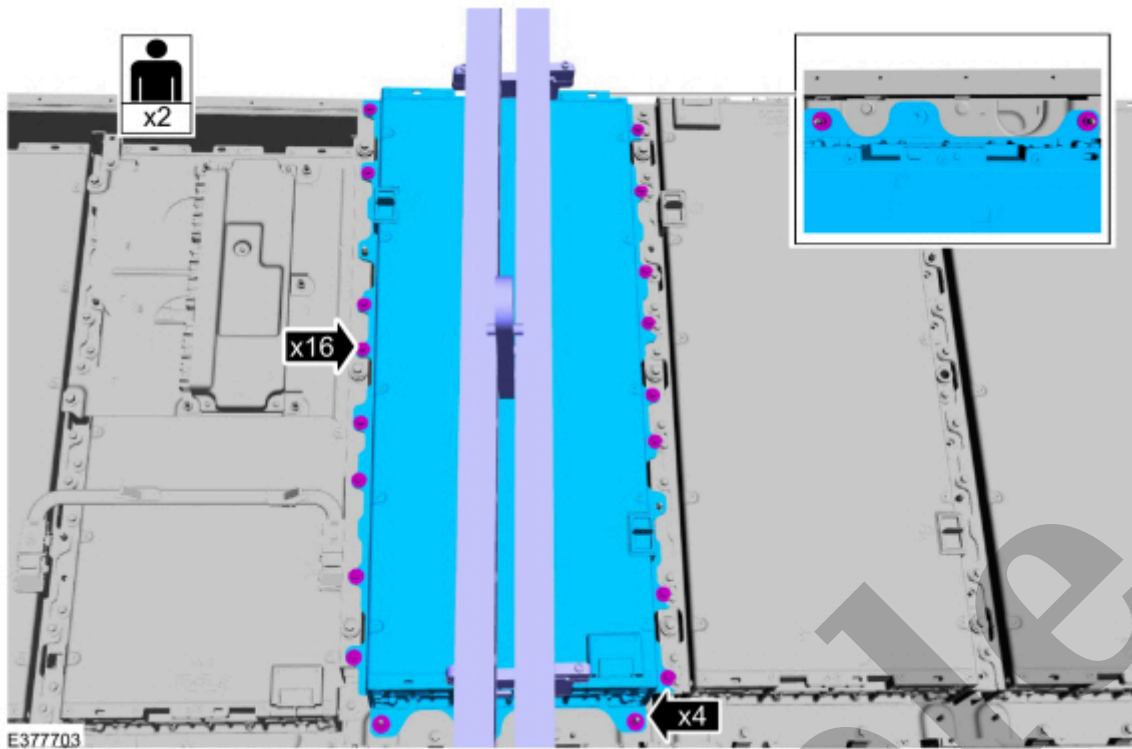


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1999 FORD Ka OEM Service and Repair Workshop Manual

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Installation

1. To assemble, reverse the disassembly procedure, except for the steps below.

2. NOTE

The high voltage battery module balancer balances the voltage level of the replacement battery module to match the remaining original battery modules to ensure correct operation of the high voltage battery pack. This procedure must be repeated for each replacement battery module prior to installation.

