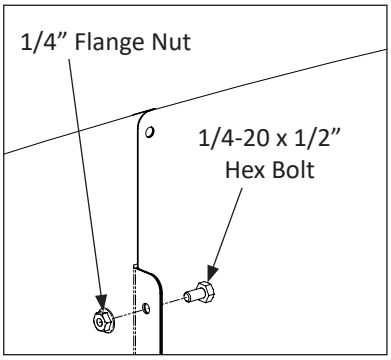


Figure 24



NOTE: Flange is on inside of other cone panel.

2. Insert the cone support straps and bolts to the second set of holes, as shown in Figure 25 and 26 from the narrow end of the cone. Install the bolts into the remaining holes.

Figure 25

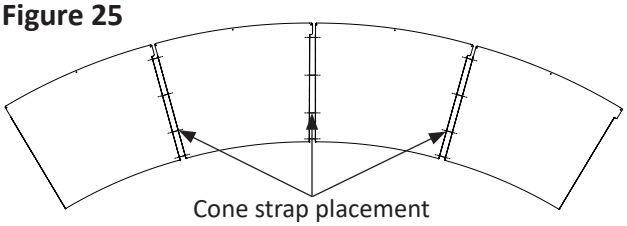
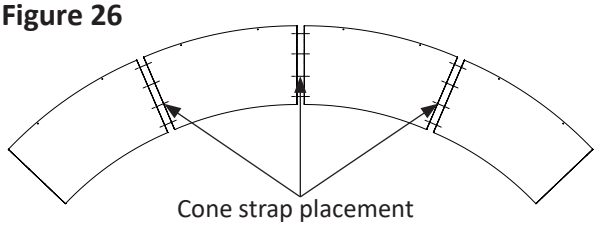


Figure 26



PANEL ATTACHMENTS ARE THE SAME FOR BOTH LONG AND SHORT CONES.

3. Form the cone sections into a cone by joining the ends and using 1/4-20 x 1/2” hex bolts (010615) and 1/4-20 hex flange nuts (012792) bolt the two flanges together. As stated in Step 1 install the bolt into the second set of holes from the narrow end of the cone and attach a cone support strap to the outside of the cone panels for support as detailed in Figures 27 and 28.

Figure 27

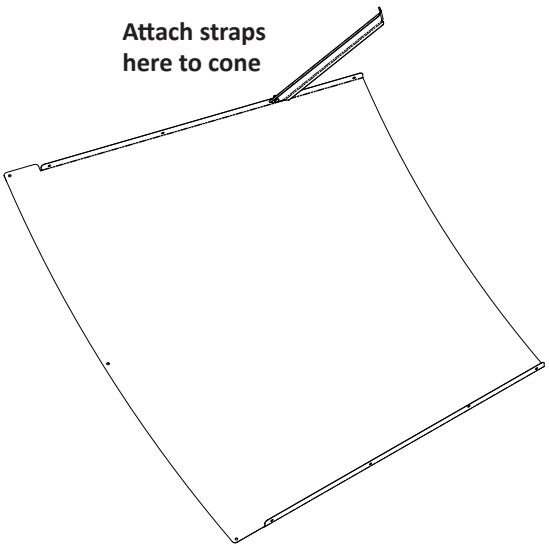
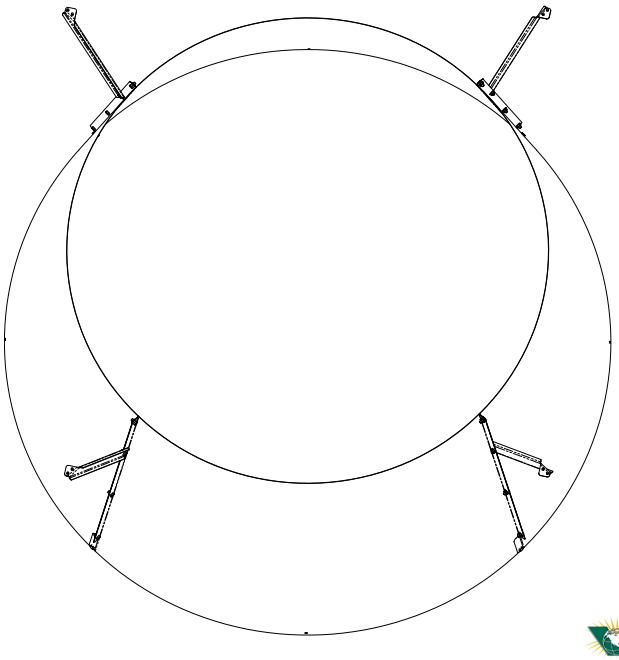


