WELDING INDUSTRIES AUSTRALIA

SERVICE BULLETIN

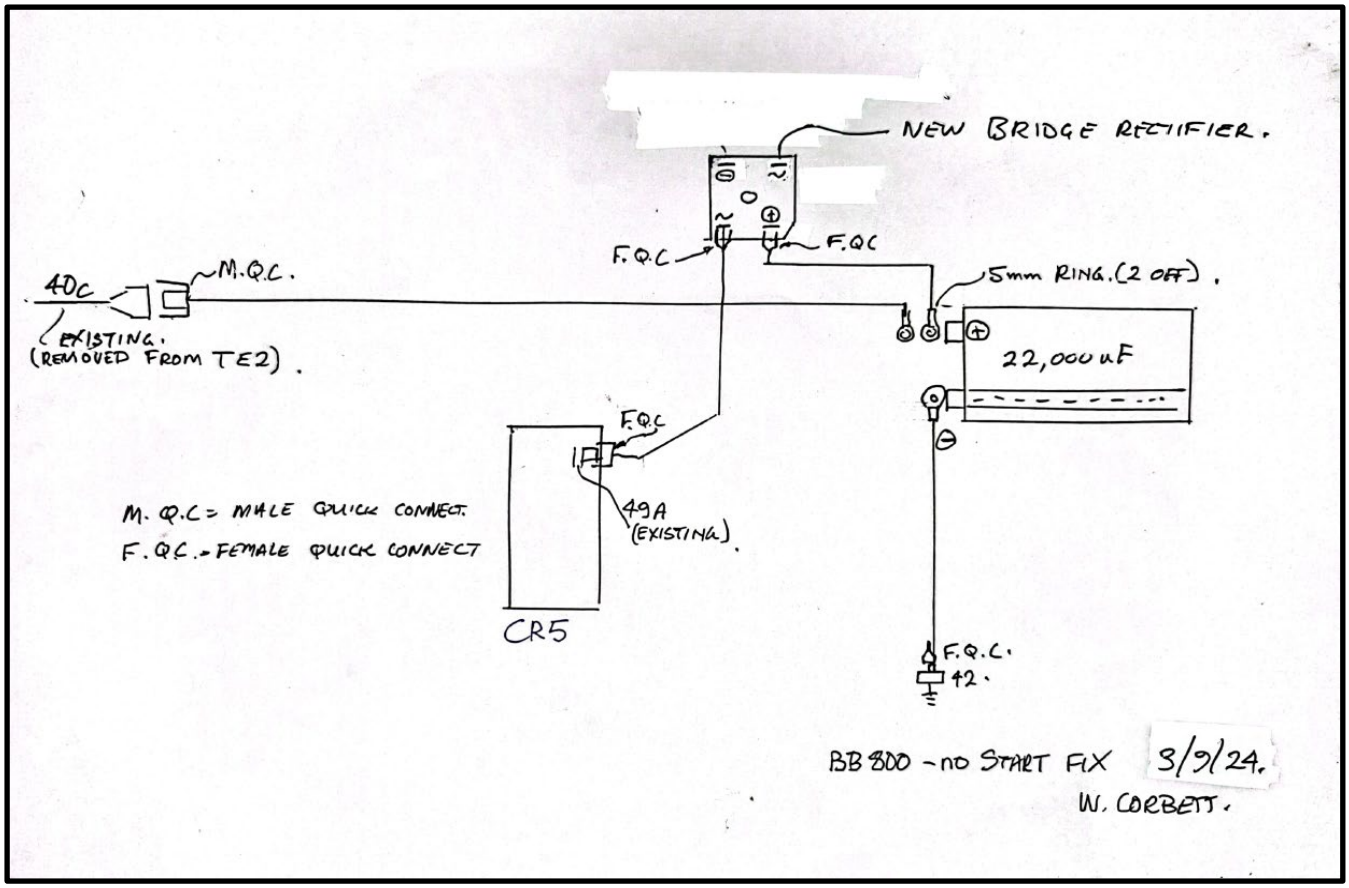
BULLETIN # 289

BB800X DUO AIRPAK START FIX

CAUTION: The following information is intended for use by qualified service personnel. When the unit is energized LETHAL VOLTAGES are present on the electrical and electronic components. It is not intended that persons without suitable training and knowledge attempt to perform service tasks on the components of welding equipment.

