

CERTAIN 2022-2023 MODEL YEAR F-150 LIGHTNING EQUIPPED WITH INTELLIGENT BACKUP POWER FEATURE — UPDATE THE AUXILIARY PROTOCOL INTERFACE MODULE (APIM), GATEWAY MODULE (GWM) AND TELEMATICS CONTROL UNIT (TCU) SOFTWARE

SERVICE PROCEDURE

IMPORTANT! The Service Technician Specialty Training (STST) Competency 10 certification requirement in the U.S. market only will be enforced starting with repair orders opened on or after August 31, 2024. Field Service Action (FSA) repairs will reject and the claim will not be paid if the repairing technician is not certified in STST Competency 10 FSA. See Electronic Field Communication (EFC) 15936 for more details.

Module Programming

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

1. Check if the software has already been updated as part of an Over-the-Air (OTA) update by doing the following:
 - a. Launch the Professional Technician System (PTS) and enter the vehicle's VIN.
 - b. Hover over the Diagnostics tab and select Software Verification Form from the drop-down menu.
 - c. Select 26B09 from Field Service Action drop-down menu and click Submit.
 - d. If Software update status shows 'Complete', then the software has already been successfully installed on the vehicle.
2. Did the software status in PTS show the software update status as complete?

Yes - The correct software has already been installed and the recall is complete.
Obtain the Software Verification Approval Code for claiming and claim 26B09D.
No - Proceed to Step 3 to install the software.



VCM3

It is highly recommended that a Vehicle Communication Module 3 (VCM3) is used when updating the Accessory Protocol Interface Module (APIM) software for 26B09. Using a VCM3 reduces the chances of programming failures on modules when very large files are being transferred.

FSA Quick Response Team – Assistance for Software Related Concerns Performing This FSA

If you experience software programming errors or multiple programming failures, require module replacement, or have difficulty generating a Software Validation Code (SVC) for this FSA, contact the FSA Quick Response team using the link shown in Figure 7 from the Ford Diagnostic and Repair System (FDRS).

- A Repair Validation Code (RVC) will be provided, if needed, by the FSA Quick Response team if module replacement is required.

Once you are provided with an RVC:

- **For this program it is NOT necessary to contact the SSSC for additional approvals, this includes the following:**
 - additional labor hours
 - module replacement
 - related damage

NOTE: Before beginning programming make sure the vehicle has enough charge to sit idle for 2 hours.

NOTE: The following modules may each require more than one software update:
Gateway Module (GWM), Telematics Control Unit (TCU) and/or Accessory Protocol Interface Module (APIM).

3. Launch FDRS. Make sure FDRS is updated to the latest version.

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.

4. Check the vehicle's **State of Charge (SOC)** by performing the following:

- a. Double click the battery icon in the lower right corner of FDRS.
- b. Make sure that the SOC reads over 50%. If the SOC is less than 50%, fully recharge the vehicle's 12-volt battery using the appropriate Rotunda GRX-3590 or DCA-8000 testers to verify battery condition.
- c. Remove the charger from the vehicle once the battery is fully charged. Using FDRS, navigate to toolbox tab > BCM > **Reset Battery**. Monitor Sensor Learned Values application. Perform the BMS reset.

5. Connect the Rotunda battery tester and charger 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 make sure that it is within this range. **The SOC must be greater than 50% to continue with this FSA.**

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).

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

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. Select **Multi-Module** tab.

9. Select **Read the Configuration Data**. Click **RUN**.

10. Select the **SW Updates** tab.

11. Is there a software update available for the **SCCM - Steering Column Control Module (SCCM)**?

Yes - Proceed to Step 12.

No - Proceed to Step 14.

12. From the list on the RH side of the screen, select **SCCM - Steering Column Control Module (SCCM) Software Update**.

13. Click **RUN**. Follow all on-screen instructions carefully.

14. Is there a software update available for the **PCM - Powertrain Control Module (PCM)**?

Yes - Proceed to Step 15.

No - Proceed to Step 17.

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

16. Click **RUN**. Follow all on-screen instructions carefully.

17. Is there a software update available for the **CMR - Camera Module (CMR)**?

Yes - Proceed to Step 18.

No - Proceed to Step 20.

18. From the list on the RH side of the screen, select **CMR - Camera Module (CMR) Software Update**.

19. Click **RUN**. Follow all on-screen instructions carefully.



20. Is there a software update available for the APIM?

Yes - Proceed to Step 21.

No - Proceed to Step 22.

21. Download and run the APIM Software Update application on the FDRS and follow the on-screen prompts. For instructions on the USB update process or if any error conditions are experienced during programming refer to Workshop Manual (WSM) Section 418-01A > General Procedures > Module Programming.

22. Is there a software update available for the Gateway Module (GWM)?

Yes - Proceed to Step 23.

No - Proceed to Step 24.

