

CERTAIN 2022 MODEL YEAR EXPEDITION/NAVIGATOR, 2021-2022 MODEL YEAR F-150 AND MACH-E VEHICLES EQUIPPED WITH FORD CO-PILOT AND BLUECRUISE - BLUECRUISE MAPS EXPIRATION

NEW! SERVICE PROCEDURE

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NEW! Gateway Module A Programming

NOTE: A blank 32GB or larger USB flash drive is required for APIM, TCU, Cluster, and GWM software updates. Make sure the USB flash drive being used is formatted correctly. To see the available drives, hold down the Windows icon keyboard key and press the E keyboard key. Right click on the USB flash drive and select Properties. If File System under the General tab is not exFAT, the drive must be formatted. To format the USB flash drive, right click on the USB flash drive, select Format, select exFAT for the File System, and select Default Allocation Size for the Allocation Unit Size. De-selecting Quick Format is not necessary and will result in a lengthier operation.

NOTE: Program appropriate vehicle modules before performing diagnostics and clear all DTC's after programming. For DTC's generated after programming, follow normal diagnostic service procedures.

1. Connect a battery charger to the 12V battery.

NOTE: Verify that the negative cable of the charger is installed on a chassis or engine ground, and not the 12 volt battery negative terminal to prevent the battery saver mode from activating on the vehicle.

NOTE: If the diagnostic software does not load or if the vehicle cannot be identified properly, make sure there is a good internet connection and the Vehicle Communication Module (VCM) is properly connected to the Data Link Connector (DLC). VCM 3 is recommended for improved data download time.

- 2. Close all the doors on the vehicle. If a door must be left open during the service procedure, mechanically latch the door latch to simulate a closed door.*



3. On the center display screen, navigate to Settings > About SYNC > Hands-Free Driving Mode available through DD-MM-YYYY. Record the expiration date. See Figure 1.

NOTE: Mach-E shown other vehicles similar.



FIGURE 1

4. Log into Ford Diagnostic and Repair System (FDRS). Ensure FDRS and VCM 3 are updated to latest version.

5. Start a new FDRS session.

NOTE: Vehicle information is automatically retrieved by the diagnostic software and a Network Test is run. Vehicle identification data appears on the screen when this is complete.

NOTE: Available modules are shown on the LH side of the screen, and available procedures are listed on the RH side of the screen. Modules that are communicating are highlighted in green.



6. Select Toolbox tab. See Figure 2.

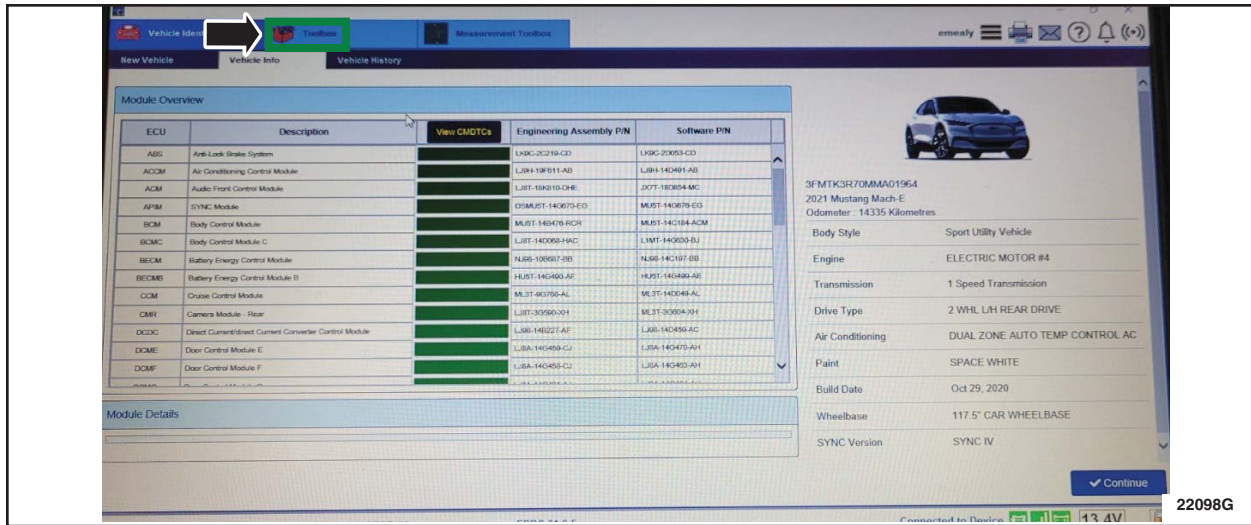


FIGURE 2

7. From the list on the LH side of the screen, select the GWM. See Figure 3.

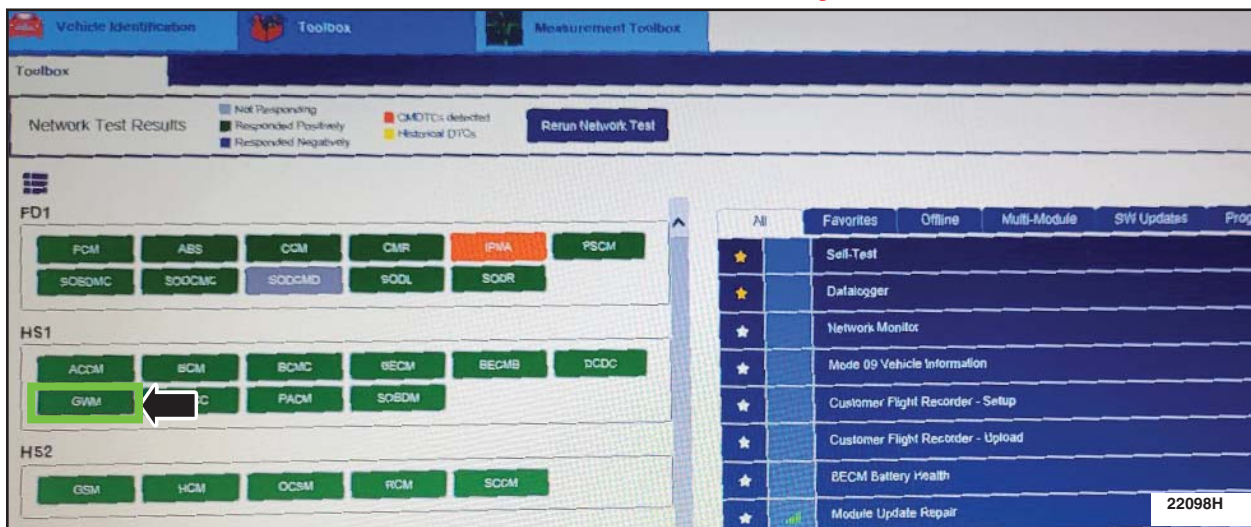


FIGURE 3



8. From the list on the RH side of the screen, download GWM - GWM Software Update.

NOTE: If software is already at the latest level, this selection will not be available. Verify that an Over The Air (OTA) update was previously installed. Log into Professional Technician System (PTS) > Connected Vehicle tab > OTA Dashboard. Click on release notes to confirm what was included in the OTA update. See Figures 4 and 5.