Figure 28 **Cone sections joined showing strap placement**

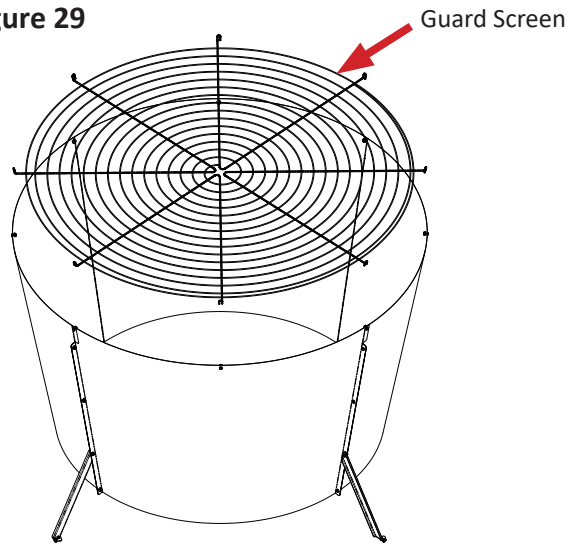


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Guard Screen Assembly

1. With the formed cone on a flat surface (large diameter up), place the guard screen into the cone with bolt loops up, as shown in Figure 29.
2. Align the bolt loops on the guard screen with the bolt holes in the cone and fasten the guard screen inside the cone using 1/4-20 x 1/2” hex bolts (010615) and 1/4-20 hex flange nuts (012792), with the nuts inside against the guard screen and the bolt heads on the outside of the cone assembly. Ensure that the bolt loops on the guard screen are all the way onto the bolts prior to tightening the bolts fully, approximately 80 – 85 in. lbs. (Approx. 9.0 Nm).

Figure 29



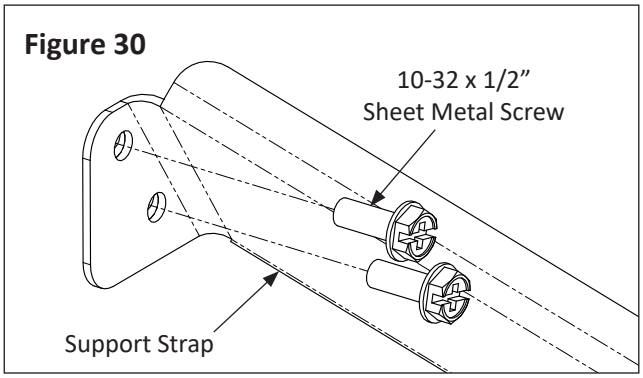
Cone to Fan Assembly (attaching the cone)

The assembled fan must be installed in the wall prior to mounting the cone to the fan.

It is recommended to fasten the top two straps first.

1. Slide the narrow end of the cone onto the fan orifice starting at the top of the orifice. Rotate the cone to align the holes on the cone support straps to the holes on the face of the fan orifice. Fasten the cone support straps to the orifice using (2) 10-32 x 1/2” sheet metal screws (936053) per strap, as shown in Figure 30 and 31. Tighten all loose hardware.

