

CERTAIN 2021 MODEL YEAR MUSTANG MACH-E VEHICLES — SOFTWARE CALIBRATION UPDATE

SERVICE PROCEDURE

Module Programming

NOTE: Program appropriate vehicle modules before performing diagnostics and clear all Diagnostic Trouble Codes (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).

2. Log into 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.

3. 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.

4. Select Toolbox tab.

5. From the list on the LH side of the screen, select the PCM.

6. From the list on the RH side of the screen, select PCM - Powertrain Control Module (PCM) Software Update.

7. Click RUN. Follow all on-screen instructions carefully.

NOTE: During programming of PCM if necessary FDRS will automatically update following modules:

- SOBDM – Secondary On Board Control Module
- ABS – Anti-Lock Brake System
- BECM – Battery Energy Control Module
- SOBDMC – Secondary On Board Control Module C
- SOBDMB – Secondary On Board Control Module B

All other modules available will have to be programmed individually.



8. From the list on the LH side of the screen, select the BCM.
9. From the list on the RH side of the screen, select BCM - Body Control Module (BCM) Software Update.
10. Click RUN. Follow all on-screen instructions carefully.
11. From the list on the LH side of the screen, select the OBCC.
12. From the list on the RH side of the screen, select OBCC - Off-Board Charger Controller (OBCC) Software Update.
13. Click RUN. Follow all on-screen instructions carefully.
14. Select the SW Updates tab on the RH side of the screen. See Figure 1.

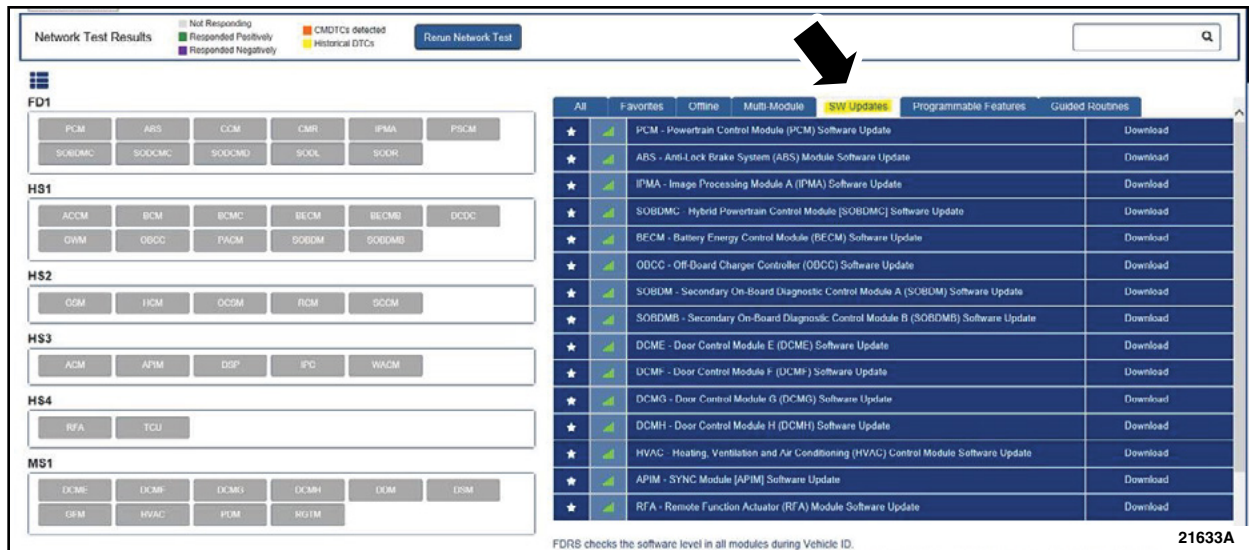


FIGURE 1

15. From the list on the RH side of the screen, select DCME - Door Control Module E (DCME) Software Update.
16. Click RUN. Follow all on-screen instructions carefully.
17. Repeat steps 14-16 for Door Control Module F (DCMF), Door Control Module G (DCMG), and Door Control Module H (DCMH).
18. From the list on the LH side of the screen, select the RFA.
19. From the list on the RH side of the screen, select RFA - Remote Function Actuator (RFA) Module Software Update.
20. Click RUN. Follow all on-screen instructions carefully.



21. From the list on the RH side of the screen, select Self-Test and click RUN.
22. Click the Run Selected Tests button in the lower right.
23. Click the Clear & Retest button at the top of the screen to clear DTC's in all modules.
24. After clearing all DTCs, are P1A10 and U101E still present?
 - Yes – Proceed to step 25.
 - No – Proceed to step 28.
25. From the list on the LH side of the screen, select the SOBDMC.
26. From the list on the RH side of the screen, select SOBDMC - Reset the Secondary On-Board Diagnostic Control Module C (SOBDMC).
27. Click RUN. Follow all on-screen instructions carefully.
28. Disconnect the battery charger from the 12V battery once the programming has completed.



NOTE: Advise the customer that this vehicle is equipped with an adaptive transmission shift strategy which allows the vehicle's computer to learn the transmission's unique parameters and improve shift quality. When the adaptive strategy is reset, the computer will begin a re-learning process. This re-learning process may result in firmer than normal upshifts and downshifts for several days.

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.

