



# Field Replacement of Fluorescent Power Supply in L-858 *Signature Series*<sup>™</sup> Sign

## **Document No. ALN130**

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# Record of Changes

Page	Rev	Description	EC No.	Checked	Approved	Date
All	A	Release new Service Bulletin	1735	JR	WT	12/13/06
All	B	Updated details about mounting new bd.	1817	JR	BB/RS	8/10/07
All	C	Added information about new board with wire leads	1890	JAK	ER	3/25/08

# Field Replacement of Fluorescent Power Supply

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## 1. Introduction

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This service bulletin provides instructions to remove an existing DC Power Supply (44A6380) and Power Transformer (35A0618) or an existing Fluorescent Power Supply (44A6631) and replace these items with a New Fluorescent Power Supply (44A6631) for the ADB Airfield Solutions Fluorescent Sign Assemblies numbered SFX-XXXXXXX and SHXX – XXXXXXXX.

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## 2. Special Tools and Equipment Required

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Refer to Tables 1 and 2 for the tools and equipment required to remove and install the Fluorescent Power Supplies.

**Table 1. Required Equipment Supplied**

Description	Part Number	Quantity
This Service Bulletin	ALN130	1
New Power Supply Assembly	44A6631	1 per sign

**Table 2. Required Equipment Not Supplied**

Description	Quantity
Drill Bit, #11or 13/64", Steel	A/R
Electric Drill for adding one mounting hole	A/R
Screw Drivers & Socket Wrench tools to open sign, remove & replace power supply	A/R
Wire Cutter and Stripper to prepare wires for New Fluorescent Power Supply	A/R

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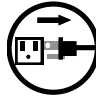
### 3. General Instructions

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Thoroughly read and understand this Service Bulletin before working on the sign.

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De-energize the sign field circuit before working on sign.

Remove the sign lid and sign legend panel at the power cord end of the sign.

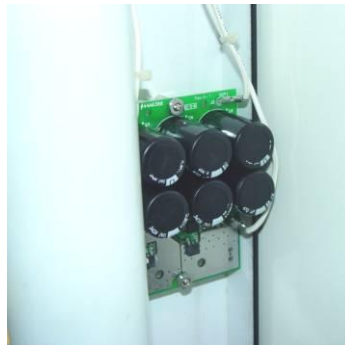
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### 4. Removing the DC Power Supply (44A6380) & Transformer (35A0618)

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NOTE: Follow section 4 or 5 depending on the version of the supply you are replacing.

1. After removing the sign lid and legend panel, locate the existing DC Power Supply (44A6380) and Power Transformer (35A0618) shown in Figures 1 and 2.
2. Locate and label the two wires connecting the sign's input power cord to the Power Transformer (44A0618). These two wires will be the AC Input to the new supply.
3. Locate and label the two wires connecting the DC Supply to the Fluorescent Lamp Ballast(s). These two wires will connect to the 240VDC output of the new supply. Polarity does not matter on any of these wires.
4. Remove all remaining wires from the existing DC Power Supply and Power Transformer shown in Figures 1 and 2.
5. Using a #2 Phillips screwdriver, from the outside of the sign, remove the two screws holding the DC Power Supply to the side of the sign.
6. Using a #2 Phillips screwdriver and a nut driver, remove the four screws holding the Power Transformer to the side of the sign. After the transformer is removed, install the screws back into the side of the sign to fill the four holes.



**Figure 1: DC Supply Assembly to Remove**



**Figure 2: Power Supply Transformer to Remove**

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## 5. Removing Fluorescent Power Supply (44A6631)

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1. After removing the sign lid and legend panel, locate the existing Fluorescent Power Supply.
2. Locate and label the two wires connecting the sign's input power cord to the AC Input terminals. These two wires will be the AC Input to the new supply.
3. Locate and label the two wires connecting the Supply to the Fluorescent Lamp Ballast(s). These two wires will connect to the 240VDC output of the new supply. Polarity does not matter on any of these wires.
4. Using a #2 Phillips screwdriver, from the outside of the sign, remove the three screws holding the Power Supply to the side of the sign.

