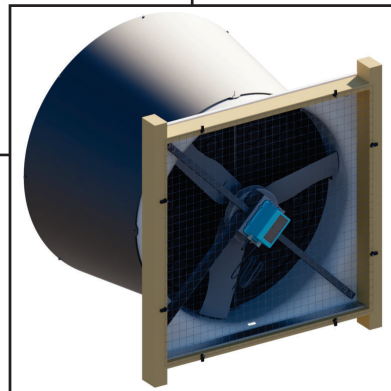


Instruction Manual



WM54DK
Wall Mount Fan
with Damper Door
and Munters Drive*
6-pack

*Patents Pending

WM54DK Fiberglass Wall Mount Fan
with Damper Door and Munters Drive - 6 pack
Models: WM54DKxxCB-HO-6PK



WM54DK Fiberglass Wall Mount Fan with Damper and Munters Drive

Instructions for Use and Maintenance

Thank You:

Thank you for purchasing a Munters WM54DK Fiberglass with Damper. Munters equipment is designed to be the highest performing, highest quality equipment you can buy. With the proper installation and maintenance it will provide many years of service.

Please Note:

To achieve maximum performance and insure long life from your Munters product it is essential that it be installed and maintained properly. Please read all instructions carefully before beginning installation.

Warranty:

For Warranty claims information see the "Warranty Claims and Return Policy" form QM1021 available from the [Munters Corporation office at 1-800-227-2376 or by e-mail at aghort.info@munters.com](mailto:aghort.info@munters.com).

Conditions and Limitations:

- Products and Systems involved in a warranty claim under the "Warranty Claims and Return Policy" shall have been properly installed, maintained and operated under competent supervision, according to the instructions provided by Munters Corporation.
- 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.

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Unpacking the Equipment

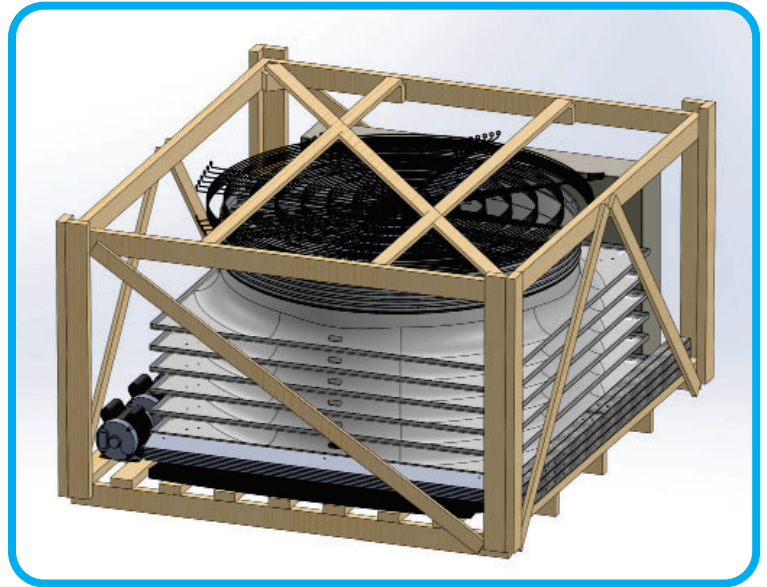
1.

1.1 Parts List

Each Crate Includes Parts to build 6 fans:

Each WM54DK Fan Requires:

- 1 - Orifice Panel, Fiberglass
- 1 - Propeller
- 1 - Tube Strut Center, PWDCTD
- 1 - Strut Brace, PWDCTD
- 1 - 'MD' Munters Drive Kit
- 1 - Drip Shield, AL
- 1 - Main Frame Assembly, AL
- 1 - Door Assembly, PL
- 4 - Cone Sections, PL
- 1 - Cone Guard
- 1 - Inlet Guard
- ½ - Bulk Parts Package (BK1156) For 2 Fans



BK1156 - ½ of Bulk Parts Package needed for 1 - WM54DK

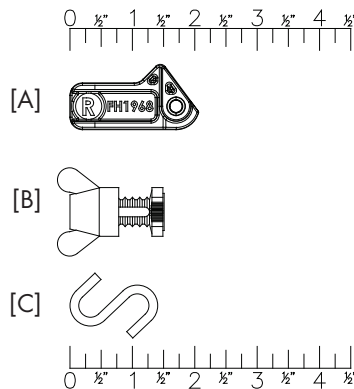
- 4 - Cone Support Brackets, PC Type, GZ
- 4 - Cone/Strut Mounting Bracket, GZ
- 2 - Tension Spring, 11.0"L./10.8"L., SS
- 1 - Hardware Package (HP1394)
- 1 - Coated Cable with ferrule, 100"L.
- 2 - Wing for Damper Door, HDPE, BLK

'MD' Munters Drive Kit

- 1 - Munters Drive Motor
- 1 - Munters Drive Controller
- 1 - Hardware Package (HP1324)

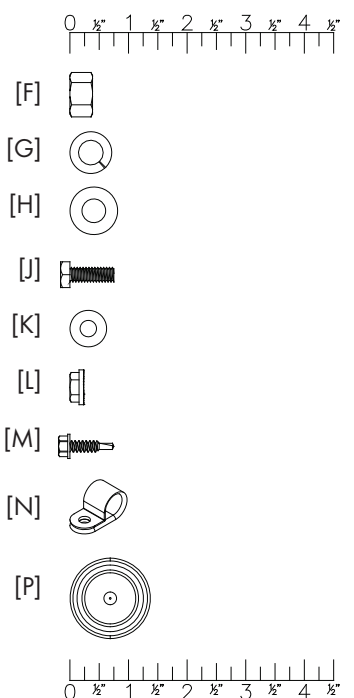
HP1394 - Hardware Package for 1 - WM54DK

ID	Qty.	Cat. No.	Description
[A]	8	FH1968	1-Hole Pivoting Shutter Clip, PL
[B]	1	AC0211 & AC0212	Azuma Bolt & Nut, Blue PL
[C]	2	KX1059	1" S-Hook, 1/16" Wire, SS
	1	HK1001	Hardware Kit WM54K Fan Assembly, #1 of 2
	1	HK1002	Hardware Kit WM54K Fan Assembly, #2 of 2
	1	LB2642	Specification Label for WM54DK



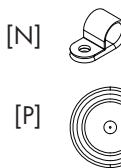
HP1324 - Hardware Package for 1 - WM54DK

ID	Qty.	Cat. No.	Description
[F]	2	KN1850	M10-1.5 x 10mm Hex Nut, ZP
[G]	2	KW3509	M10 Splitlock Washer, ZP
[H]	2	KW3016	7/16" Type-A Wide Flat Washer, ZP
[J]	4	KS1019	1/4"-20 x 1" Hex Bolt, SS
[K]	4	KW3002	1/4" Type-A Narrow Flat Washer, SS
[L]	4	KN0702	1/4"-20 Serrated Flange Hex Nut, SS
[M]	4	KS2282	#10-16 x 5/8" HXWSR TEK Screw, SS
[N]	4	KX1018	3/8" Dia. X 1/2"W. Wire Clamp, BLK NY
[P]	1	KX1157	1" Dia. Hole Plug, Black Rubber



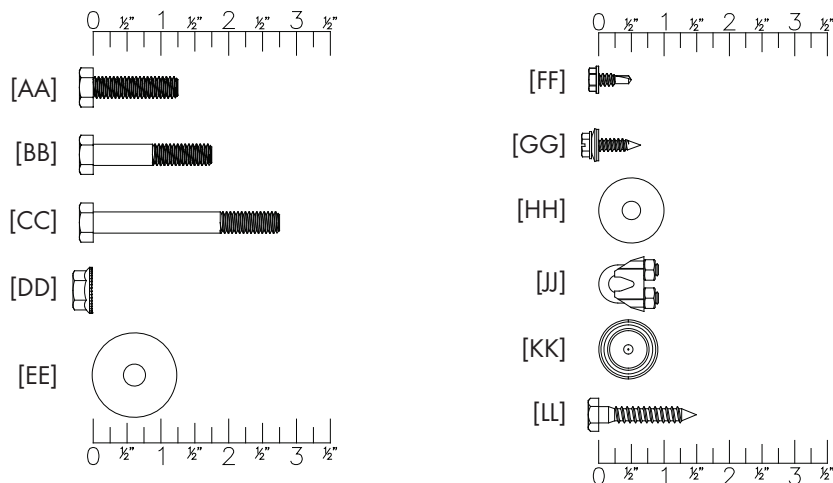
HK1001 - Hardware Kit for 1 - WM54K Fan

ID	Qty.	Cat. No.	Description
[AA]	18	KS1007	5/16"-18 x 1.25" Hex Head Bolt, SS
[BB]	4	KS1029	5/16"-18 x 1.75" Hex Head Bolt, SS
[CC]	7	KS1075	5/16"-18 x 2.75" Hex Head Bolt, SS
[DD]	37	KN0704	5/16"-18 SRTD Flange Nut, SS
[EE]	10	KW3011	5/16" x 1 1/4" O.D. Flat Washer, SS

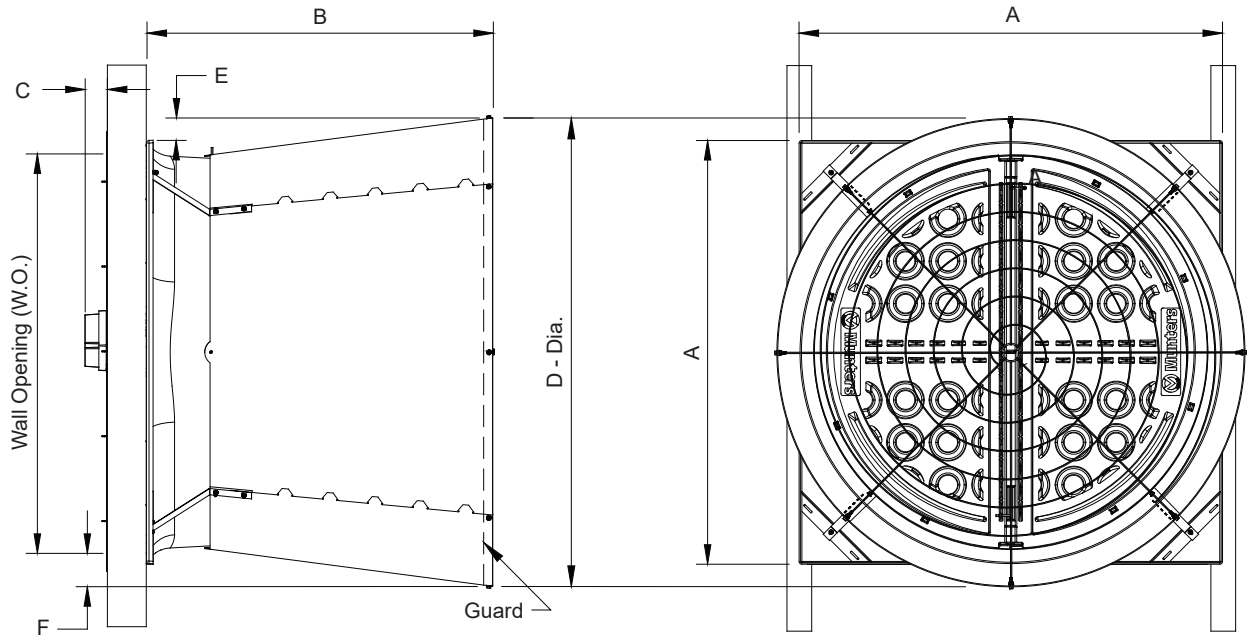


HK1002 - Hardware Kit for 1 - WM54K Fan

ID	Qty.	Cat. No.	Description
[FF]	4	KS2250	#10-16 x 1/2" TEK Screw, SS
[GG]	7	KS1400	#10-12 x 3/4", SLTDHX, Seal-Washer Screw, ZP
[HH]	1	KW3012	1/4" x 1" O.D. Flat Washer, SS
[JJ]	2	AC1381	1/8" Dia. Cable Clamp, ZP
[KK]	2	KX1158	Hole Plug, 0.73"-0.76" Dia., BLK PL
[LL]	1	KS2463	1/4" x 1.5" HEX Lag Screw,ZP



1.2 Fan Dimensions



Dimensions:

Size	A	B	C*	D - Dia.	E	F	Wall Openings
54"	60" W. x 60" H.	49"	3 1/8"	66 5/16"	3 3/16"	4 3/4"	56 1/2" W. x 56 1/2" H.

*Dimension varies depending on wall construction.

Fan Specifications: 60Hz shown (50Hz available)

Power: 230VAC or 230/460 VAC

Phase: 1 or 3

1.3 Tools Required For Installation

- 10mm [3/8"] Socket
- 13mm [1/2"] Socket
- 17mm [1 1/16"] Socket or Wrench
- 27mm [1-1/16"] Wrench
- 36mm Socket or Wrench
- 5/16" Socket or Wrench
- 3/8" Socket
- Phillips Screwdriver, #3 Size
- 1/8" Drill Bit
- 5/32" Hex Wrench
- Wire Cutting Pliers

Installation Instructions

2.

2.1 Fan Installation

Step 1

Construct framed opening to correct size according to Wall Opening listed in Chart A below. See Figure 1A and 1B. When installing exterior sheet metal before fan, leave 2" of the framing exposed on all sides so the orifice can mount flush to the frame.

Chart A

Fan Dia.	Wall Opening (W. x H.)	Minimum Spacing 'Z'	Center To Center Dimension
54"	56½" W. x 56½" H.	12" recommended; 3½" minimum	60" Minimum

Note:

Damper doors should be carefully set aside out of direct sunlight until needed.

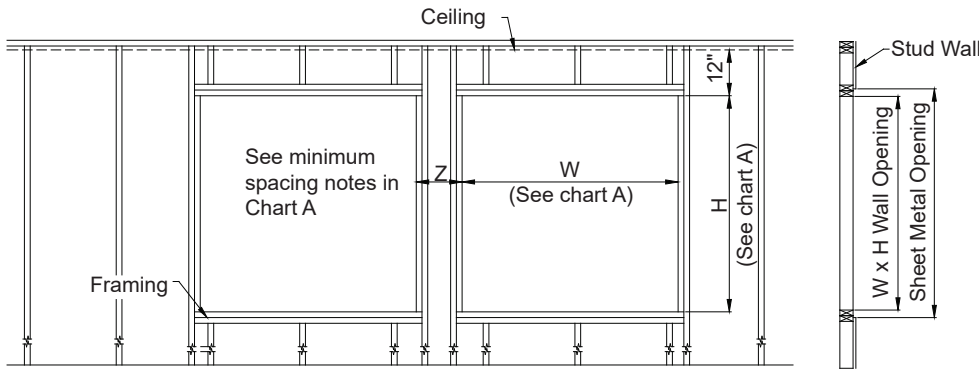


Figure 1A - Frame Construction

Top View

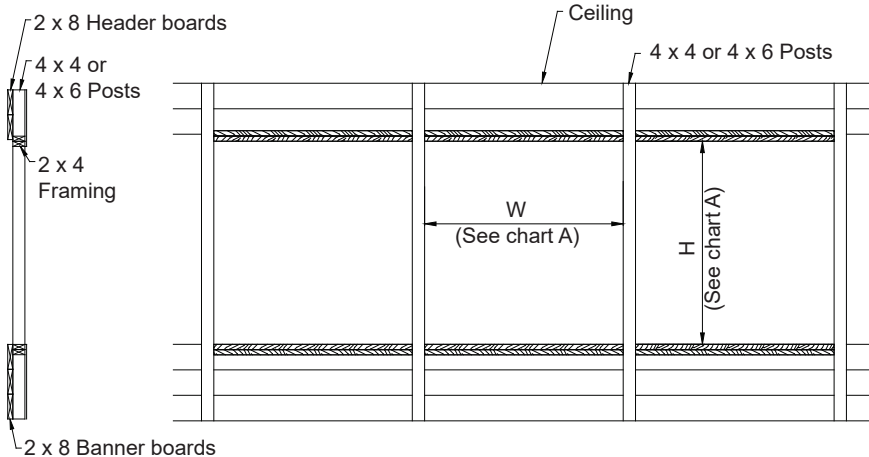
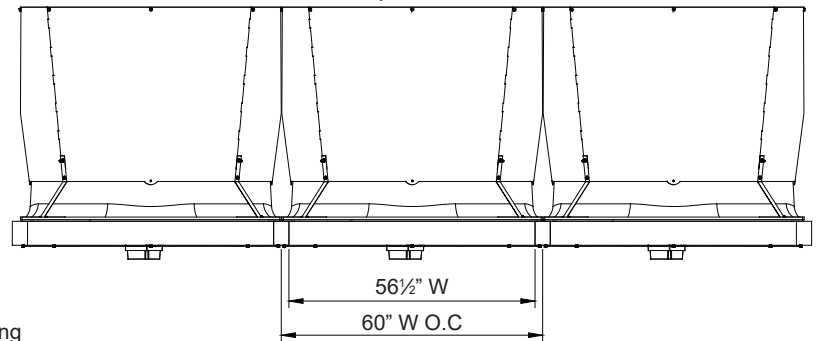


Figure 1B - 4 x 4 Post Construction - Elevation View

Step 2

Place Orifice Panel on saw horses with the round orifice pointing up and place (1) Cone/Strut Mounting Bracket in each corner of the Orifice Panel. See Figure 2.

