Service Bulletin

FEDERAL SIGNAL CORPORATION SERVICE DEPARTMENT April 21, 2008

Subject:
Field Service Bulletin for the Federal Signal EQ2B Siren

Issue:
Premature failure of the EQ2B siren due to misalignment of amplifier bias

Some EQ2B units had the amplifier bias adjustment improperly adjusted during manufacturing at Federal Signal. This misalignment can cause premature amplifier failure due to overheating of the power amplifier output transistors.

Units Affected:
All units manufactured between the dates of October 1st of 2006 (date code 06275) and March 1st of 2008 (date code 08061) that have not already been serviced by the Federal Signal Service Department may be affected

Procedure:
Re-aligning the bias is a fairly simple procedure that can be accomplished in the field to prevent premature failure of the EQ2B due to incorrect bias settings. Refer to the attached pages for the procedure.

Service:
If you prefer, you can also contact the Federal Signal Service Department at 1-800-433-9132 or at empserviceinfo@fedsig.com to arrange to have Federal Signal correct the bias settings on your EQ2B units.

Tools Needed:
5/16” nut driver
1/4” nut driver
Small flat blade screwdriver
Amp meter

Warning:
Audible Equipment may produce LOUD sounds necessary to request the right-of-way. Audible equipment may cause hearing damage. Wear hearing protection. Refer to the Installation Manual or call 800-433-9132 for further instructions.

Please wear hearing protection or disconnect the connection between the siren amplifier and the speakers before beginning this procedure.

CHECKING THE DATE CODE

NOTE: in some instances, it may be easier to perform the bias check, than to remove the siren from the mounting surface to check the date code. If so, skip to the next section, OPENING THE UNIT.

The Date Code sticker is located on the bottom side of the EQ2B.

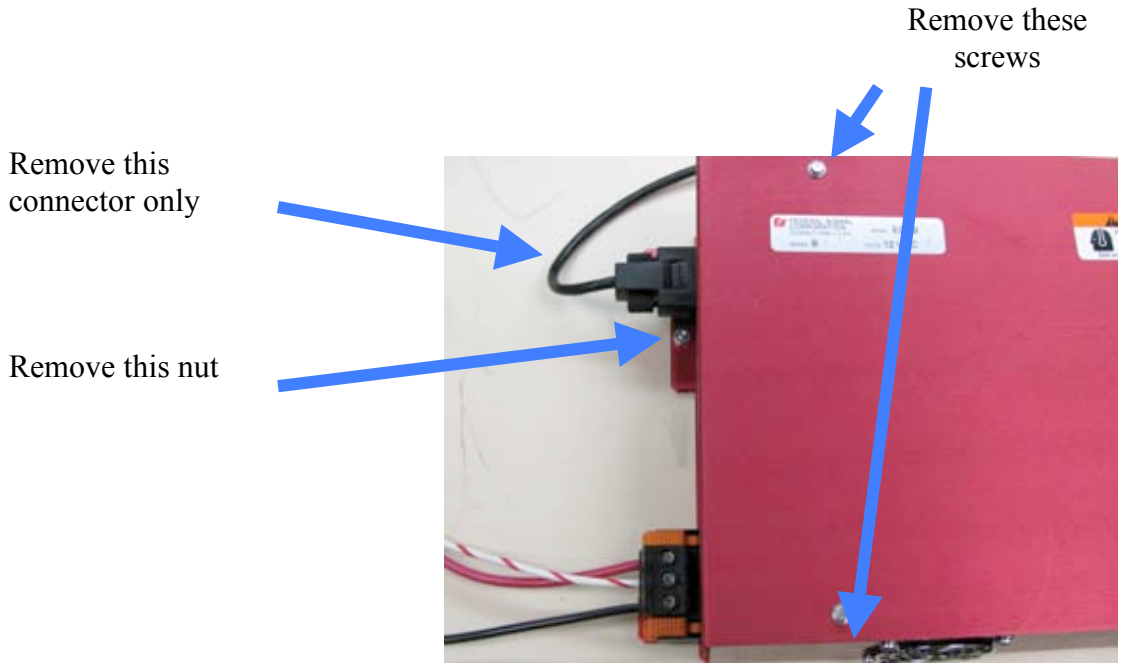
The first two digits signify the year (07). In this case, the year is 2007

The last three digits signify the day (162). In this case, the date is June 11th.

