



INSTRUCTION TO SERVICE

ITS: 6754

SECTION:	260 Battery Compartment
WRITTEN BY:	A. Mark
SUBJECT:	Update equalizer programming

ITS6754

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NOTE: To perform the following work, it is required to have the Vanner CAN Interface software. A registration code is needed to enable the function modules. Please contact Vanner to get your registration if required.

PROCEDURE:

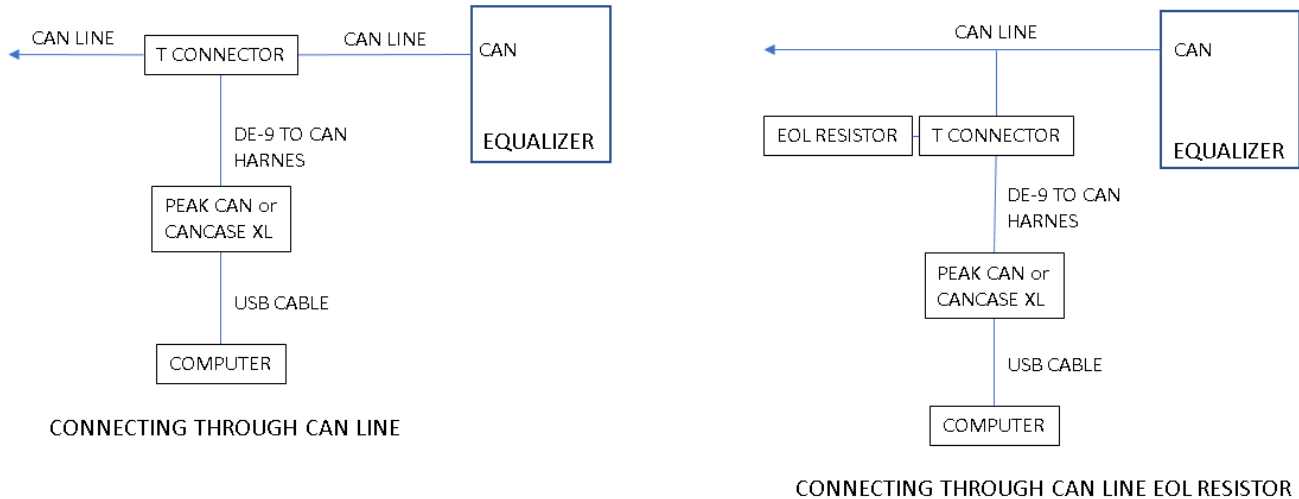


Figure 1: Connection diagram

1. Locate the three cavity CAN line connector that connects the bus harness to the equalizer. Refer to the electrical schematics to determine the appropriate point to make the connection.
 - a. Connect the T connector in line with the bus harness. Ensure to mate the EOL resistor if this is the chosen point of connection. Refer to Figure 1 for the diagram, and Figure 2 for the required parts.
 - b. Connect the CANcase XL or Peak CAN/USB adapter to the T connector using a DE-9 to CAN harness. Refer to Figure 3.
 - c. Connect the CANcase XL or Peak CAN/USB adapter to your PC
2. Start the Vanner CAN Interface software.
3. Click on the 70/80 Equalizer icon to start the Equalizer Dashboard. Refer to Figure 4.
4. Check the heartbeat to ensure that CAN communication is ready between PC and equalizer. Refer to Figure 5.
5. Start the CAN bootloader by clicking the icon on the Vanner CAN interface page.

