FIELD INSTALLATION OF STANDARD DC FILTER OPTION

REFERENCE DOCUMENTATION

1) Electrical Schematic Diagram (**JE5076-00** / **JE5078-00**) - Single / Three Phase Input
2) Internal Component Layout Drawings (**JE024#-0#**) - Style-1A/1B/2/3/4/5 Enclosures

MATERIALS REQUIRED

Supplied With Filter Conversion Kit:

1) dc filter inductor or "choke" (L2)
2) one (1) or more dc filter capacitors (C1) - quantity depends on charger rating
3) PE0068-00 capacitor mounting clamps
3) new FK5007-## data nameplate decal
   (indicating SCRF or SCRF-E type model number and mV RMS ac ripple value)
4) optional GK0058-02 Rev. 12 pc board - 1PH Control Module (A1)
   (supplied ONLY with kits for 1PH battery chargers shipped ***prior*** to **09/24/2009**)

Supplied By User:

1) mounting hardware for inductor and capacitors
2) crimp terminals (ring type preferred)
3) plastic wire ties

TOOLS REQUIRED

1) standard hand tools
2) wire cutters, wire stripper, and terminal crimping tool

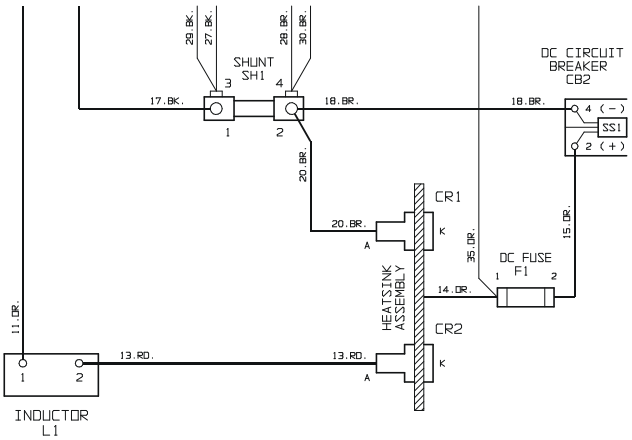
PROCEDURE

NOTE: In the following procedure, L1 and L2 refer to the inductors (chokes) mounted on the floor or mounting base of the charger.

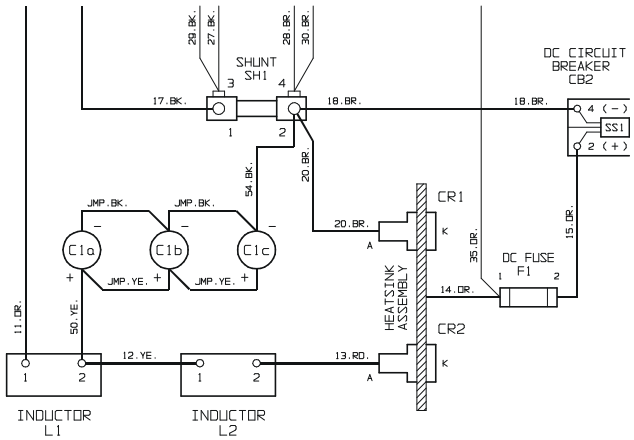
1. **CAUTION: Remove all ac power to the battery charger input terminals (TB1), and disconnect the batteries from the dc output terminals (TB2) before starting this modification.**
2. Identify your particular SCR/SCRF Series enclosure style and refer to the internal component layout drawings (**JE024#-0#**). Install the new dc filter inductor (L2) inside the enclosure next to L1. On many chargers there are pre-drilled holes to accommodate the L2 mounting brackets. If mounting holes are not available, transfer drill holes for the mounting base and appropriate mounting hardware.
3. Refer to the schematic diagrams (**JE5076-00** & **JE5078-00**). Ignore references to capacitor (C2), unless you are ALSO installing the Battery Eliminator Filter option. Also refer to the "before" and "after" sample connection diagrams on page 2 of 2 of this document.
4. Disconnect wire (#13.RD.) connected to the original inductor (L1) at terminal #2. Connect it ***instead*** to the newly installed inductor (L2) at terminal #2. Using a short jumper wire (#12.YE.) of the same gauge as the original, connecting terminal L1-2 to terminal L2-2. Use crimp terminals to make the connections. When you are finished, L1 and L2 will be connected in series as shown on page 2 of 2.
5. Install the blue dc filter capacitors (C1) using the supplied clamps. On many chargers there are predrilled holes to accommodate these clamps. In larger chargers (Styles-4 & -5) you may have to provide a base for mounting the clamps. Use a non-metallic material such as phenolic sheet. Do not use any material containing asbestos.

6. Using the supplied jumpers (yellow PVC wire, SIS wire marked "JMP", or copper bus bars), connect the positive (+) terminals of all C1 caps. Connect (with #50.YE.) the capacitor string C1(+) to L1-2.
7. Using the supplied jumpers (black PVC wire, SIS wire marked "JMP", or copper bus bars), connect the negative (-) terminals of all C1 dc filter capacitors. Connect (with wire #54.BK.) the capacitor string C1(-) to the negative dc bus ***inside*** the output disconnect (CB2 or F2).
   7A) In units with dc breaker, less than 50Adc, make this connection to CB2-4 (same point as #18.BR.).
   7B) In units with dc fuses (F1/F2) less than 50Adc, make this connection to M1[+] (same point as #20.BR.).
   7C) In units greater than 40Adc, make this connection to SH1-2 (same point as #20.BR.), as shown ***below***.
8. Check control module pc board (A1):
   8A) If you have a single phase input SCR charger shipper ***prior*** to **09/24/09**, your standard dc filtering kit should have come equipped with a new GK0058-02 control module pc board (A1). Make sure jumper (P1) on the board is set to the "filtered" setting. Replace the existing 1PH control module pc board (A1) with the new one per supplied instructions (**JD0053-00**).
   8B) If you have a single phase input SCR charger shipper ***after*** **09/23/09**, locate jumper (P1) on the existing GK0058-02 control module pc board (A1). Move jumper from the "unfiltered" to the "filtered" setting.
   8C) If you have a three phase input SCR charger (any ship date), the existing GK0048-02 control module pc board (A1) works universally with "unfiltered" and "filtered units", without modification.
9. Check all wiring to be sure that it is correct and that all connections are tight. Be ***especially*** sure that the blue filter capacitors are connected with the correct positive (+) and negative (-) polarity. Bundle new wiring into the existing cable harnesses if desired.
10. Remove the original data nameplate, and replace it with the new data nameplate decal (FK5007-##) supplied with the kit. This properly identifies the charger as a filtered (SCRF) unit.
11. Reconnect the battery and ac power to your charger. Re-energize the unit by opening the dc output breaker ***first***, followed by the ac input breaker ***second***.
12. If the single phase A1 control module was replaced (Step 8A), refer to the *Operating and Service Instructions*. Reset the float and equalize potentiometers (R3/R5) to the proper charge voltages, and adjust the current limit potentiometer (R11) to obtain the correct current limit value (80 to 120%).
13. This completes the field modification of your SCRF battery charger.

SAMPLE CONNECTION DIAGRAMS (=> 50Adc, with CB2 breaker)



UNFILTERED (before)



FILTERED (after)