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FM-4C, FM-5C, FMi 301, & FMi 402 Transmitter

Fan Upgrade Installation Instructions

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FM-4C, FM-5C, FMi 301, & FMi 402 Transmitter

Fan Upgrade Installation Instructions

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1 Purpose of this Document

The purpose of this document is to describe the necessary steps to upgrade the cooling fans in an FM-4C, FM-5C, FMi 301, and FMi 402 transmitter.

The Fan Upgrade Kit was developed for specific customers operating an FM-4C, FM-5C, FMi 301, or FMi 402 outside the normal operating specifications.

NOTE: This fan upgrade kit was intended only for transmitters shipped prior to September 10, 2007 that were equipped with the original fan (part number 380-0024). This upgrade kit was created as an interim measure until such a time when a direct replacement fan was sourced. All transmitters shipped on or after September 10, 2007 will include an improved direct replacement fan (part number 380-0124) rendering this fan upgrade kit no longer necessary.

2 Tools / Items Needed

- No. 2 Phillips Screwdriver
- 5/16" Nut Driver
- 5/16" Open End Wrench
- Side Cutters
- P/N 979-0418 Kit, Fan Upgrade (supplied by Broadcast Electronics, Inc.)
 - P/N 380-9100 Fan, W2E208-BAZO-51, EBM (Qty 3)
 - P/N 459-0188 Ring, Fan Conversion (Qty 3)
 - P/N 421-6008 Kepnut, 6-32 (Qty 21)
 - P/N 949-0430 Cable, Fan Power (Qty 3)
 - P/N 402-0001 Tyrap, 5.5" Long, Black (Qty 12)

3 Estimated Time to Complete the Fan Upgrade

Providing that you have the tools and materials listed above, it will take approximately 1 hour to complete the installation of the Fan Upgrade. The transmitter will be off of the air during the Fan Upgrade process.



4 Fan Upgrade

Step 1 – Turn the Transmitter's RF Output OFF



Figure 1 – Turn the Transmitter's RF Output OFF

Step 2 – Turn the Transmitter's AC Power Breaker to the OFF position.



Figure 2 – Transmitter ON / OFF Breaker Location

Step 3 – Turn the Service Entrance Breaker supplying AC Power to the Transmitter to the OFF position.



Step 4 – Remove the outer rear panel from the transmitter.

