

Ventilation

# ECVCS72 Poly Blade Replacement Guide

Instructions for replacing aluminum blades with Poly FRP blades.



**REVISED** | August 2023

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## Introduction:

This document explains the steps needed to replace the aluminum blades on a VES ECVCS72" fan with the new and improved FRP blades.

## Removal Instructions:

### Safety Precautions:



- Before any further action is taken, ensure the power is disconnected from the fans requiring a blade switch.
- Take caution in removing and installing fans. ECVCS fans are 8 feet above the ground which increases risk of injury. Make sure all work platforms are stable before working on the fans.
- Handle fan blades with more than one person due to risk of serious injury.

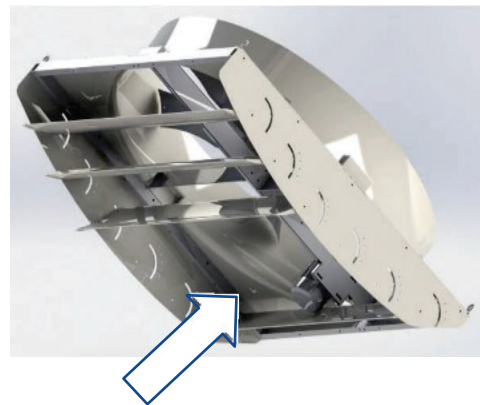
### Tools Needed:

- Cordless Drill
- Drill Soocket Adapter
- Metric Hex Key Set for Drill
- Hex Key Wrench Set.
- Rubber Mallet/Hammer
- Torque Wrench
- Ratchet Socket Set
- Standard Screwdriver

### Louver Removal:

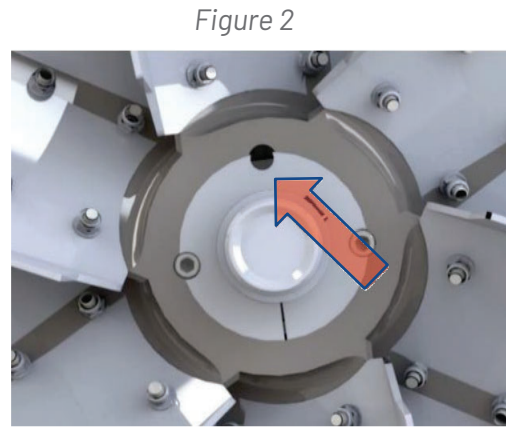
- 1.) Remove the 2nd and 3rd lowest louvers on the ECVCS (Figure 1).
- 2.) Unscrew the louver bolts with a 13mm socket. (Removing the louvers provides additional space to aid in the blade removal steps.)

Figure 1



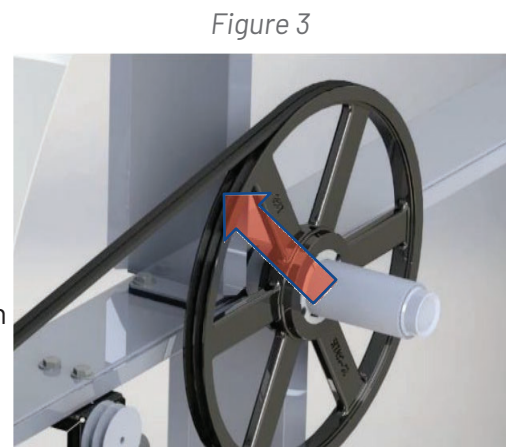
## Blade Removal:

- 1.) Access the fan from beneath the blade on a stable work platform.
- 2.) Remove both set screws with the 8mm hex wrench from the center taper lock bushing.
- 3.) Screw one of the set screws into the center hole (Figure 2), until you feel the taper lock bushing loosen.



Note : If the bushing is difficult to remove use a hammer/rubber mallet to loosen the bushing. A flathead screwdriver can also be inserted into the bushing slot to wedge the bushing apart.

- 4.) Lift the blade off the shaft and hand the blade to someone on the outside of the ECVCS.
- 5.) Remove the belts by inserting a wrench or screwdriver in between the pulley and the belt and rotate the pulley so the belt pops off (Figure 3).
- 6.) Remove the motor pulley using a 5mm hex wrench in the same manner as the blade bushing.

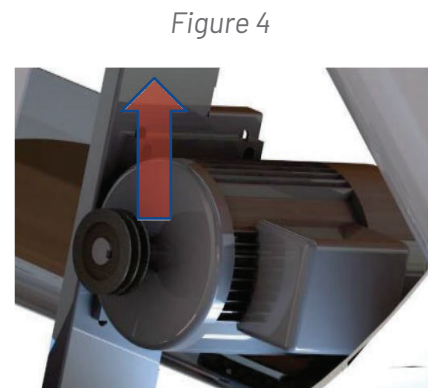


You have now completed the disassembly process.

## Installation Instructions:

### Moving the Motor Mount:

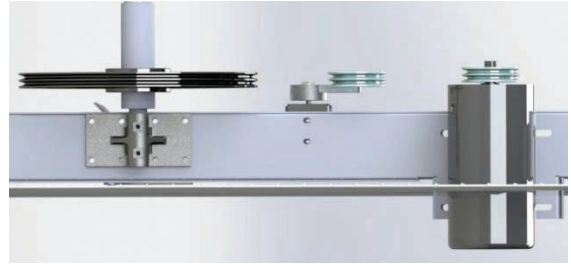
- 1.) Loosen the motor mount screws using a 13 mm open faced wrench and a 13mm ratchet.
- 2.) Slide the motor in the slots as far in towards the center bearings as possible (Figure 4).
- 3.) Tighten the motor mount screws to 7.3 ft-lbs or 87.5 in-lbs.



## Installing the Motor Pulley:

- 1.) Install the new motor pulley/taper lock on the shaft as close to the motor as possible.
- 2.) Tighten the set screws on the motor pulley to 14.6 ft-lb or 175 in-lb.
- 3.) Verify the motor pulley, tensioner, and the fan pulley are aligned. (Figure 5)
- 4.) Install the belt back onto the pulleys.

Figure 5



## Installing the Blade:

- 1.) Assemble the new bushing onto the blade hub by lightly tightening the set screws.
- 2.) Slide the blade onto the shaft so the bushing is close to the end of the shaft (Figure 6)
  - a. \*Place something underneath?
- 3.) Tighten the set screws using a 6mm hex head wrench and use a torque wrench to verify the set screws are at 35.8 ft-lbs or 430 in-lbs.
- 4.) Spin the blade to confirm proper clearance.
- 5.) Install the louvers back onto the fan.
- 6.) Re-supply power to the fan.

Figure 6