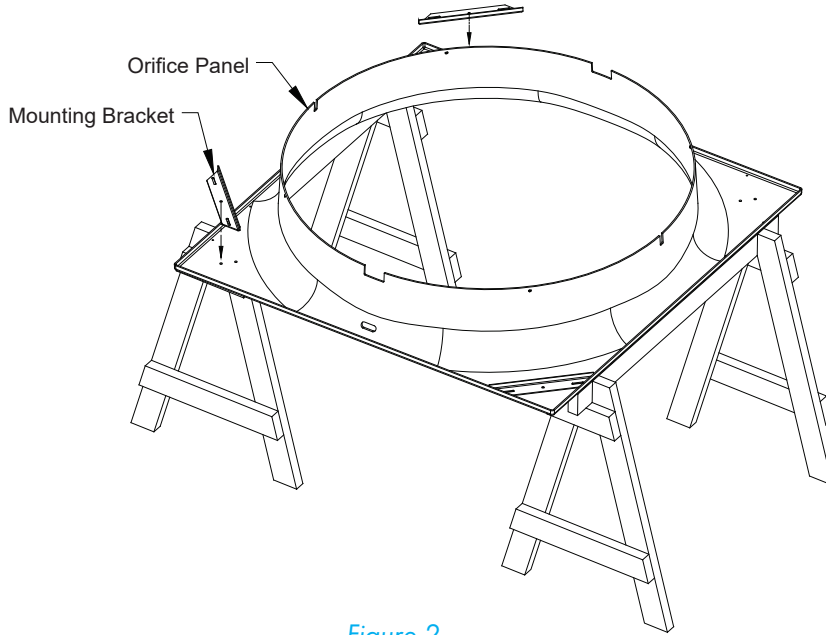


Figure 2

Step 3

The corners of the Orifice Panel with 2 holes are the corners where the Strut attaches. Attach the Strut using (4) Long Bolts [CC], (6) Washers [A] and (4) Nuts [DD] and in the opposite corners attach the Cone/Strut Mounting Bracket to the orifice using Short Bolt [AA], Washer [A] and Nut [DD]. See Figure 3.

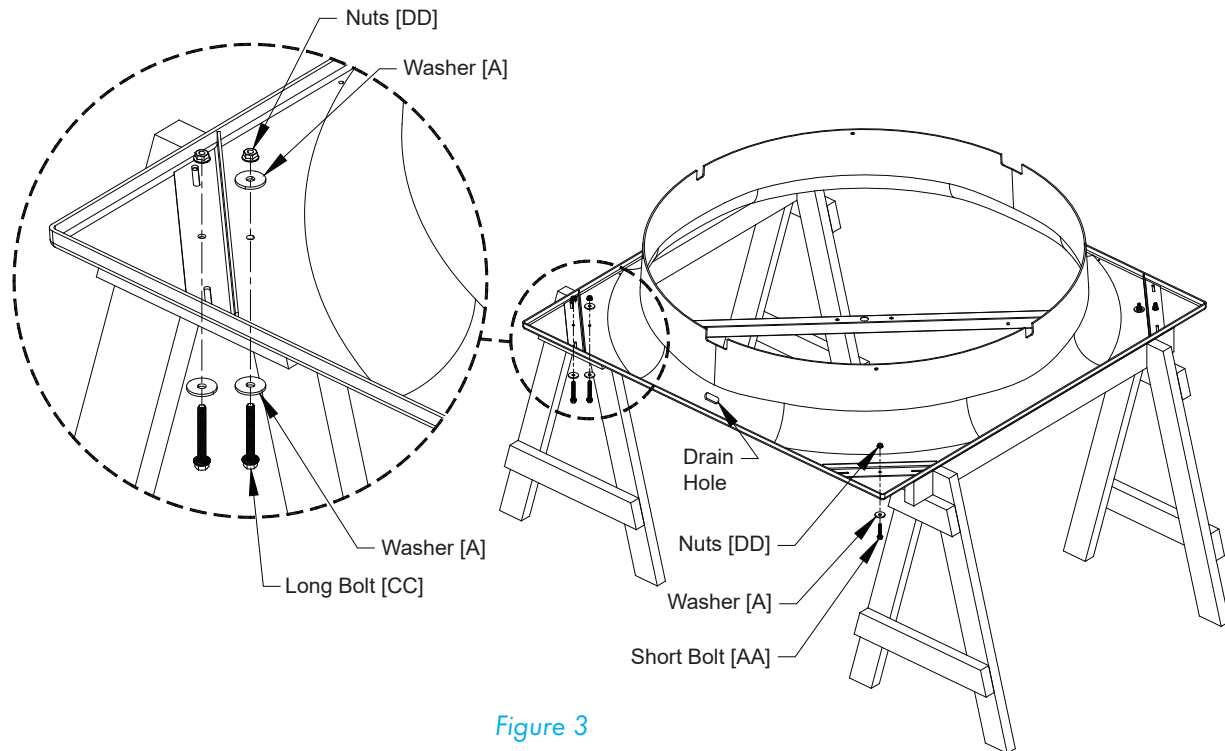


Figure 3

Step 4

Attach Drip Shield to bottom of framed opening using (3) Barn Screws (Not Provided). See Figure 4A and 4B. If a 4" wall is used a support board must be installed as shown in Figure 7B. Be sure not to deform Drip Shield when installing screws.

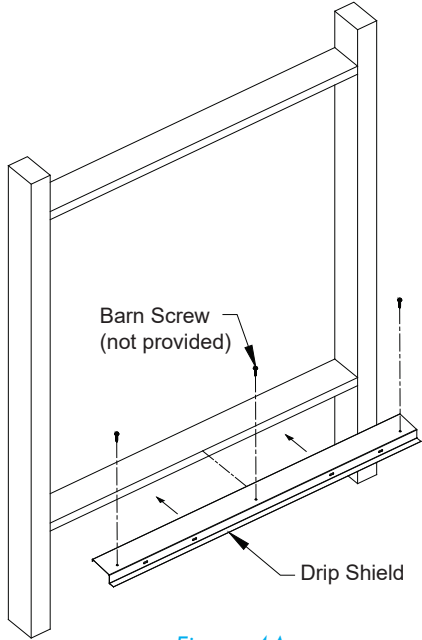
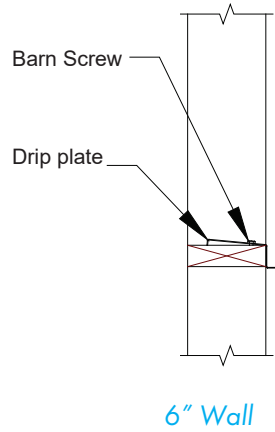


Figure 4A



6" Wall

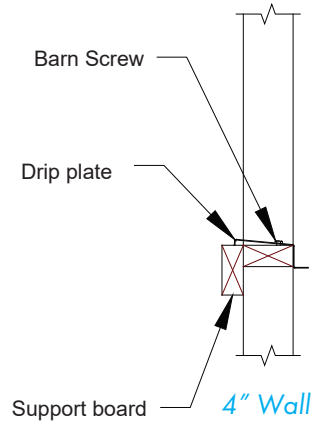


Figure 4B

Step 5

Locate the Drain hole in the Orifice Panel. This is the bottom of the Panel. Set the bottom edge of the panel on the Drip Shield ledge and center the panel on the opening. Then secure the Panel to the wall using (16) Barn Screws (Not Provided). See Figure 5A and 5B.

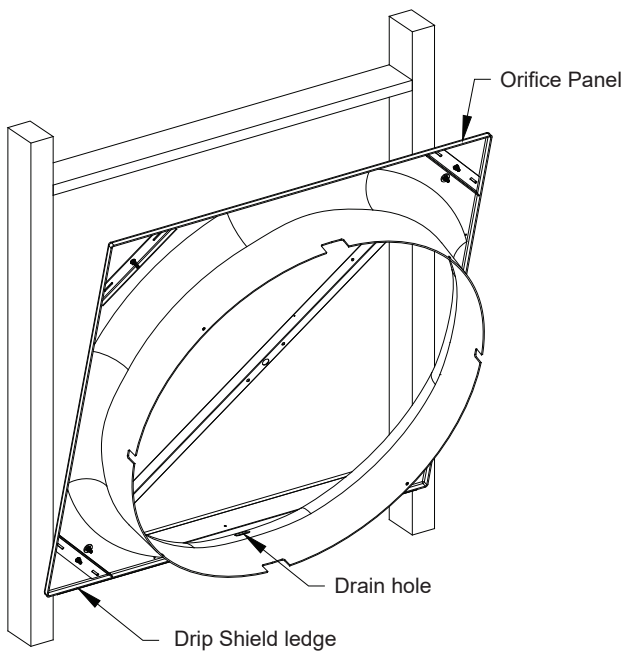


Figure 5A

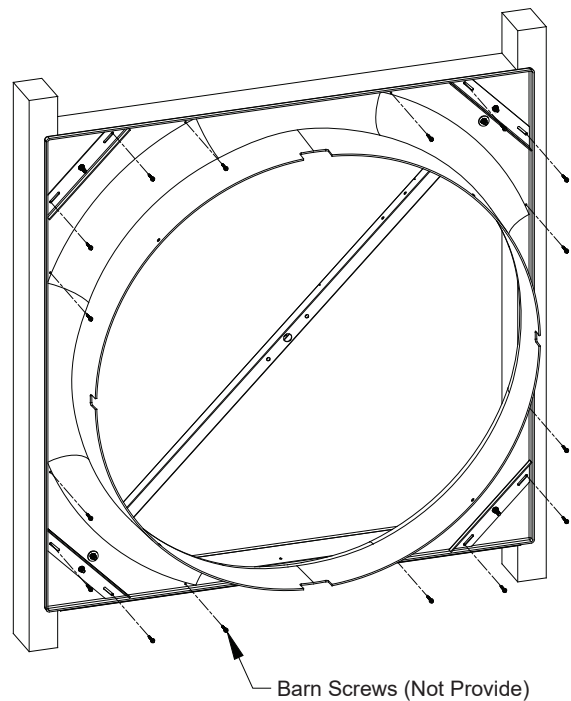


Figure 5B

Step 6

Locate Munters Drive box and make sure it is facing up and open the box. Remove the top section of the foam packaging to reveal the Munters Drive motor and Controller and leave them in the foam packaging. Carefully remove the lower section of foam packaging with the motor and controller still in it and set on a flat surface for assembly. See Figure 6.

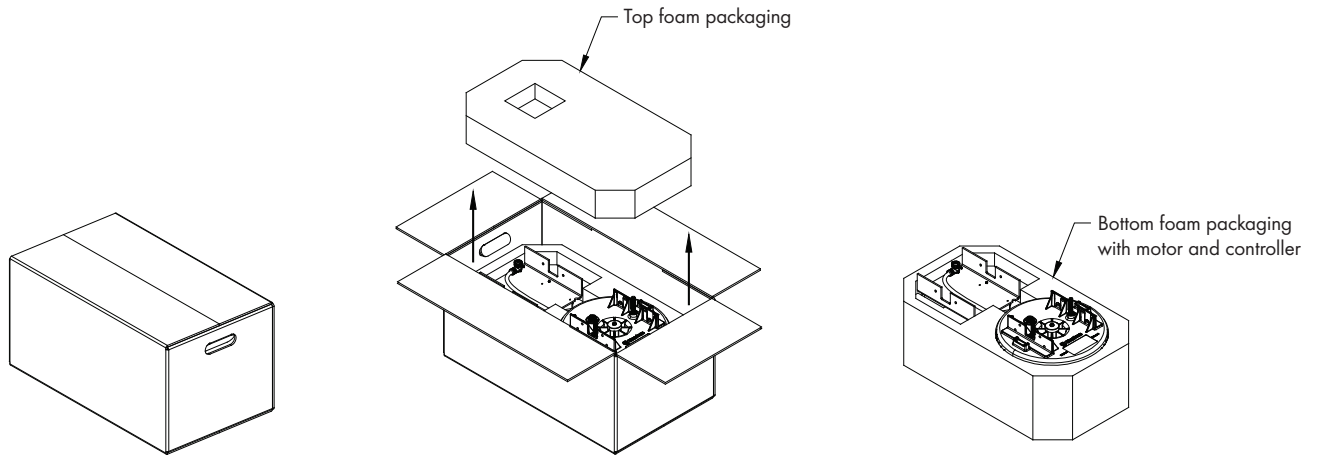


Figure 6

Step 7

The motor in the foam packaging has pre-installed bolts sticking up. Carefully remove the motor from the foam packaging and from the outside of the fan slide the motor onto the strut so the bolts go through the 2 small holes at the center of the strut and fasten in place using (2) Washers [H], Splitlock Washers [G] and Nuts [F]. Then install (1) Hole Plug [P] in the large center hole of the strut. See Figure 7.

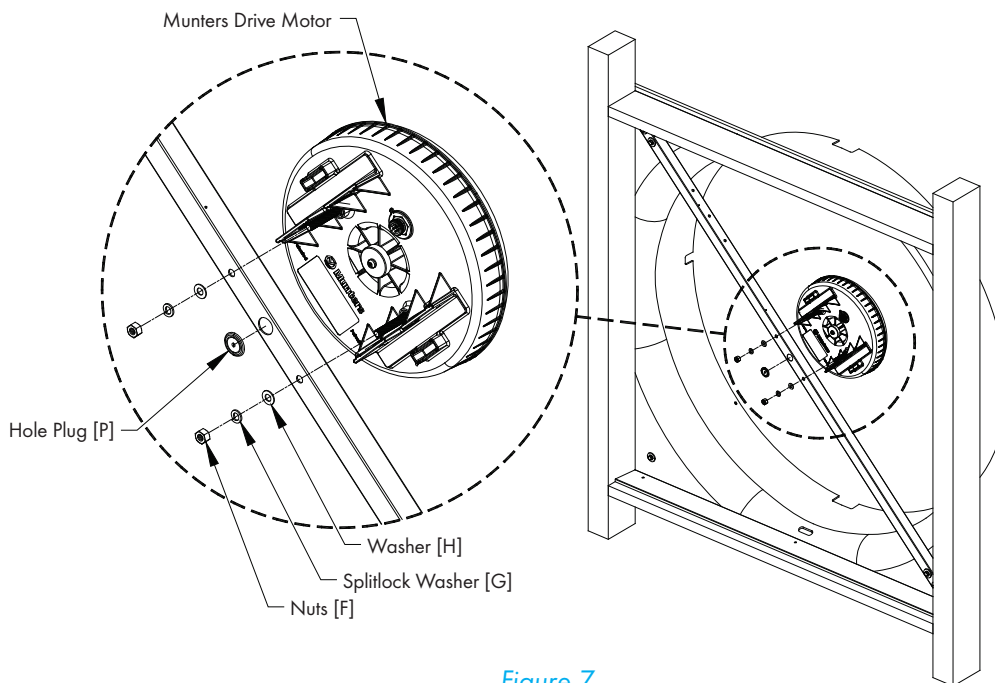


Figure 7

Step 8A

Find Strut Brace (WM54DK only) in crate and remove the Controller from foam packaging. Plug the Quick Connect Connector into Motor and position Controller and Strut Brace (WM54DK only) over Strut, with bottom of box toward bottom of the fan. Secure Controller and Strut Brace to Motor using (4) Bolts [J], Washers [K] and Nuts [L]. See Figure 8A. WM36DK does not use the Strut Brace, attach Controller to Strut as stated.

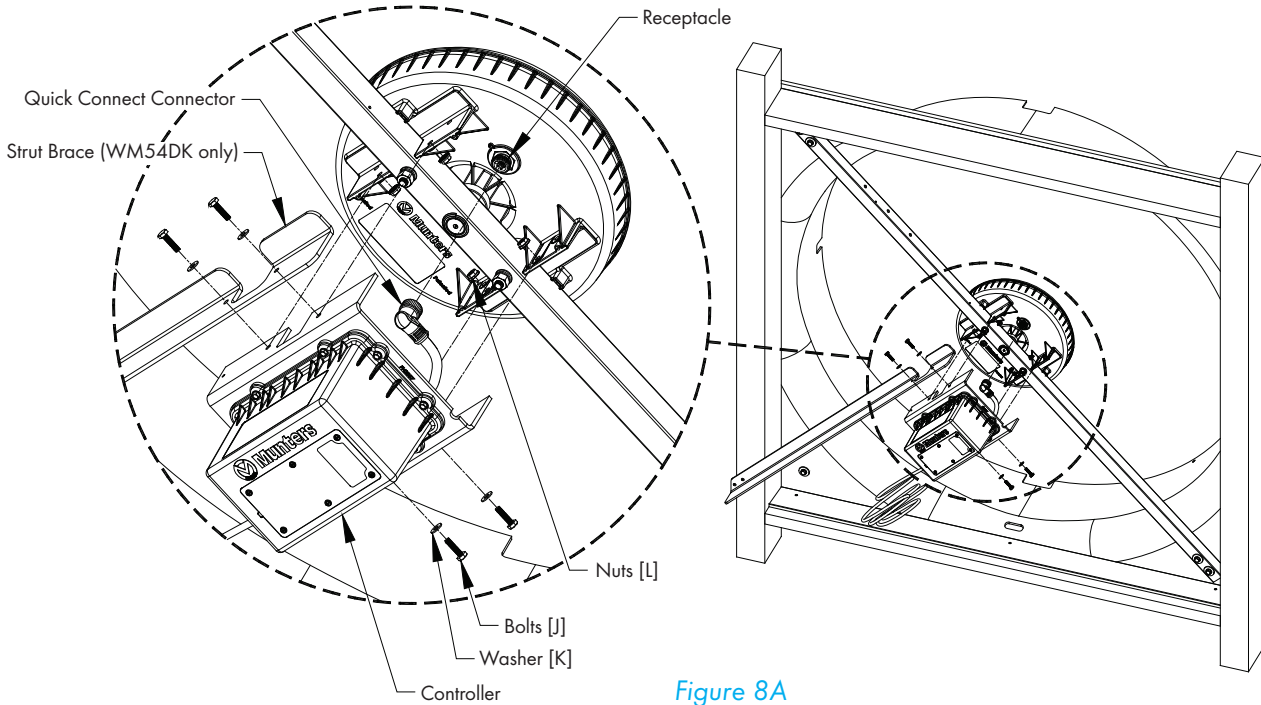


Figure 8A

Step 8B - WM54DK only

Where the bottom of the Strut Brace meets the Orifice Panel, use the 2 holes in the Strut Brace as a guide and drill (2) $\frac{5}{16}$ " holes through the fiberglass Orifice Panel. Secure Strut Brace to Orifice Panel using (2) Bolts [AA], Washers [A] and Nuts [DD]. See Figure 8B.

