CERTAIN 2023 MODEL YEAR F-150 LIGHTNING BEV VEHICLES — HIGH VOLTAGE BATTERY JUNCTION BOX BUS BAR RETENTION NUT INSPECTION

SERVICE PROCEDURE

IMPORTANT: This Field Service Action (FSA), must be performed by a certified BEV technician.

IMPORTANT: This procedure was modified from the original Workshop Manual (WSM) procedure. Follow technical instructions carefully.

NOTE: If you do not have the special service tools referenced in the Workshop Manual to perform the Field Service Action repair, please contact 1-800-ROTUNDA and choose option 3 to place an order.

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.

1. Remove the High Voltage Battery (HVB) Cover. Follow the procedures in Workshop Manual (WSM) Section 414-03A.

2. Disconnect the Battery Energy Control Module (BECM) electrical connectors in the sequence shown. See Figure 1.

NOTICE: The BECM electrical connectors must be disconnected in the sequence shown or component damage may occur.

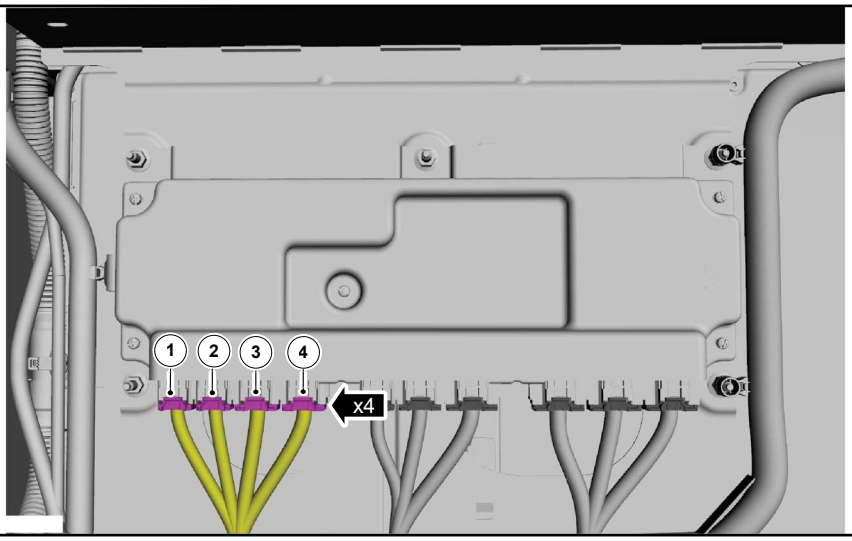

FIGURE 1

NOTICE: Wait 10 seconds after disconnect the BECM electrical connector shown, See Figure 2, before disconnecting the remaining electrical connectors or component damage may occur.