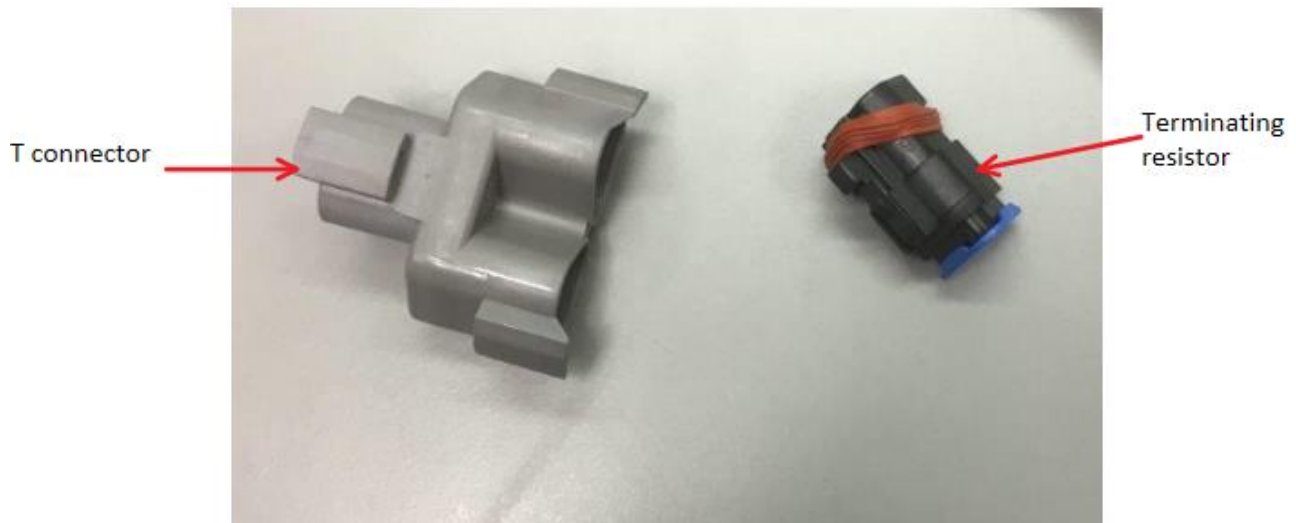


Figure 2: T connector; terminating resistor



Figure 3: CANcase XL; Peak CAN/USB adapter; DE-9 to CAN harness



Figure 4: Vanner CAN interface

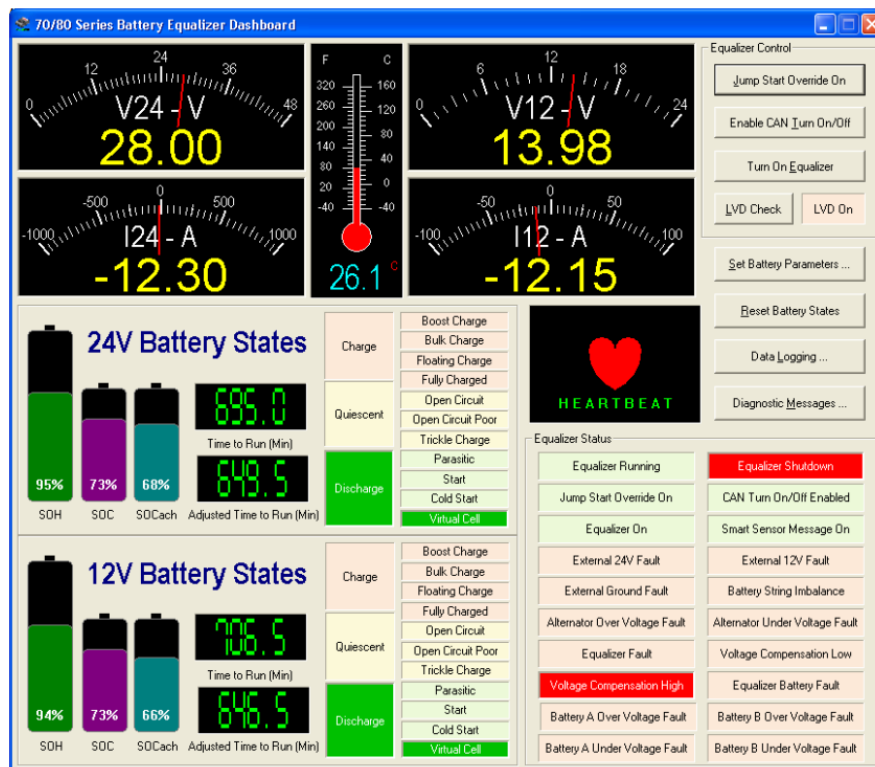


Figure 5: Equalizer dashboard

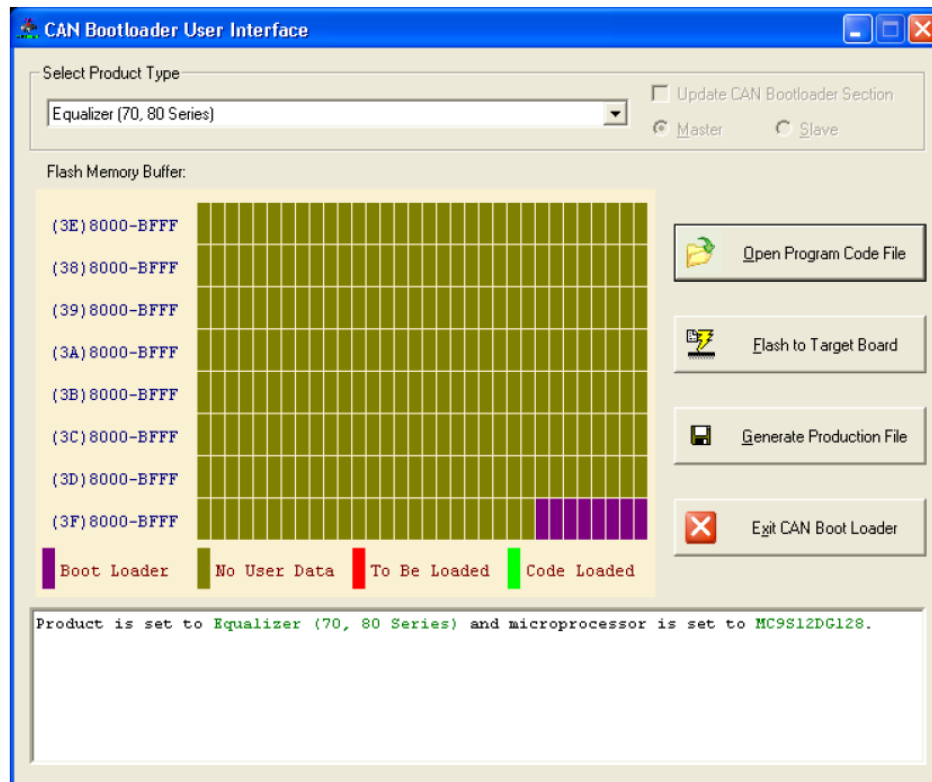


Figure 6: CAN Bootloader User Interface

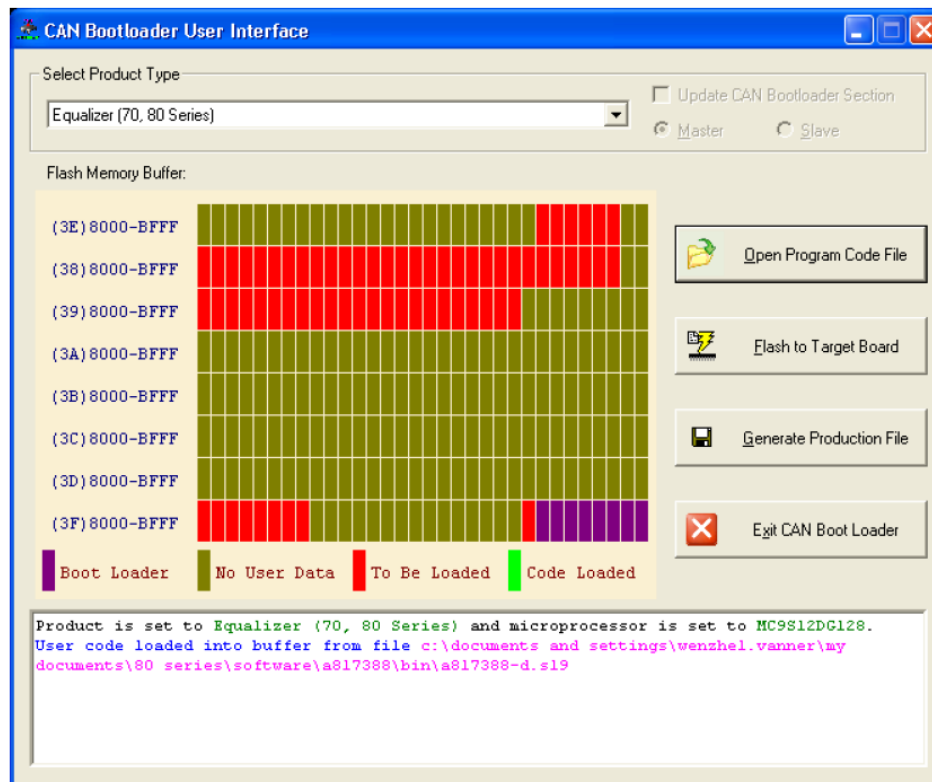


Figure 7: CAN Bootloader User Interface with Code File loaded

6. In “Select Product Type” drop box, make sure “Equalizer (70, 80 Series)” is selected.
7. Click “Open Program Code File” button, browse to the new firmware code file and open it. The code will be read from the file and shown in “Flash Memory Buffer” as red blocks. Refer to Figure 7.
8. Click “Flash to Target Board” button to start flashing new firmware to equalizer. Blocks flashed successfully will change from red to green. Refer to Figure 8.

