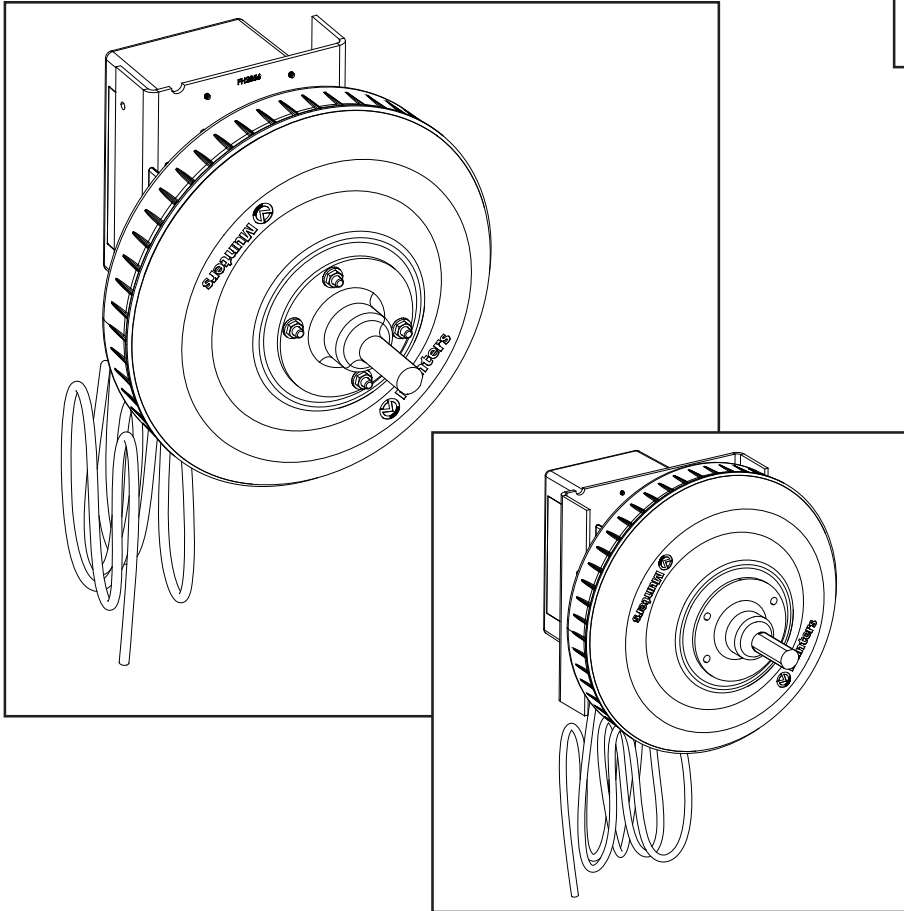


# Instruction Manual



**“MD”  
Munters Drive \***  
Motor & Controller  
Replacement kit  
for AX and VX Fans

\*Patents Pending

## “MD” Munters Drive

Motor and Controller Replacement Kit

Models: MD-AX51xx-Hx • MD-VX36xx-Hx •

MD-VX48xx-Hx • MD-VX51xx-Hx • MD-VX55xx-Hx



# MD - Munters Drive

## Motor & Controller Replacement Kit

### Instructions for Use and Maintenance

#### Thank You:

Thank you for purchasing a “MD” motor & controller replacement kit. 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

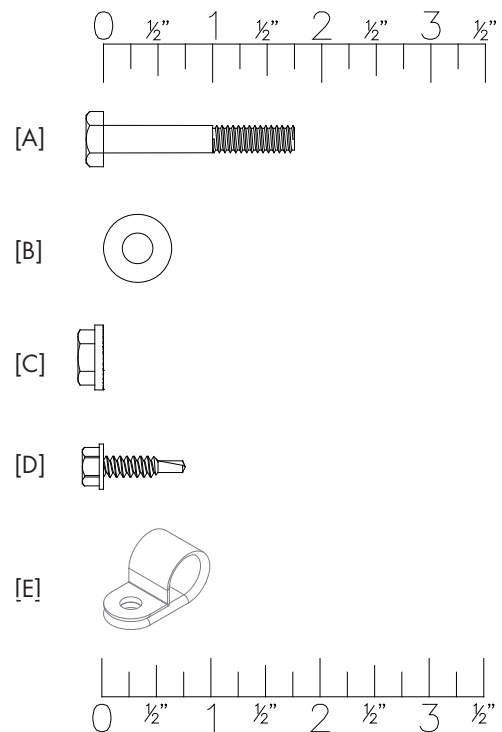
Before beginning installation, check the overall condition of the equipment. Remove packing materials, and examine all components for signs of shipping damage. Any shipping damage is the customer's responsibility and should be reported immediately to your freight carrier. Fan is shipped complete with all accessories. Remove shutter, guard and cone sections before proceeding with installation.

### Each "MD" Munters Drive Kit Includes:

- 1 - Munters Drive Motor
- 1 - Munters Drive Controller
- 1 - Hardware Package As Follows:

#### HP1321 - Hardware Package for "MD" Kit

ID	Qty.	Cat. No.	Description
[A]	12	KS1006	1/4"-20 x 1.75" Hex Head Bolt, SS
[B]	12	KW3002	1/4" Type-A Narrow Flat Washer, SS
[C]	12	KN0702	1/4"-20 Serrated Flange Hex Nut, SS
[D]	4	KS2258	#10-16 x 5/8" HXWSR TEK Screw, SS
[E]	4	KX1018	3/8" Dia. X 1/2"W. Wire Clamp, BLK NY



# Installation Instructions

# 2.

## 2.1 Fan Installation

### Step 1

Disconnect power from fan before continuing. Remove the shutter from the back of the fan and set safely aside to be reinstalled later. [See Figure 1.](#)

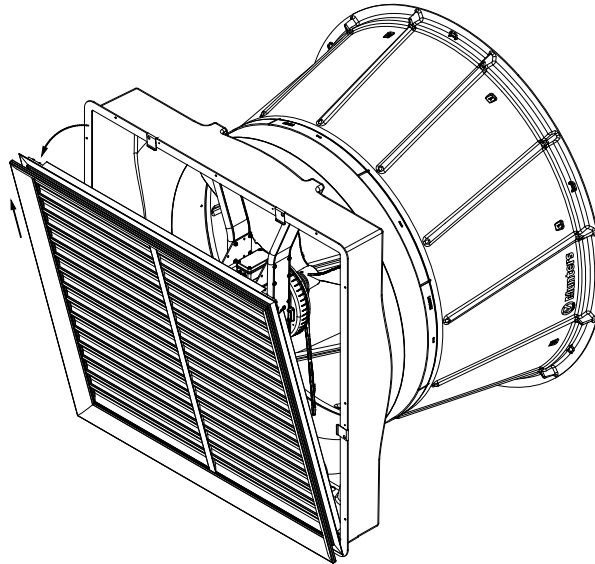


Figure 1

### Step 2

Remove cover from small junction box and make a note of and/or mark how the incoming control wire is wired and then disconnect control wire and remove it from junction box. Disconnect electrical cable that is pre-wired to the controller from the incoming power supply. [See Figure 2](#)

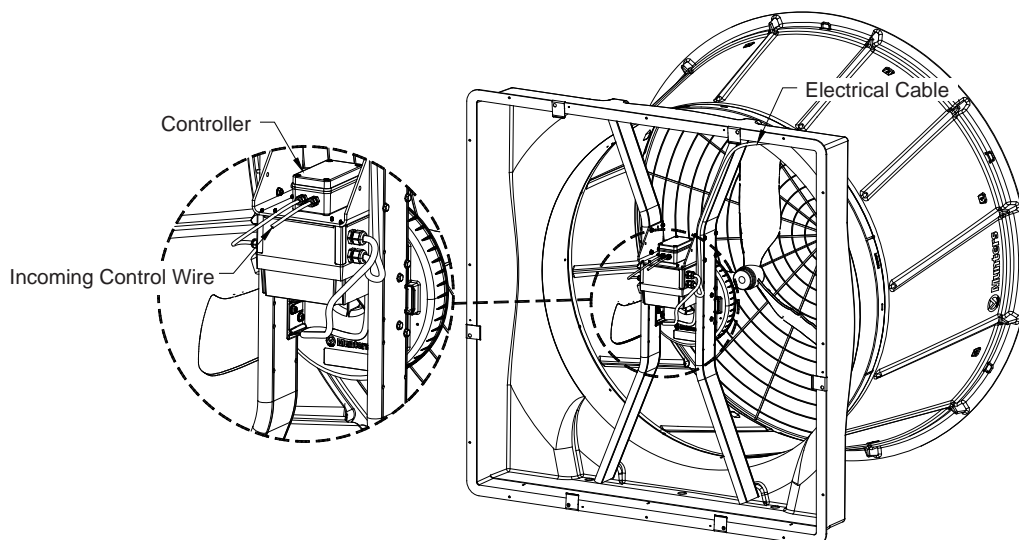


Figure 2

Step 3

Loosen the set screws holding the propeller to the shaft. Carefully remove the propeller from the fan and set safely into the cone to be reused. A gear puller or prop puller may need to be used. See Figure 3

