Radio DDIN Installation with Rear Camera

Classification:	Parts Bulletin	**Section/Group:**	17 - Electrical	**Country/Region:**	Global
Year:	2008-2009	**Model:**	Roadster	**Version:**	1.5 / 2.0

Bulletin Classification: *Parts, this bulletin is issued to address various parts related topics regarding the operation of Tesla vehicles that include part changes, supersession, and authorized modifications.*

This Service Bulletin supersedes SB-12-17-005 dated 22-Oct-12. The content changes are identified with double vertical lines and italics. Changes include the installation of a zener diode in series with the rear camera input wire. Please discard the previous Service Bulletin and replace with this Revision 2.

Use this information to assist in the Roadster 1.5 and 2.0 Radio upgrade from the JVC Single DIN unit to the Alpine brand Double DIN (DDIN) entertainment system used in the Roadster 2.5. These instructions include the removal of part of the existing dashboard support frame, installing a new support, expanding the opening in a vertical direction for the installation of the replacement unit, and modification of the defroster heater duct. Additionally, the DDIN Alpine unit upgrade allows for the installation of the rear camera.

NOTE: Follow the specific removal procedure in the service manual and these additional steps below.

Component Removal & Dash Support Modification

1. Disconnect applicable power sources before proceeding with component removal. Follow the Vehicle Electrical Isolation Procedure and 12V Auxiliary Battery Disconnection Procedure as described in the Service Manual.

2. To remove the radio, use a thin key tool to depress the mounting tabs on each side securing the assembly.

3. Remove radio assembly (Figure 1).

Figure 1

4. As per service manual, remove dash pad, center console controls, instrument panel cover, steering column cover, and vents (Figure 2).

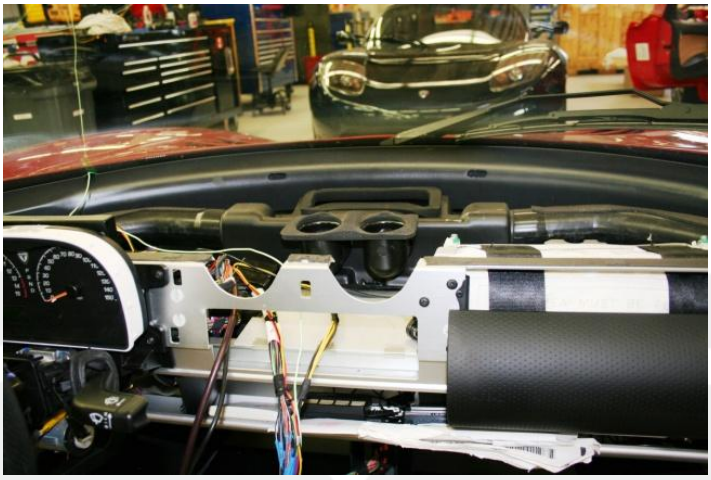

Figure 2

5. Use a marker to draw vertical cut lines in the frame housing, following the yellow lines shown in Figure 3. The cut lines must be in line with the width of the original opening.

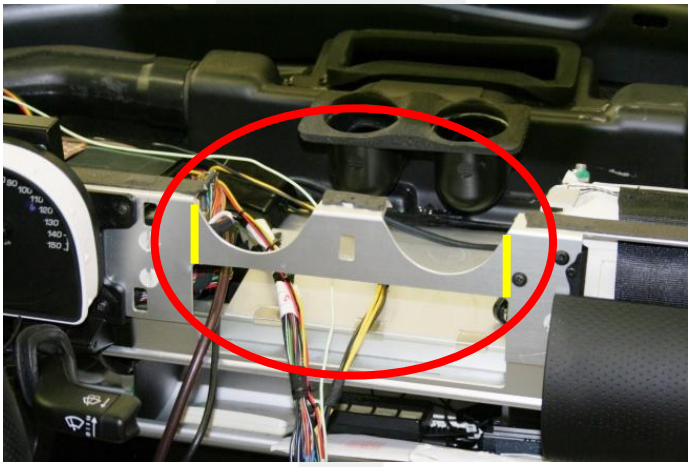

Figure 3

6. With a hack saw type tool, cut on both sides to remove the section. File the surface smooth with the proper tool and remove all alloy filings created by the cutting.