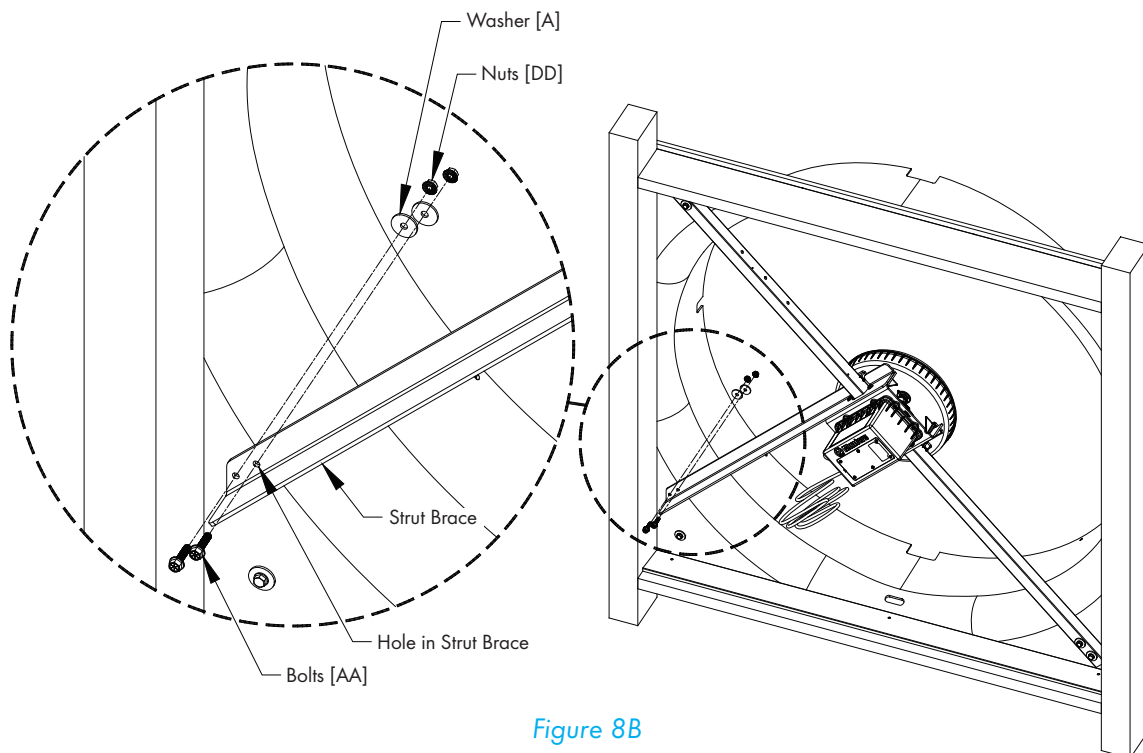


Figure 8B

Step 9

Remove (4) nuts from face of the Munters Drive Motor. Position propeller onto bolts on Munters Drive Motor and secure with (4) nuts just removed. Tighten the nuts to 200 in-lbs. of torque. See Figure 9.

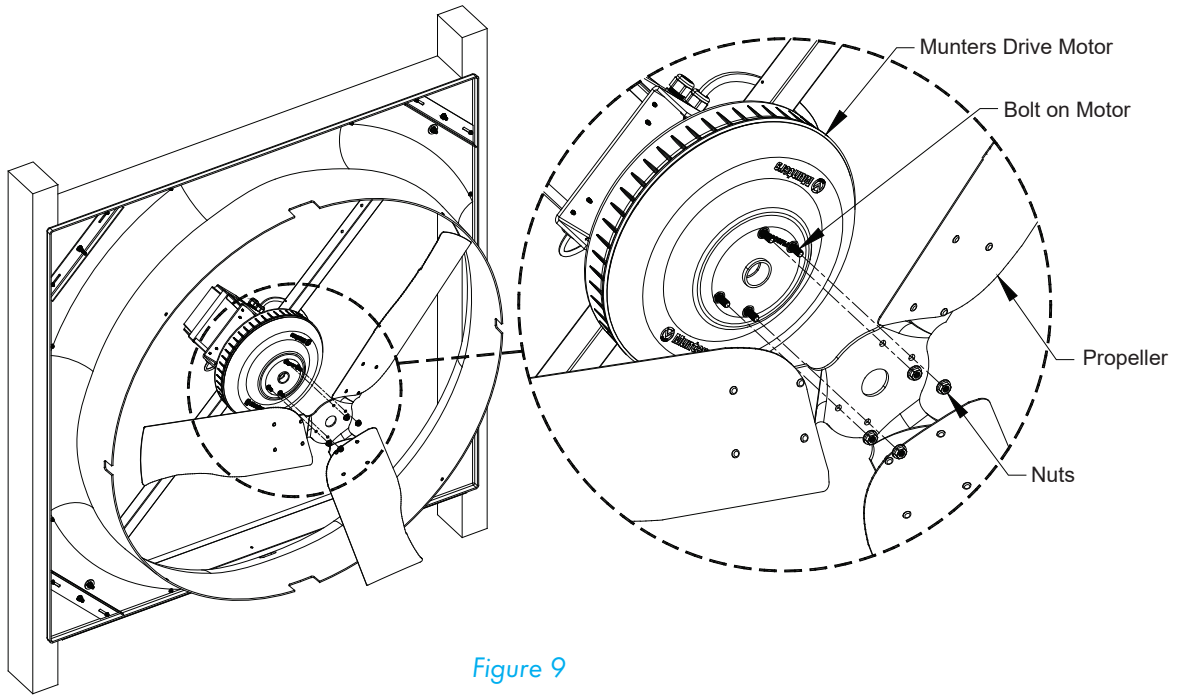


Figure 9

2.2 Damper Door Installation

Step 10

Slide the Main Frame Assembly onto the orifice panel with the pin on the Main Frame pointing up. See Figure 10A. Line up the 4 holes in the Main Frame with the holes in the orifice and fasten using (4) TEK Screws [EE]. See Figure 10B.

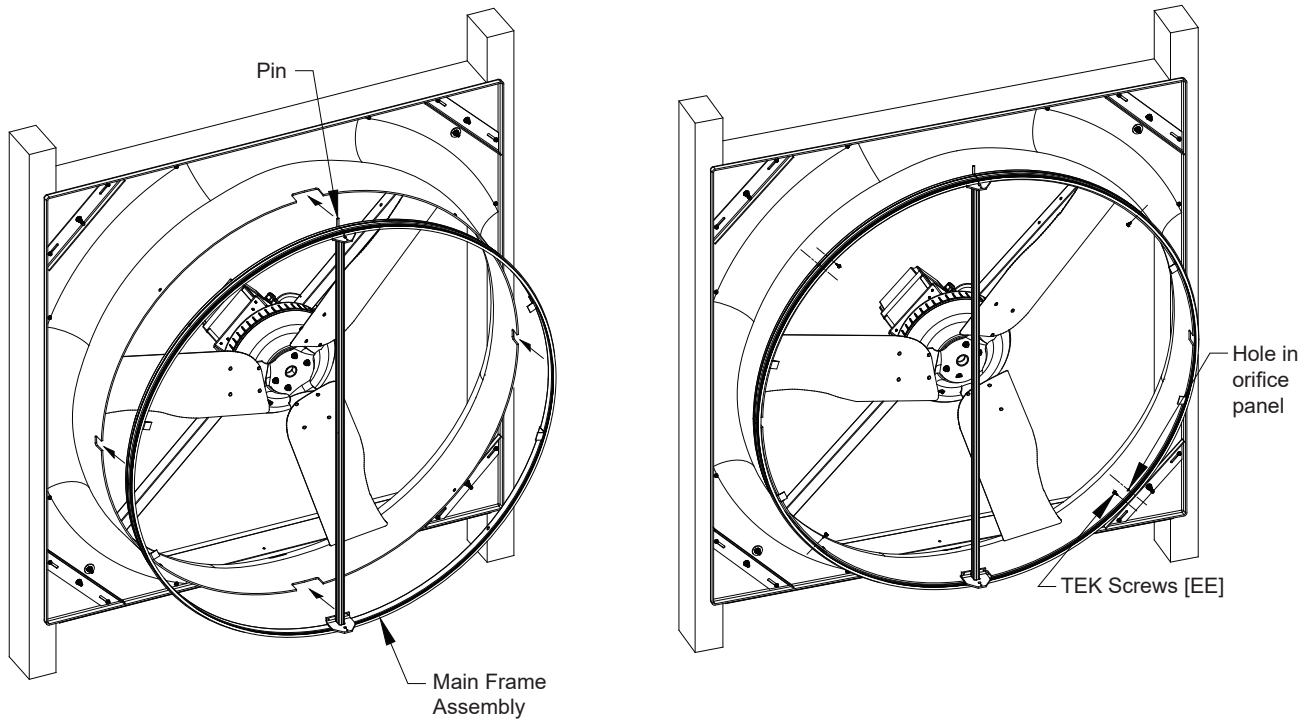


Figure 10A

Figure 10B

Step 11

Carefully remove folded door assembly from box. Open doors and lay them flat on solid surface with the Munters Logo down. The Bottom of the doors has the Hinge Pin with the Nylon Washers. The Wing sits down in the Groove of the upper right and lower left doors. The Wing will start just after the last spring mounting dimple and follow the Groove. Make sure Wing is seated in bottom of Groove and fasten in place using (3) Seal-Washer Screws [B] per wing. Make sure Hinge Pins do not fall out. [See Figure 11.](#)

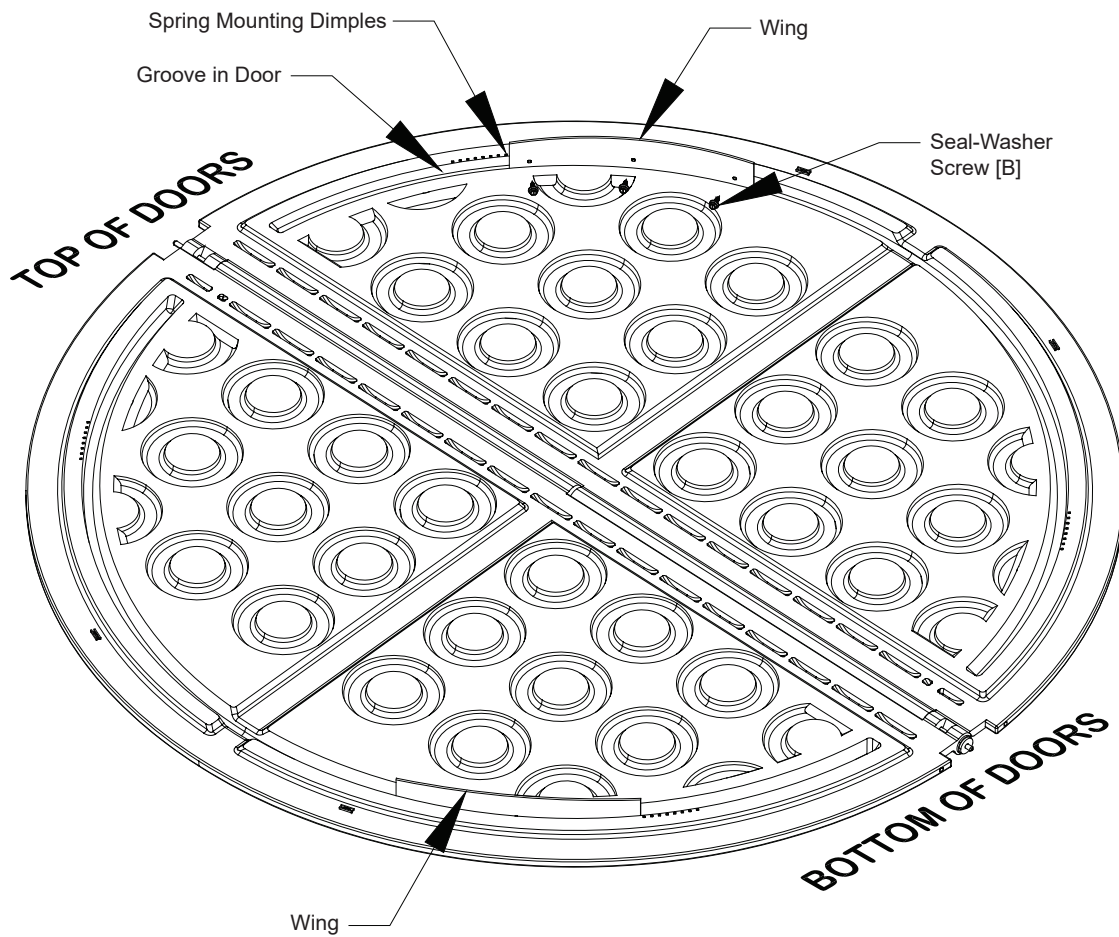


Figure 11

Step 12

Carefully turn doors over and pull upper Latch Pin down until the end is flush with top of doors. Make sure Long Hinge Pin (bottom) does not fall out. See Figure 12.

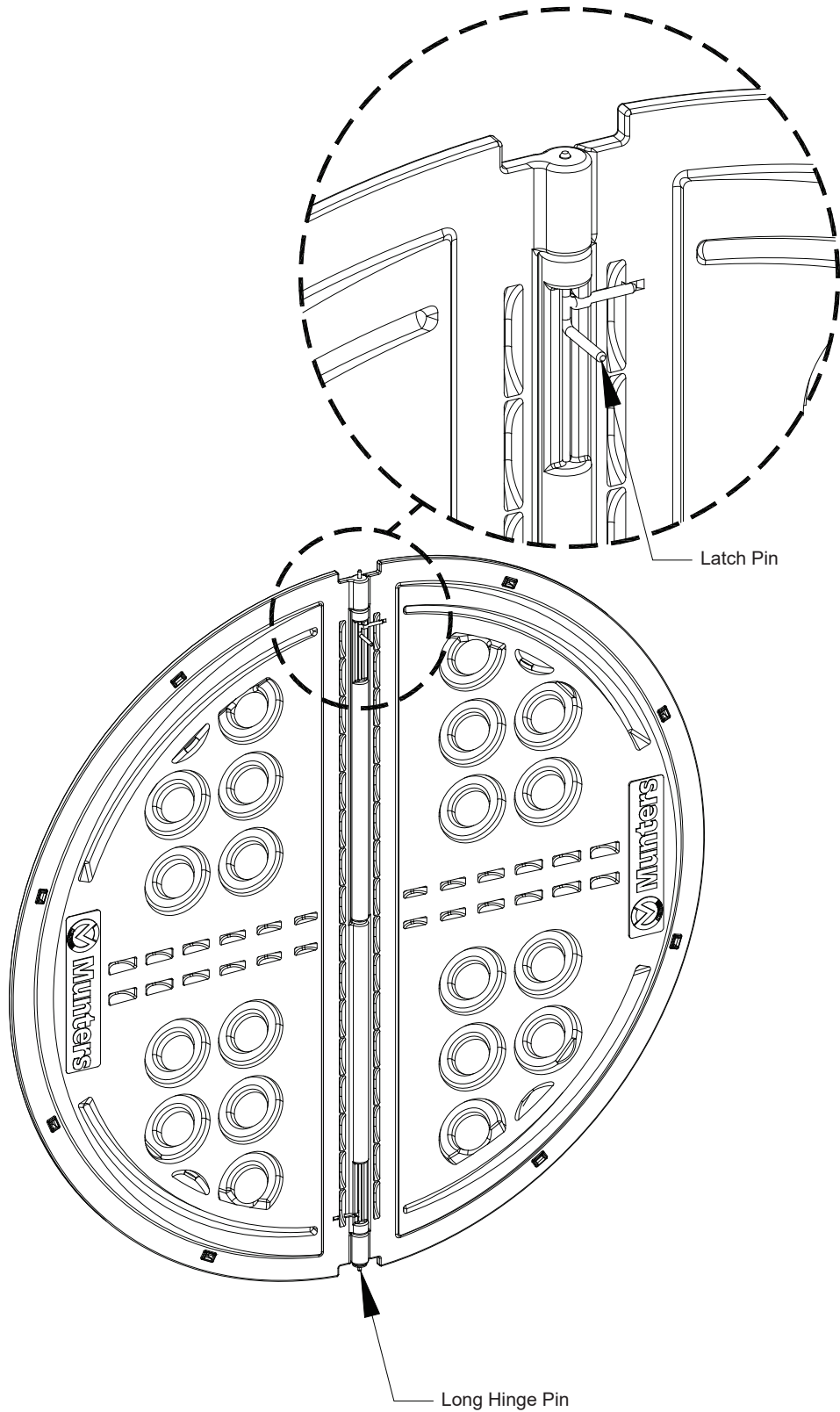


Figure 12

Step 13

Being careful not to let pin fall out, set Doors into Main Frame with the Hinge Pin in the hole at the bottom plate of the Main Frame and push the top of the Doors into place. *See Figure 13.*