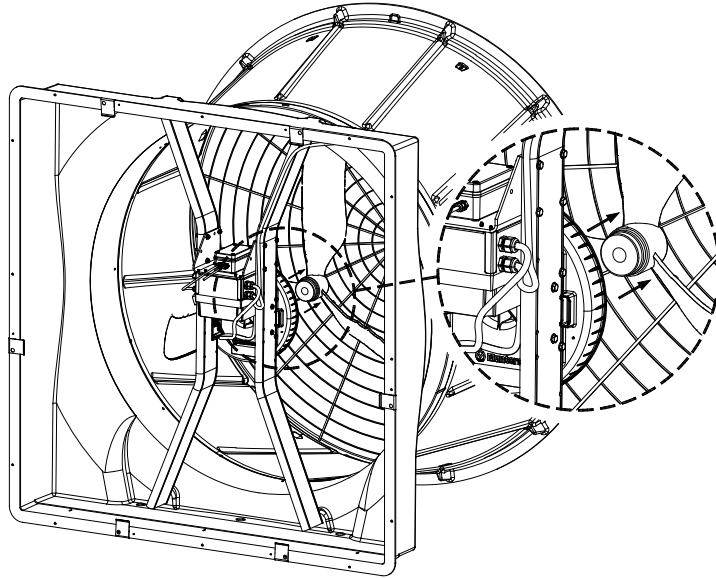


Figure 3

Step 4

Remove the 8 bolts and nuts holding the controller/heat sink bracket to the struts and disconnect quick connect cable from back of motor. Then carefully set controller aside. See Figure 4

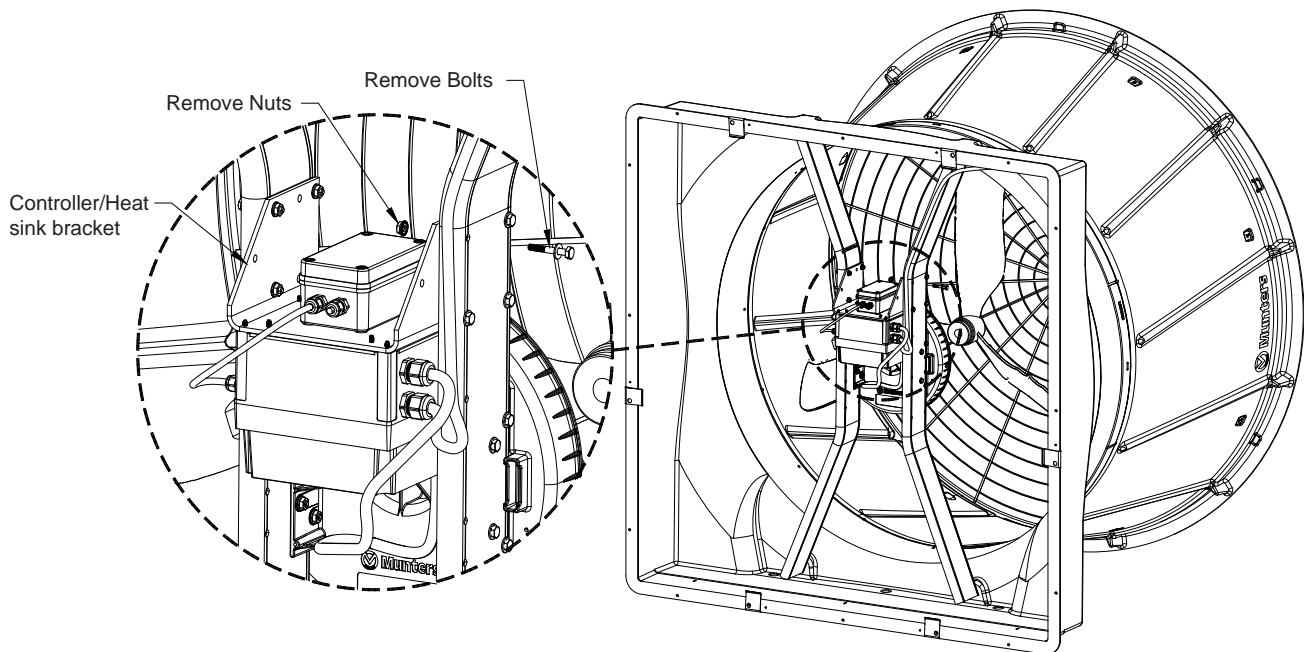
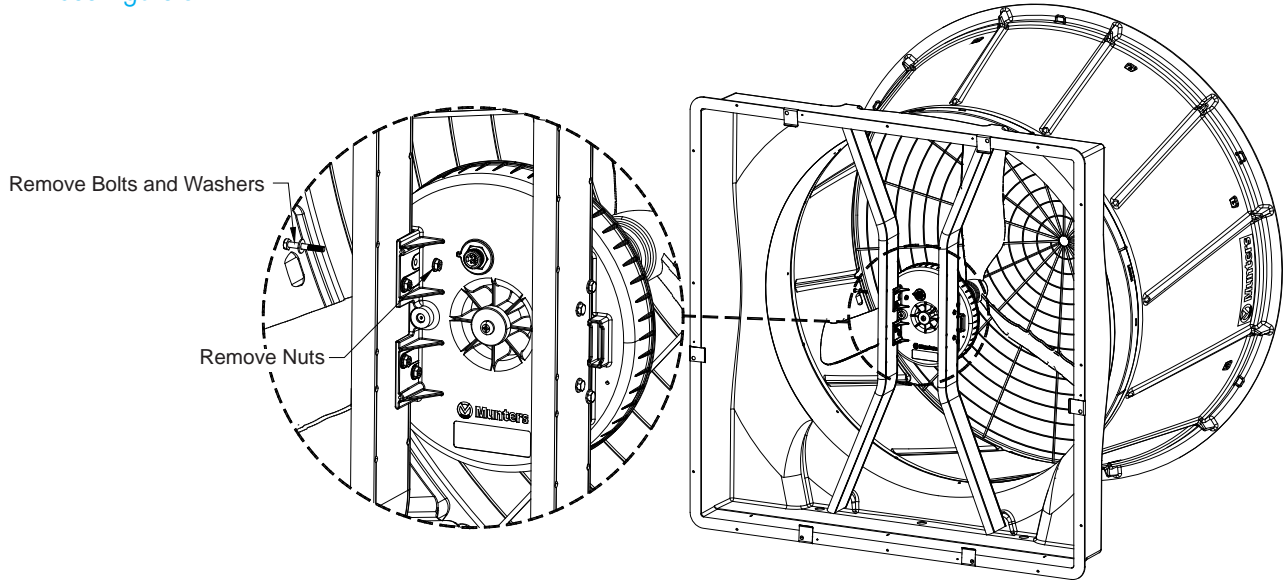


Figure 4

**Step 5**

Remove the motor from the struts by removing the 8 bolts and nuts holding the motor to the struts. Motor is heavy, make sure to support it while removing bolts so it does not fall and damage housing or motor.

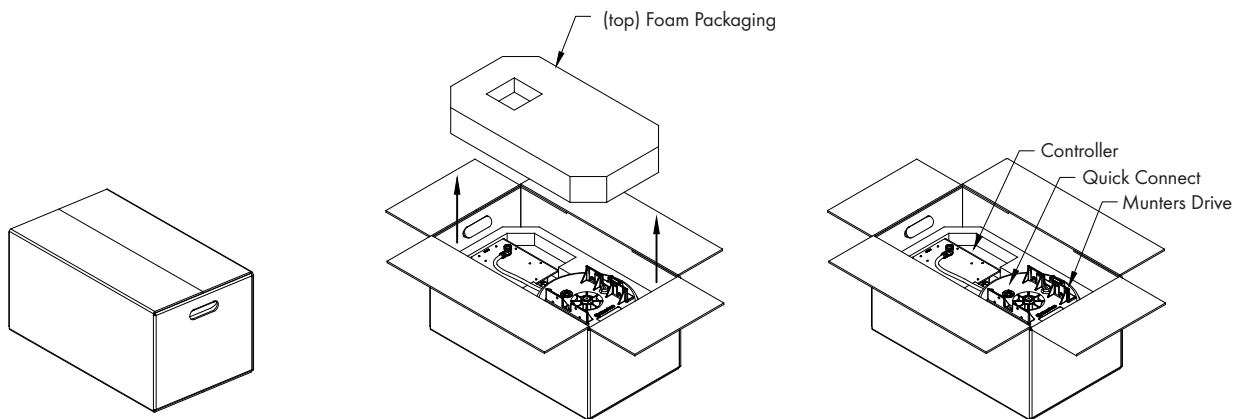
See [Figure 5](#)



**Figure 5**

**Step 6**

Locate 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. If the cable from the Controller is connected to the motor then disconnect the cable with the quick connector from the motor. See [Figure 6](#).