WARNING: Take care and wear protective safety glasses during this procedure.

7. Install the upper DDIN support bracket with a total of 4 pop rivets. Install 2 pop rivets on the left and right top corners and 2 pop rivets on the left and right front facing area (Figure 4).

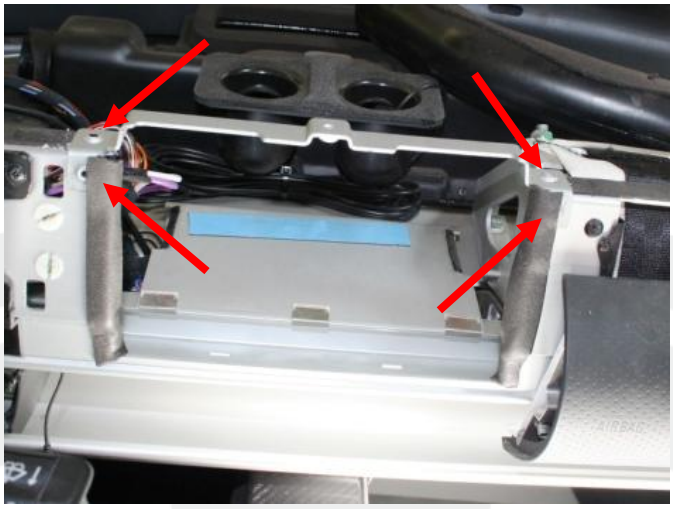

Figure 4

8. Install foam padding on each side of the inner opening. This will prevent the sharp edges from damaging the radio unit (Figure 5).

NOTE: Use foam tape on each side to ensure a secure fit.

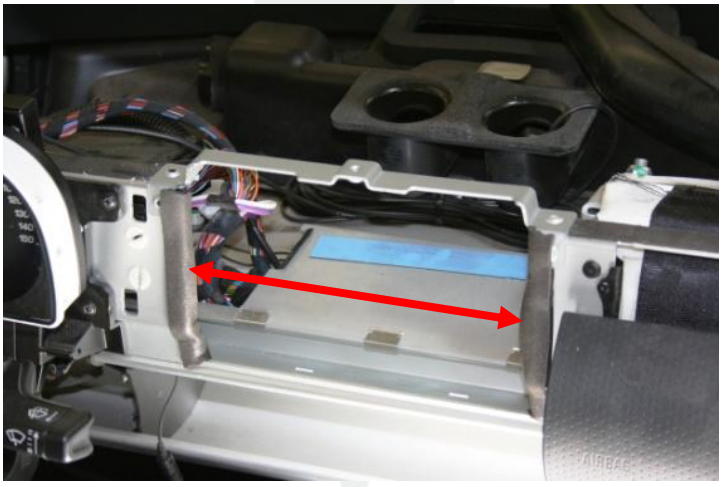

Figure 5

9. Insert DDIN cowl and face plate mounting tray in place. Secure with mounting screws are on each side. To secure the top dash pad, a new hex type screw will be installed (Figure 6).

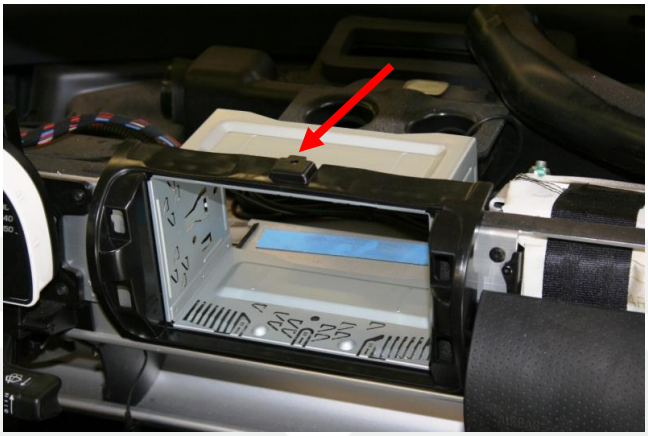

Figure 6

HVAC Foam Spacer Installation

1. Modification is required with the installation of the 2.5 dash pad center duct. There is a 25 mm gap between the top of the duct foam and the base of the dash pad center duct. This gap will be filled with the foam spacer (Figure 7).

