

M.I.9683

MODERNIZATION RECOMMENDATION



ELECTRO-MOTIVE

RESISTORS - SCR EXCITER BRIDGE ASSEMBLY

PURPOSE:

To increase the reliability of the SCR Exciter Bridge Assembly.

APPLICATION:

SCR Exciter Bridge Assemblies 8451653 and 9581827.

DISCUSSION:

It has been determined that the case operating temperature of the resistors in the commutating circuit can exceed the maximum operating temperature of the poly-glass panel that they are mounted to. Over time the plastic burns away leaving only the glass. The resulting change in the thickness of the panel allows the resistor mounting screws and nuts to loosen and fall off leaving the resistors supported only by their wires. Vibration induced movement eventually results in a short circuit tripping the generator field circuit breaker.

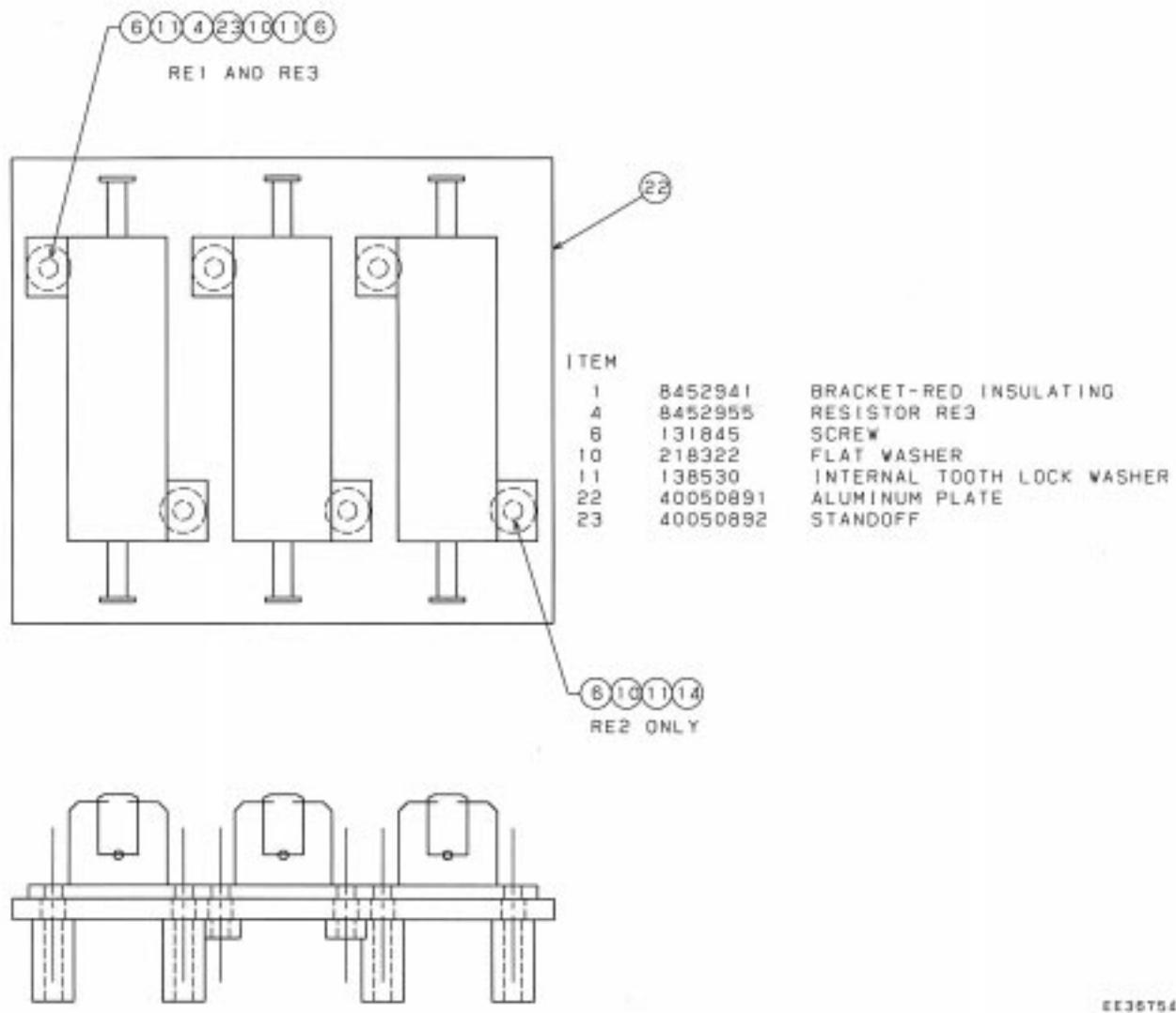
This Modernization Recommendation will reduce the operating temperature of the resistors and provide an air gap between the resistors and the poly-glass panel.

NEW MATERIAL REQUIRED:

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
40050891	Plate	1
40050892	Standoff	4
131845	Screw #4-40 FLSL	10
134524	Nut #4-40	2
218322	Washer #4 Flat	10
138530	Washer #4 Int Lk	6

PROCEDURE (See Figure 1)

The SCR assembly must be removed from the locomotive to perform this modification. If the poly-glass panel (P/N 8452941) is severely damaged, then it should be replaced. Turn the SCR assembly up side down on a work surface. Locate the three aluminum housed resistors mounted to the front red panel. Remove the screws securing the resistors to the panel. Discard the old hardware. Carefully disconnect the Faston connectors from the resistors recording the location of each wire. Mount the resistors on the new aluminum panel. The middle resistor (RE2) is to be secured using 2 screws, 2 lock washers, 2 flat washers, and 2 nuts. The outside resistors each use 2 screws, 2 lock washers, and 2 standoffs in place of nuts to secure the resistors to the aluminum panel. Reconnect the wires to the resistors and slide the resistor assembly into place. Secure the assembly to the poly-glass panel using 4 screws, 4 lock washers, 4 flat washers, and the standoffs.



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Figure 1. Typical SCR Assembly.

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