**Figure 6**

For AX51/VX51/VX55 Motor and Controller installation, proceed to **Step 7**.  
 For VX36/VX48 Motor and Controller installation, proceed to **Step 13**.

### 2.1 AX51/VX51/VX55 Motor Installation

#### Step 7

Carefully lift motor into place with the mounting flanges between the struts and secure in place using (8) Bolts [A], Washers [B] and Nuts [C]. See **Figure 7**.

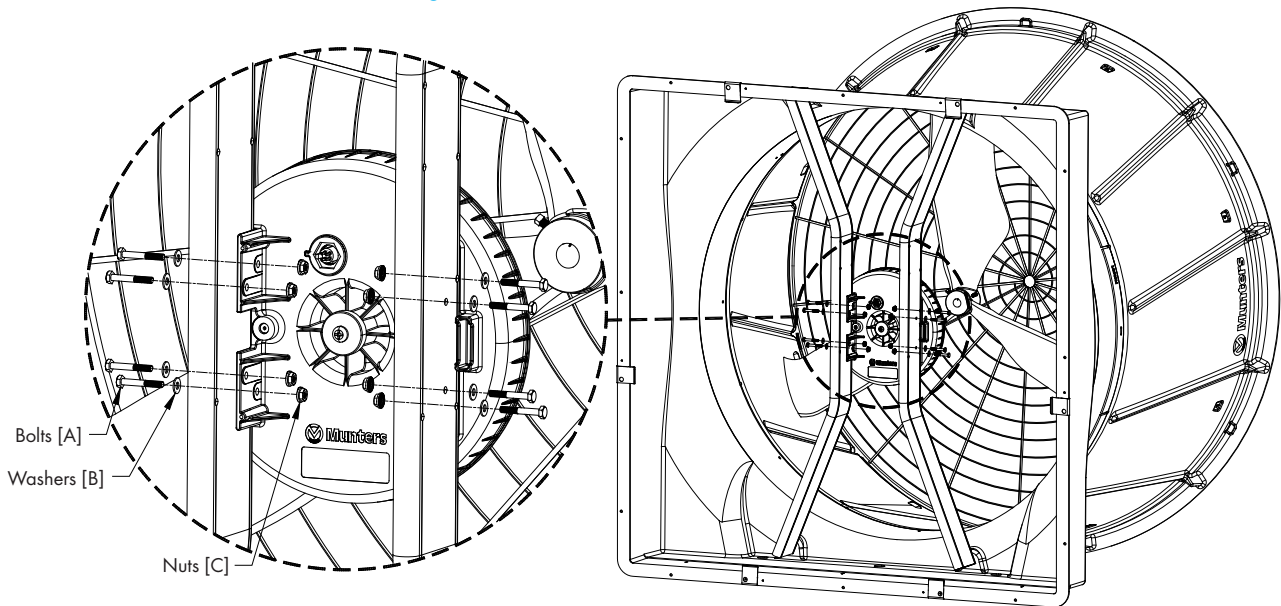


Figure 7

#### Step 8

Find the existing hole in each strut. Measure up 8" from existing hole and using the "V"-Groove as a guide drill a 1/32" hole through each strut. See **Figure 8**.

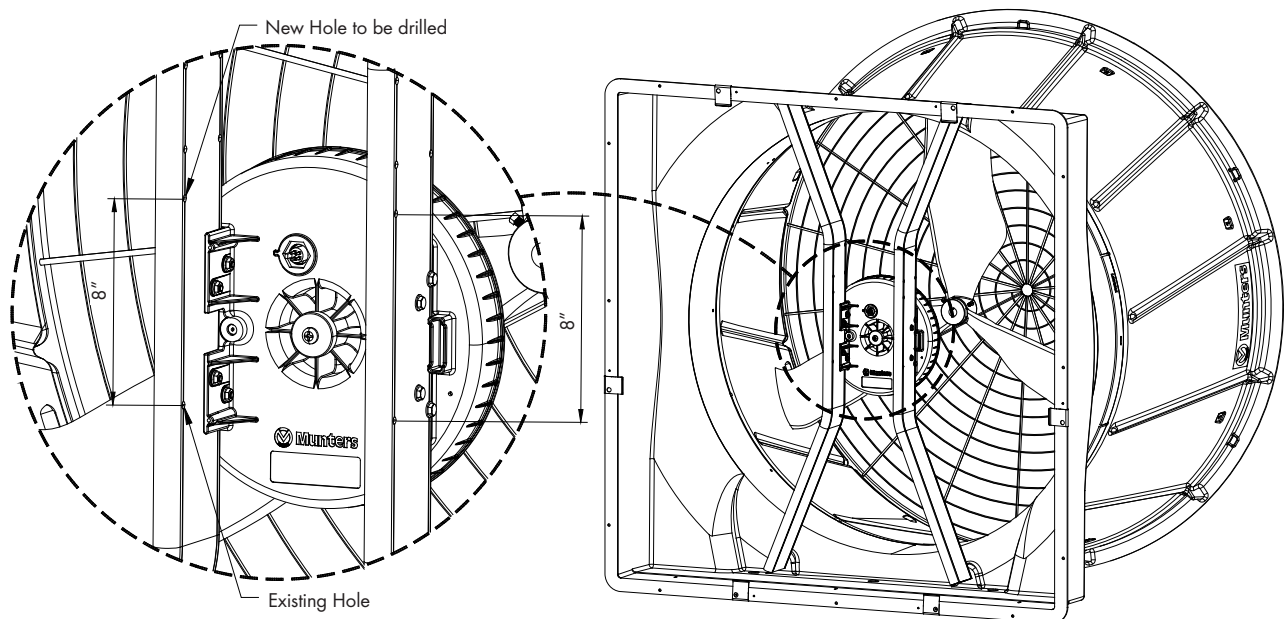


Figure 8



## 2.2 AX51/VX51/VX55 Controller Installation

### Step 9A

Carefully pull the Munters Drive controller out of the foam packaging and reconnect the quick connect connector to the motor. See [Figure 9A](#).

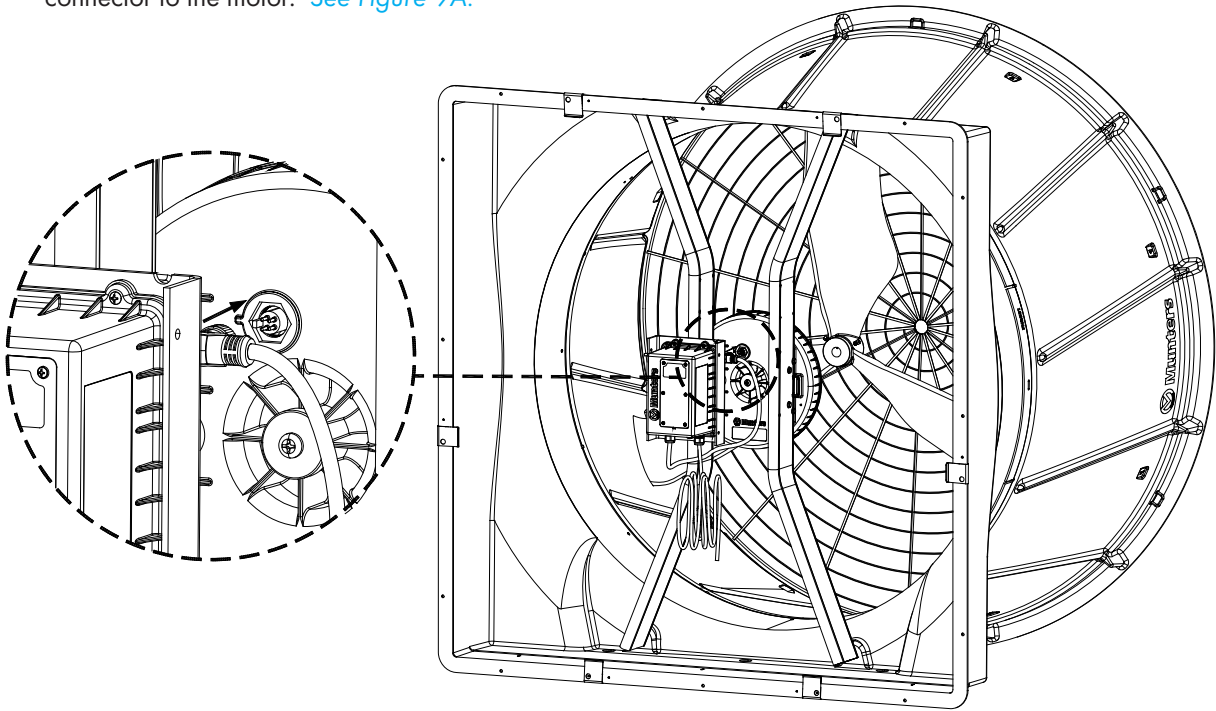


Figure 9A

### Step 9B

Slide the controller between the struts so that the 2 holes in each strut line up with the holes in each side of the controller bracket and fasten with (4) Bolts [A], Washers [B] and Nuts [C]. See [Figure 9B](#).

