

TECHNICAL BULLETON
Motor replacement for EFi150xx blower (EG8200XX)

Reference: ATEX Motor Upgrade Kit P/N: EG8200XXAPK

This technical bulletin applies to RAMFAN blower models: EFi150xx (EG8200XX)

Background: The 1.5 HP electric motor, ESI p/n EM-F1.5-60/50XP, used in the EFi150XX blowers prior to date 10-15-2009 has been discontinued and replaced with a new ATEX approved motor ESI p/n EM-F1.5-60/50XPEX. The new motor requires minor modifications to the blower housing to support installation of the new motor as described below.

Tools/Materials Required: ESI p/n EG8200XXAPX contains motor, supporting parts, templates, and this procedure as listed below. It does not include any other tools required for drilling and installation.

ATEX Motor Kit Contents

Grommet	Qty 1
Motor	Qty 1
Junction Box	Qty 1
Ferrules	Qty 6
Seal Washer	Qty 4
6-32 Nuts	Qty 2
6-32 Screws	Qty 2
Cap Push Nut	Qty 1
7/16-20 Hex Nut	Qty 1
ON-Off Label	Qty 1
Hole Template	Qty 2

Required Tools:

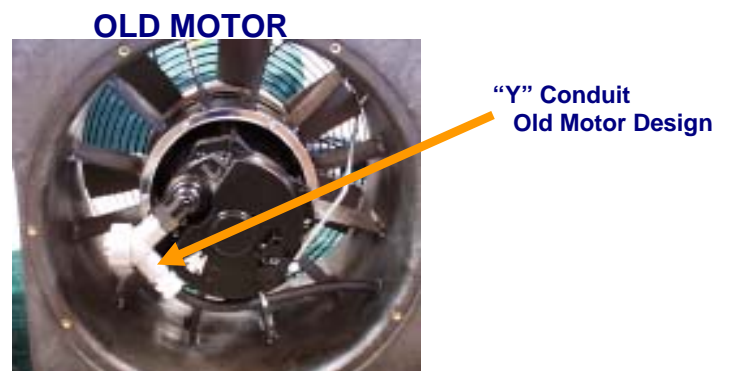
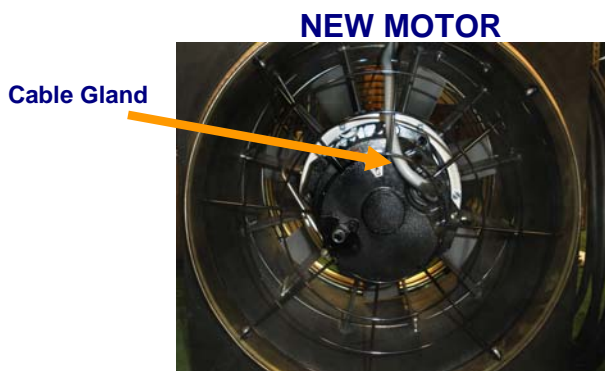
- Philips screw driver
- Flathead screw driver
- ½" Drill Bit
- ¼" Drill Bit
- Drill Motor
- 10-24 Wrench
- 7/16" Wrench
- 7/32" Allen hex bit socket
- 3/8" Ratchet

Process Summary:

1. Remove old motor
2. Drill new holes for:
 - A) Switch Rod
 - B) Power Cable
 - C) Junction Box
3. Install new motor

Installation Instructions:

Refer to (Figure 1) for over all assembly and components names.



NOTE:* Cut out templates for Switch Rod and Junction Box before continuing.

Step 1: Verify you have received all the parts identified in the ATEX motor kit shown in the list above.

Step 2: Remove the air discharge duct adapter with the 1/8" Allen wrench. **See Figure 2**

Step 3: Remove cap-cover on the "Y" conduit fitting on the back side of the motor to expose the wire connections.

3A:) Cut wires to remove wire nuts there are 3 each.

3B:) Loosen the compression fitting to remove the power cord. **See Figure 3 & 3.1**

Step 4: Remove switch rod retain cap and switch rod from the motor. **See Figure 4**

Step 5: Remove air in take grill and air intake duct adapter with the 1/8" wrench. **See Figure 5**

Step 6: Remove the 7/16"-20 hex impeller nut and flat washer from the motor shaft. **See Figure 6**

6A:) Write a mark on the face of the impeller to indicate the orientation during reinstallation.

