



PROTERRA



TECHNICAL SERVICE BULLETIN

ISSUE DATE:	10-6-2021
SERVICE BULLETIN SUBJECT:	800 Volt HVAC Node and Inverter Software Update
VINs or MODELS AFFECTED:	Service Specified Buses
COMPLETE BY:	Next Service Opportunity
SERVICE BULLETIN #:	SC-21-139
Labor Operation Code:	VA50Z

NOTICE! It is expected that this process will require 1 hour per bus. Please schedule appropriately to minimize vehicle downtime.

800 VOLT HVAC NODE AND INVERTER SOFTWARE UPDATE

Retrofit Description:

This procedure updates the HVAC Node and Inverter software to the latest version.



Tools/Parts Required

Tools and Supplies Required:

- Proterra Service Laptop with Mobile Starter Software installed
- HVAC Programming Cable (046618)
- PCAN Dongle
- Octopus Cable

Programs Required:

- Mobile Starter Software including Commissioning and Diagnostic Panels

Parts Required:

- None

HVAC Node Programming Procedure:

1. Using the Proterra Service Laptop connected to the Internet, navigate the following location.
<\\bus.local\\files\\Engineering\\Service Bulletins\\Service Bulletin Files for SC-21-139>
2. Copy the folder named “SC-21-139” to the desktop of the computer.

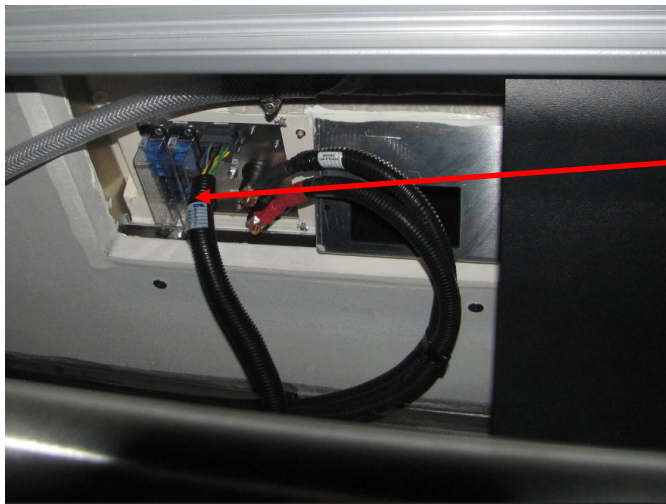


3. Turn the bus master switch to the “On” position.



Master On

4. Using a 4mm Allen Wrench or a #2 Phillips Screwdriver, open the Curbside Hadley door to access the HVAC unit as shown below.



Bus Harness

5. Disconnect the Bus Harness from the HVAC Unit.

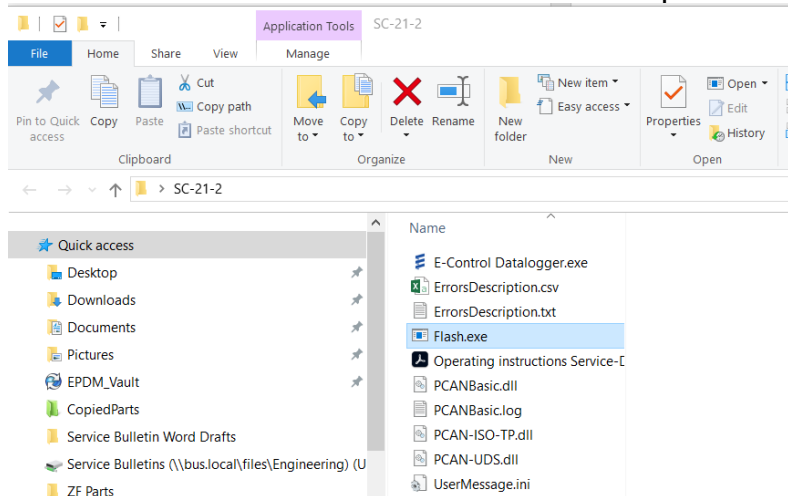
6. Connect the Programming Cable (046618) to the Bus Harness that was just disconnected from the HVAC Unit. Also connect the Programming cable to the HVAC Unit to the same connector that the Bus Harness was removed from.