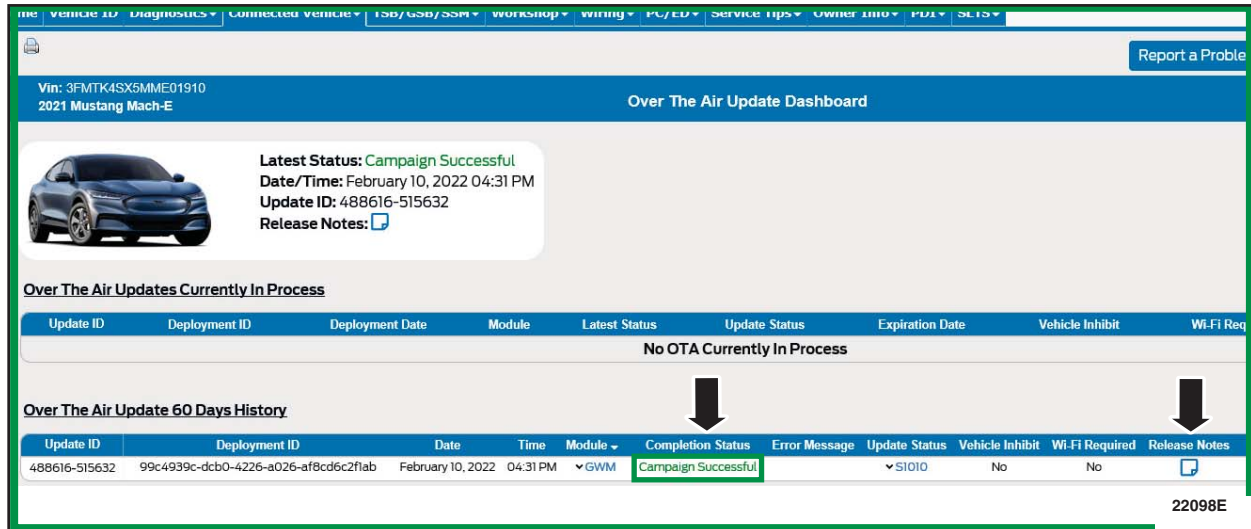


FIGURE 4

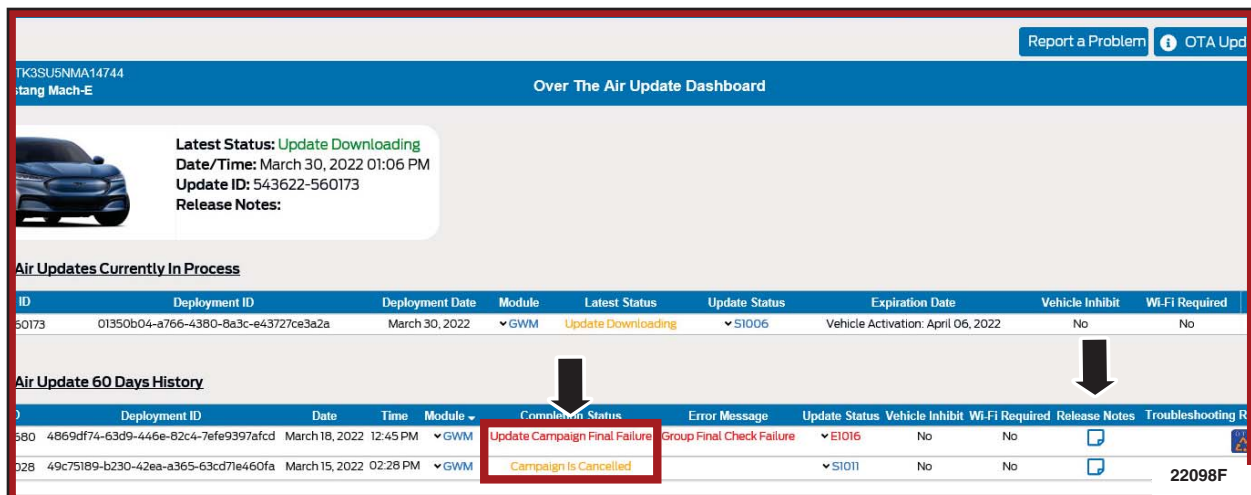


FIGURE 5



9. Click **RUN** to start the GWM update. See Figure 6.

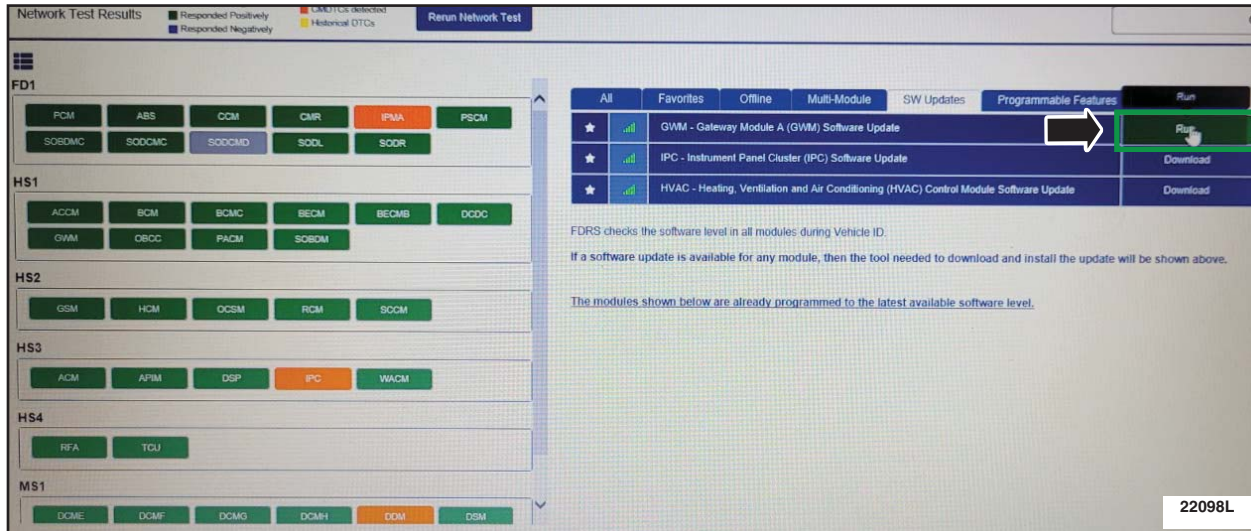


FIGURE 6

10. Verify that the vehicle is connected to a battery charger. Click **yes** and follow all on-screen instructions carefully. See Figure 7.

