

CERTAIN 2022 MODEL YEAR MUSTANG MACH-E VEHICLES — INSTALL DIGITAL OWNER'S MANUAL - REPROGRAM ACCESSORY PROTOCOL INTERFACE MODULE (APIM)

SERVICE PROCEDURE

1. Click the Owner's Manual button on the SYNC screen. See Figure 1.
2. Click the Categories or Bookmarks button. See Figure 1.

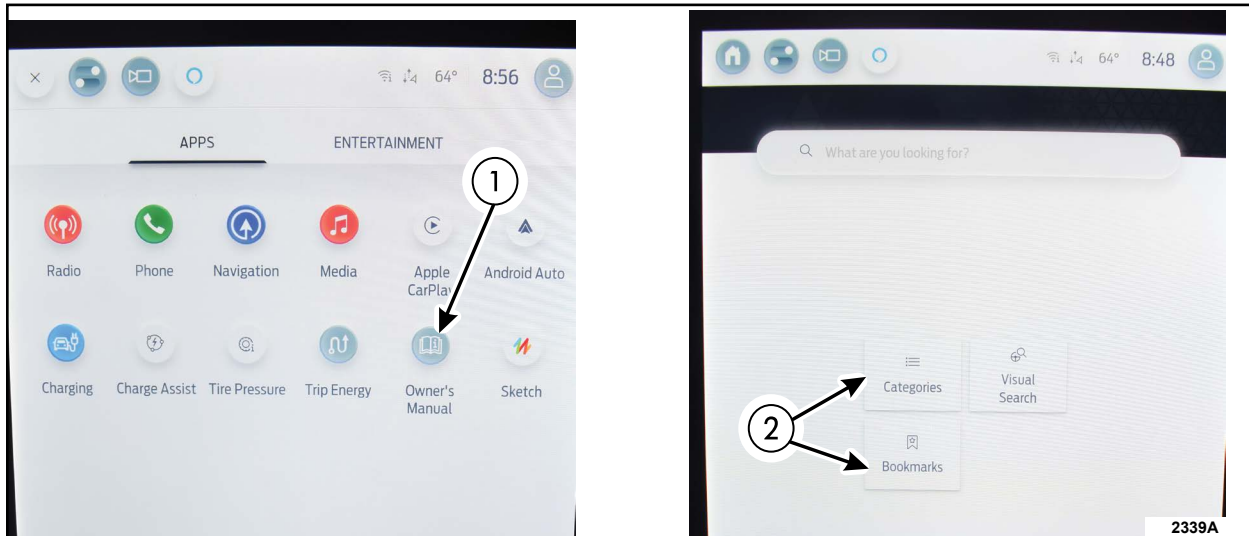


FIGURE 1

3. Does an error appear on the SYNC screen? See Figure 2.
No - This recall does not apply.
Yes - Continue to Module Programming.

