

Installation Manual

Installation Manual

### Parts Numbers

#### Retro-Fit Kit Part Numbers (58847-1)

| Item | Qty. | Description                                 | Part No. |
|------|------|---|----------|
| 1    | 1    | Motor, Direct Drive 3 HP, 220-240V, 630 RPM | 57401    |
| 2    | 4    | 57" DD Fan Motor Support                    | 57592    |
| 3    | 1    | 57" Galv. Bolted Hub Blade                  | 53219U   |
| 4**  | 4    | 5/16-18 x 1.00 HH 316SS Bolt                | 4412-28  |
| 5    | 12   | 5/16-18 Hx. Serrated SS Flange Nut          | 46764    |
| 6    | 8    | 5/16-18 x 1 HH SS Bolt                      | 54287    |
| 7    | 1    | 1/4 x 1.25" Square Key w/Round Ends         | 2419-10  |
| 8    | 3    | Cable Tie                                   | 6635     |
| 9    | 4    | #8 x 1 HH Machine Screw                     | 5998     |
| 10   | 1    | 1PH 3HP Keld VFD                            | 58142-1  |

\*\*Extra Bolts. Use only as needed.

#### Optional Screen Part Numbers

| Item | Qty. | Description                     | Part No. |
|------|------|---------------------------------|----------|
| 11*  | 1    | 59" Square 1.25 x 2 Wire Screen | 56540    |
| 12*  | 8    | 1/4-10 x 1.5 HXWH SS Lag Screw  | 41561    |
| 13*  | 8    | Screen Clip                     | 56671    |

\*These items are optional and are not included in the Retro-Fit Kit

## Safety

### Warning



This product has inherent dangers, which can cause damage or loss to persons or equipment if the warnings in this manual are not adhered to. Please read and follow all instructions.

### Personnel Requirements



This product must only be used by persons adequately trained in the hazards, dangers, and risks of the equipment.

All users of this product must be trained in the following areas:

- Health and safety hazards relating to use of this machine throughout its entire life cycle
- Devices provided for safety of the operator
- Instructions for safe shutdown in case of emergency

The employer must assume the following responsibilities:

- To provide necessary personal protective equipment required
- To ensure normal maintenance operations are carried out
- To provide necessary repair parts in a timely manner

### General Requirements



Safety devices must remain in good working condition and may not be bypassed or rendered ineffective. The fan must not be operated with guards removed. All maintenance work must be done with electrical power isolated from the machine via proper device in accordance with local and national laws. The user must ensure that the environmental and electrical supply conditions in which the fan operates are within the limits specified in this manual or on product labels. Modification to this machine in any way are prohibited unless given written consent by CTB, Inc. Unauthorized modifications will render the warranty void and can lead to hazardous situations.

### Safety Devices



This machine has been designed to operate with fixed guards in order to protect users from physical hazards on both inlet and outlet sides of this fan. They were designed in accordance with national standards. They must not be altered. They must remain in their fixings at all times of operation. If damage or destruction should occur, exact replacements should be fitted immediately. **Reference the technical documentation section at the back of this manual** for more information.

At the time of installation, a proper device should be fitted in the direct vicinity of the fan to act as an emergency stop device. This device must be supplied by the installer. The device must be of a type to satisfy the emergency stop device requirements below.

EN-IEC 60204-1 Section 10.7.2:

- a push-button operated switch with a palm or mushroom head type

Section 10.7.3:

- actuators of emergency stop devices shall be colored RED.

### Follow Safety Instructions

Carefully read all safety messages in this manual and on your equipment safety signs. Follow recommended precautions and safe operating practices.

Keep safety signs in good condition. Replace missing or damaged safety signs.