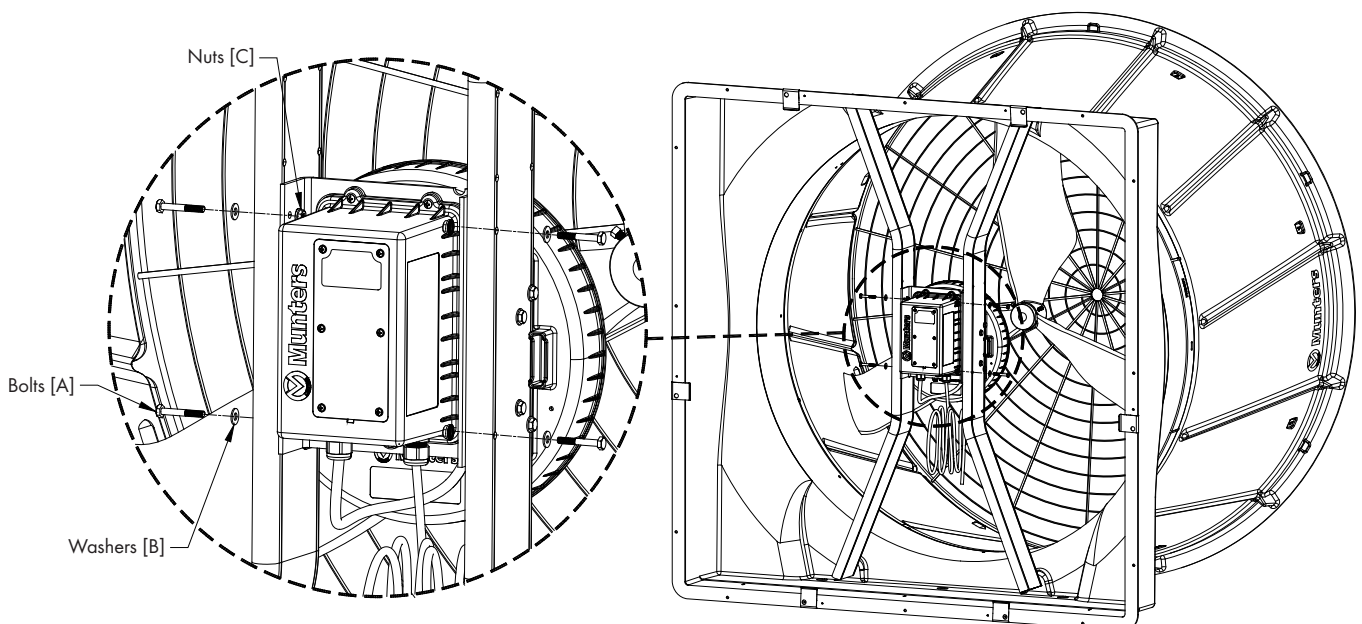


Figure 9B

**Step 10**

Reinstall the propeller onto the new shaft of the Munters Drive Motor making sure that the set screws in the prop line up with the flats on the shaft. Tighten the set screws to 150 in-lbs. of torque. [See Figure 10.](#)

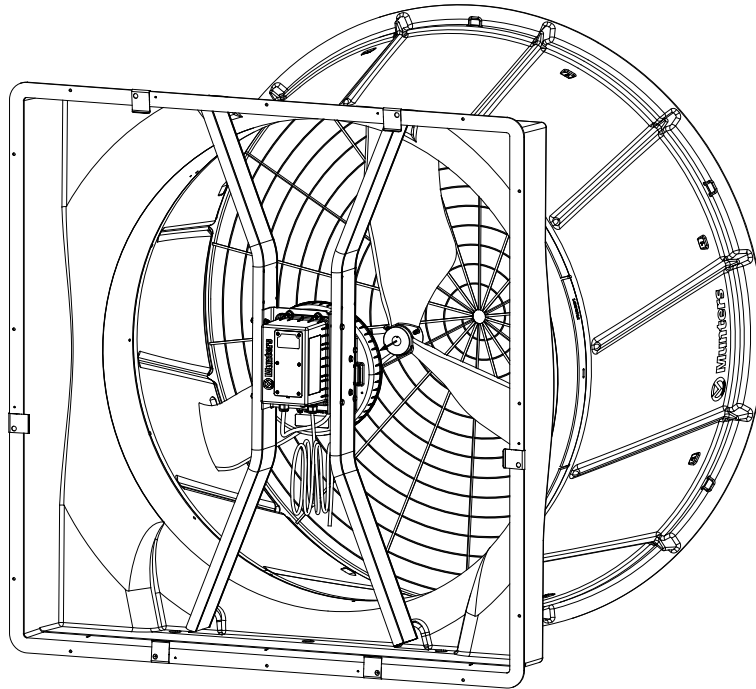


Figure 10

**Step 11**

The Munters Drive MD Kit comes with a coil of electrical cable that is pre-wired to controller. Determine where the existing power for fan enters housing and route the cable up or down the left or right strut toward the existing power. Create a drip loop in bottom of cable and then fasten it to the strut using (4) Wire Clamps [E] and TEK Screws [D]. Attach new cable to existing power supply for fan. [See Figure 11.](#)

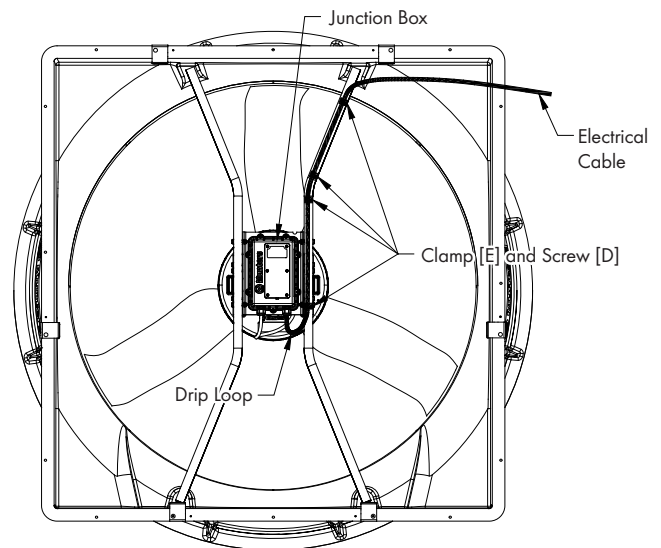


Figure 11

**Step 12**

Feed the existing control wire through the watertight fitting in the new junction box, refer to Chapter 3 for watertight fitting installation. Connect wire to terminals of circuit board as previously noted or follow steps in Chapter 3 for desired operation of Munters Drive Fan. If the existing control wire is not long enough to reach the watertight fitting, then use a junction box to extend the wire into the new box. The existing junction box may be used for this purpose. Attach either junction box to the strut.

## 2.3 VX36/VX48 Motor Installation

### Step 13

Carefully lift motor into place with the mounting flanges between the struts and secure in place using (4) Bolts [A], Washers [B] and Nuts [C] in the outer holes closest to the motor. [See Figure 13.](#)

