
# TECHNICAL SERVICE BULLETIN

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| **DOCUMENT CREATION DATE:** | 4/29/2019 |
| **SERVICE CAMPAIGN SUBJECT:** | Catalyst Radiator Wiring Retrofit |
| **VINs or MODELS AFFECTED:** | Service Specified Catalyst Buses |
| **SERVICE CAMPAIGN #:** | SC-19-69 |

## CATALYST RADIATOR WIRING RETROFIT

**NOTICE! It is expected that this process will require 2 hours per bus. Please schedule appropriately to minimize vehicle downtime.**

## Retrofit Description:

This procedure changes the wiring for the radiator for improved reliability.



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## Tools/Parts Required

Tools and Supplies Required:

- T-30Torx Driver
- Side Cutting Pliers
- Wire Strippers
- Pin Extractor Tool
- Butt Splice Crimper

Parts Required:

- 044525 HARNESS, RADIATOR FAN LAYOVER 1 EA



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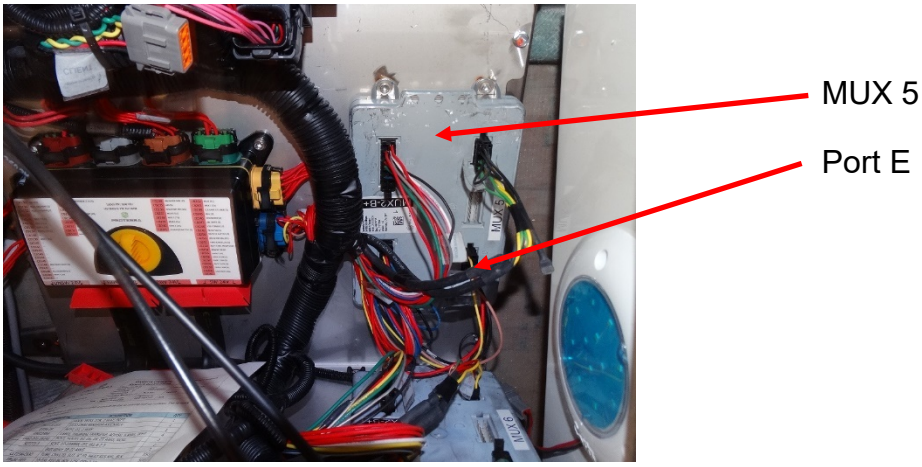
## Procedure

### Hardware Update (Catalyst 35 buses only)

1. If you are working on a Catalyst 40 bus, proceed to the next section of this procedure.
2. Complete the Proterra approved Lockout/Tagout procedure to make the bus safe for work.
3. Open the doors at the rear of the bus to access the rear ECAB on the bus.

4. Locate MUX5 on the rear ECAB.




5. Remove the connector from Port E of the MUX.
6. Using a Pin Extractor Tool, remove the wire and pin that are in Cavity 17 of this connector.
7. Measure 50mm back from the pin. Using Wire Strippers, cut the wire 50mm from the pin. Discard the wire and pin that were cut.
8. Using wire strippers, strip the end of the wire that was just cut.



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9. Insert this stripped wire into the Butt Splice labeled SP2147 on the new Harness (044525). Using a Crimp Tool, crimp these wires in the splice.