Figure 30



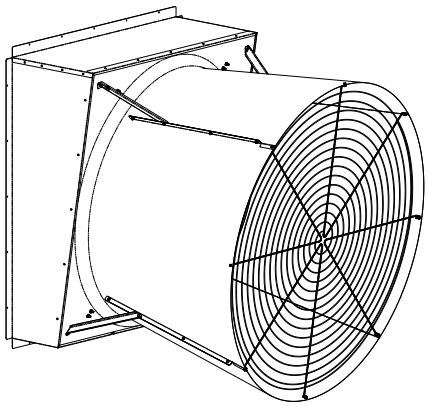
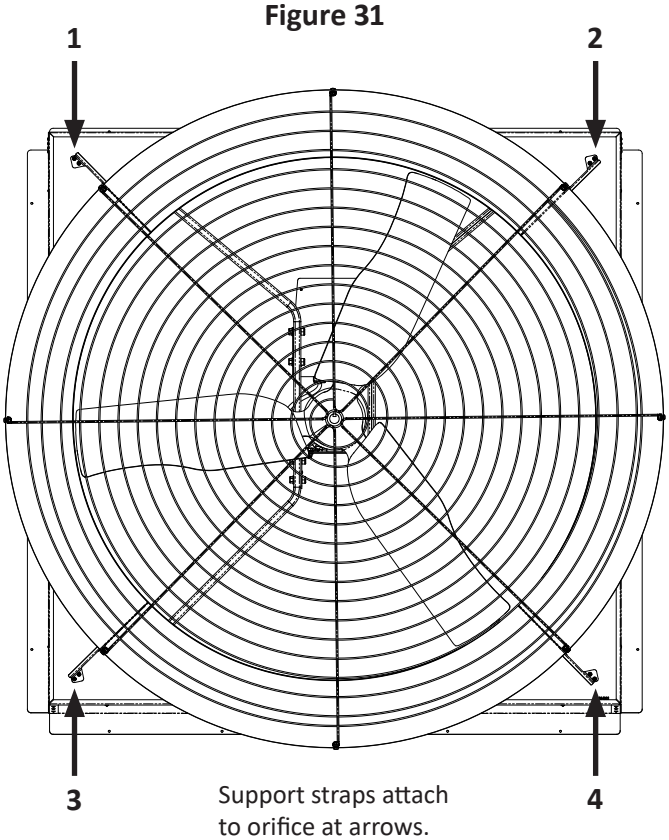


Figure 31



Support straps attach to orifice at arrows.

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Shutter Installation

1. Install the shutter after making sure the shutter vanes open upward and the shutter clips rotate easily.
2. After positioning all the shutter clips to hold the shutter tightly in place, manually operate the shutter to ensure smooth and uninhibited operation. Adjust if necessary.

Shutter vanes MUST be installed to open toward the fan motor and upward as shown in Figure 32. Attach shutter clips (936013) to the interior wall with 10-12 x 2" sheet metal screws (936057). Shutter clips can be adjusted as you tighten. ALL SHUTTER CLIPS PROVIDED SHOULD BE INSTALLED.

Figure 32

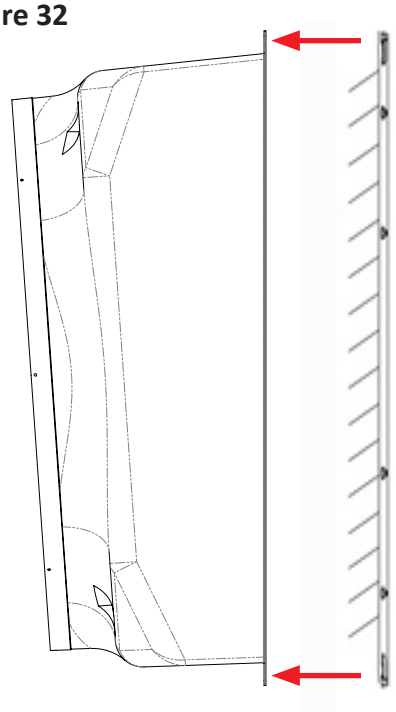
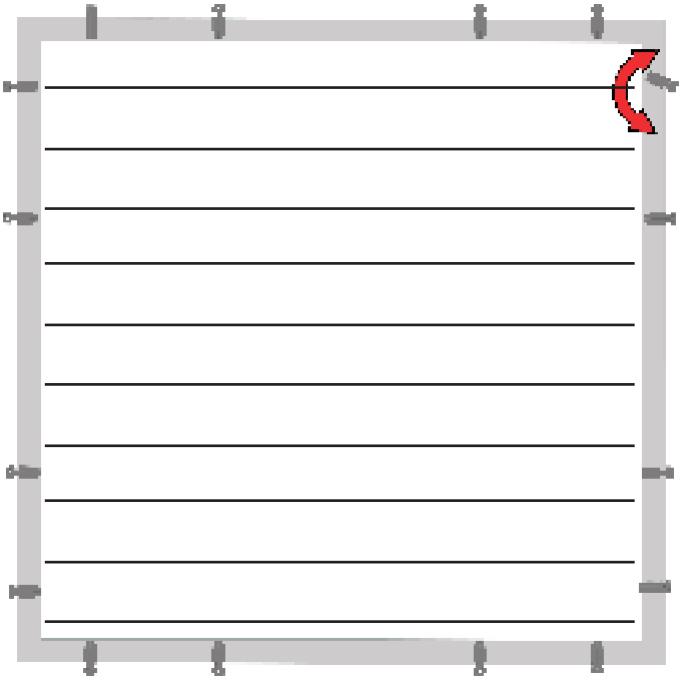


