



ISSUE DATE:	11/22/2023
SERVICE BULLETIN SUBJECT:	ZX5.A0 Limited Vehicle Controller Release 3.8.16
VINs or MODELS AFFECTED:	Service Specified Buses
COMPLETE BY:	Next Service Opportunity
SERVICE BULLETIN #:	SC-23-160
LABOR OPERATION CODE:	EN66Z
LABOR TIME	.5 Hours

ZX5.A02 Limited Vehicle Controller Release 3.8.16

Description:

The procedure describes the process of performing updating the vehicles software to fix bugs and improve driving experience.

NOTICE: SC-23-052 or SC-23-109 Software or greater versions must be installed prior to performing this service campaign.

Summary of Software Changes:

Improvements

1. VICR-366 – Interlock Faults 520821/520822-1 Inconsistence Set/Clear
2. VICR-368 – Power Steering Fault 520855-7 Power Limit Change and Air Comp Fault 1351-7 Time-on Delay
3. VICR-372 – Power Steering Pump Cycling Fix

Bug Fixes

1. The data type of the Power Steering pump feedback torque signal has been updated in the VIC to allow for negative values. This prevents a value overflow, which would unintentionally enable the pump.

Change Impact Analysis

1. The front and rear interlock air pressure thresholds have been lowered. The signal filtering applied to the signal for monitoring the air pressure feedback has been reduced.
2. The diagnostic power limit has been dropped on for the Power Steering pump to prevent fault detection. There is now a delay of 15s after commanding the Air Compressor ON before the diagnostic will determine if an issue is present.

Tools/Parts Required:

Tools and Supplies Required:

Proterra Diagnostic Tool	1
USBLink Nesiq	1

VEHICLE SOFTWARE UPDATE PROCEDURE

Software Files Required / Preparation:



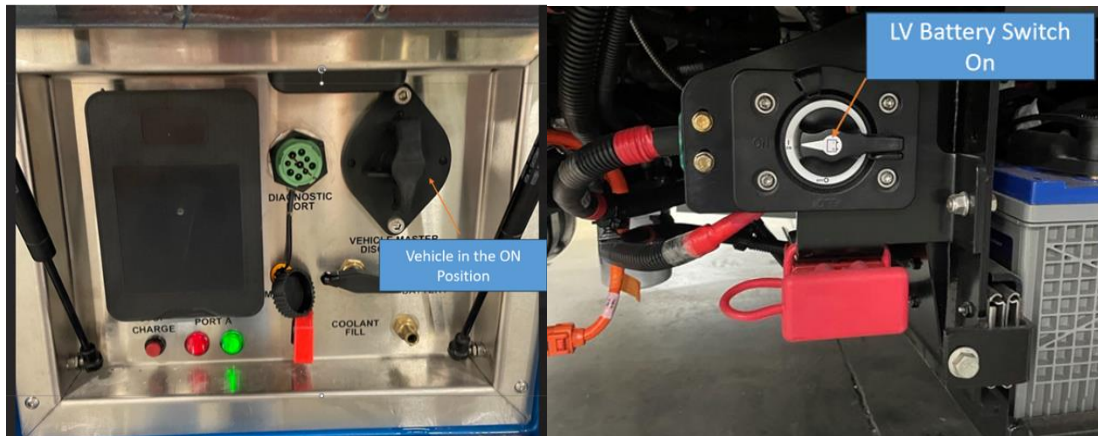
IMPORTANT! NEVER access the software from the USB memory device, ALWAYS copy the software files to your computer hard drive and access the software from this location. Secure the bus with the Vehicle Master Disconnect in the rear ON.

Component	Part Number	Version
Vehicle Controller	065727	3.8.16

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, use the vehicle to recharge them by turning on high-voltage or place the bus on a low-voltage charger for the duration of the process.