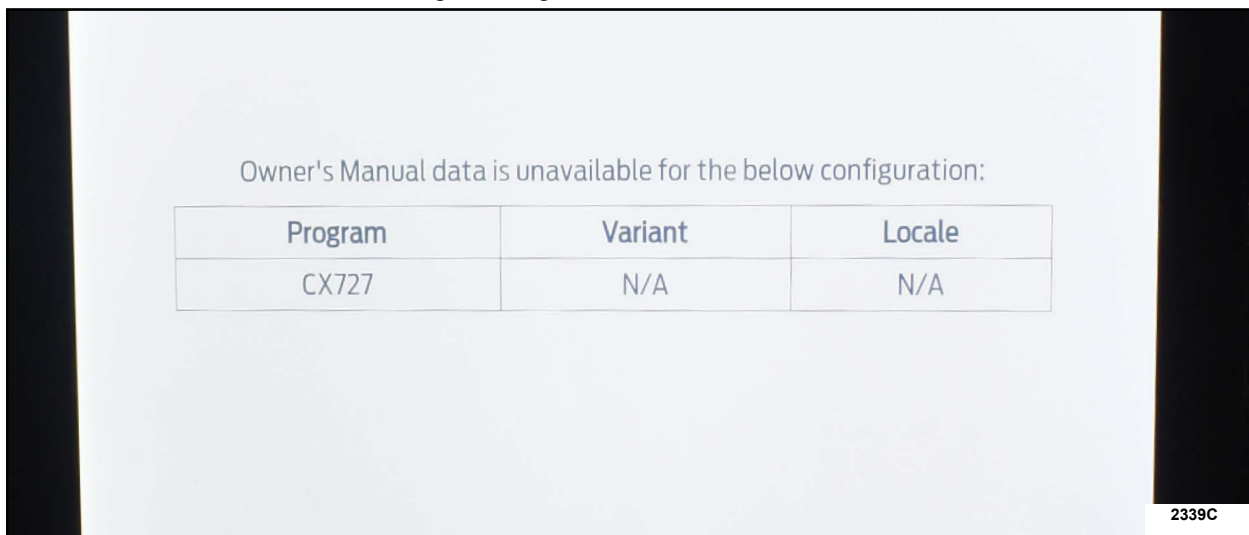


FIGURE 2



Module Programming

4. Connect a battery charger to the 12 Volt (V) battery.

NOTE: Verify that the negative cable of the charger is installed on a chassis or engine ground, and not the 12V 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 II (VCM II) is properly connected to the Data Link Connector (DLC).

NOTE: Make sure the Ford Diagnostic and Repair System (FDRS) does not enter sleep mode during module configuration.

5. Launch Ford Diagnostic and Repair System (FDRS).

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.

6. Click **Read VIN from Vehicle** or manually enter the Vehicle Identification Number (VIN).

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

7. Select **Toolbox** tab.

8. Click on the **SW Updates** tab.

NOTE: A blank 64GB or larger USB flash drive is required for APIM software update. 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. Make sure the Quick Format box is selected. If it is not selected, it will result in a lengthier operation.

9. Check for an update to the APIM. Is there an update available for APIM - SYNC Module [APIM] Software Update?

No - Continue to Step 10.

Yes - Continue to Step 19.

10. Update the Gateway Module. On the RH side of the screen, click **GWM - Gateway Module A (GWM) Software Update**.

11. Click **Download** and then click **RUN**. Follow all on-screen instructions carefully.



12. There will be a prompt to restart the vehicle in the vehicle SYNC touchscreen. With the USB drive still in the vehicle, turn the vehicle ignition OFF and open the driver's door to allow the vehicle to power down. The SYNC touchscreen may stay turned on for a few more seconds after turning off the vehicle and opening the driver's door. Allow the vehicle to sit powered down for at least 5 minutes.
13. With the USB drive still in the vehicle and after waiting 5 minutes, close the driver's door and turn the vehicle ignition ON. Allow the vehicle to power on and look for a Update Successful pop up in the vehicle SYNC touchscreen.
14. Once the pop-up stating Update Successful appears in the SYNC screen, select Close, remove the USB flash drive from the USB media hub and connect it to the FDRS diagnostic scan tool, and select OK on the FDRS. This initiates the remaining automated configuration steps and reports the GWM assembly, vehicle interface processor (VIP), calibration, customer interface processor (CIP), and application software levels to the Ford online database. Failure to follow this step results in an inaccurate database as well as omitted, improperly installed, or improperly configured applications (features) such as navigation (if equipped). It is normal for the GWM to reset during this step.

NOTE: It may take up to 5 minutes for the vehicle to recognize the USB flash drive. All doors must remain closed until the SYNC screen prompts A RESTART IS REQUIRED. To view the progress, you can drop down the updating screen in the SYNC screen.

15. When the USB has downloaded to the vehicle, the touchscreen indicates a message for Restart Required. The ignition needs to be turned off for 10 minutes. Open the driver's door, then close it to allow the vehicle to completely power down. During this ignition off time, the screen continues through a reboot process.
16. After the 10 minutes, start the vehicle and allow another 5 minutes for the Update Successful message to appear in SYNC screen. Once the Update Successful message appears, the USB flash drive may be removed, and the doors opened.
17. Return the USB thumb drive to the FDRS and follow the on-screen prompts to complete the procedure.
18. Click **Rerun Network Test**.

NOTE: A blank 64GB or larger USB flash drive is required for APIM software update. 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. Make sure the Quick Format box is selected. If it is not selected, it will result in a lengthier operation.

19. Under the **SW Updates** tab, click on **APIM - SYNC Module [APIM] Software Update**.
20. Click **Download** and then click **RUN**. Follow all on-screen instructions carefully.



