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FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

2015 Jeep Patriot Service and Repair Manual

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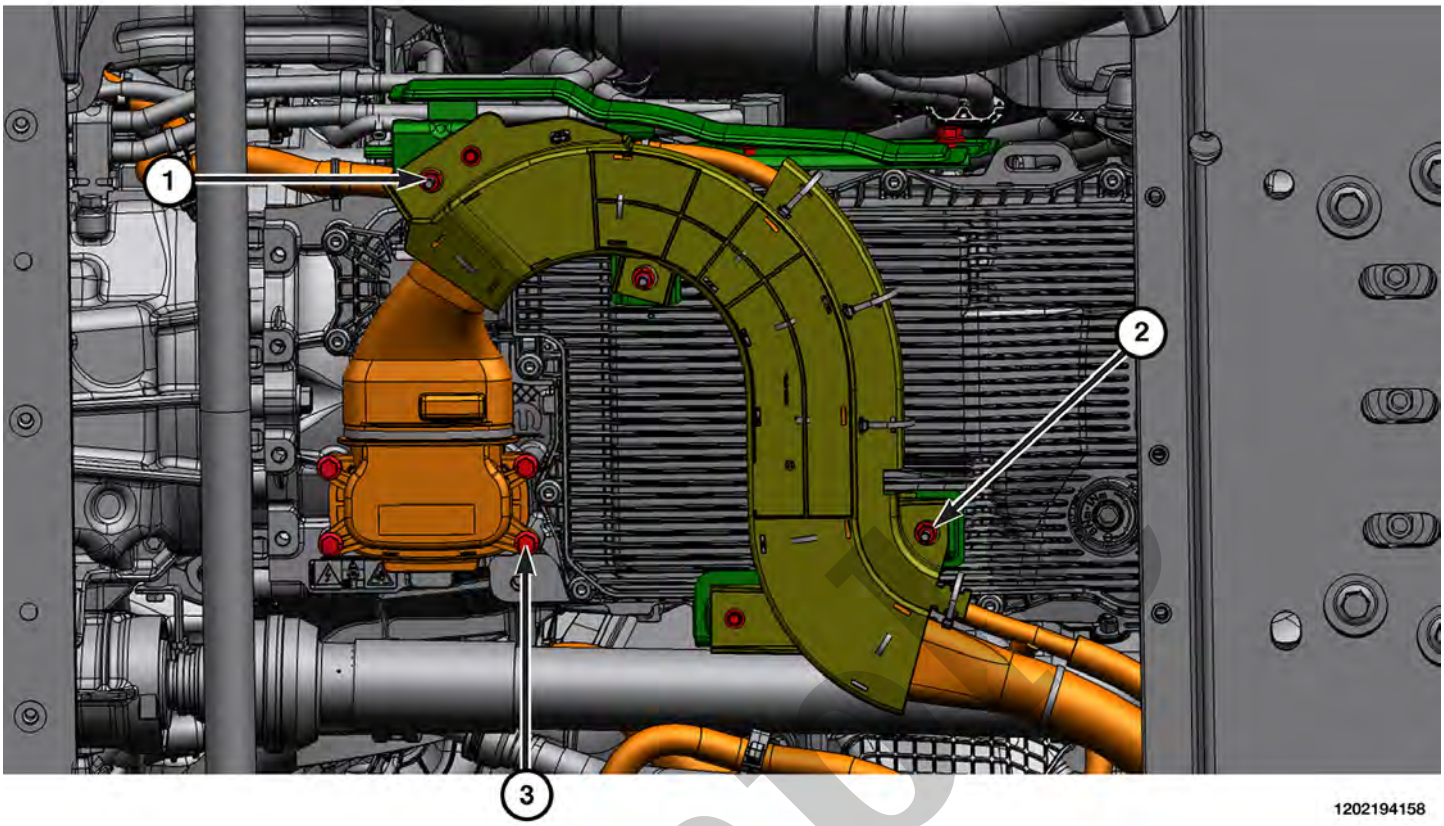

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CALLOUT	DESCRIPTION	SPECIFICATION	COMMENT
1	High Voltage Protective Cover Bolts	**Tighten Securely**	–
2	High Voltage Trough to Transmission Pan Nuts	**12 N·m (9 Ft. Lbs.)**	–
3	High Voltage Cable to P2	**9 N·m (80 In. Lbs.)**	–

YOUR CURRENT VEHICLE

High Voltage PHEV Battery - Secondary

HIGH VOLTAGE PHEV BATTERY - SECONDARY

HV BATTERY SERVICING WITH WELDED CONTACTOR(S)

THIS PROCEDURE SHOULD BE FOLLOWED WHEN THE HV BATTERY HAS ONE OR BOTH STUCK CONTACTORS.