3. Disconnect the BECM electrical connector. See Figure 2.

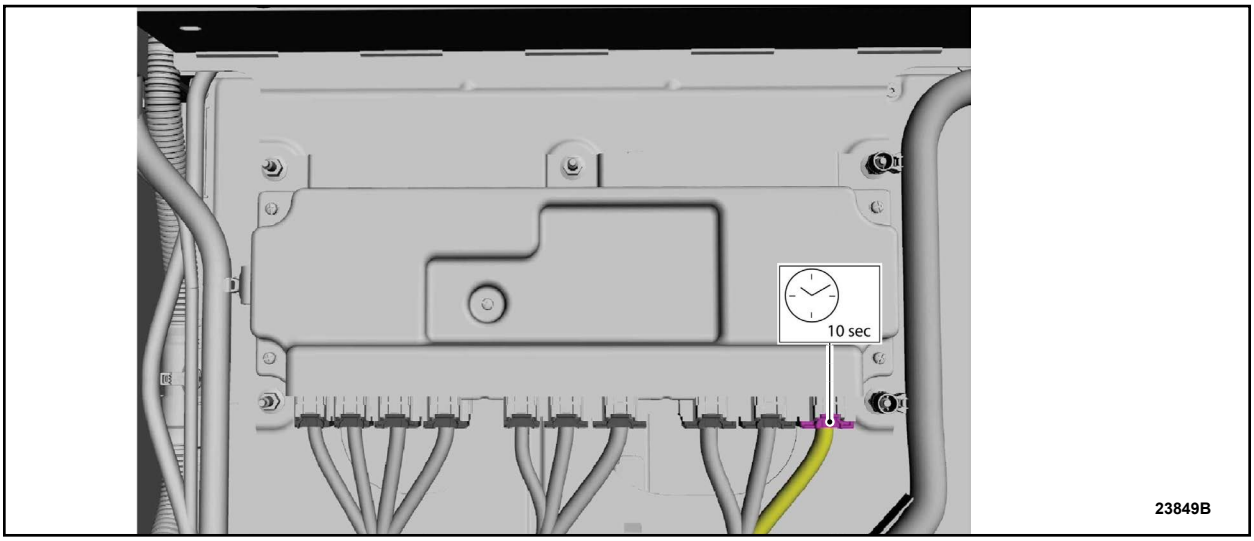

FIGURE 2

NOTICE: The BECM electrical connectors must be disconnected in the sequence shown or component damage may occur.

4. Disconnect the BECM electrical connectors in the sequence shown. See Figure 3.

For Standard Range Batteries - Continue to Step 5.
For Extended Range Batteries - Continue to Step 15.

