Body Repair Tech Note: Performing the Vehicle Electrical Isolation Procedure

Body Repair Tech Notes provide information about Tesla-approved methods and practices for body repair. These instructions assume knowledge of motor vehicle and high voltage electrical component repairs, and should only be executed by trained professionals. Tesla Motors assumes no liability for injury or property damage due to a failure to properly follow these instructions or for repairs attempted by unqualified individuals.

Tesla vehicles are equipped with low voltage (12V) and high voltage (400V) circuits. The high voltage (HV) system might be energized any time that the 12V battery and first responder loop are connected. To fully disconnect the HV system, refer to Service Manual procedure 17010000, “Vehicle Electrical Isolation Procedure” (17 - Electrical > 1701 - 12V Battery & Fuses > Vehicle Electrical Isolation Procedure).

⚠️ WARNING: Do not assume that the HV system is de-energized after 12V power and the first responder loop have been disconnected. Always check for high voltage at the High Voltage Junction Box (HVJB) or rear drive inverter before proceeding with any repairs. Refer to the Vehicle Electrical Isolation Procedure for more information.

The Vehicle Electrical Isolation procedure must be performed before beginning any repair that involves:
- Touching high voltage components
- Touching supplemental restraint system (SRS) components
- Working near exposed high voltage components
- Welding on the vehicle
- Inspecting potentially damaged HV and/or 12V electrical components

⚠️ WARNING: Only technicians who have been trained in High Voltage Awareness should perform the Vehicle Electrical Isolation procedure. Proper personal protective equipment (PPE) and insulating HV gloves with a minimum rating of class 00 (500V) must be worn any time a high voltage cable is handled. Refer to TN-15-92-003, “High Voltage Awareness Care Points” for additional safety information.

⚠️ WARNING: If the 12V power supply is disconnected, do not attempt to open any doors on a Model S or the front doors on a Model X with the door glass in a closed position. Failure to follow this instruction could result in door glass shatter.

⚠️ CAUTION: Do not weld on a Tesla vehicle with an energized HV or 12V system. Welding on a Tesla vehicle with an energized HV or 12V system might damage vehicle components.

NOTE: Before disconnecting the 12V power supply, ensure that the driver’s door window is fully open. Failure to follow this instruction could result in vehicle lockout.

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