1. You will need the new HV battery for the connector covers prior to removing the HV cables from the vehicles HV battery.
2. Disconnect the 12 volt battery negative at the battery, the positive cable at the PDC and let the vehicle sit for 20 minutes (Refer to Electrical/Battery System/Standard Procedure).
3. Use all Personal Protective Equipment and tools called out in the HIGH VOLTAGE SAFETY PROCEDURES (Refer to Electrified Powertrain System/High Voltage Battery/Standard Procedure).

NOTE

In the event that a single battery is defective, they are ordered as an assembly and have separate removal and installation procedures. **BOTH** HV Batteries must be replaced at the same time.

REMOVAL

WARNING

Before performing any diagnostic or service procedure, you must thoroughly read and follow all applicable high voltage safety procedures. You must perform the high voltage power down procedures.

Loss of Isolation (LOI) must be performed before high voltage power up in cases where service has been performed on a high-voltage component or when diagnosing a LOI condition.

Be sure to use the proper safety equipment when working on any high voltage system or component. Failure to do so may result in serious or fatal injury.

Wait a minimum of two minutes after performing the high voltage battery disconnect procedure before attempting to access the high voltage system. Failure to do so may result in serious or fatal injury.

CAUTION

Do not allow coolant to come in contact with any high voltage component electrical connections. Engine coolant will create a conductive path and cannot be effectively removed resulting in a loss of isolation and replacement of the contaminated high voltage component.

