

# FM-220 FAN & MOTOR REPLACEMENT INSTRUCTIONS

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## PARTS SUPPLIED WITH THIS KIT:

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|--------------------------|--------------------------------|
| (1) Fan Motor with Leads | (4) 8-32 Nuts                  |
| (1) 6" 6-Bladed Fan      | (2) 8-32x1/4" Aluminum Spacers |
| (2) Fender Washers       | (2) #8 Lock Washers            |
| (2) 8-32 x 2" Screw      | (2) Blue Wire Nuts             |

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## FM-220 FAN MOTOR PREPARATION INSTRUCTIONS

- ( ) One at a time, remove black hex head screws holding the two rotor halves together and replace each with one #8-32 x 2" screw. Be sure to reverse the orientation of the screw so that the threaded end of the screw sticks out the backside of the frame (opposite direction of the motor shaft).
- ( ) On each end of the screws you just installed, place a #8 lock washer and a #8-32x1/4" aluminum spacer and tighten spacer on each side.
- ( ) On top of each spacer, screw on one #8-32 nuts and tighten. The additional #8-32 nuts and fender washers will be used to attach the fan to the rear of the amp.

## FM-220 FAN MOTOR INSTALLATION INSTRUCTIONS

To start the installation, read these instructions very carefully. Now unplug the amplifier and remove any input, output and control cables that may be connected to the back of the amplifier. Place the amplifier on a book, front panel up, and remove the bottom screws holding the feet and case in place. Lift the case up and remove it from the amplifier. Place the amplifier on the bench with the front panel facing you. You are now ready to proceed with the installation.

- ( ) Remove the 15 sheet metal screws that hold the perforated cover in place and remove this along with the top rear plate cover. Carefully remove the tubes and set them aside.
- ( ) If you have not unpacked the motor and fan blade, do so now.
- ( ) Using one of the larger foam pieces as a cushion, place the motor (shaft up) on the foam pad and press the mounting studs into the foam.
- ( ) Take the fan blade (metal ring up) and press the blade down onto the shaft. Do not press too far. Have about 1/4" of the shaft protruding through the fan blade hub.
- ( ) Remove the outer nut and washer from each of the mounting studs of the new motor.
- ( ) Turn the amplifier upside down. Locate the 2 wires coming from the old fan motor and cut them where they go through the chassis.
- ( ) Turn the amplifier back right side up. Remove the screws (or nuts, whichever you have) holding the old fan motor to the rear panel.
- ( ) Lift the old motor and fan out of the chassis through the area vacated by the tubes.

- ( ) Lower the new motor and fan into the area vacated by the old fan and motor.
- ( ) Push the mounting studs through the existing mounting holes and secure with the provided washer and nut on each stud. Tighten both nuts.
- ( ) Turn the amplifier upside down.
- ( ) Pull the motor leads out of the bottom of the fan cutout. Cut both wires so that about 2" extend outside the fan cutout with the leads dressed against the rear panel and pulled toward the circuit breakers.
- ( ) Strip approximately ½" of insulation from the motor leads. In a like manner, strip ½" of insulation from the fan motor power leads that were previously cut.
- ( ) Twist the fan motor leads to the fan power leads and secure with the provided blue wire nuts. Make sure that these connections are tight and are fully insulated.
- ( ) Dress the connected wires along the rear of the chassis under the rear panel lip.
- ( ) Turn the amplifier back right side up and replace the tubes.
- ( ) Replace the perforated cover and top rear plate cover. Reinstall the 15 sheet metal screws holding these pieces in place. **DO NOT** over tighten these screws, as it is fairly easy to strip the screw threads in the aluminum underneath.
- ( ) Reinstall the case and feet using a book to support the amplifier.

This completes the replacement of the fan motor on your SB-220/SB-221. You will notice a big difference in fan noise. The new fan and motor assembly is quieter than the old motor and moves more air for better cooling.

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