# Removing Old Fan Parts



## Disconnect Power from Fan!

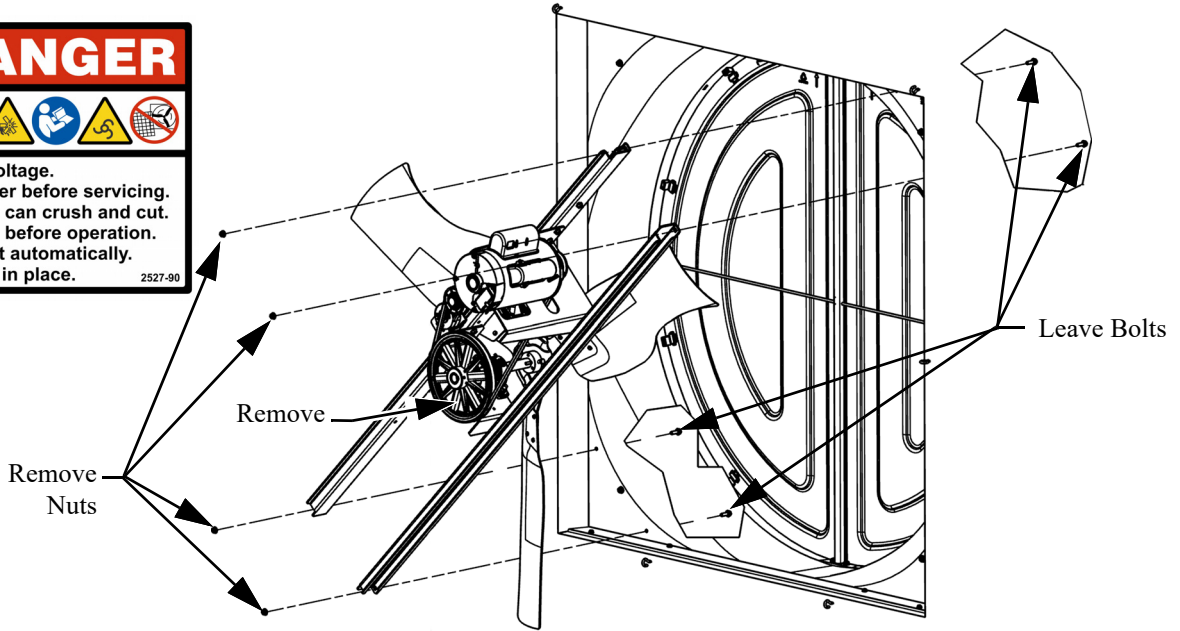
**Note:** If retro-fitting an Extension Box Fan you may eliminate the Extension Box and mount the Fan Flush with the wall. The example shown here is a flush mount Fan.

1. Remove the existing Screen. If not replacing your Screen retain Screen and all hardware.
2. Remove the Nuts holding the existing Fan Posts to the Shroud. Bolts can be re-used so leave the Bolts for re-installation. The Retro-fit kit includes new Nuts and also Bolts in the case old Bolts can not be re-used.

**⚠ DANGER**

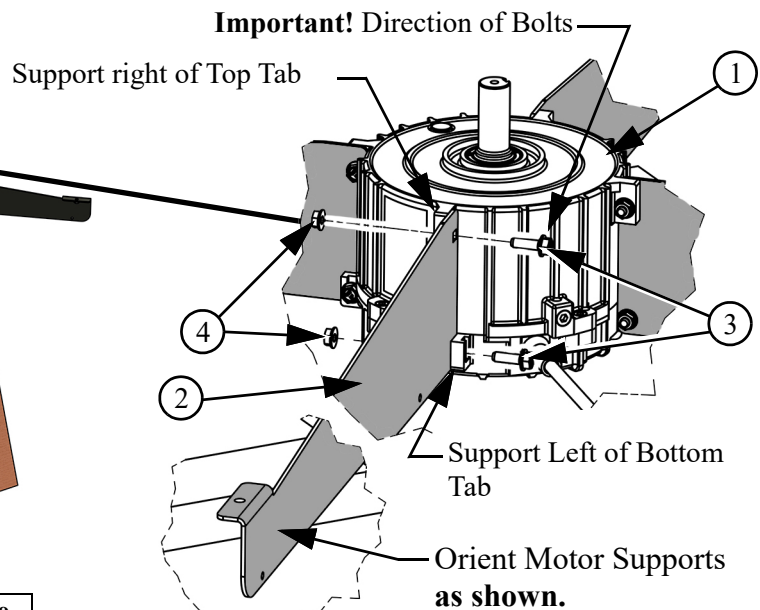
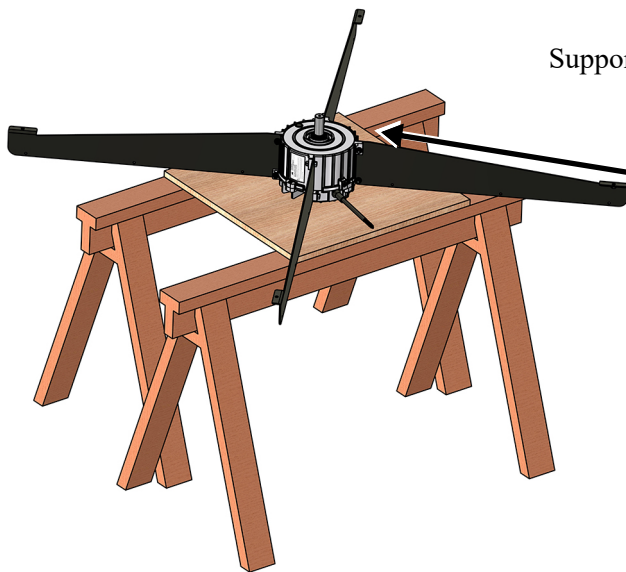
⚡ ⚠ ⚠ ⚠ ⚠ ⚠ ⚠