Figure 33



Start-Up Operation

Disconnect and lock out all power sources before servicing equipment.

1. With the fan unpowered, rotate the prop several complete revolutions by turning the fan prop, look for clearance between the prop tip and the housing.
2. Replace all guards and check all fasteners to ensure they are tight.
3. Energize the fan, use controller to run the fan and make note of direction of prop rotation.
   Note: *Make sure the prop turns counterclockwise when viewed from inside the house.*
4. If the propeller is turning backwards, de-energize the fan and refer to Power Connections Location and Wiring Diagrams.
5. Re-check the operation and when satisfied the fan is operating properly, turn OFF power and insert the shutters into the housing. Use the shutter clips to lock down the shutters.

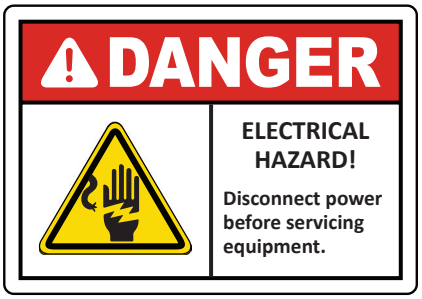
Once the fan is fully installed, a test run should be done to be sure that it is operating correctly. Safety glasses should be worn when testing fans.

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Maintenance

Inspect propeller

Check to see that the propeller is secure on the shaft and that there are no signs of damage.



Proper Tensioning and Belt Wear

See Drive Belt Assembly / Auto Tensioner Settings section for information.

Fasteners

Retighten nuts and bolts on a quarterly basis. Follow the torque specifications in the chart.

Fastener / Device	Recommended Torque
1/4-20 X 3/4” HX HD BOLT	80 – 85 in. lbs. (Approx. 9.0 Nm)
5/16”-18 X 3/4” HX HD BOLT	140 – 150 in. lbs. (Approx. 16.0 Nm)
5/16”-18 X 2” HX HD BOLT	140 – 150 in. lbs. (Approx. 16.0 Nm)
3/8”-16 X 1-1/4” HX HD BOLT	15 – 20 ft. lbs. (Approx. 24.0 Nm)
1/4” SETSCREWS (BEARINGS)	80 – 85 in. lbs. (Approx. 9.0 Nm)
5/16” SETSCREWS (PULLEYS)	80 – 85 in. lbs. (Approx. 9.0 Nm)
5/16” SETSCREWS (BLADE)	80 – 85 in. lbs. (Approx. 9.0 Nm)
1” I.D. X 1-3/4” O.D. TRAN TORQUE	125 ft. lbs. (Approx. 169.0 Nm)

Lubrication

Lubricate the pillow block bearings every two months with a NLGI type 2 Lithium grease using .8 grams (approximately 1 pump) if you run the fan 8-10 hours a day. NOTE: It is possible to overgrease a bearing.

Clean Fan

Motor: Remove any dust accumulation from motor using a brush or cloth (DO NOT USE A PRESSURE WASHER ON THE MOTOR). A clean motor will run cooler and last longer. Check if the motor is secure in its mount.

Shutter: Carefully clean dust from shutter vanes and frame so that shutter opens and closes freely. If shutters are extremely dirty, you can lose up to 20% of your fan capacity.

Guard: Clean any dust or dirt buildup from fan guards using a brush. Dirty guards can also reduce airflow.

Housing

Remove dust and dirt accumulations from housing with a pressure washer. Do not wash or spray motor directly.

If any portion of the fan is cleaned with a power washer or any liquid it is highly recommended to run the fan for a minimum of 15 minutes to allow the fan and motor to dry before it is left idle for any length of time.