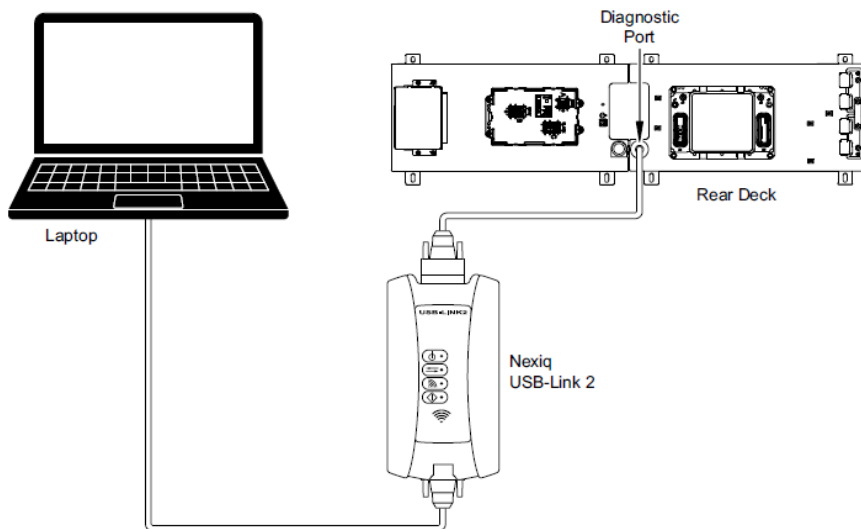
1. Connecting to the vehicle, Power up and login to the Proterra-Supplied laptop or a comparable PC that has the Proterra Diagnostics Tool software installed with a valid license.
2. Turn ON the 12/24V rear Vehicle Master Disconnect located at the curbside rear charge port access panel and the LV Battery Saver Switch near the LV batteries.



3. Connect the Nexiq USB Link2 device to the laptop and to the OBDII Diagnostic Port located in the rear deck above the rear window.



Note: Laptop Configuration should look like the following.



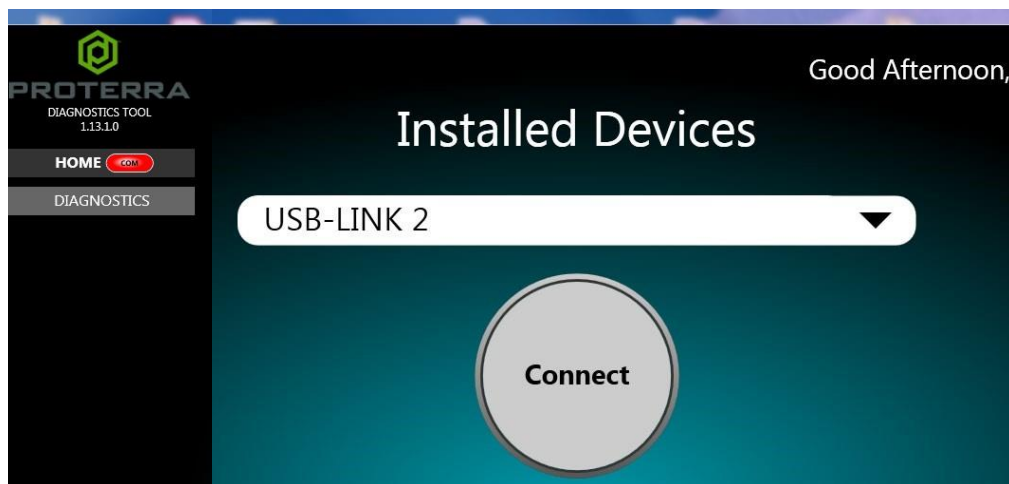
4. Make sure the Master Switch is in the “**OFF**” position and the Hazard Switch is **ON**.
 - a. **NOTE** – Other systems may cause the hazard **lights** to be on. Ensure the Hazard **Switch** is on for flashing purposes.



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



- When the program opens, read and click “OK” for the high-voltage safety prompt.
- On the Home tab, select the appropriate device from the drop down and click “Connect”



- Once the diagnostic tool has connected to the vehicle, a VIN number and connection status will be displayed on the Home screen, and tabs available to navigate. If you do not see the Home