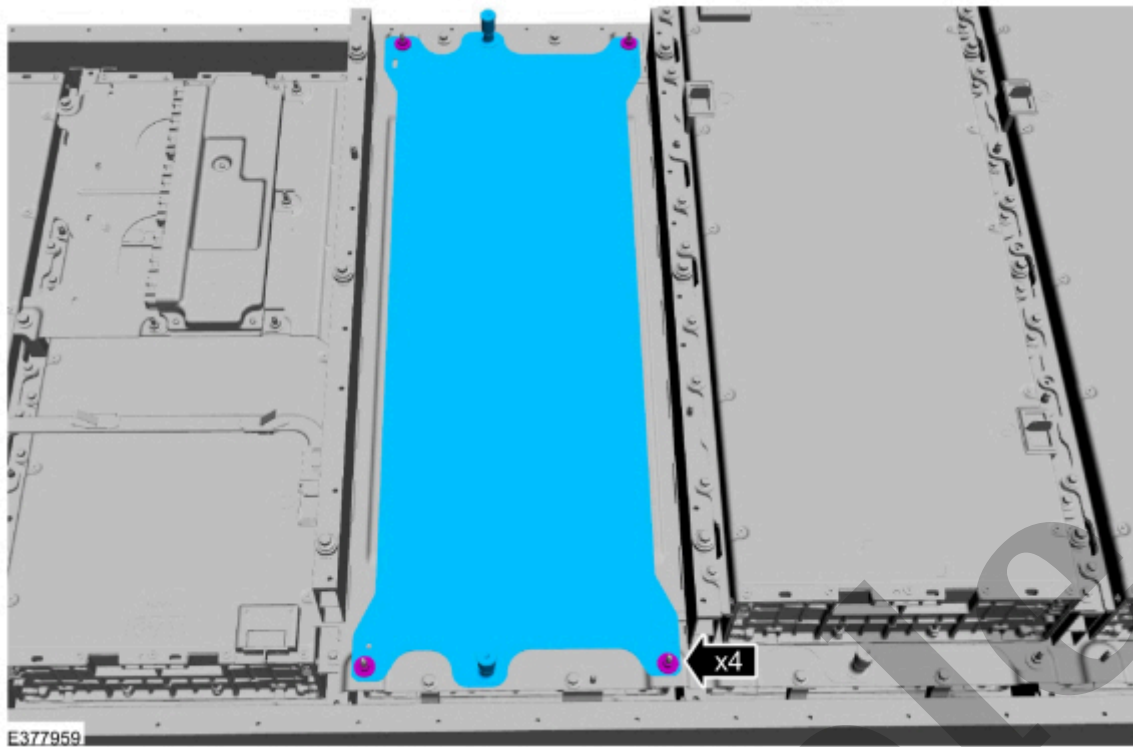
Carry out the High Voltage Battery Module Balancing on the new high voltage battery module(s).

Refer to: [High Voltage Battery Module Balancing - Electric](#)(414-03A High Voltage Battery, Mounting and Cables, General Procedures).

3. NOTICE

For proper adhesion of the Thermal Interface Material (TIM), the cold plate must be clean and free of debris.

Clean and remove any debris from the top of the cold plate.