Step 7: Remove impeller; Save motor shaft key and spacer washer. **See Figure 7**

Step 8: Remove 4 bolts located behind the impeller with the 7/32" Allen wrench. **See Figure 8 & 8.1**

Note: Hold the back of the motor while removing the 4 bolts so it does not drop out.

Step 9: Clean and degrease blower housing if required.

Step 10: Once the motor is removed you will need to plug up the hole that the power cord once went through. Install plug supplied into the hole from the inside of housing. **See Figure 9 & 9.1**

Note: Secure plug in hole with a silicon adhesive or a drop of super glue.

Step 11: Remove the six screws holding the C-face adapter in the center of the housing with a Phillips screws driver. Rotate C-Face adapter one bolt position clockwise as shown in **Figure 10.**

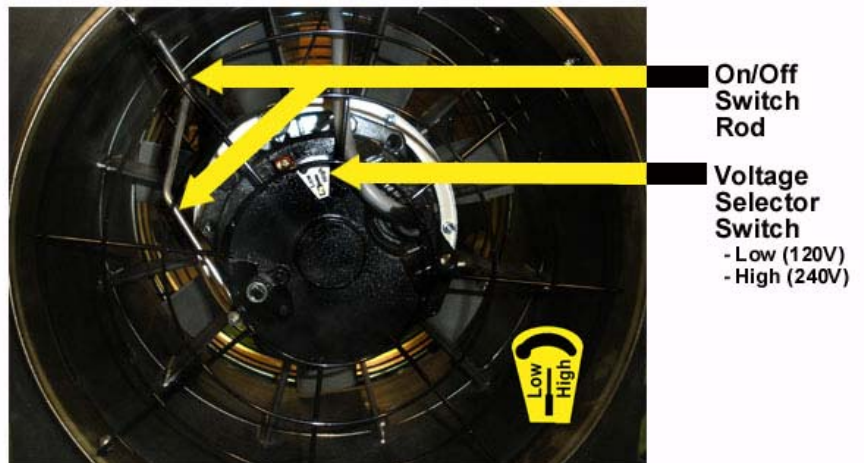
Note: The orientation and location of the mounting holes in the C-Face Mount has change.

Step 12: Reinstall the six C-Face retaining screws, nut ring, and nuts.

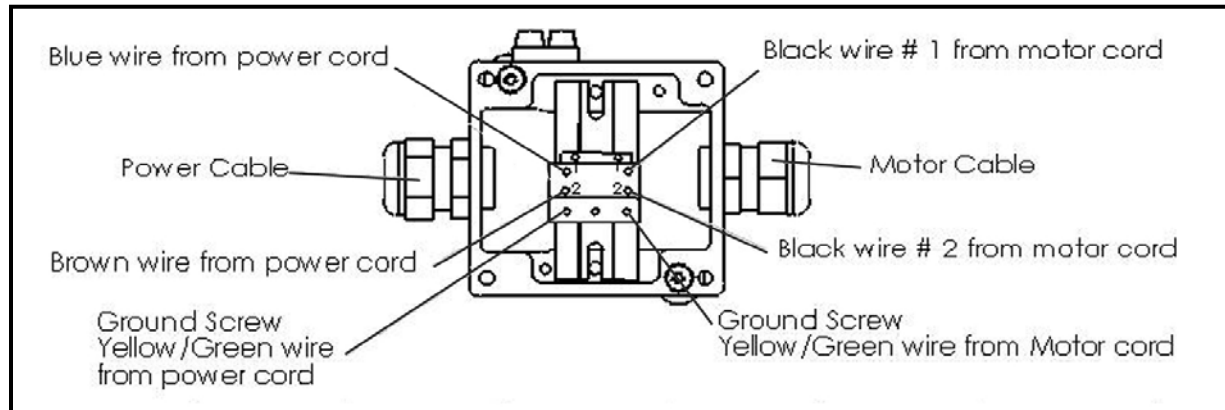
Step 13: Install new motor to the C-face adapter with the 4 screws removed from (Step 8) using a 7/32" Allen drive. **See Figure 11 & 11.1**

Note: The clocking position of the motor power cable and switch tab position prior to torquing down the motor mount screws.

Step 14: Adjust the voltage selector switch on the back of the motor for 120VAC (Low Voltage) or 240 VAC (High Voltage) to match your application.