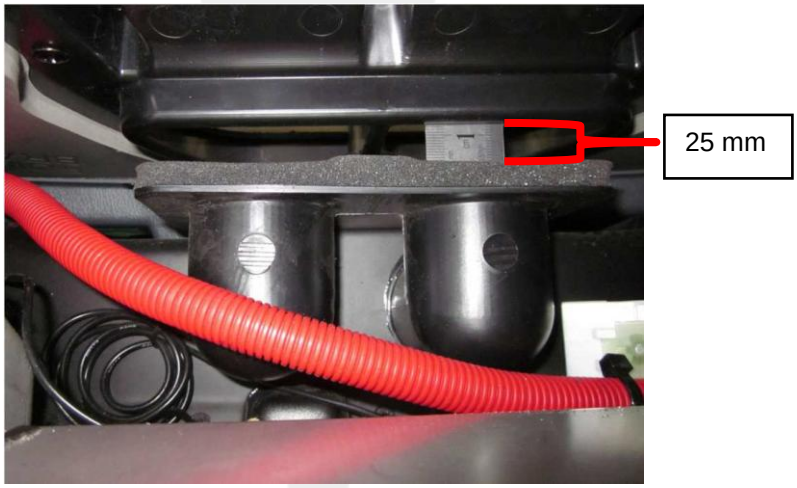

Figure 7

2. The foam spacer has double sided tape on each side to adhere to duct ports (Figure 8).

Figure 8

3. This foam spacer will compress firmly and fill in the gap.

4. Below is the side view of the added foam spacer (Figure 9).

NOTE: Prototype foam spacer shown for illustrated purposes only.

Figure 9

Wiring Routing and Component Placement

1. Install the 2.5 Roadster DDIN Cowl LWR center duct to the original dash pad (Figure 10).

Figure 10

2. Install components in place under dash pad area (Figure11). Mount modules with velcro tape.

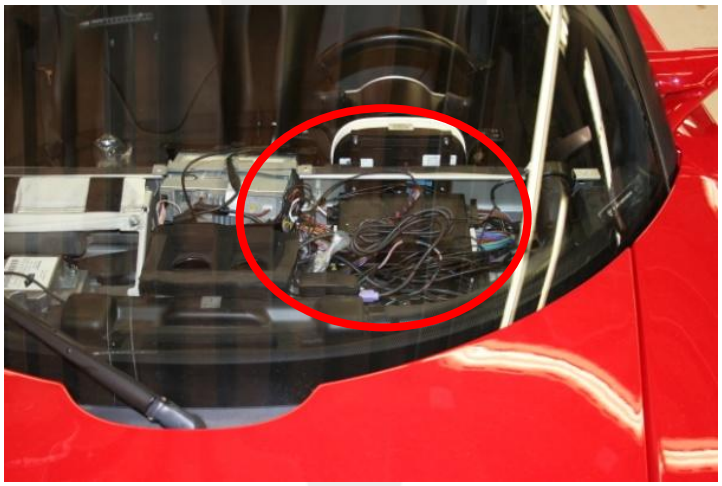

Figure 11

3. Figure 12 shows the radio assembly and Bluetooth, Navigation and iPod modules installed. Tie-wrap loose wiring securely in place.

NOTE: Take care to route the Navigation RGB cable. It may contact the heater duct. Ensure there is clearance between cable adapter and duct.