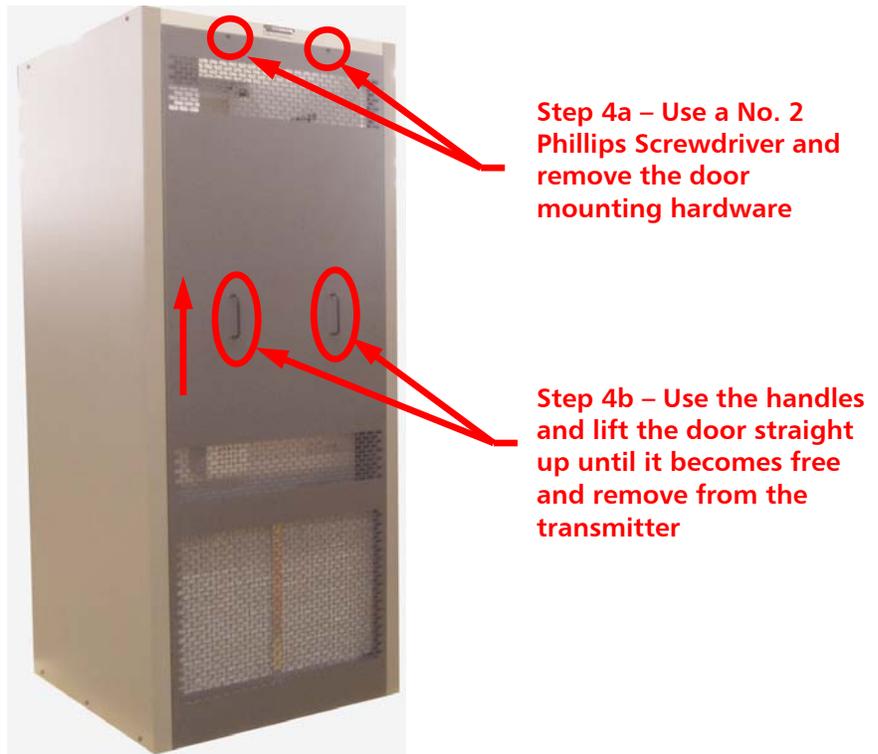


Figure 3 – Remove Outer Rear Panel

Step 5 – Using a No. 2 Phillips screwdriver, remove the lower rear cover panel hardware to gain access to the transmitter’s fan panel.

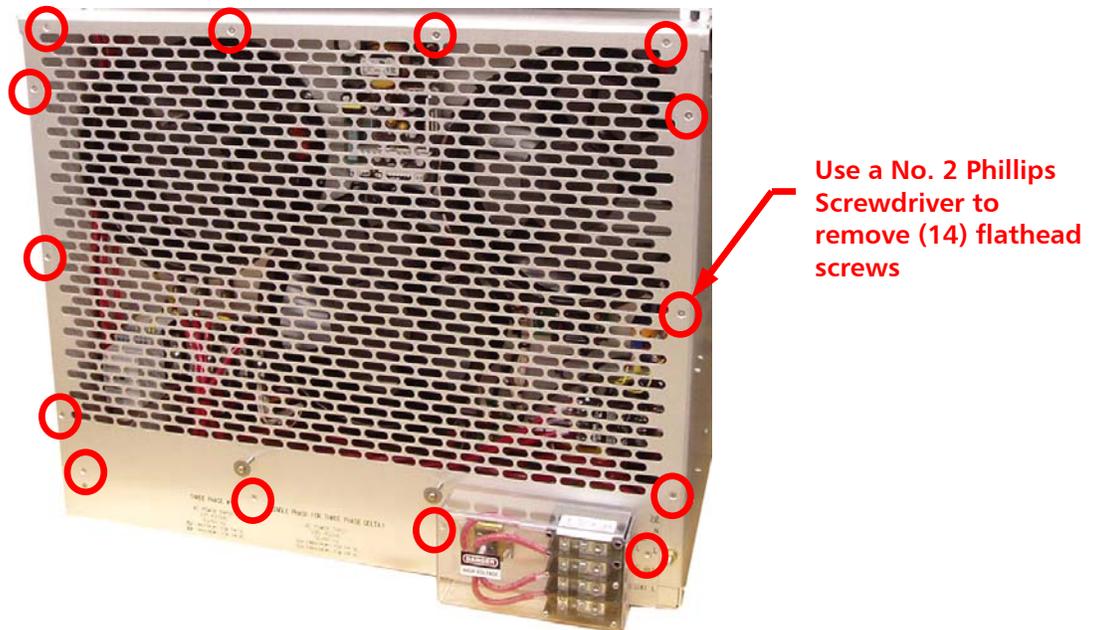


Figure 4 – Fan Panel (Rear of Transmitter)

Step 6 – Disconnect the fans from the wiring harness as shown (cut tyraps as needed).