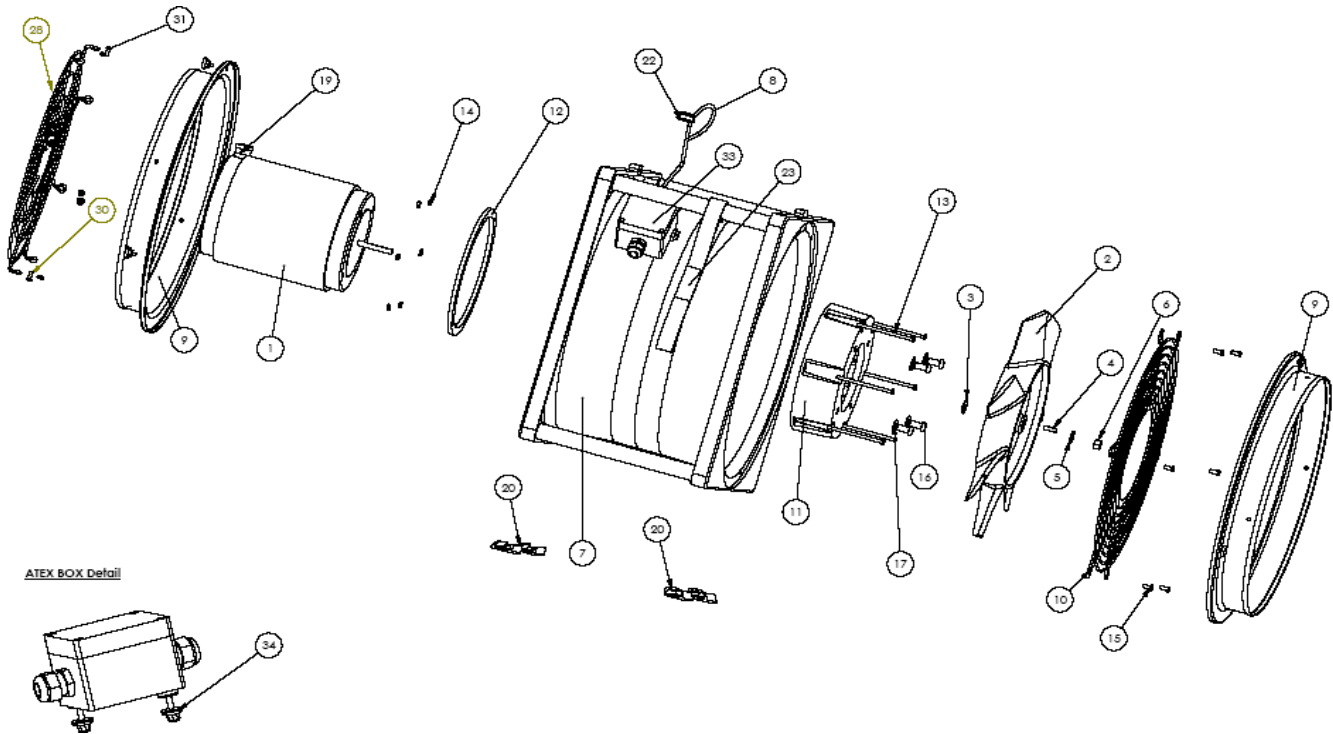


- Step 15:** Install impeller spacer onto the motor shaft. *See Figure 13*
- Step 16:** Install impeller with key onto the motor shaft. *See Figure 14*
- Step 17:** Install 7/16" flat washer onto motor shaft. *See Figure 15*
- Step 18:** Install 7/16-20 impeller hex nut onto motor shaft and torque down. *See Figure 16*
- Step 19:** Reinstall the air intake grill and air intake duct adapter. *See Figure 17 & 17.1*
- Step 20:** Locate drill templates. *See Figure 18*
- Step 21:** Position drill templates over the top of the enclosure as indicated.
- Step 22:** Obtain the switch rod and the 3/16 washer cap push nut and assemble them onto the motor through the old switch rod hole. Using a 1/4" drill bit, drill a new hole with the templates provided. You may have to angle the drill bit when drilling the new holes. Once this done reinstall the push cap back onto the switch rod as shown below. *See Figure 19 & 19.1*. Rear housing should look like *Figure 19.2* when done.
- Step 23:** Obtain the switch box part # **EZ-080305002CE**, *See Figure 20*.
- Step 24:** Obtain four seal washer 5/8" OD x .200 ID part # **FZ-Washer-A311**, and two 6-32 part # **FZ9100504-BH**, then install them into the box, as shown below. You will also need two 6-32 part # **FE96008NY** hex nuts. *See Figure 21 & 21.1*
- Step 25:** Place grommet part # **EZC003** in the cable hole as shown below. *See Figure 22*. You will need to drill the holes out first. Start with a small hole first; then drill the hole out to a diameter of (0.50 Cord hole only), using the template supplied. This hole is at the top of the fan housing. Junction box holes are only 1/4" in diameter. **This is done at the top right side rear of the motor. You may have to angle the drill bit when drilling the holes. See Figure 22.1**
- Step 26:** Place the junction box onto the housing using the holes that were drilled out with the hole template. Tighten the screw down using the Ny-Lock nut supplied, place one set of washers on the out side of the housing and the other set in the inside of the housing. *See Figure 23 & 23.1*
- Step 27:** Pull the motor cord through the cable hole and through the grommet as shown in *Figure 24 & 24.1*. **Note: You may need to use cable pull lubricant to help pull the cable through the hole.**
- Step 28:** Pull the motor cable through the gland nut as shown below and tighten down. Then install the ferrules onto the wire ends on the junction. *See Figure 25*
- Step 29:** Install the wires in the switch box as shown below using the ferrules provided. *See wiring diagram below. Also see Figure 26*. Once complete, install lid on the Switch Box. *See Figure 26.1*