7. Connect the DB9 Connector on the Programming Cable (046853) to the PCAN Cable.

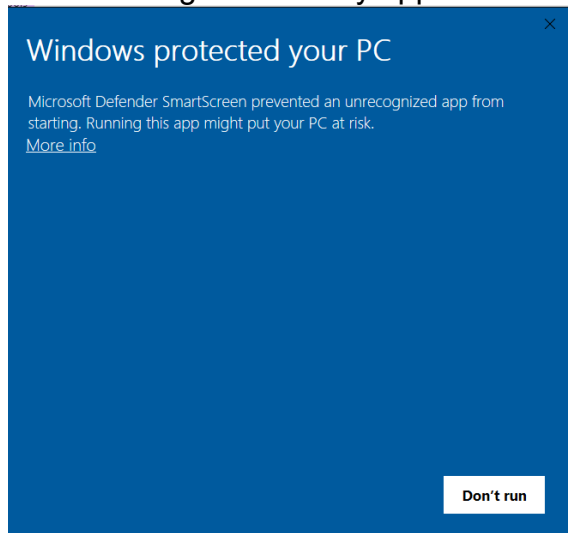


8. Connect the PCAN Cable to a USB port on the Laptop Computer.
9. Using the ECAB Panel Fuse Diagram, locate the HVAC HMI Fuse and remove it.
10. Double Click on the folder saved to the desktop earlier to open it.

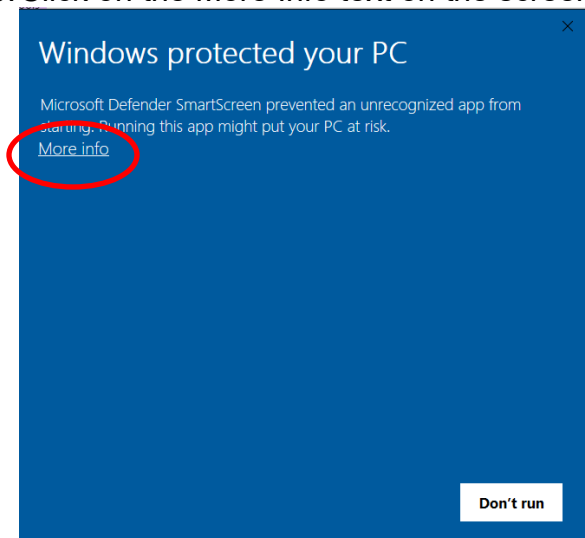


11. Double Click the file named Flash.exe to start the programming software.

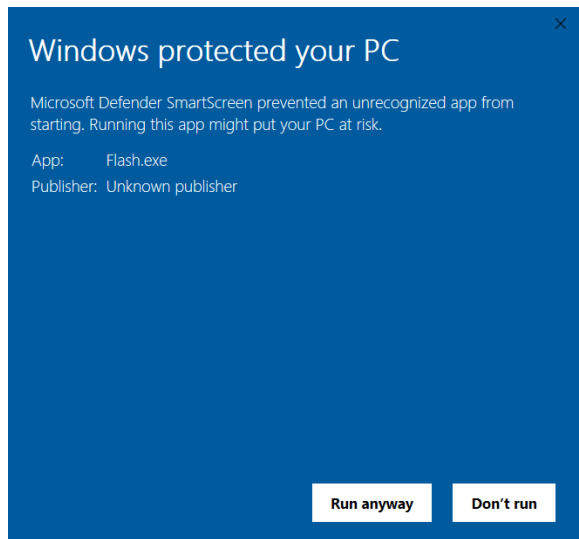
12. The following screen may appear.



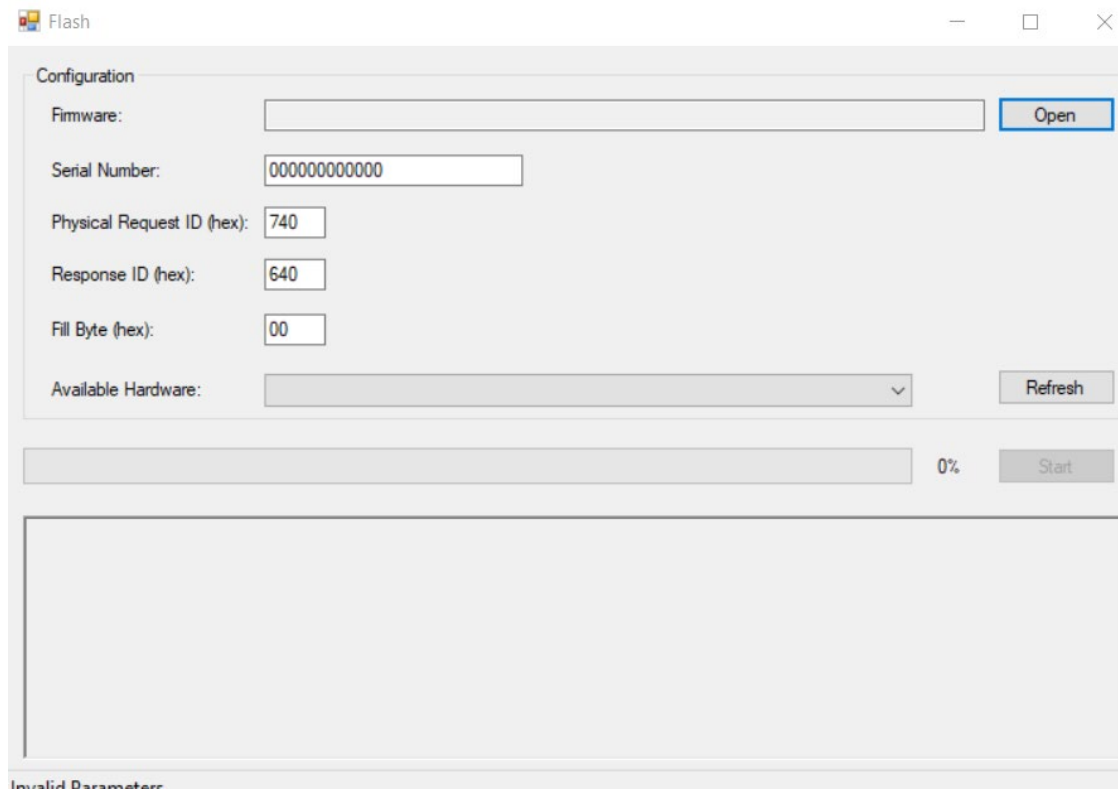
13. Click on the More Info text on the screen.