The new model BB800X without Murphy display is intermittently failing to crank when the key switch was set to "START".

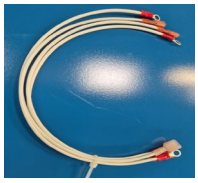
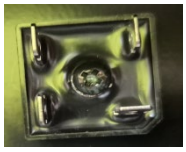
Below is the modified circuit diagram for the control box:



Notes:

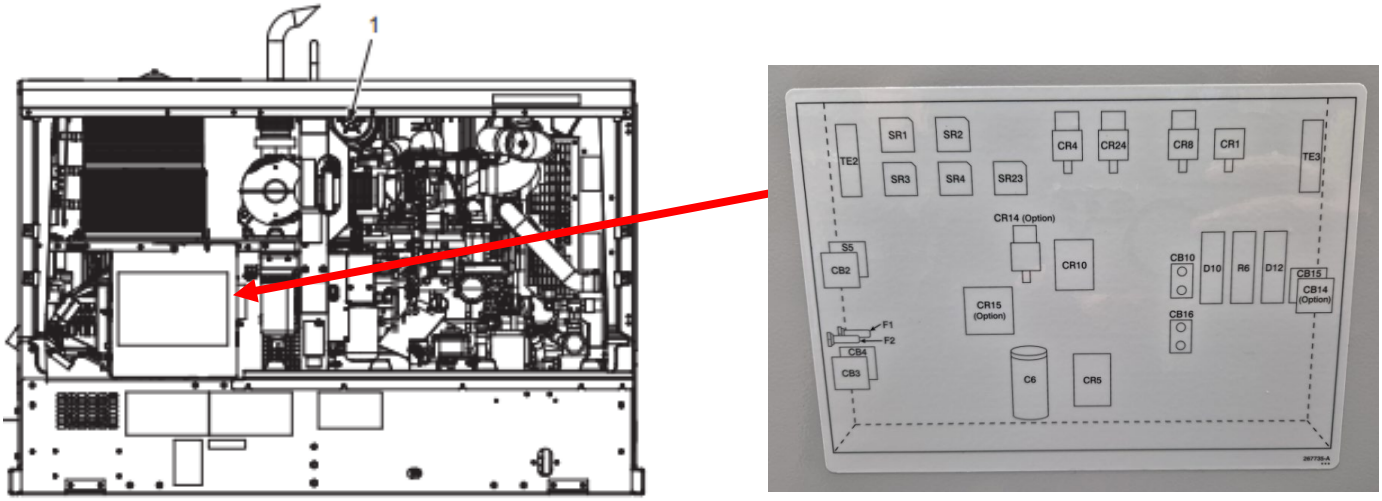
- A fix kit for assembly will be sent with the BB800X Duo Air Pak (Without Murphy Display) to the customer.
- The customer should follow the instructions below to install the fix kit on the machine.

Components For the Fix Kit:

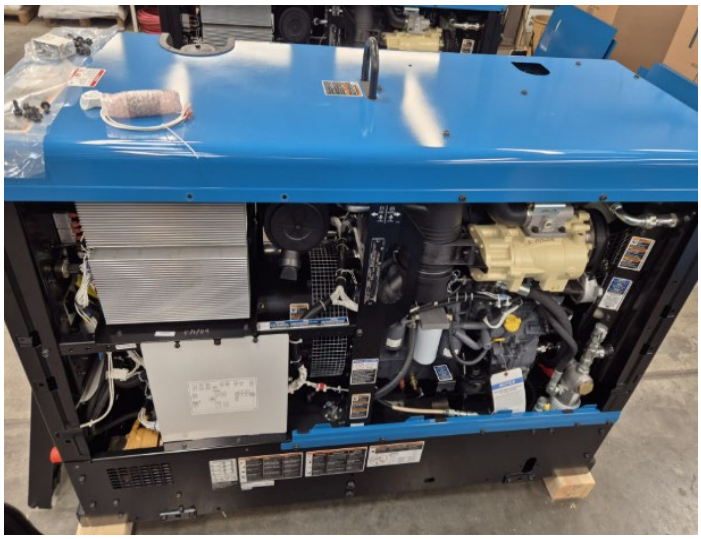
Components Description	Photos	Install Location	Quantity
Female Connector with 5MM Ring Lug (300mm Length – White Wire)		Between Capacitor Positive & Bridge Rectifier Positive	1
Female Connector with 5MM Ring Lug (300mm Length – White Wire)		Between Capacitor Negative & Chassis	1
Male Connector with 5MM Ring Lug (300mm Length – White Wire)		Between Capacitor Positive & Wire 40C	1
Female Connector Female Connector Washer (300mm Length – White Wire)		CR5 term 49A & Bridge Rectifier AC	1
4mm x 16mm Philips Screw Head		Bridge Rectifier	1
4mm Nut		Bridge Rectifier	1
Cage Washers		Bridge Rectifier	2
5mm Ring Washers		Capacitor Terminal	2
5mm x 10mm Philips Screw Head		Capacitor terminal	2
Capacitor Mounting Bracket		New Capacitor	1
3mm x 10mm Cross-Pan Screw		For Attaching Capacitor Bracket	2
3mm Nyloc Nut		For Attaching Capacitor Bracket	2
Bridge Rectifier		Control Box - Top Left Panel (to be located in SR2 position)	1
KEMET 22,000 uF Capacitor		Control Box - Right Hand Side Panel (Between TE3 & CB15)	1

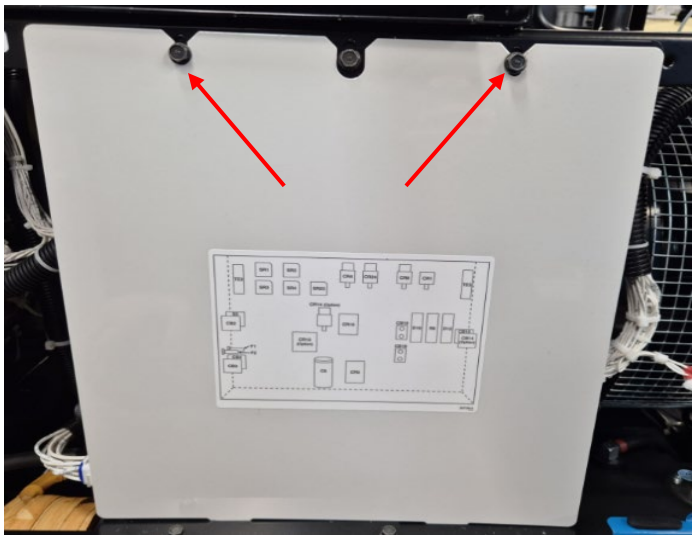
Target Modification Area:

The target modification area is located at the control box.