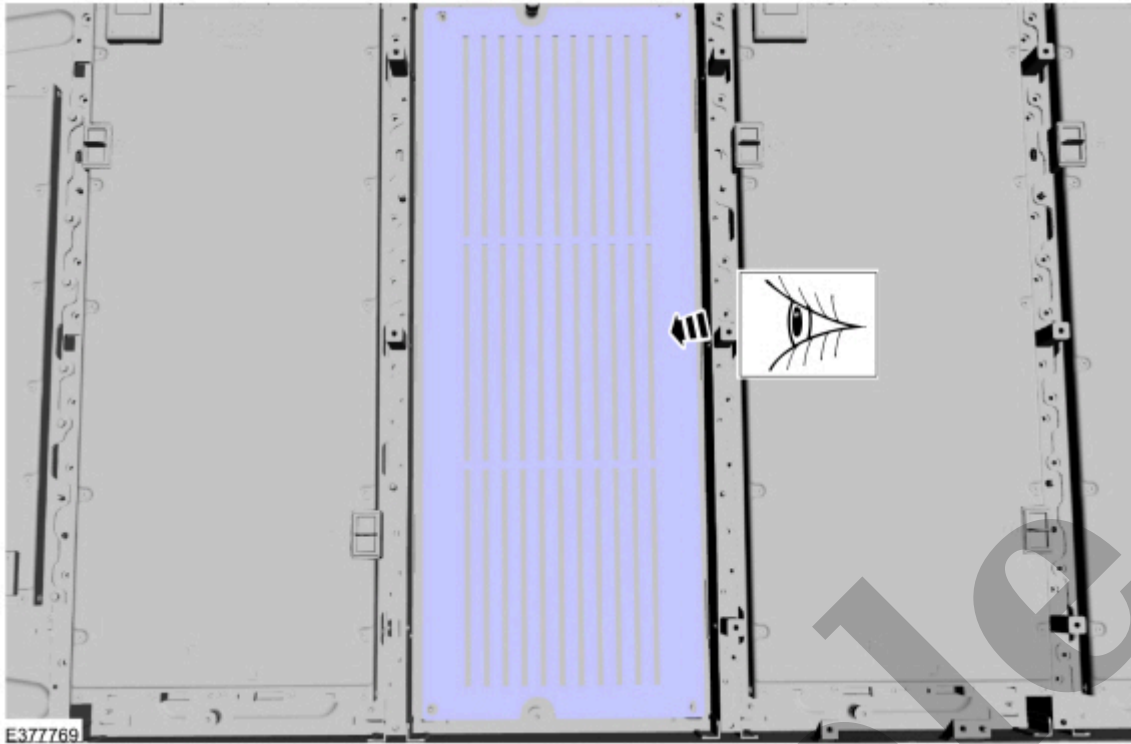


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5. **NOTE**

Make sure the correct application template is used and is properly orientated.

Extended range high voltage battery



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7. **NOTE**

The high voltage battery modules must be installed within 2 hours of applying the Thermal Interface Material (TIM).

NOTE

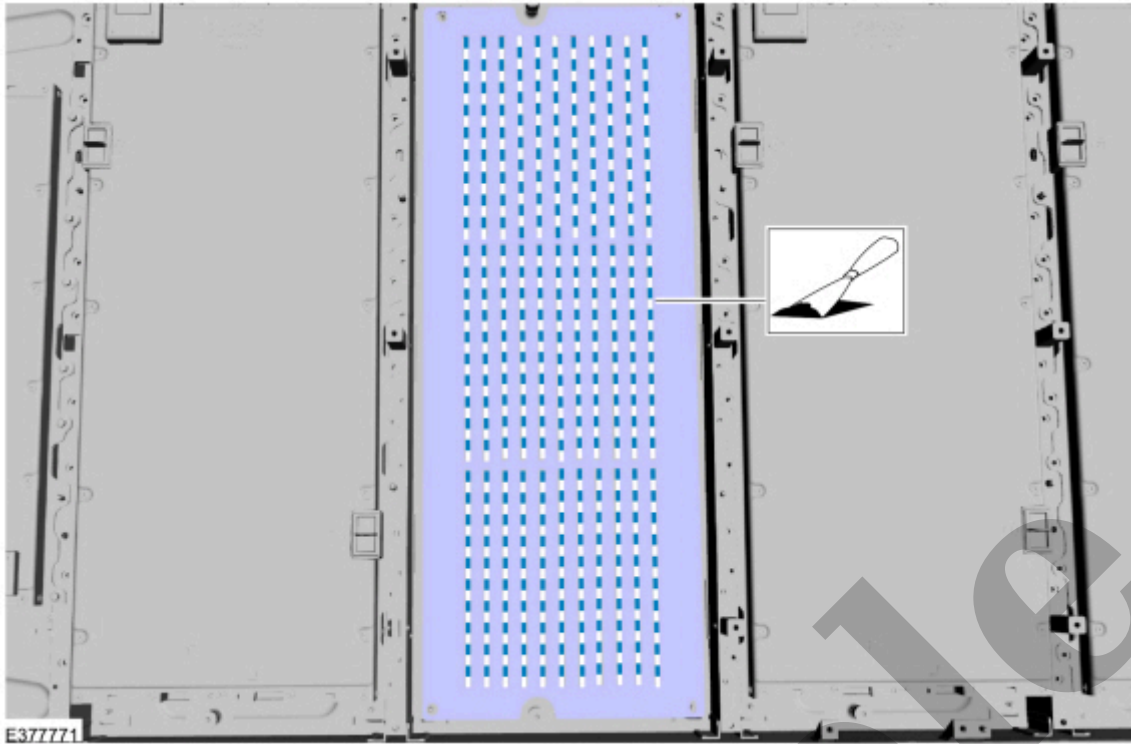
The use of two 200 mL (6.7 oz) of Thermal Interface Material (TIM) cartridges are necessary when replacing a single high voltage battery module.