Step 30: Reinstall rear discharge guard onto the housing. **Test fan to ensure blower is working.** See **Figure 27**

Figure 1



- | | |
|---|---|
| <ol style="list-style-type: none"> 1. ATEX 1.5-60/50HZ X-PROOF MOTOR 2. EFC/EFI/400 SERIES IMPELLER 7 BLADE 3. 1/2" FLATWASHER, SS AN960 4. KEY, 3/16" x .75"L IMP. 5. 7/16" FLATWASHER, SAE, PLTD 6. 7/16-20 HEX NUT, NYLOCK, THIN 7. HOUSING ASSEMBLY, CONDUCTIVE 8. SWITCH ROD X-BOX FAN SERIES 9. 16"/40cm Duct Adapter 2 A 10. SAFETY SCREEN, 16" BOX FAN 11. ADAPTER CASTING, C-FACE 12. FLANGE/ELECTRIC FAN 13. 10-24 X 3-1/2" PHILLIPS P/HEAD M/SCREW PLTD. STL. 14. 10-24 HEXNUT, NYLOCK, THIN | <ol style="list-style-type: none"> 15. 1/4-20x1/2" B/H C/S STL 16. 3/8-16 x 1" B/H CAPSCREW, BLK ALLOY STL. 17. 3/8 L/W STEEL 18. ATEX 97430 yellow 120V PLUG 19. 6-32 x 1-1/4" PHILLIPS HEAD C/S, SS 20. FOOT, ELECTRIC FAN 21. 6-32 HEXNUT, NYLOCK, PLTD. STL. 22. RUBBER GROMMET 23. CORD STRAP, BLACK 28. EXHAUST GUARD, X-BOX FAN SERIES 29. 3/16" WASHER-CAP PUSH NUT 30. HEXNUT, 10-24 SELF LOCKING STL PLTD 31. 10-24 X 1/2" B/H C/S SS 32. ATEX CE/UL/CSA EX-PROOF BOX W/TERMINALS 33. 5/8" OD X .200" ID SEAL WASHER |
|---|---|

Figure 2

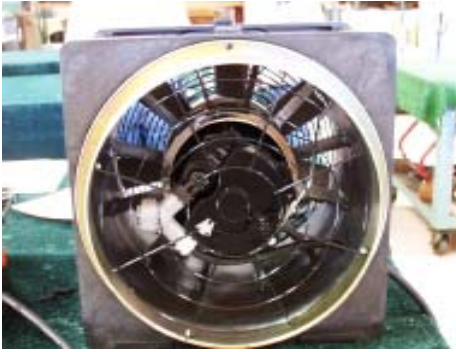
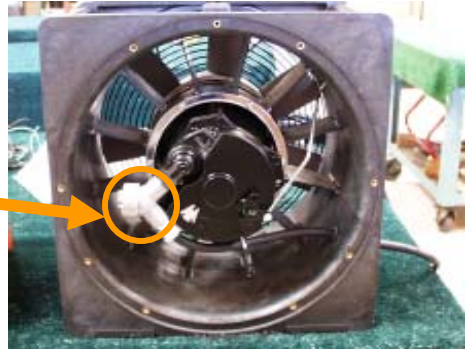


