

## Body Repair Tech Note: Performing Toolbox Operations After Common Model S Repairs

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.

This Body Repair Tech Note supersedes BR-16-92-003, dated 29-Sep-16. Each content change is marked by a vertical line in the left margin. Discard the previous version and replace it with this one.

Toolbox is Tesla's diagnostic and repair software. When a component is replaced or installed, it is necessary to use Toolbox to make sure the component functions properly within the vehicle.

**NOTE:** Refer to [BR-15-92-001](#), "Installing and Connecting Toolbox" for instructions on installing the software.

**NOTE:** Refer to [BR-16-92-004](#), "Toolbox Labor Times" for labor times associated with performing the operations listed in this document.

If a Service Manual section is listed, perform the Toolbox operation at the completion of all procedures in that Service Manual section. If a Service Manual procedure is listed, perform the Toolbox operation at the completion of that procedure.

**NOTE:** Run the DTCs Toolbox operation at the completion of any repair that requires a connection to Toolbox.

**NOTE:** "R&R" is an abbreviation for Remove and Replace. "R&I" is an abbreviation for Remove and Install.

**NOTE:** Refer to the "Notes" column of the table for additional information on the condition(s) that apply to whether a particular Toolbox operation needs to be performed.

**⚠ WARNING:** Read the relevant Service Manual procedure thoroughly before starting any repair. Many Service Manual procedures include Toolbox operations, which are a required step for performing the task. Refer to the Service Manual procedure for all the steps required to perform a procedure.

If a Toolbox operation fails, perform the steps below to troubleshoot the issue:

1. If a retry button is present, click the retry button.
2. Click into a different Toolbox panel, then return to the Toolbox operation panel that failed and try the operation again.
3. Restart the Toolbox program.
4. Reestablish the physical connection to the vehicle.

If the Toolbox operation panel fails after performing steps 1 thru 4, contact [collision-techinfo@tesla.com](mailto:collision-techinfo@tesla.com). Please include the error message and the specific test that was being run when the failure occurred.

	Service Manual Section / Procedure	Toolbox Operation	Notes
<b>10 – Body</b>			
	1001 – Bumper / Fascia (front procedures only)	Louver Shutter Operation* Radar Service Drive Alignment	*Not necessary if running the Thermal System Test
	10200102 – Windshield	Camera Calibration	Only vehicles built after September 23, 2014.
<b>11 – Closures</b>			
	11451002 – Exterior Door Handle (front) 11452002 – Exterior Door Handle (rear)	Firmware Redeploy	Only for updating from 1st generation to a 2nd generation handle
	11223402 – Module – Door Controller	Firmware Redeploy Pektron Body Controls Configuration	
	11334802 – Module – Liftgate Control	Firmware Redeploy	
<b>13 – Seats</b>			
	13040102 – Seat Assembly – Driver's (R&R)	Firmware Redeploy	
	13040202 – Seat Assembly – Passenger's (R&R)	Firmware Redeploy Occupant Classification System Re-Zero	Only North America
<b>16 – HV Battery System</b>			
	16010101 – HV Battery Assembly (R&I) 16010102 – HV Battery Assembly (R&R) 16010005 – HV Battery Coolant Drain and Refill	Firmware Redeploy* Coolant Air Purge HV Bleed †	*Only for R&R †If requested by Tesla Service Center
<b>17 – Electrical</b>			
	17152002 – Sunroof Controller (R&R) 17151902 – Sunroof Controller – RHD (R&R) 17154202 – Module – HomeLink Transmitter	Firmware Redeploy HomeLink Program* Panoramic Sunroof (calibrate) †	*Only for R&R of the HomeLink transmitter †Only for Sunroof Controller
	17152302 – Body Controller Module (R&R) 17152602 – Body Controller Module – RHD (R&R) 17152702 – Body Controller Module – Dual Motor (R&R)	Firmware Redeploy Pektron Body Controls Configuration	
	17451002 – Battery Backed Siren	Pektron Body Controls Configuration	Europe Only
	1720 – Radar Sensor	Firmware Redeploy* Radar Service Drive Alignment	*Only for R&R of a radar sensor
	1723 – Front Camera	Firmware Redeploy* Radar Service Drive Alignment Camera Calibration <b>OR</b> Camera Single Pole Target Auto Calibration	*Only for R&R of the camera
	17270102 – Module – Park Assist	Firmware Redeploy Park Assist VIN learn*	*Only for vehicles with Bosch 4.5 systems