NOTE

Use a power caulk gun that applies the Thermal Interface Material (TIM) with less effort and a continuous bead.

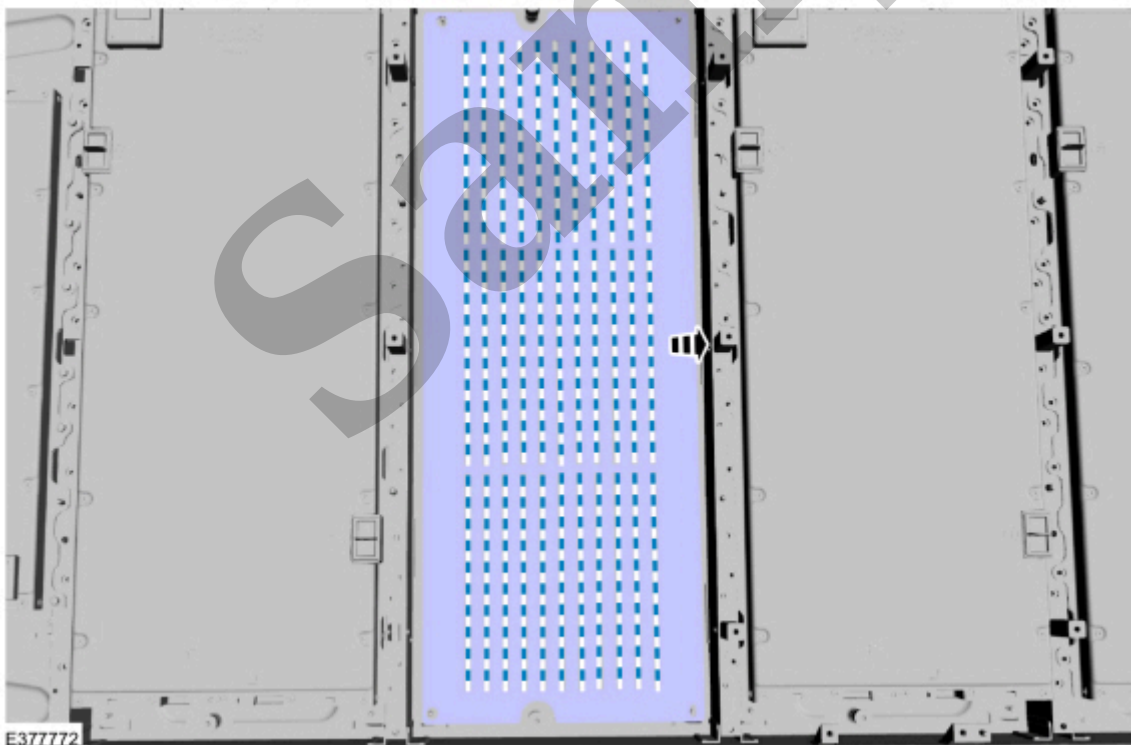
NOTE

Prior to applying the mixing tip, activate the power caulk gun until both parts of the Thermal Interface Material (TIM) come out of the end and is evenly mixed. Discard the premix TIM. Install the mixing tip



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9. Remove the Thermal Interface Material (TIM) application template from the cold plate.



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Fourth Row Upper High Voltage Battery Module - Electric, Vehicles With: Standard Range Battery

414-03A High Voltage Battery, Mounting and Cables	2022 F-150
Removal and Installation	Procedure revision date: 04/23/2022

Fourth Row Upper High Voltage Battery Module - Electric, Vehicles With: Standard Range Battery

Removal

WARNING

To prevent the risk of high-voltage shock, always follow precisely all warnings and service instructions including instructions to depower the system. The high-voltage system utilizes high-voltage cables to its components and modules. The high-voltage cables and wiring are identified by orange harness tape or orange wire covering. All high-voltage components are marked with high-voltage warning labels with a high-voltage symbol. Failure to follow these instructions may result in serious personal injury or death.