NEVER SPRAY ELECTRICAL EQUIPMENT WITH A POWER WASHER!

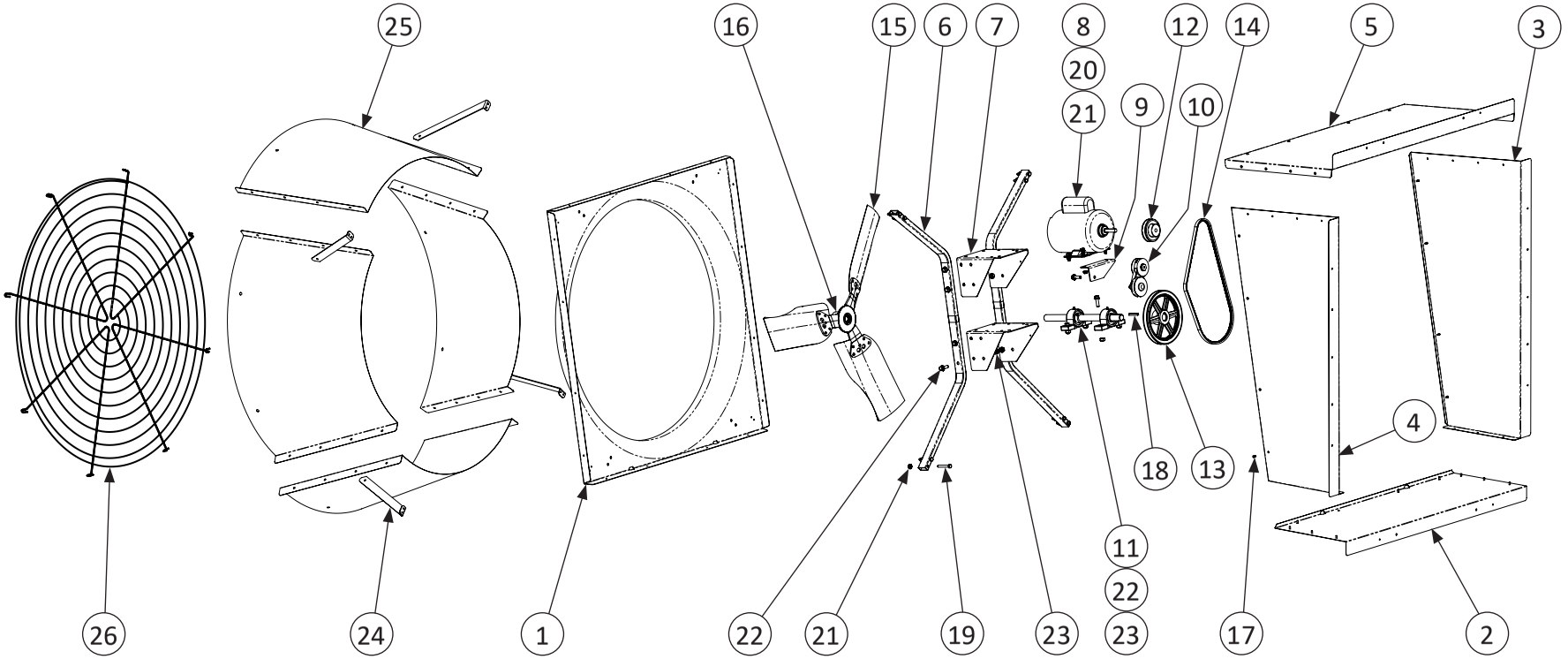
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Troubleshooting Guide