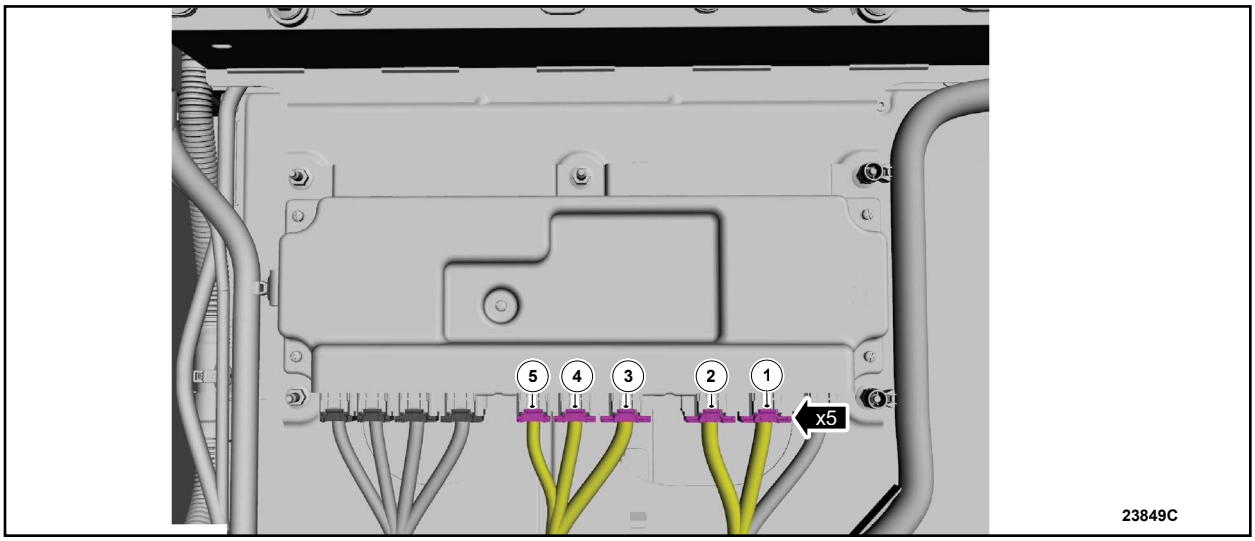

FIGURE 3

STANDARD RANGE BATTERIES

5. Open the terminal covers and remove the bolts. See Figure 4.
   Torque: 119 lb.in (13.5 Nm)

6. Remove the bus bar. See Figure 4.

7. Install the battery module terminal covers. See Figure 4.

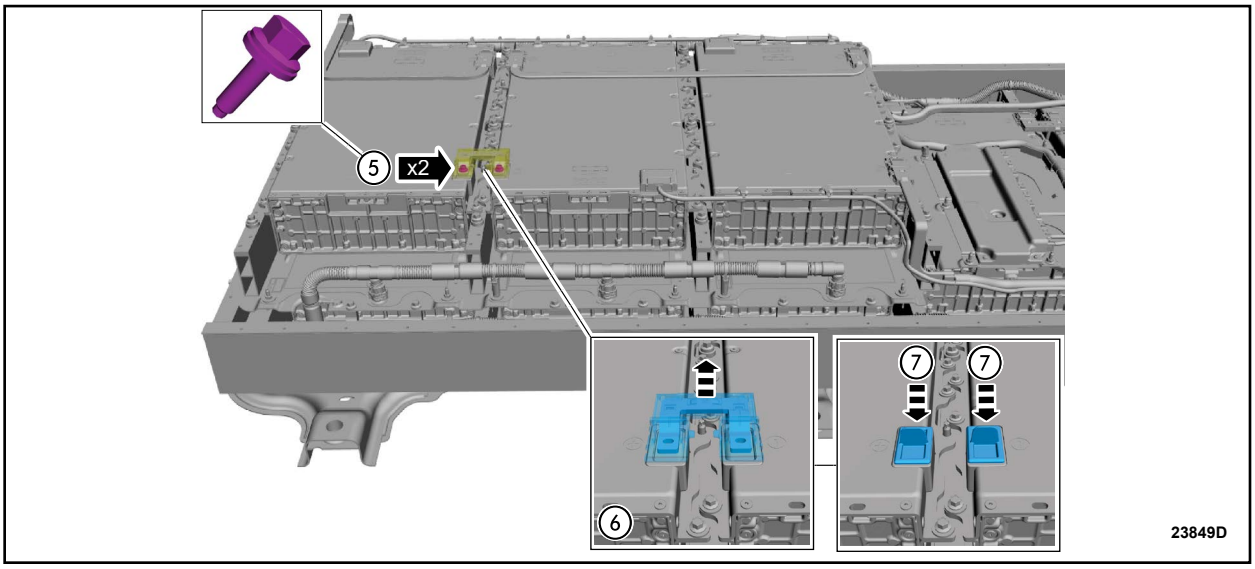

FIGURE 4

8. Open the terminal covers and remove the bolts. See Figure 5.
   Torque: 119 lb.in (13.5 Nm)

9. Remove the bus bar. See Figure 5.

10. Install the battery module terminal cover. See Figure 5.