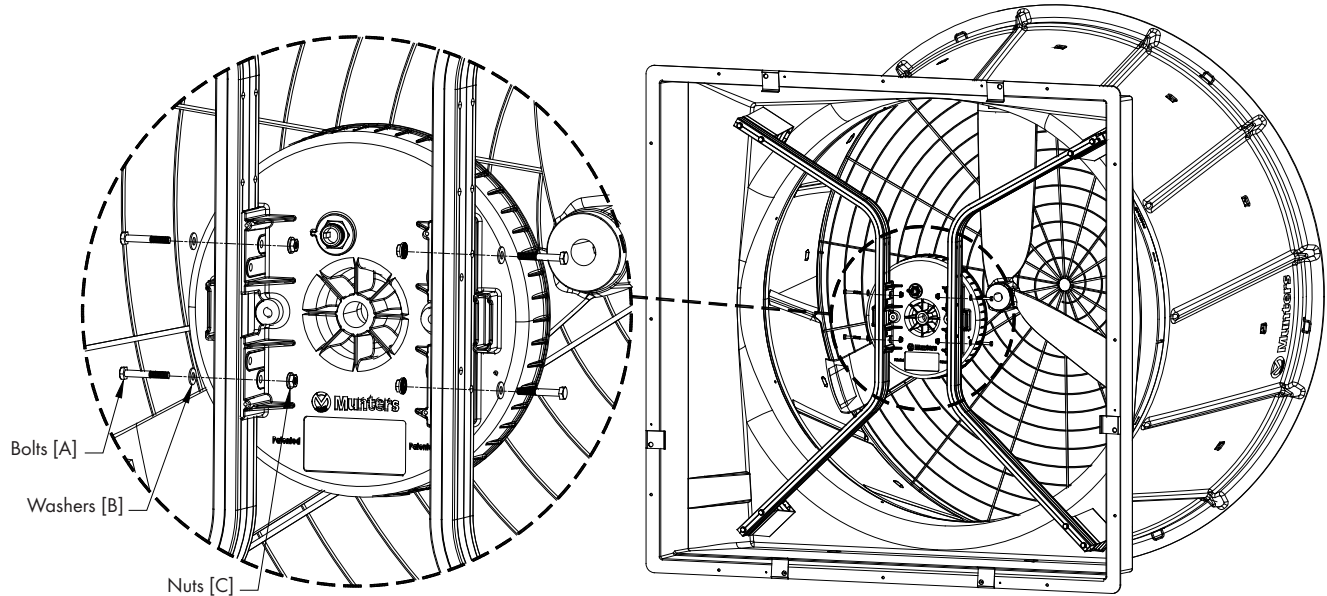


Figure 13

## 2.3 VX36/VX48 Controller Installation

### Step 14

Carefully pull the Munters Drive controller out of the foam packaging and reconnect the quick connect connector to the motor. Slide the controller with bracket over the struts so that the 2 holes in each strut line up with the holes in each side of the controller bracket and fasten with (4) Bolts [A], Washers [B] and Nuts [C]. [See Figure 14.](#)

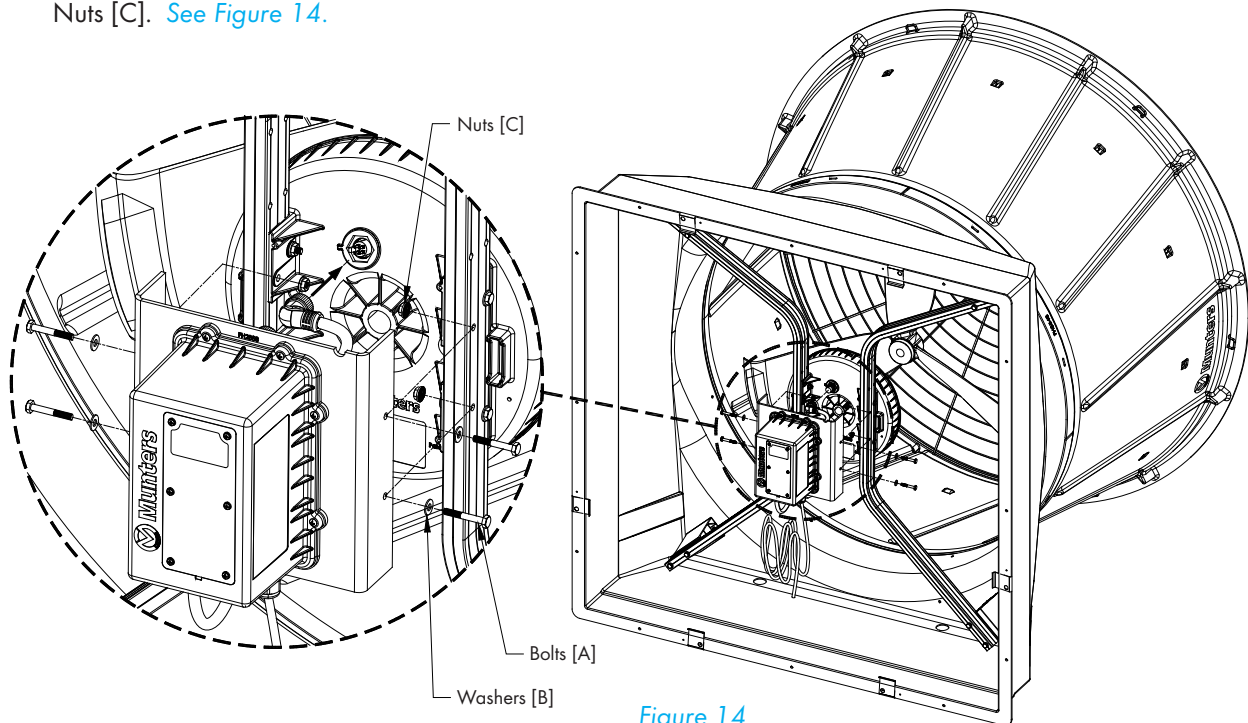
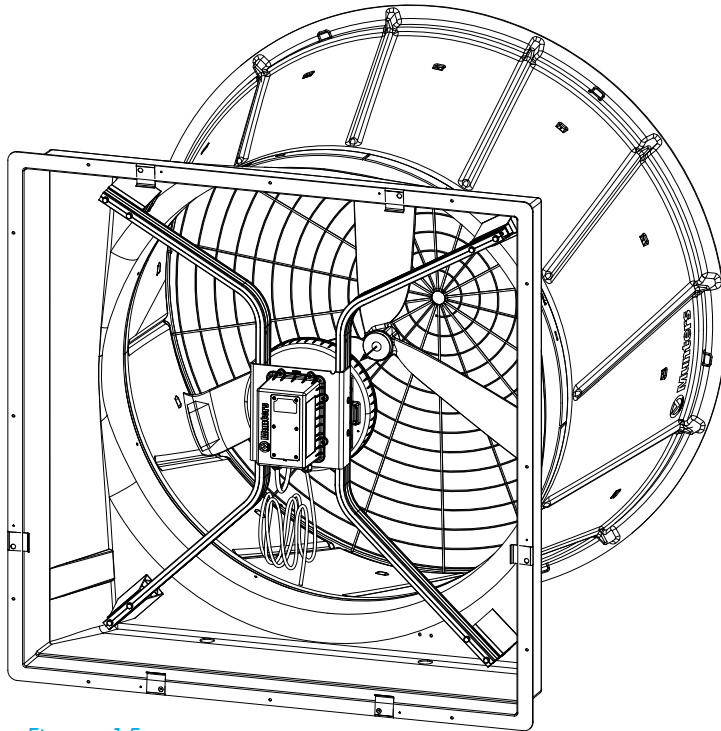


Figure 14

**Step 15**

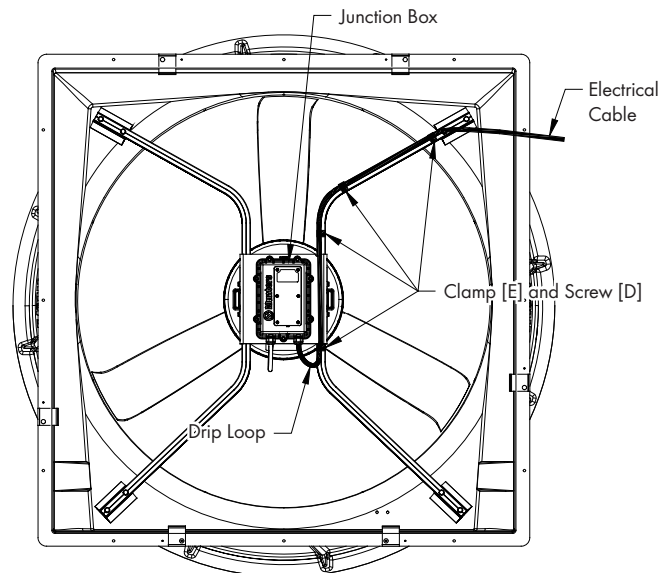
Reinstall the propeller onto the new shaft of the Munters Drive Motor making sure that the set screws in the prop line up with the flats on the shaft. Tighten the set screws to 150 in-lbs. of torque. [See Figure 15.](#)



**Figure 15**

**Step 16**

The Munters Drive MD Kit comes with a coil of electrical cable that is pre-wired to controller. Determine where the existing power for fan enters housing and route the cable up or down the left or right strut toward the existing power. Create a drip loop in bottom of cable and then fasten it to the strut using (4) Wire Clamps [E] and TEK Screws [D]. Attach new cable to existing power supply for fan. [See Figure 16.](#)



**Figure 16**

**Step 17**

Feed the existing control wire through the watertight fitting in the new junction box, refer to Chapter 3 for watertight fitting installation. Connect wire to terminals of circuit board as previously noted or follow steps in Chapter 3 for desired operation of Munters Drive Fan. If the existing control wire is not long enough to reach the watertight fitting, then use a junction box to extend the wire into the new box. The existing junction box may be used for this purpose. Attach either junction box to the strut.