Figure 3



Compression Fitting

Figure 3.1



Figure 4



Figure 5



Figure 6 Figure 7



Figure 7



Figure 8

4 Bolts



Figure 8.1



Figure 9



Figure 9.1



Figure 10



Figure 11



Figure 11.1 directions not clear

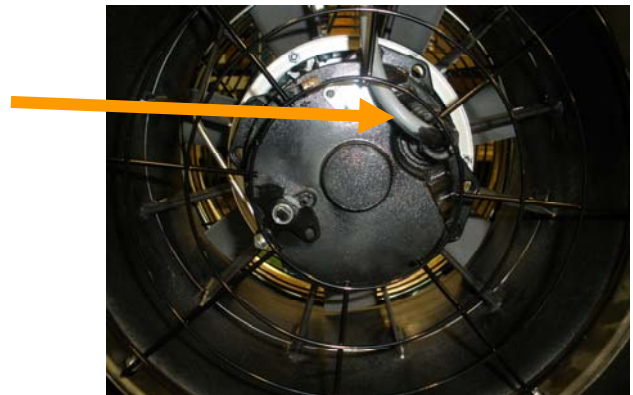
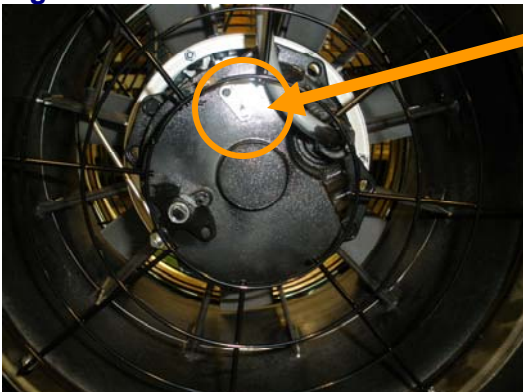


Figure 12



Voltage Switch

Figure 13



Figure 14

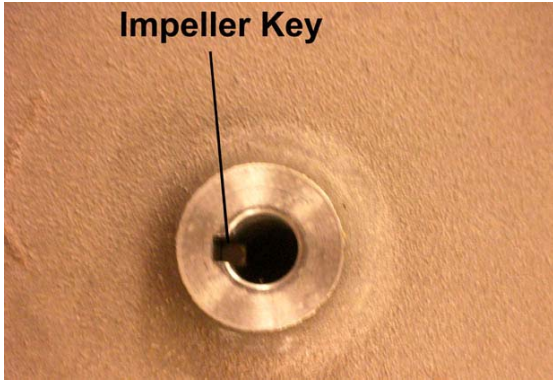


Figure 15



Figure 16



Figure 17



Figure 17.1



Figure 18



Figure 19



Figure 19.1



Figure 19.2



Figure 20



Figure 21



Figure 21.1



Figure 22



EZC003

Figure 22.1

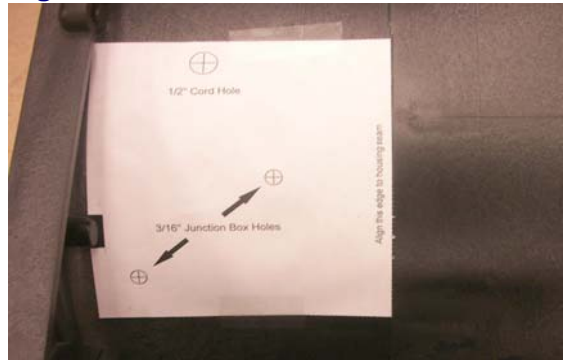


Figure 23 (Junction box set sideways)

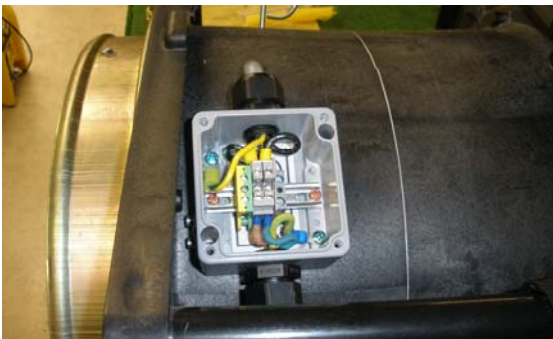


Figure 23.1 (inside view of housing)



Figure 24



Looking from
the inside of
the housing

Figure 24.1



Figure 25



Figure 26



Figure 26.1



Figure 27