BB800X Machine – Removing Side Door Panel Cover

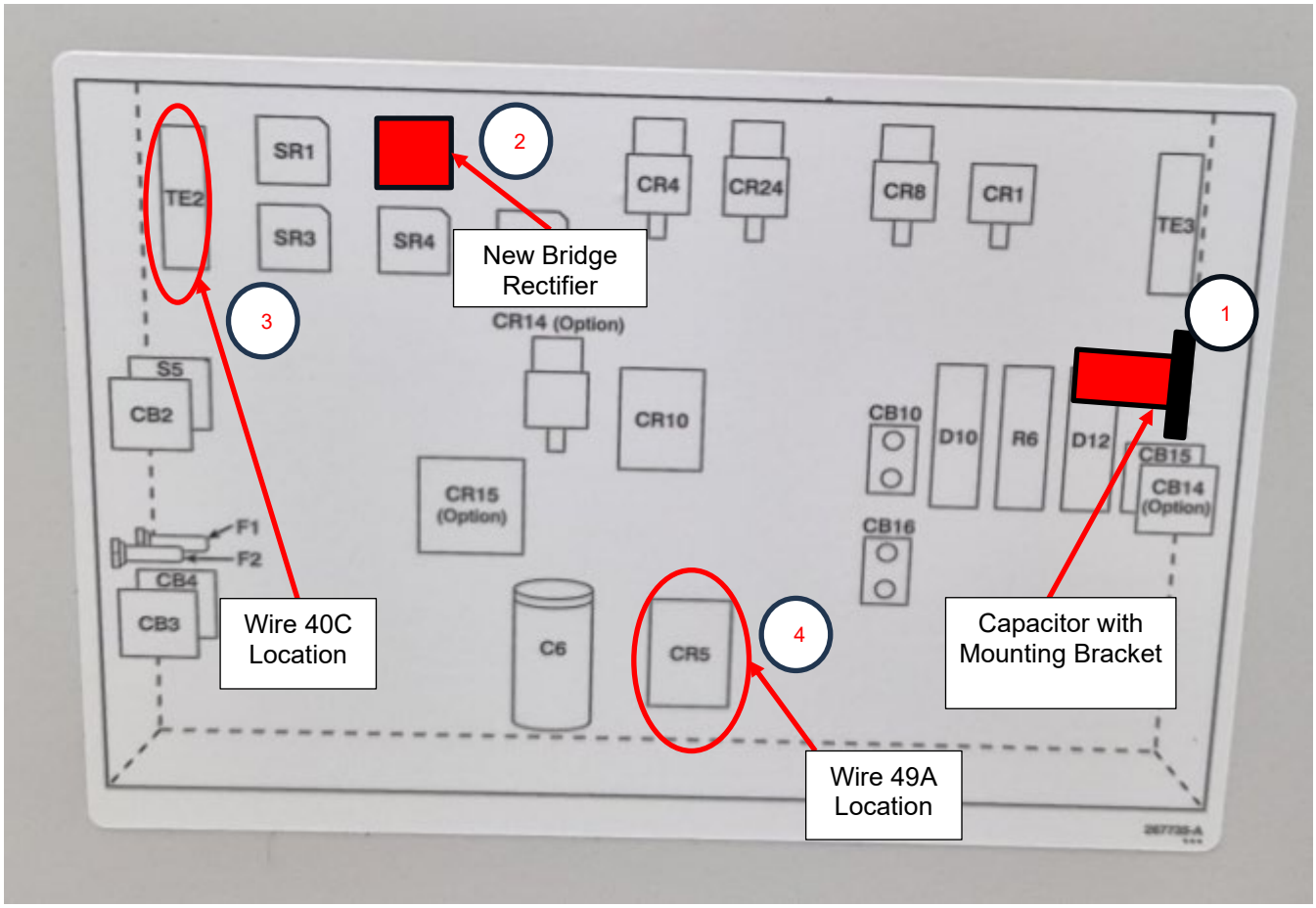




To gain access to the control box, the first step is to remove the side panel doors.

Next, remove only the top 2 screws on the control box cover, and lift the white panel out.

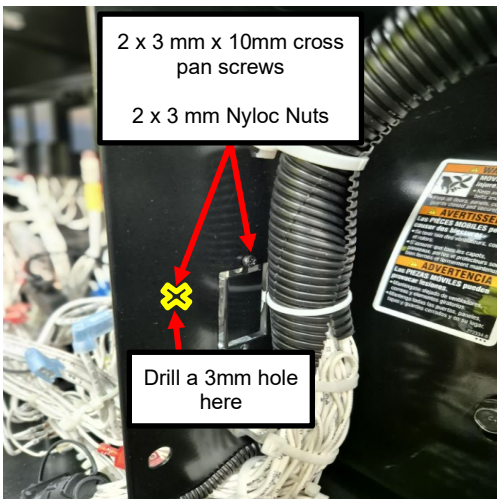
New Components Installation Location:

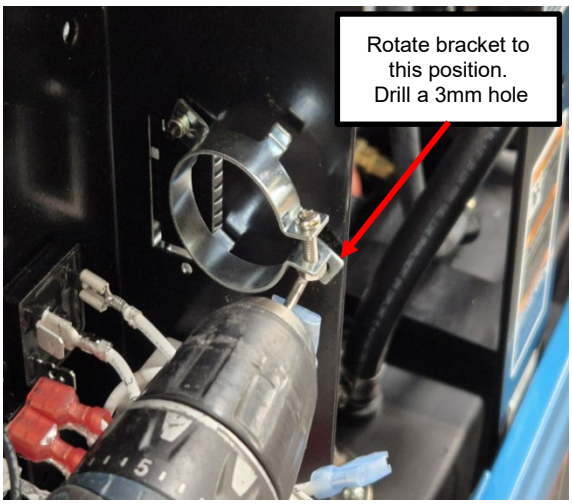


Installation Procedures:

Step 1 : Installing a capacitor 22,000 uF on the side panel

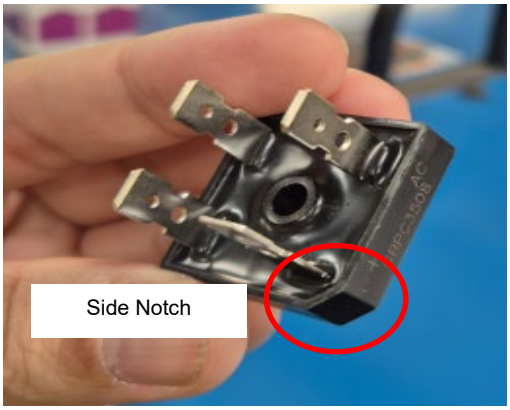
1. First, to gain access, unscrew terminal strip TE3 and set it aside temporarily.
2. Locate the existing hole on the right-hand side panel of the control box.
3. Install the capacitor mounting bracket with a 3mmx 10mm pan head screw and M3 Nyloc. Rotate bracket to final position as shown in photo and tighten screw and nut.
4. Drill a 3mm hole in the side panel, to enable the installation of the other mounting bracket 3mmx 10mm pan head screw and M3 Nyloc.
5. Insert the 22,000uF capacitor into the bracket, making sure it is tightly and properly secured.
6. Reinstall TE3 and screw it back into its original position.

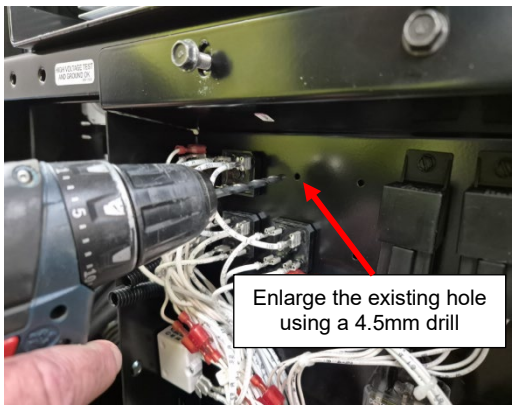


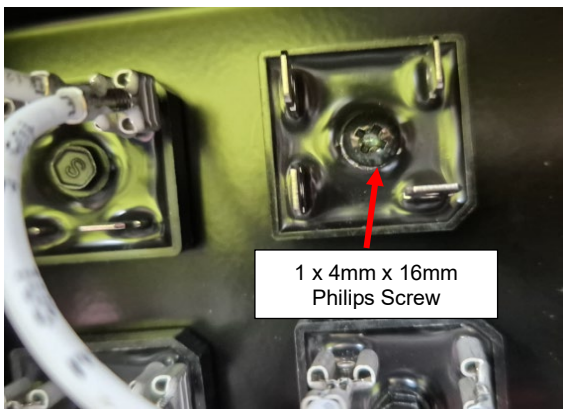


Step 2 : Installing a new bridge rectifier on the top side panel

1. First, enlarge the existing hole at the top panel (located just above SR4) by drilling a 4.5mm opening to accommodate the mounting screws.
2. Ensure the orientation of the new bridge rectifier with the side notch facing the bottom right.
3. Install the bridge rectifier over the enlarged hole using a:
   a. 1 x 4mm x 16mm Philips head screw
   b. 1 x 4mm Nuts
   c. 2 x Cage Washers