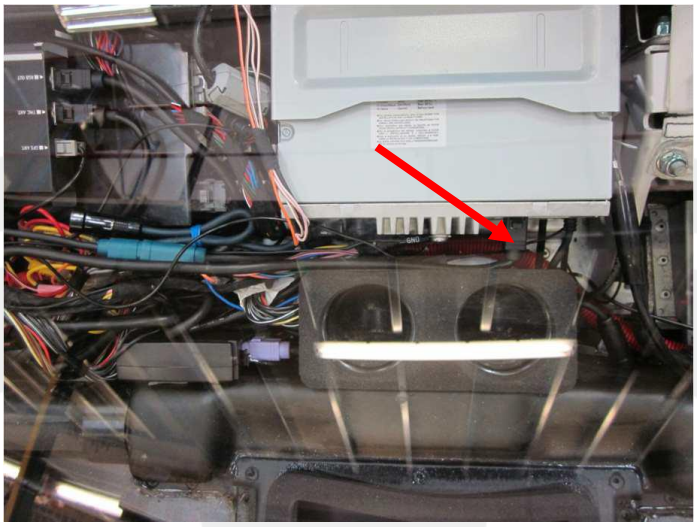

Figure 12

4. Use the alternate wiring harness to connect radio main connector to the vehicle harness TPN#6005117 (Figure 13).

NOTE: If the alternate wiring harness is not available, modify the existing wiring harness referring to the specific wiring diagram to match color codes/components.

Figure 13

NOTE: *If a rear camera is to be installed, go to Step 1 in the Installation of the Rear Camera section. The rear camera reverse input wire will require a zener diode to be installed for proper operation. This diode will be installed in back of the radio assembly before dash reassembly.*

5. Install the dash pad. Ensure the alignment pins are in place near windshield. Install the 3 existing screws and 1 hex screw to secure dash pad in place.

6. Route the wiring directly behind the radio assembly, taking care not to pinch any wires (Figure 14).

7. Insert the radio assembly in the mounting tray. The radio is secured in place with mounting tabs on each side.

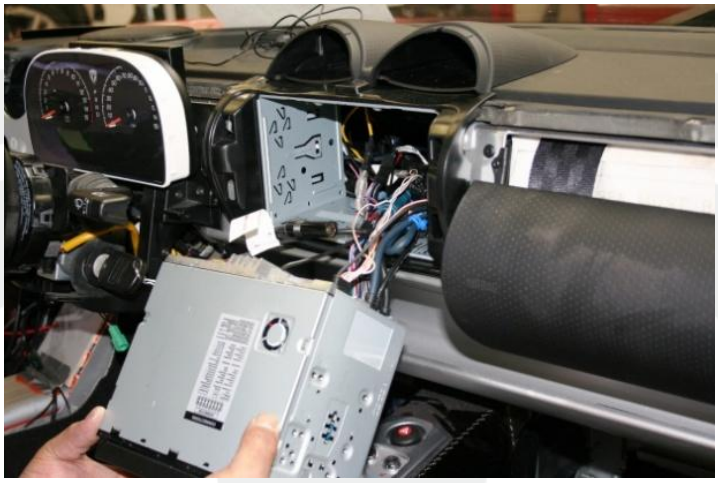

Figure 14

8. Check software for Navigation operation.

9. Install Tesla logo on background of display screen from provided disc (Figure 15).

10. Preset radio stations.

11. Install the Alpine iPod cable that was included in the upgrade kit.

NOTE: The original JVC iPod connector is no longer compatible.

Figure 15

Installation of the Rear Camera

The rear camera input wire is connected to the reverse tail light circuit. This provides voltage to the circuit only when the reverse lamps are illuminated.