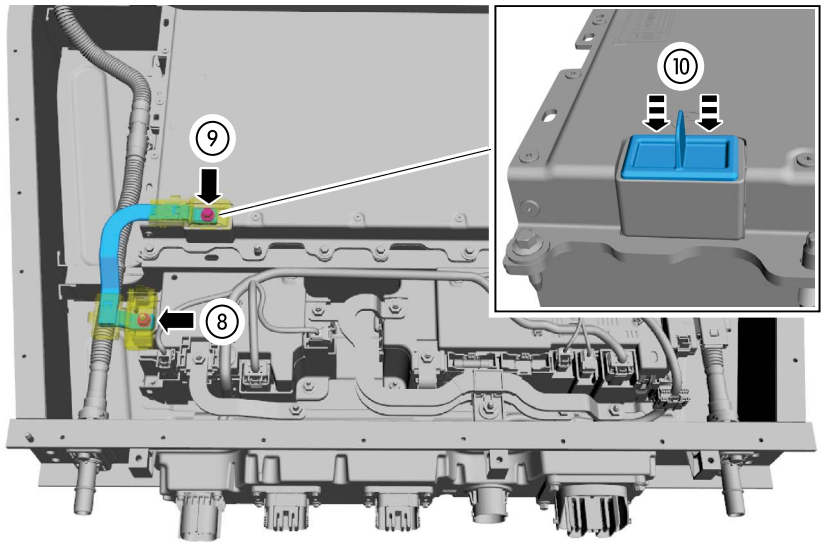

FIGURE 5

11. Open the terminal cover and remove the bus bar nut. See Figure 6.
    Torque: 106 lb.in (12 Nm)

12. Open the terminal cover, remove the bolt and the bus bar. See Figure 6.
    Torque: 119 lb.in (13.5 Nm)

13. Install the battery module terminal cover. See Figure 6.

14. Continue to Step 24.

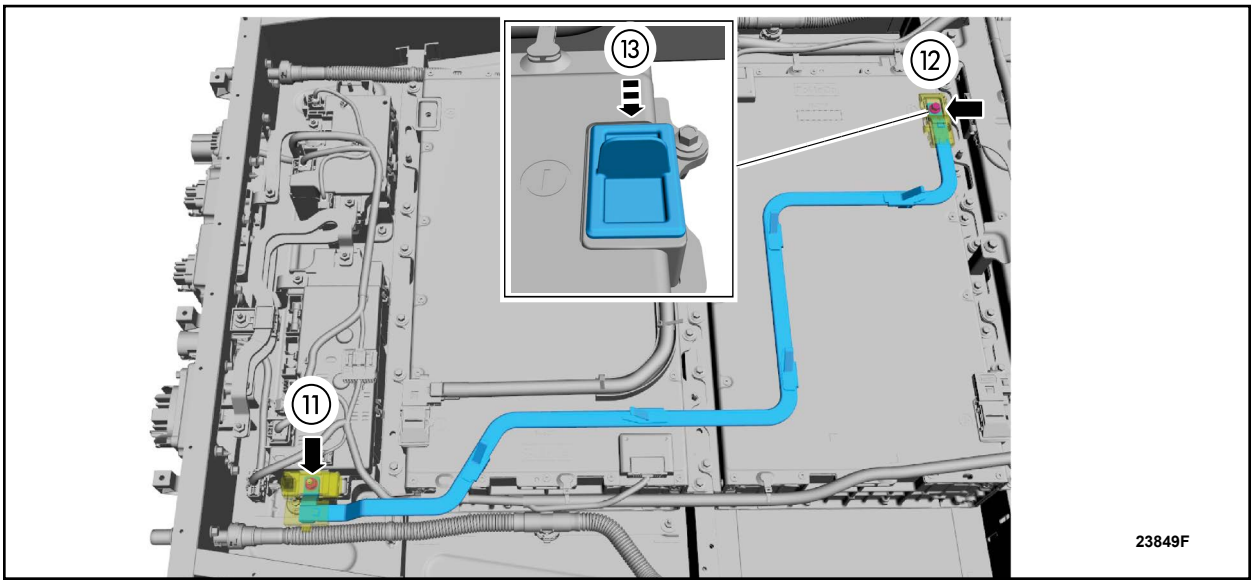

FIGURE 6

EXTENDED RANGE BATTERIES

15. Open the terminal covers and remove the bolts. See Figure 7.
