

FIELD INSTALLATION OF BATTERY ELIMINATOR 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) one (1) or more battery eliminator filter capacitors (C2) - quantity depends on charger rating
- 2) PE0068-00 capacitor mounting clamp(s)
- 3) optional wire jumpers (for connection from existing C1 to new C2)
- 4) new FK5007-## data nameplate decal
 (indicating SCRF-E type model number and NEW mV RMS ac ripple value)

Supplied By User:

- 1) mounting hardware for capacitors (C2)

TOOLS REQUIRED

- 1) standard hand tools
- 2) wire cutters, wire stripper, and terminal crimping tool
- 3) ac voltmeter that reads in RMS mVs

PROCEDURE

- 1) Before starting work, check the supplied battery eliminator filter capacitor (C2). Follow the chart below to ensure you have the proper voltage rating for your charger.

Battery Charger Output Voltage	Capacitor (C2) Max. DC Voltage Rating
12 through 48 Vdc	75 Vdc
60 through 130 Vdc	200 Vdc
180 through 260 Vdc	350 Vdc

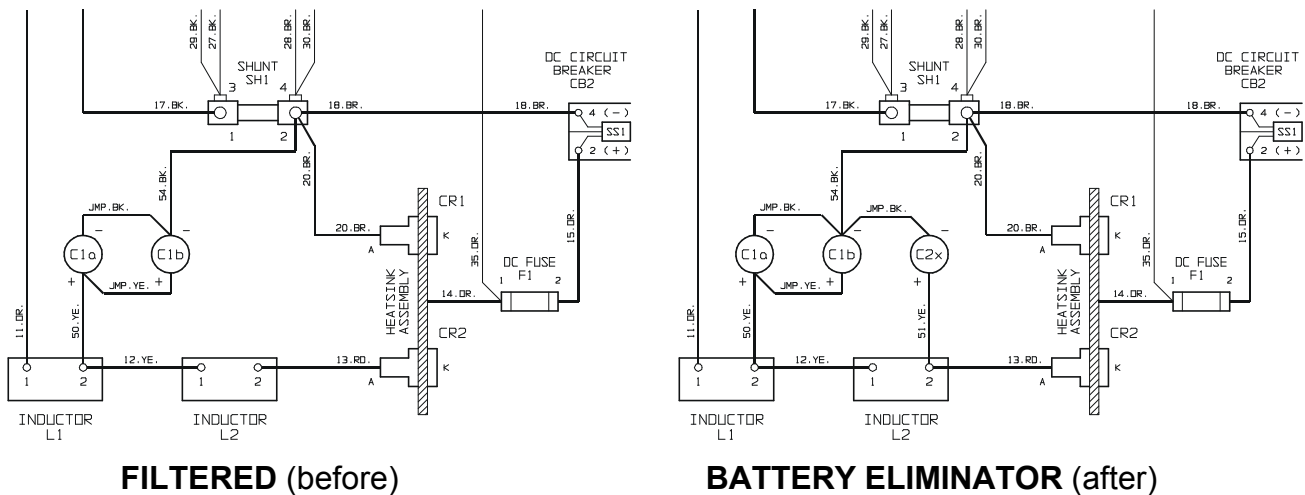
- 2) **Only qualified service technicians should perform the following procedures. Follow your employer's and site safety standards.**
- 3) **WARNING: Shut down the battery charger by opening the ac breaker (CB1) and dc breaker (CB2). Wait several minutes to allow internal voltages to dissipate. Remove all ac power to the battery charger input terminals (TB1), and disconnect the batteries from the dc output terminals (TB2) before starting this modification.**
- 4) Identify your particular SCR/SCRF Series enclosure style and refer to the corresponding internal component layout drawing (**JE024#-0#**), identifying components C1, C2, and L2.
- 5) Install the supplied blue C2 battery eliminator filter capacitor(s) inside the enclosure next to the standard dc filtering capacitors (C1x), utilizing the supplied mounting clamps. Align the positive (+) and negative (-) terminal(s) of the newly installed C2 capacitor(s) with the corresponding terminals (+/-) of the existing standard dc filtering capacitors (C1x).
- 6) In most chargers, there are pre-drilled holes provided to accommodate the aluminum mounting clamps. If mounting holes are not available, transfer drill holes for the mounting clamps and appropriate hardware. Supply and use standard mounting hardware to secure the capacitor clamp (and capacitor) to the battery charger assembly.

SCR/SCRF Series Battery Charger Service Procedure

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- 7) Refer to the schematic diagrams (**JE5076-00 & JE5078-00**). Also refer to the "before" and "after" sample connection diagrams below, identifying components C1, C2, and L2.
- 8) If more than one (1) battery eliminator capacitors (C2x) are supplied with the kit, jumper wires connect the positive (+) and negative (-) terminals of the C2 caps.
- 9) Connect the positive contact(s) of the new C2 battery eliminator capacitor(s) marked with a "+" to the existing dc filter inductor (L2) at terminal #2. A pre-wire assembly for this connection may be provided with the kit. This wire will have standard yellow PVC insulation, or optional black SIS type insulation labeled with a wire marker reading "51".
- 10) Connect the negative contact(s) of the new C2 battery eliminator capacitor(s) to the negative (-) terminal of the existing C1 dc filter capacitor(s). A pre-wire assembly for this connection may be provided with the kit. This wire will have standard black PVC insulation, or will have optional black SIS type insulation labeled with a wire marker reading "JMP".
- 11) **WARNING! BE SURE TO CHECK THE POLARITY (+/-) OF THE NEW WIRING BEFORE TESTING. A REVERSED CAPACITOR MAY EXPLODE DURING POWER UP!**

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



TESTING

1. NOTE: Leave the batteries disconnected and attach a load to the battery charger during test.
2. Reconnect the ac power to your charger. Re-energize the unit by opening the dc output breaker (CB2) **first**, followed by the ac input breaker (CB1) **second**.
3. While the charger is running normally, measure the output dc output terminals (TB2) with an ac voltmeter. The ripple voltage should read less than 30mV AC rms, or 0.06% of the dc output voltage, whichever is higher.
4. NOTE: Three phase SCR/SCF Series battery chargers may need to have the phase balance adjusted to provide best results. Refer to the SCR/SCF Series (Three Phase Input) Operating and Service Instructions, Section III.2g.11 to balance the gate drive circuit.
5. 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 battery eliminator (SCR/E) unit.
6. Shut down the unit, re-attach the batteries, and re-start the unit as describe above.
7. This completes the field modification of your SCR/E battery charger.