1. *Install a 1N4732, 4.7 volt-1 Watt zener regulator diode in series into the input wire behind the radio assembly. The zener diode is directional. For the rear camera visual display to properly operate, the anode side is placed in line towards the radio unit and the cathode side of the diode is spliced towards the tail light (Figure 16).*

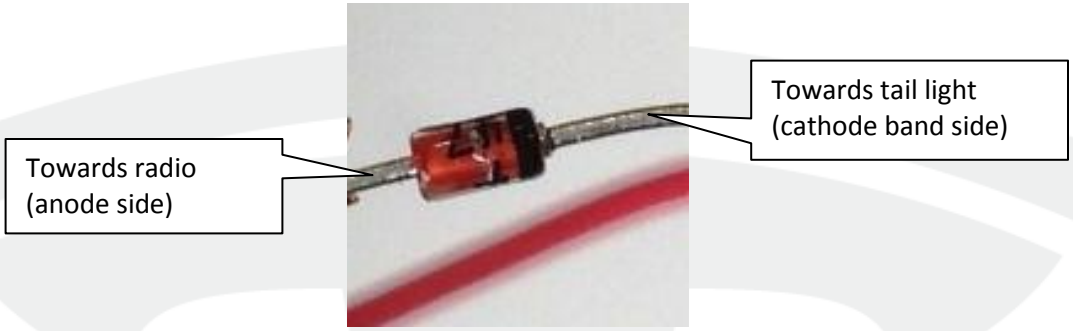

Figure 16

2. Route rear camera input wire through A-pillar (Figure 17).

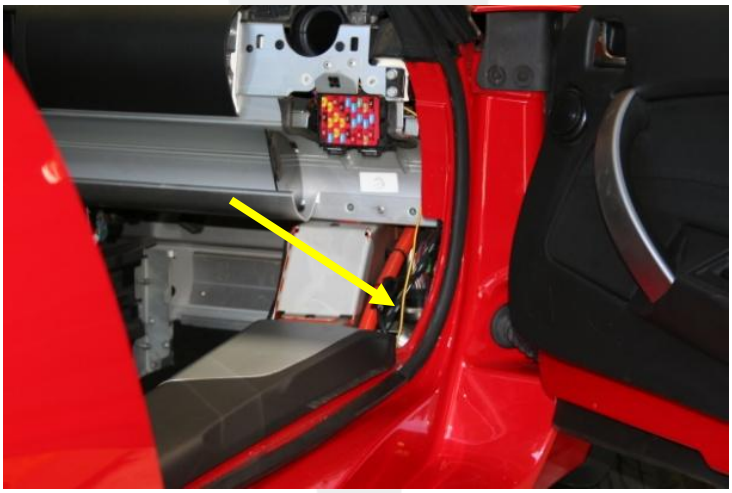

Figure 17

3. Route camera wiring through lower rocker panel area to the rear of the vehicle (Figure 18). *Before reinstalling the kick panel components, run an alternate 18 AWG wire along the right hand rocker panel as a routing aid. This wire may be used to direct the rear camera wiring harness towards the rear of the vehicle to the tail light assembly*.

NOTE: *The rear camera wiring harness connector should be removed before routing toward the back of vehicle. Reinstalled harness pins in the connector when routing is completed.*

Figure 18

4. Route wiring harness along existing low voltage wiring loom path on top of right rear wheel well area.

5. Splice into brown colored reverse lamp bulb circuit. Solder and heat shrink wire into rear tail light assembly connector harness or use appropriate splicing wire at connector (Figure 19).

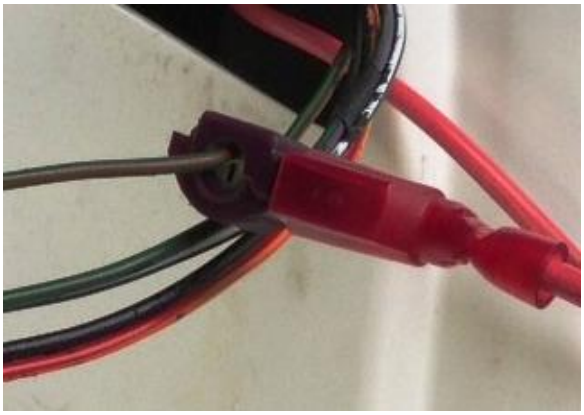

Figure 19

6. Remove rear bumper to access mounting area and install rear camera to the bottom of the rear diffuser with 4 screws (Figure 20).