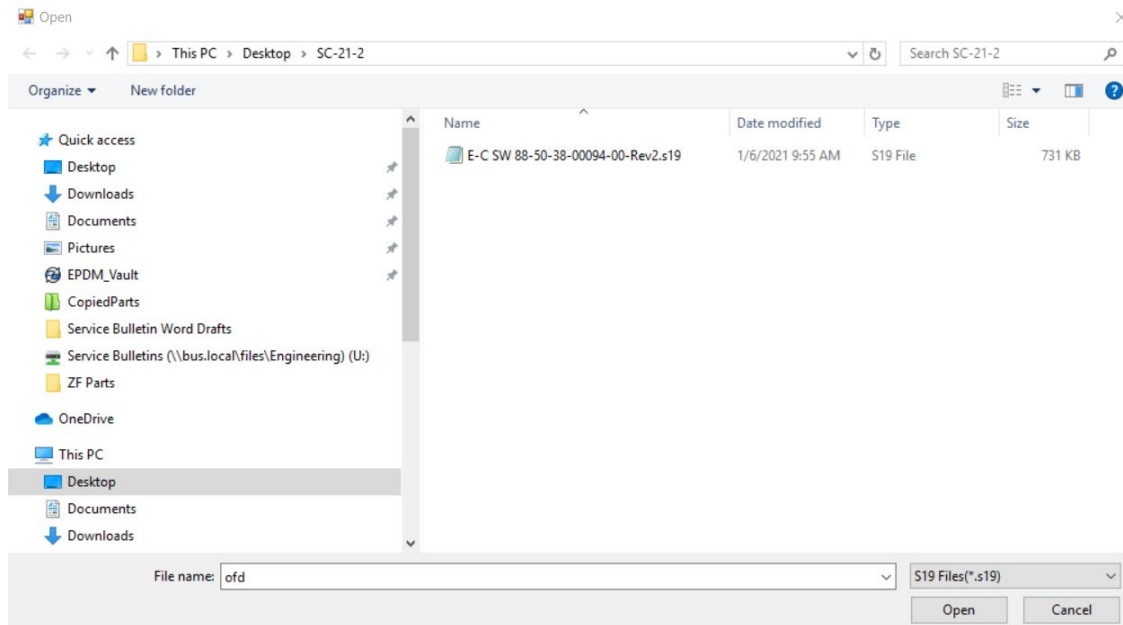
14. The following screen appears. Click on “Run Anyway”.



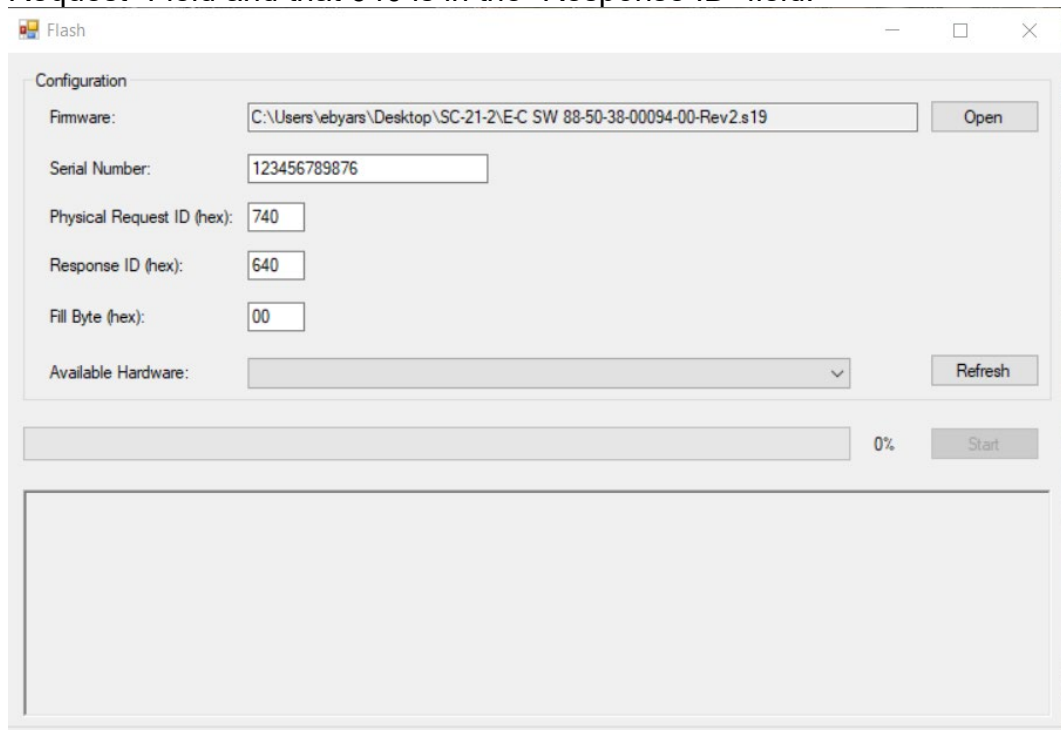
15. The following screen appears.