Hazardous voltage.  
 Lockout power before servicing.  
 Moving parts can crush and cut.  
 Read manual before operation.  
 Fan may start automatically.  
 Keep guards in place. 2527-90



# Installation of new Fan Parts

## Install Motor Supports



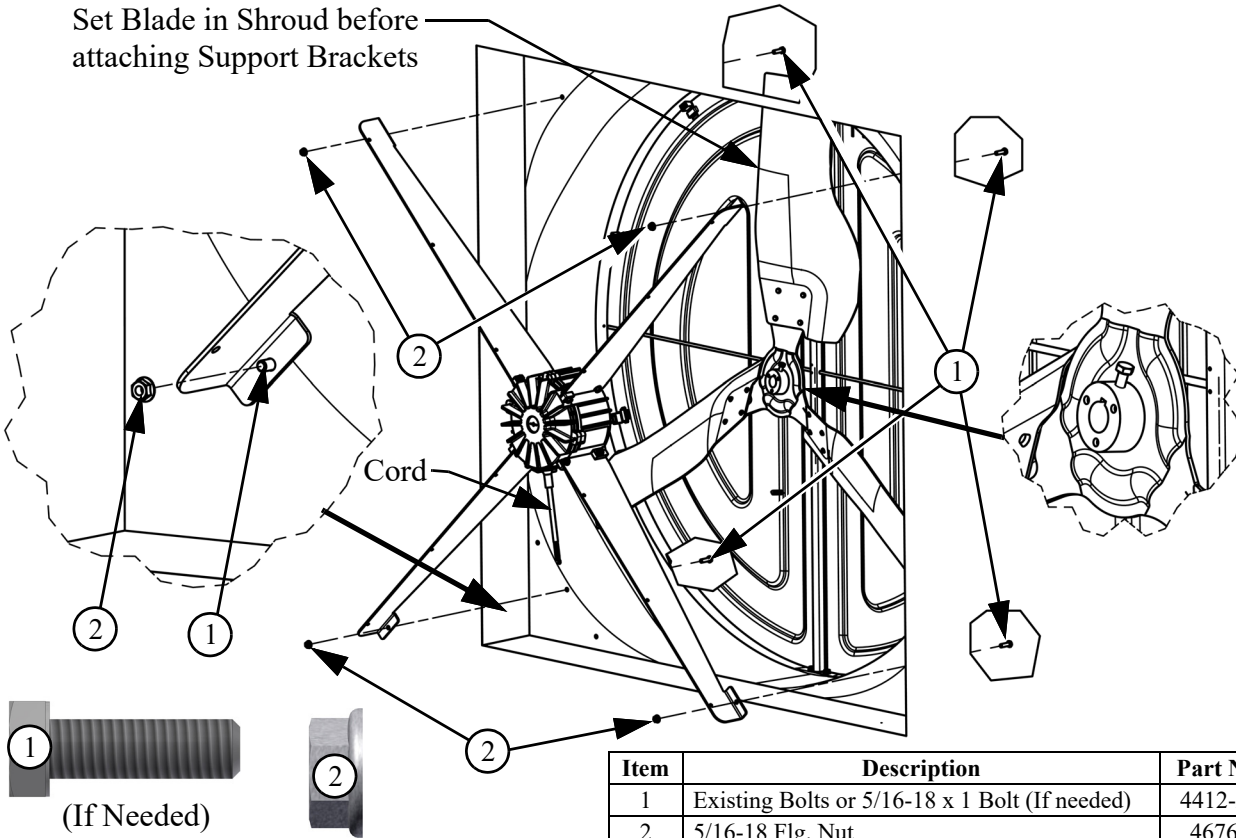
| Item | Description               | Part No. |
|------|---------------------------|----------|
| 1    | DD Fan Motor 630RPM, 3 HP | 57401    |
| 2    | 57" DD Fan Motor Support  | 57592    |
| 3    | 5/16-18 x 1 Bolt          | 54287    |
| 4    | 5/16 Flg. Nut             | 46764    |



### Motor and Supports Installation

1. Orient the Blade with the Hub as shown and set it in the Shroud before attaching Support Brackets.
2. Orient the Motor with the Cord towards the bottom and Attach the Motor Brackets to the Shroud using the existing Bolts and 5/16-18 Flange Nuts (**Item 2**). Extra 5/16-18 Bolts (**Item 1**) are included in Kit if needed.