OPENING THE UNIT

Remove the DB9 (control head) connector going into the side of the amplifier. The speaker connector and the main power connector do not need to be removed.

Next, remove the four 1/4 inch screws from the top cover and the two 5/16 nuts from the lower tab.



Finally, remove the amplifier cover.

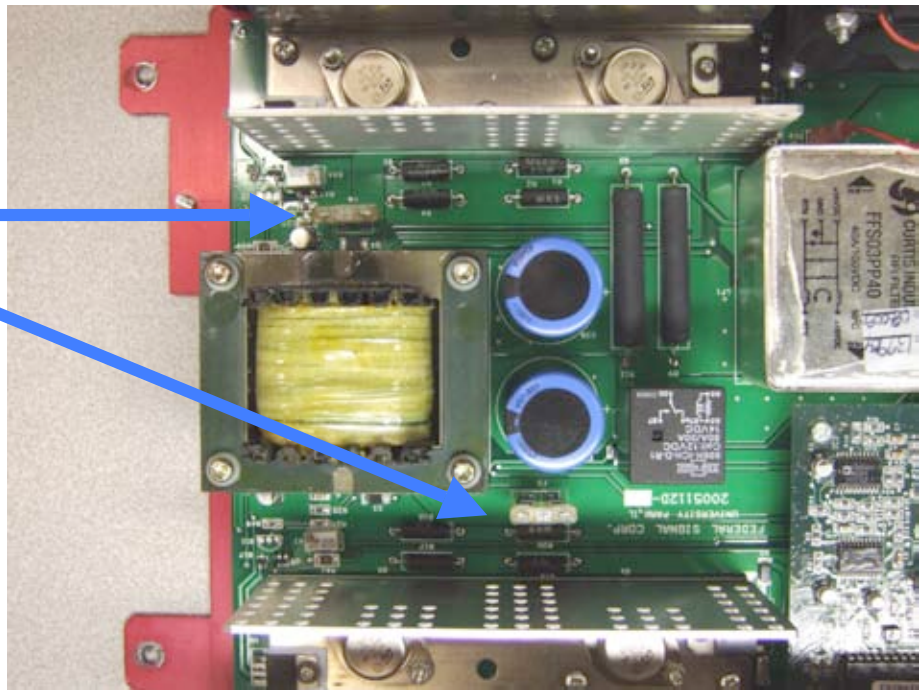
Proceed to the “CHECKING THE BIAS SETTING” section of this procedure.

CHECKING THE BIAS SETTING

Locating the fuses:

After removing the cover, locate the 25-amp, amplifier power stage fuses located in positions F5 and F6 on the amplifier PC board. These fuses reside near the large power transformer.

Amplifier power stage fuses (F5 & F6)