16. Click the open” button. Double click the file that appears. It will be named “E-C SW 88-50-38-00094-00-Rev54”.



17. Input a 12-digit number into the “Serial Number” field. Ensure that 740 is in the “Physical Request” Field and that 640 is in the “Response ID” field.



18. Click on the “Start” process to begin the software update.

19. When the tool shows 100% the programming process is complete.

20. Disconnect the programming cable and the laptop.
21. Replace the HVAC HMI Fuse.
22. Proceed to the next section to update the inverter software.

Inverter Programming Procedure:

Preparing the Vehicle to be Programmed

When programming a vehicle, it is critical that the low voltage batteries remain connected throughout the process. Ensure that the LV batteries are fully charged before starting the process. If they are low, you can use the vehicle to recharge them by turning on high voltage or you can place the bus on a low voltage charger for the duration of the process.

Connecting to the Vehicle

1. Turn the Driver's Master Switch to the **ACC** position.

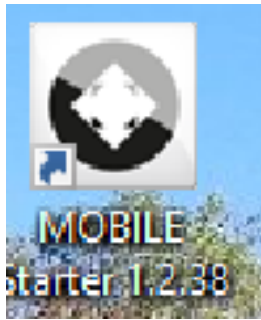


2. Turn the Hazzard Switch on.

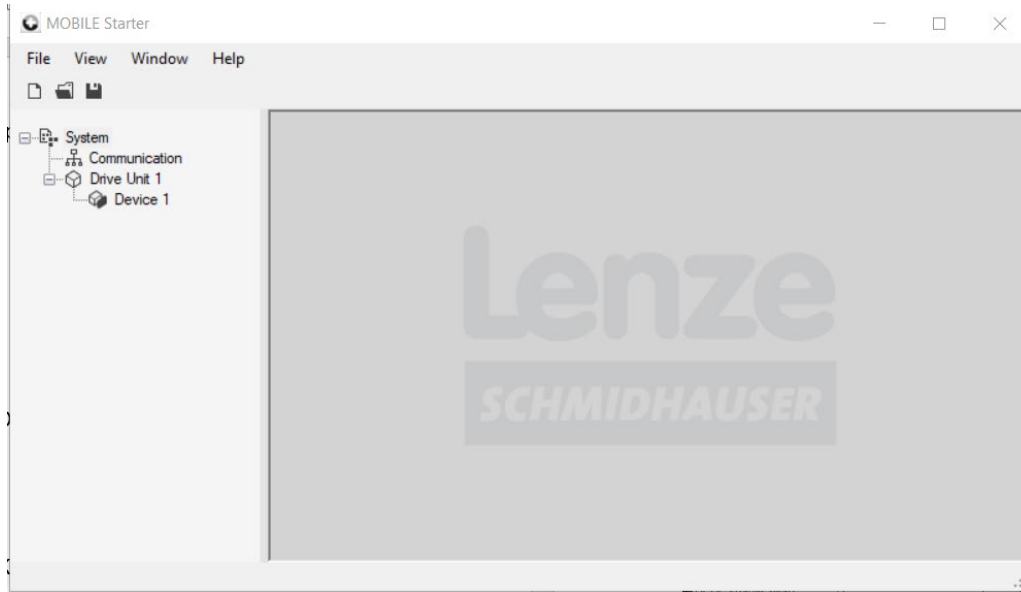


3. Power up and login to the Proterra-Supplied laptop or a comparable PC that has the Mobile Starter software installed.
4. Connect the Octopus cable to the OBD2 Port in the Streetside Wheel Well Box and connect the PCAN Dongle to the "P" port on the Octopus cable.
5. Connect the USB connector on the PCAN Dongle to the Laptop Computer.