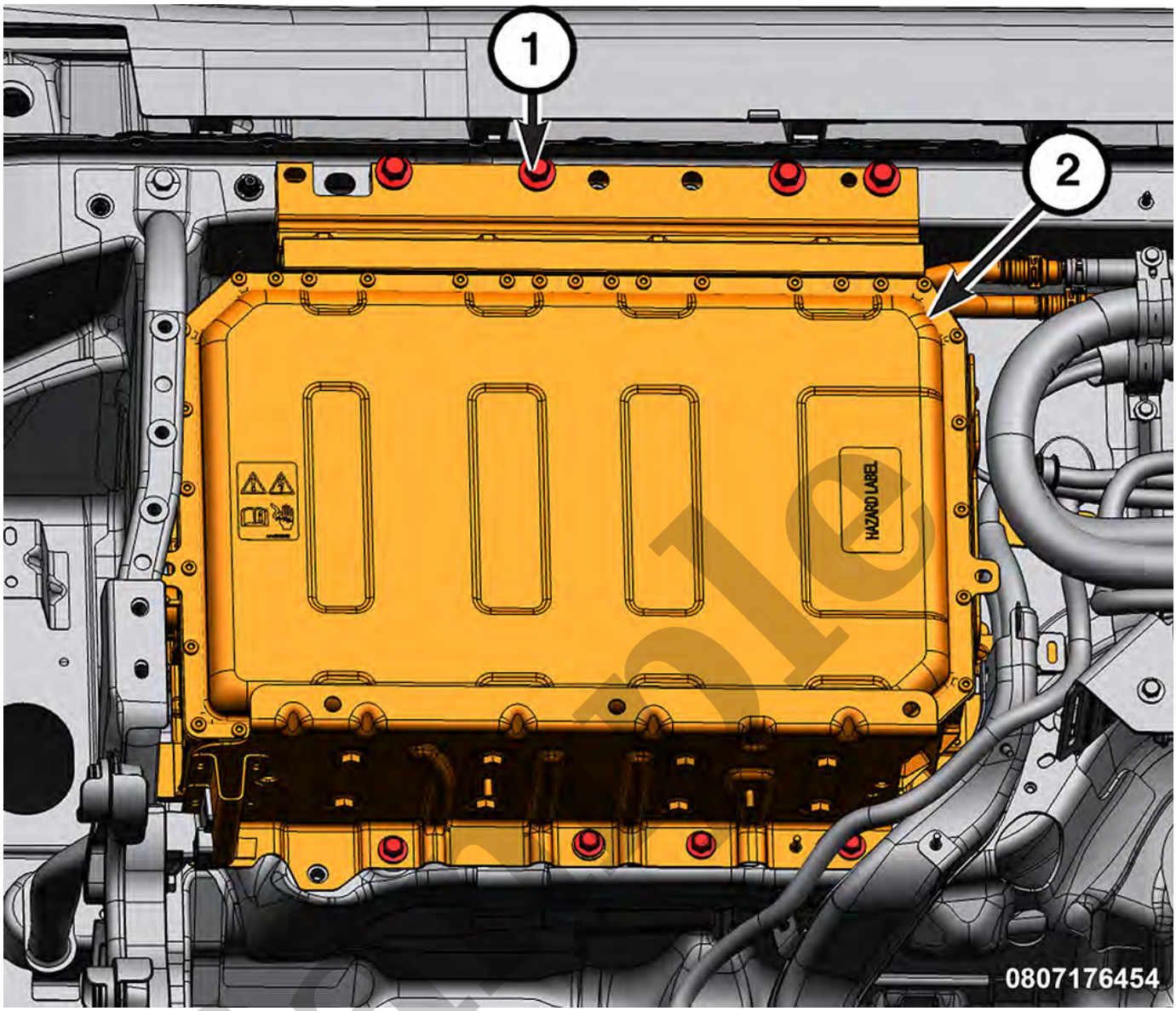
NOTE

If the High Voltage (HV) battery is missing its return instructions, contact the UPS Call Center 800-567-9989.

NOTE

Observe the following precautions when handling the HV battery pack:

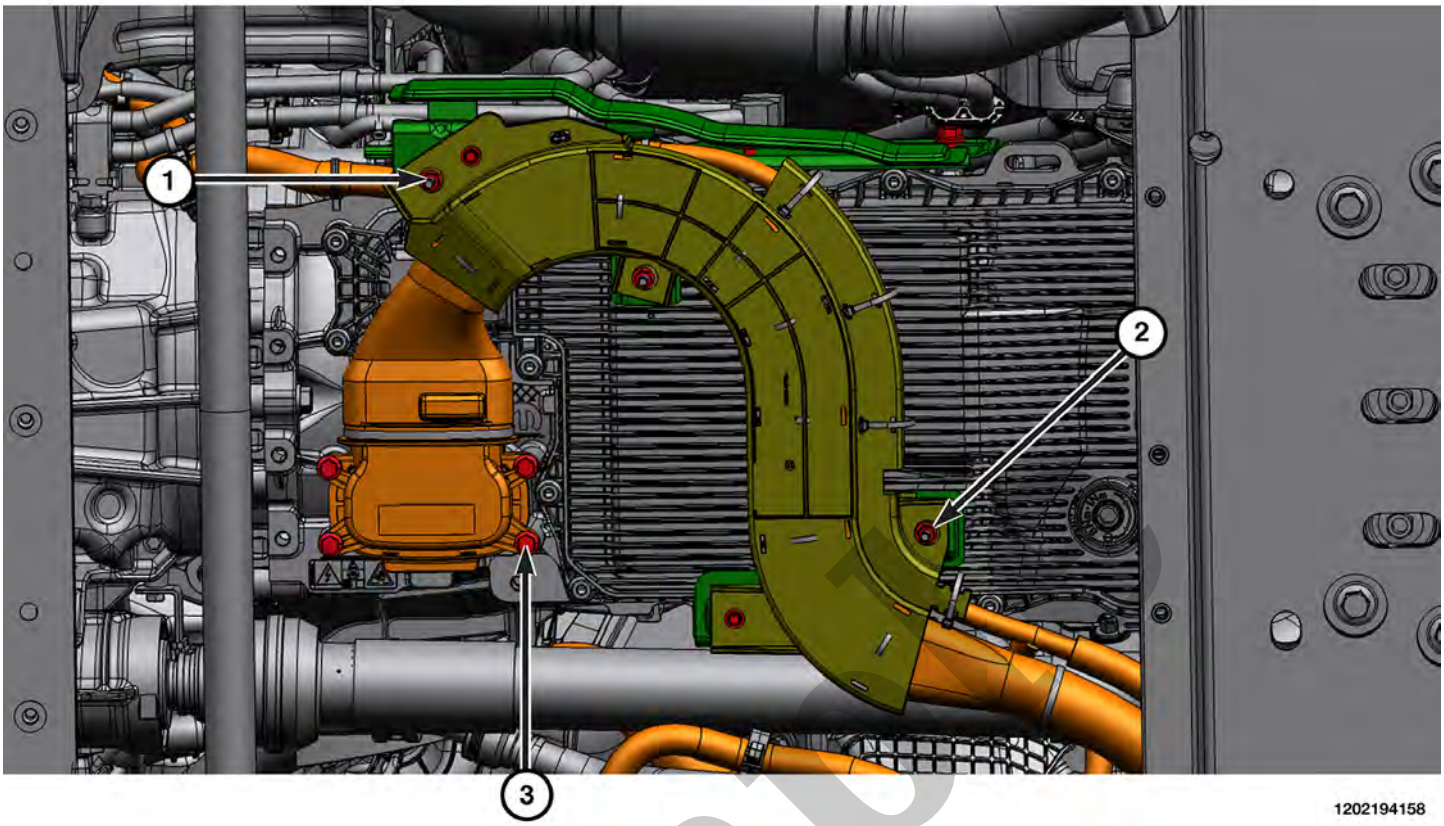
- **DO NOT** touch the high voltage terminals.
- Always use four lift points when moving the battery pack.
- Keep the battery pack in an upright position.
- Store in a clean and dry environment.