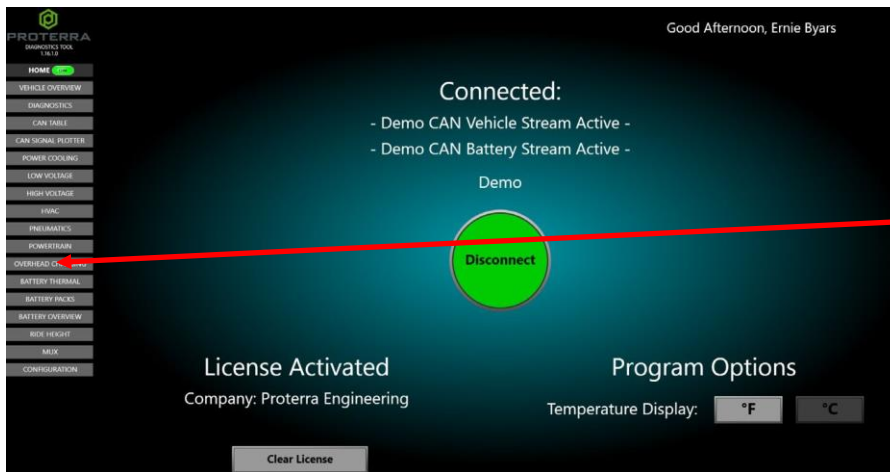
Screen, check that the low-voltage batteries are connected and that the Nexiq tool is plugged in. If there are still errors, try restarting the Proterra Diagnostic Tool application.

NOTE: 800V Proterra vehicles are equipped with an automatic battery disconnect that will protect the low-voltage batteries from a deep discharge

9. Before beginning the programming process, check the bus for existing faults by clicking on the “Diagnostics” button below and make a note of any found.

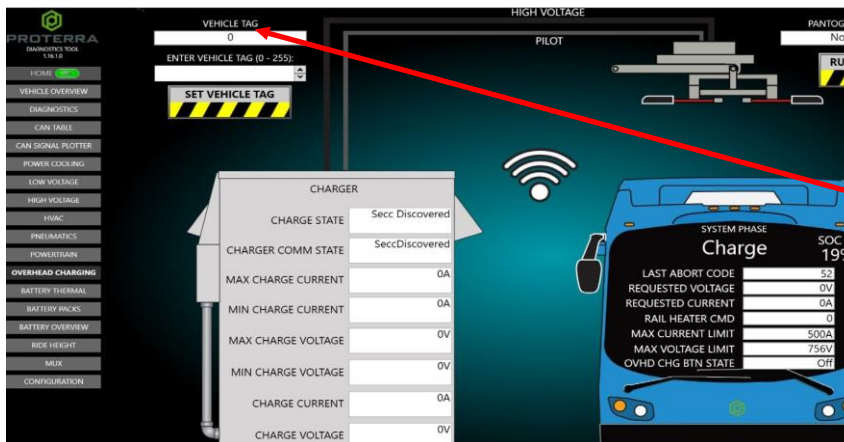
Update Vehicle Controller:

10. Click on the “Overhead Charging” button on the left side of the screen.
NOTE: If the bus that you are working on is not capable of overhead charging, skip to step 12 below.



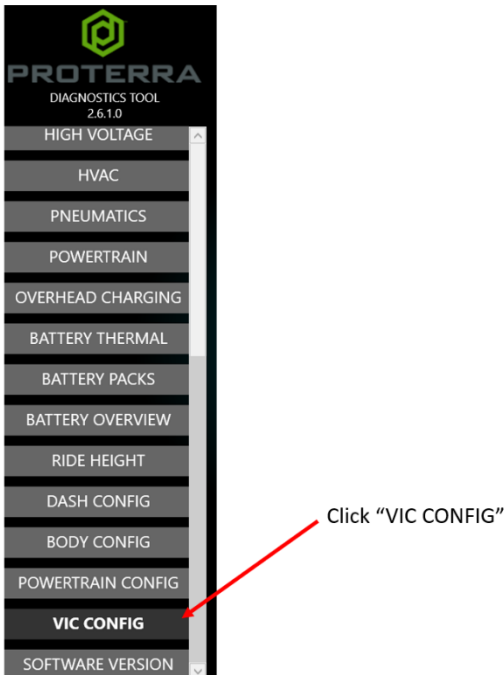
Click “Overhead Charging”

11. Record the value displayed in the “Vehicle Tag” data field. This will be re-entered into the controller after the software update.

