

CERTAIN 2022 AND 2023 MODEL YEAR F-150 BATTERY ELECTRIC VEHICLES (BEV) — HIGH VOLTAGE BATTERY MODULE REPLACEMENT AND BATTERY ENERGY CONTROL MODULE (BECM) SOFTWARE UPDATE

SERVICE PROCEDURE

IMPORTANT: Do not order service parts for this repair – Ford has pre-ordered the necessary module service kit and the Thermal Interface Material (TIM), which will be shipped in advance. Note that coolant will not be provided but should be replaced. See dealer bulletin for warranty claiming information.

NOTE: The kit will come with a new cold plate, a template for applying the TIM, 2 buss-bar cover caps, 4 terminal safety caps, and the replacement module. TIM material (TA-38-B paste) will be shipped separately. Please ensure this paste is unopened and not expired before you attempt carrying out the repair.

NOTE: DO NOT remove or lower the high voltage battery from the vehicle until all of the necessary parts and tools (ESST's) are in place to perform the repair.

NOTE: If a high voltage battery module is damaged, contact the Special Service Support Center (SSSC) for further instructions.

1. Has the SSSC been contacted and did the SSSC provide which high voltage battery module(s) is to be replaced?

Yes - Continue to the next step.

No - Contact the SSSC for further instruction.

2. Before performing any repairs, perform the Battery Health Report procedure using the Ford Diagnostic and Repair System (FDRS). Confirm the cell/module(s) that the SSSC indicated needed to be replaced is the minimum voltage cell/module compared to the other modules within the battery pack. Also, confirm there are no other low cells in the battery pack ($>0.030V$ lower than the median value).

NOTE: Ensure to document the FDRS Generated Target Voltage Code as it is necessary for balancing the replacement module(s).

- Does the minimum cell/module from Battery Health Report match the cell/module the SSSC directed you to replace?

Yes - Continue to the next step.

No - Contact the SSSC for further instruction.



NOTE: The FDRS Generated Target Voltage Code as it is necessary for balancing the replacement module.

3. Have you documented the FDRS Generated Target Voltage Code for the battery module(s) that are to be replaced?

Yes - Continue to the next step.

No - Re-run the FDRS Battery Health Report procedure and document the FDRS Generated Target Voltage Code.

NOTE: The following procedure must be completed prior to the installation of a replacement high voltage battery module directed by the Ford workshop manual. The replacement high voltage battery modules and Midtronics xMB-9640 module balancer must be placed on a stable clean work area with access to a AC wall power outlet.

4. Perform the high voltage battery module balancing. Follow the Workshop Manual (WSM) procedures in Section 414-03A. Repeat this procedure for each module being replaced and then proceed to Step 5.

NOTE: Balancing of the *new* module should be performed in the crate (using the A804 cable) prior to installation into the battery tray.

- If there is a problem establishing communication with the *new* module, confirm all updates to the xMB have been performed.
- If there is still an issue, connect to a module in the battery that is not faulted to confirm if it is an xMB issue or a module issue.
 - If the xMB will still not connect, contact Midtronics (1-866-592-8052).
 - If the xMB does connect to a known good module, reconnect to the *new* module (in the crate) again and attempt to balance.
- If the xMB still cannot communicate with the *new* module contact the SSSC for further instruction.

5. Replace the affected battery module and cold plate. Follow the WSM procedures in Section 414-03A.

NOTE: See Figures 1 and 2 (on Page 3) for reference on battery module pack positions.

6. Perform the Battery Energy Control Module (BECM) software update. Refer to the Technical Instructions – Battery Energy Control Module (BECM) Software Update for further instruction.