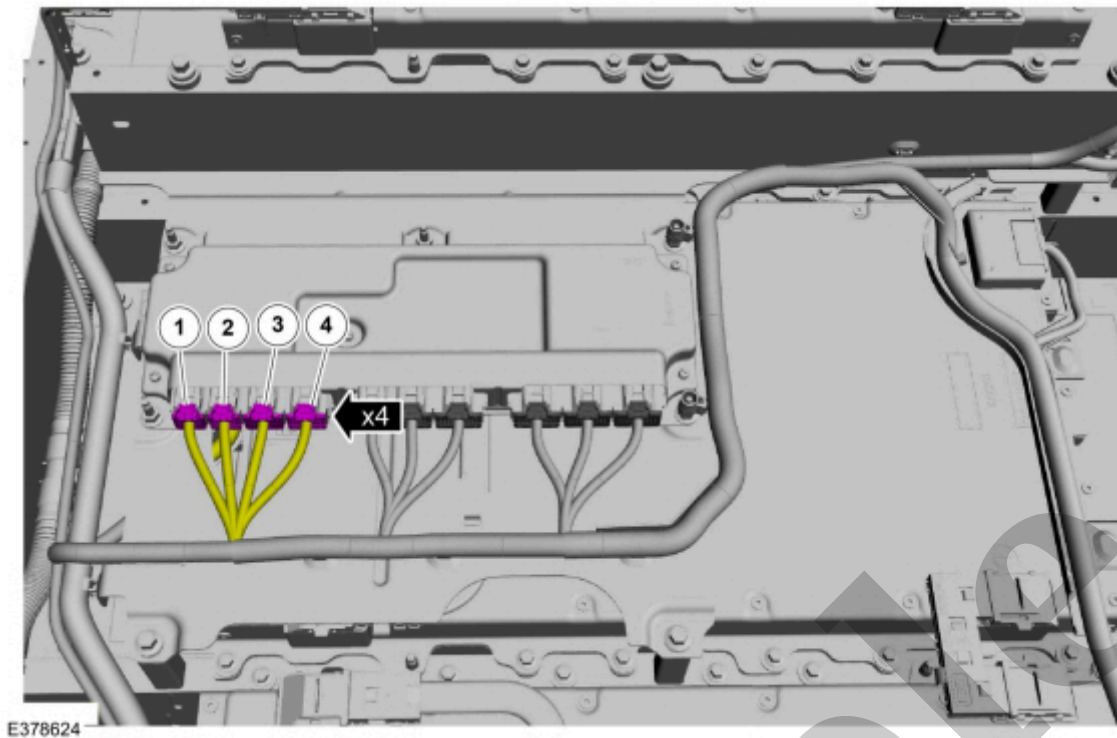
WARNING

The following step prescribes critical instructions. Perform the protective cap opening and closing sequence exactly as directed. Failure to follow these instructions may result in serious personal injury or death.

NOTICE

The high voltage battery module must be placed on a smooth, flat, padded surface, except when installing on the cold plate or component damage may occur.