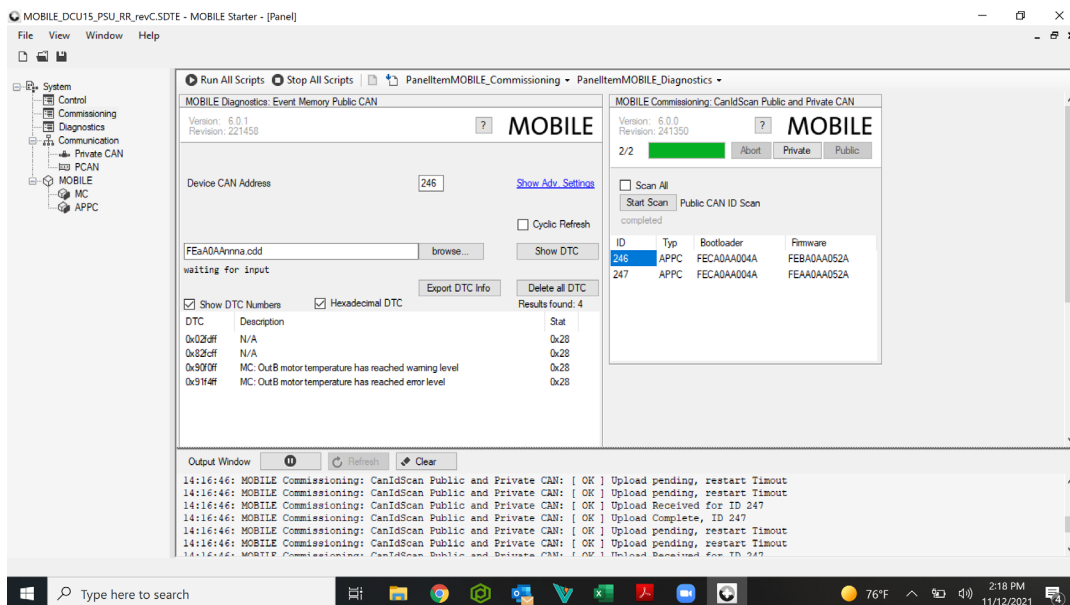
6. Open the Mobile Starter software by double clicking its icon.



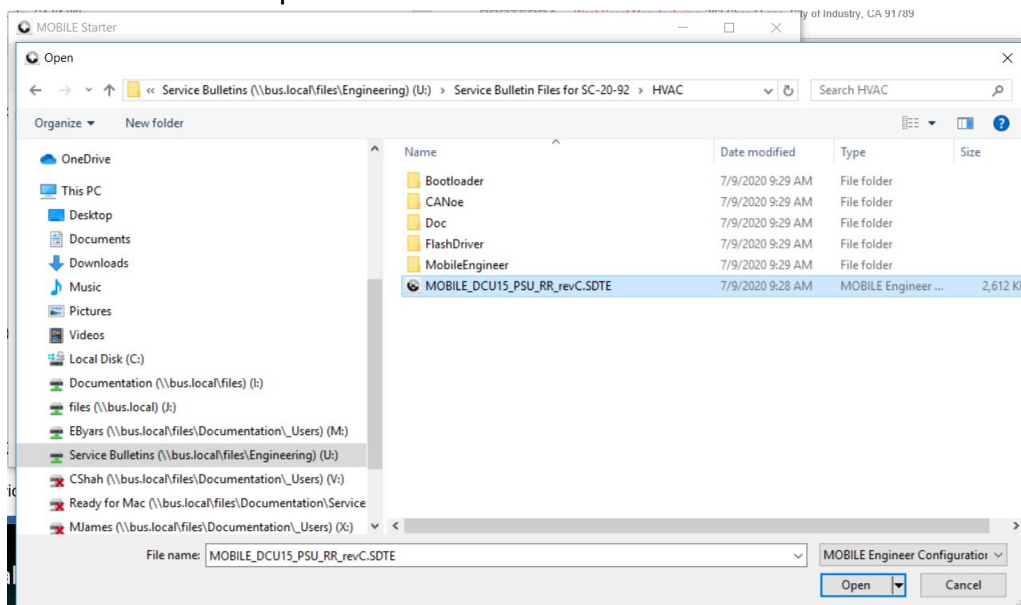
7. The following screen is displayed.