23. Download and run the GWM Software Update application on the FDRS and follow the on-screen prompts. For instructions on the USB update process or if any error conditions are experienced during programming refer to Workshop Manual (WSM) Section 418-01A > General Procedures > Module Programming.

24. Is there a software update available for the Telematics Control Unit (TCU)?

Yes - Proceed to Step 25.

No - Proceed to Step 26.

25. Download and run the TCU Software Update application on the FDRS and follow the on-screen prompts. For instructions on the USB update process or if any error conditions are experienced during programming refer to Workshop Manual (WSM) Section 418-01A > General Procedures > Module Programming.

26. Is there a software update available for the Instrument Panel Cluster (IPC)?

Yes - Proceed to Step 27.

No - Proceed to Step 28.

27. Download and run the IPC Software Update application on the FDRS and follow the on-screen prompts. For instructions on the USB update process or if any error conditions are experienced during programming refer to Workshop Manual (WSM) Section 418-01A > General Procedures > Module Programming.

28. After GWM, IPC, and/or TCU updates are performed, has a new APIM update become available?

Yes - Proceed to Step 20.

No - Proceed to Step 29.



29. From the list on the RH side of the screen, select **Self-Test** and click **RUN**.
30. Click the **Run Selected Tests** button in the lower right.
31. Click the **Clear & Retest** button at the top of the screen to clear Diagnostic Trouble Codes (DTCs) in all modules.
32. This FSA requires a **Software Verification Approval Code** after performing the software update. Please follow the instructions below to obtain the approval code. The claim will not be paid and the FSA will remain open if a Software Verification Approval Code is not provided. For more information, see EFC 17526.
33. Select the **SW Updates** tab (1). See Figure 1.
34. **Warranty Dealer Code** (2) - Change the displayed PA code as necessary. See Figure 1.
35. Select the **FSA** (3) from the drop-down menu. See Figure 1.
36. Select **Submit** (4). See Figure 1.



FIGURE 1



37. Does the FDRS Field Service Action Software Verification Status display a **Complete** status?
See Figure 2.

Yes - This FSA is complete. The FDRS Field Service Action Software Verification will provide an on-screen Software Verification approval code.

NOTE: The vehicle may be returned to the customer when the Software Verification Form provides a Complete status for ALL modules listed.

No - Proceed to Step 38.

The screenshot displays the FDRS Field Service Action Software Verification interface. On the left, there are sections for HSB1, HSB2, HSB3, HSB4, and HSB5, each containing buttons for various modules. The main area on the right shows the software update process. At the top, there are two rows of modules with 'Download' buttons: WACM - Wireless Accessory Charging Module (WACM) Software Update and TCU - Telematics Control Unit (TCU) Module Software Update. Below this, a message states: 'FDRS checks the software level in all modules during Vehicle ID. If a software update is available for any module, then the tool needed to download and install the update will be shown above. If directed to perform module software updates by a service publication, follow the instructions closely to ensure affected modules are updated to the latest levels.' The 'Field Service Action Software Verification' section includes a 'Remedy Dealer Code' field and a 'Select' button. Below this, a message says: 'Enter a TSN Number for this vehicle to verify that the software update requirement for a given FSA is complete.' The 'TSN' field contains '34534'. The 'Software Update Status' is 'Complete', and the 'Software Verification Code' is 'R021F0C300VPE'. A table at the bottom shows the status for each module: WACM, TCU, and PCM, all with a 'Software Update Complete' status. A note at the bottom states: 'Note: NOT all software updates complete, there may be further updates required to close the FSA. Refer to the FSA documentation for additional requirements.'

Module Assembly	Software Update Complete
WACM	Yes
TCU	Yes
PCM	Yes

FIGURE 2



38. Does the FDRS Field Service Action Software Verification Status display a **Not Complete** status (1)?
See Figure 3.

Yes - Proceed to Step 39.

No - Proceed to Step 42.