NOTE



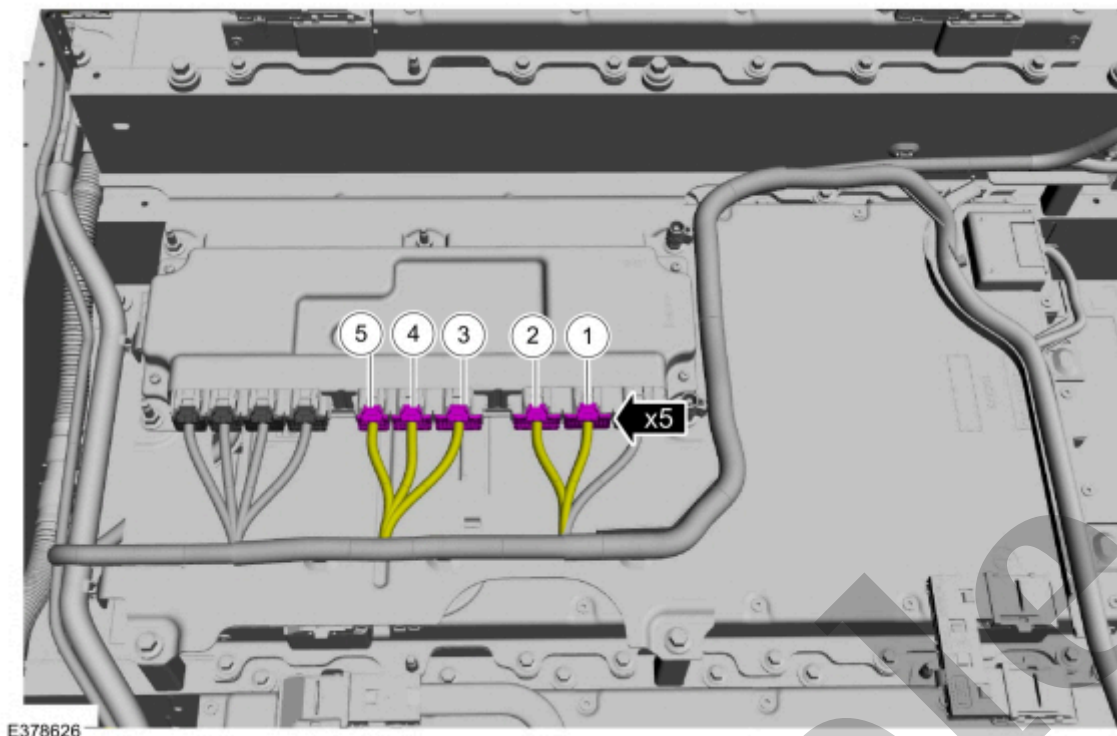
E378624

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5. NOTICE

Wait 10 seconds after disconnecting the BECM electrical connector shown, before disconnecting the remaining electrical connectors or component damage may occur.

Disconnect the BECM (battery energy control module) electrical connector.



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7. 1. Open the terminal cover and remove the bus bar bolt.

Torque : 119 lb.in (13.5 Nm)

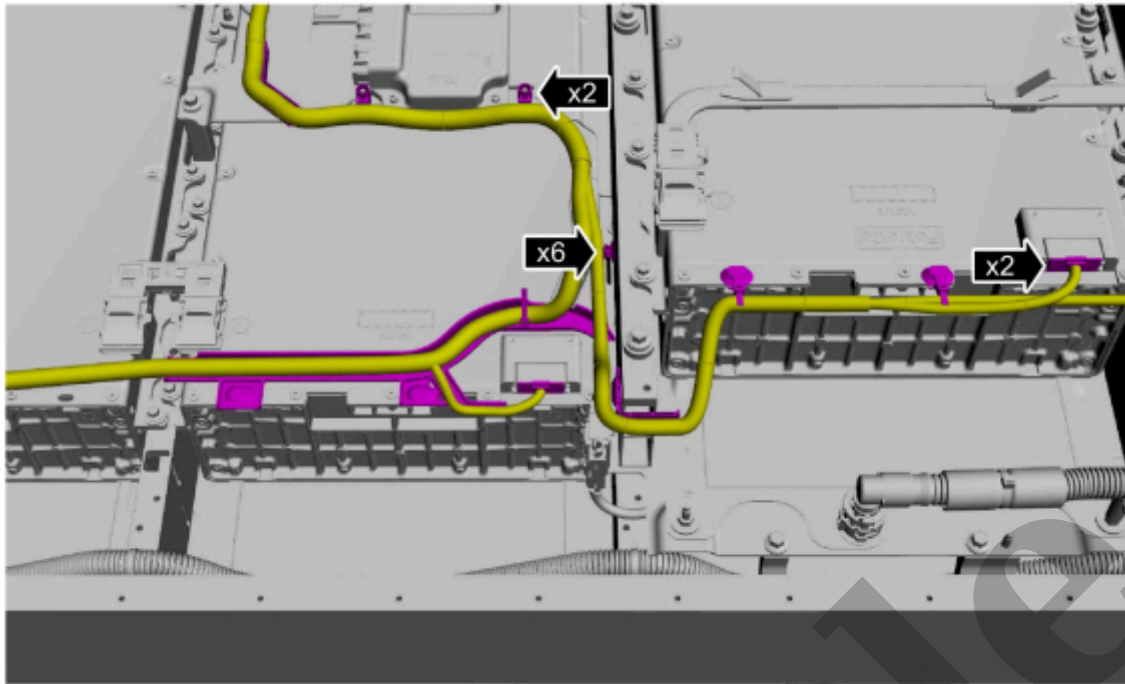
2. Install the battery module terminal cover.