	Service Manual Section / Procedure	Toolbox Operation	Notes
<b>18 – Thermal Management</b>			
	18101002 – HVAC Assembly (R&R) 18100602 – HVAC Controller RCCM (R&R) 18100802 – Module – Thermal Controller (R&R)	Firmware Redeploy Thermal System Test Fluid Drain and Fill †	*Only for R&R of the Controller RCCM † Not required if the HVAC machine has two service lines
	1820 – Refrigerant System	Thermal System Test Fluid Drain and Fill*	*Not required if the HVAC machine has two service lines
	1830 – Coolant System	Coolant Air Purge Thermal System Test	
	1850 – Air Distribution	Thermal System Test	
<b>20 – Safety and Restraint</b>			
	20 – Safety and Restraint	Firmware Redeploy Air Bag Region Check and Arming Air Bag Program	
<b>21 – Infotainment</b>			
	21220102 – Tuner AM / FM (R&R)	Firmware Redeploy	
<b>24 – Roof</b>			
	24101002 – Sliding Glass – Panoramic Roof 24102002 – Frame – Panoramic Roof 24104002 – Panoramic Roof Drive Cable 24103002 – Motor – Sunroof – LH 24103102 – Motor – Sunroof – RH	Panoramic Roof Calibration	
<b>31 – Suspension</b>			
	3100 – Adjustment	Air Suspension Check Airmass* Air Suspension Calibration* Lock To Lock Test - Angle ESP Configuration EU Coil Spring Ride Height Calibration †	*Only for vehicles with air suspension  † UK Only
	3110 – Air Suspension System	Firmware Redeploy* Air Suspension Calibration Air Suspension Check Air Mass	*Only for R&R of the air suspension ECU module
<b>32 – Steering</b>			
	32011002 – Module – Steering Column Control 32010102 – Steering Rack (RWD) 32012202 – Steering Rack (Dual Motor) 32012602 – Steering Rack (RHD)	Firmware Redeploy* Power Steering EPAS Control Lock To Lock Test – Angle ESP Configuration	*Only for R&R of Module
	32051802 – Steering Wheel 32051902 – Steering Column	Power Steering EPAS Control ESP Steering Angle Sensor Calibration Lock To Lock Test – Angle	

	Service Manual Section / Procedure	Toolbox Operation	Notes
<b>33 – Brakes</b>			
	3320 – Electromechanical Brake Booster	Firmware Redeploy iBooster Setup	
	33050102 – Module – Electric Park Brake	Firmware Redeploy	
	33100102 – ABS Modulator Assembly	Firmware Redeploy* ESP Configuration	*Only for R&R
<b>34 – Wheels and Tires</b>			
	3404 – Tire Pressure Monitoring System	Firmware Redeploy* TPMS Setup †	*Only for R&R of Modules †Only for the Continental sensor
<b>39 – Front Drive Unit</b>			
	39012101 – Front Drive Unit (From Below) (R&I)	Firmware Redeploy*	*Only for R&R
	39012102 – Front Drive Unit (From Below) (R&R)	Coolant Air Purge	
<b>40 – Rear Drive Unit</b>			
	40010701 – Drive Unit – Rear – Large (R&I)	Firmware Redeploy*	*Only for R&R
	40010702 – Drive Unit – Rear – Large (R&R)	Immobilizer Reset*	
	40016001 – Drive Unit – Rear – Small (R&I)	Coolant Air Purge	
	40016002 – Drive Unit – Rear – Small (R&R)		
<b>44 – High Voltage System</b>			
	4401 – Charge System Inlet	Firmware Redeploy* Charge Port Door Sensor Calibration Charge Port Latch Calibration	*Only for R&R
	4410 – Onboard Charger	Firmware Redeploy* Coolant Air Purge	*Only for R&R
	4420 – DCDC Converter	Firmware Redeploy* Coolant Air Purge	*Only for R&R

For feedback on the accuracy of this document, email [collision-techno@tesla.com](mailto:collision-techno@tesla.com).