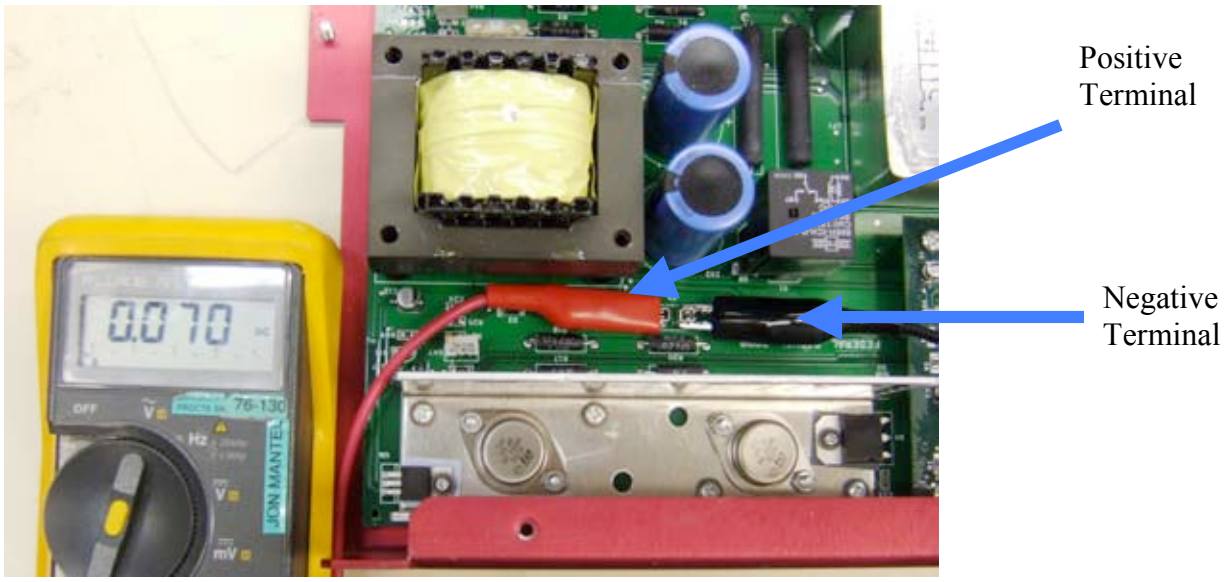


Connecting the Amp Meter:

1. Remove one of the 25-amp fuses and connect the amp meter across the fuse socket terminals as shown on page 5.

2. Make sure the meter leads are connected to the common input and the high current input terminals on the meter. Set the amp meter to the high current scale and set the signal type to DC. These are the power (commonly red) and ground (commonly black) leads used on the voltage meter.

3. Re-connect the DB9 connector, apply power to the unit and set the unit in MANUAL mode without engaging a siren tone. The siren should not create any sound. Check the meter in the manual mode with no tone coming from the siren. The amount of current should read 0.07 +/- 0.01 (see photo on page 5).



If the reading is within range, power down or shut off the siren, replace the fuse, and close the unit back up. No adjustment is needed.

If the reading is out of range proceed to the "ADJUSTING THE BIAS SETTING" of this procedure.

ADJUSTING THE BIAS SETTING

NOTE: If the unit requires a bias adjustment, you <u>MUST adjust both fuse locations</u>.

Adjusting the bias for the first location:

1. Remove the 25-amp fuse at location F6 on the PC board and connect the amp meter across the fuse socket terminals as shown.

2. Make sure the meter leads are connected to the common input and the high current input terminals on the meter. Set the amp meter to the high current scale and set the signal type to DC. These are the power (commonly red) and ground (commonly black) leads used on the voltage meter.

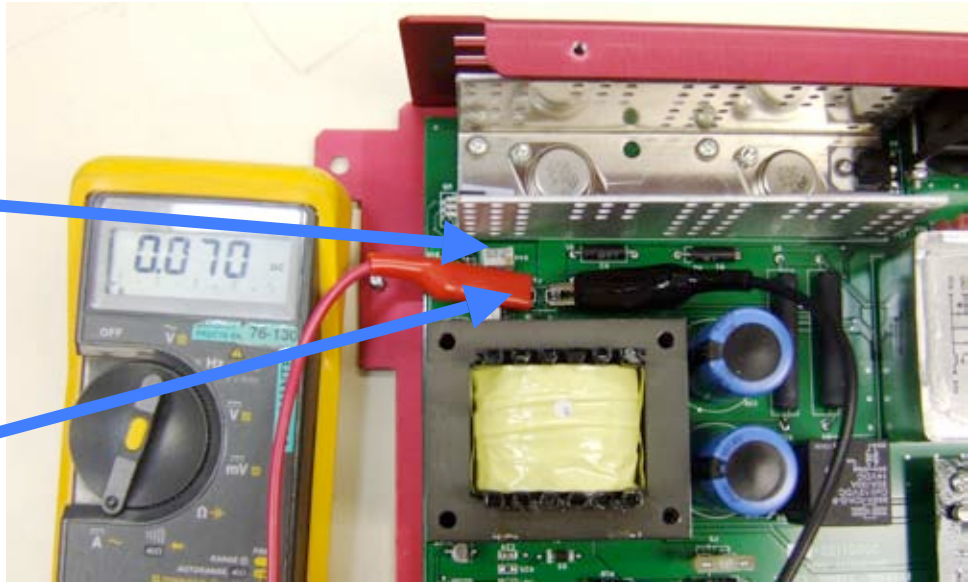
3. Using a small blade screw driver, adjust the screw head on the top of the potentiometer located in position R44 on the amplifier PC board. This is adjacent the fuse terminal in position F6 on the PC board. Turning the screw counter clockwise will lower the bias. Turning the screw clockwise will increase the bias.