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## 6. Preparing the Sign to Mount the New Power Supply

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The New Fluorescent Power Supply Assembly (44A6631) mounts using the same mounting holes provided for the original DC Power Supply (44A6380) plus a third mounting hole for proper heat sinking of the Power Supply to the side of the sign.



**CAUTION: IF THIS THIRD HOLE IS NOT USED, THE POWER SUPPLY MAY OVERHEAT AND FAIL!**

If just replacing an existing Fluorescent supply (44A6631) with new supply of the same style, all three mounting holes will already be provided so you can skip to section 7.

1. Locate the Mounting Hole Template included in the back of this Service Bulletin. This template will be used to mark the location of the third mounting hole that is to be added to the side of the sign.
2. On the OUTSIDE of the sign, hold the Template so the "TOP" Arrow points to the top of the sign.
3. Align the two existing holes up to Holes A and B on the Template.
4. Using a tap and hammer or other pointed tool, mark the location of Hole C into the side of the sign.
5. Using a drill with a #11 (or 13/64") drill bit, drill the new hole into the side of the sign.
6. Carefully remove any burrs or plastic coating from the inside of the sign.
7. Hold the New Power Supply up the side of the sign and verify that the holes align properly.



**CAUTION: IF THERE ARE ANY BURRS, PLASTIC COATING, OR IF THE HOLES ARE NOT ALIGNED PROPERLY, THE NEW POWER SUPPLY HEATSINK MAY NOT SEAT FLAT OR COMPLETELY ON THE SIDE OF THE SIGN. IF THIS OCCURS THE POWER SUPPLY MAY OVERHEAT AND FAIL!**

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## 7. Mounting the New Power Supply

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1. Remove the three #8-32 screws with lock washers installed in the PEM nuts of the new power supply for use in step 3.
2. Locate the three threaded PEM nuts installed in the mounting bracket of the New Power Supply and align the PEM nuts with the mating holes in the end panel of the sign.
3. Insert the three #8-32 screws with lock washers through the holes in the end panel and screw them into the PEM nuts. When

tightening the screws make sure the New Power Supply is seated flat against the side of the sign.



CAUTION: BE CAREFUL THAT THE SCREWS DO NOT BIND AS YOU ARE TIGHTENING. THIS MAY GIVE THE IMPRESSION THAT THE POWER SUPPLY IS FIRMLY MOUNTED WHEN IT IS NOT!

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## 8. Wiring the New Power Supply

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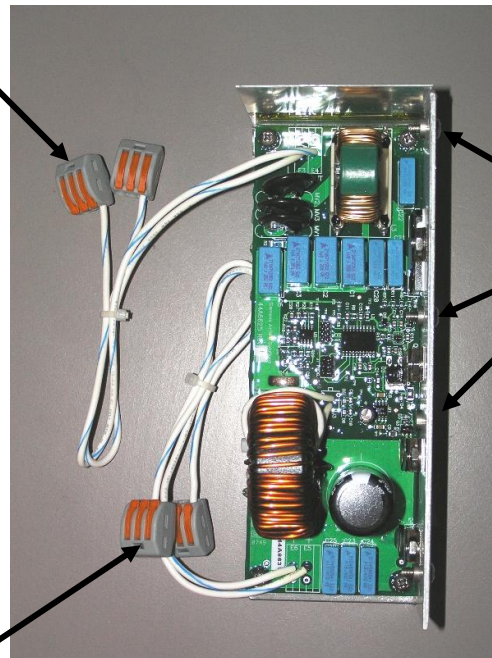
See the Wiring Diagram at the end of this Service Bulletin.

The New Power Supply has wires with a splice connector with spring loaded terminals on the ends. To connect the wires, pull up on the orange lever over the terminal you want to install a wire into with a flat head screwdriver or your finger. This will open the terminal. Insert the stripped end of the wire completely into the terminal and press the orange lever back toward the connector body. If any of the stripped wire is extending beyond the edge of the connector, remove the wire and trim off some of the stripped wire length. Verify also that the connector is not clamping onto the wire insulation, preventing electrical contact.