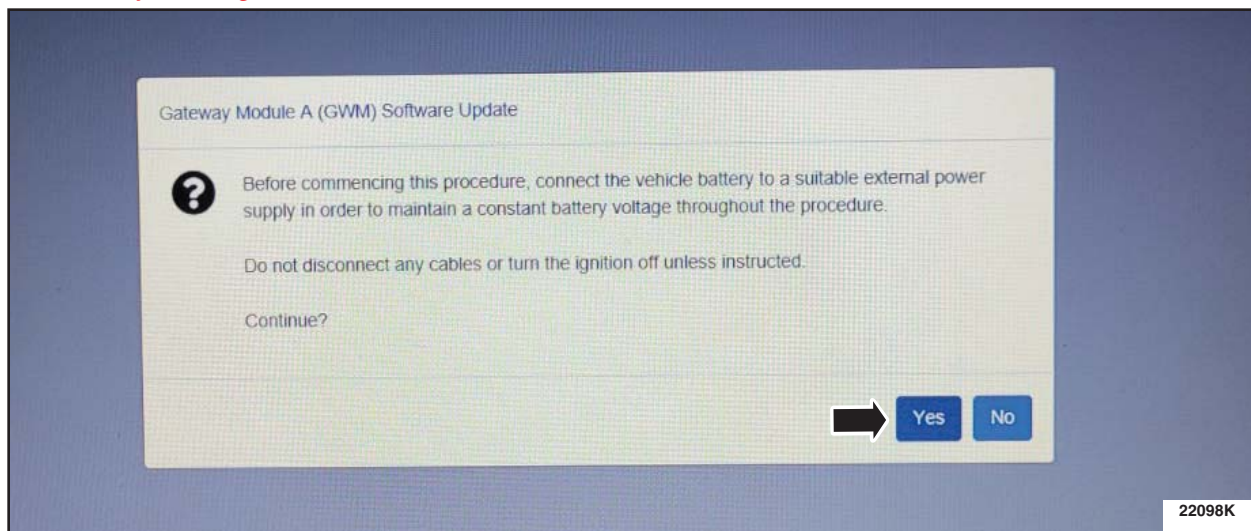


FIGURE 7



11. When prompted, turn the ignition to key on engine off and click the OK icon. See Figure 8.

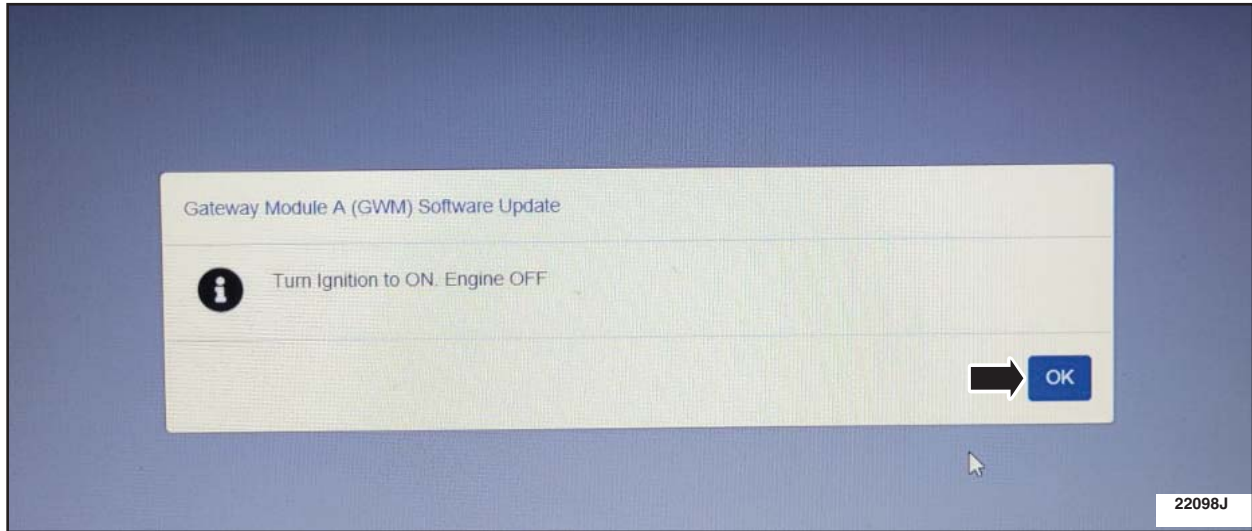


FIGURE 7

12. Allow the software files to process. See Figure 8.

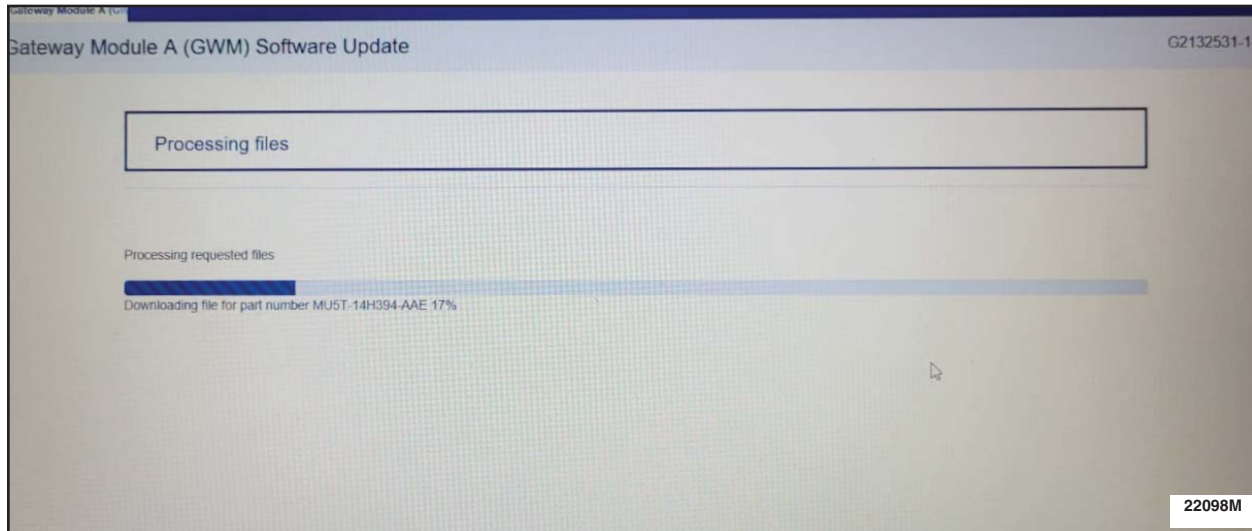


FIGURE 8



13. When prompted, connect the USB flash drive to the diagnostic scan tool and click the OK icon. See Figure 9.

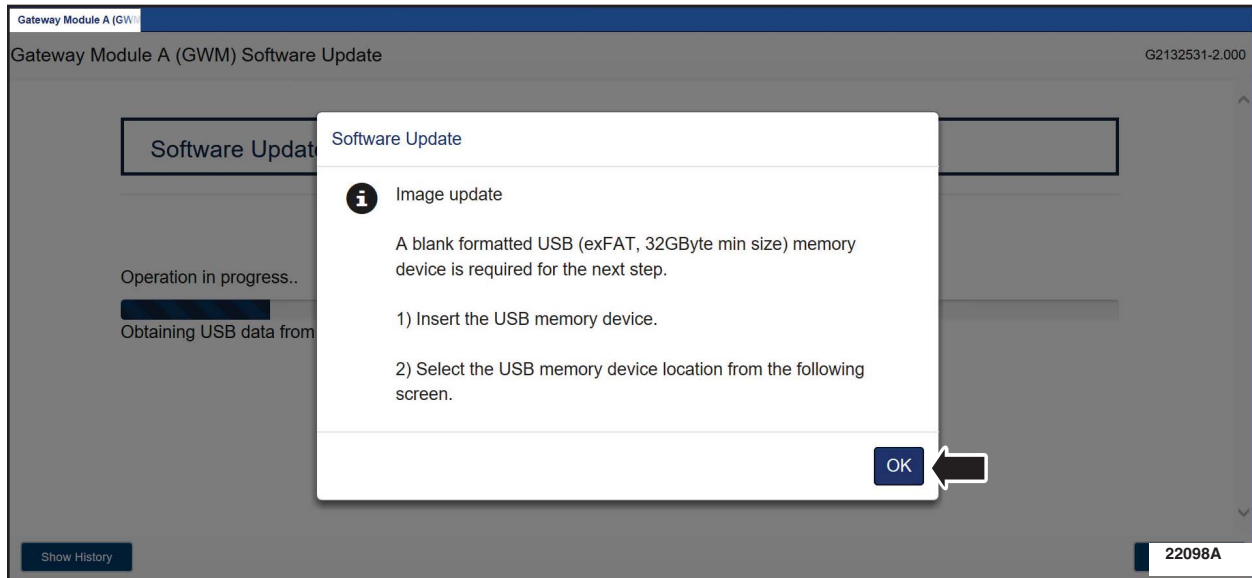


FIGURE 9

NOTE: Do not install the software update on a sub folder on the USB drive. See Figure 10.