Step 3 : Locate wire 40C & connect the capacitor and the new bridge rectifier

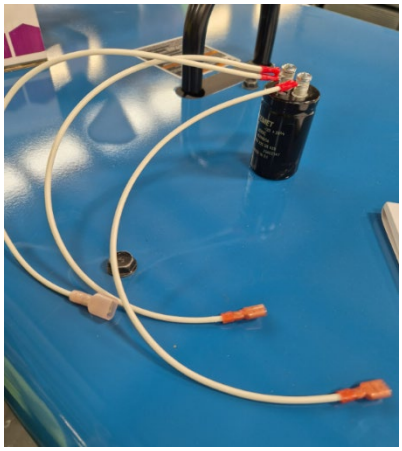
1. First, locate wire 40C at the left terminal TE2, and disconnect.
2. Capacitor should be prewired. Goto to step 6, otherwise connect wire to capacitor as follows.
3. Attach 2 female connector with 5mm ring & washer (300mm Length – White Wire) with 1 on the positive terminal and another on the negative terminal of the capacitor.
4. Attach 1 male connector with 5mm ring & washer (300mm Length – White Wire) onto the positive terminal of the capacitor.
5. Secure the connections with 2 x 5mm x 10mm Philips screws & 2 x 5mm ring washers on the capacitor terminals.
6. Connect the male connector from the positive terminal of the capacitor to wire 40C.
7. Connect the female connector from the positive terminal of the capacitor to the "+" pin at the bridge rectifier, which is located at the side notch.
8. Connect the female connector from the negative terminal of the capacitor to the extra terminal located at the bottom right of wire 42 on the right-side panel.

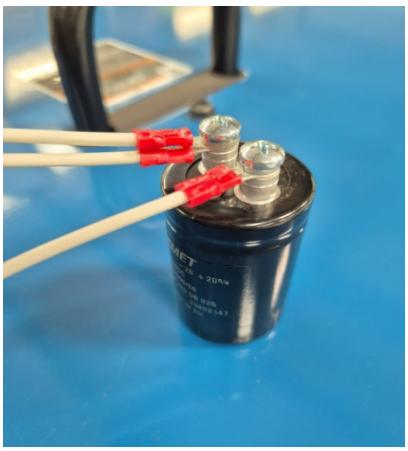
Capacitor Connecting Wires Polarity:

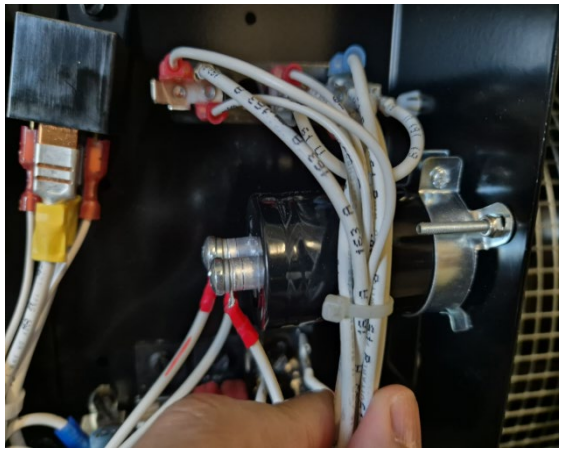
1 male connector " –+" terminal

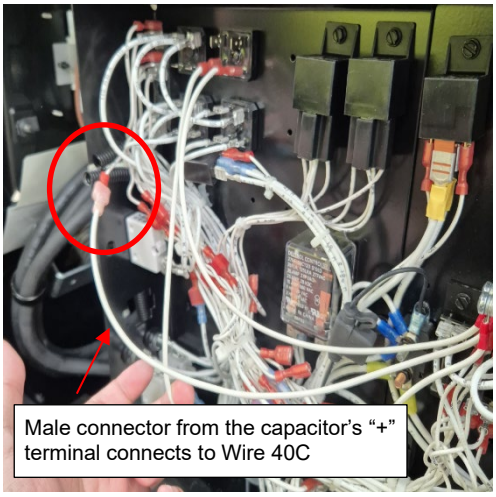
1 female connector " – +" terminal

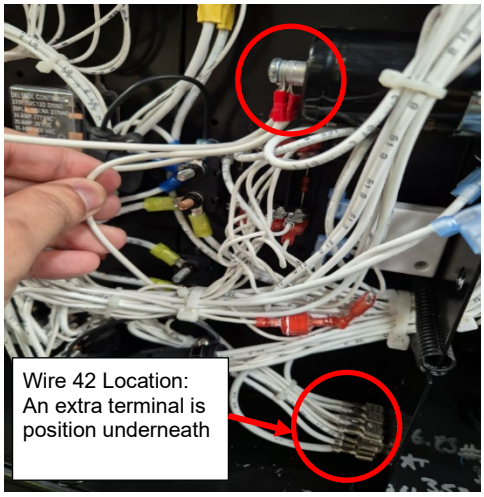
1 female connector " –-" terminal

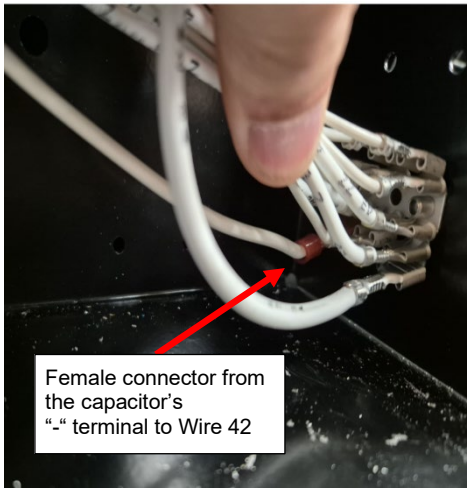


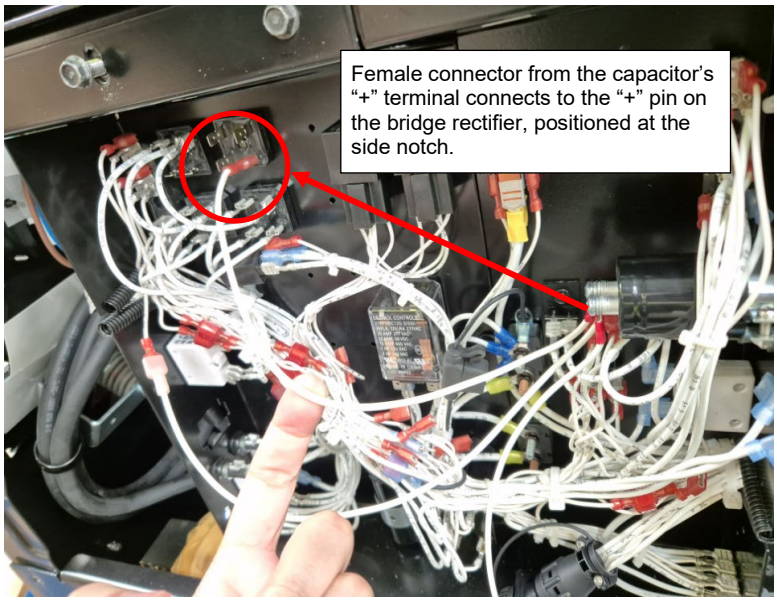




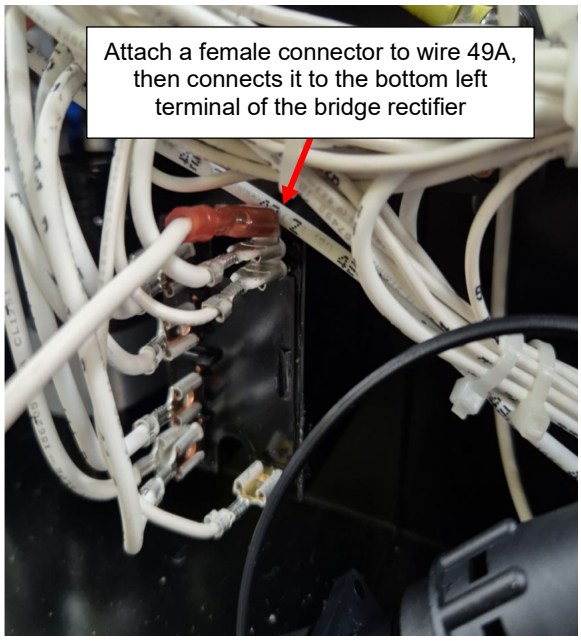


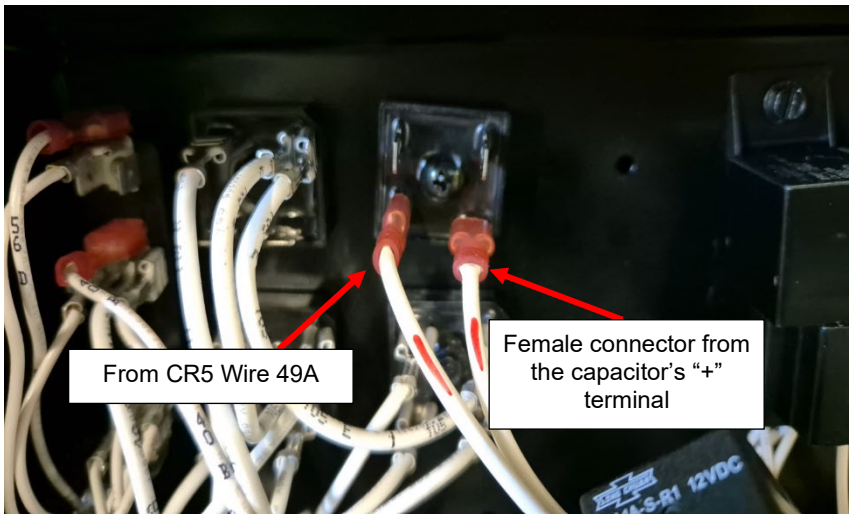