1. Locate the input power wires (from the L-830 secondary) that were removed from the Power Transformer in Section 4, Step 2 (or Section 5, step2). Connect these wires to the New Power Supply terminals labeled “AC INPUT”. This is the isolated 6.6A input. Polarity does not matter.
2. Locate the wires that connected the DC Supply to the Fluorescent Lamp Ballast(s) in Section 4, Step 3 (or Section 5, step 3). Connect these wires to the New Power Supply terminals labeled “240VDC”. You will need to cut off the “Fast-On” terminals and strip off the wire insulation before inserting into the terminal. Although this is a DC voltage, polarity into the ballasts does not matter.
3. Verify that the sign wiring matches the Wiring Diagram at the end of this Service Bulletin.
4. You are now ready to apply power to the sign.

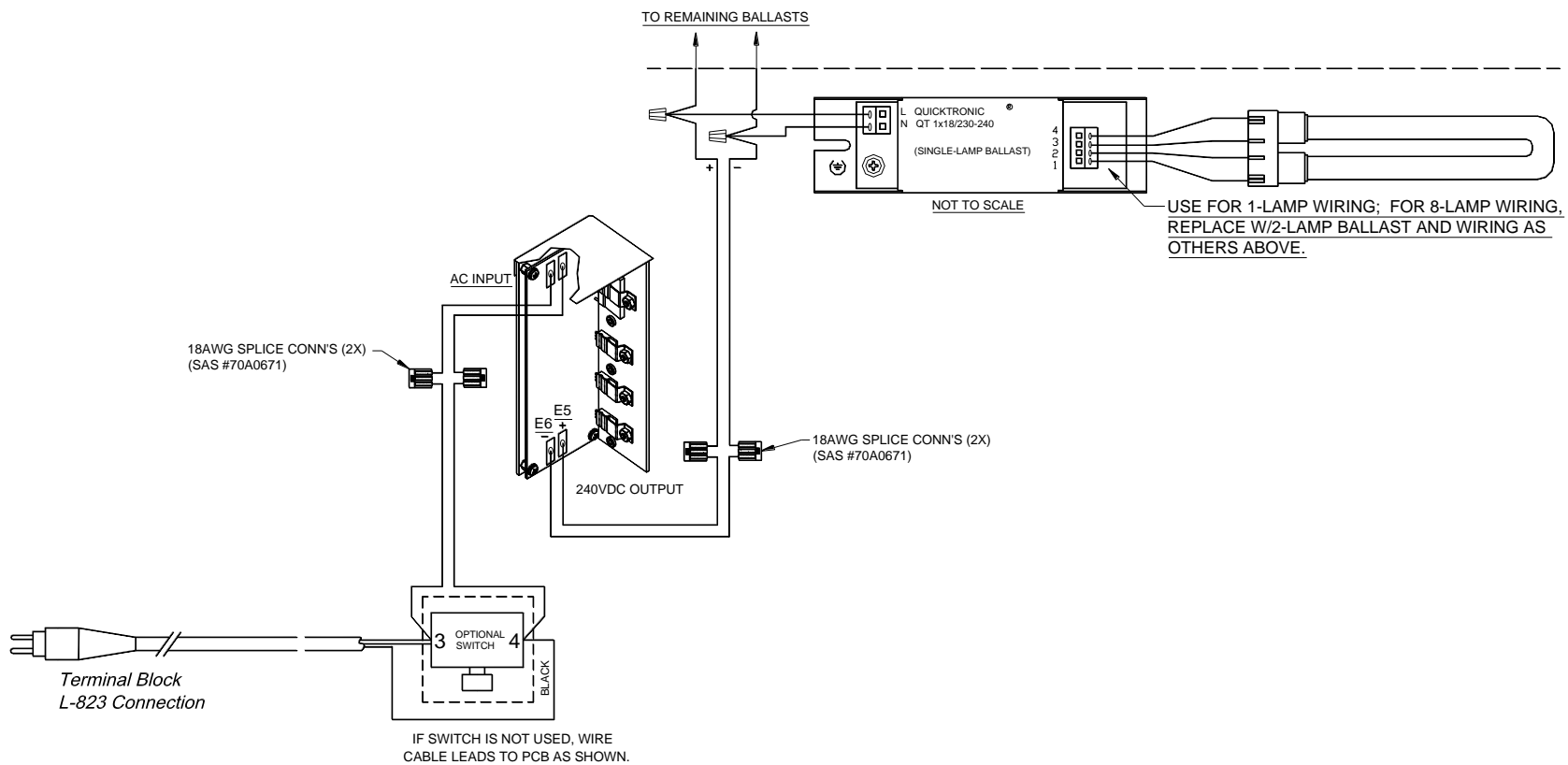
**AC Input Terminal  
From L-830**

**240VDC Output  
Terminal To Lamp  
Ballasts**

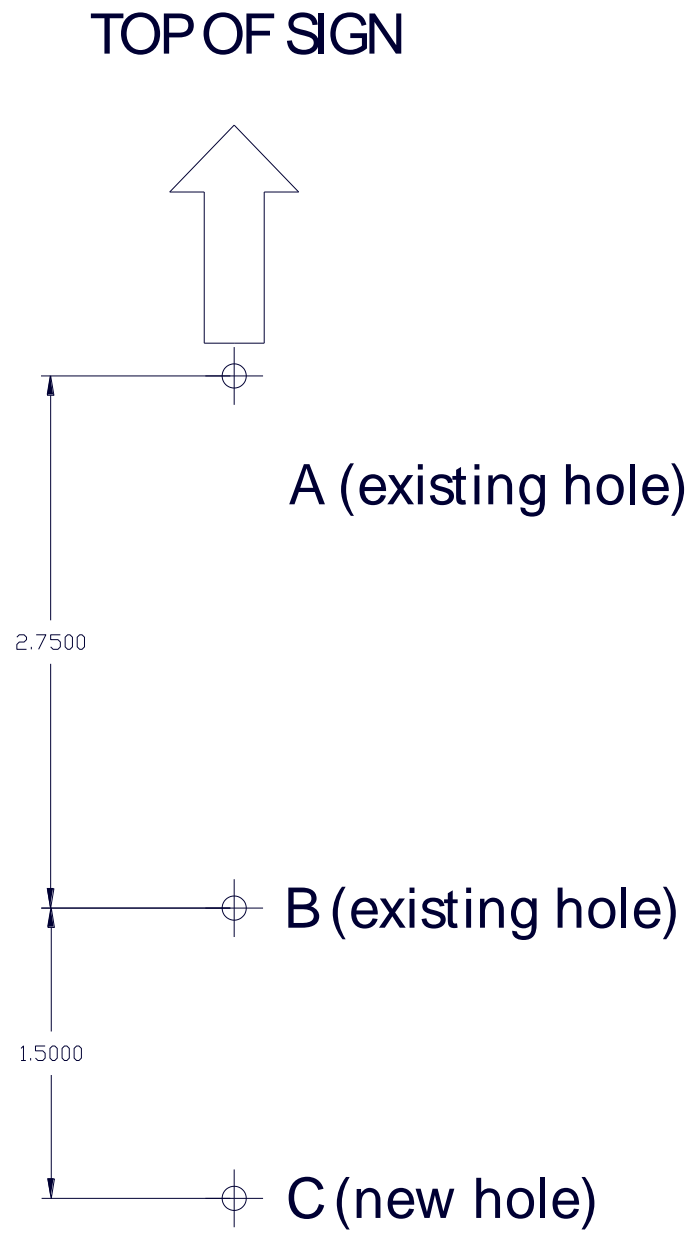


**Three  
Threaded PEM  
Inserts for  
mounting**

**Figure 3: New Fluorescent Power Supply**







**Figure 4: Mounting Hole Drill Template**