Problem	Possible Cause	Corrective Action
Excessive noise	Defective motor bearing.	Replace.
	Parts are not securely anchored.	Check all bolts, screws and fasteners.
	Damaged fan blade.	De-energize fan. Turn prop and check tip clearance. Do they appear to be approximately the same? NOTE: *They can be a little different without any problems.* If they are significantly different, contact yout dealer for more information.
Fan inoperative	Electricity is turned OFF.	Contact local utility supplier.
	Defective motor.	Replace.
	Open power supply circuit.	Replace fuse or reset circuit breaker. Check for disconnection, cut or damaged power cord.
Insufficient airflow	Intake shutter is jammed/clogged.	Repair/replace/clean as necessary.
	Inlet/outlet guards clogged by dirt/ debris.	Repair/replace/clean as necessary.
	Voltage supplied is not correct (must be within ±10% of the nominal voltage.	Check line voltage at motor, verify wiring. Check with local utility supplier for possible line problems.
	Worn out belt.	Replace belt.
	Worn out pulleys.	Replace pulleys.
	Belt tension incorrect.	Check belt tension - see Drive Belt Assembly / Auto Tensioner Settings section.
Excessive vibration	Fan blade has excessive dirt build-up.	Clean unit.
	Motor shaft is bent.	Replace motor.
	Fan blade is bent or otherwise damaged.	Replace blade.
Motor overheats and overload trips	Intake shutter is jammed/ clogged.	Repair/replace/clean as necessary.
	Inlet/outlet guards clogged by dirt/ debris.	Repair/replace/clean as necessary.
	Motor has excessive dirt build-up.	Clean unit.
	Fan blade has excessive dirt build-up.	Clean unit.
	Building operating static pressure too high.	Adjust air inlets to lower static pressure.
	Power supply voltage is too low.	Check line voltage at motor; verify wiring is of sufficient gauge for load and length of conductor. Check with local utility supplier for possible line problems.

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36”, 48”, and 54” Fans - Exploded View



This drawing of a belt drive fan is the same for all models, except direct drive fans. Direct drive fans do not include belt drive assembly parts.

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36”, 48”, and 54” Fans - Parts List

Use exploded view drawing on previous page for part identification.

FAN SIZE			36”		48”		54” SHORT CONE		54” LONG CONE	
FAN MATERIAL			GALV	Z FAN	GALV	Z FAN	GALV	Z FAN	GALV	Z FAN
KEY	DESCRIPTION	QTY	PART #							
1	ORIFICE	1	936006	936006-ZM	948016	948016-ZM	954021	954021-ZM	954021	954021-ZM
2	BOTTOM PANEL	1	936003	936003-ZM	FP467	FP467-ZM	954003	954003-ZM	954003	954003-ZM
3	RIGHT PANEL	1	936005	936005-ZM	FP464	FP464-ZM	954005	954005-ZM	954005	954005-ZM
4	LEFT PANEL	1	936011	936011-ZM	FP465	FP465-ZM	954011	954011-ZM	954011	954011-ZM
5	TOP PANEL	1	936010	936010-ZM	FP466	FP466-ZM	954010	954010-ZM	954010	954010-ZM
6	MOTOR MOUNT RAILS	2	936007	936007	948007	948007	948007	948007	948007	948007
7	MOTOR MOUNT BRACKET*	2	936008	936008	936008	936008	936008	936008	936008	936008
8	MOTOR	1	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART
9	AUTO TENSIONER BRACKET	1	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART
10	AUTO TENSIONER	1	980066	980066	980066	980066	980066	980066	980066	980066
11	FAN SHAFT & BEARING ASSY	1	980113	980113	980113	980113	980113	980113	980113	980113
12	DRIVE PULLEY	1	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART
13	DRIVEN PULLEY	1	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART
14	BELT	1	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART
15	BLADE	1	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART
16	BLADE KEY	1	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART	SEE CHART
17	3/16” POP RIVET	2	954099	954099	954099	954099	954099	954099	954099	954099
18	1/4” X 1/4” X 1-3/4” KEY	2	936032	936032	936032	936032	936032	936032	936032	936032
19	5/16-18 X 2-1/4” BOLT	8	690257	690257	690257	690257	690257	690257	690257	690257
20	5/16-18 X 3/4” BOLT	4	690389	690389	690389	690389	690389	690389	690389	690389
21	5/16-18 FLANGE NUT	12	501441	501441	501441	501441	501441	501441	501441	501441
22	3/8-16 X 1-1/4” BOLT	13	936026	936026	936026	936026	936026	936026	936026	936026
23	3/8-16 FLANGE NUT	12	936054	936054	936054	936054	936054	936054	936054	936054
24	CONE SUPPORT STRAP	4	936004	936018-ZM	948017	948018-ZM	954004	954028-ZM	954096	954096-ZM
25	CONE PANEL	4	936002	936002-ZM	FP486	FP486-ZM	954002	954002-ZM	954017	954017-ZM
26	CONE EXHAUST GRILL	1	936001	936001	200006CH	200006CH	954001	954001	954001	954001

**36” Direct Drive fans use 936012 as the motor mount plates.*

Hardware used to attach cones detailed on a separate page.