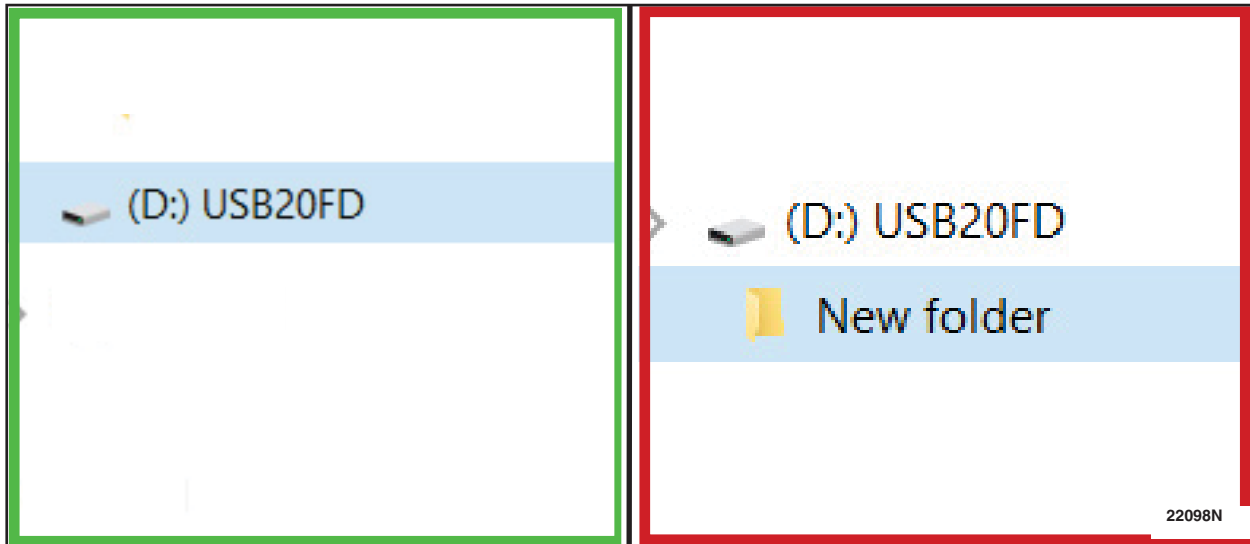


FIGURE 10



14. Cycle the ignition to the ignition on engine on position and click the OK icon. See Figure 11.

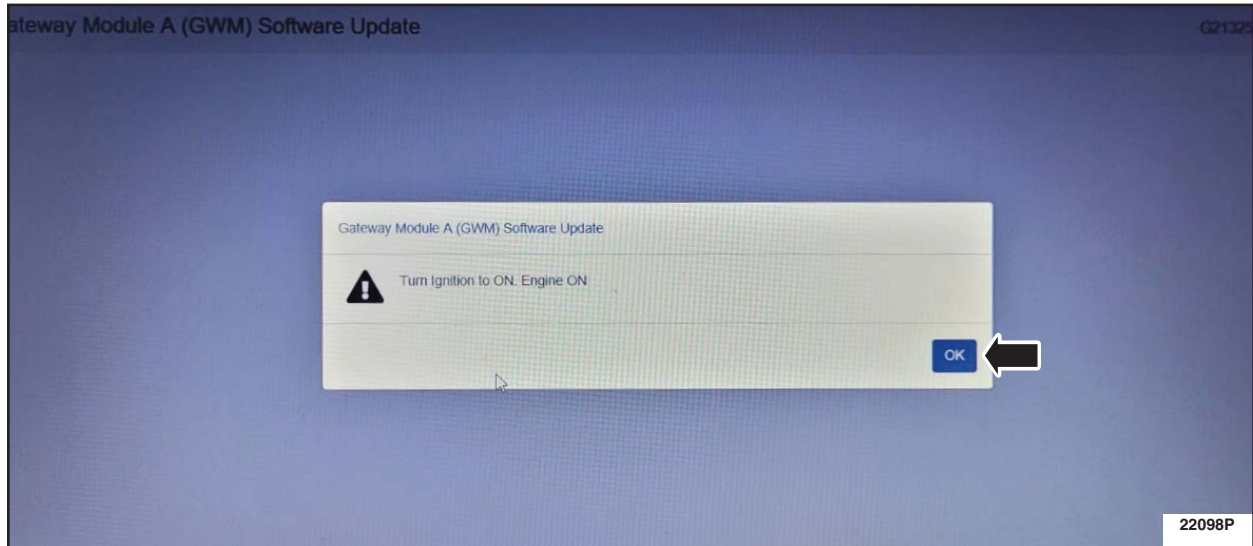


FIGURE 11

15. Verify that the green ready light is on on the instrument cluster. See Figure 12.

NOTE: Close all the doors on the vehicle. If a door must be left open during the service procedure, mechanically latch the door latch to simulate a closed door and ensure that the trunk is closed if applicable.

NOTE: Mach-E shown. Does not apply to gas vehicles.



FIGURE 12



IMPORTANT: Do not select the Yes button in FDRS until the software update on the USB drive has been completed. See Figure 13.

NOTE: If the yes or no icon in FDRS is pressed by accident the software update will not be successful. **DO NOT PROCEED WITH THE CAN FLASH.** You may receive an inaccurate message stating that the software update was successful but the bluecruise maps will not be updated.