10. Locate the Pin labeled 17MUX5E on the new Harness (044525). Insert this pin into Cavity 17 on the connector.

11. Locate the Pin labeled 14MUX5E on the new Harness (044525). Insert this pin into Cavity 14 on the connector.

12. Reconnect the connector to Port E of the MUX.

13. Close the doors at the rear of the bus and lock them.

14. Remove the Lockout/Tagout devices and power on the bus.

15. Proceed to the last section of this document to update the body controller software.



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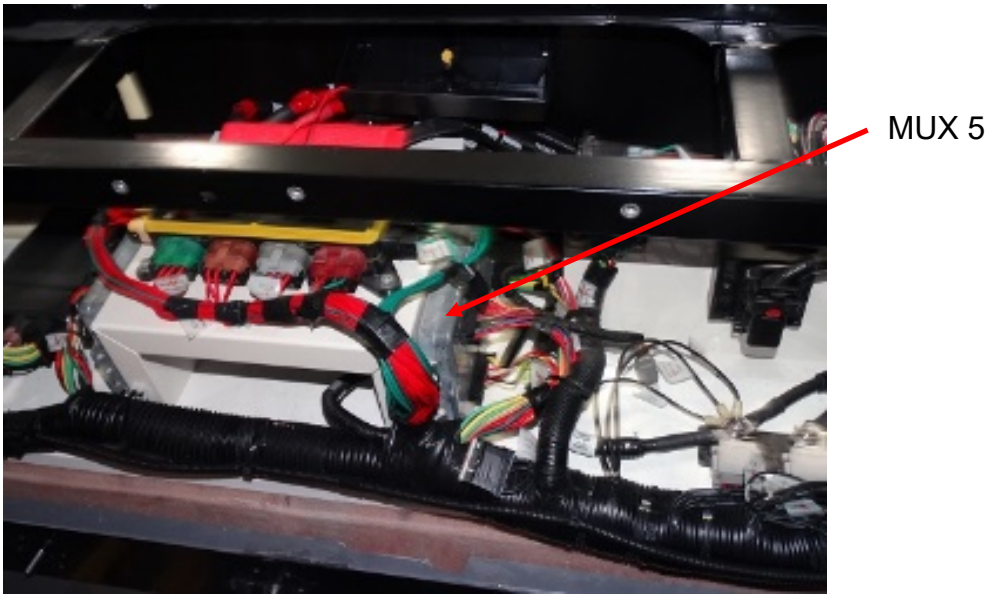
## Hardware Update (Catalyst 40 buses only)

1. Complete the Proterra approved Lockout/Tagout procedure to make the bus safe for work.

2. Using a T-30 Torx Driver, remove the panels shown to access the Rear Deck electronic components.


3. Locate MUX5 on the rear deck.




4. Remove the connector from Port E of the MUX.

5. Using a Pin Extractor Tool, remove the wire and pin that are in Cavity 17 of this connector.

6. Measure 50mm back from the pin. Using Wire Strippers, cut the wire 50mm from the pin. Discard the wire and pin that were cut.

7. Using wire strippers, strip the end of the wire that was just cut.

8. Insert this stripped wire into the Butt Splice labeled SP2147 on the new Harness (044525). Using a Crimp Tool, crimp these wires in the splice.



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9. Locate the Pin labeled 17MUX5E on the new Harness (044525). Insert this pin into Cavity 17 on the connector.

10. Locate the Pin labeled 14MUX5E on the new Harness (044525). Insert this pin into Cavity 14 on the connector.

11. Reconnect the connector to Port E of the MUX.

12. Remove the connector from Port A of the MUX.

13. Using a Pin Extractor Tool, remove the pin from Cavity 19 of this connector.

14. Insert the Pin that was just removed into Cavity13 on this connector.

15. Reconnect the connector to Port A of the MUX.

16. Using a T-30 Torx driver, replace the panels that were removed earlier.

17. Remove the Lockout/Tagout devices and power on the bus.

18. Proceed to the last section of this document to update the body controller software.



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## Update the Body Controller Software for Customer Vehicles (Proterra Diagnostic Tool):

The purpose of this procedure is to update the Body Controller software version. This update process has been designed to maintain body controller parameter configuration data across the flash download of new software. Certain added EEPROMs may need to be checked in the new version after flash is complete.

**Note:** See the APPENDIX for performing this procedure using the alternate Microboot method).

1. Access the following folder to obtain the new configuration file:
   \\BUS.Local\files\Engineering\Service Bulletins\Service Bulletin Files for SC-19-69\

2. Copy the software file **XXXXXX.ZR32A_A** to a known location on the service technician's computer (Folder or Desktop).
   **IMPORTANT!** NEVER access the software from the USB memory device, ALWAYS copy the software files to your computer hard drive and access the software from this location.