## 3.1 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 17A.

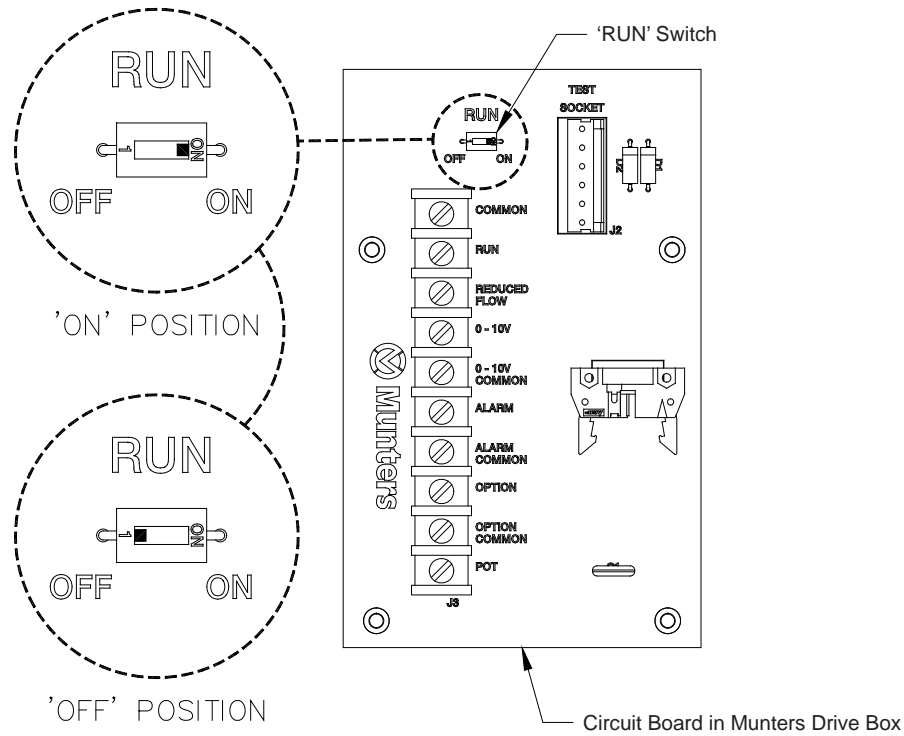


Figure 17A  
Default Operation Full Speed

### \*\*\*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 17B and 17C.

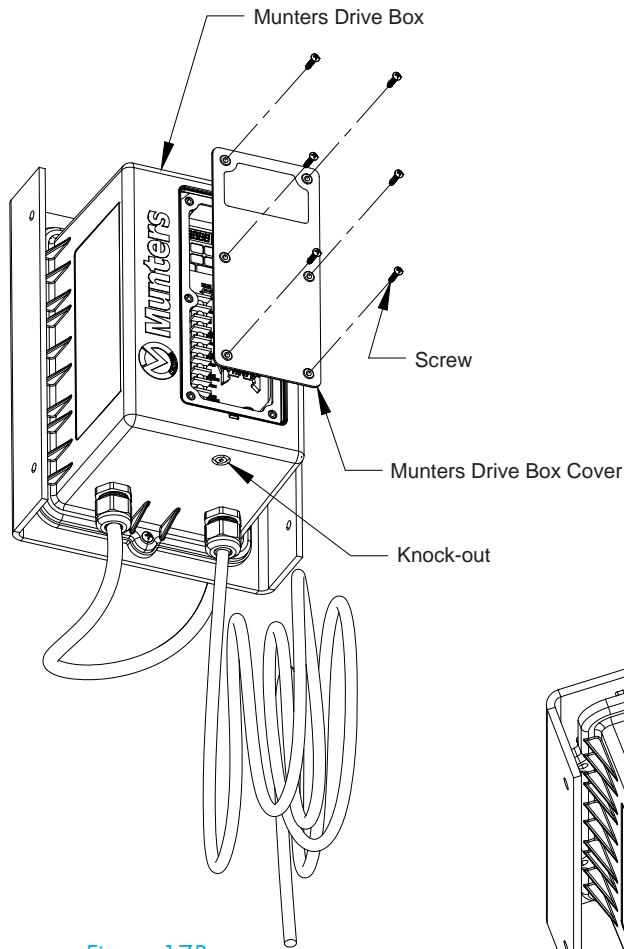


Figure 17B

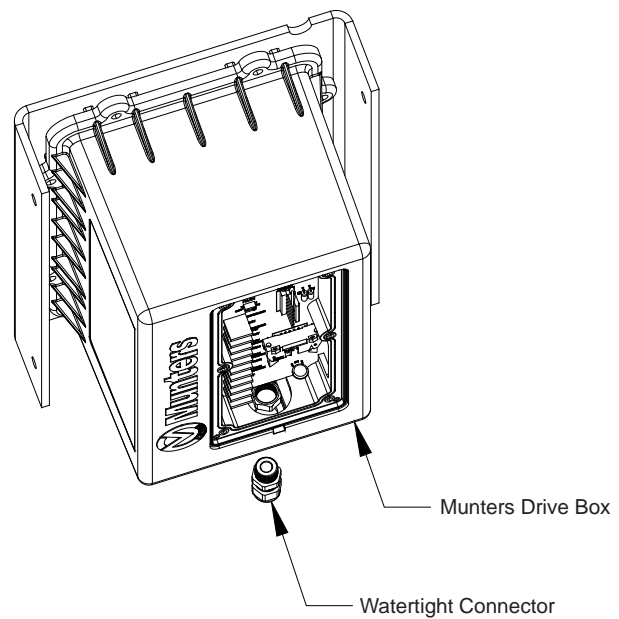


Figure 17C



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 of the relay in the control and from the output of the control relay to the 'RUN' terminal in the Munters Drive Box. See Figure 17A and 17D.

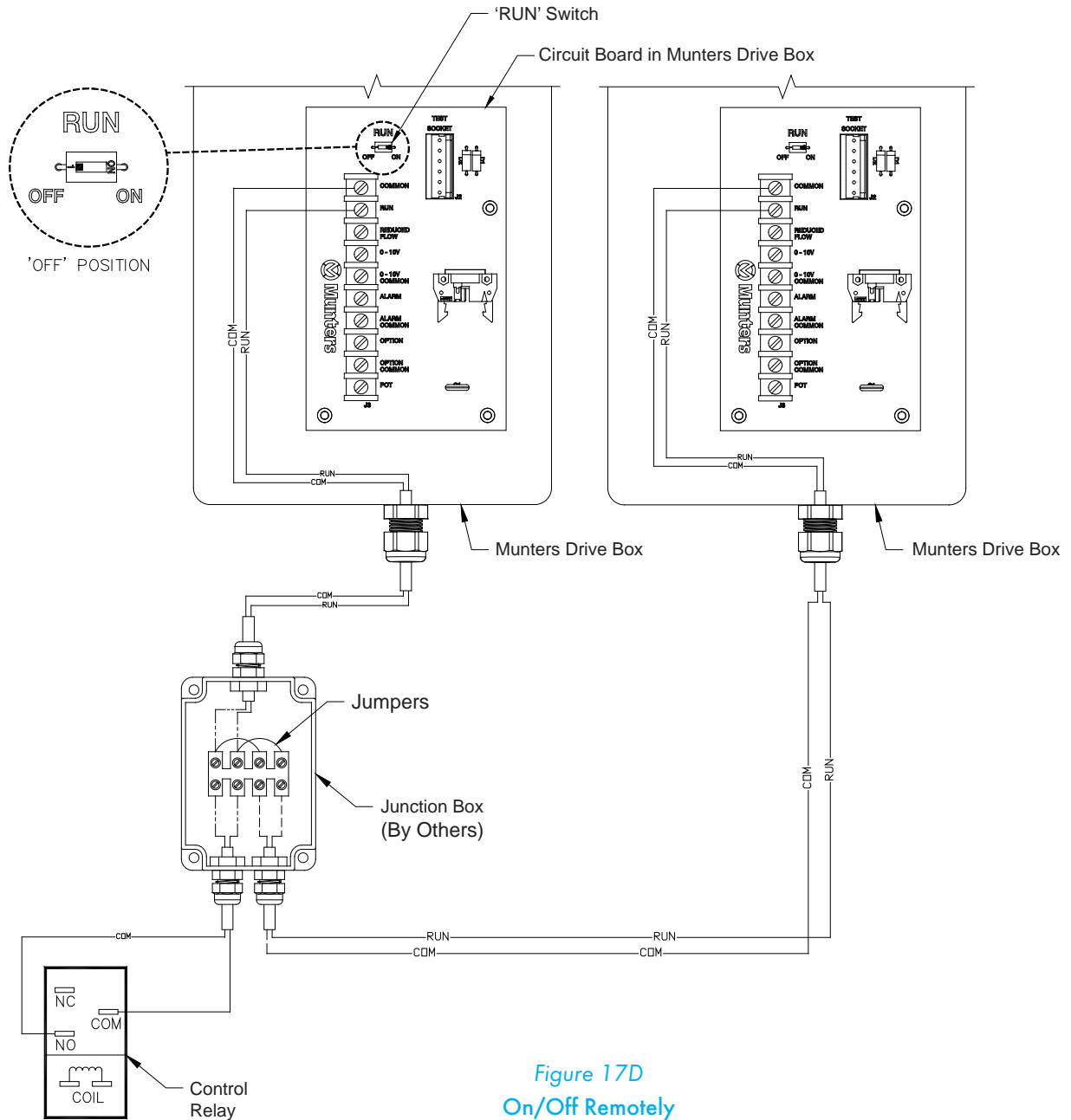


Figure 17D  
On/Off Remotely

**\*\*\*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 of the relay in the control and from the output of the control 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 17E.

