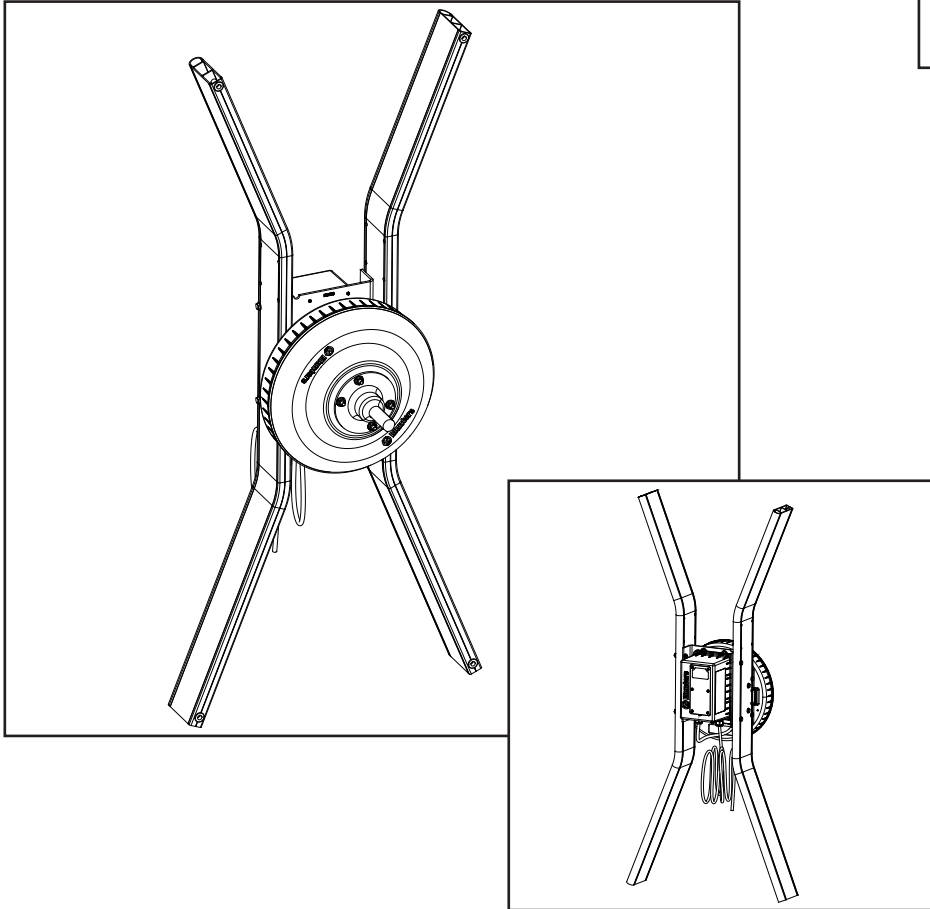


Instruction Manual

Munters Drive* VX51/VX55 Retrofit Kit

*Protected by U.S. Patent No. US20230031171A1
and US11632932B2



Munters Drive

VX51 or VX55 Retrofit Kit

Models: RF-VX5121xx • RF-VX5123xx • RF-VX5143xx •
RF-VX5521xx • RF-VX5523xx • RF-VX5543xx



Munters Drive VX51 or VX55 Retrofit Kit

Instructions for Use and Maintenance

Thank You:

Thank you for purchasing a Munters Drive VX55 or VX51 Retrofit 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.

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.

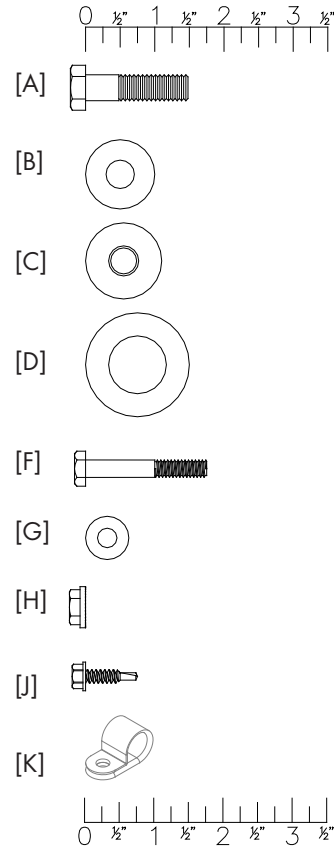
1.1 Parts List

Each Munters Drive Retrofit kit includes:

- 1 – Left Strut
- 1 – Right Strut
- 1 – Munters Drive Motor
- 1 – Munters Drive Controller
- 1 – Hardware package as follows:

HP1320 – Hardware Package

ID	Qty.	Cat. No.	Description
[A]	4	KS1023	$\frac{3}{8}$ " x 1.5" Bolt, SS
[B]	4	KW3034	$\frac{3}{8}$ " x 1"D Flat Washer, SS
[C]	4	KW3301	$\frac{3}{8}$ " x 1 $\frac{1}{8}$ "D Seal Washer, SS
[D]	2	KW3035	$\frac{3}{4}$ " x 1.5"D, SAE Flat Washer, SS
[E]	2	FH3135	3.5"Sq. x $\frac{7}{16}$ "T OSB Spacer
[F]	12	KS1006	$\frac{1}{4}$ " x 1.75" Hex Bolt, SS
[G]	12	KW3002	$\frac{1}{4}$ " Type-A Narrow Flat Washer, SS
[H]	12	KN0702	$\frac{1}{4}$ " Hex Flange Nut, SS
[J]	4	KS2258	#10-16 x $\frac{5}{8}$ " HXWSR TEK Screw, SS
[K]	4	KX1018	$\frac{3}{8}$ " Dia. X $\frac{1}{2}$ "W. Wire Clamp, BLK NY



2.1 Install

Step 1

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

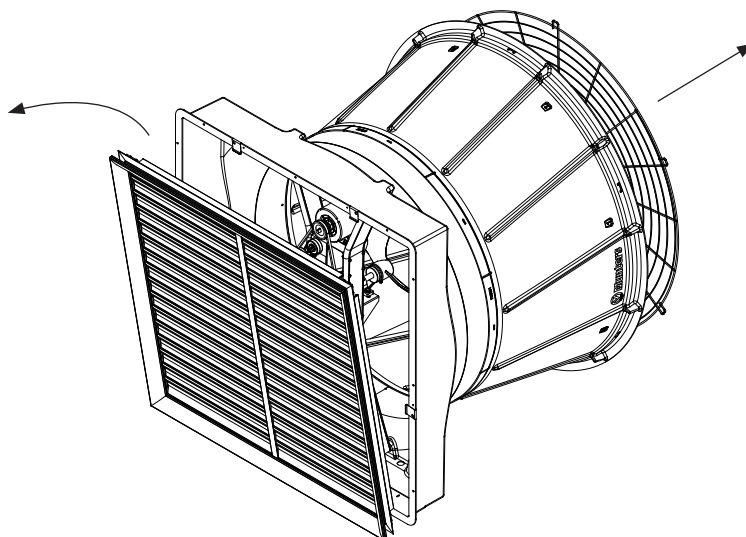


Figure 1

Step 2

Loosen the set screws holding the propeller to the shaft. Carefully remove the propeller from the fan and set safely aside to be reused. A gear puller or prop puller may need to be used. [See Figure 2.](#)