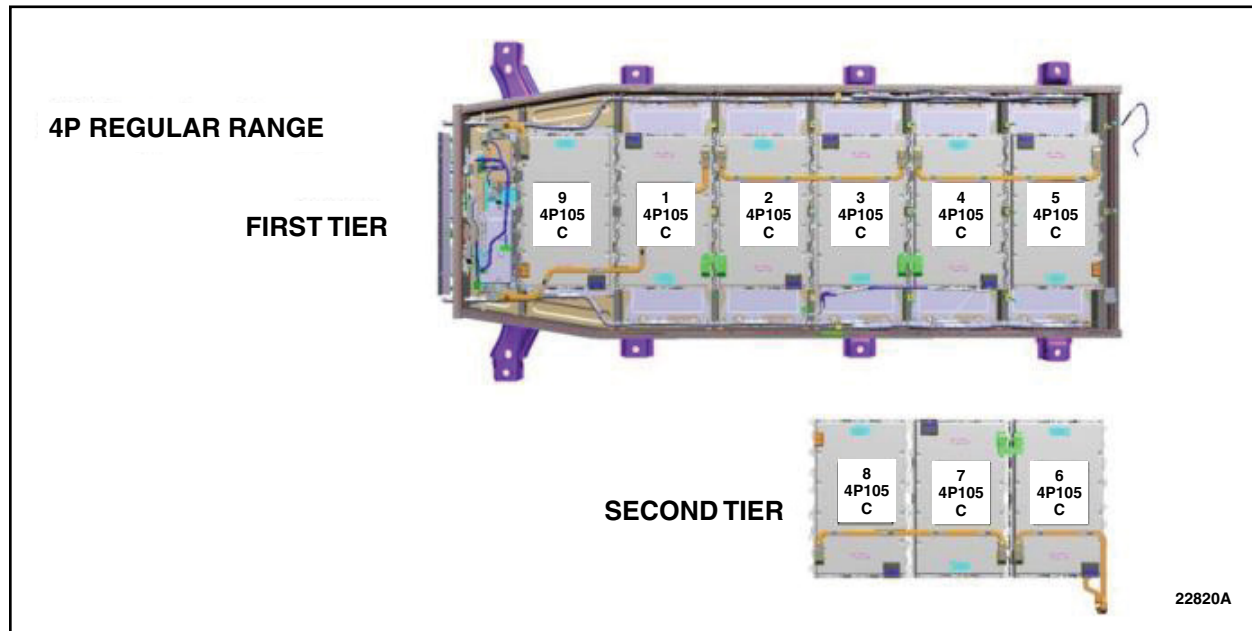


FIGURE 1

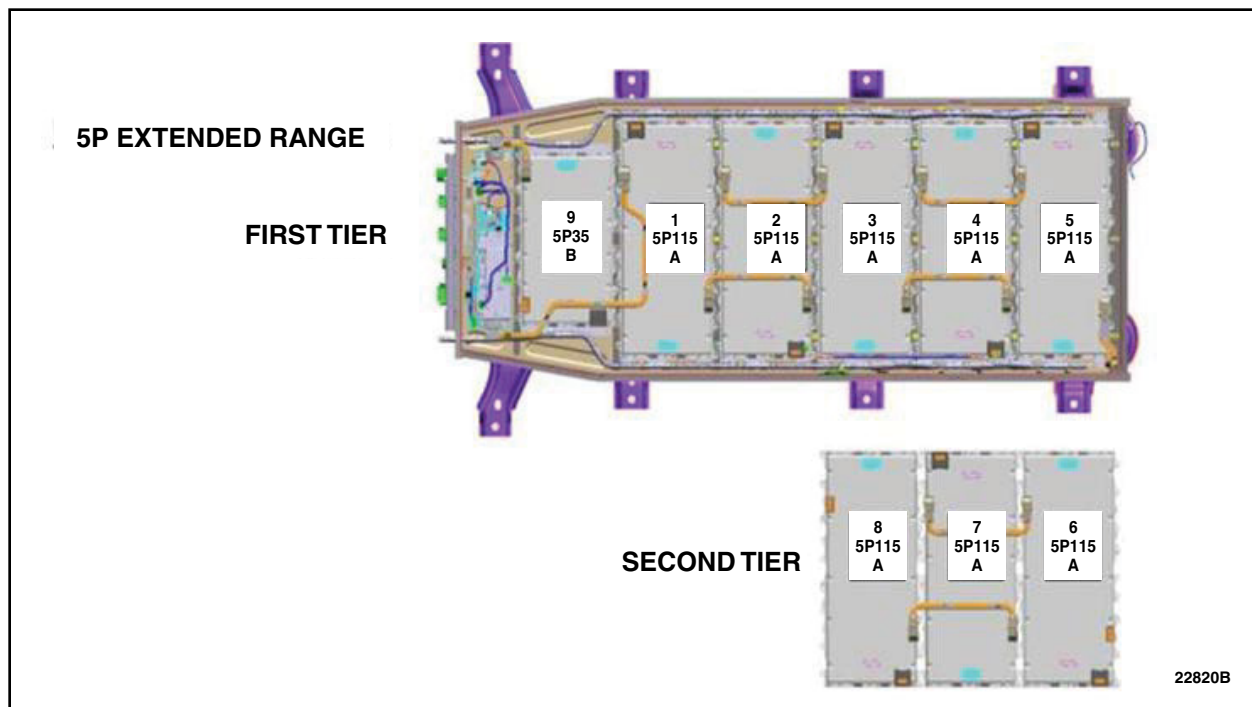


FIGURE 2

IMPORTANT NOTE: Federal law prohibits selling motor vehicle parts or components that are under safety, compliance, or emissions recall. Unless a part is requested to be returned to Ford, all parts replaced under this FSA must be scrapped in accordance with all applicable local, state and federal environmental protection and hazardous material regulations. Refer to the Parts Retention, Return, & Scrapping section of the FSA dealer bulletin for further information.