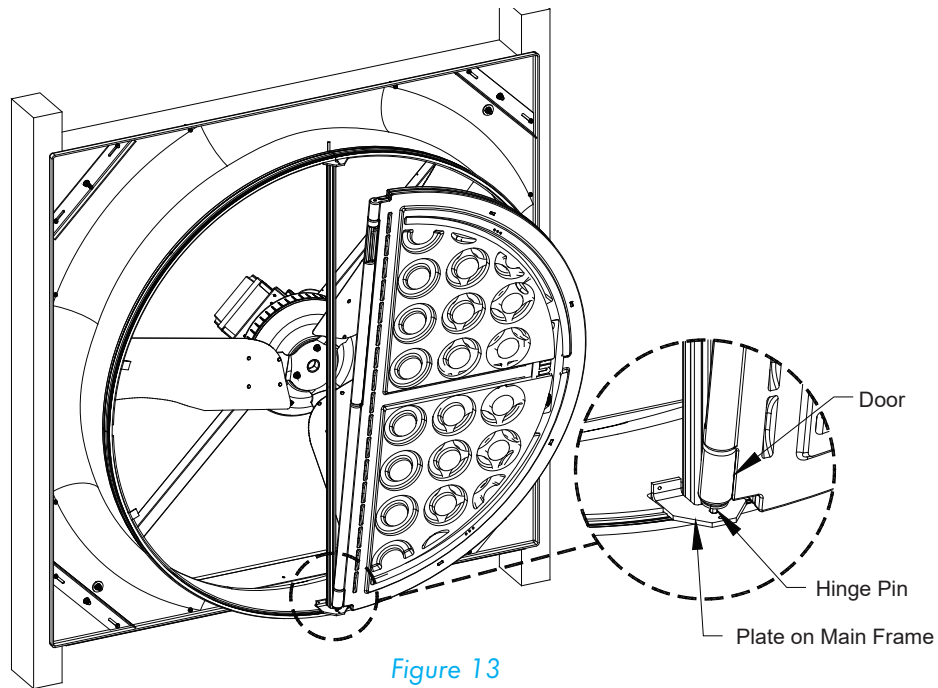


Figure 13

Step 14

Separate the doors and push them into the closed position. Now push Latch Pin up into place, then turn short leg of the Latch Pin into place against the door and secure in place using Seal-Washer Screw [B] and Flat Washer [R]. Latch Pin should extend up through the upper plate in the Main Frame. *See Figure 14.*

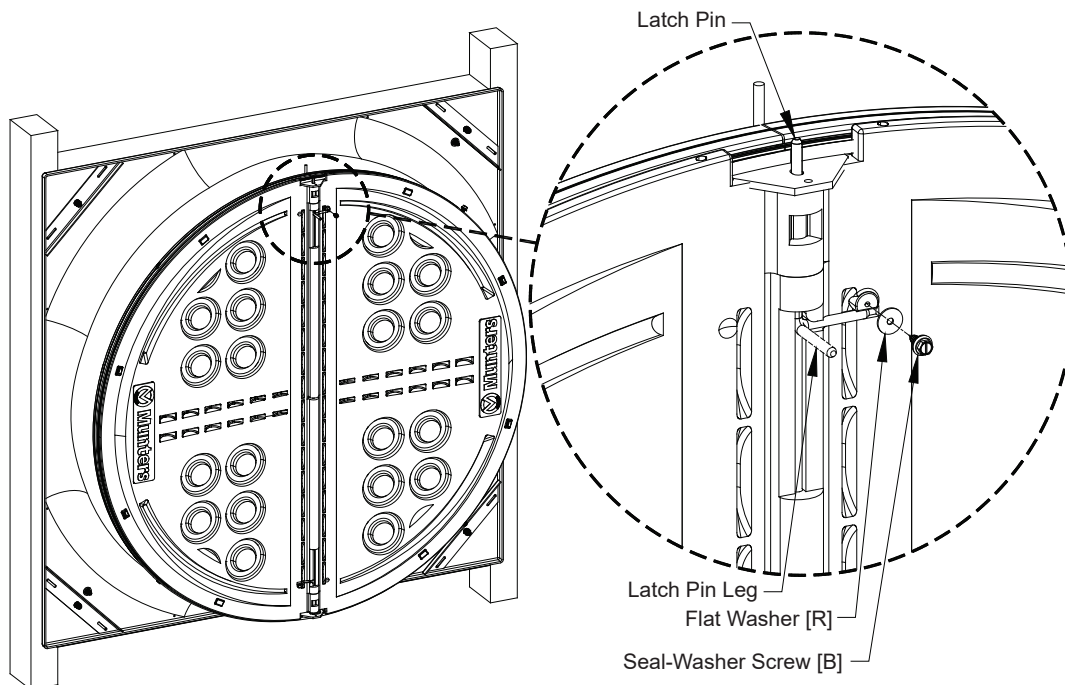


Figure 14

Step 15

Find the Coated Cable and insert the end opposite the ferrule into the small hole in the upper plate of the Main Frame and pull it through until the ferrule stops at the plate. See Figure 15.

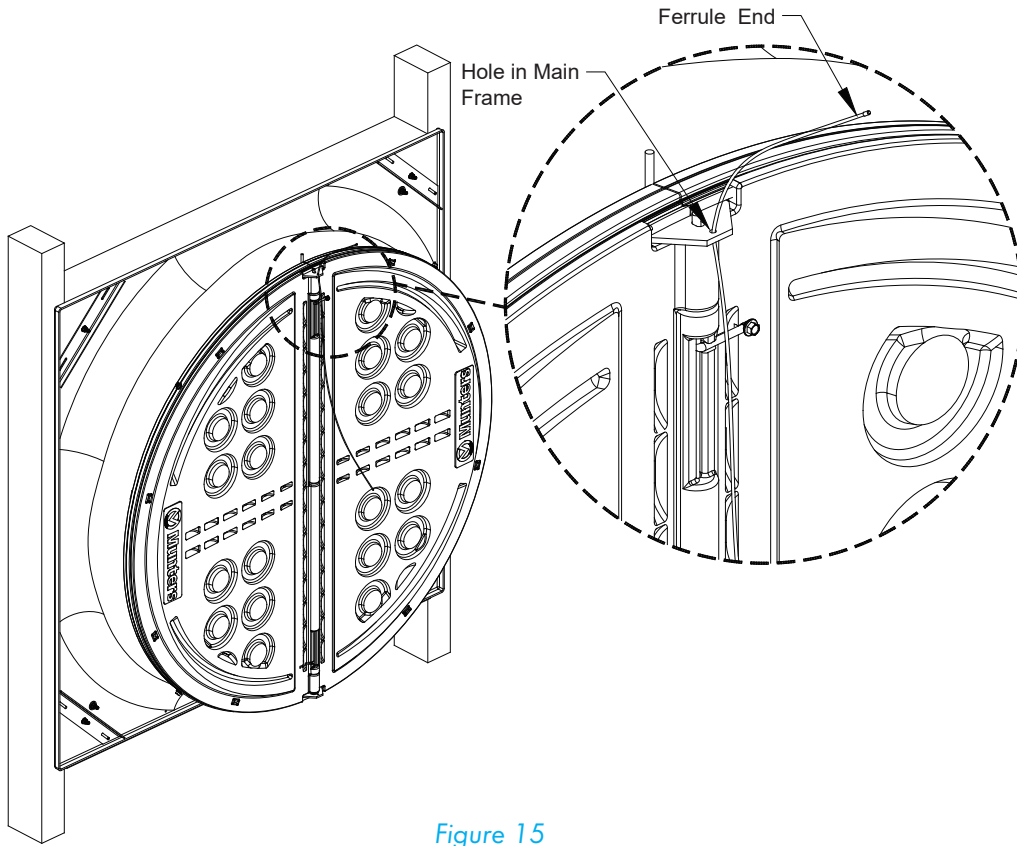


Figure 15

Step 16

On room side of each door drill a 1/8" dia. hole in each door through one of the dimples, as shown. For WM54 drill the 6th dimple from the center in both upper quadrants. See Figure 16.

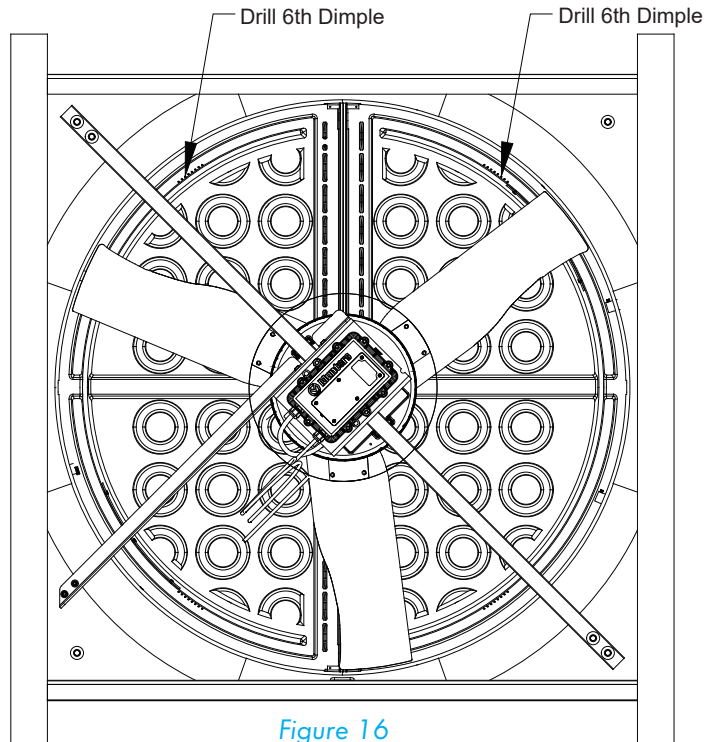


Figure 16

Step 17

From the inside attach each S-Hook [C] to hole in upper plate of Main Frame, from the door side through the Main Frame toward the outside. Then attach each Tension Spring to S-Hook [C] using end of spring with loop. Stretch spring and insert opposite end into hole drilled in door previously. See Figure 17.

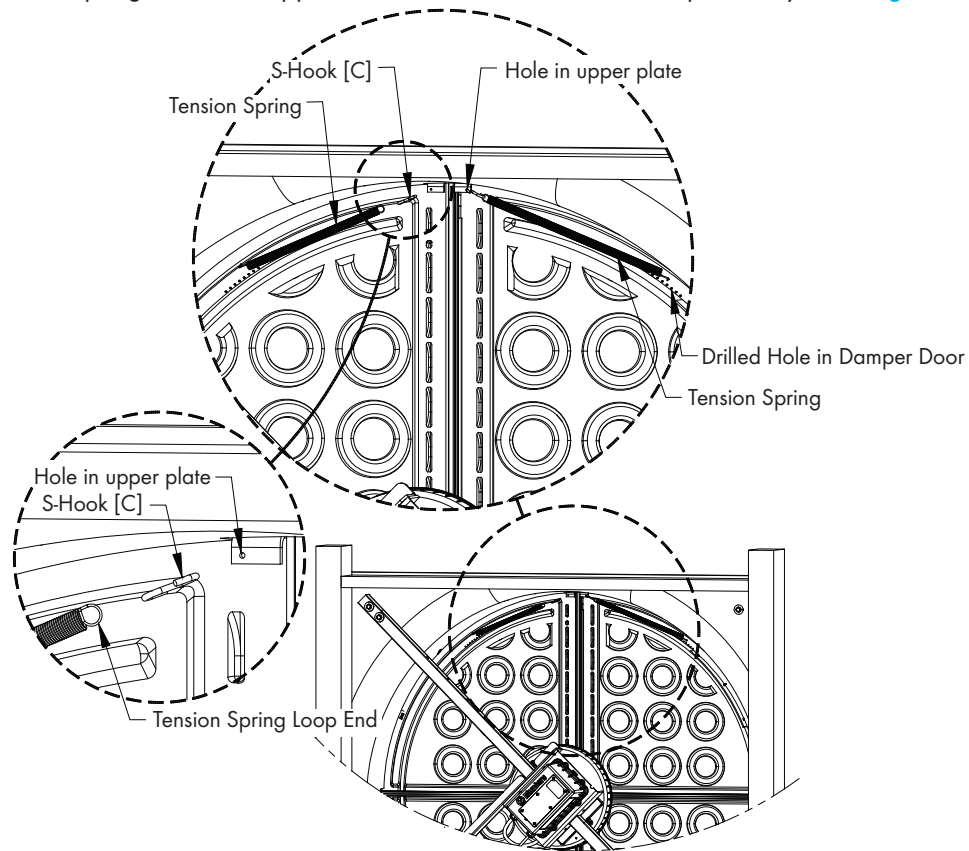


Figure 17

2.3 Cone Installation

Step 18

Place all 4 cone sections on a flat surface with the tabs from one facing the slots of the next. See Figure 18A. Curl up the tab end of the first cone section and insert the tabs up into the slots in the next cone section, a mallet may be needed to seat the slots over the tabs completely. See Figure 18B. Repeat this step until all 4 cone sections are connected and laying flat.

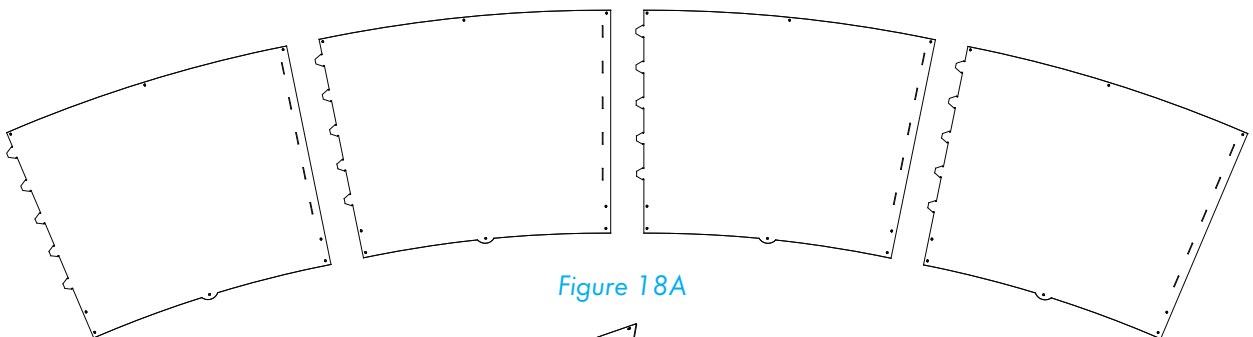


Figure 18A

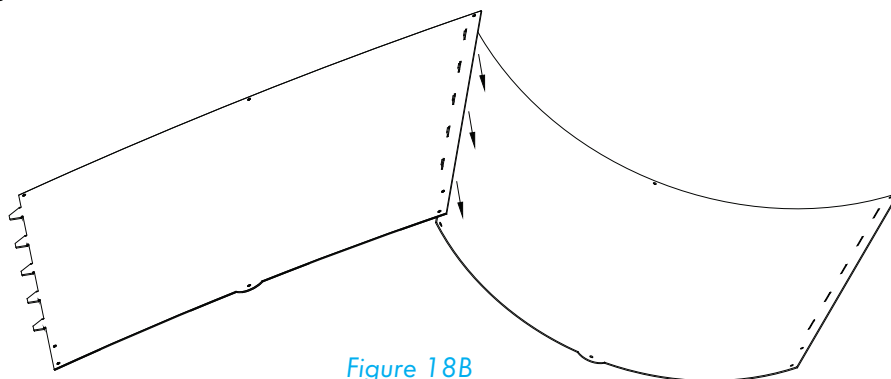


Figure 18B

Step 19A

Fasten each of the joints in the single outer hole using (1) Short Bolt [AA] and Nut [DD], with the nut on the side with the tabs. At the inner pair of holes of each joint attach (1) Cone Support Bracket to the inner hole using (1) Bolt [AA] and Nut [DD] with the bolt head on the side with the tabs. See Figure 19A.

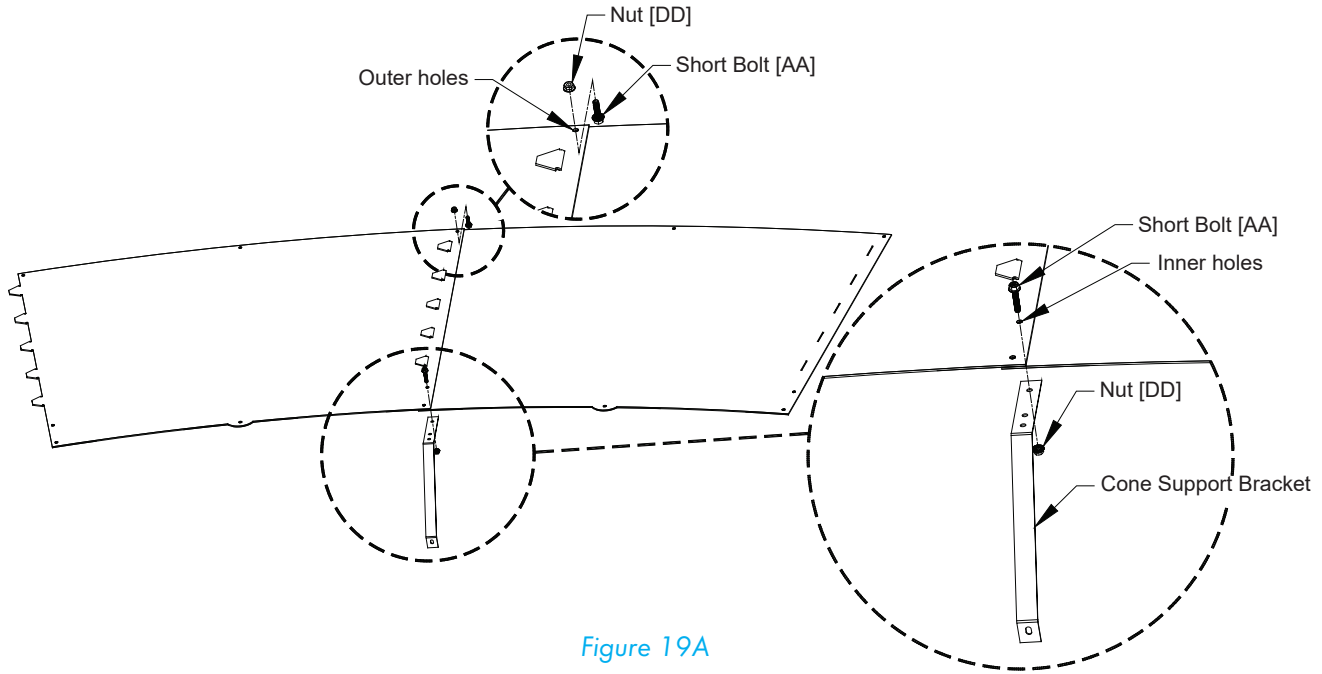


Figure 19A

Step 19B

Stand the cone sections on end and curl ends around to form cone with the Cone Support Brackets on outside and tabs on inside. Then insert the remaining tabs into slots so tabs are inside cone and fasten final joint using (1) Short Bolt [AA] and Nut [DD], with the nut on the inside of the cone. At the inner pair of holes attach (1) Cone Bracket to the inner hole using (1) Short Bolt [AA] and Nut [DD] with the bolt head on the outside of the cone. See Figure 19B.