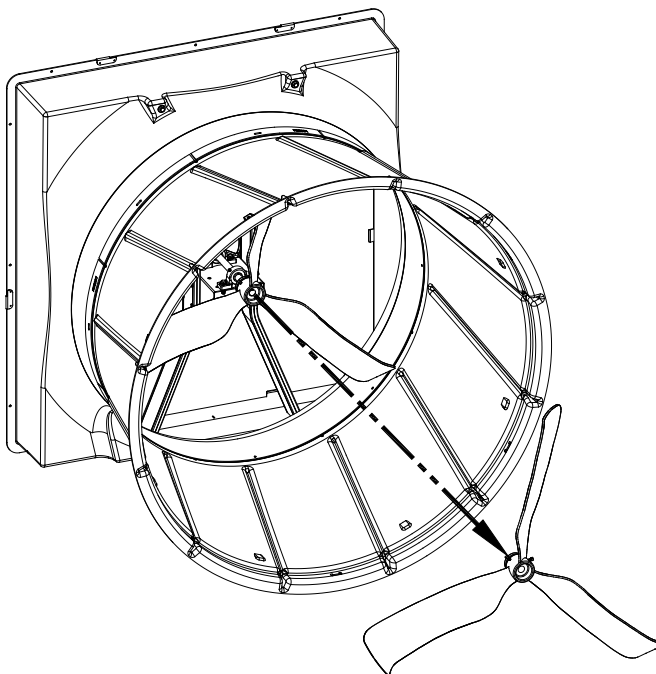


Figure 2

Step 3

Disconnect the electrical power leads from the motor. Remove the (4) bolts and (8) washers holding the fan struts to the fan housing and remove the fan drive unit in one piece, this includes the struts, motor base, motor, bearing base and bearings. Make sure that all the washers are removed from the fan housing in all 4 locations on the outside and around the 2 lower holes on the inside of the fan housing. [See Figure 3.](#)

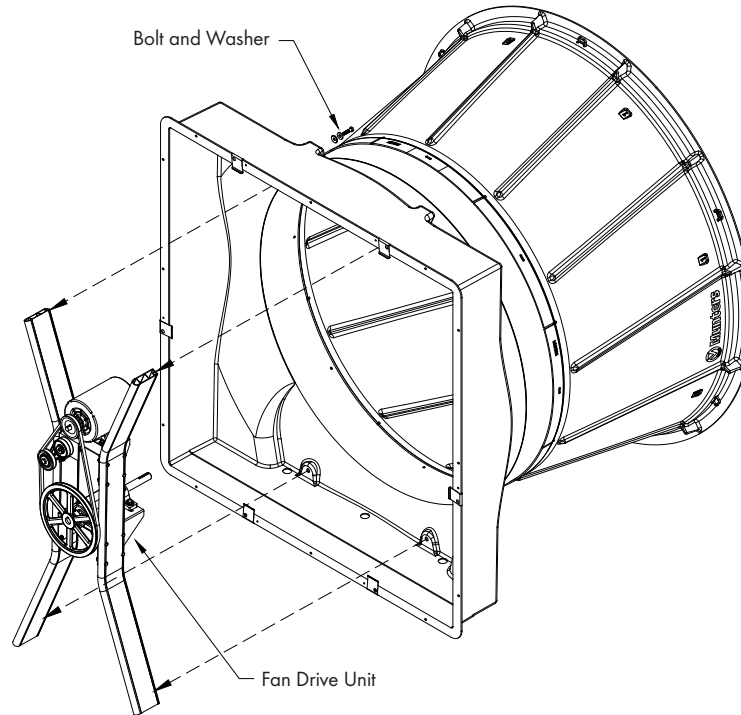


Figure 3

Step 4

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 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 4.](#)

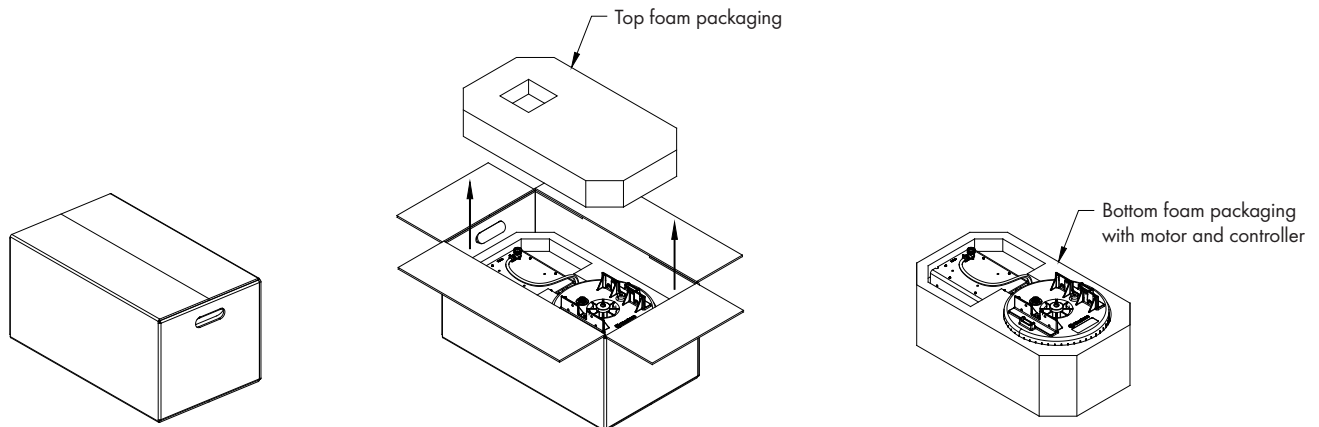
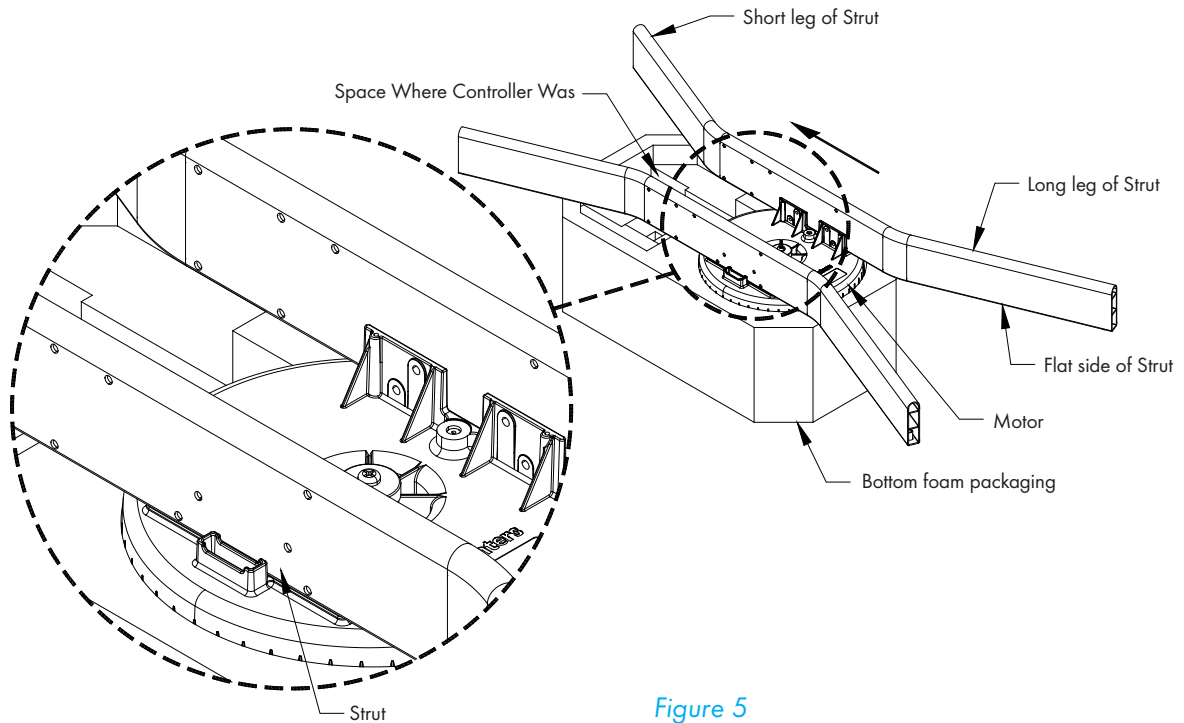