1 - High Voltage Battery to Body Bolts
2 - Secondary Battery

12. Using

    Table, Bishamon Lift



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Technical Specifications

TECHNICAL SPECIFICATIONS

	High Voltage Battery
Voltage (V)	260/408
Capacity (Ah)	50
Intensity (CCA)	200 Amps
Current (Amps)	Maximum Amperage = 300 Amps / Continuous Amperage = 100 Amps

Either adaptor can be used to check for loss of isolation. The green lead is used for a ground during the loss of isolation testing.

Loss of Isolation check between chassis ground and positive bus cable

4. Connect the GREEN test adaptor lead to the (-) multi-meter isolation port.
5. Connect the RED test adaptor lead to (+) multi-meter isolation port. Press and hold the TEST button on the FLUKE 1587 until the voltage displayed in the **lower right corner** of the screen stabilizes. Record the resistance value displayed in the **middle** of the screen.
6. Release the TEST button while.
    - If the measured value is 2.3 Mohms (+/-.2 Mohms) then that bus rail and chassis are safely isolated.

Loss of Isolation check between chassis ground and negative bus cable

High Voltage Power Down

HIGH VOLTAGE POWER DOWN

WARNING

Before performing any diagnostic or service procedure, you must thoroughly read and follow all applicable high voltage safety procedures. You must perform the high voltage power down procedures.

Loss of Isolation (LOI) must be performed before high voltage power up in cases where service has been performed on a high-voltage component or when diagnosing a LOI condition.