    Torque: 119 lb.in (13.5 Nm)

16. Remove the bus bar. See Figure 7.

17. Install the battery module terminal covers. See Figure 7.

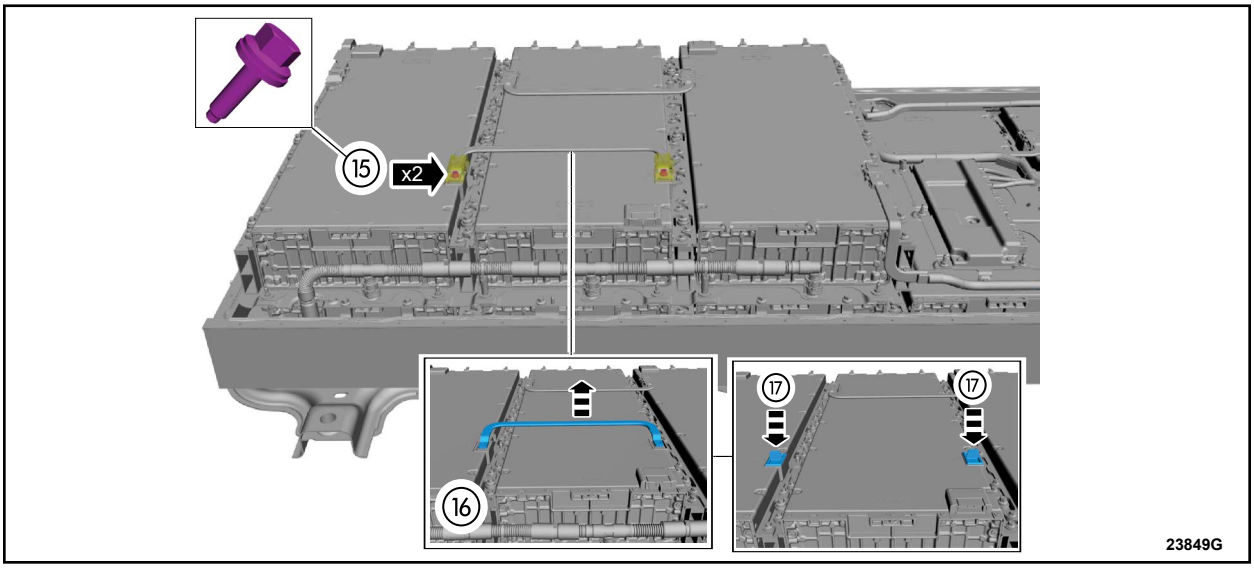

FIGURE 7

18. Open the terminal cover and remove the bus bar nut. See Figure 8.
    Torque: 106 lb.in (12 Nm)

19. Open the terminal cover, remove the bolt and the bus bar. See Figure 8.
    Torque: 119 lb.in (13.5 Nm)

20. Install the battery module terminal cover. See Figure 8.

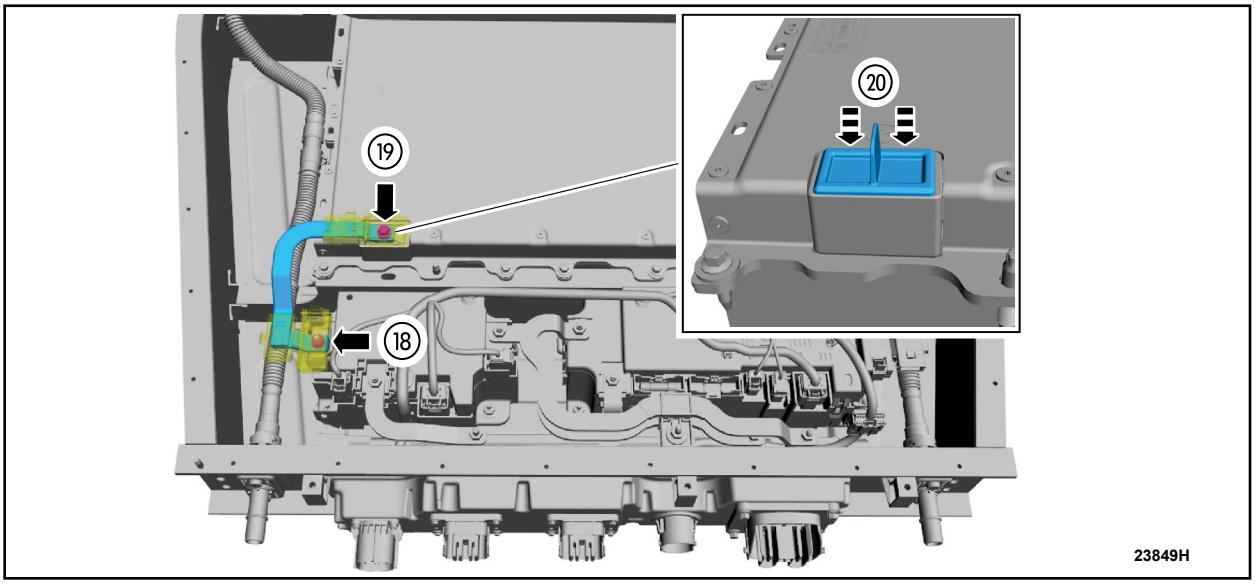

FIGURE 8