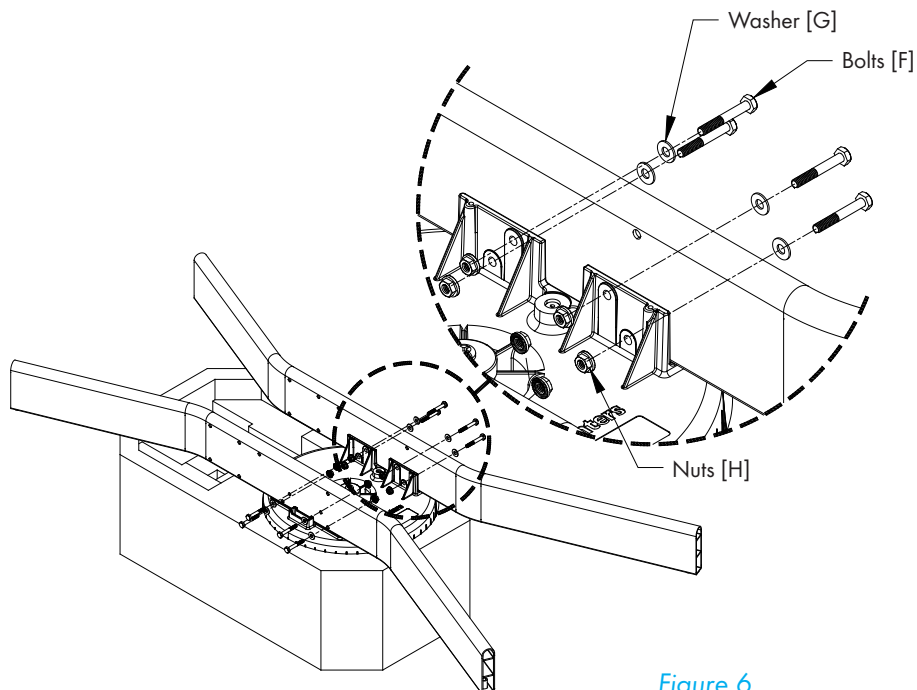
Figure 4

Step 5

Carefully remove the Munters Drive Controller from foam packaging and set safely aside for later installation. With the Motor sitting in the foam packaging, position the Strut on the motor with the flat edge of the strut against the motor, the short leg towards where controller was and the long leg away from the controller and line up the offset hole pattern in the struts with the offset hole pattern in the motor. When the struts are in the correct position the 4 extra holes will be towards the controller. *See Figure 5.*

**Figure 5****Step 6**

Fasten Struts to motor using (8) Bolts [F], Washers [G] and Nuts [H]. *See Figure 6.*
FINGER TIGHTEN ONLY AT THIS TIME.

**Figure 6**

Step 7

Retrieve the Munters Drive Controller and connect the Quick Connect Connector to the Motor. Slide the Controller with bracket 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 [F], Washers [G] and Nuts [H]. See Figure 7. Tighten all bolts and nuts at this time.

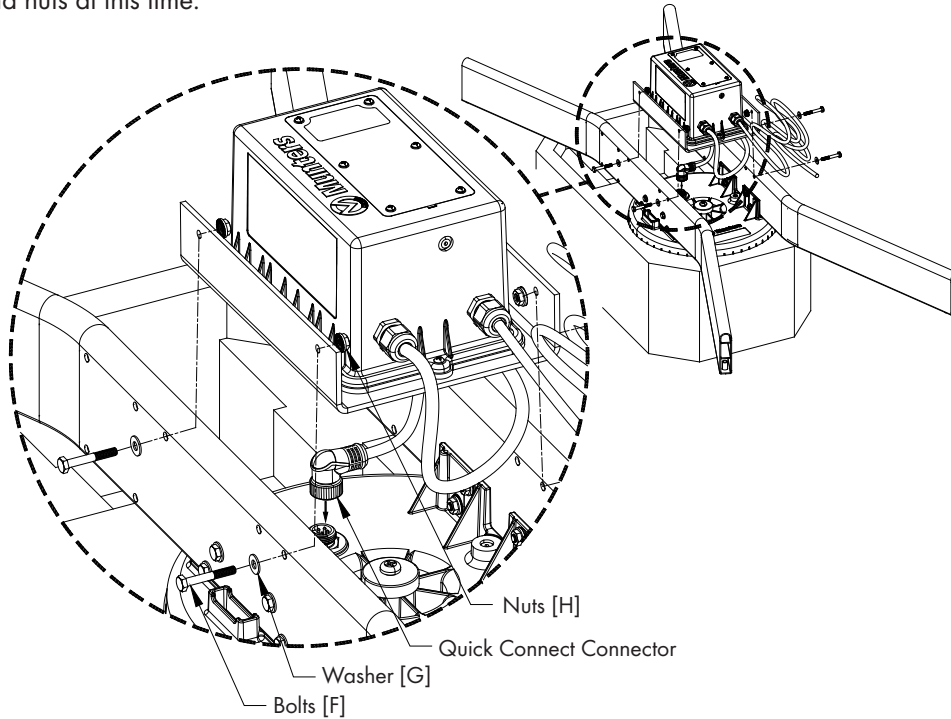


Figure 7

Step 8

Place the (2) OSB Spacers [E] in the bottom of the fan with (1) spacer in front of each of the mounting holes for the struts. Remove any debris necessary so the spacers [E] lay flat. Set the new Munters Drive Retrofit Kit into the fan with the bottom of the struts sitting on the (2) OSB Spacers [E]. Place (2) $\frac{3}{4}$ " Washers [D] over the threaded inserts in the bottom of the new fan struts. See Figure 8.

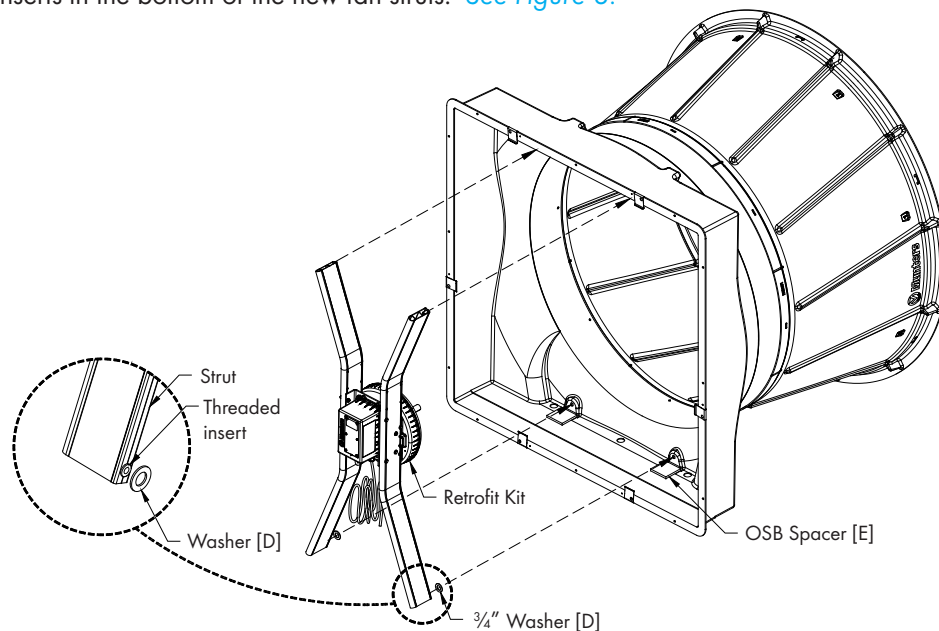


Figure 8

Step 9

With the new Munters Drive Retrofit Kit in the fan fasten the struts of the Kit to the fan housing using (4) Bolts [A], Washers [B] and Seal Washers [C]. When fastening the bottom of the struts to the bottom of the fan housing make sure that the (2) $\frac{3}{4}$ " Washers [D] are around the threaded insert.

See Figure 9. FINGER TIGHTEN ONLY AT THIS TIME.