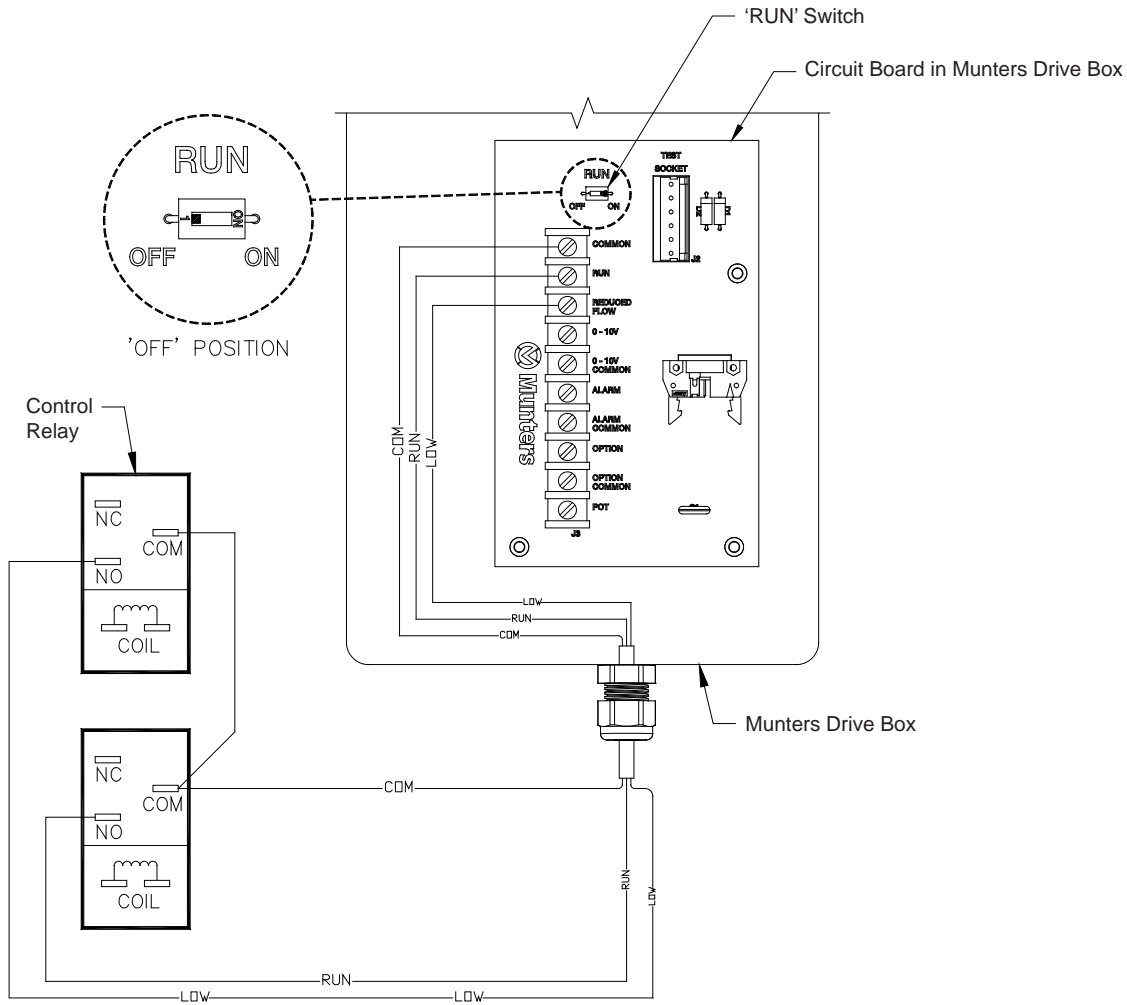


Figure 17E  
Off/Low/High Remotely

**\*\*\*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 17F.

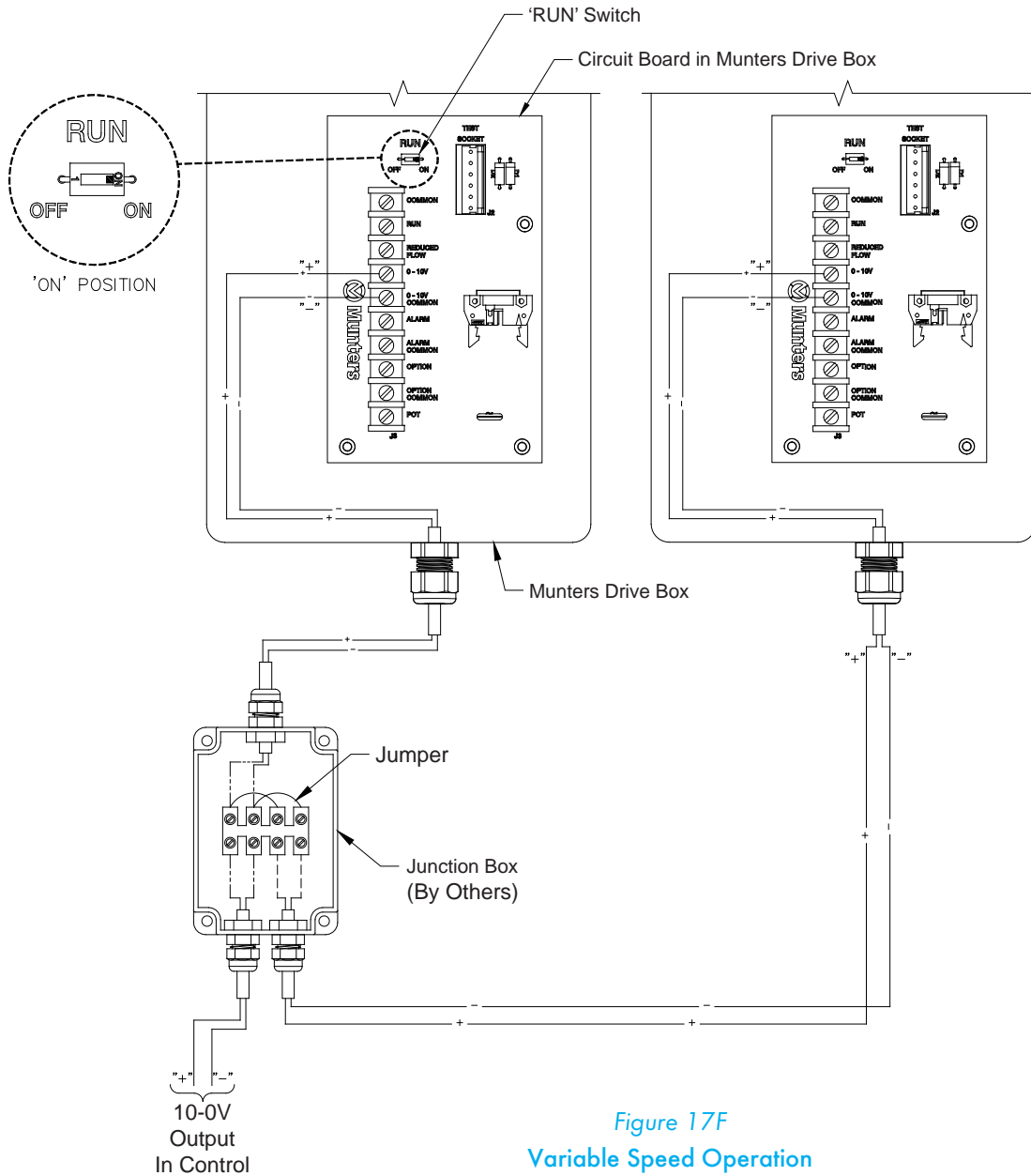


Figure 17F  
Variable Speed Operation

**\*\*\*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 of the 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 17G.