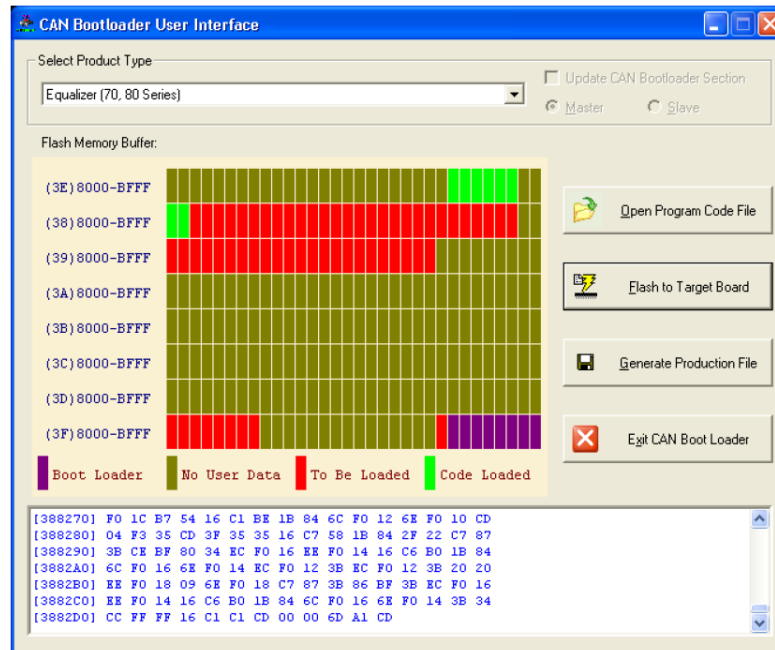


Figure 8: CAN Bootloader User Interface – Flashing in progress

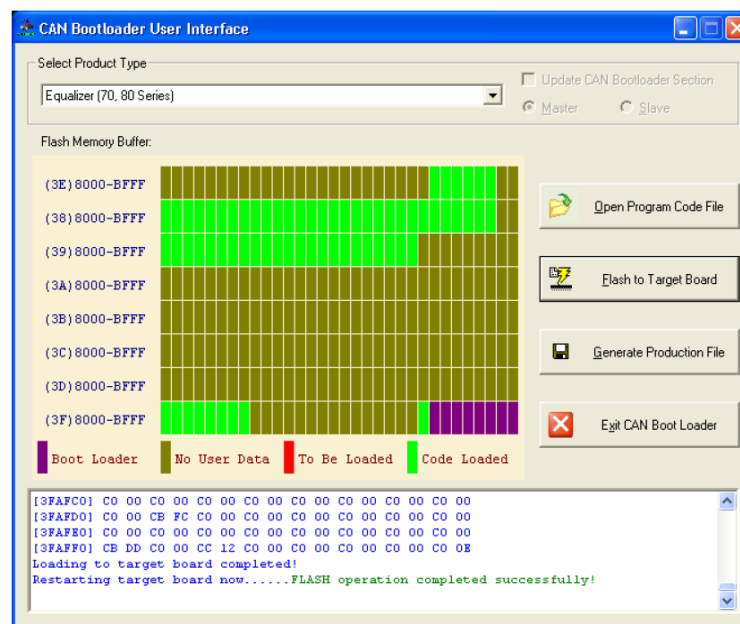


Figure 9: CAN Bootloader User Interface – Flashing operation completed successfully

9. Wait until all red blocks turn into green and a successful message is displayed at bottom. Refer to Figure 9.

10. Close CAN bootloader and switch to Equalizer Dashboard to verify heartbeat. Click “Diagnostic Messages ...” button on Equalizer Dashboard to bring up the Diagnostic window (Figure 8). Click “Request Software ID” button to verify correct software ID.
11. Reconnect the harnessing to its original state.
12. Remove all tools and debris and return the bus to service condition.



Figure 9: Diagnostic Messages Window – With Software ID Requested (Latest revision may not be shown)

LABOUR ESTIMATE				
	Operation	Men	Hours	Labour Time M X HR
1	Update equalizer program	1.0	0.5	0.5

SPECIAL TOOLS REQUIRED					
Item	Part Number	Description	Qty. per Coach	Units	Notes
1		CANcase XL or Peak CAN/USB adapter	1.0	EA	
2		EOL resistor	1.0	EA	
3		T connector	1.0	EA	