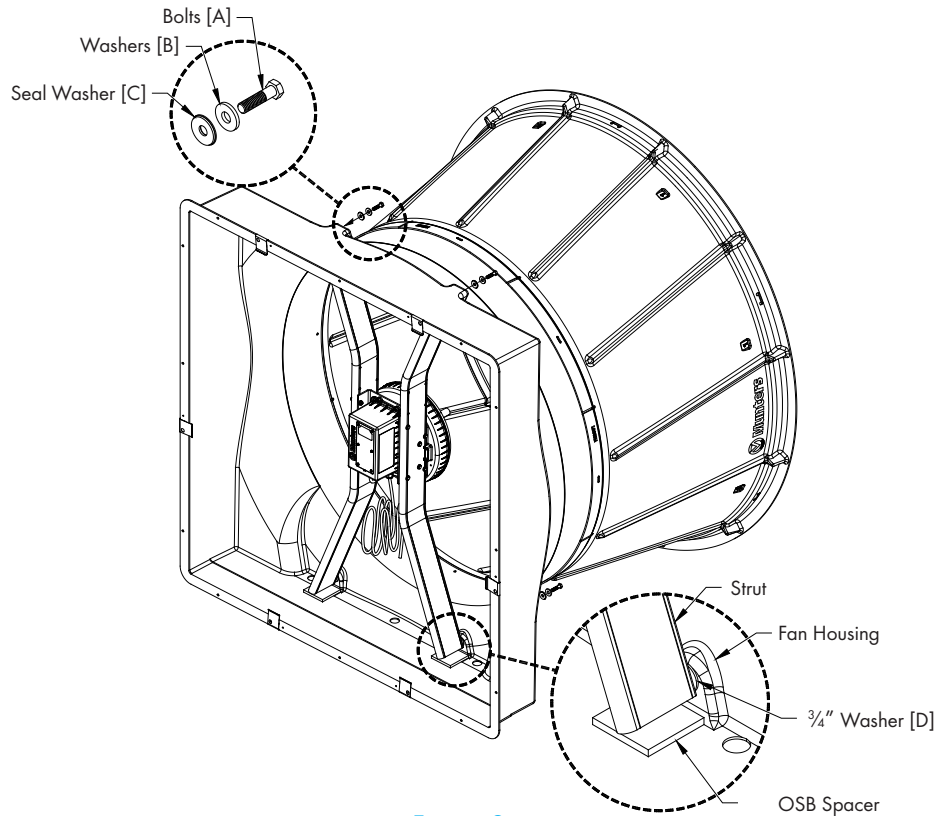


Figure 9

Step 10

Install the propeller that was removed in Step 2 onto the new shaft of the Munters Drive 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 10A.

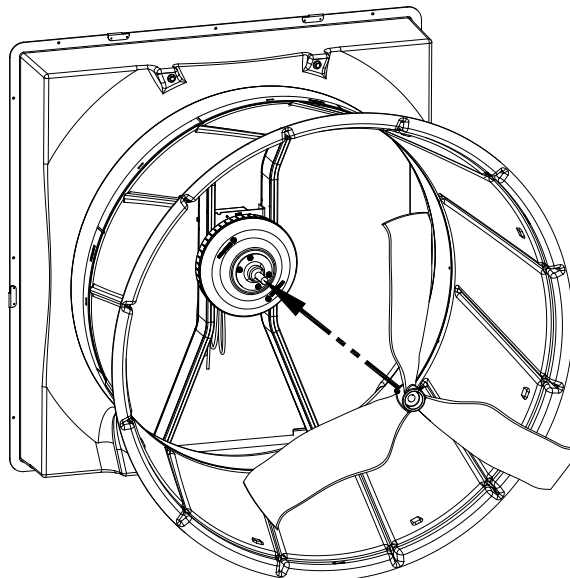
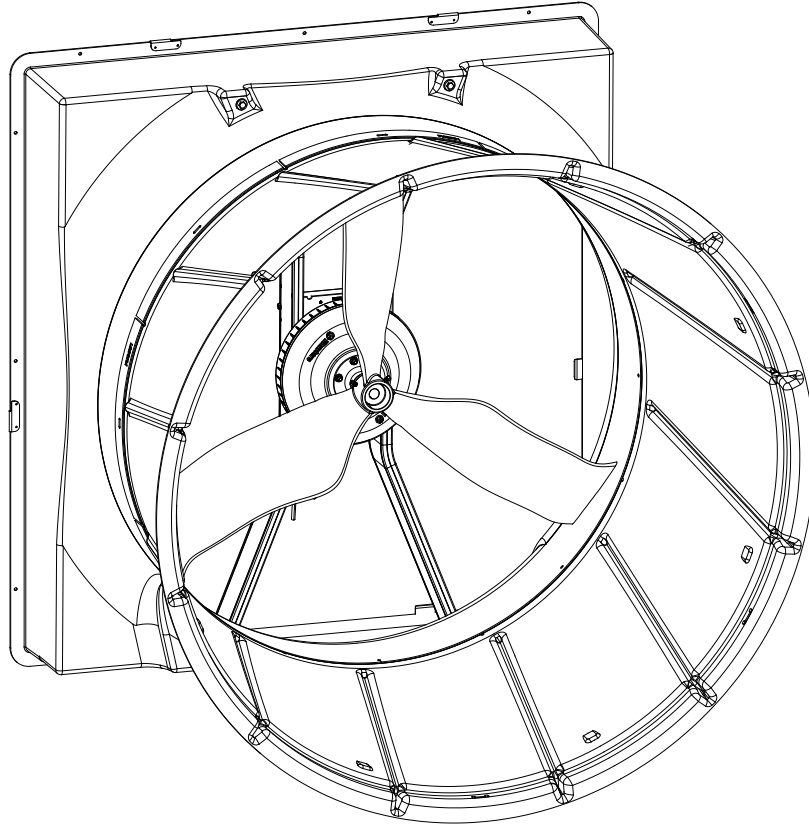


Figure 10A

Step 11

Make sure the prop is centered in the fan orifice and spins freely. If needed the Munters Drive Kit can be pushed slightly to center the prop. When the prop is centered and can spin freely, tighten the (4) bolts holding the struts to the housing. [See Figure 10B.](#)



[Figure 10B](#)

3.1 Recommended Wire Routing

The Munters Drive Fan comes with a coil of electrical cable that is pre-wired to motor. Find the end of the cable and route it outside the fan and connect it to the incoming power supply and/or the safety cut-off switch. (Safety cut-off switch by others). Create a drip loop in the bottom of the cable and then fasten it to the strut using (4) Wire Clamps [K] and TEK screws [J]. Attach the new cable to the existing power supply for the fan. [See Figure 11A and 11B.](#) [Continue on next page](#)