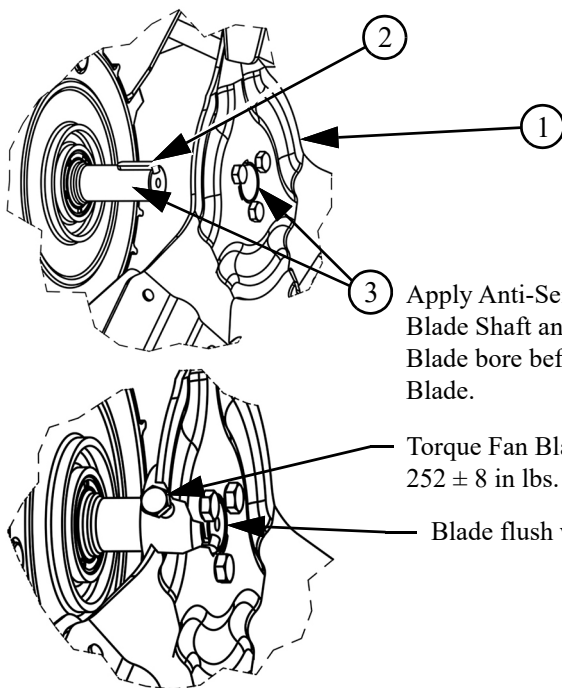
Set Blade in Shroud before attaching Support Brackets



| Item | Description                                    | Part No. |
|------|--|----------|
| 1    | Existing Bolts or 5/16-18 x 1 Bolt (If needed) | 4412-28  |
| 2    | 5/16-18 Flg. Nut                               | 46764    |

### Blade Installation

1. Apply Anti-Seize to the Fan Blade Shaft and Fan Blade Bore, Flush the Fan Blade with the end of the Motor Shaft, and Torque Fan Blade Bolt to 252 ± 8 in lbs. [28.47 ± .9 Nm].



| Item | Description                | Part No. |
|------|----------------------------|----------|
| 1    | 57" Galv. Bolted Hub Blade | 53219U   |
| 2    | 1/4" Key                   | 2419-10  |
| 3    | Anti-Seize                 | 47749    |

Apply Anti-Seize to the Fan Blade Shaft and the Fan Blade bore before installing Blade.

Torque Fan Blade Bolt to 252 ± 8 in lbs. [28.47 ± .9 Nm].

Blade flush with end of Motor Shaft.

## Check Blade Tip Clearance

1. Check for proper Blade Tip Clearance. For Instructions on how to check for Blade tip clearance see manual MV2521 by using the QR Code or go to:

<https://www.choretime.com/wp-content/uploads/2026/02/MV2521B.pdf>

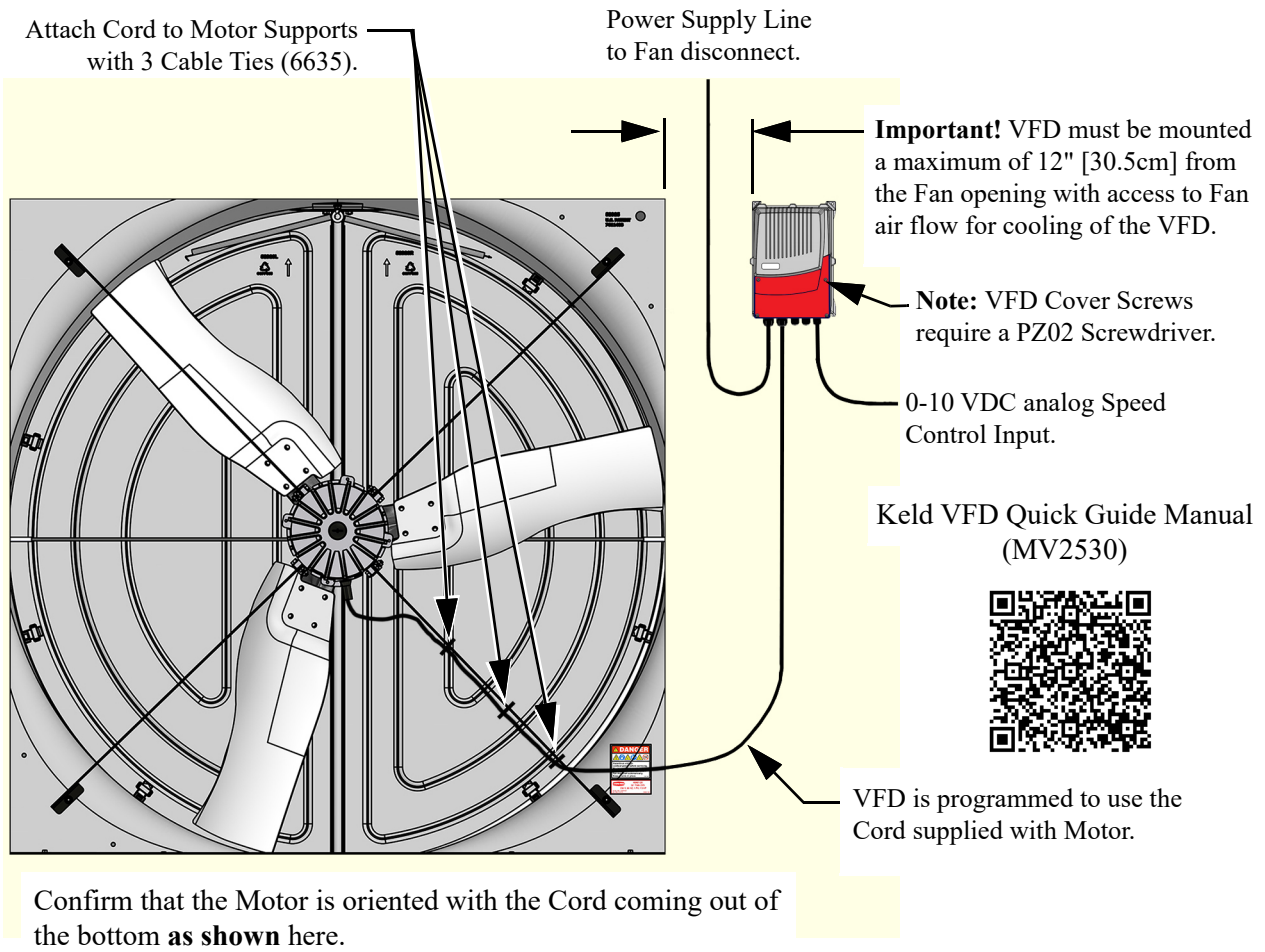


## Fan Drive (VFD) Mounting

1. Select a location next to the Fan in the Fan air stream for VFD cooling a maximum of 12" [30.5cm] away from the Fan opening. Access the Keld VFD Quick Guide Manual (MV2530) by using the QR Code bottom right or at:

<https://www.choretime.com/wp-content/uploads/2025/01/MV2530-Keld-VFD-Quick-Guide-Manual.pdf>

for mounting details and general wiring instructions.



Confirm that the Motor is oriented with the Cord coming out of the bottom **as shown** here.

## Re-Install Screen

1. If using your old Screen re-install it now.
2. If installing a new Screen see Fan Manual MV2521 using the QR Code or URL above. The parts required to install a new Screen are shown in the Table below. These are **not included** in the 58447-1 Kit.