21. Open the terminal cover and remove the bus bar nut. See Figure 9.
    Torque: 106 lb.in (12 Nm)

22. Open the terminal cover, remove the bolt and the bus bar. See Figure 9.
    Torque: 119 lb.in (13.5 Nm)

23. Install the battery module terminal cover. See Figure 9.

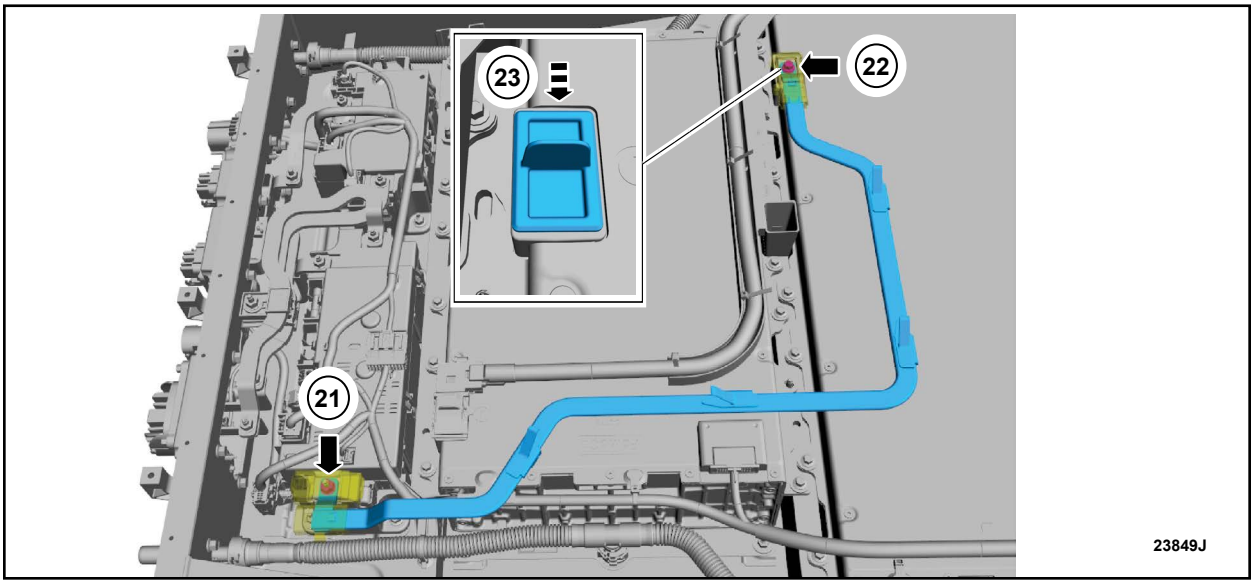

FIGURE 9

ALL VEHICLES

24. Using a voltage meter drain both High Voltage Battery Junction Boxes to zero. Place the negative probe on the battery case. Touching the terminals will drain the capacitors. See Figure 10.