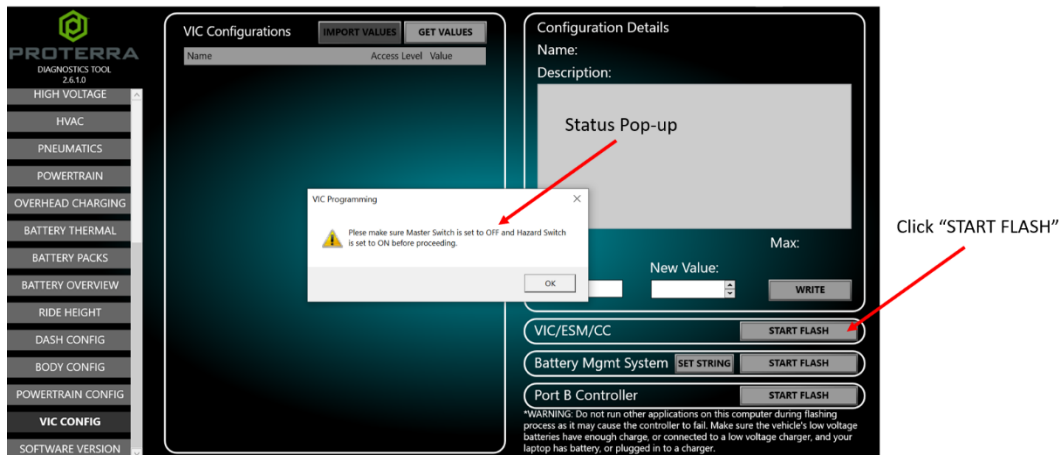


Record Vehicle Tag

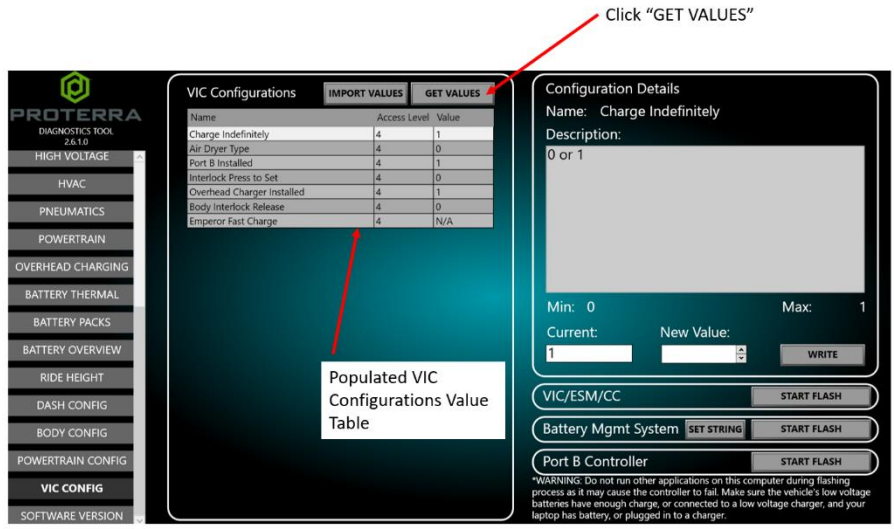
12. Navigate to the “VIC CONFIG” tab in the left menu.



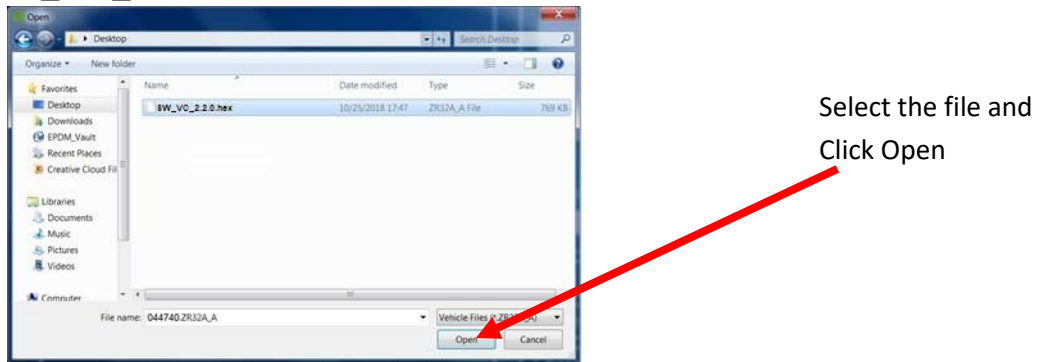
13. Select the option for Vehicle Controller “START FLASH”. There will be a status pop-up to confirm that the Master Switch is OFF, and the Hazard Switch is ON.
 NOTICE: The “INITIAL FLASH” button is only for offline programming of the Vehicle Controller with an Offline Programming Kit.