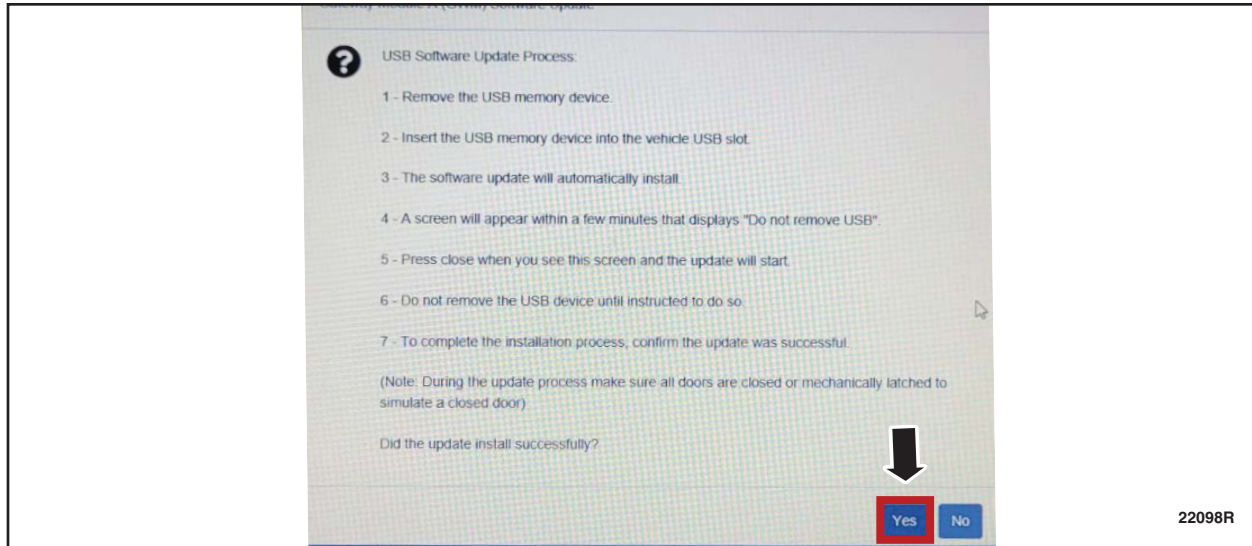


FIGURE 13

16. When prompted by the diagnostic scan tool, safely remove/eject the USB flash drive from the diagnostic scan tool and connect it to the USB hub in the vehicle to install the software into the GWM. See Figure 14.

NOTE: Mach-E shown other vehicles similar.



FIGURE 14



17. The update should start automatically. It is normal for the GWM to reset during this step.
See Figure 15.

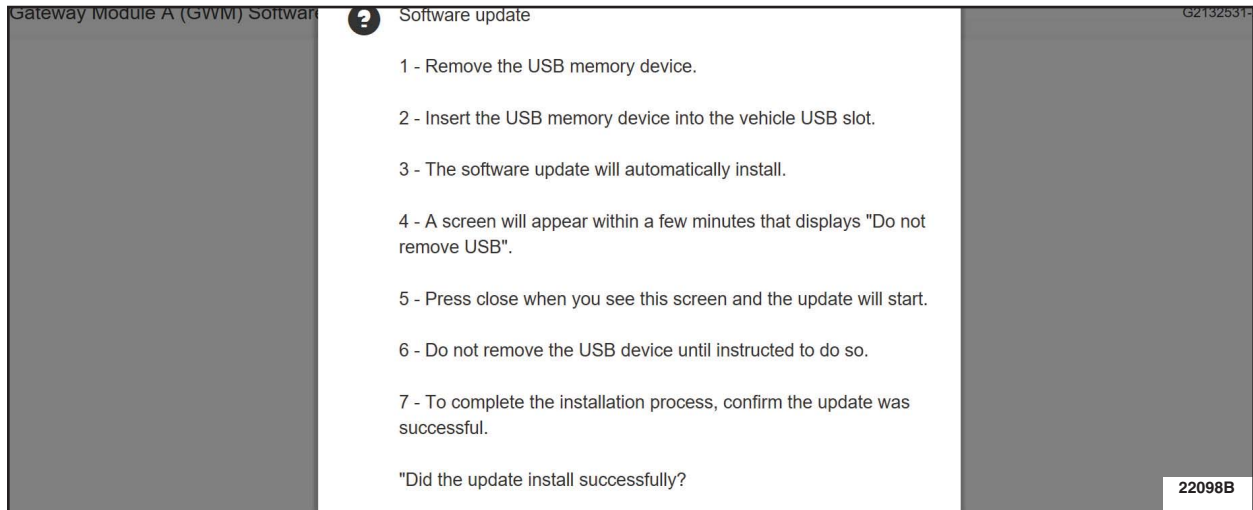


FIGURE 15

18. Press the close icon on navigation screen. The GWM software update will start automatically.
See Figure 16.

19. Set a timer for 10 minutes to ensure enough time passes to allow the update to complete before removing the USB drive.

NOTE: Mach-E shown other vehicles similar.

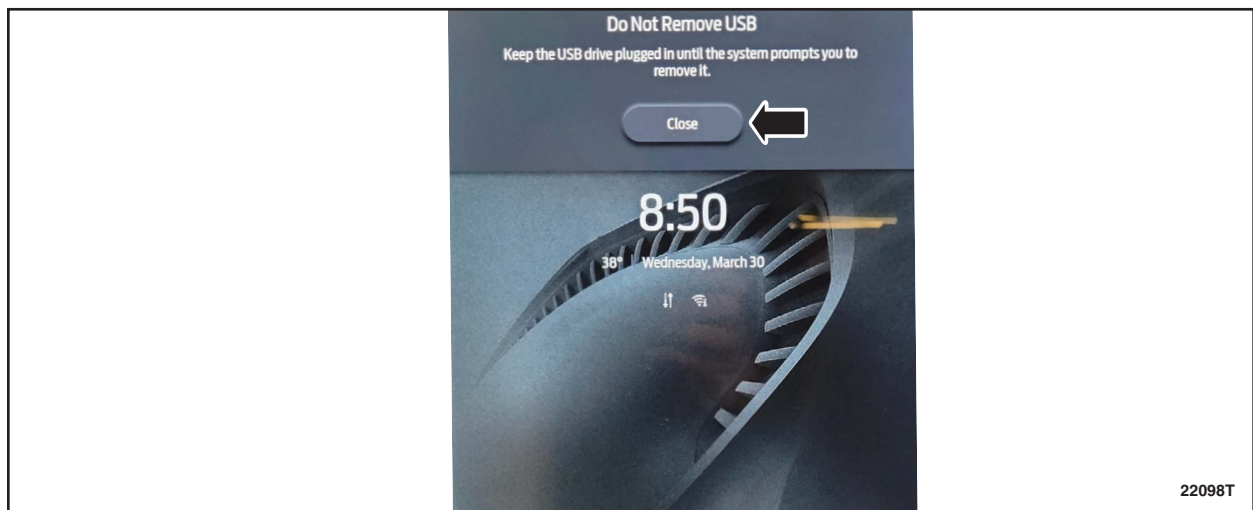


FIGURE 16



20. Turn off the vehicle. See Figure 17.

NOTE: Mach-E shown other vehicles similar.

NOTE: You may receive a question regarding the alarm system. Click yes or no as appropriate.