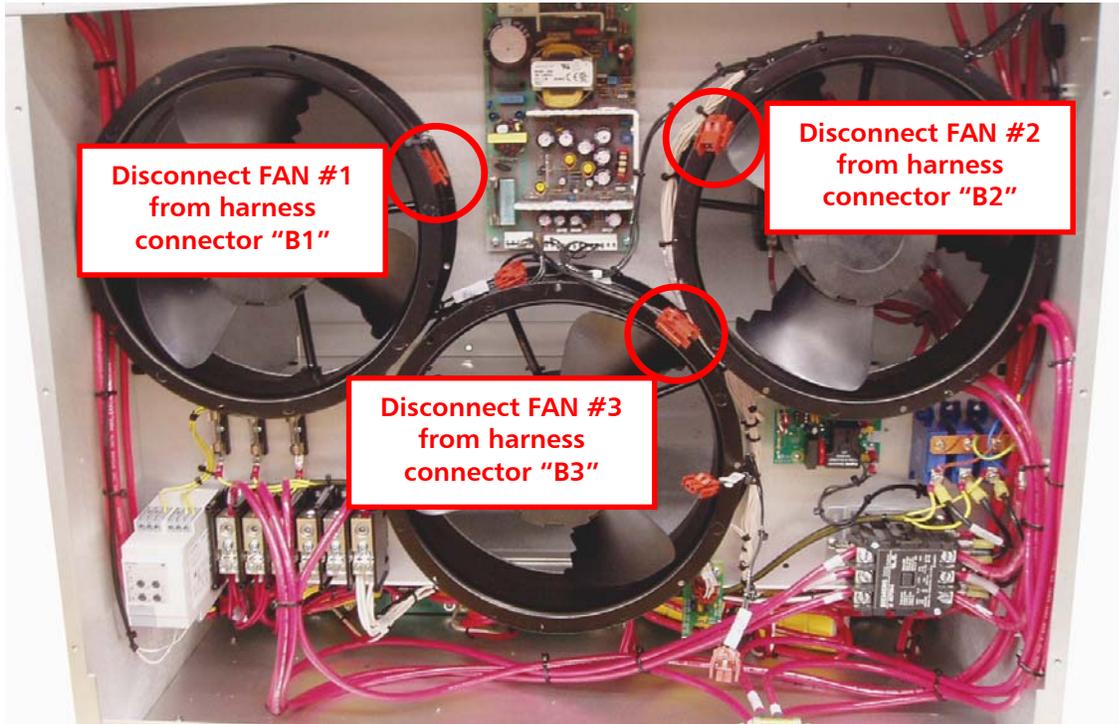


Figure 5 – Disconnect Fans from Wiring Harness

Step 7 – Use a 5/16" Nut Driver or open end wrench and remove the hardware that secures each fan in place (3 places per fan).