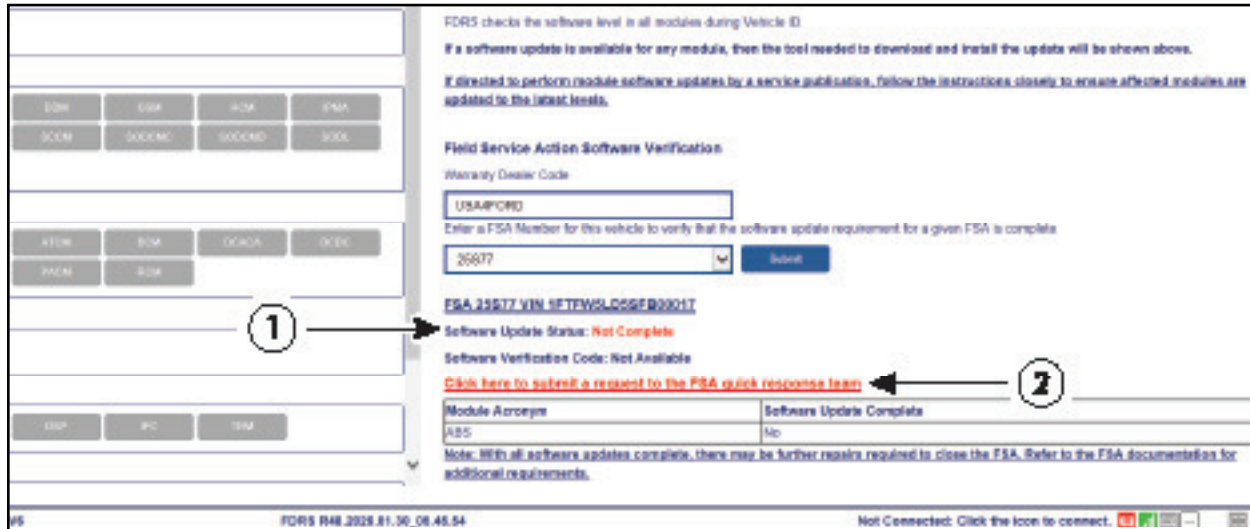


FIGURE 3

39. Have the module software updates in the FSA been reattempted?

Yes - Proceed to Step 40.

No - Reattempt the software update programming steps in the FSA.

40. Use the "Click Here to submit a request to the FSA quick response team" link (2) shown in Figure 3.
Follow the on-screen prompts to enter the following information:

- Phone number (such as cell) where you can be reached for immediate support
- Any specific error messages received when programming was attempted
- Battery SOC when programming was attempted
- Scan tool software level
- Any known aftermarket devices installed on the vehicle
- Detailed documentation of the diagnostic steps already performed attempting to determine why the module will not update to the correct level

41. Upon completion of the Technical Support Request (TSR) form, click "Submit Request". The TSR will be routed to a prioritized FSA quick response team queue. This team will contact you via phone using the contact information provided in the form. Please follow the recommendations from the FSA quick response team to resolve any issues preventing SVC code generation.



42. If the FDRS Field Service Action Software Verification Status displays **"An error occurred. Unable to retrieve FSA information"**, please reattempt to generate an SVC code. The error can be caused by a connectivity or server issue where the status of the FSA cannot be verified. This is typically resolved upon reattempting to generate an SVC code. See Figure 4.

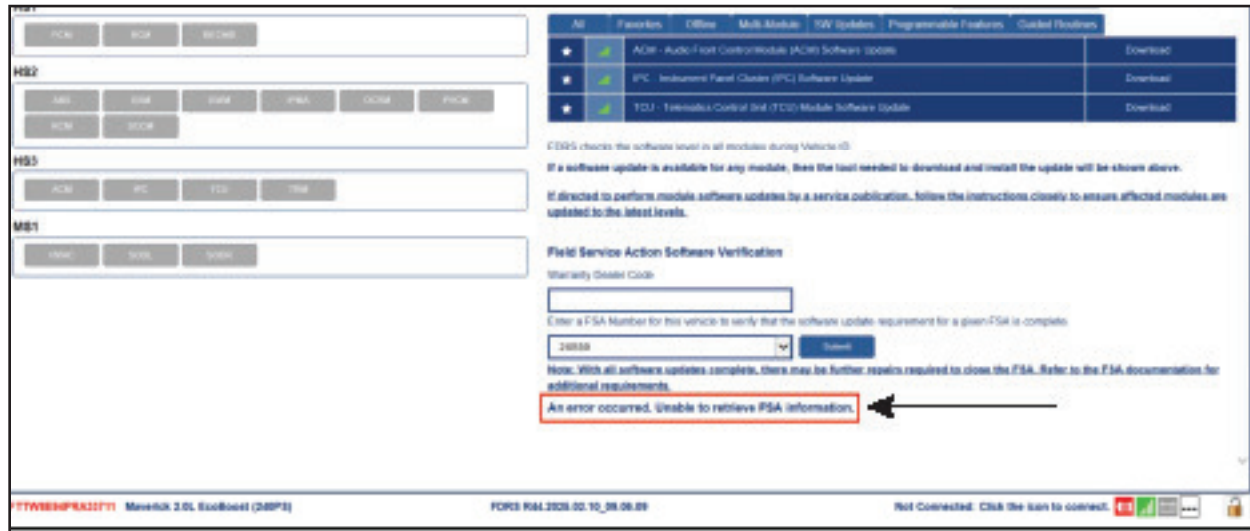


FIGURE 4



Important Information for Module Programming

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

- Make sure the 12-volt 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 the Vehicle Communication Module II (VCM II)/Vehicle Communication Module 3 (VCM3) or the Vehicle Communication and Measurement Module (VCMM) and the 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.
- Turn the accessories back on after programming has completed.
- 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 VCM II/VCM3 or the VCMM from the data link connector (DLC) and your computer.
- b. After ten seconds, reconnect the VCM II/VCM3 or the VCMM to the DLC and the PC. Launch FDRS. The VCM II/VCM3 or the 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.