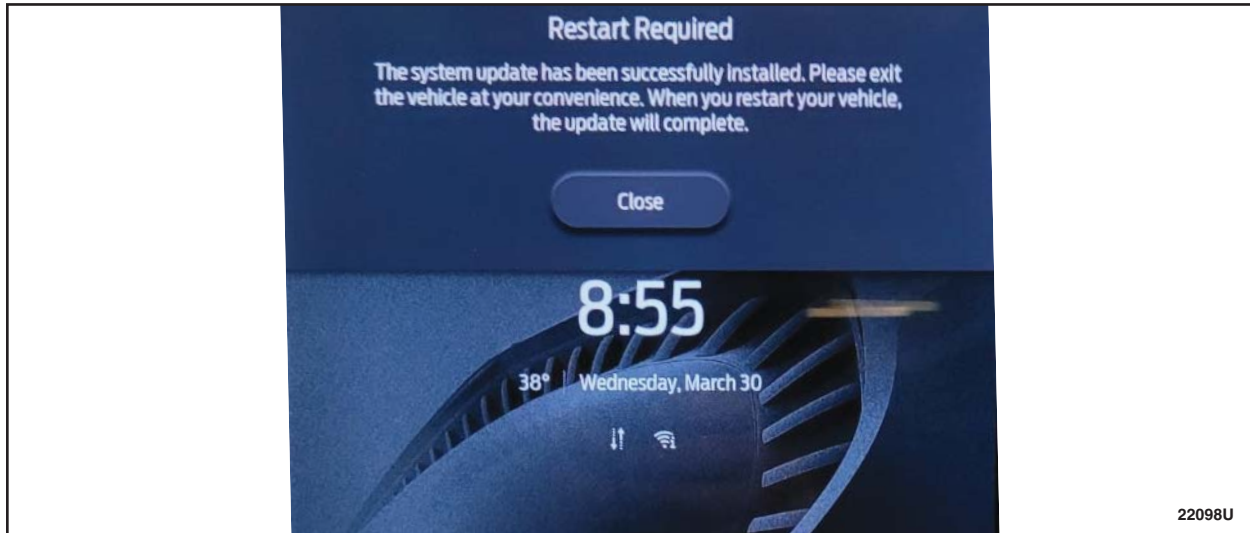


FIGURE 17

21. Restart the vehicle. **Only remove the USB stick from the vehicle when the update successful message appears.** See Figure 18.

NOTE: Mach-E shown other vehicles similar.

22. If there is not an immediate message stating that the update was successful set a timer for 5 minutes. It may take up to 5 minutes before SYNC touchscreen displays Update Successful pop up. After 5 minutes if "Successful" pop up is not shown on SYNC touchscreen.

- Select the close icon on the SYNC touchscreen.
- Remove the USB stick
- Click yes on the FDRS screen "Was the USB Update Successful" prompt (FDRS verifies if the module software update was successfully installed on the module).