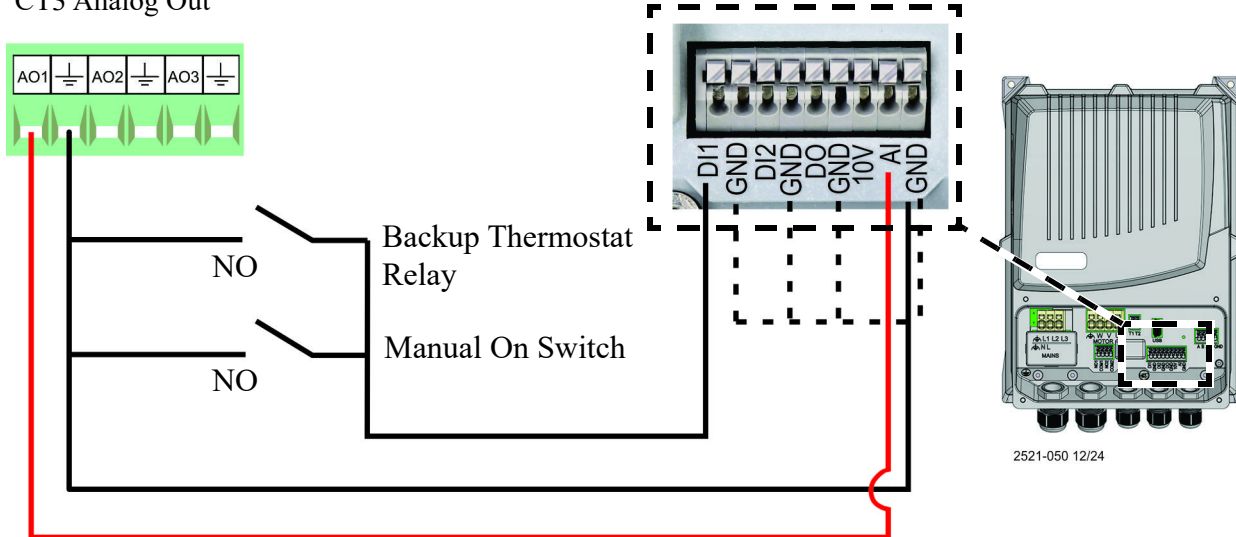
| Item | Description          | Part No. |
|------|----------------------|----------|
| 1    | 1/4-10x1.5 Lag Screw | 41561    |
| 2    | Screen Clip Washer   | 56671    |
| 3    | 59" Square Screen    | 56540    |

## Control Signal Wiring

For variable speed Fan control, connect the 0-10 vdc analog signal from the Main Control to VFD analog input (AI) and ground (GND). The fan will run full speed with an analog signal of 10 vdc and slow down to a minimum speed of 200 rpm at 3.2 volts, stopping at any voltage less than 3.2 V. For optional Fan Backup Control, connect a Backup Relay to Digital Input 1 (DI1) and common (GND). The four GND Connectors are connected and can be used interchangeably. A Switch can be installed in parallel to the Backup Relay to manually start the Fan. Backup speed is controlled by holding register 10 and is set to 630 rpm by default.

For further wiring instructions see the Keld User Manual (MV2530) by using the QR Code or URL on previous page.

CT3 Analog Out



## Test Fan for proper operation

Supply power to the VFD and check for proper operation. If the Fan turns in the wrong direction interchange any two wire connections between the drive and the motor to correct the direction of fan blade rotation.

## Maintenance



**IMPORTANT!** Disconnect Power Prior To Maintaining Or Cleaning The Fan. The fan may start automatically causing serious injury or death.

- Service and repair of fans should be done only by a qualified technician.
- Minimize contact of moisture or corrosive chemicals to the surfaces of the fan components to maximize fan life.
- After washing fans, operate fans long enough to remove moisture from all fan surfaces.
- Keep the fan clean for maximum life and best performance.



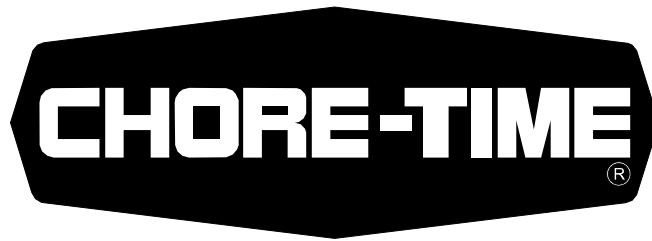
- Wires can cause Shock if motor is turning **even when disconnected from Power!**
- Wait 5 minutes after disconnecting power to the VFD to ensure Capacitors are fully discharged before making contact with the VFD!

## Fan Specifications

Operating static pressure should be less than 0.25 inches water column [62 Pa].

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

| <b>Phase</b> | <b>Voltage</b> | <b>Hz</b> | <b>Full Speed RPM</b> | <b>Starting Amps</b> |
|--------------|----------------|-----------|-----------------------|----------------------|
| 1            | 220-240        | 60        | 630                   | 10.5                 |



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BUILT TO LAST.®**

### **Revisions to this Manual**

| <b>Page No.</b> | <b>Description of Change</b> | <b>ECO</b> |
|-----------------|------------------------------|------------|
|                 | New Manual                   | 41109      |

**For additional parts and information, contact your nearest Chore-Time distributor or representative.  
Find your nearest distributor at: [www.choretime.com/contacts](http://www.choretime.com/contacts)**

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