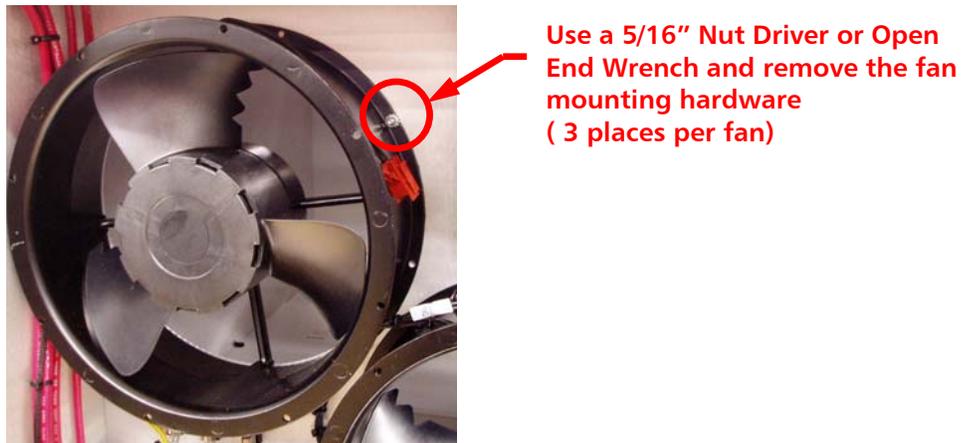


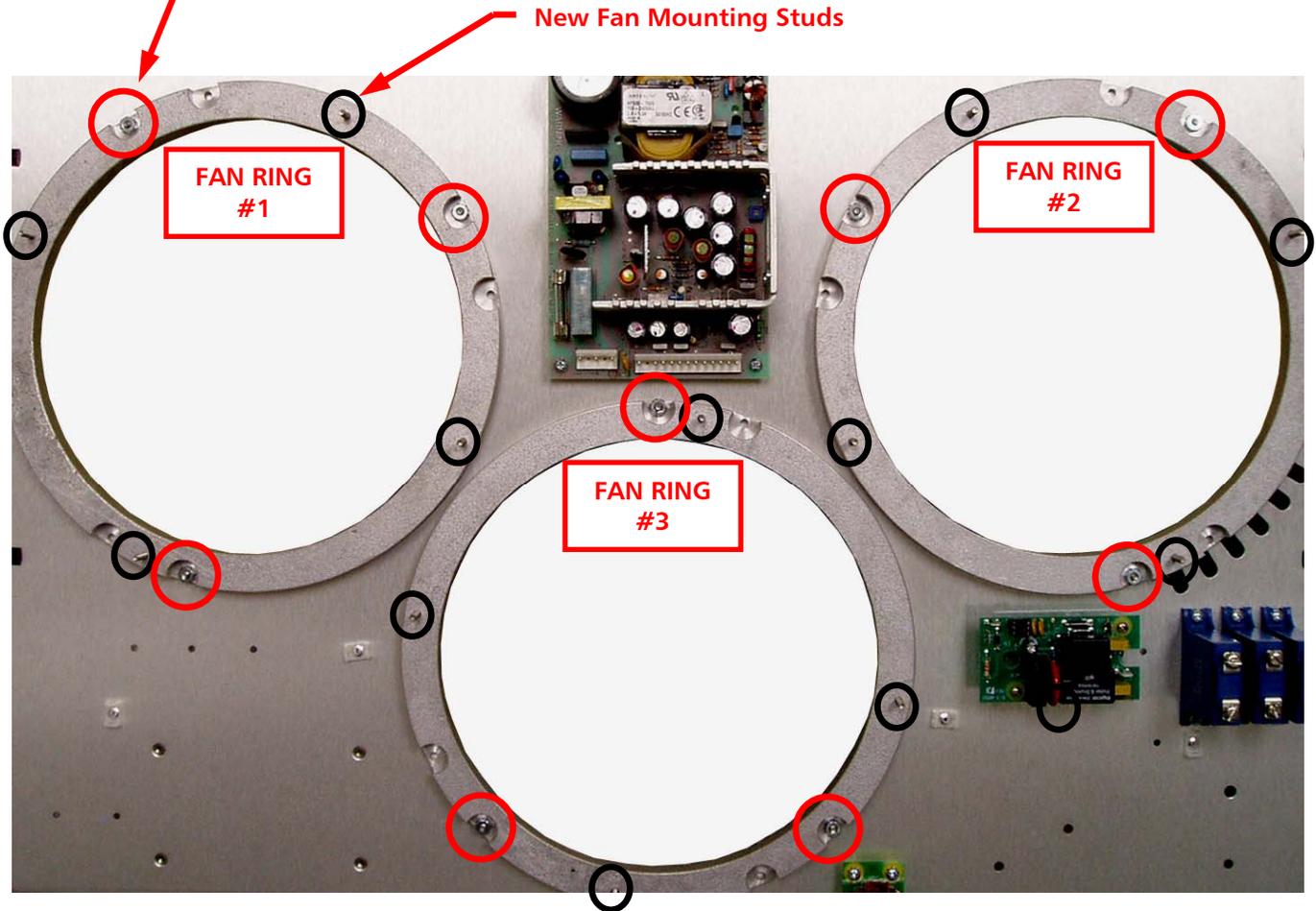
Figure 6 – Removal Fan Mounting Hardware

Step 8 – Remove all three fans from the transmitter.

Step 9 – Orient and install the (Qty 3) Fan Conversion Rings (P/N 459-0188) as shown using a 5/16" Nut Driver and (Qty 9) 6-32 Kepnuts supplied in kit.

Use a 5/16" Nut Driver to Install (Qty 3 per Fan Ring) 6-32 Kepnuts onto the existing studs that the original fans were mounted on.

NOTE: Ensure that the orientation of each ring is exactly as shown.



NOTE: Some components and Wiring Harness are omitted from this illustration for clarity.

Figure 7 – Fan Conversion Ring Orientation and Installation

Step 10 – Install the Fan Power Cable (P/N 949-0430) on each fan as shown.