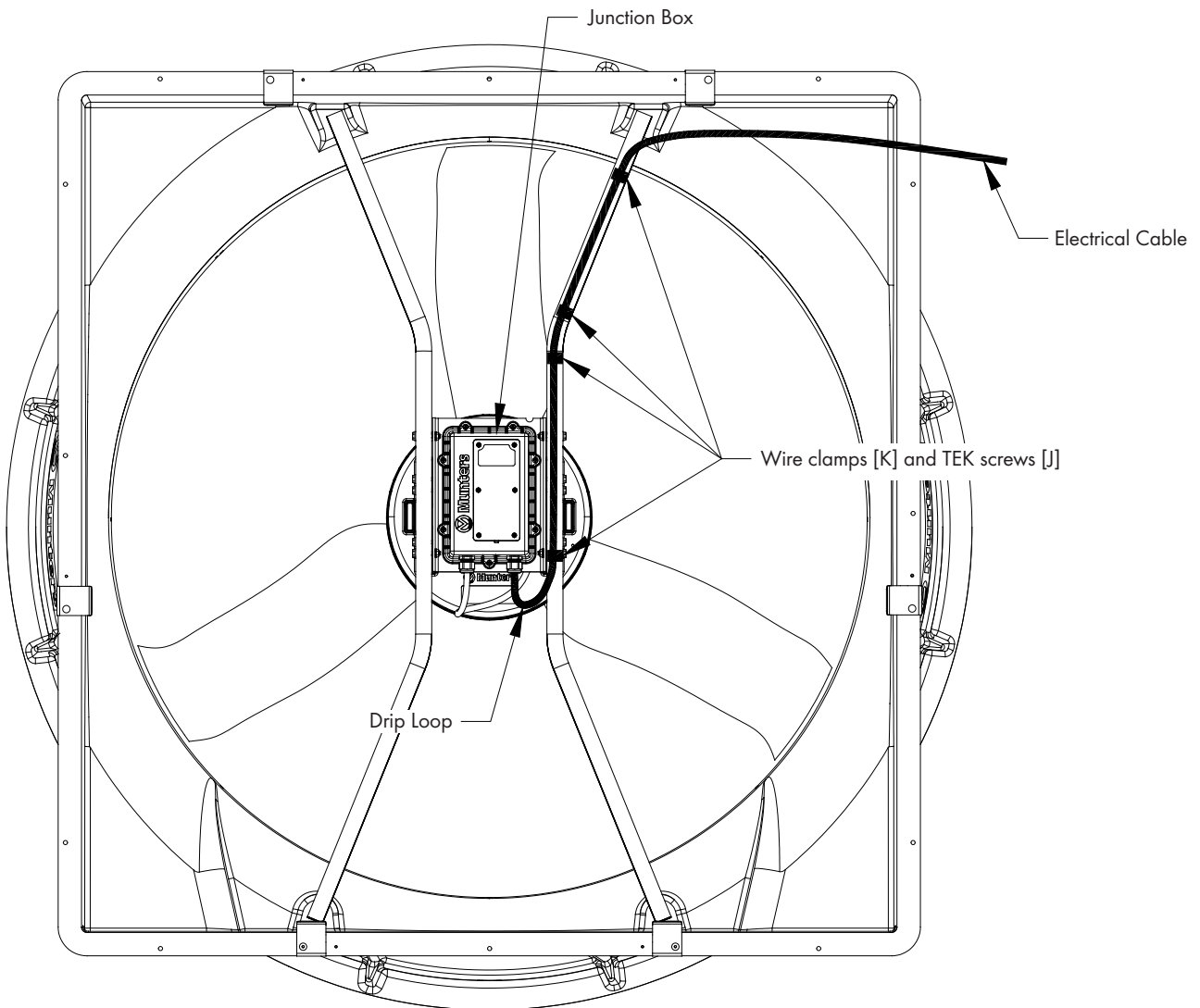


Figure 11A

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

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 Figures 11B and 11C.

If lightning protection was purchased, wire it to the fan power supply as shown and secure the lightning protection unit out of the way of moving parts in the fan. See Figure 11B.



Existing Circuits in this Configuration May be used:

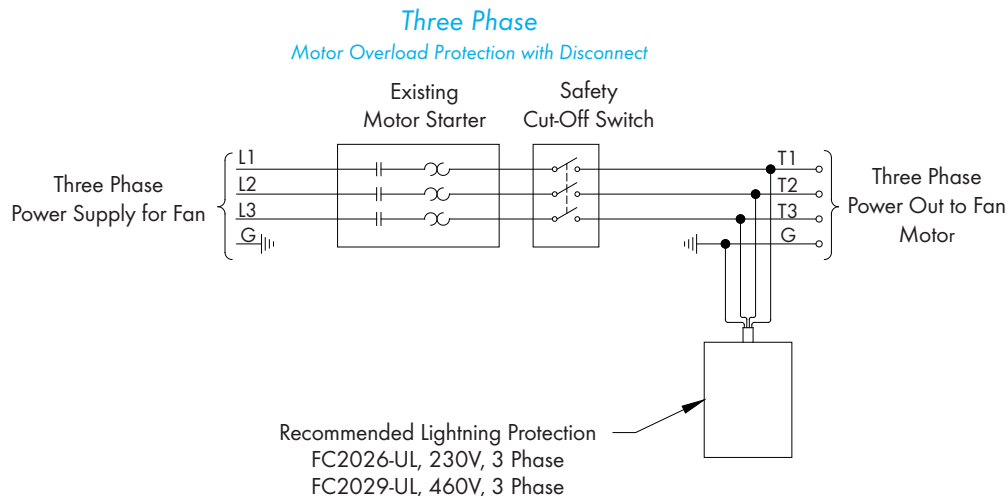
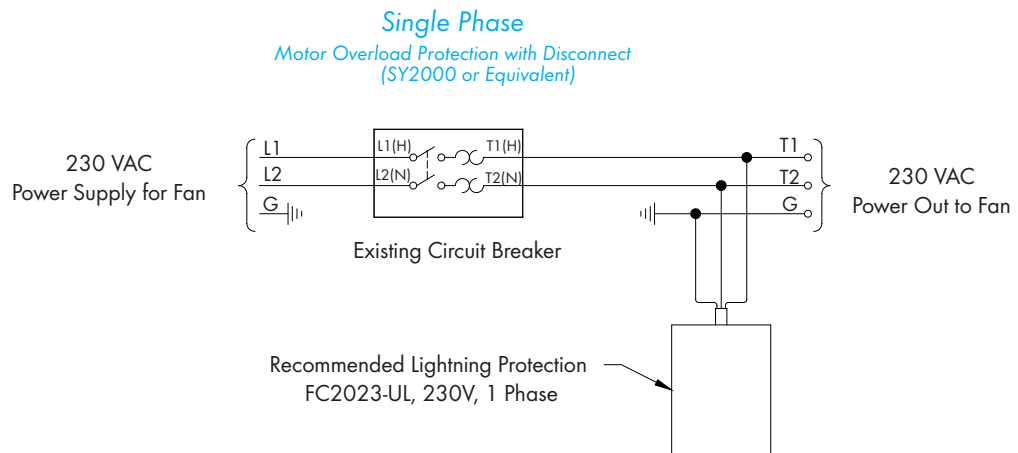
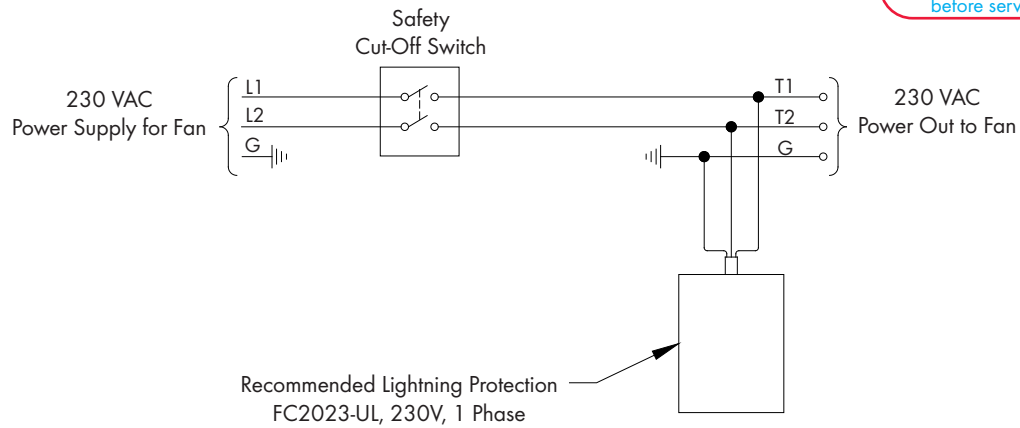


Figure 11B

For preferred wiring, [See Figure 11C](#).



Single Phase



Three Phase

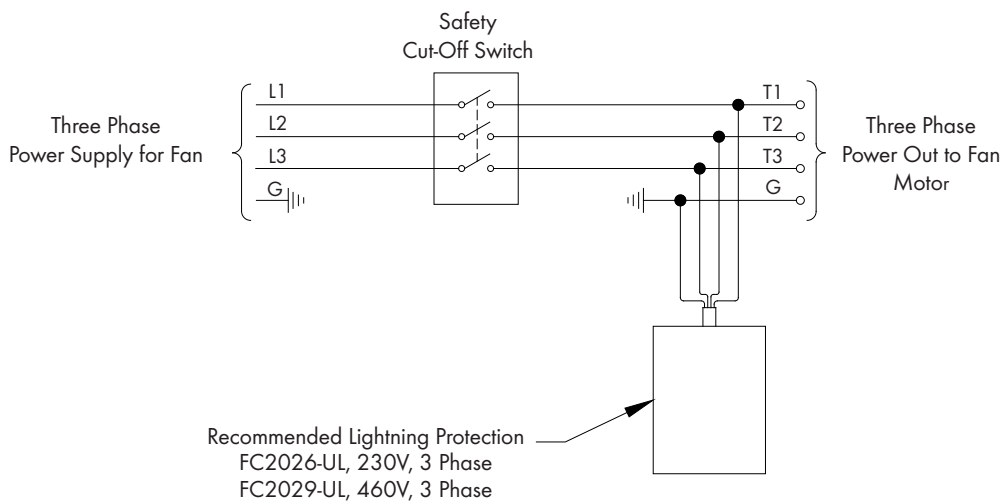


Figure 11C

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 12A. 'RUN' Switch is defaulted to the 'OFF' position.