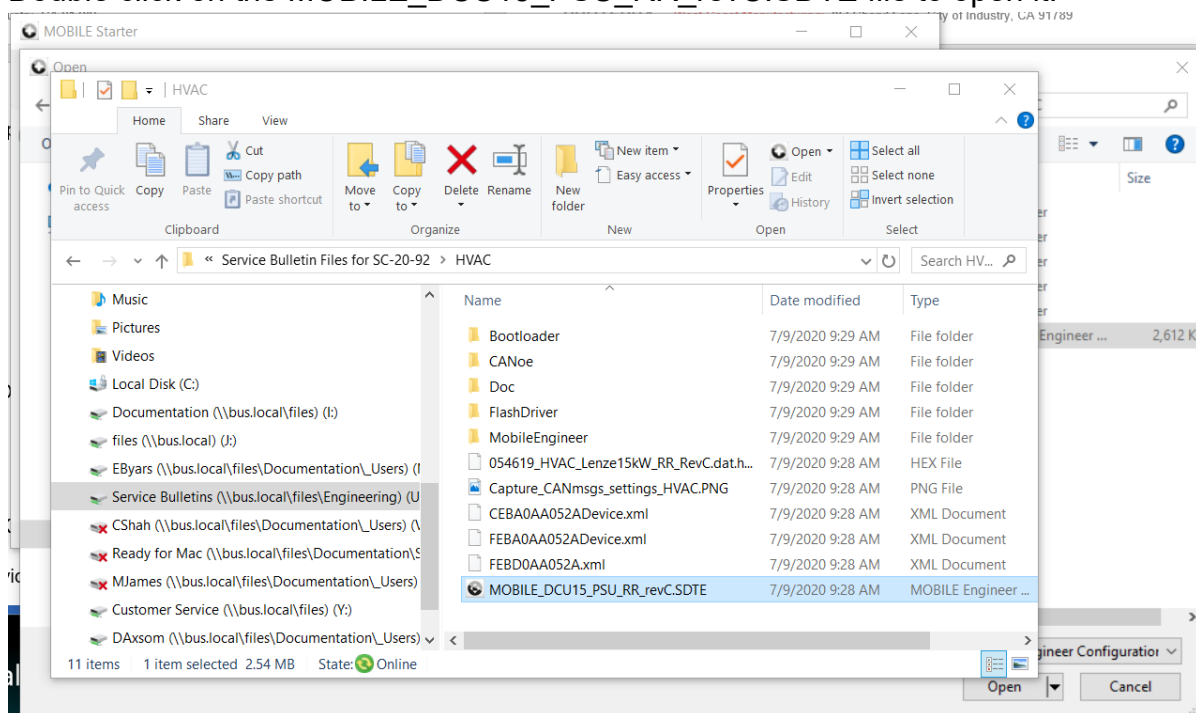
8. Run the Mobile Starter commissioning:CanIDScan to verify that the CAN ID is246. Change it to 246 if it does not.



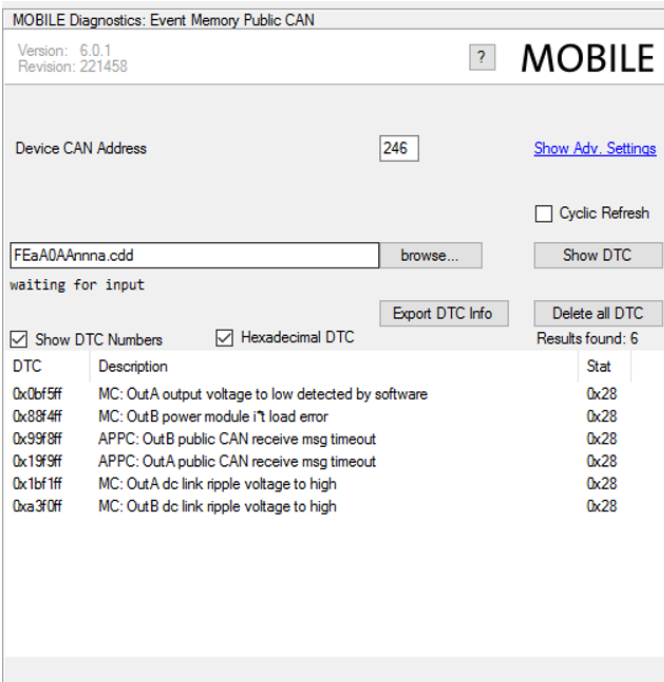
9. Click on “File” in the menu and then click “Open”. Navigate to the location where the files were saved earlier and open the folder.