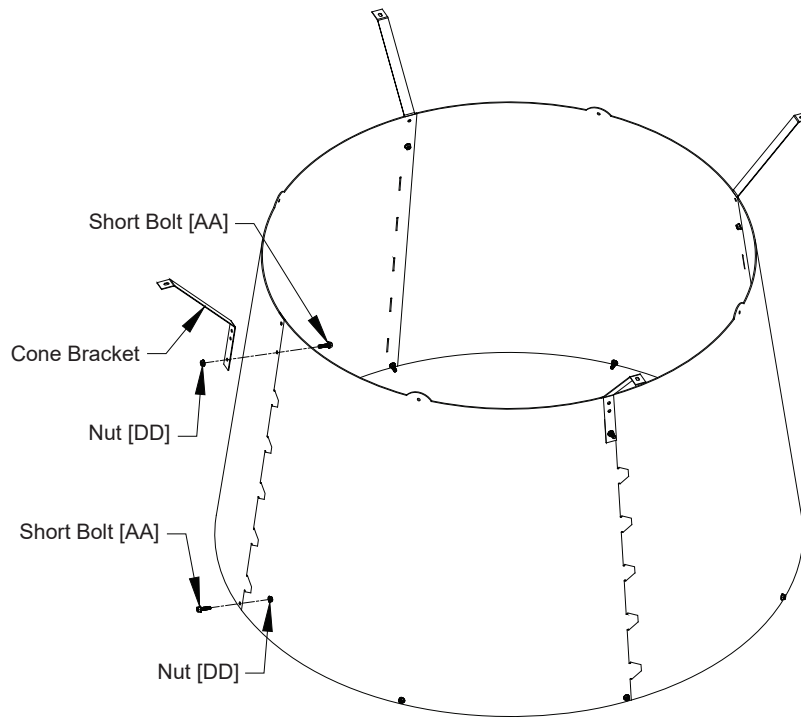


Figure 19B

Step 20A

Install cone onto fan by putting the top of the cone over the top of the fan. The hole in the tab of the upper cone section should slide down over the pin in the Main Frame assembly, then allow the rest of the cone to slide over the rest of the orifice panel making sure the cone brackets remain on the outside of the cone. [See Figure 20A.](#)

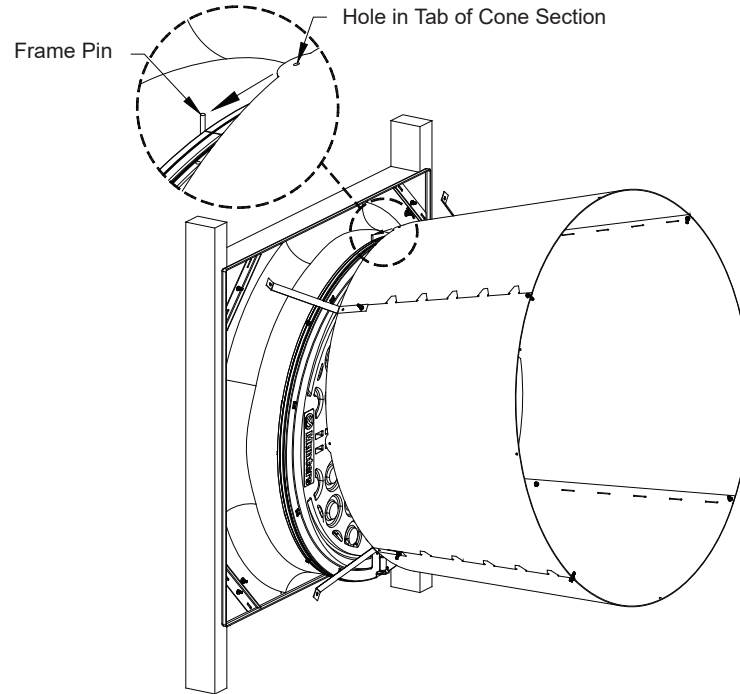


Figure 20A

Step 20B

Place the end of the Cone Brackets with the single hole over the bolt holding the Cone/Strut Mounting Bracket to the orifice and secure with Nut [DD]. [See Figure 20B.](#) Secure the Cone to the Fan installing Medium Bolt [BB] through the remaining hole in the Cone Brackets and fastening with Nut [DD]. A long screwdriver may be needed to help align the holes through the Cone Bracket, Cone, Damper Frame and Orifice. [See Figure 20B.](#)

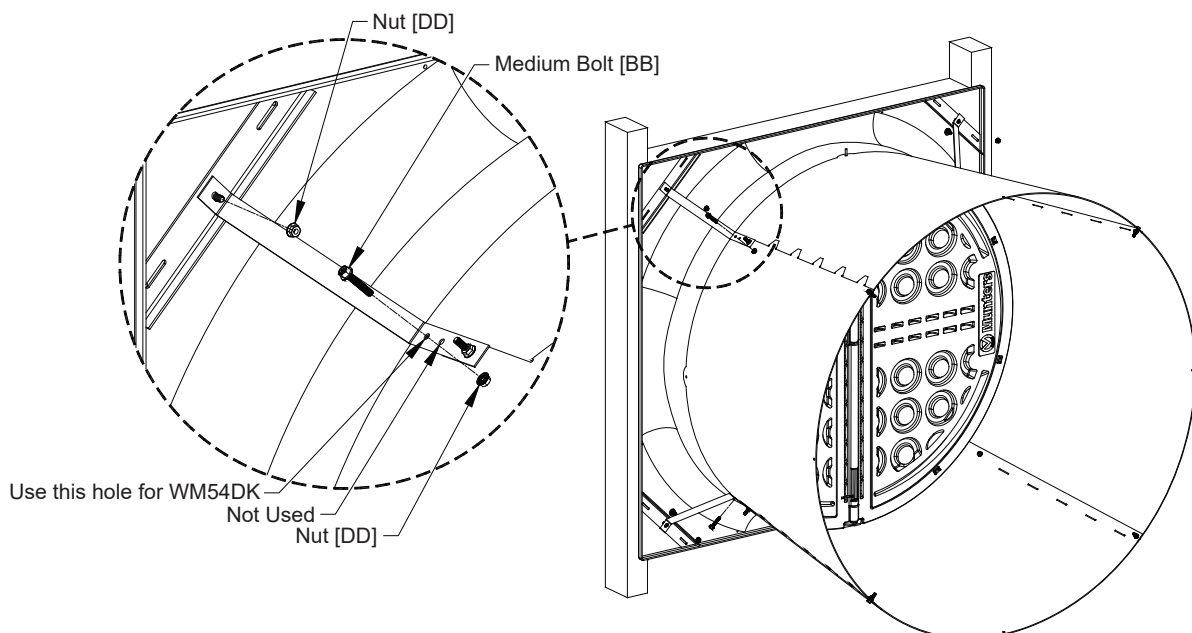


Figure 20B

Step 21

Insert guard into cone with the eyelets facing you. Install eyelets over bolts already installed in cone and fasten with Nut [DD] and then secure remaining eyelets using Short Bolt [AA] and Nut [DD]. See Figure 21.

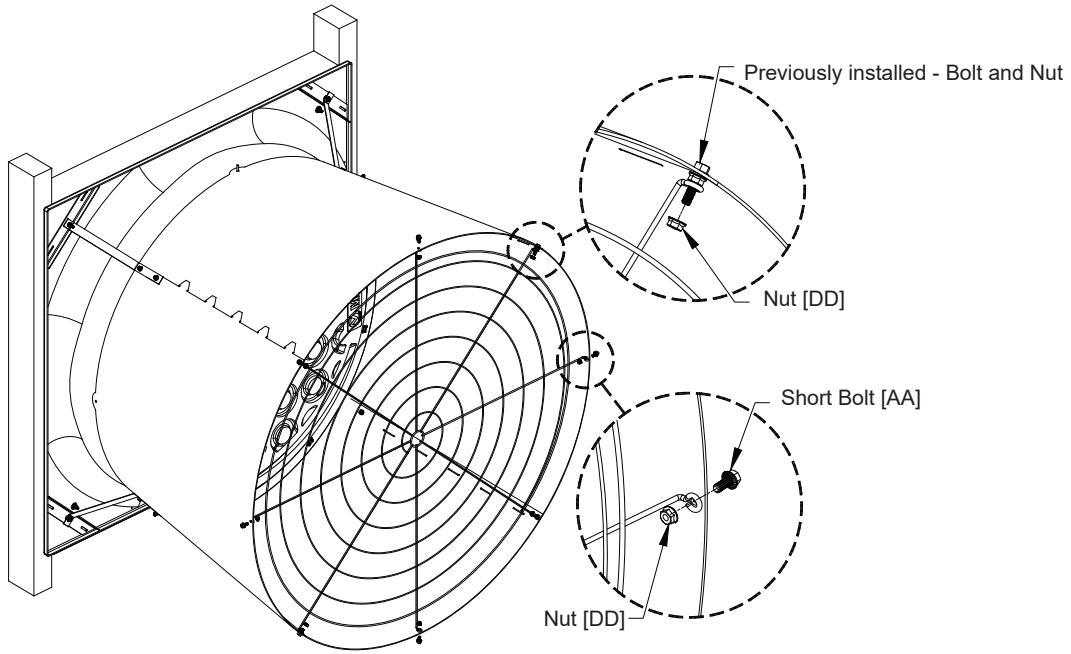


Figure 21

Step 22

Loop Coated Cable [U] that was installed in a previous step, around the lower, middle joint in guard and fasten to itself with Azuma Bolt & Nut [T]. Make sure cable is pulled snug. See Figure 22.

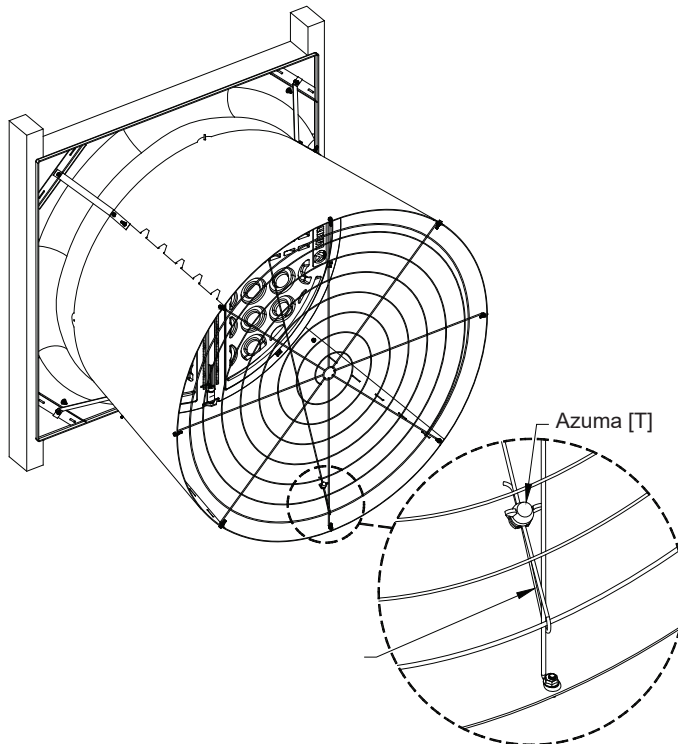


Figure 22

Step 23

If Fans are to be installed 60" O.C., cut the 3 o'clock and 9 o'clock guard wire in the position shown and push the side of the cone in as far as possible and fasten the cut guard wire to the attached guard wire using Clamp [W].

See Figure 23.

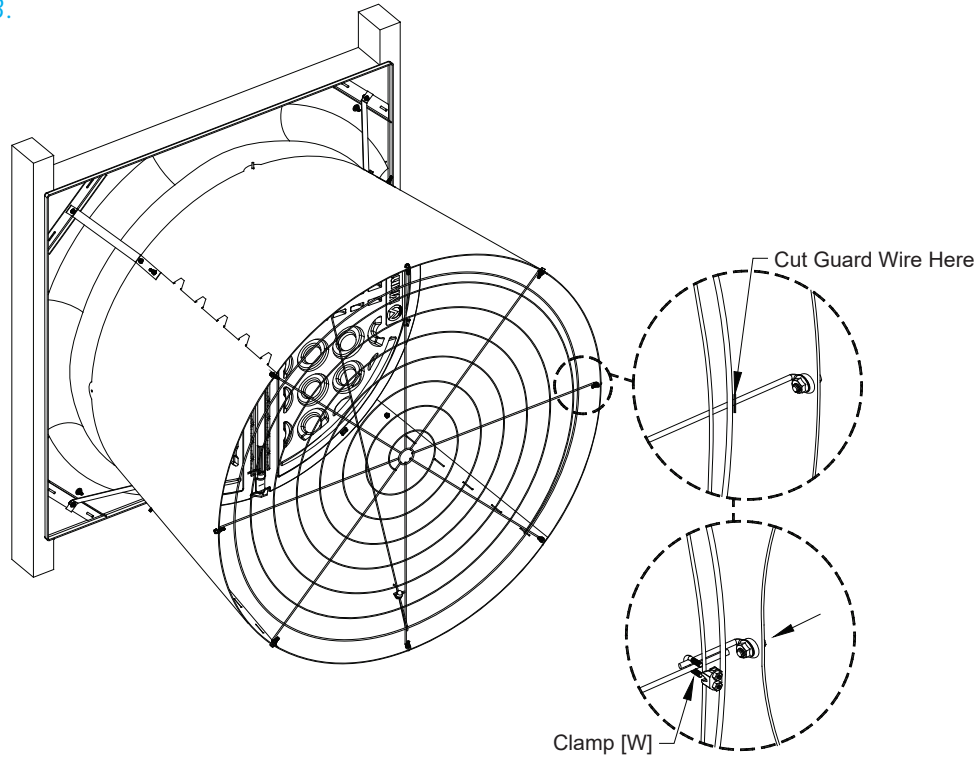


Figure 23

Step 24A

Cut a section of the inlet guard out to fit over the motor. When cutting the guard wires make sure to cut them as close to the other wires as possible. See Figure 24A.

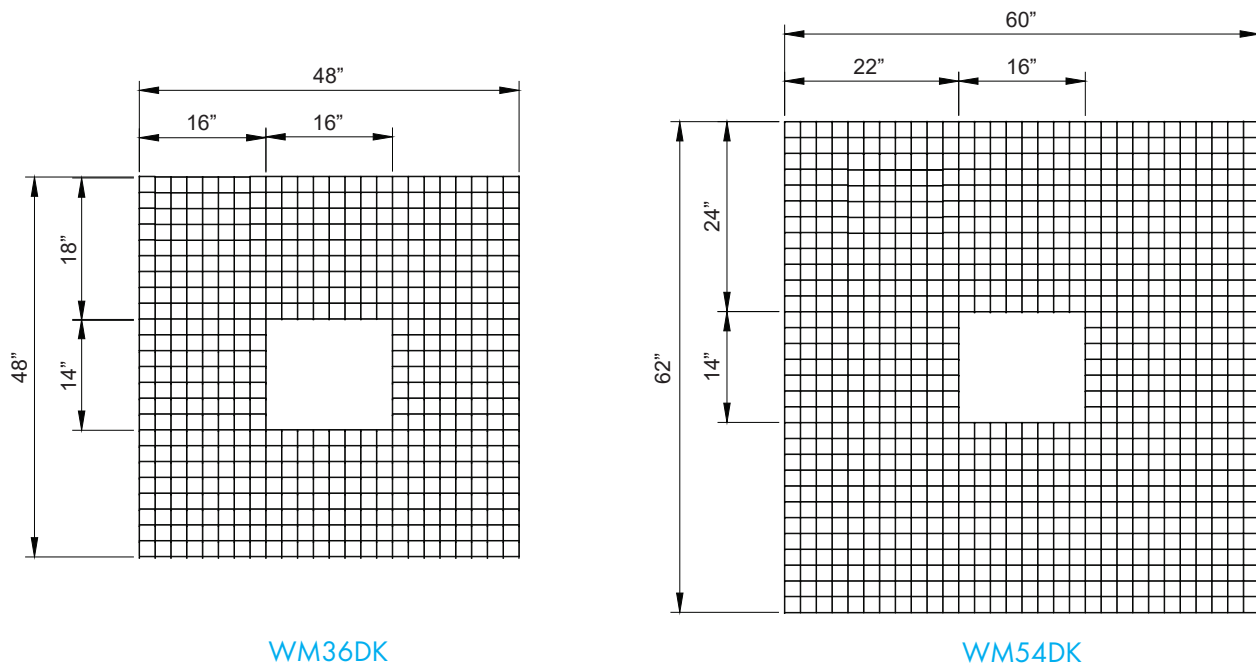


Figure 24A

Step 24B

Place guard against framing and fasten guard in place using (8) Shutter Clips [R] and Barn Screws (not provided), 2 per side. See Figure 24B.