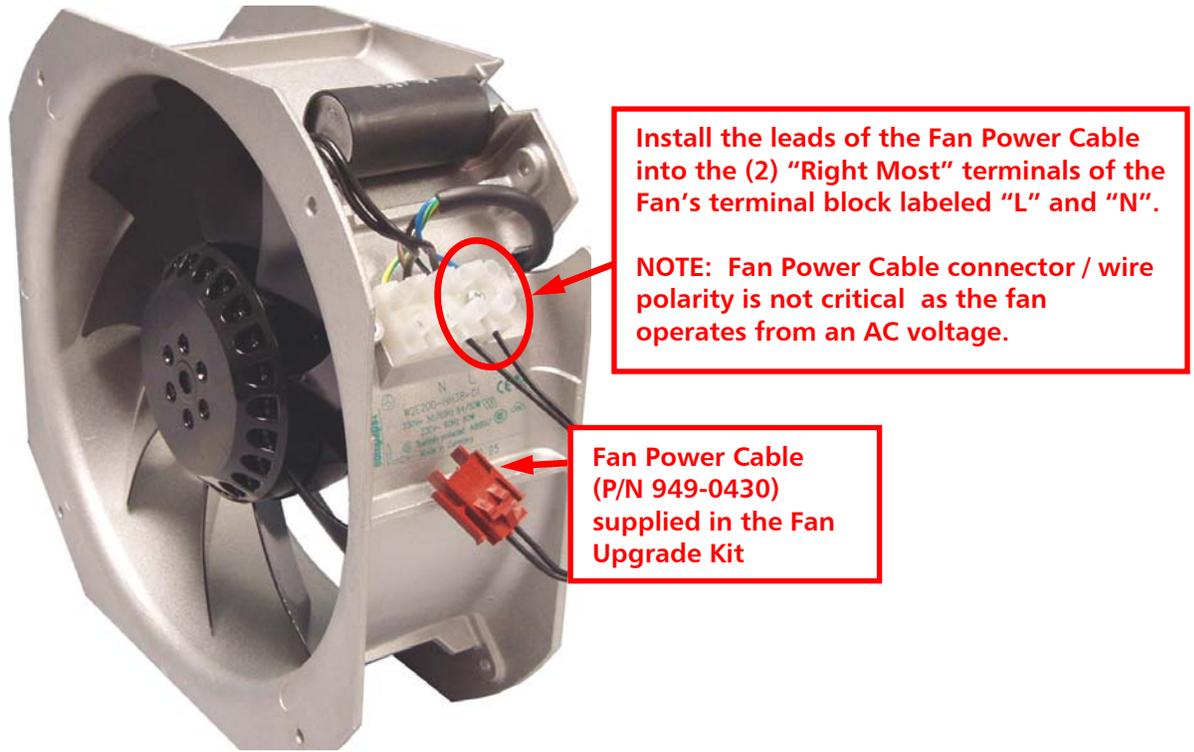


Figure 8 – Install Power Cable on the Fans

Step 11 – Orient and install the (3) Fans (P/N 380-9100) as shown. The fans will mount on studs which will protrude up through the bottom flanges. Use a 5/16" Nut Driver or Open End Wrench to install the (Qty 12) 6-32 Kep Nuts.

