



TECHNICAL SERVICE BULLETIN

No Vehicle ID Or Communication With State Emissions Testing Machine

24-2164

23 May 2024

Model:

Ford 2021 F-150

Issue: Some 2021 F-150 vehicles may not be able to complete a state emissions test due to the vehicle not being identified and/or not communicating with the emissions testing equipment. This may be due to the GWM. To correct the condition, follow the Service Procedure to reprogram the GWM software using the latest software version of the FDRS scan tool.

Action: Follow the Service Procedure to correct the condition on vehicles that meet all of the following criteria:

- 2021 F-150
- Unable to complete a state emissions test due to the vehicle not being identified and/or not communicating with the emissions testing equipment

Parts - Parts To Inspect And Replace Only If Necessary

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description
BAGM-48H6-760	Only If Necessary	Only If Necessary	1	Battery (760 Amp) - Refer To The Parts Catalog For The VIN Specific Application
BAGM-94RH7-800	Only If Necessary	Only If Necessary	1	Battery (800 Amp) - Refer To The Parts Catalog For The VIN Specific Application

Claim Quantity refers to the total number of individual pieces required to repair the vehicle.

Package Order Quantity refers to the amount of the service part number package(s) required to repair the vehicle.

Number In Package refers to the number of individual pieces included in a service part number package.

Only If Necessary indicates the part is not mandatory. Refer to the Service Procedure to determine the inspection/inclusion criteria.

Warranty Status: Eligible under provisions of New Vehicle Limited Warranty (NVLW)/Service Part Warranty (SPW)/Service Part New Vehicle (SPNV)/Extended Service Plan (ESP) coverage. Limits/policies/prior approvals are not altered by a TSB. NVLW/SPW/SPNV/ESP coverage limits are determined by the identified causal part and verified using the OASIS part coverage tool.

Labor Times

Description	Operation No.	Time
2021 F-150: Reprogram The Appropriate Modules As Required By The Software Update And Service Procedure (Do Not Use With Any Other Labor Operations)	MT242164	Actual Time

Repair/Claim Coding

Causal Part:	14G490
Condition Code:	04

Service Procedure

NOTE: The time required to complete this procedure varies depending on several factors including the number of module software updates required, available internet bandwidth, USB flash drive variability, and

the potential that CAN flashing (software update via the DLC with FDRS) may be required. Connect to the internet with an ethernet cable, use a USB 3.2 Gen 2 or higher flash drive. When performing USB software updates, using high speed USB ports on the laptop is recommended for faster file transfer.

1. Start an FDRS session and navigate to Toolbox tab > Datalogger > body control module (BCM) and select the BATT_SOC PID. Verify the PID reads 50% or higher.

NOTE: Connecting the battery charger negative clamp directly to the battery negative terminal might result in the SOC PID not immediately reflecting the improvement from charging.

- (1). If SOC is less than 50%, charge the battery by attaching the battery charger's negative clamp to the engine or chassis ground and not the negative battery terminal. Refer to WSM, Section 414-01.
- (2). If the battery is unable to achieve a 50% SOC, use the Rotunda GRX-3590 or DCA-8000 testers to verify if replacement is required.
 - If the battery does not need to be replaced, disconnect the Rotunda charger and perform a BMS reset using the FDRS scan tool.
 - If the battery is replaced, fully charge the new battery, disconnect the Rotunda charger and perform a BMS reset using the FDRS scan tool.
2. Reconnect the battery charger and set it to maintain a vehicle voltage of 12.6-13.6 volts. A low battery state of charge while performing a software update to any module may result in a repeat Restart Required message in the vehicle's center display screen or a message on the FDRS saying Part Number Validation Failed or DID Validation Failed.
3. Are there any updates available for the GWM, TCU, APIM, IPC, or IPMA?
 - (1). Yes - proceed to Step 4.
 - (2). No - this article does not apply. Refer to WSM, Section 415-00.
4. Perform the Module Software Updating Procedures outlined below for the GWM, TCU, APIM, IPC, and IPMA. Perform a network test after each software update using the latest software level of the FDRS scan tool. This refreshes the list of modules that have available software updates based current module software levels. Continue performing software updates to the GWM, TCU, APIM, IPC, and IPMA until all available software updates for those modules are complete. If any error conditions are experienced during programming, refer to WSM, Section 418-01A > General Procedures > Module Programming for the Error Condition Table.

Module Software Updating Procedure

The following instructions apply when performing a software update on any of the following modules:

- GWM
- TCU
- APIM
- IPC
- IPMA

NOTE: A 32GB or larger USB flash drive is required for software updates. USB 3.2 Gen 2 or higher is recommended for faster file transfer. 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
 - Select Default Allocation Size for the Allocation Unit Size
 - De-selecting Quick Format is not necessary and results in a lengthier operation
1. Using the FDRS, begin module programming by selecting the SW Updates tab. Download and run the application for desired module. Follow all on-screen instructions carefully.
 2. When prompted, connect the USB flash drive to the FDRS.

3. When prompted by the FDRS, safely remove/eject the USB flash drive from the computer, turn the vehicle to KOER. Connect the USB flash drive to the media hub to install the software update. The update starts automatically and may take 10 minutes or longer to complete.

NOTE: It may take up to 5 minutes for the vehicle to recognize the USB flash drive with software update.

4. When the vehicle's center display screen prompts to restart the vehicle:

- (1). Turn the vehicle OFF.
- (2). Wait 10 minutes.
- (3). Turn the vehicle to KOER.
- (4). Leave the USB flash drive inserted into the vehicle, until the vehicle's center display screen states programming successful.

NOTE: It may take up to 5 minutes before the vehicle's center display screen displays the "Update Successful" pop-up. After 5 minutes if the "Update Successful" pop-up is not shown on the center display screen, remove the USB flash drive and select YES on the FDRS prompt for " Was The USB Update Successful" (FDRS verifies if the module software update was successfully installed on the module).

5. Continue following the FDRS prompts to complete all GWM/ TCU/ APIM/ IPC/ IPMA software updates.

© 2024 Ford Motor Company

All rights reserved.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford or Lincoln dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supersede this information with updates. The most recent information is available through Ford Motor Company's on-line technical resources.