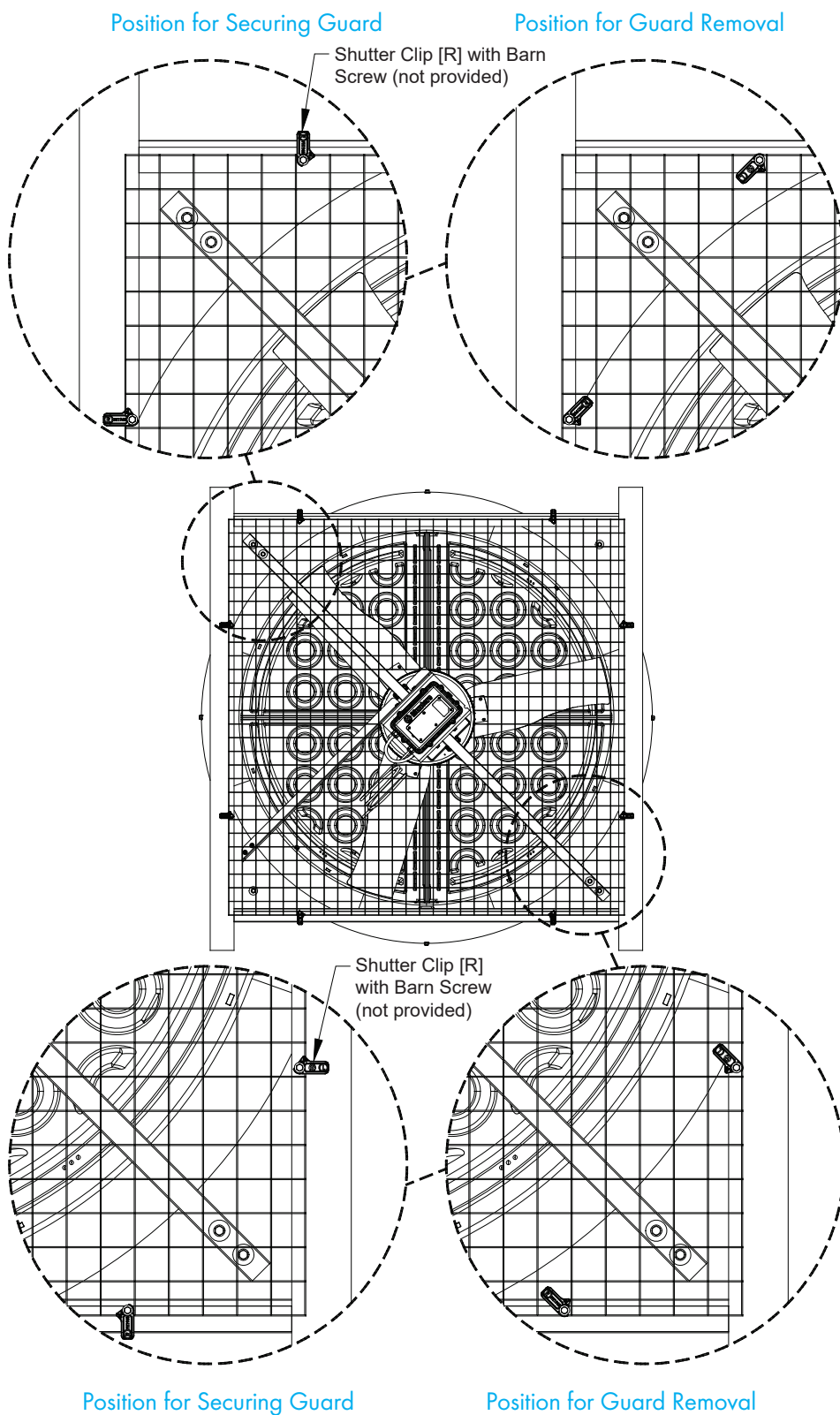


Figure 24B

3.1 Recommended Wire Routing:

The Munters Drive Kit comes with a coil of electrical cable that is pre-wired to controller. Find the end of the cable and route the cable up the strut and out of the fan. Create a drip loop in the bottom of the cable and then fasten it to the strut using (4) Wire Clamps [N] and TEK Screws [M]. Attach the new cable to the power supply for the fan. See Figure 25A and 25B. Continue on next page

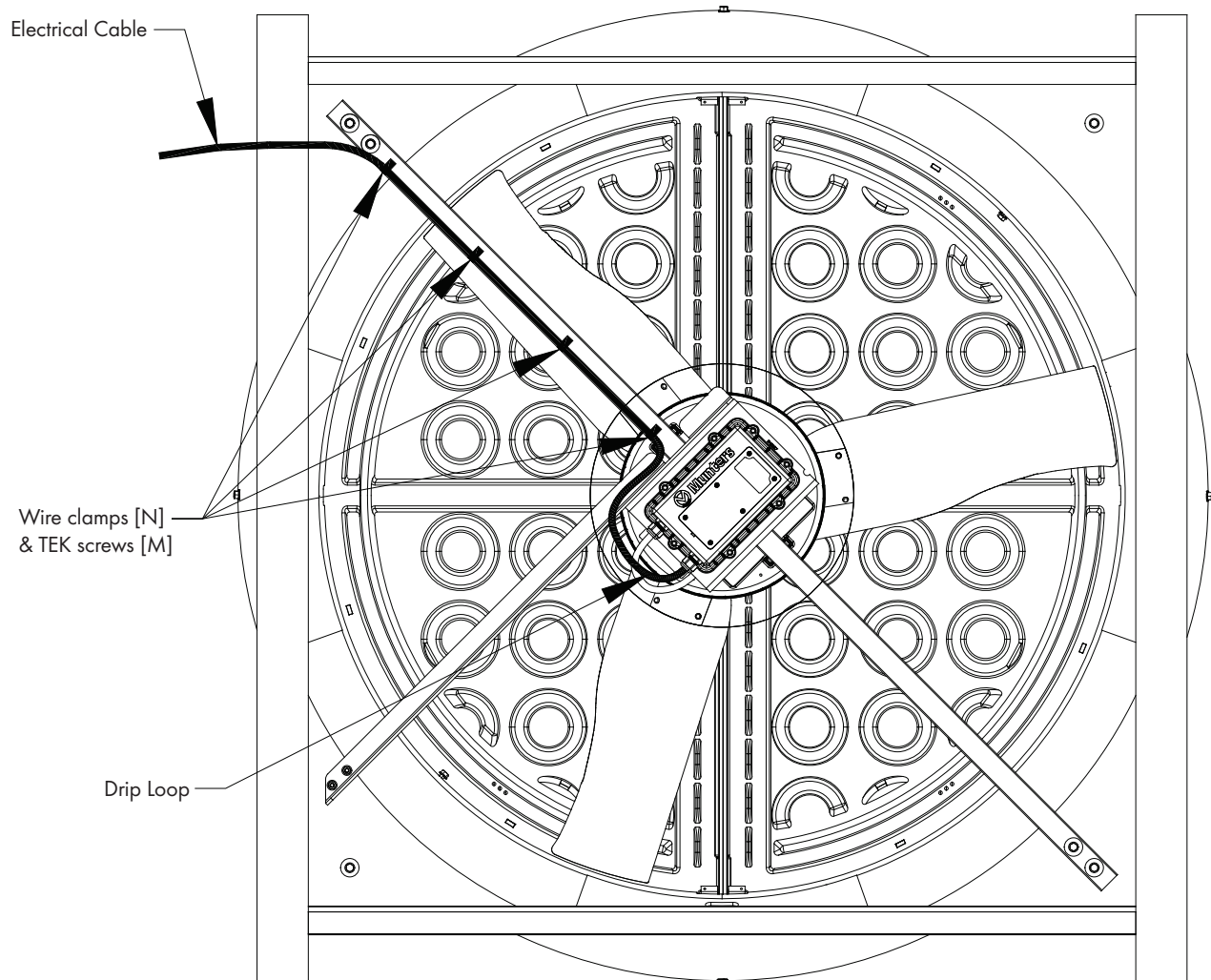


Figure 25A

WARNING: Fan is designed to be operated with shutter in place. Do not apply power to fan without shutter being installed.

3.2 Electrical Wiring



All wiring should be installed in accordance with National, State, and Local electrical codes. Fans used to ventilate livestock buildings or other rooms where continuous air movement is essential should be connected to individual electrical circuits, with a minimum of two circuits per room. For electrical connection requirements, refer to diagram on motor nameplate and to information enclosed with the environmental control to be used.

Single Phase and Three Phase Munters Drives: Power supply for fans to have Circuit Breaker or Fuse Protection. The installer must refer to NEC and local codes to ensure safety and compliance. See Figure 25B and 25C.

If recommended lightning protection was purchased, wire it to the fan power supply as shown and secure the lightning protection unit near the disconnect or the bus panel. See Figure 25B and 25C.

NOTE: A safety cut-off switch should be located adjacent to each fan.

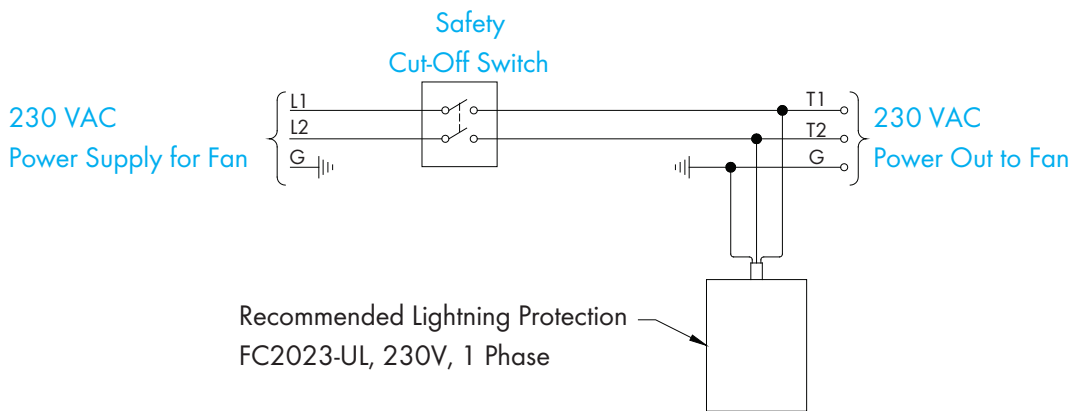


Figure 25B
Single Phase

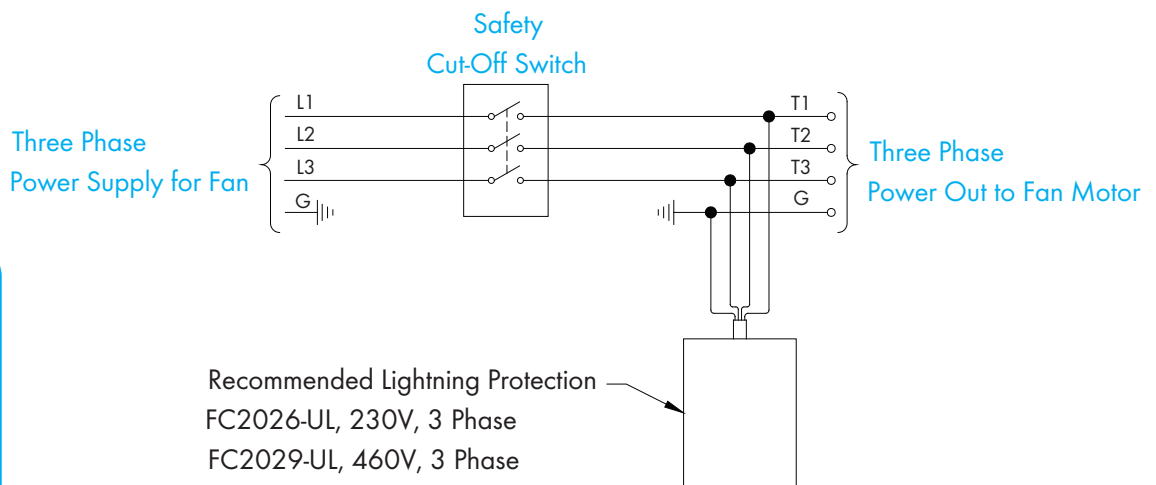


Figure 25C
Three Phase

KEY:

- L1=Line 1
- L2=Line 2
- L3=Line 3
- H=Hot
- N=Neutral
- G=Ground

3.3 Recommended Wiring

The Munters Drive fan ships configured for simple ON/OFF operation. When electrical power is applied to the main cable and the 'RUN' Switch is in the 'ON' Position, the fan will start and run at full speed.

See Figure 26A.

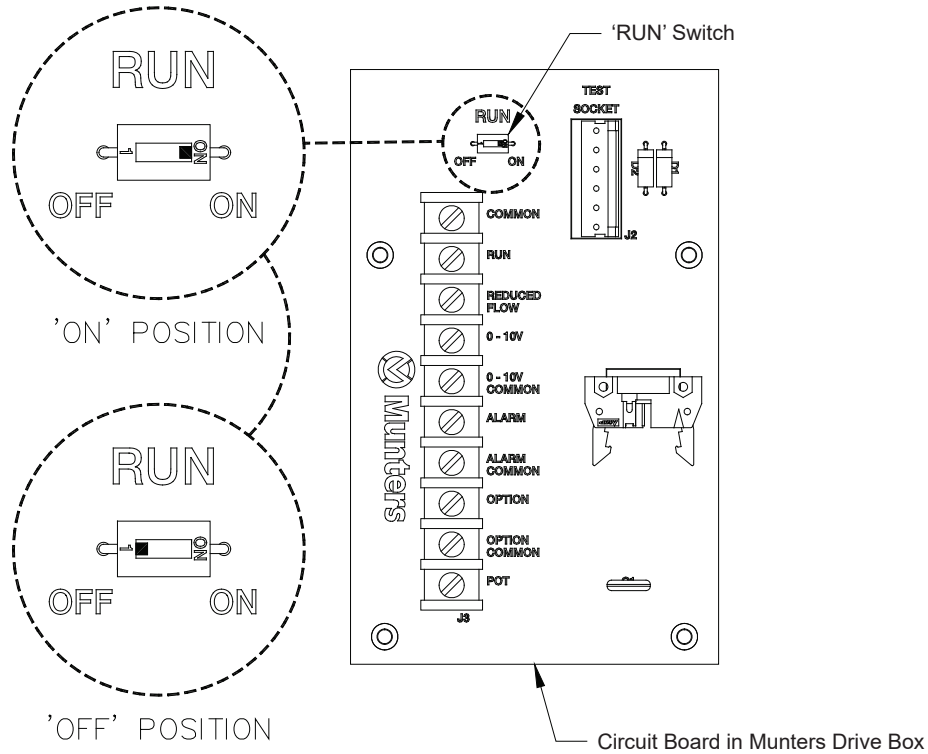


Figure 26A
Default Operation Full Speed

WARNING

The Blue Box electrical enclosure must not be removed from mounting bracket. Removing Blue Box from the mounting bracket will void the warranty. Any water or other damage to the controller will not be covered if the Blue Box is removed.

NOTE

All Low Voltage wire must be shielded cable. i.e. Belden 8770 or equivalent.

When making connections to Munters Drive Box, be sure to use the supplied watertight fittings with only 1 cable per fitting. If watertight fittings are not used or if 2 cables or more are in 1 watertight fitting, equipment failure from water damage will not be covered under warranty. If 2 or more cables are used in 1 watertight fitting, they must be sealed on both sides of Munters Drive Box wall to prevent water infiltration.

If you are going to run the Munters Drive with a signal from a control, carefully remove 6 screws and the cover and save to reinstall later. Carefully punch the knock-out from the bottom of the Munters Drive Box and install the Watertight connector as shown. See Figure 26B and 26C.

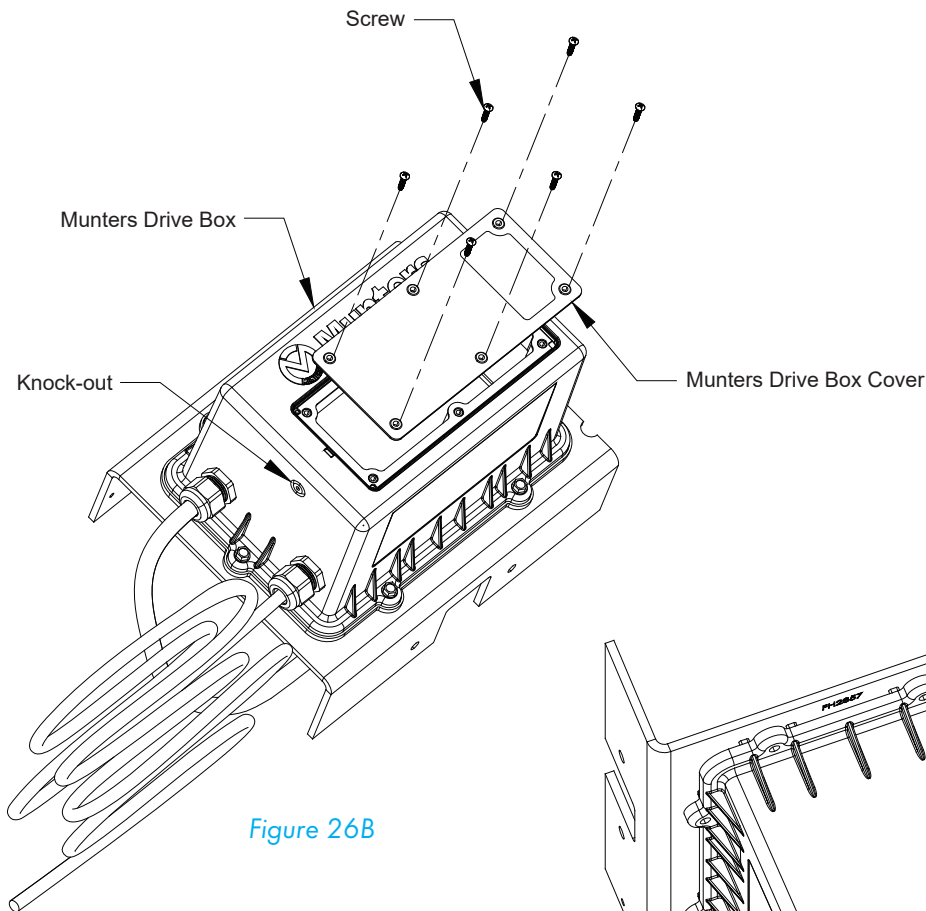


Figure 26B

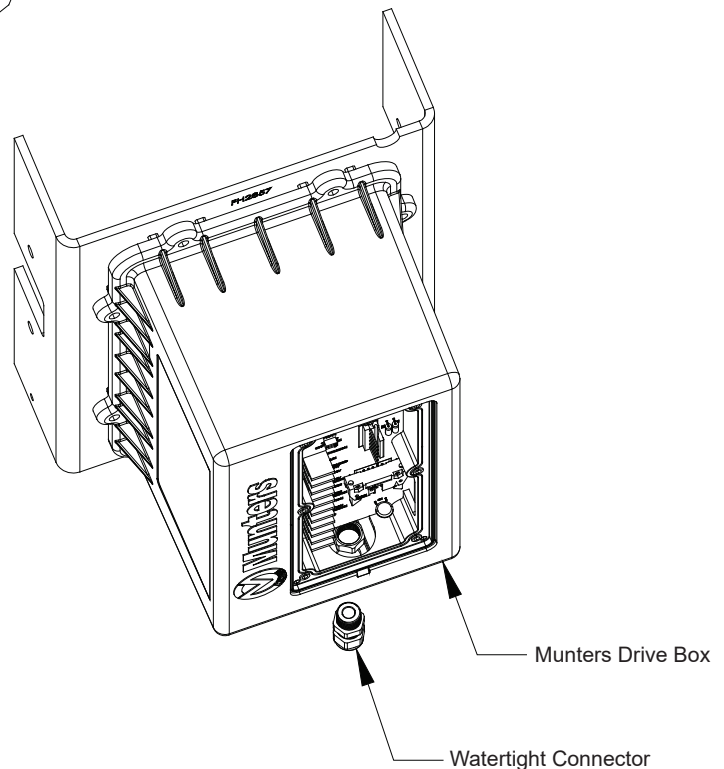


Figure 26C

To operate the Munters Drive On/Off with a control, Slide the 'RUN' switch, located on the circuit board in the Munters Drive Box, to the 'OFF' position. Now wire an 'ON' command from the 'COMMON' terminal to the input relay in the control and from the output of the control relay to the 'RUN' terminal in the Munters Drive Box. See Figure 26A & 26D.