7. Double click on the MOBILE_DCU15_PSU_RR_revC.SDTE file to open it.



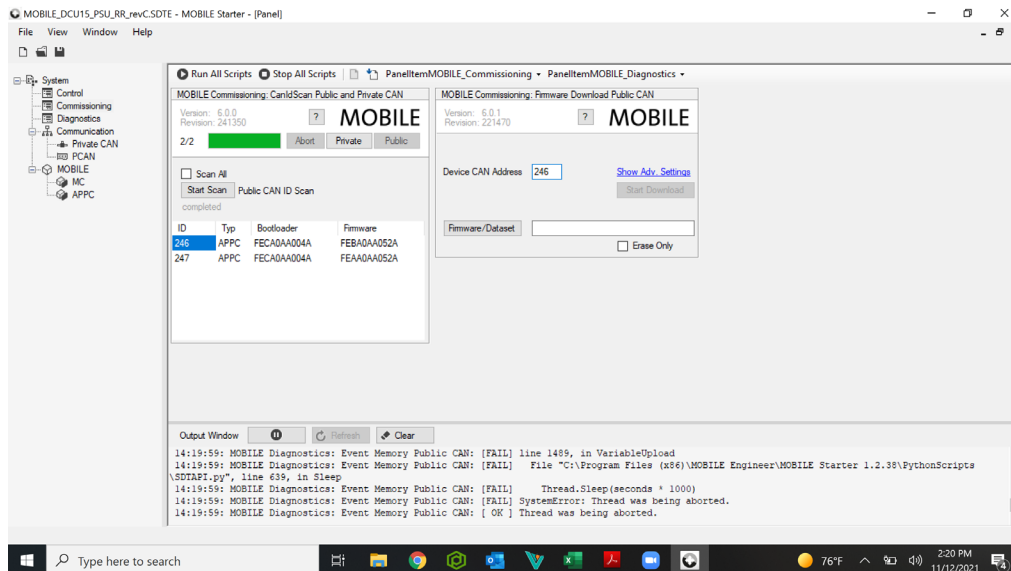
8. Under the Diagnostic Panel run the Event Memory Public CAN task. Verify that the Device CAN address is 246.



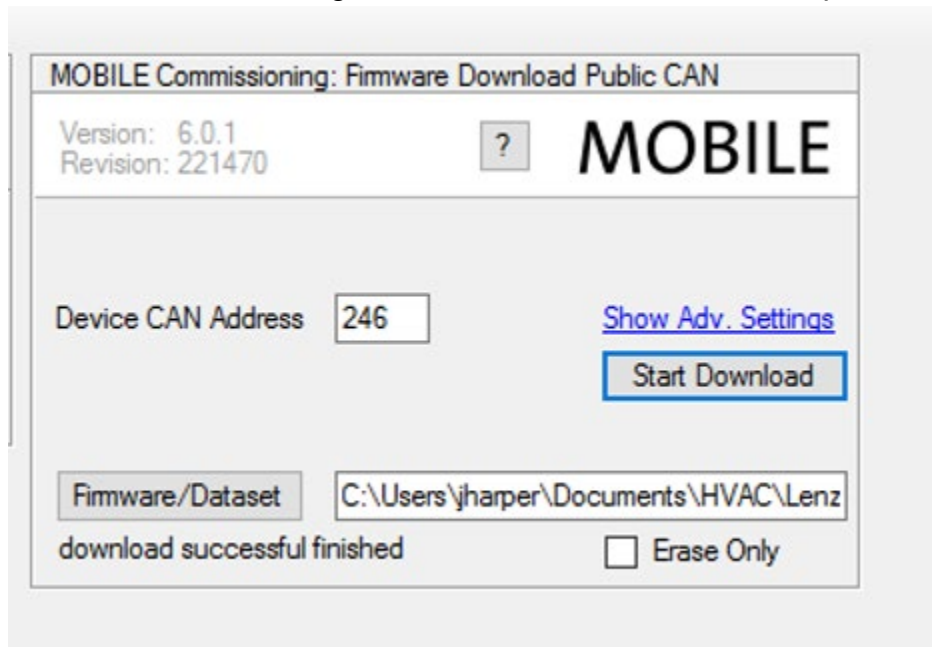
9. Click the “Show DTC” button. Make a screenshot of this screen and email it to jharper@proterra.com.

10. Click the “Delete all DTC” button.

11. Rerun the scan to ensure that the Device ID is 246.



12. Run the Commissioning Firmware Download Public CAN panel.



13. Click the “Firmware/Dataset” button.

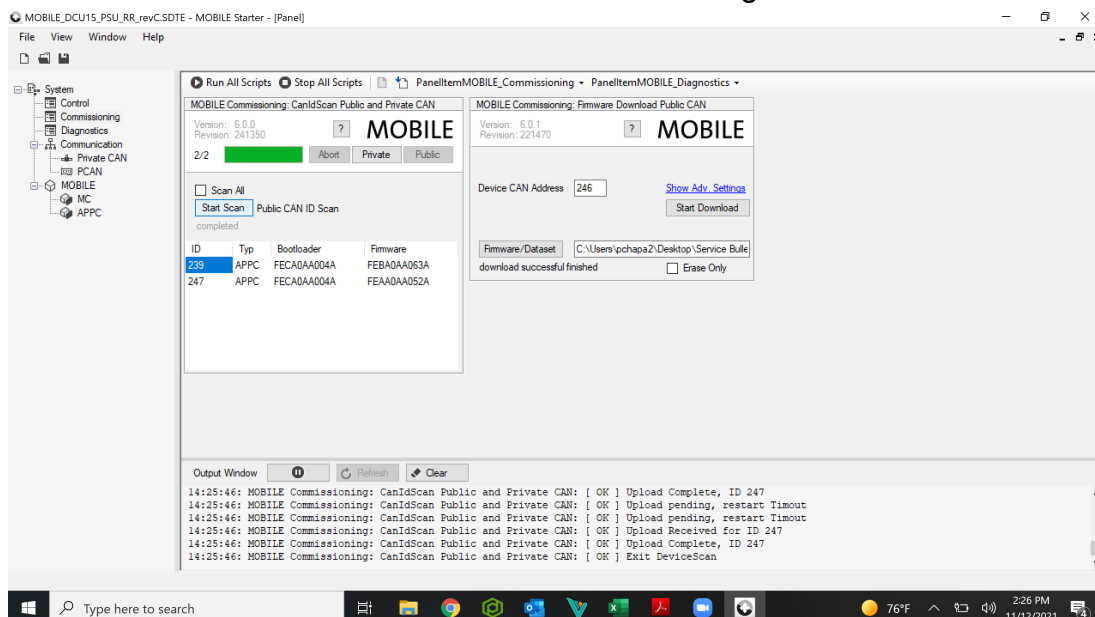
14. Navigate to the location where the service campaign files were stored.