4. Make sure you adjust quickly as the unit will start to warm up and this affects the bias settings.

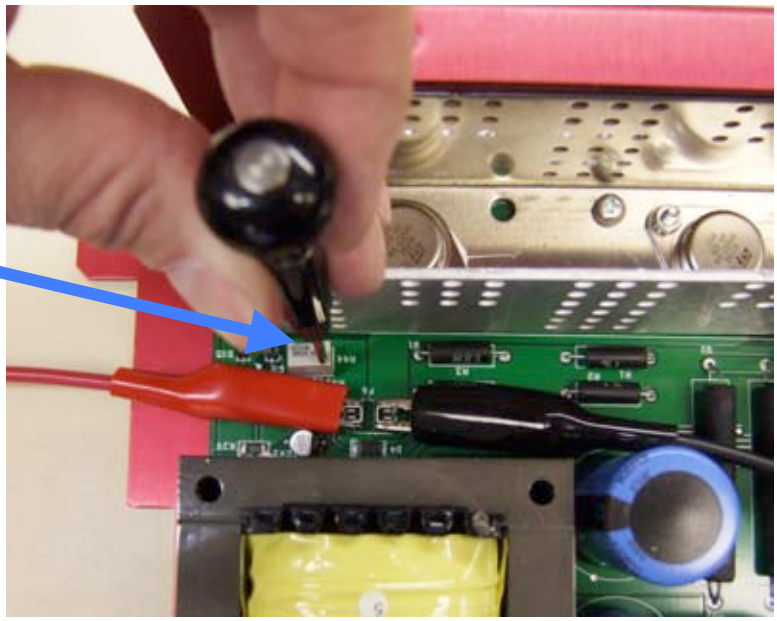
5. You should set it to 0.07 amps +/- 0.01 amps.

Potentiometer (R44)

Amp meter connected to Fuse (F6)



Adjustment screw on potentiometer (R44)



6. Turn the unit off and disconnect power.

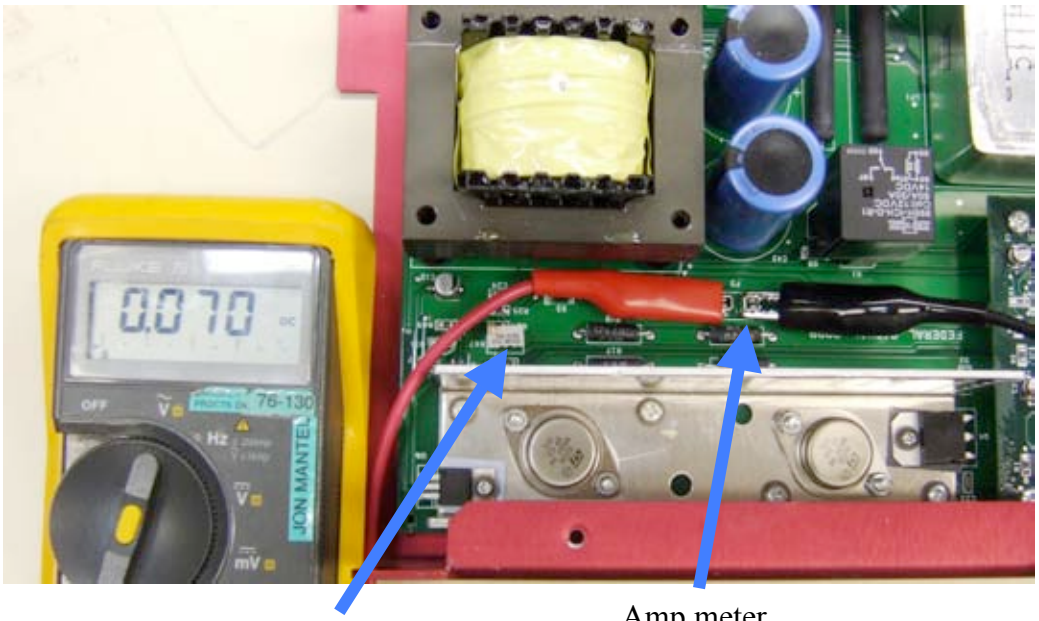
7. Disconnect the meter leads and re-install the 25-amp fuse.