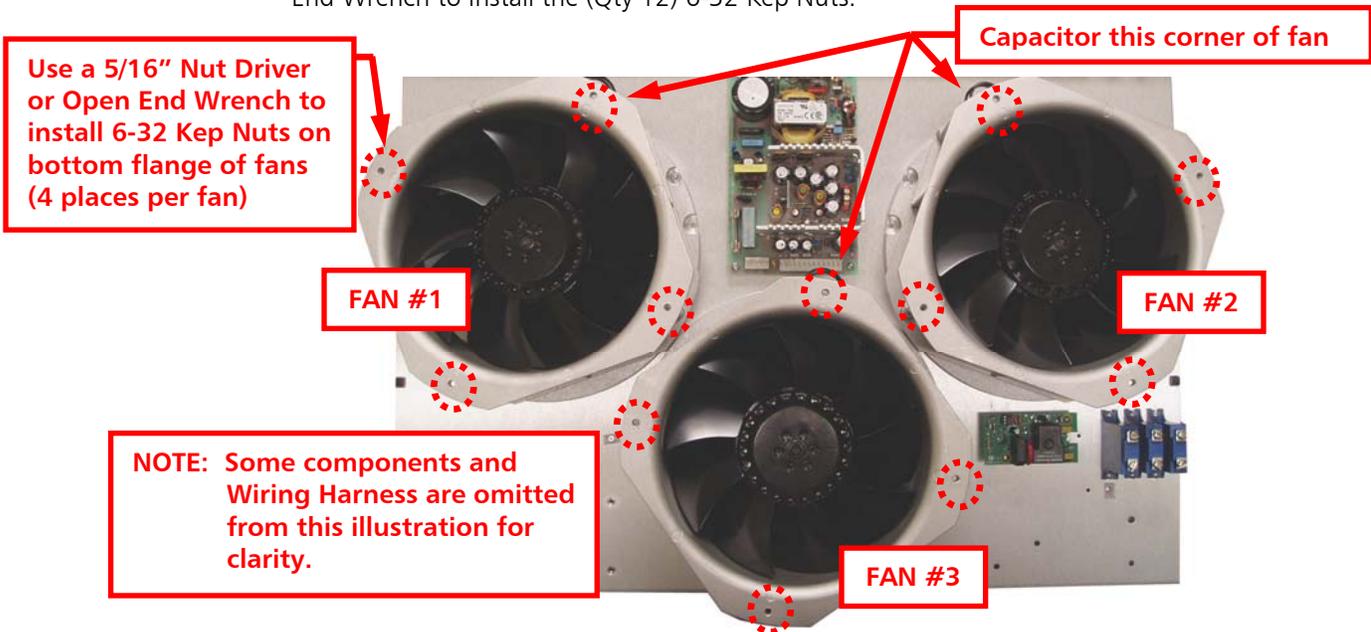


Figure 9 – Install New Fans



Step 12 – Connect the Fans to the Wiring Harness.

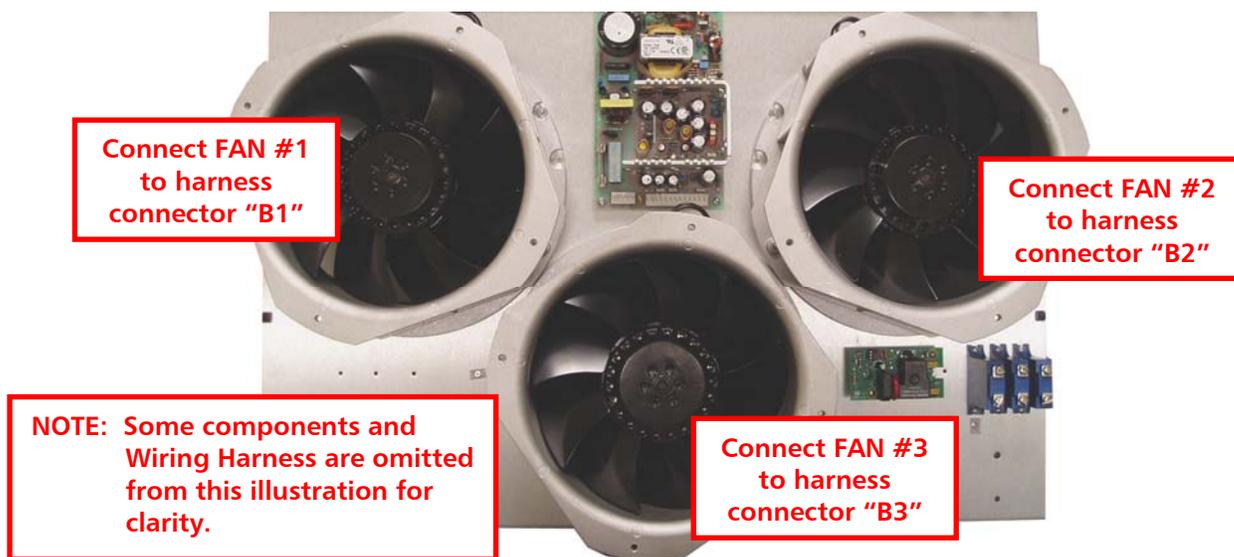


Figure 10 – Wire Harness Connections

Step 13 – Dress the harness around the new fans as it was prior to the replacement of the fans. Using the supplied tyrap, secure the harness to the fans as required (be sure to trim the excess tyrap material). Reference the figure below for original harness routing.