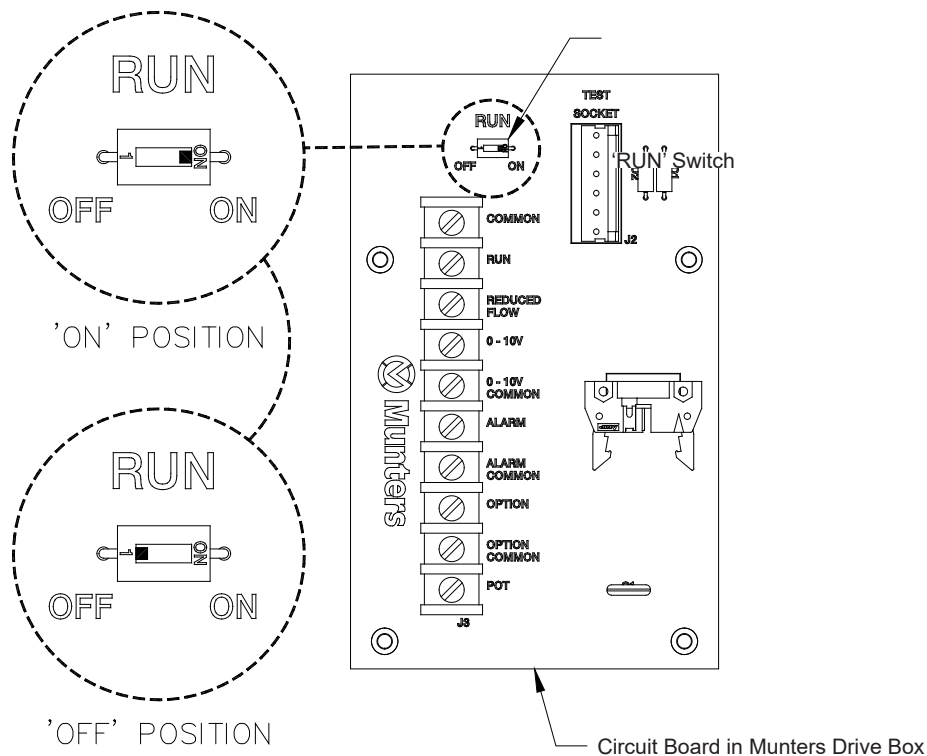


Figure 12A
Default Operation Full Speed

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.

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

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 12B and 12C.

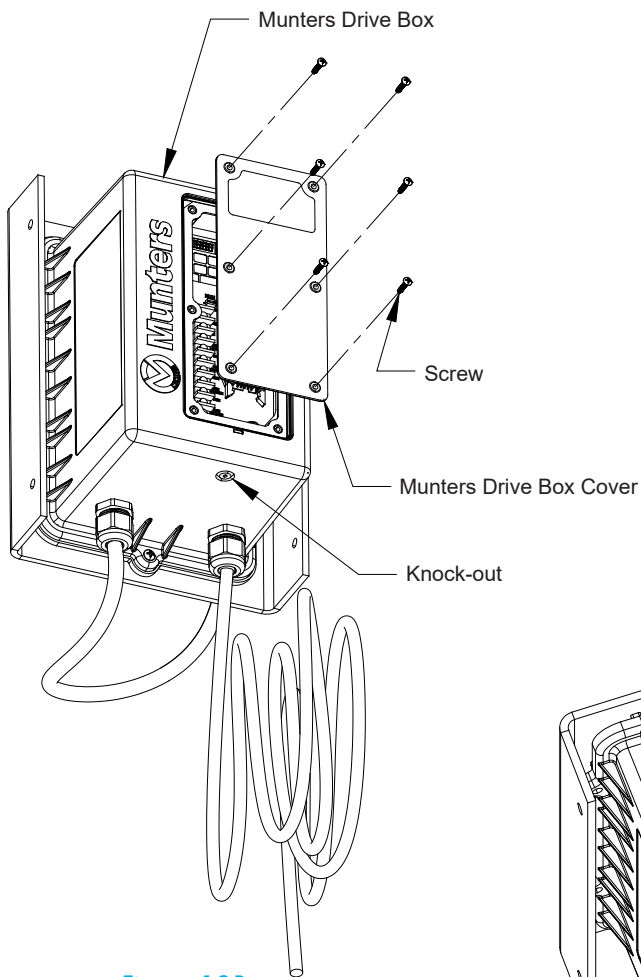


Figure 12B

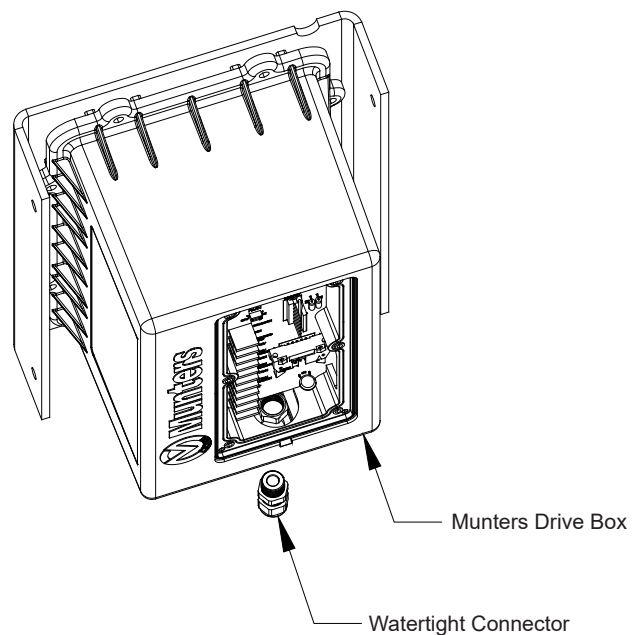
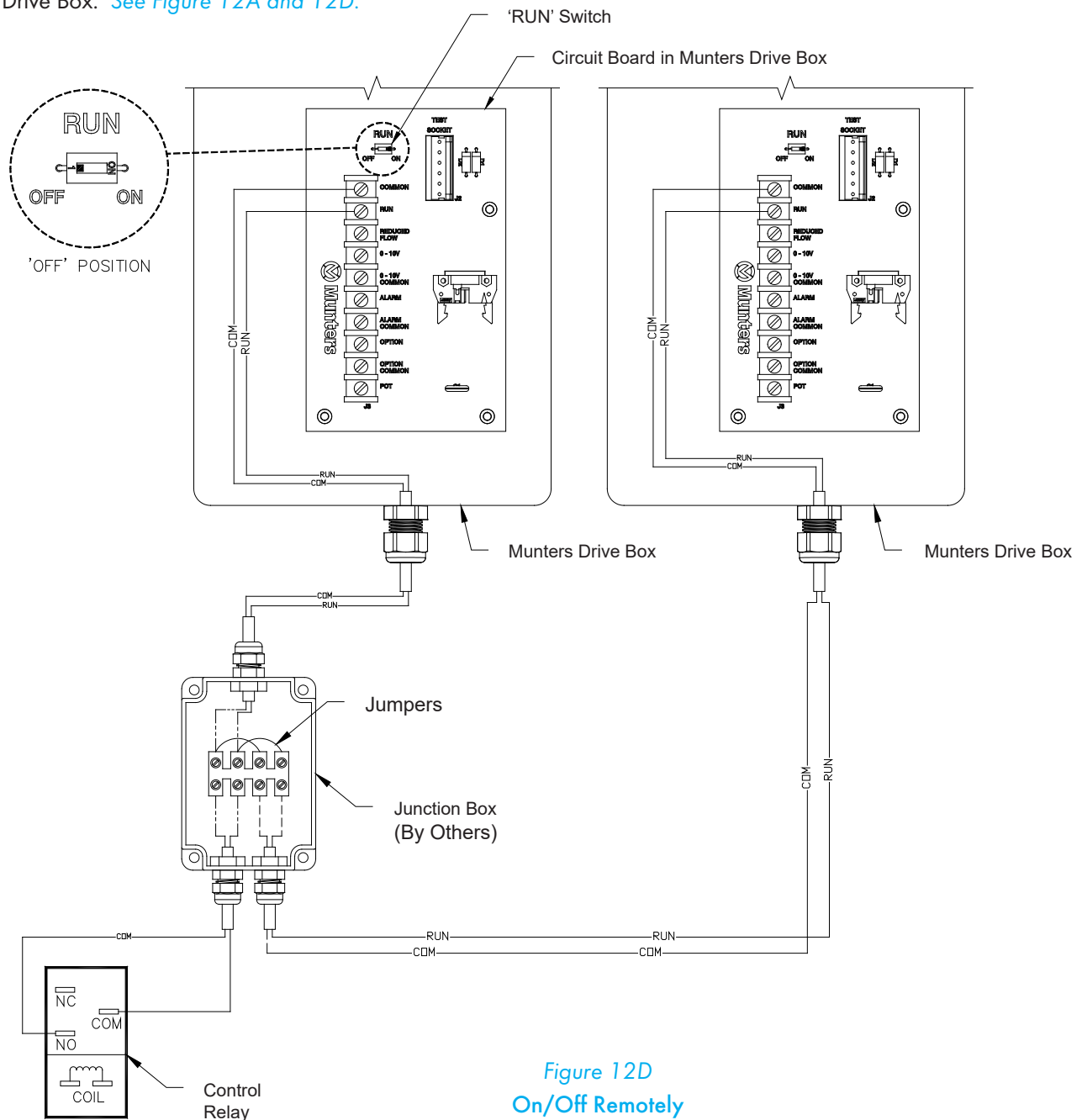


Figure 12C

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 12A and 12D.*



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.