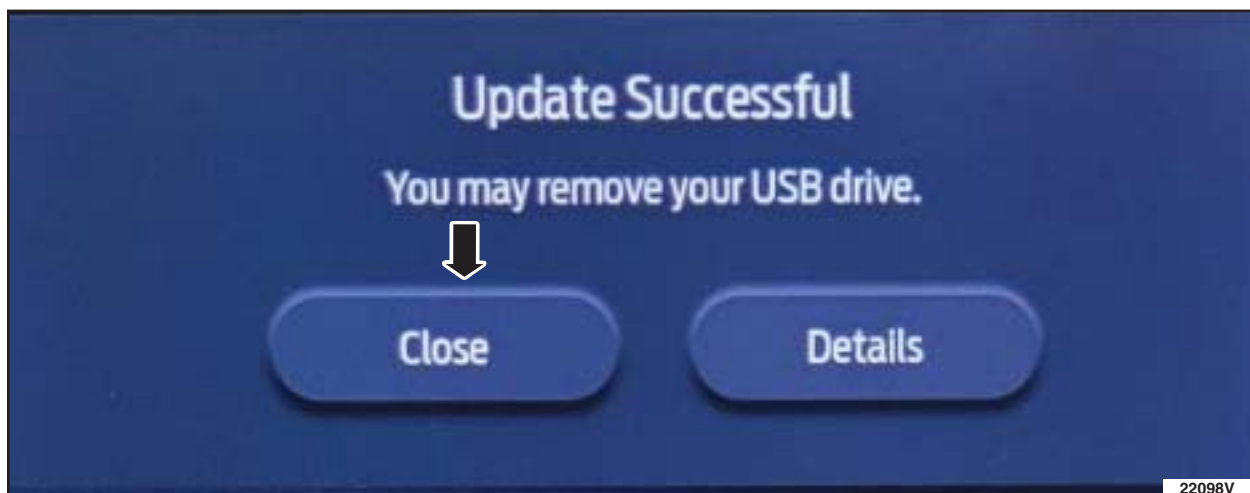


FIGURE 18



23. Turn ignition to off and click the OK icon on the FDRS screen. See Figure 19.

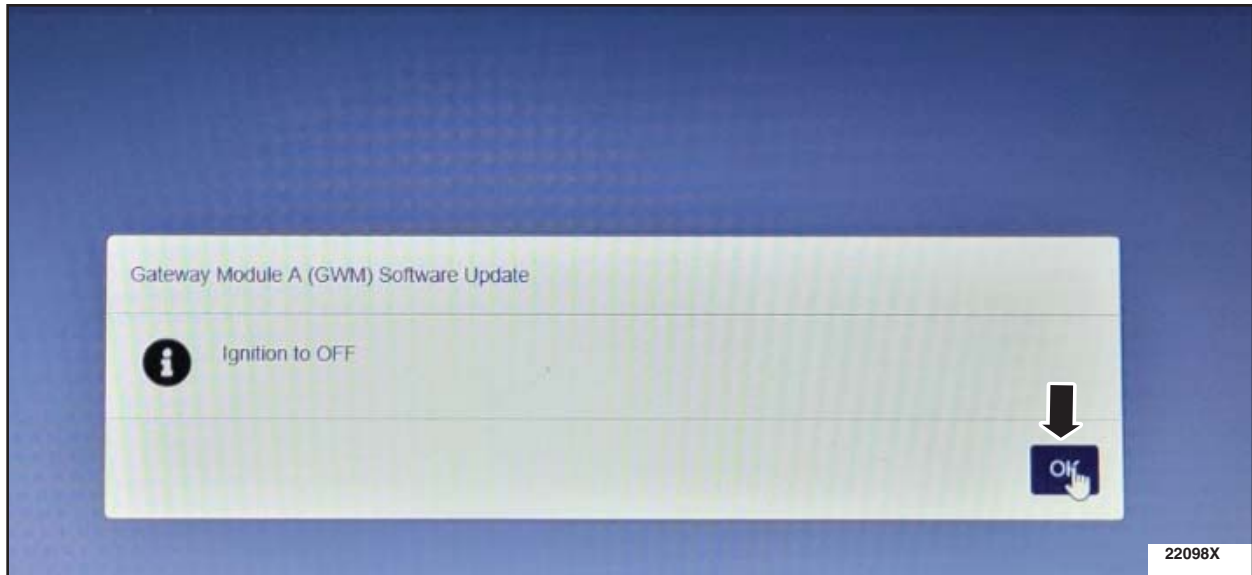


FIGURE 19

24. Turn ignition to the ignition on engine off position and click the OK icon on the FDRS screen. See Figure 20.

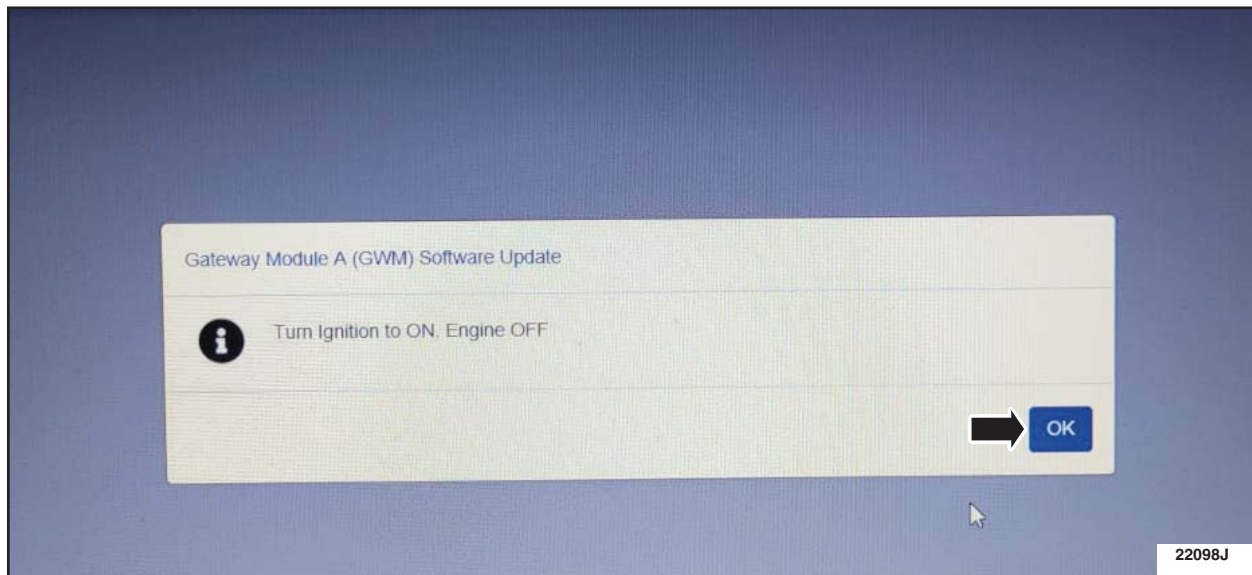


FIGURE 20



25. On the FDRS screen wait for the validating software process to finish. See Figure 21.

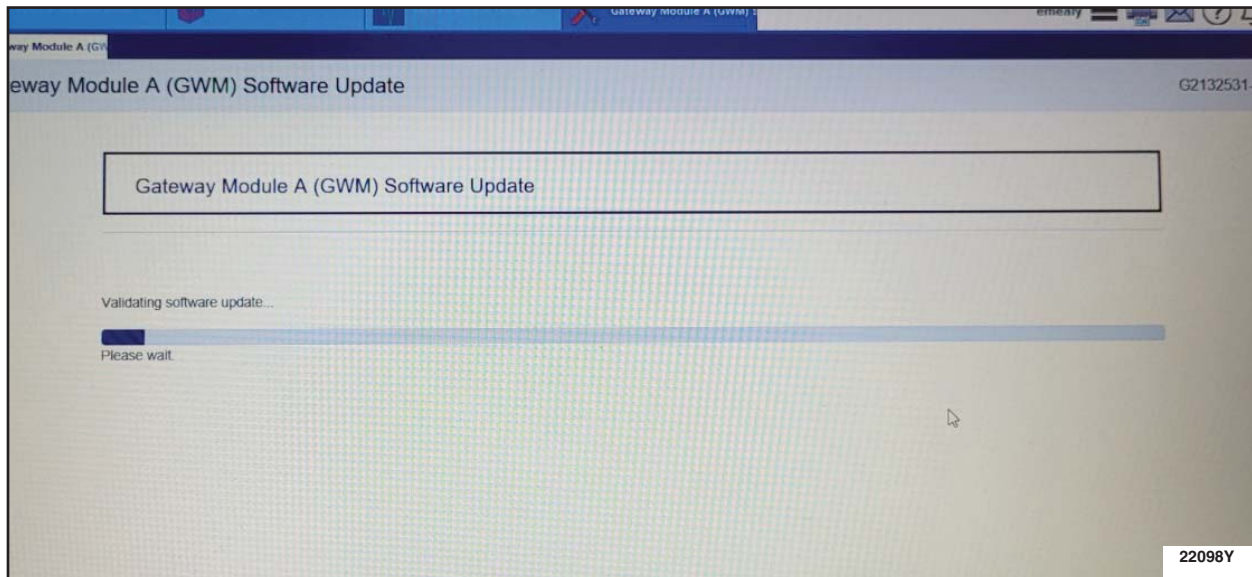


FIGURE 21

26. Turn ignition to off and click the OK icon on the FDRS screen. See Figure 22.

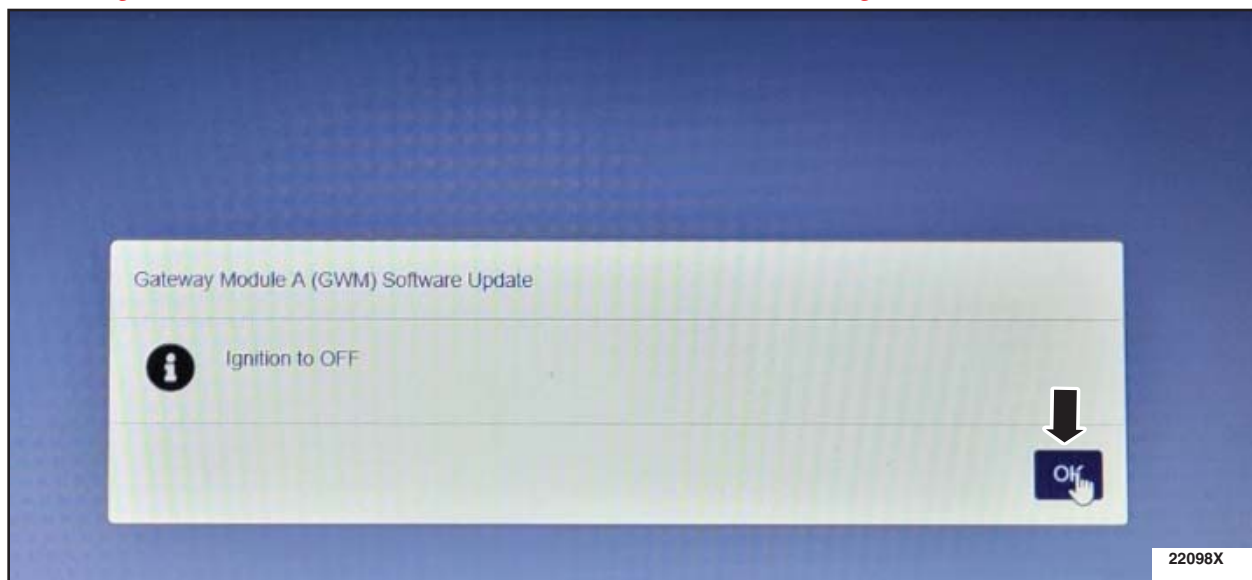


FIGURE 22



27. Click Ok on the FDRS screen when the application finished message appears. See Figure 23.

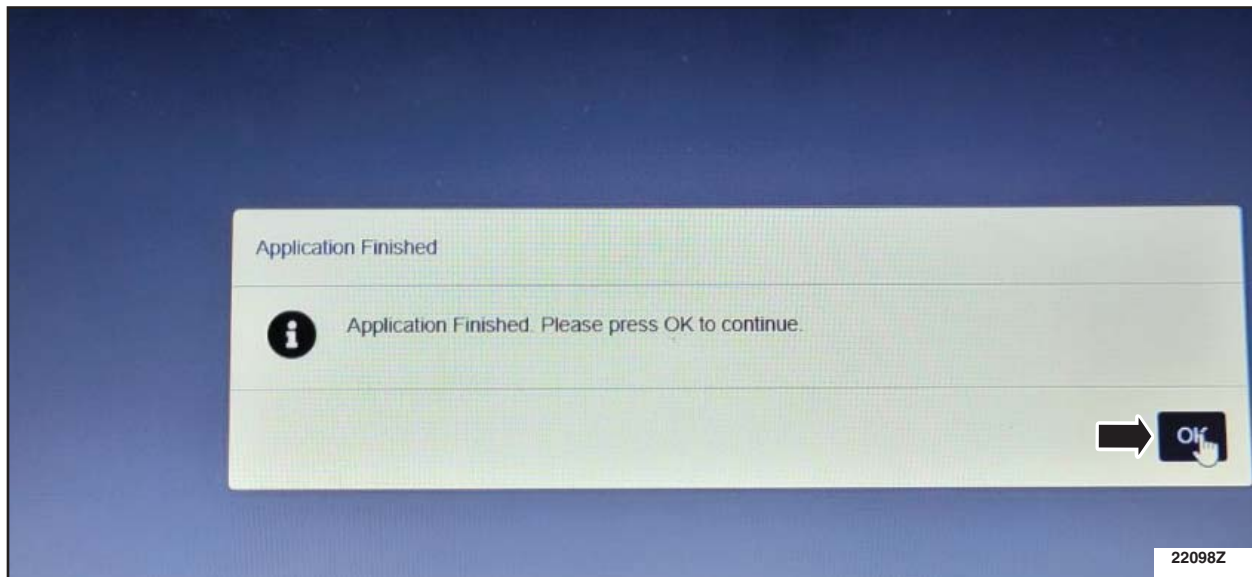


FIGURE 23

28. From the list on the RH side of the screen, select Self-Test and click RUN.
29. Click the Run Selected Tests button in the lower right.
30. Click the Clear & Retest button at the top of the screen to clear DTC's in all modules.
31. Disconnect the battery charger from the 12V battery once the programming has completed.



32. On the center display screen, navigate to Settings > About SYNC > Hands-Free Driving Mode available through DD-MM-YYYY. Verify that expiration date is in the future. See Figure 24.

NOTE: Mach-E shown other vehicles similar.

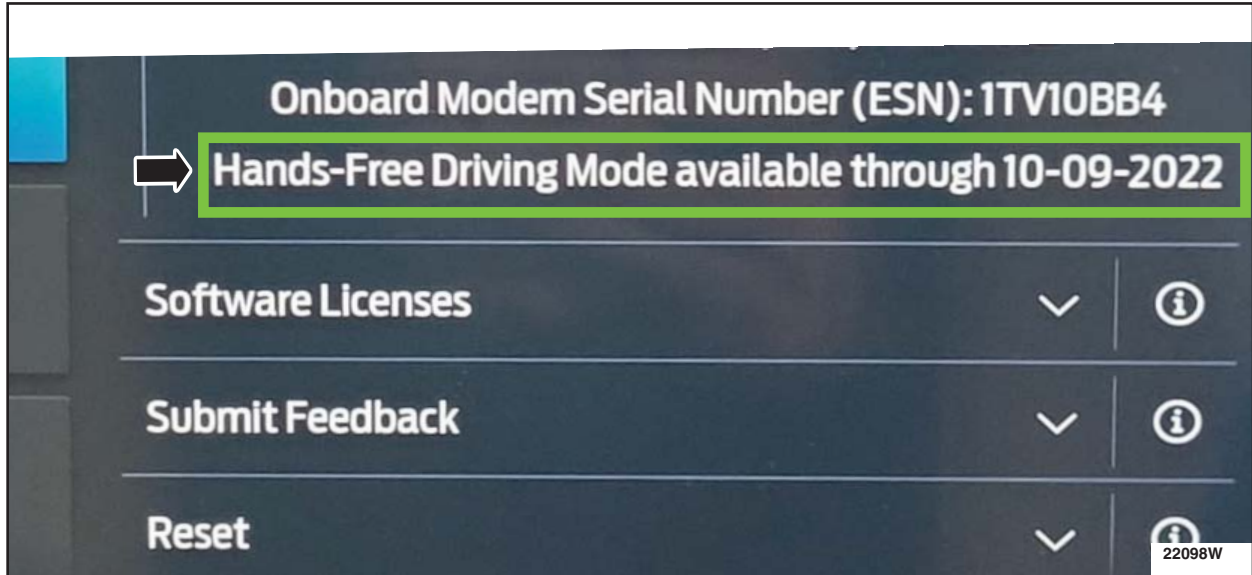


FIGURE 24



NEW TROUBLESHOOTING

Error States/Messages:

1. When the USB drive is removed from the laptop, inserted into the vehicle and the vehicles infotainment screen says “restart required”, the vehicle is restarted and then goes into a loop where it continues to say “restart required” .
2. When the vehicles infotainment display screen says “programming successful” , the USB drive is removed from the vehicle and inserted back into the laptop. At this point, FDRS displays an error stating “Part Number Validation Failed” or “DID Validation Failed”.

Steps to Resolve:

The procedure that we have provided to dealers and confirmed to resolve these errors is:

1. Launch FDRS and navigate to toolbox tab > datalogger > BCM and select the “BATT_SOC” PID.
2. Ensure that the BATT_SOC PID reads over 80%.
3. If the PID is less than 80%, fully recharge the vehicles 12-volt battery using the appropriate Rotunda battery tester and charger.
4. Remove the charger from the vehicle and using FDRS, navigate to toolbox tab > BCM > Reset Battery Monitor Sensor Learned Values application. Perform the BMS reset.