3. Turn **ON** the 12/24V rear Master Disconnect located behind the vehicle curbside rear upper access panel.

4. Turn **OFF** the bus High-Voltage Master Switch at the Driver's Workplace and ensure the Dash screen is **OFF**.

5. Turn **ON** the bus "programming switch" at the streetside wheel well box.

6. Power up (boot) the Proterra-supplied laptop containing the Proterra Diagnostic Tool.

7. Connect the Nexiq USB Link to the laptop.
   **Note:** Using a USB cable connection, rather than Wi-Fi, is highly recommended.




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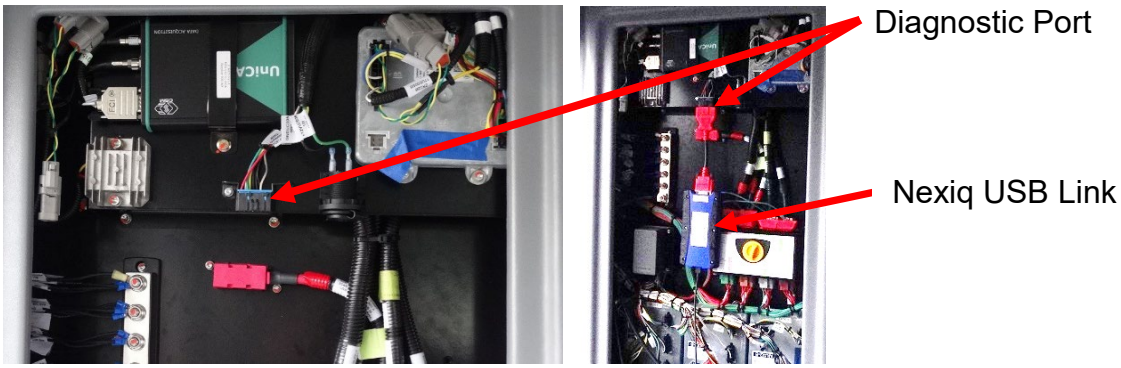
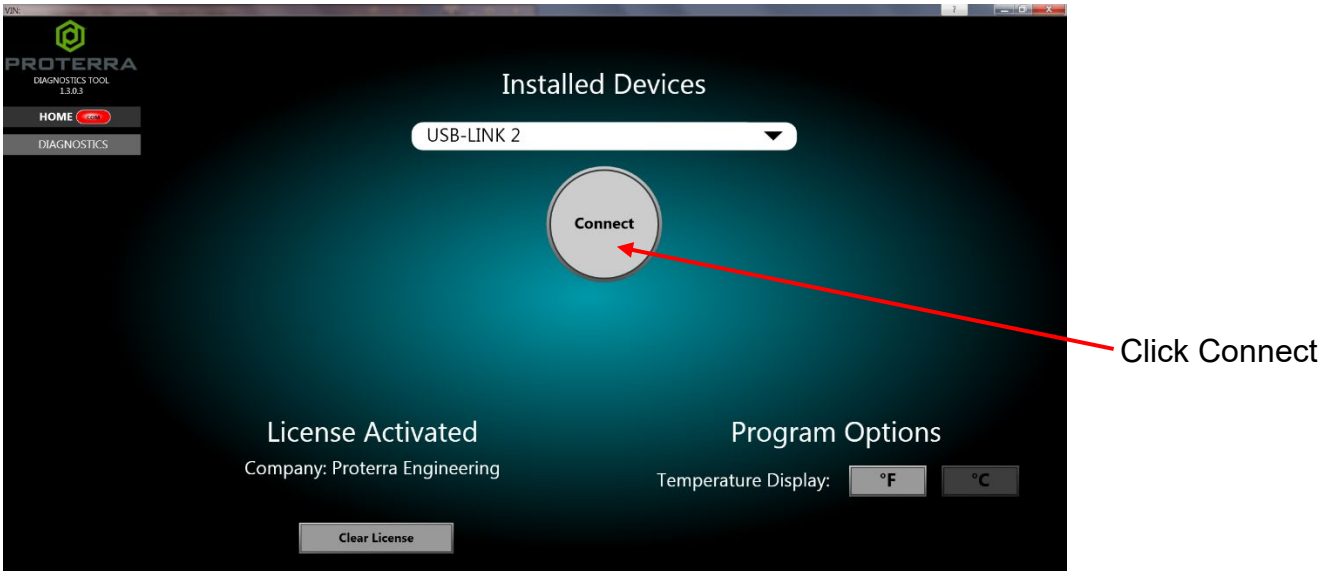
8. Connect the Nexiq USB Link to the Diagnostic Port located on the street side wheel well electronics cabinet (eCab).