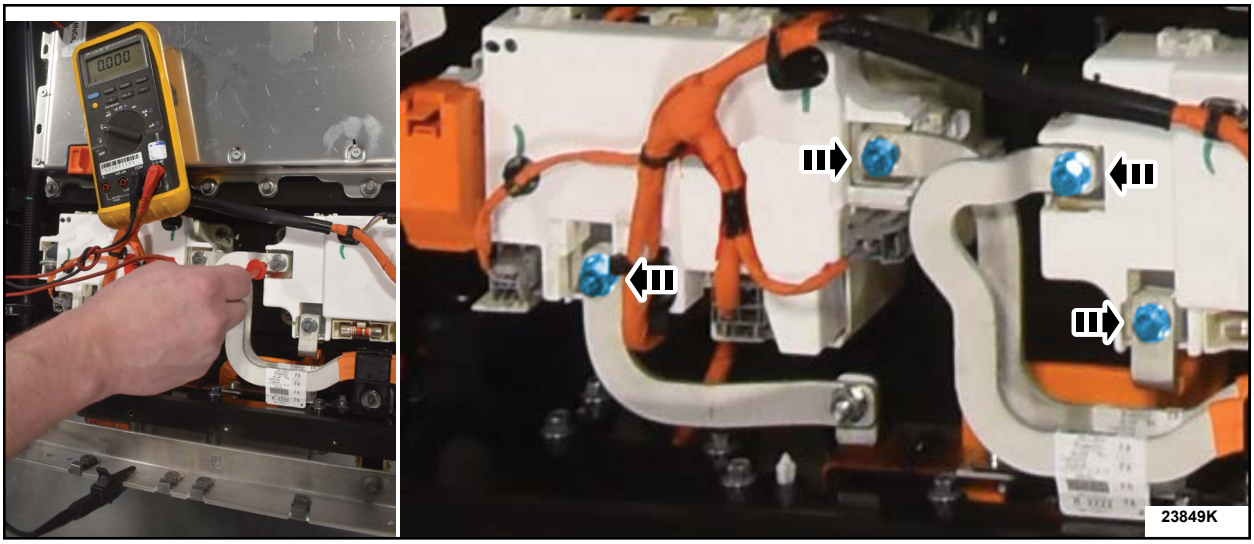

FIGURE 10

25. Check the residual torque-to-tighten on the bolts in Figure 11. Record the data.

Torque-to-tighten: 7.5 Nm (66.4 lb.in) to 13.8 Nm (122.1 in.lb)

NOTE: Make sure to record the data based on the numbers in the figure below.

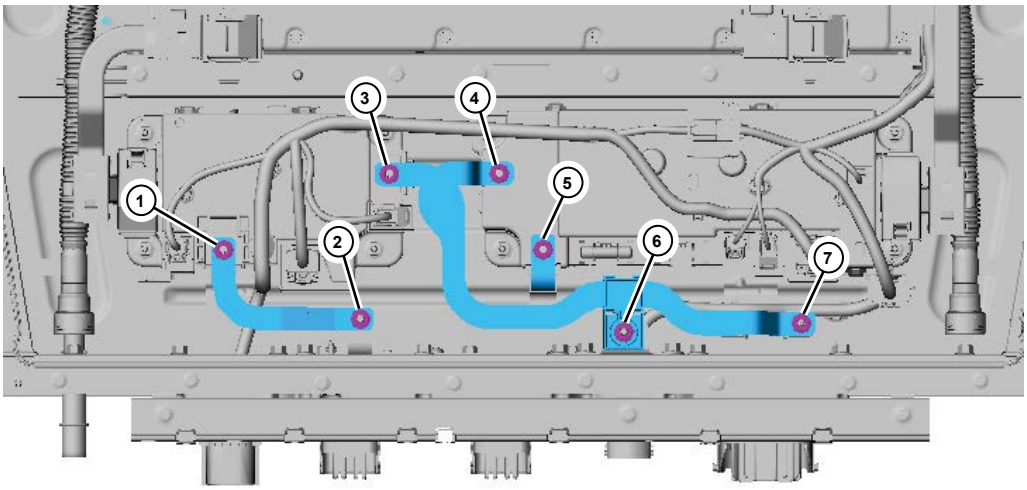

FIGURE 11

26. Remove the nuts and the bus bar. See Figure 12.

Torque: 106 lb.in (12 Nm)