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

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 12E.

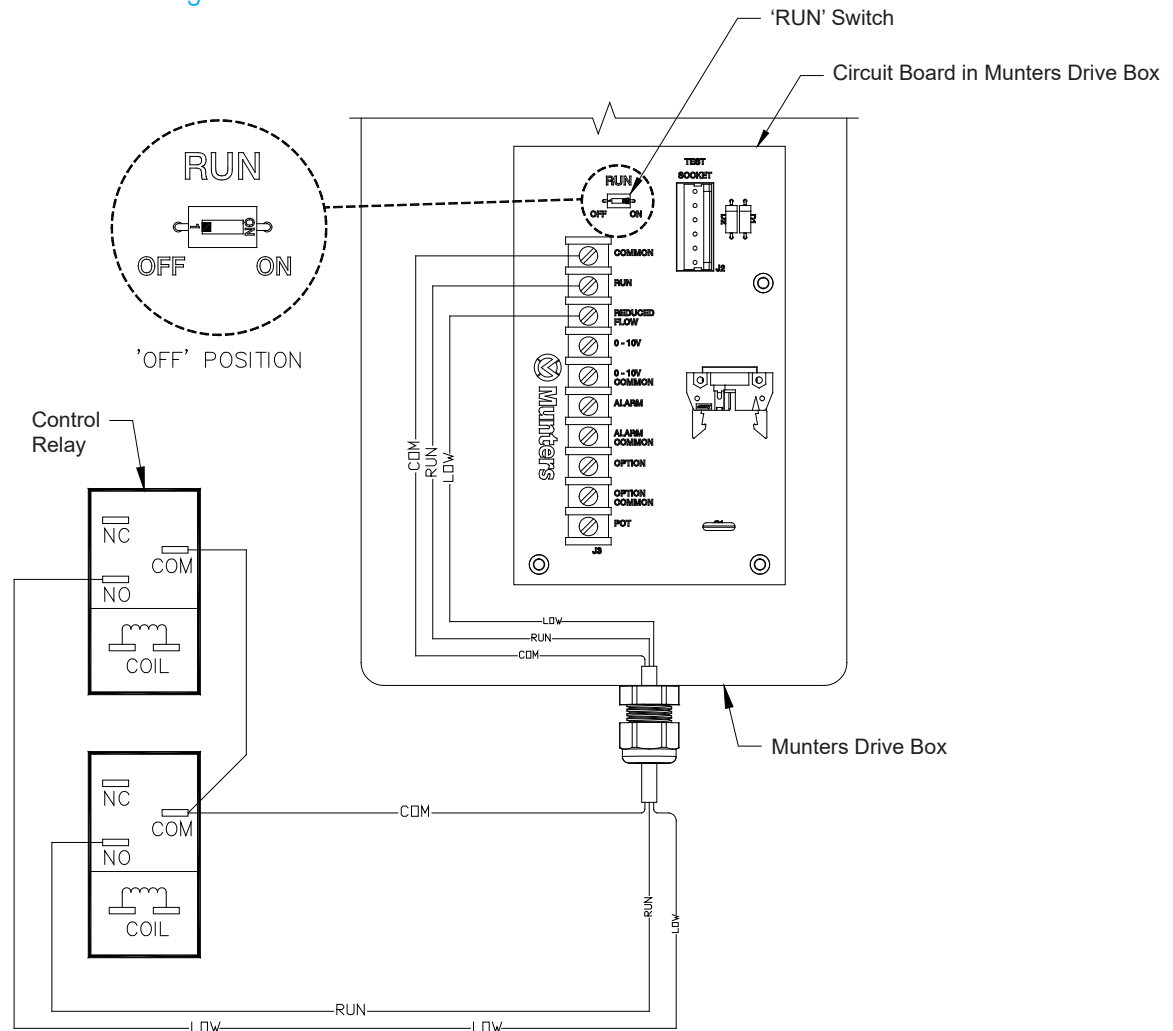


Figure 12E
Off/Low/High Remotely

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.

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

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 12F.