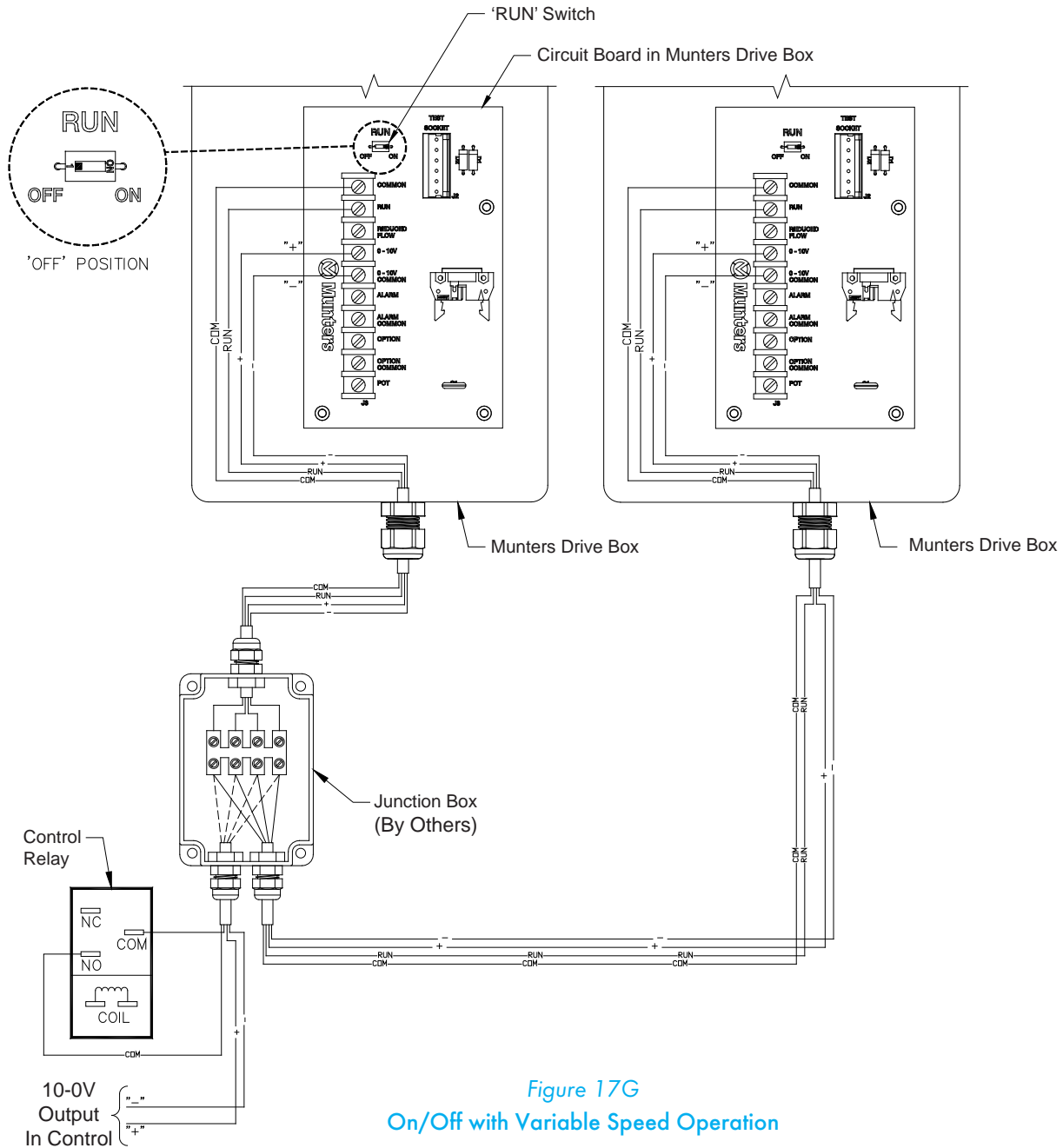


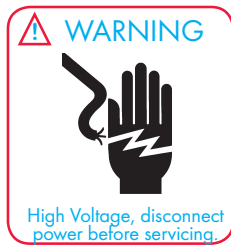
Figure 17G  
On/Off with Variable Speed Operation

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

# Troubleshooting

# 4.

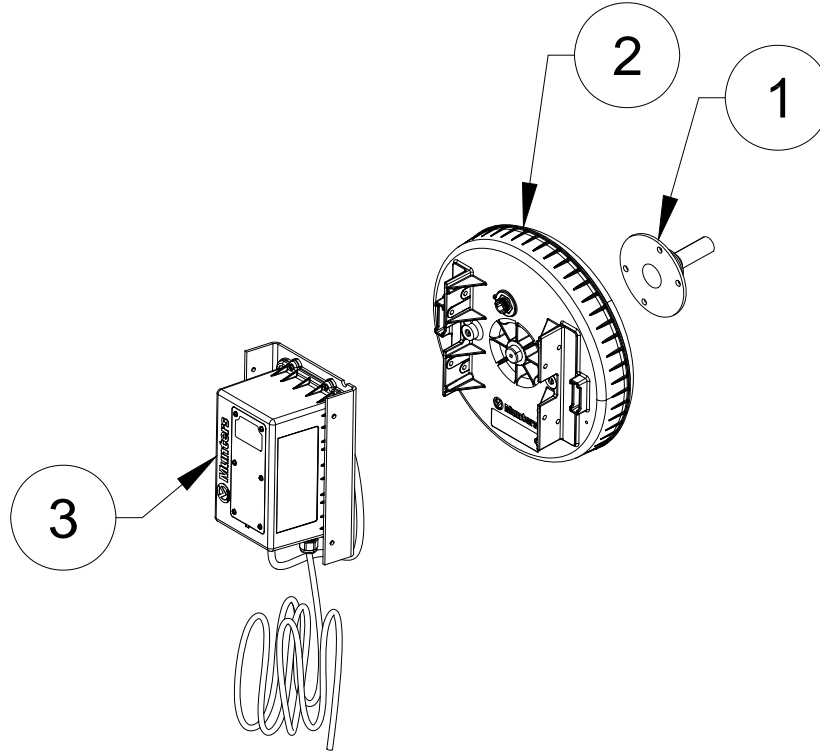
## 4.1 Troubleshooting



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

# Exploded View and Parts List

# 5.



Item	Catalog No.		
	Munters Drive	Part Name/Description	
1	FP2064	Hub, Prop adapter, 1" DIA ODx4.5"L shaft, STL	1
2	Various*	Motor for Munters Drive, less controller	1
3	Various*	Controller, AX/VX Munters Drive	1

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

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Munters Drive replacement kit is developed and produced by Munters Corporation, Lansing, Michigan U.S.A. 1-800-227-2376



Munters Europe AB, Isafjordsgatan 1, P.O. Box 1150, SE-164 26 Kista, Sweden. Phone +46 08 626 63 00, Fax +46 8 754 56 66.

Munters Corporation 2691 Ena Drive Lansing, MI 48917 U.S.A. Phone +1 800-227-2376, Fax +1 517-676-7078

[www.munters.us](http://www.munters.us)

[Australia](#) Munters Pty Limited, Phone +61 2 6025 6422, [Brazil](#) Munters Brasil Industria e Comercio Ltda, Phone +55 41 3317 5050, [Canada/US](#) Munters Corporation Lansing, MI Phone +1 517 676 7070, [China](#) Munters Air Treatment Equipment (Beijing) Co. Ltd, Phone +86 10 80 481 121, [Denmark](#) Munters A/S, Phone +45 9862 3311, [India](#) Munters India, Phone +91 20 3052 2520, [Indonesia](#) Munters, Phone +62 818 739 235, [Italy](#) Munters Italy S.p.A., Chiusavecchia, Phone +39 0183 52 11, [Japan](#) Munters K.K., Phone +81 3 5970 0021, [Korea](#) Munters Korea Co. Ltd., Phone +82 2 761 8701, [Mexico](#) Munters Mexico, Phone +52 818 262 54 00, [Russia](#) Munters AB, Phone +7 812 448 5740, [Singapore](#) Munters Pte Ltd., Phone +65 744 6828, [South Africa and Sub-Sahara Countries](#) Munters (Pty) Ltd., Phone +27 11 997 2000, [Spain](#) Munters Spain S.A., Phone +34 91 640 09 02, [Sweden](#) Munters AB, Phone +46 8 626 63 00, [Thailand](#) Munters Co. Ltd., Phone +66 2 642 2670, [Turkey](#) Munters Form Endüstri Sistemleri A.Ş., Phone +90 322 231 1338, [USA](#) Munters Corporation Lansing, MI Phone +1 517 676 7070, [Vietnam](#) Munters Vietnam, Phone +84 8 3825 6838, [Export & Other countries](#) Munters Italy S.p.A., Chiusavecchia Phone +39 0183 52 11