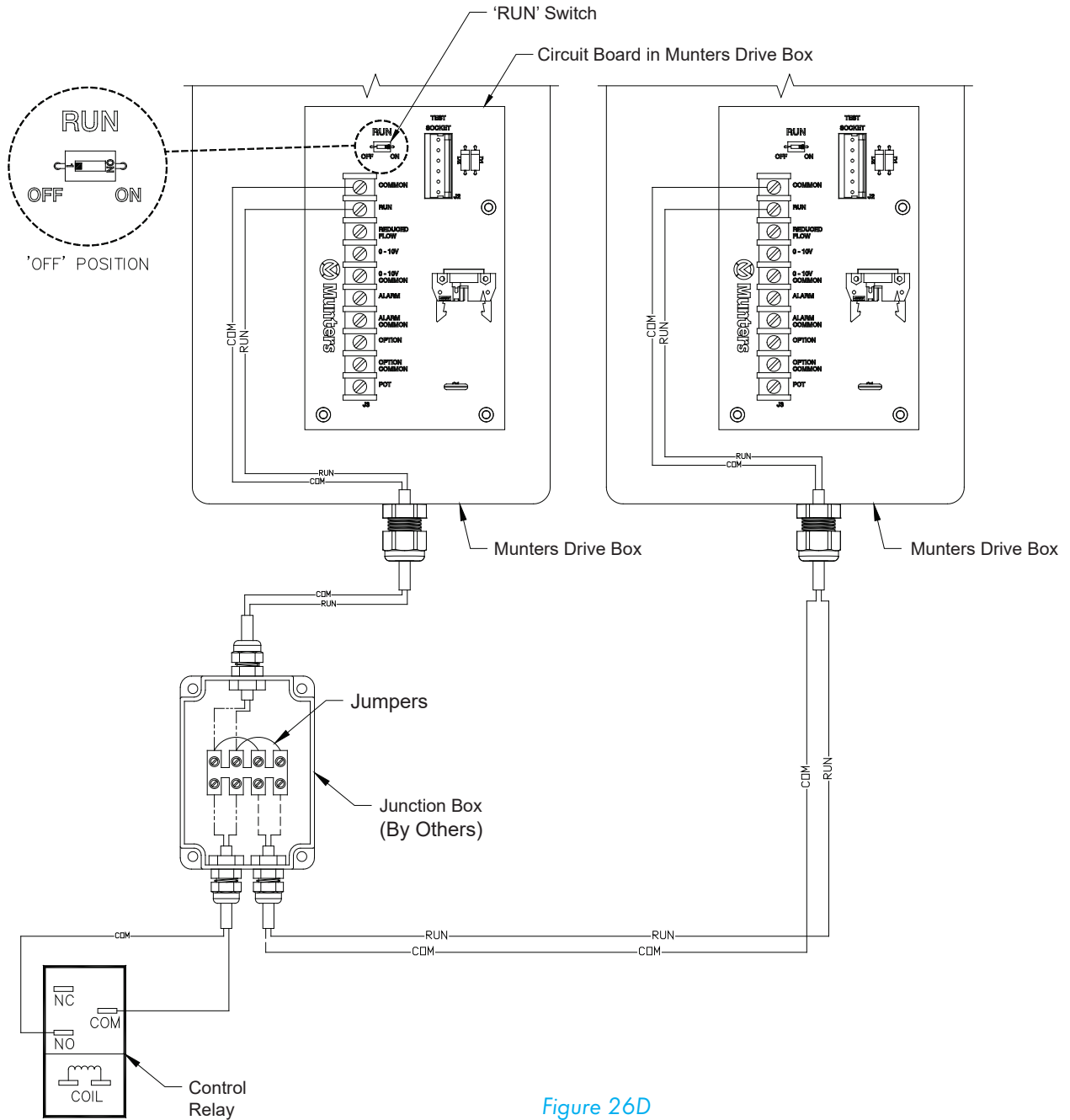


Figure 26D
On/Off Remotely

*****WARNING*****

The Blue Box electrical enclosure must not be removed from mounting bracket. Removing Blue Box from the mounting bracket will void the warranty. Any water or other damage to the controller will not be covered if the Blue Box is removed.

*****NOTE*****

All Low Voltage wire must be shielded cable. i.e. Belden 8770 or equivalent.

To operate the Munters Drive Off/Low/High with a control, slide the 'RUN' switch, located on the circuit board in the Munters Drive Box, to the 'OFF' position. Now wire an 'ON' command from the 'COMMON' terminal to the input relay in the control and from the output of the relay to the 'RUN' terminal in the Munters Drive Box. Then connect the output of the control relay for 'LOW' to the 'REDUCED FLOW' terminal in the Munters Drive Box. See Figure 26E.

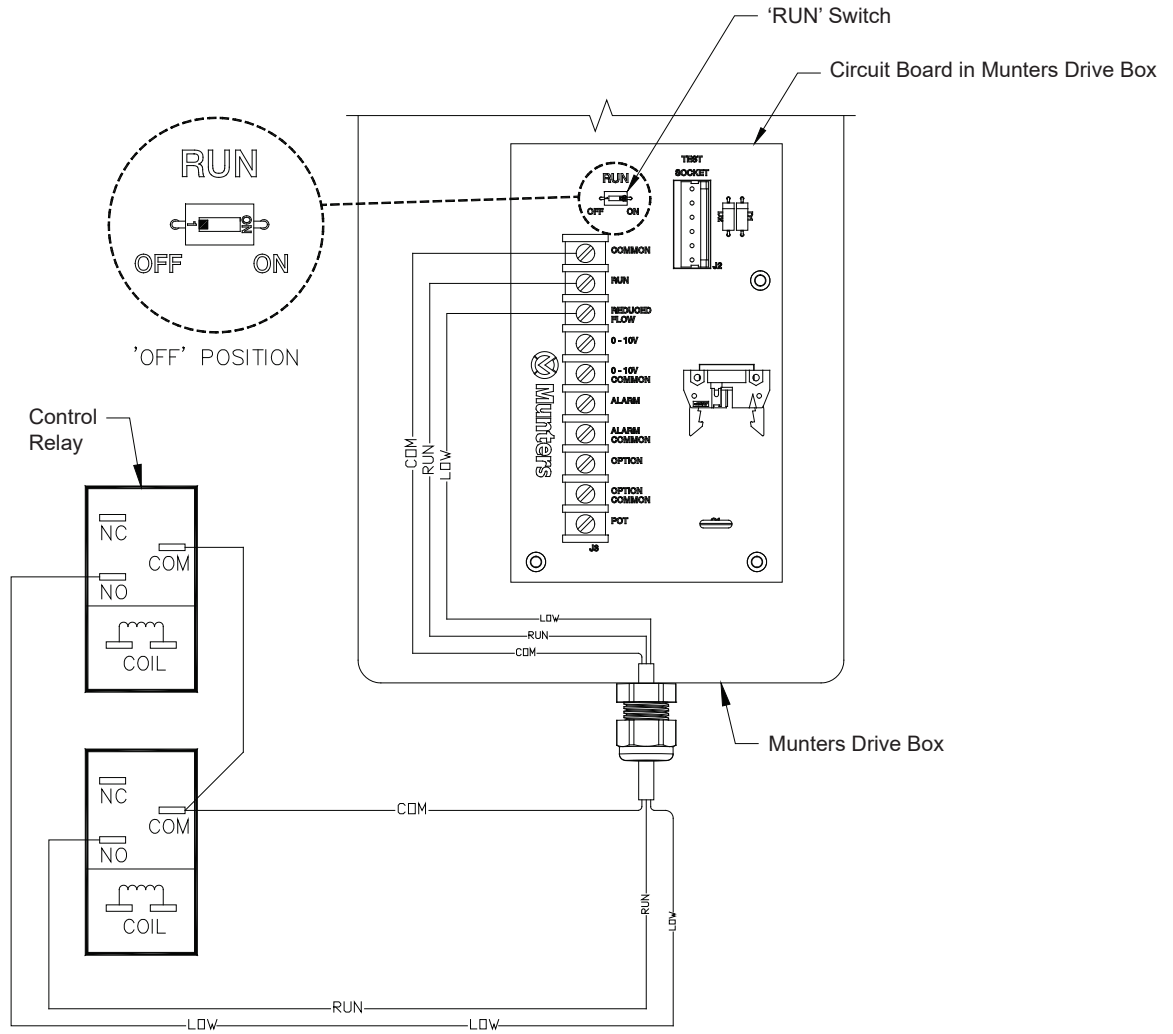


Figure 26E
Off/Low/High Remotely

*****WARNING*****

The Blue Box electrical enclosure must not be removed from mounting bracket. Removing Blue Box from the mounting bracket will void the warranty. Any water or other damage to the controller will not be covered if the Blue Box is removed.

*****NOTE*****

All Low Voltage wire must be shielded cable. i.e. Belden 8770 or equivalent.

To Operate the Munters Drive variable with a 10-0V Signal, slide the 'RUN' switch, located on the circuit board in the Munters Drive Box, to the 'ON' position. Connect wires from the '0-10V IN' and '0-10V COMMON' terminals in the Munters Drive Box to the 10-0V output in the control. See Figure 26F.

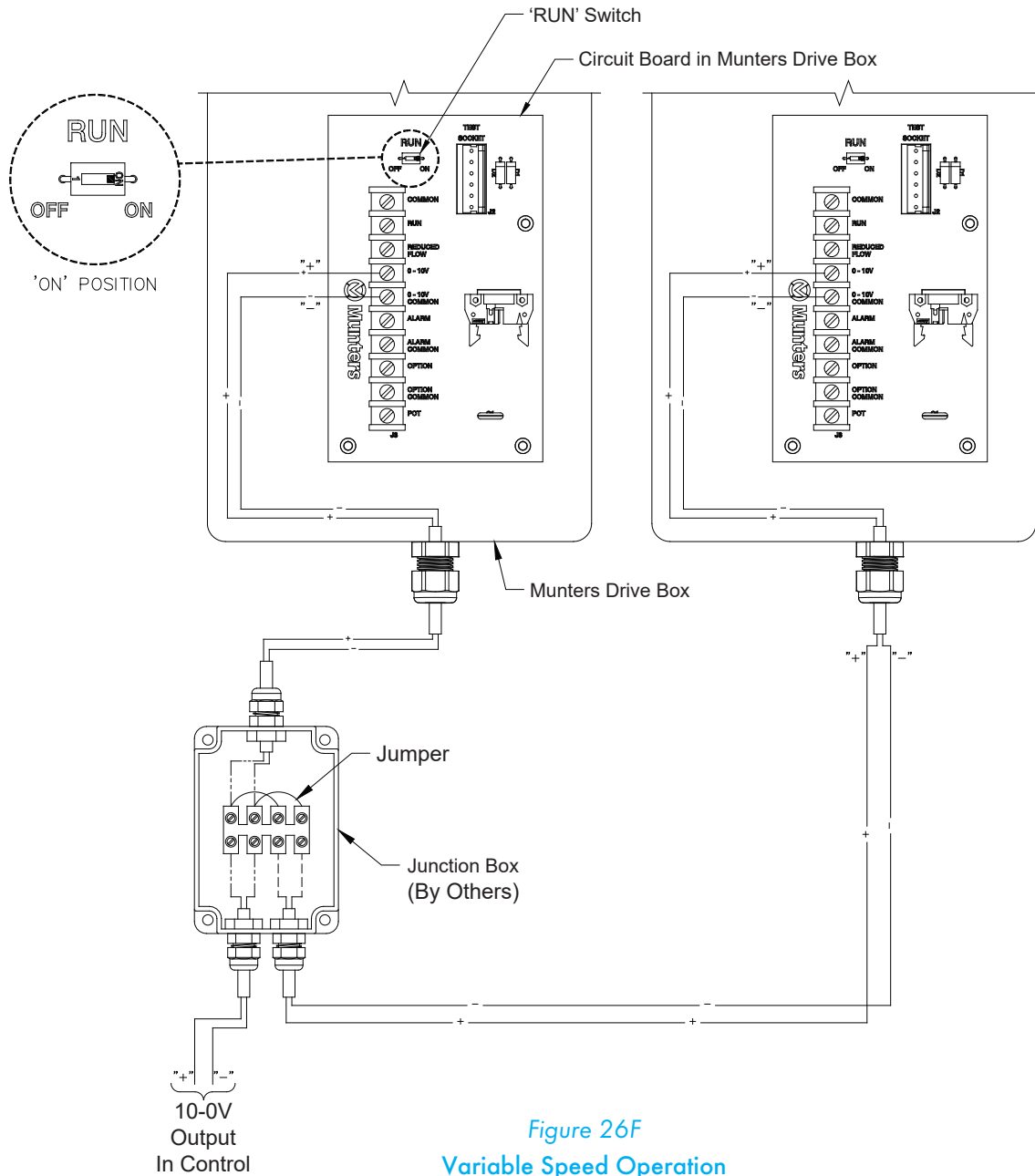


Figure 26F
Variable Speed Operation

*****WARNING*****

The Blue Box electrical enclosure must not be removed from mounting bracket. Removing Blue Box from the mounting bracket will void the warranty. Any water or other damage to the controller will not be covered if the Blue Box is removed.

*****NOTE*****

All Low Voltage wire must be shielded cable. i.e. Belden 8770 or equivalent.

To operate the Munters Drive Off/Variable with a 10-0V Signal, slide the 'RUN' switch, located on the circuit board in the Munters Drive Box, to the 'OFF' position. Now wire an 'ON' command from the 'COMMON' terminal to the input relay in the control and from the output of the control relay to the 'RUN' terminal in the Munters Drive Box. Also, connect wires from the '0-10V IN' and '0-10V COMMON' terminals in the Munters Drive Box to the 10-0V output in the control. See Figure 26G.

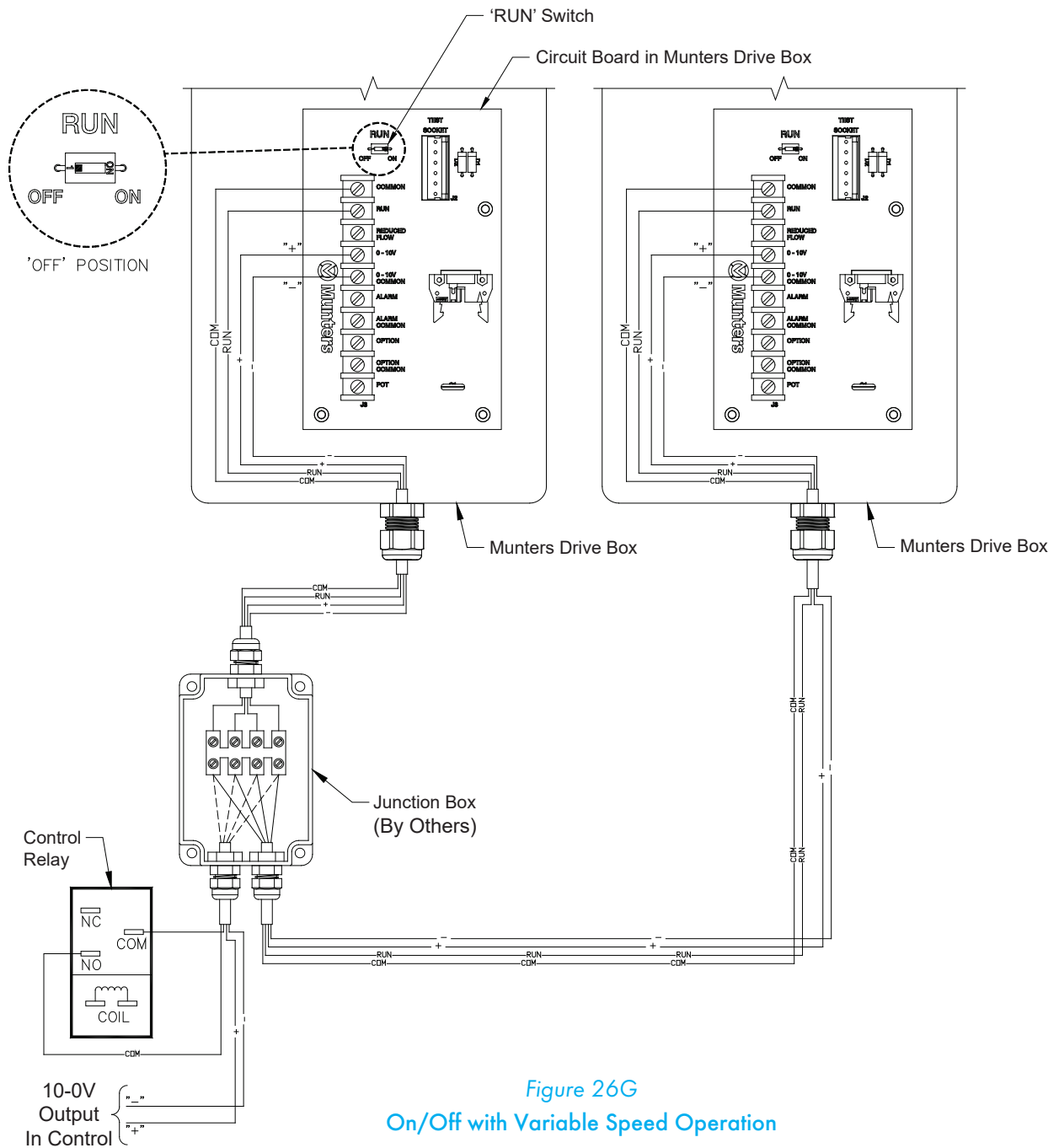


Figure 26G
On/Off with Variable Speed Operation

WARNING: Fan is designed to be operated with shutter in place. Do not apply power to fan without shutter being installed.