36”, 48”, and 54” Fans - Parts List - continued

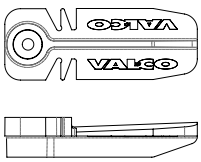
FAN SIZE	KEY	8	9	12	13	14	15	16
	DESCRIPTION	MOTOR	AUTO TENSIONER BRACKET	DRIVE PULLEY	DRIVEN PULLEY	BELT	BLADE	BLADE KEY
	FAN PART #	PART #						
36”	936150	980004	980068	980027	980010	980011	936031	936032
	936150-ZM	980004	980068	980027	980010	980011	936031	936032
	936155-ZM	980004	980068	980090	980082	980085	FP489	ZFB302
	936200	M781	980068	N/A	N/A	N/A	936052	N/A
	936250	980032	980068	980009	980082	980085	936031	936032
	936270	980002	980068	980009	980010	980012	936031	936032
	936270-ZM	980002	980068	980009	980010	980012	936031	936032
	936290	980002	980068	ZV775	980026	980036	936031	936032
	936290-ZM	980002	980068	ZV775	980026	980036	936031	936032
	936320-ZM	980002	980068	ZV774	980082	980011	FP489	ZFB302
	936340-ZM	980002	980068	ZV775	980082	980012	FP489	ZFB302
48”	948200	980032	980068	980007	980018	980030	FP477	936032
	HGS48G340MGAT	980032	980068	980033	980026	980012	FP477	936032
	HGS48G340MGAT-ZM	980032	980068	980033	980026	980012	FP477	936032
	HGS48G340NGAT	980032	980068	980025	980026	980012	FP477	936032
	HGS48G650LGAT	980029	980068	980007	980026	ZV747	FP477	936032
54”	954290	980032	980068	980025	980015	980030	954031	936032
	954290-ZM	980032	980068	980025	980015	980030	954031	936032
	954310	980031	980068	980033	980015	980030	954031	936032
	954310-ZM	980031	980068	980033	980015	980030	954031	936032
	954350	980032	980068	980033	980015	980030	954031	936032
	954350-ZM	980032	980068	980033	980015	980030	954031	936032
	954400	980031	980068	980009	980015	980036	954031	936032
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	954720-ZM	980032	980068	980033	980015	980030	954031	936032
	954725-ZM	980032	954338	980035	980024	980038	954060	ZFB302
	954730	980031	980068	980033	980015	980030	954031	936032
	954730-ZM	980031	980068	980033	980015	980030	954031	936032
	954735-ZM	980031	980068	980025	980026	980012	954060	ZFB302
	954750	980031	980068	980009	980015	980036	954031	936032
	954750-ZM	980031	980068	980009	980015	980036	954031	936032
	954770	980079	980068	980033	980026	ZV747	954031	936032
	954770-ZM	980079	980068	980033	980026	ZV747	954031	936032

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Hardware - Replacement / Repair Part Numbers

Hardware shown are not actual size or to scale.

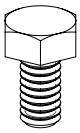
Hardware used to assemble sheet metal cone and to attach fan to wall:



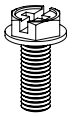
Shutter Clip
936013



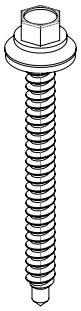
1/4-20
Flanged Hex Nut
012792



1/4-20 x 1/2”
Hex Bolt
010615



10-32 x 1/2”
Sheet Metal Screw
936053



10-12 x 2”
Sheet Metal Screw
936057

Hardware shown above can be found in the following Parts Bags:
36” Fans: 936022
48” Fans: MH94225
54” Fans: 954022

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Customer Service

Dealer Name: _____

Street / PO Box _____

City _____

State / Province _____

Zip / Postal _____

Phone _____

Fax _____

E-mail _____

Website _____

Customer Service
210 E. Main Street
Coldwater, OH 45828
800.998.2526



North America:
Phone: 800.99VALCO (800.998.2526)
Fax: 419.678.2200
Email: sales@val-co.com

International:
Phone: (+1) 419.678.8731
Fax: (+1) 419.678.2200
Email: intl.sales@val-co.com

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