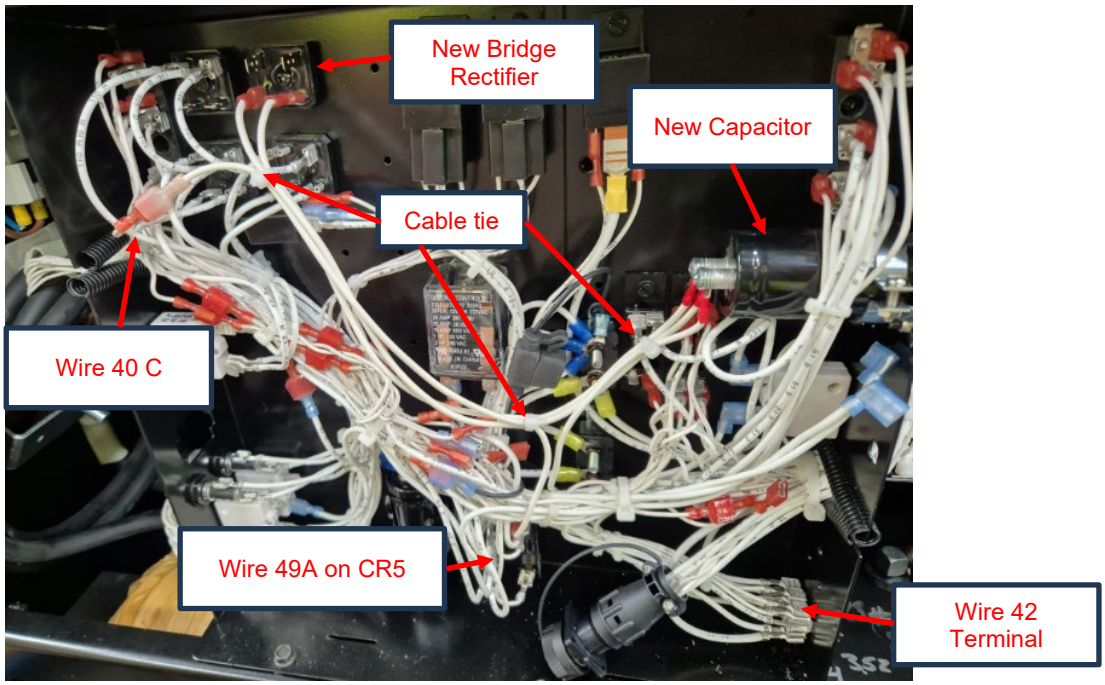
Step 4: Connect wire 49A from CR5 to the bottom left terminal on the new bridge rectifier





Lastly, use a cable tie to ensure all connections are tied neatly.

Final Assembly Configuration:



Please perform a final check to ensure all connections are correctly made before starting the machine.

Melvin Wee & Willem Corbett
Product Engineer