9. On the laptop, double-click on the Proterra Diagnostics Tool software icon to start the software.


10. On the Proterra Diagnostics screen, select “USB-LINK 2” in the drop-down box then click the “Connect Button.”



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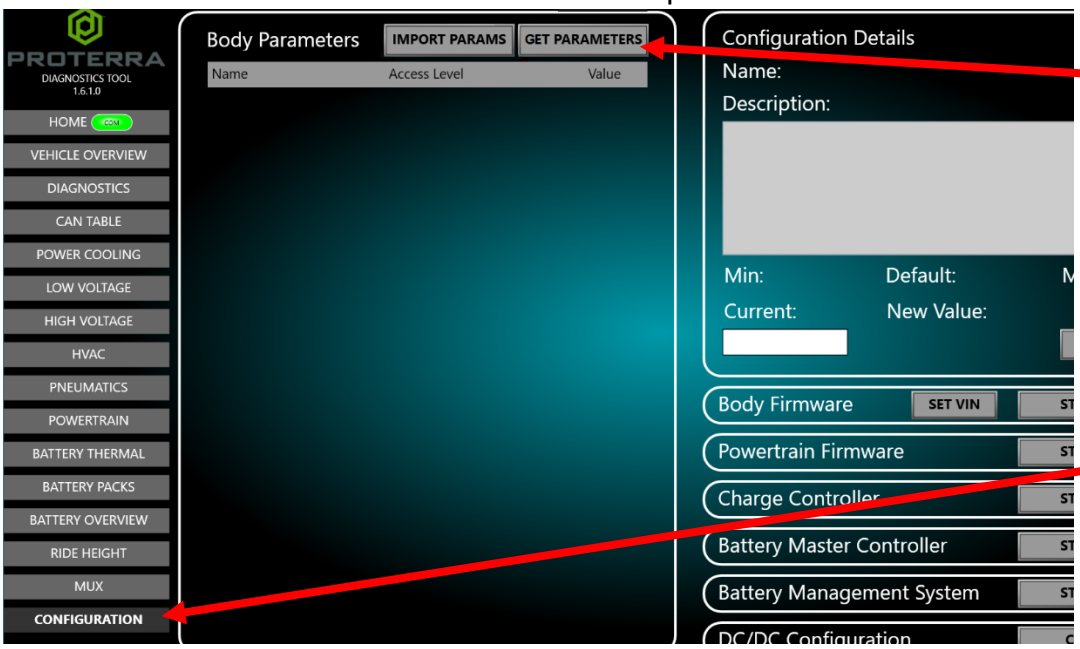
11. Once connected, click the “Configuration” Button to open the configuration screen and then click the “GET PARAMETERS” button at the top of the screen.




12. When “GET PARAMETERS” is clicked, the EEPROM Parameters and Values from the vehicle will be saved to a Zip file with the name **<VIN number>.zip** in the **C:\Logs** folder on your laptop.
(For Example: *1M9TG16JXJS816361.zip*)

**IMPORTANT!** Move this *.zip file from the Logs folder to the desktop of the laptop, to prevent it from being overwritten when the Body Controller software is flashed.