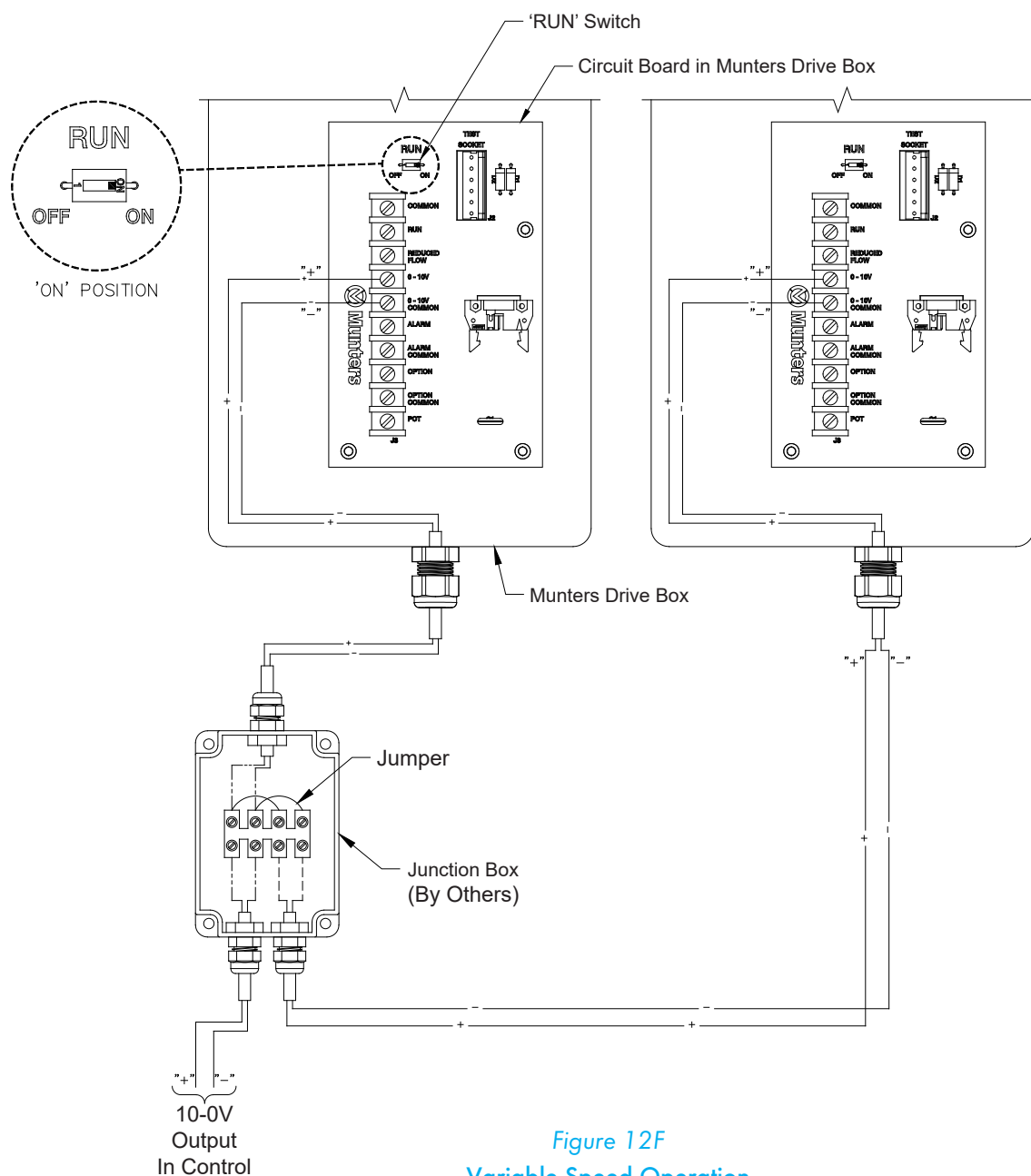


Figure 12F
Variable Speed Operation

*****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 12G.

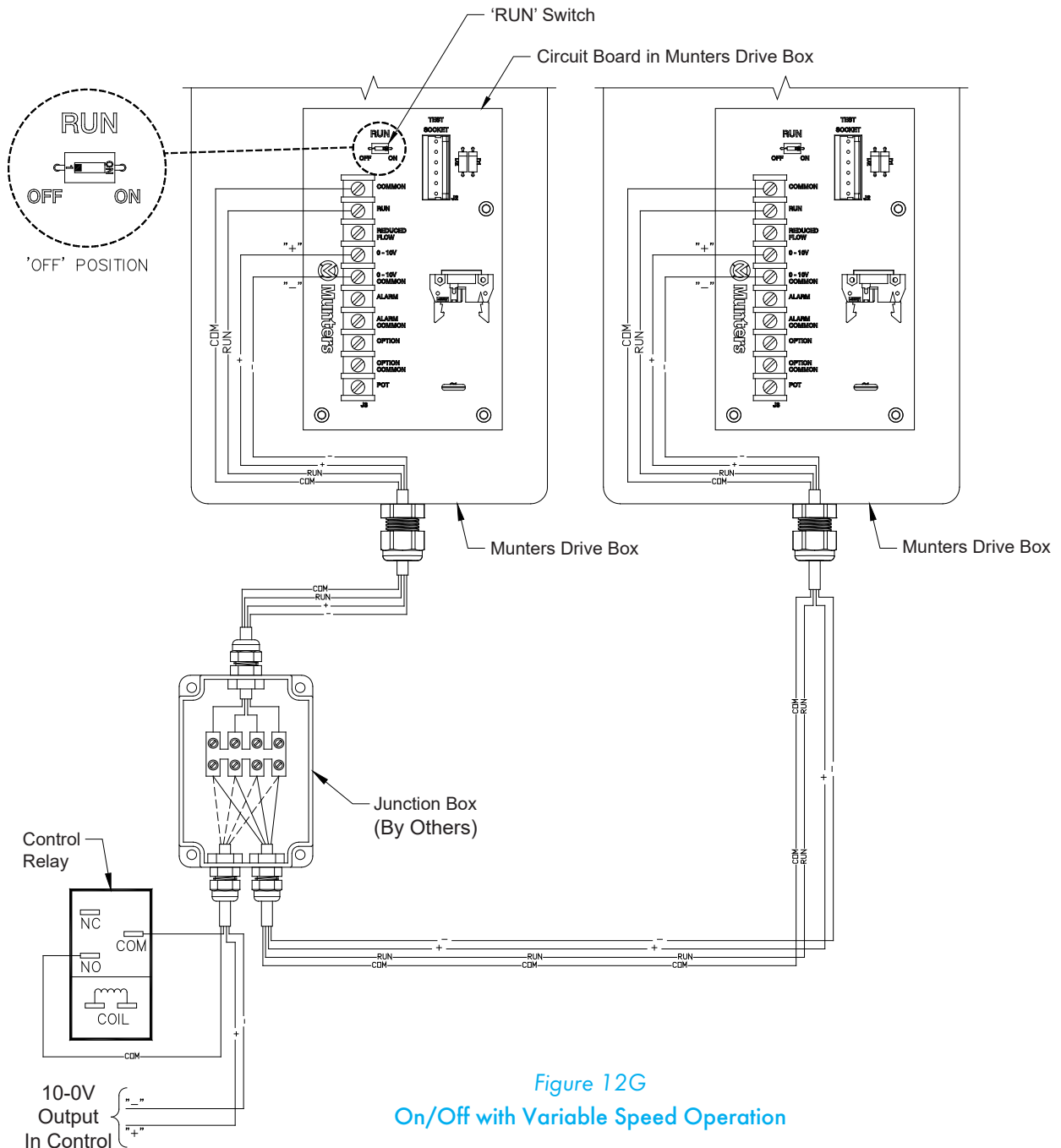


Figure 12G
On/Off with Variable Speed Operation

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. With shutter in place, turn on electrical power and confirm that the fan operates smoothly.
- 2) **TEMPERATURE ADJUSTMENTS:** Set the fan control to the temperature shown on your Munters 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.
 - **SHUTTER:** Carefully clean dust from shutter and frame so that shutter 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. 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!

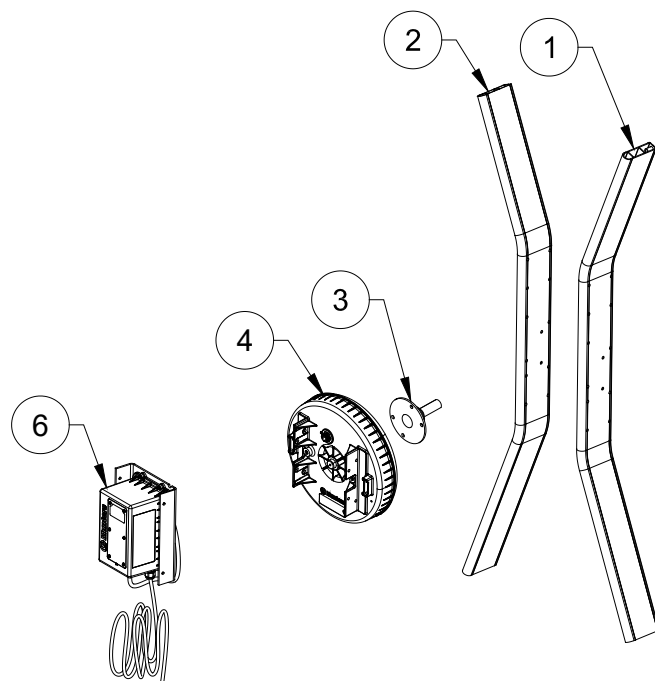
5.1 Troubleshooting



SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
Fan Not Operating	- Fan control set above room temperature - Blown Fuse or open circuit breaker - Propeller blade contacting fan housing - Fan control defective (i.e. Farm Premium, etc.)	- Set to a lower temperature - Replace fuse or reset breaker - Realign motor in fan housing - Repair or replace control
Fan Does Not Start Caution: There is a 10 second delay for the fan to start when an 'On' command is present.	Munters Drive motor/controller issue	- Verify AC voltage is present at fan. - Turn AC power off to fan for 1 minute - Verify Prop turns freely - If not contact Munters Product Support - If it turns freely go to next step - Turn AC power back on to fan - If starts up and runs, fan OK - 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.
Fan Operating - Insufficient Airflow	- Shutter or Damper door jammed - Guard dirty/clogged 10-0V signal set incorrectly	- Clean shutter or damper door - Clean guard - Check and adjust 10-0V signal
Excessive Noise	Propeller blade contacting fan housing	Sand fan housing to remove high spot
Excessive Vibration	- Motor loose on mount - Propeller damaged	- Tighten fasteners - Replace propeller

Exploded View and Parts List

6.



Item	Catalog No.		Part Name/Description	
	VX51	VX55		
1	FH3722	FH3755	Strut, Left, VX, Munters Drive ver2, w/inserts, Aluminum	1
2	FH3723	FH3756	Strut, right, VX, Munters Drive ver2, w/inserts, Aluminum	1
3	FP2064	FP2064	Hub, Prop adapter, 1" DIA ODx4.5"L shaft, STL	1
4	Various*	Various*	Motor for Munters Drive, less controller	1
6	Various*	Various*	Controller, VX Munters Drive	1

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

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



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