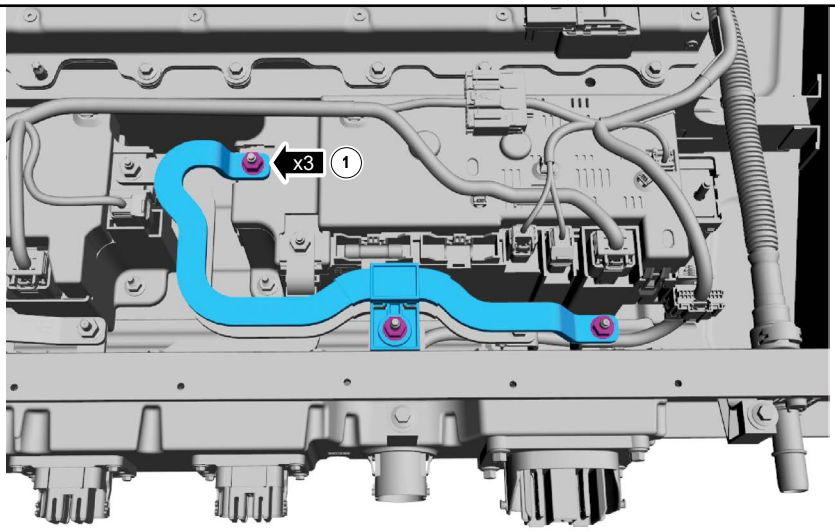

FIGURE 12

27. Check the residual torque-to-tighten on the bolt in Figure 13. Record the data.

    Torque-to-tighten: 7.5 Nm (66.4 lb.in) to 13.8 Nm (122.1 in.lb)

NOTE: Make sure to record the data based on the number in the figure below.

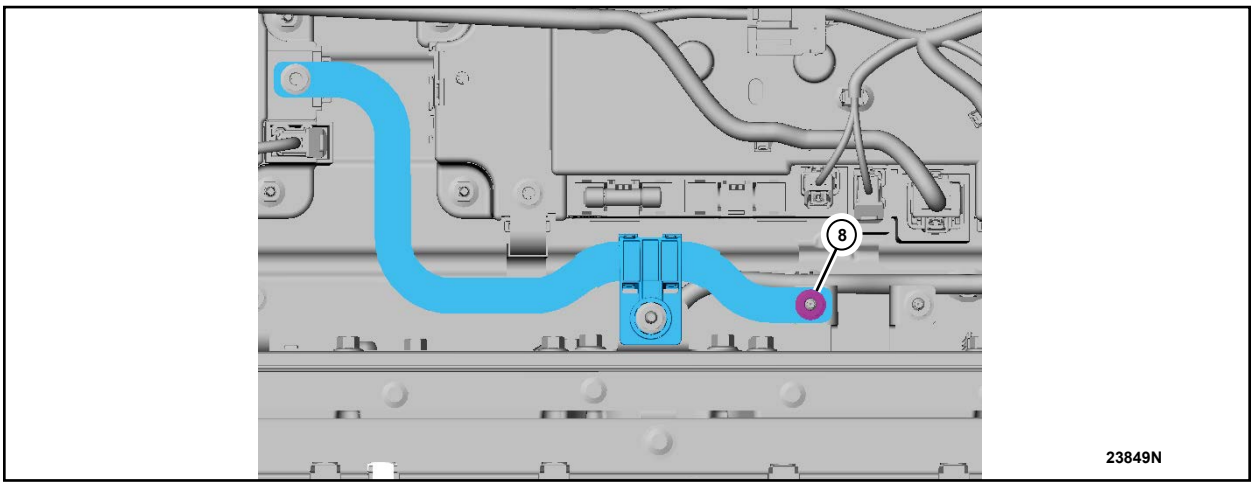

FIGURE 13

28. Were any bus bar fasteners (excluding fastener #6) from steps 25 or 27 missing or not pass the torque check?

    No - Reassemble vehicle by reversing steps 1-26.
    Yes - Reassemble the vehicle by reversing steps 1-26. Vehicle **CANNOT** be driven and should not be returned to customer. Customer should be offered a rental vehicle until the final repair is available.