3. Open the terminal cover and remove the bus bar bolt.

Torque : 119 lb.in (13.5 Nm)

4. Install the battery module terminal cover.

5. Detach the retainers and remove the bus bar.



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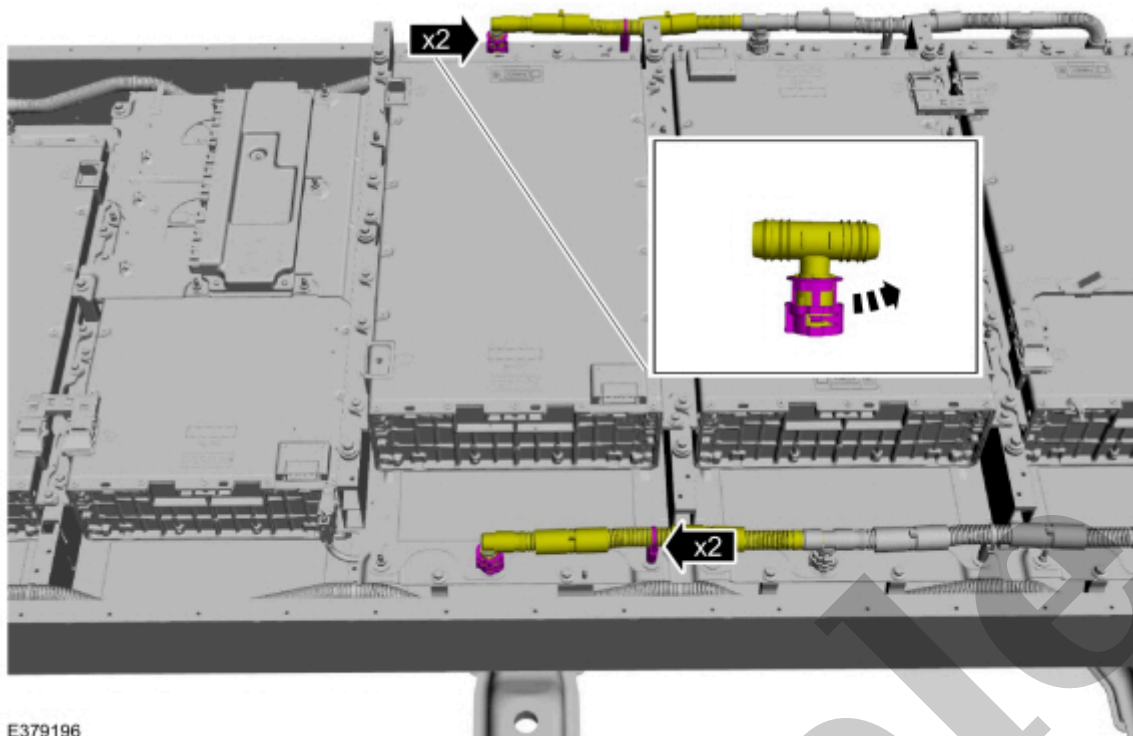
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10. Detach the retainers, disconnect the electrical connectors and position the wire harness aside.



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13. 1. Install the battery array lift adapters.

Use Special Service Tool : 414-016-02 Adapter for 414-016

2. Install the battery lift fixture and position the battery array lift adapters to the lift fixture and secure.

Use Special Service Tool : 414-016 Battery Lift Fixture