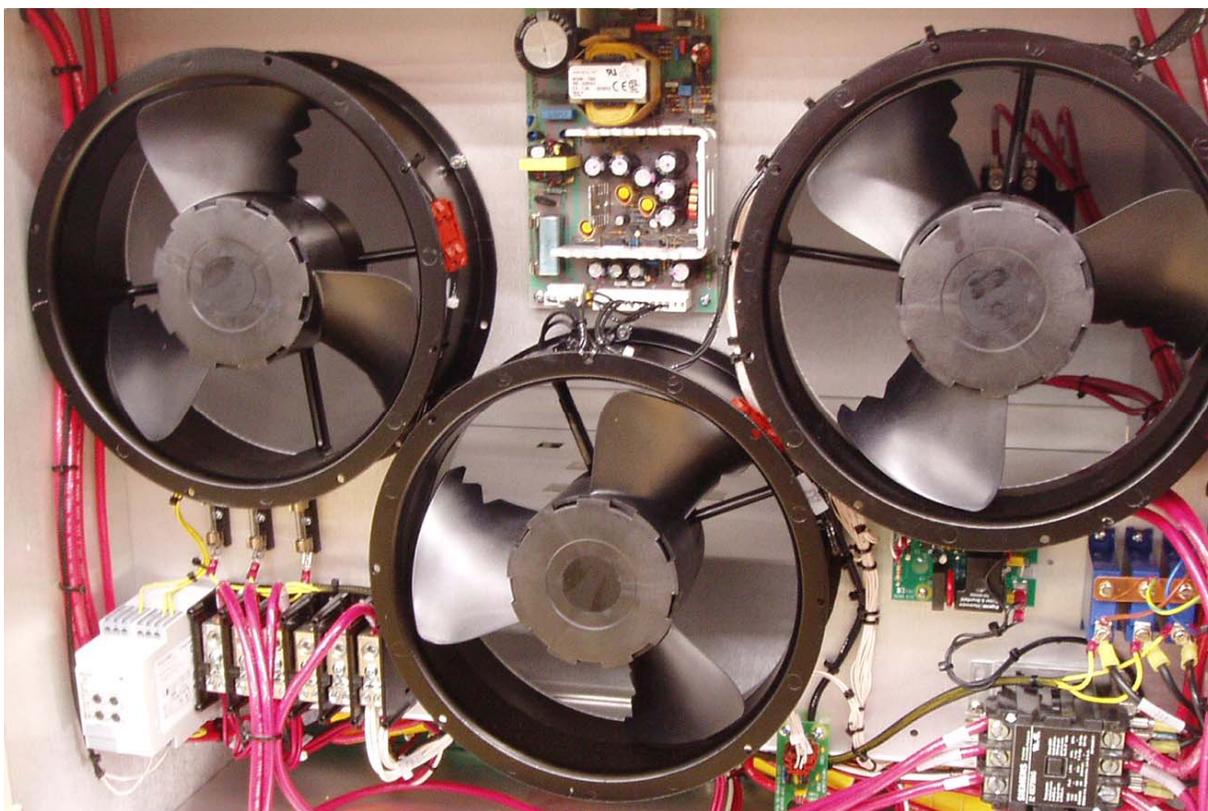
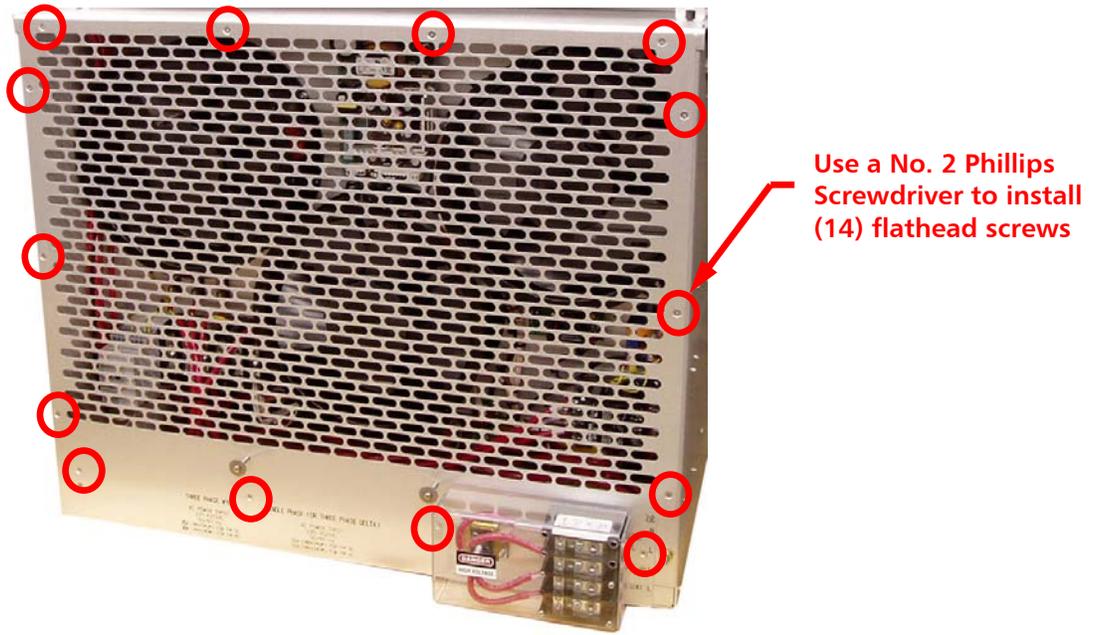