5. Connect the Rotunda tool and set it to maintain 12.6 to 13.6 volts. Monitor the voltage real time using the indicator at the bottom right corner of FDRS to ensure that it is within this range.
6. Repeat the Software Update application that failed.



Important Information for Module Programming

NOTE: When programming a module, use the following basic checks to ensure programming completes without errors.

- Make sure the 12V battery is fully charged before carrying out the programming steps and connect FDRS/scan tool to a power source.

NOTE: A good internet connection is necessary to identify the vehicle and to load the diagnostic software.

- Inspect Vehicle Communication Module II (VCM II)/Vehicle Communication and Measurement Module (VCMM) and cables for any damage. Make sure scan tool connections are not interrupted during programming.
- A hardwired connection is strongly recommended.
- Turn off all unnecessary accessories (radio, heated/cooled seats, headlamps, interior lamps, HVAC system, etc.) and close doors.
- Disconnect/depower any aftermarket accessories (remote start, alarm, power inverter, CB radio, etc.).
- Follow all scan tool on-screen instructions carefully.
- Disable FDRS/scan tool sleep mode, screensaver, hibernation modes.
- Create all sessions key on engine off (KOEO). Starting the vehicle before creating a session will cause errors within the programming inhale process.

Recovering a module when programming has resulted in a blank module

- a. Disconnect the VCMII or VCMM from the data link connector (DLC) and your PC.
- b. After ten seconds, reconnect the VCMII/VCMM to the DLC and the PC. Launch FDRS. The VCMII/VCMM icon should turn green in the bottom right corner of the screen. If it does not, troubleshoot the FDRS to VCM connection.
- c. If you are using the same FDRS as the initial programming attempt, select the appropriate VIN from the Vehicle Identification menu. If you are using a different FDRS, select "Read VIN from Vehicle" and proceed through the Network Test.
- d. In the Toolbox menu, navigate to the failed module and Download/Run Programmable Module Installation (PMI). Follow the on-screen prompts. When asked if the original module is installed, select "No" and continue through the installation application.
- e. Once programming has completed, a screen may list additional steps required to complete the programming process. Make sure all applicable steps are followed in order.