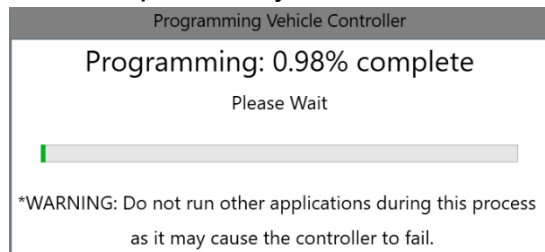
14. After pressing OK, it will prompt you to press the “START FLASH” button again. **BEFORE YOU DO THAT**, press the “GET VALUES” button to get the current controller configuration values. Save these values in case the automatic restore does not work.



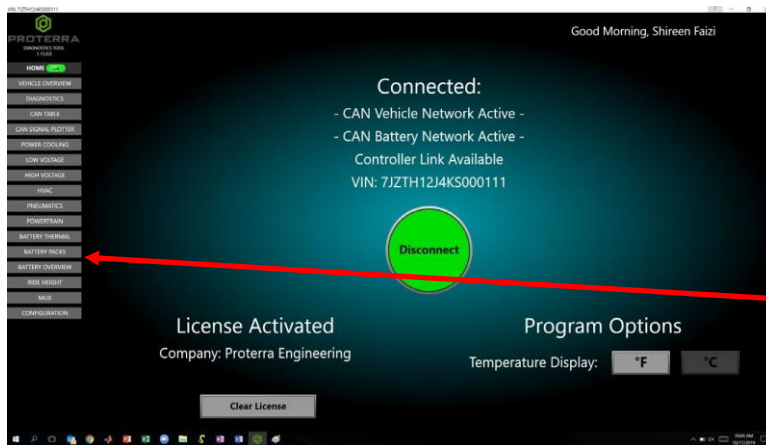
- Now, press the "START FLASH" button once more and a pop-up window should appear. In the pop-up window, select the software flash file to load the controller. The correct file is named 065727 SW_VIC_3.8.16.hex.



- The Programming window will come up and may take a few minutes to complete.



- Click on the "Overhead Charging" button on the left side of the screen.
 NOTE: If the bus that you are working on is not capable of overhead charging, skip to step 19.



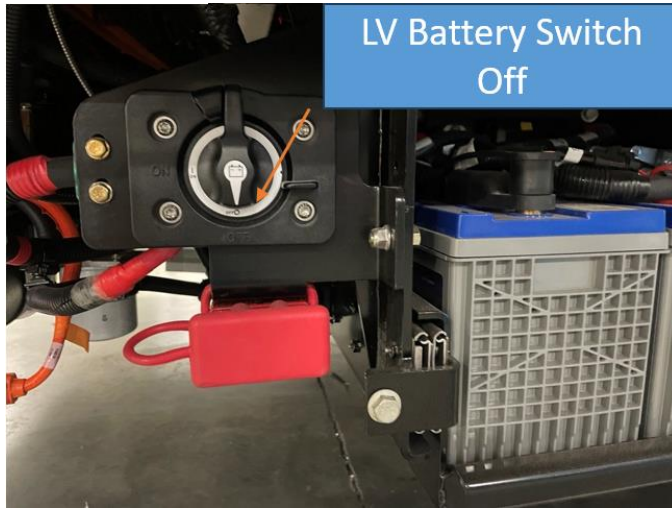
Click "Overhead Charging"

- The following screen will appear. Enter the "Vehicle Tag" that you recorded previously into the field circled in red below. Click the button under the field. This will populate the "Vehicle Tag" into the field above and into the controller.



Click "Button"

- Turn the Hazard Switch **OFF**.
- Turn OFF the 12/24V rear Vehicle Master Disconnect located behind the vehicle curbside rear charge port access panel and the LV Battery Saver Switch near the LV batteries. Wait ten seconds, and then turn both back to ON.



21. Close the PDT.
22. Verify that the vehicle turns on with no faults and that it is capable of charging.