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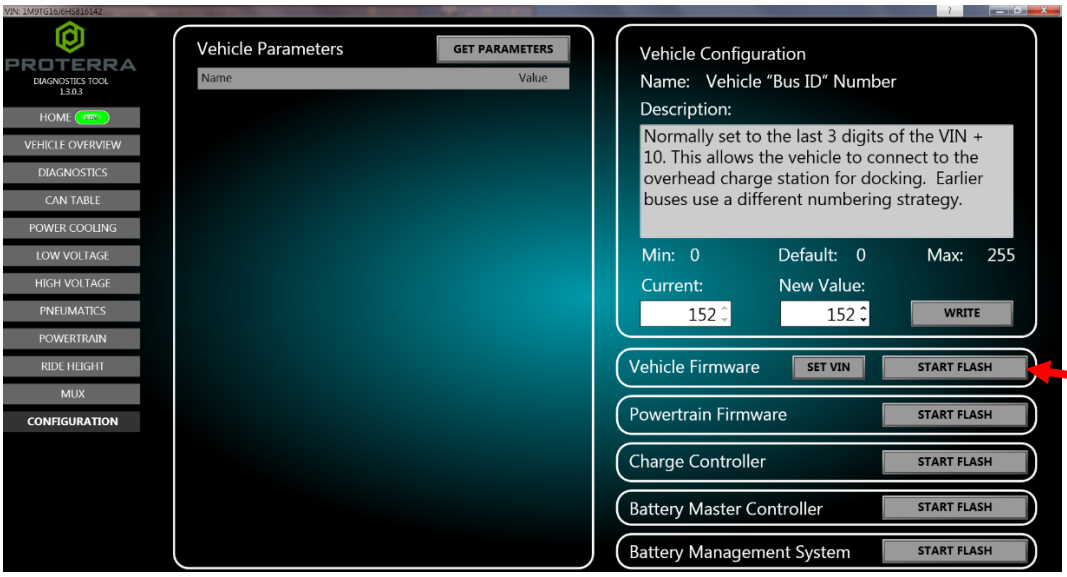
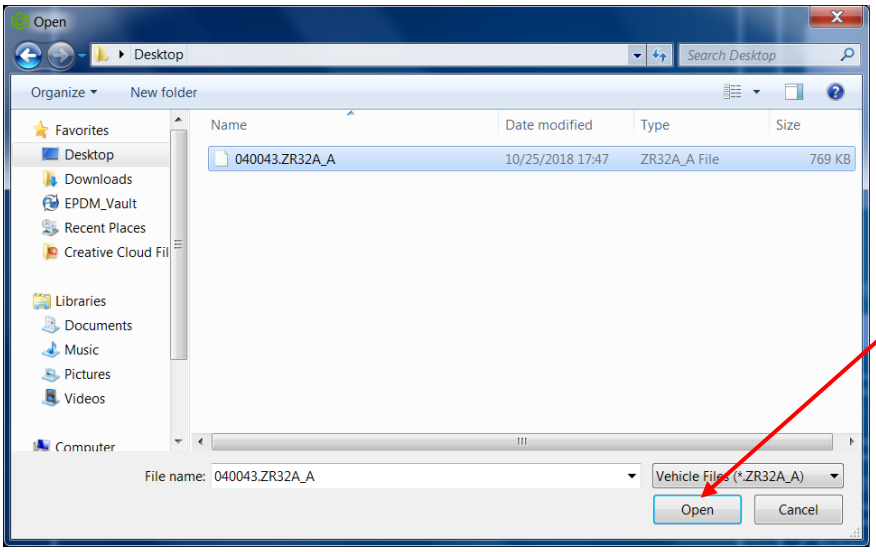
13. After the parameters file is saved to your desktop, click the Vehicle Firmware “Start Flash” Button.




Beside Vehicle Firmware, Click Start Flash

14. The following screen will be displayed. Navigate to the location where you stored the configuration file earlier. Select the software file **XXXXXX.ZR32A_A** downloaded previously and click “Open” to load the file.