Figure 11 – Original Harness Routing Shown for Reference

Step 14 – Install the Fan Panel Cover.



Use a No. 2 Phillips Screwdriver to install (14) flathead screws

Figure 12 – Install Fan Panel Cover (Rear of Transmitter)

Step 15 – Install the outer rear panel on the transmitter.



Step 15a – Using the handles place the door on the transmitter and slide downward into position

Step 15b – Use a No. 2 Phillips Screwdriver and install the door mounting hardware

Figure 13 – Install Outer Rear Panel



Step 16 – Turn the Service Entrance Breaker supplying AC Power to the Transmitter to the ON position.

Step 17 – Turn the AC Power Breaker on the front of the transmitter to the ON position.

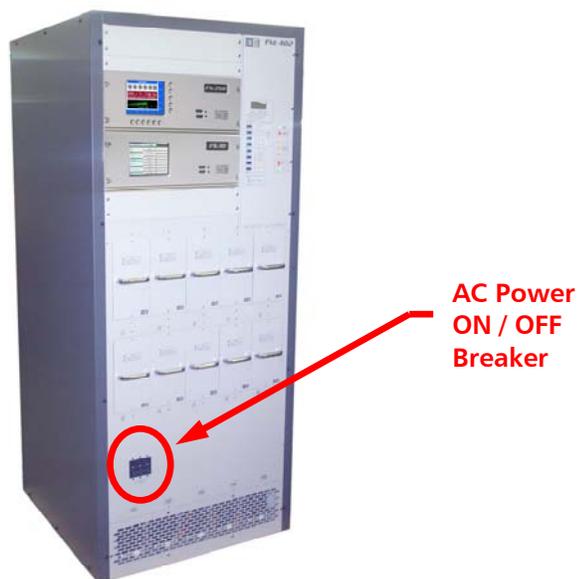


Figure 14 – Transmitter ON / OFF Breaker Location

Step 18 – Turn the Transmitter's RF Output ON



Figure 15 – Turn the Transmitter's RF Output ON

5 RF Technical Services Contact Information

RF Technical Services -

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