8. Move onto the next step and “adjust the bias setting for the second fuse location” (see page 8).

Adjusting the bias for the second fuse location:

1. Locate the second power stage fuse located in position F5 on the amplifier PC board.

2. Remove F5 from the board and connect the meter leads across the fuse socket terminals as shown.



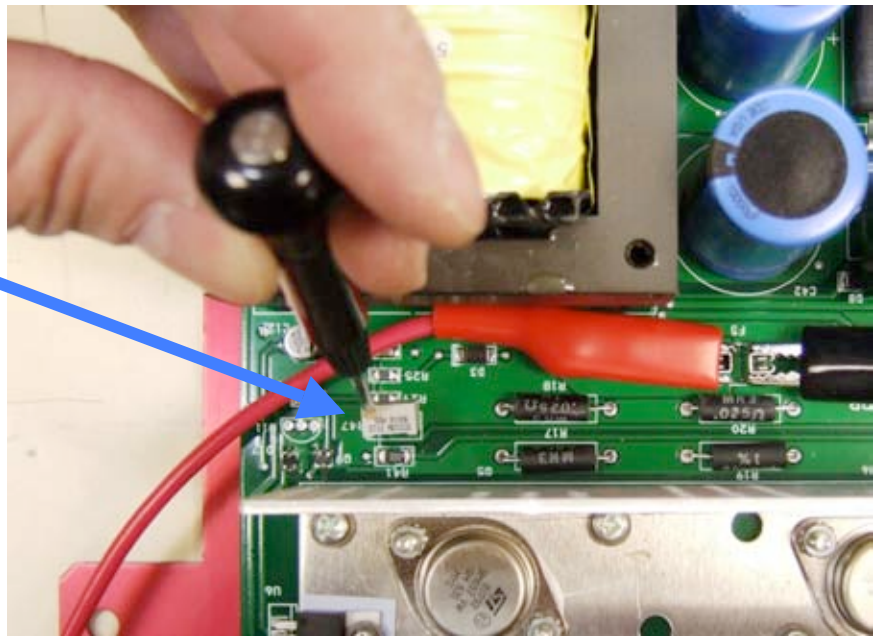
Potentiometer (R47)

Amp meter connected to Fuse (F5)

3. Re-apply power and place siren into MANUAL mode.

4. Using a small blade screw driver, adjust the screw head on the top of the potentiometer located in position R47 on the amplifier PC board. This is near the fuse terminal in position F5 on the PC board. Turning the screw counter clockwise will lower the bias. Turning the screw clockwise will increase the bias.

Adjustment screw on potentiometer (R44)



5. Make your adjustments quickly as the unit will warm up and this affects the bias settings.
6. Set the bias to 0.07 amps +/- 0.01 amps.
7. Replace the 25-amp fuse.
8. Re-install the cover.
9. Test the siren system for proper function.

Bias adjustment complete