15. Double click on the FEBA0AA063A.hex to open it.

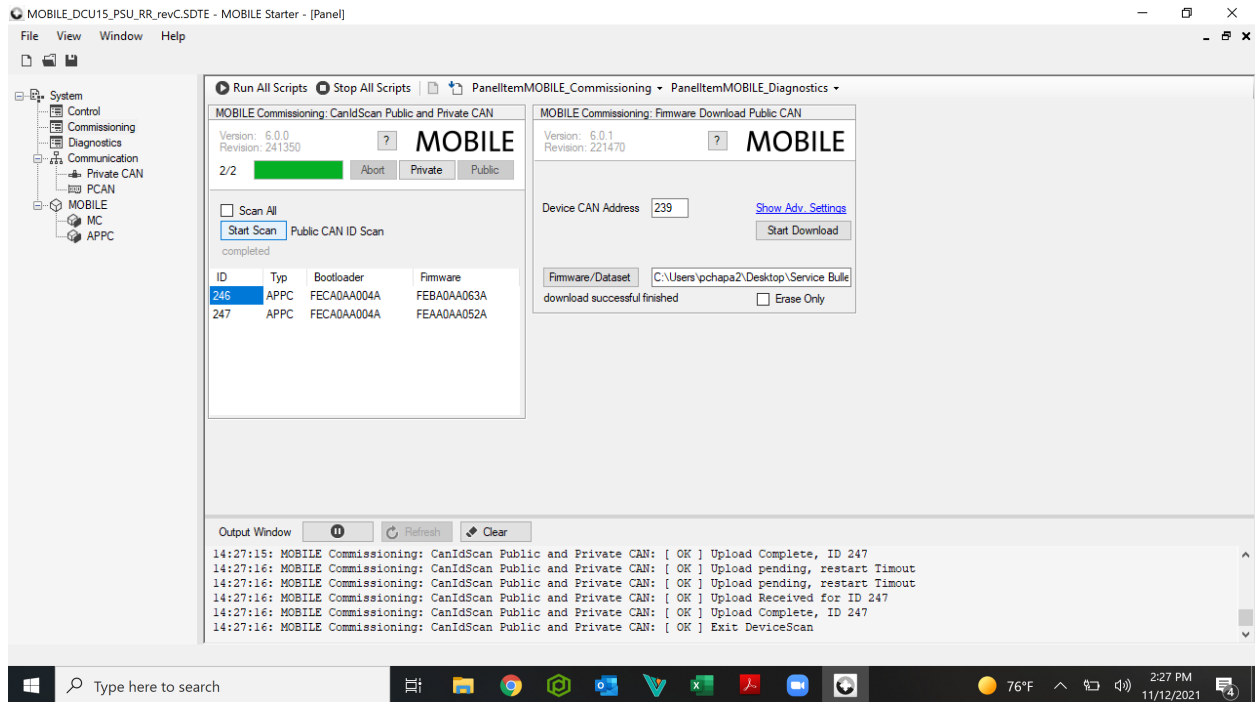
16. Click the “Start Download” button.

17. The panel will display “download successful finished” when the process is complete.

18. Rerun the scan to see that the new device ID. Change the CAN ID to 239.



19. Click the “Firmware/Dataset” button again.
20. Navigate to the location where the service campaign files were stored.
21. Double click on the 1.0.0 Parameter V63.dat file to open it.
22. Click the “Start Download” button.
23. The panel will display “download successful finished” when the process is complete.
24. Rerun the scan to confirm that the CAN ID is still 246.



25. Power the bus off using the Master Switch. Leave the switch off for at least 10 seconds. Turn the Master Switch on.



26. Turn off the Hazzard Switch.
27. Return the bus to service after the software update process is complete.