4.1 Operation

- 1) **INITIAL START-UP:** With electrical power off, verify that the fan propeller turns freely and that all fasteners are secure. Turn on electrical power and confirm that the fan operates smoothly.
- 2) **ADJUSTMENTS:** Set the fan control to the temperature shown on your Aerotech ventilation system drawing, or to a value which will provide the desired environmental conditions.



4.2 Maintenance

The following inspection and cleaning procedures should be performed monthly:

- 1) **INSPECT PROPELLER:** Check that propeller is secure on drive hub and that there are no signs of damage. The blades are of a self-cleaning design and should not require maintenance.
- 2) **CLEAN** regularly for best results:
 - **FAN MOTOR:** Remove any dust accumulation from motor using a brush or cloth. (DO NOT use a pressure washer). A clean motor will run cooler and last longer. At the same time, verify that the motor is secure in its mount.
 - **DAMPER:** Carefully clean dust from damper door and frame so that damper door opens and closes freely. A brush or cloth should be used.
 - **GUARD:** Clean any dust or feathers from fan guards using a brush. Dirty guards can reduce airflow.
- 3) **CHECK FASTENERS:** For safety, all fasteners should be inspected 1 month after initial operation and yearly thereafter. Tighten any loose connections.
- 4) **INSPECT FAN CONTROL:** With power disconnected, inspect all electrical connections. Wiring should be secure and in good condition. Remove any dust build-up from control case and sensor using a soft brush or cloth. **NEVER CLEAN ELECTRICAL EQUIPMENT WITH A PRESSURE WASHER!**



5.1 Troubleshooting



SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
<ul style="list-style-type: none"> Fan Not Operating 	<ul style="list-style-type: none"> Fan control set above room temperature Blown Fuse or open circuit breaker Propeller blade contacting fan housing Fan control defective (i.e. environmental control, etc.) 	<ul style="list-style-type: none"> Set to a lower temperature Replace fuse or reset breaker Realign motor in fan housing Repair or replace control
<ul style="list-style-type: none"> Fan Does Not Start Caution: There is a 10 second delay for the fan to start when an 'On' command is present. 	<ul style="list-style-type: none"> Munters Drive motor/controller issue 	<ol style="list-style-type: none"> Verify AC voltage is present at fan. Turn AC power off to fan for 1 minute Verify Prop turns freely <ol style="list-style-type: none"> If not contact Munters Product Support If it turns freely go to next step Turn AC power back on to fan <ol style="list-style-type: none"> If starts up and runs, fan OK <ul style="list-style-type: none"> Periodically observe fan to verify it is still running If it continues to run, fan is OK If fan stops, look through clear window in drive cover to check what drive display reads. Contact Munters Product Support If fan tries to start but stops, look through clear window in drive cover to check what drive display reads. Contact Munters Product Support If fan doesn't try to start, verify 'On' command signal is present at circuit board. Also, slide the switch on the circuit board to the 'On' position.
<ul style="list-style-type: none"> Fan Operating - Insufficient Airflow 	<ul style="list-style-type: none"> Shutter or Damper door jammed Guard dirty/clogged 10-0V signal set incorrectly 	<ul style="list-style-type: none"> Clean shutter or damper door Clean guard Check and adjust 10-0V signal
<ul style="list-style-type: none"> Excessive Noise 	<ul style="list-style-type: none"> Propeller blade contacting fan housing 	<ul style="list-style-type: none"> Sand fan housing to remove high spot
<ul style="list-style-type: none"> Excessive Vibration 	<ul style="list-style-type: none"> Motor loose on mount Propeller damaged 	<ul style="list-style-type: none"> Tighten fasteners Replace propeller

6.1 Winterizing

In most climates, it is probable that the ventilation system will never need to operate at a total capacity during the colder winter months. Consequently, it is advisable to “winterize” those fans which will not be used in cold weather to avoid unnecessary heat loss and condensation.

To winterize, turn fan control “off”. Install the insulated closure panel over the fan intake. If you don’t have an insulated closure panel, a piece of rigid insulation material can be used. Remember the insulation panel must be removed before warmer weather returns.

NOTE: At least one single speed fan should be left uncovered and with power available to provide air movement in the event of variable speed control difficulties.

6.2 Winter Weather Protection

To prevent cone or fan damage from snow or ice sliding off building roof, weather protection must be provided. A weather shelter may be constructed to cover the entire fan, *See Figure 22*, or snow guards may be placed on the roof, *See Figure 23*.

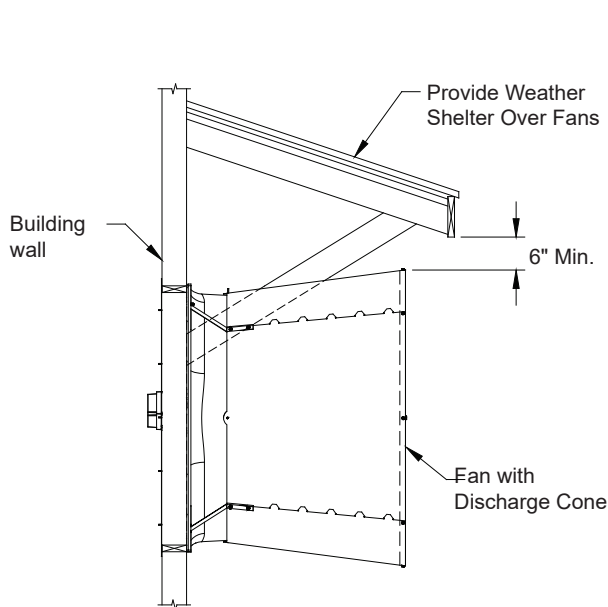


Figure 22

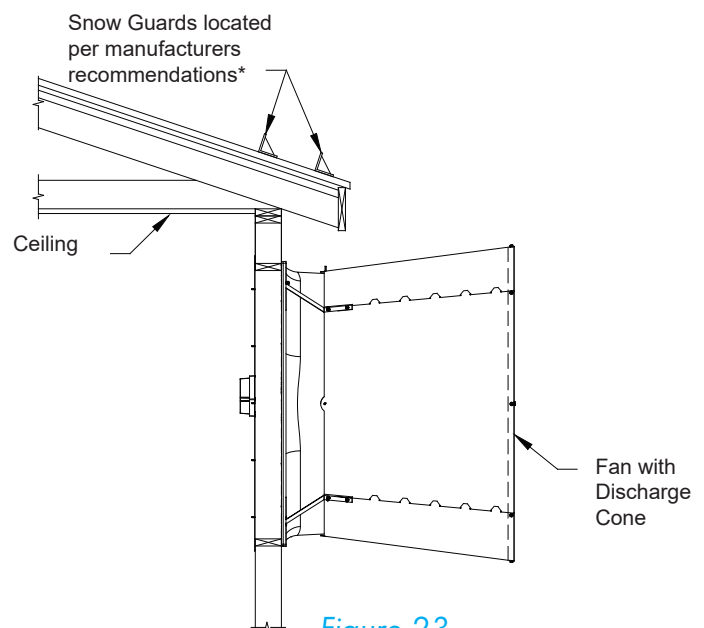


Figure 23

* Snow Guard Suppliers

Company Name	Phone No.	Fax No.	Web Site
Snojax, Inc.	800-766-5291	717-697-2452	www.snojax.com
Polar Blox	800-298-4328	814 629-9090	www.polarblox.com
LM Curbs	800-284-1412	903 759-3598	www.lmcurbs.com
Alpine Snow Guards	888-766-4273	888-766-9994	www.alpinesnowguards.com

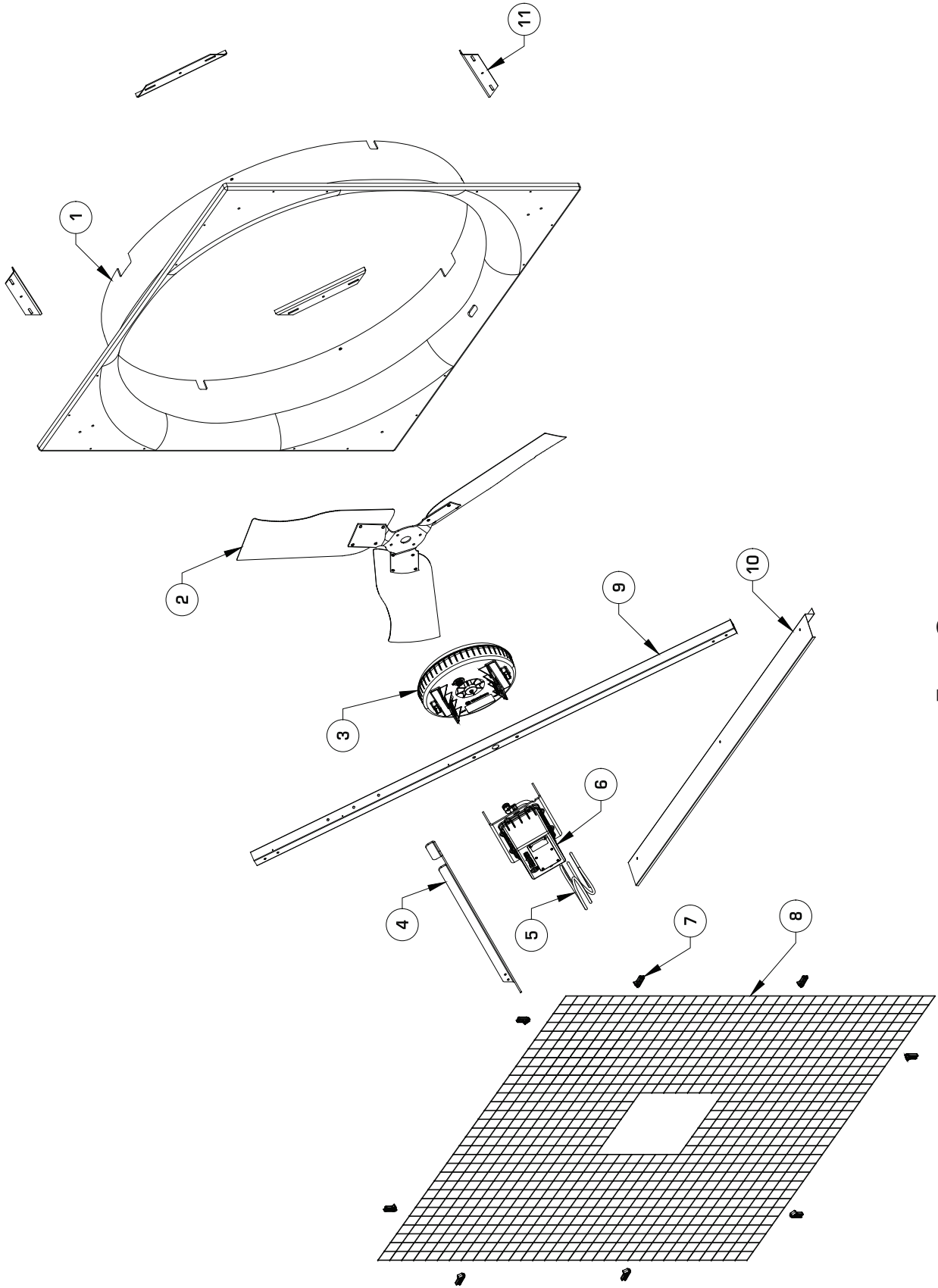
IMPORTANT

Munters Product and System Warranties do not cover cone or fan damage from external sources.

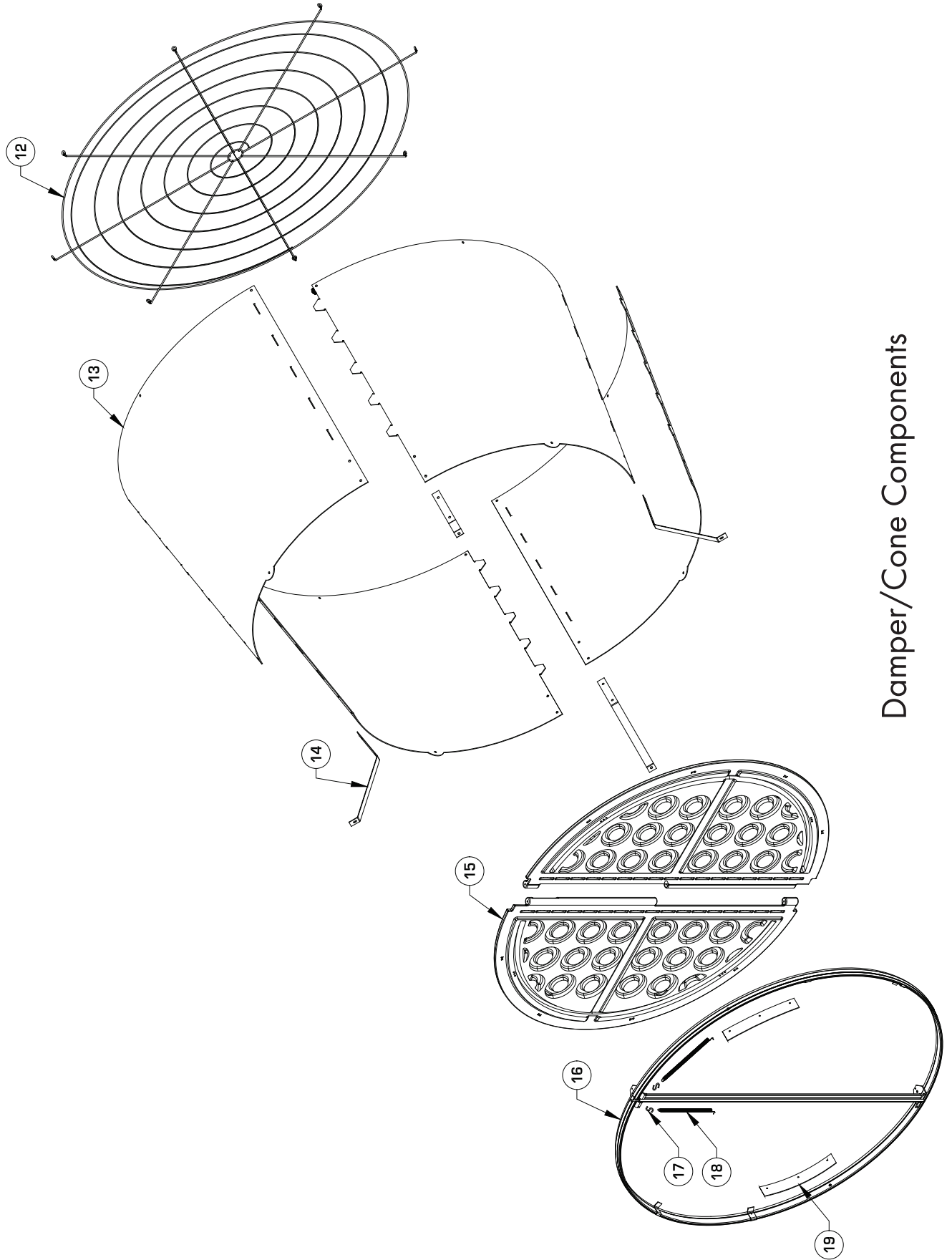
Note: Snow guards are designed to prevent sudden, dangerous snow and ice slides when attached to the building roof according to manufacturers recommendations. The supplier listing above is given as a reference only. Aerotech does not endorse any specific snow guard product and no performance warranty is implied.

Exploded View

7.



Fan Components



Damper/Cone Components

Catalog No.			
Item	WM54DK	Part Name/Description	Qty.
1	FH1654	Orifice Panel, FG	1
2	FP2454	Prop Assembly, 3-blade, GZ	1
3	Various*	Motor for Munters Drive, less controller	1
4	FH1990	Strut Brace, 39.19"L., PWDCTD	1
5	KE2535	Cable, Power, 1ph Munters Drive Controller, 16/3,144"L	1
	KE2536	Cable, Power, 3ph Munters Drive Controller, 16/4,144"L	1
6	Various*	Controller, WM Munters Drive	1
7	FH1968	1-Hole Pivoting Shutter Clip, BLK PL	8
8	FH1341	Inlet Guard, 2" x 2" mesh, GZ	1
9	FH1675	Tube Strut, Center, PWDCTD	1
10	FH1659	Drip Shield Plate, AL	1
11	FH1980	Cone/Strut Mounting Bracket, GZ	4
12	FH6454	Outlet Guard, Round, CTD BLK	1
13	FH4655	Discharge Cone with Tabs, PL	4
14	FH2431	Cone Support Bracket, GC type, GZ	4
15	FA2054	Door Assembly w/ Latch, PL	1
16	FA2854	Main Frame Assembly, AL	1
17	KX1059	1" S-Hook, 1/16" Wire, SS	2
18	KX1466	Tension Spring, 0.5"OD x 10.8"L, SS	2
19	FH1365	Wing Add-on Kit, 2 Wings w/ Hardware	1

*Contact office for replacement part numbers for your fan configuration.

WM Munters Drive Fans are developed and produced by Munters Corporation, Lansing, Michigan U.S.A. 1-800-227-2376



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