Select the file and Click Open



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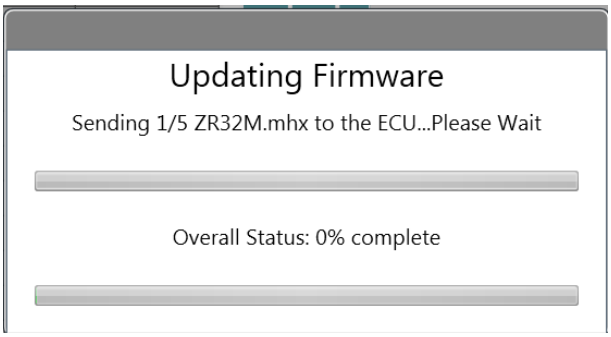
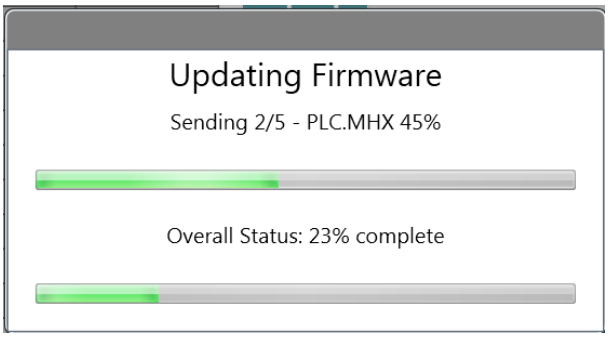
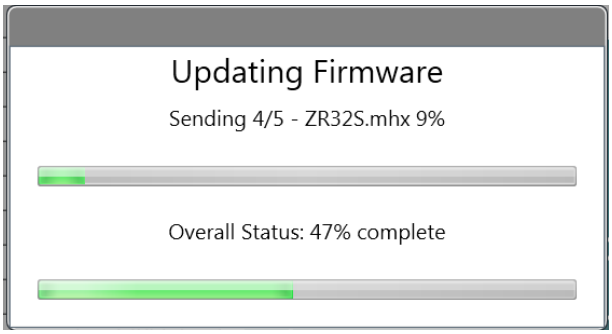
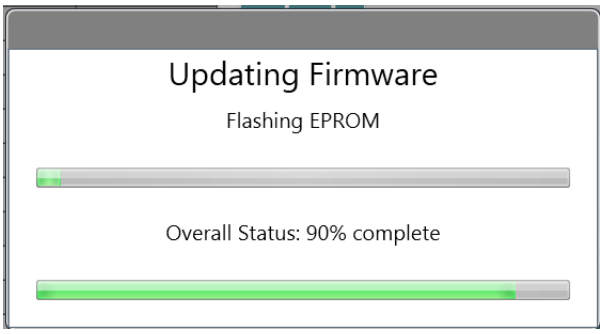
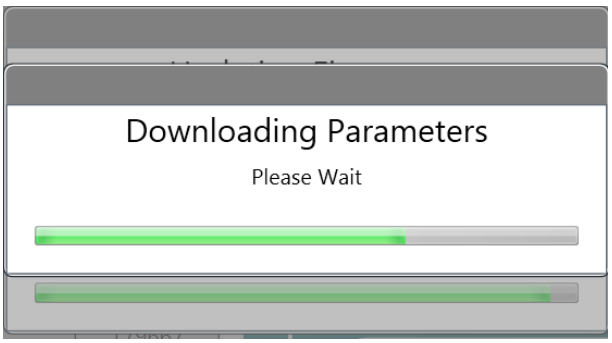
15. The Proterra Diagnostic Tool will connect to the device, and the following screens are displayed.



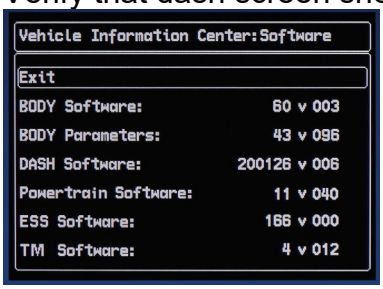




19. The software update will take several minutes to complete. When the update is complete the following screen will be displayed. Click the “Finish” button to complete the update process.

20. Verify that dash screen shows Body Software 60 v 003 and Body Parameters XX v 096.




21. Return the bus to service after the updates are complete.



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