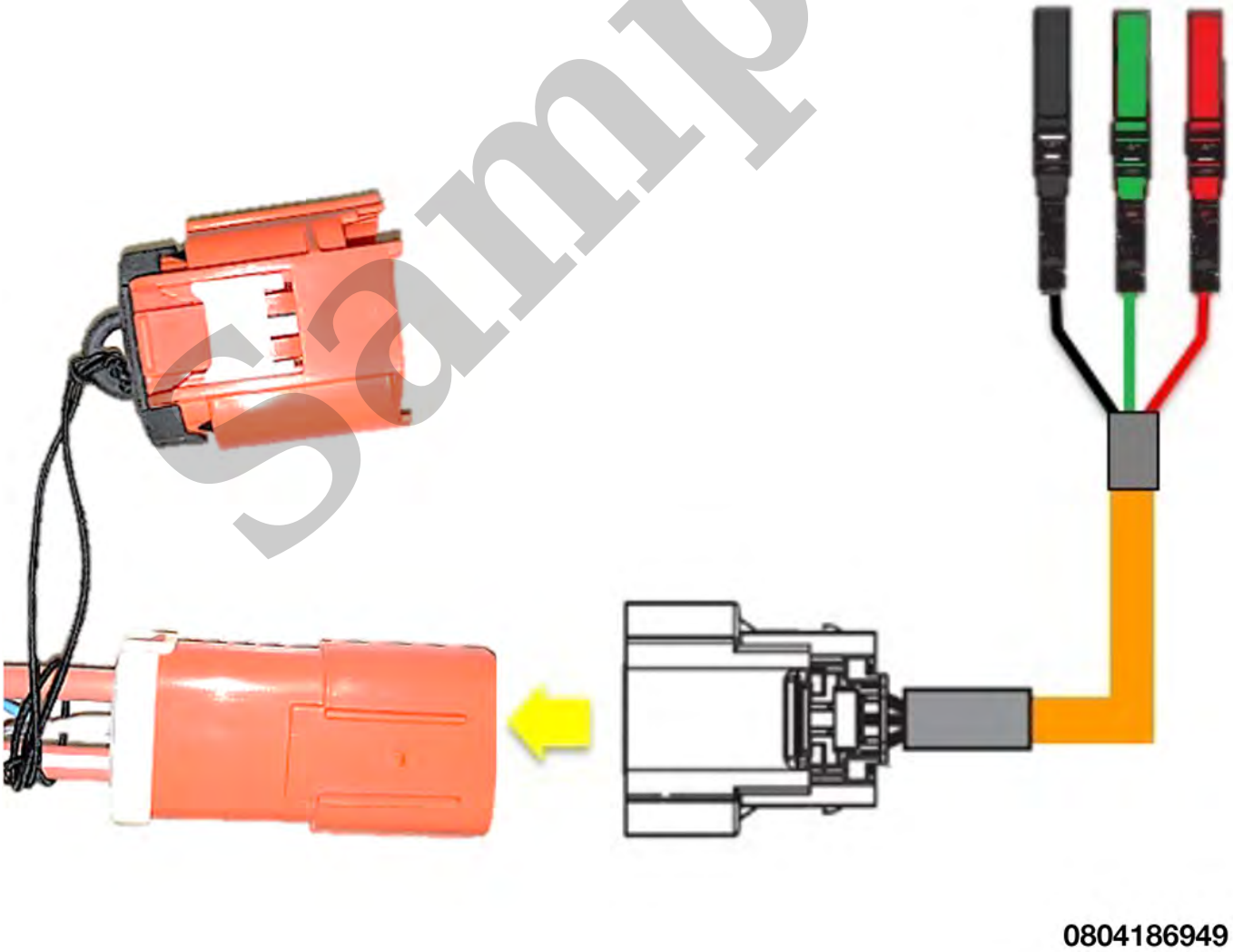
Be sure to use the proper safety equipment when working on any high voltage system or component. Failure to do so may result in serious or fatal injury.

Wait a minimum of two minutes after performing the high voltage battery disconnect procedure before attempting to access the high voltage system. Failure to do so may result in serious or fatal injury.

1. Prepare the work area and familiarize yourself with all HIGH-VOLTAGE SAFETY PROCEDURES related to personal safety and vehicle safety associated with working on a Plug-In Hybrid Electric Vehicle (PHEV) (Refer to Electrified Powertrain System/High Voltage Battery/Standard Procedure).
2. Inspect all orange high voltage cables, and high voltage components labeled with the high voltage symbol for physical damage. If damage is present, extra caution must be taken to avoid contact with unprotected high voltage. Do not insert probes, tools, objects or fluids into damaged high voltage cables or components.
3. Disconnect any charging equipment. Do not plug in the EVSE Recharge Coupler when working on the vehicle.

is recommended for PHEV circuit testing. Perform the multi-meter functionality tests per the manufactures directions. If at any point during the procedure, the multi-meter settings are changed, or the probes are repositioned in the meter, verification with a known good power source must be repeated. **Always observe these precautions prior to taking a high voltage measurement:**

- Use known good test leads.
- Verify the multi-meter leads are rated “CAT III 1,000V”. This should be printed on the multi-meter leads.
- Install the multi-meter leads in the BLACK and RED sockets on the right side of the Fluke 1587 (VΩ (RED) and COM (BLACK)).
- Test the multi-meter operation by measuring the voltage across the 12 volt Battery.
- Switch the FLUKE 1587 to the DC Volts selection and press the RANGE button until the 1000V range is selected - just one digit (a zero) is displayed.



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