21. There will be a prompt to restart the vehicle in the vehicle SYNC touchscreen. With the USB drive still in the vehicle, turn the vehicle ignition OFF and open the driver's door to allow the vehicle to power down. The SYNC touchscreen may stay turned on for a few more seconds after turning off the vehicle and opening the driver's door. Allow the vehicle to sit powered down for at least 5 minutes.
 22. With the USB drive still in the vehicle and after waiting 5 minutes, close the driver's door and turn the vehicle ignition ON. Allow the vehicle to power on and look for a Update Successful pop up in the vehicle SYNC touchscreen.
 23. Once the pop-up stating Update Successful appears in the SYNC screen, select Close, remove the USB flash drive from the USB media hub and connect it to the FDRS diagnostic scan tool, and select OK on the FDRS. This initiates the remaining automated configuration steps and reports the GWM assembly, vehicle interface processor (VIP), calibration, customer interface processor (CIP), and application software levels to the Ford online database. Failure to follow this step results in an inaccurate database as well as omitted, improperly installed, or improperly configured applications (features) such as navigation (if equipped). It is normal for the GWM to reset during this step.
- NOTE:** It may take up to 5 minutes for the vehicle to recognize the USB flash drive. All doors must remain closed until the SYNC screen prompts A RESTART IS REQUIRED. To view the progress, you can drop down the updating screen in the SYNC screen.
24. When the USB has downloaded to the vehicle, the touchscreen indicates a message for Restart Required. The ignition needs to be turned off for 10 minutes. Open the driver's door, then close it to allow the vehicle to completely power down. During this ignition off time, the screen continues through a reboot process.
 25. After the 10 minutes, start the vehicle and allow another 5 minutes for the Update Successful message to appear in SYNC screen. Once the Update Successful message appears, the USB flash drive may be removed, and the doors opened.
 26. Return the USB thumb drive to the FDRS and follow the on-screen prompts to complete the procedure.
 27. From the list on the RH side of the screen, select **Self-Test** and click **RUN**.
 28. Click the **Run Selected Tests** button in the lower right.
 29. Click the **Clear & Retest** button at the top of the screen to clear Diagnostic Trouble Codes (DTC's) in all modules.
 30. Disconnect the battery charger from the 12V battery.



31. Verify that the **Owner's Manual** option on the SYNC screen is now available and operational.

See Figure 3.

To verify operation of Owner's Manual click on Visual Search (1) and then verify the search options appear (2).

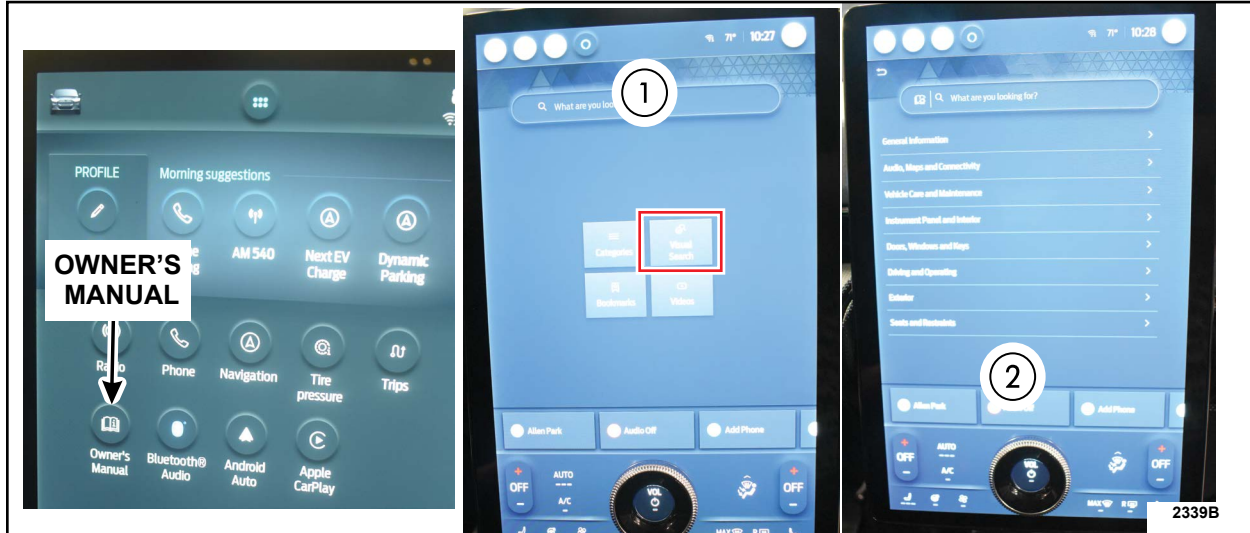


FIGURE 3

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.

Module Recovery instructions on next page



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.