NOTE: Ensure to tape off for alignment marks before removal of rear bumper.

Figure 20

* Complete Kit Part Numbers	KIT-SB1217005-01	KIT-SB1217005-02	KIT-SB1217005-04	KIT-SB1217005-03	KIT-SB1217005-05
Region	**U.S.**	**Canada**	**EU/UK**	**APAC**	**Japan**
Foam, Vent Spacer, (Qty. 1)	1018824-00-A	1018824-00-A	1018824-00-A	1018824-00-A	1018824-00-A
DDIN Support, (Qty. 1)	6005417	6005417	6005417	6005417	6005417
DDIN Cowl Upr, Painted, (Qty. 1)	6005656	6005656	6005656	6005656	6005656
DDIN Face Plate, Painted, (Qty. 1)	6008980	6008980	6008980	6008980	6008980
Assy DDIN Vent RH, (Qty. 1)	6005495	6005495	6005495	6005495	6005495
Assy DDIN Vent LH, (Qty. 1)	6005494	6005494	6005494	6005494	6005494
DDIN Brkt Support, (Qty. 1)	6005412	6005412	6005412	6005412	6005412
DDIN Cowl LWR, (Qty. 1)	6005408	6005408	6005408	6005408	6005408
Assy DDIN Inst Pnl, Trimmed Con, (Qty. 1)	6005653	6005653	6005653	6005653	6005653
Audio, Bluetooth Package, (Qty. 1)	2006441	2006441	2006441	2006441	N/A
Audio, Headunit Package, DDIN, (Qty. 1)	2006506	2006506	6009457	6009458	6007591
Harn, Adapt, DDIN, (Qty. 1)	6007240	6007240	6009456	6009456	6005755
Pop Rivet-Blind AD612 SB, (Qty. 4)	2000323	2000323	2000323	2000323	2000323
Clip Pab Cover, (Qty. 4)	2001315	2001315	2001315	2001315	2001315
SCR, M5 X 20mm SKT BTN SS CHEM, (Qty. 1)	2006830	2006830	2006830	2006830	2006830
HD radio package – US, (Qty. 1)	6009459	N/A	N/A	N/A	N/A
Harness – Adapter, Alpine, (Qty. 1)	6005117	6005117	6005117	6005117	6005117
Pop Rivet-5 X 22mm BLACK PLAST, (Qty 2)	2000314	2000314	2000314	2000314	2000314
Audio, Camera Package, DDIN, (Qty. 1)	1006897-00-A	1006897-00-A	1006896-00-A	1006897-00-A	1006897-00-A
Audio, Microphone	N/A	N/A	N/A	N/A	2006581
Audio, Cables, AV USB & iPod, EU/APAC/JP	N/A	N/A	6007588	6007588	6007588
Audio, Mounting Sleeve, DDIN, JP	N/A	N/A	N/A	N/A	2006622
Audio, Cable, AV, DDIN	N/A	N/A	N/A	2006582	N/A
Audio, Cable, USB, 2M M-F, US, CA, APAC	2006013	2006013	N/A	2006013	N/A
Audio, Cable, Antenna Adapter, EU	N/A	N/A	6001515	N/A	N/A
Audio, Navigation Package, EU	N/A	N/A	2006504	N/A	N/A
Audio, Navigation Package, APAC	N/A	N/A	N/A	6009460	N/A
Audio, Cable, Rt Angle Navigation, EU	N/A	N/A	6009990	N/A	N/A
Antenna, TMC, EU/APAC	N/A	N/A	6007280	6007280	N/A
Extrusion Trim Antenna Screen	N/A	N/A	6005503	6005503	N/A
Diode, 4.7V, 1W, Zener	*1021721-00-A*	*1021721-00-A*	*1021721-00-A*	*1021721-00-A*	*1021721-00-A*

Warranty/DMS Coding:

Description	Complaint	Cause	Correction
Installation of DDIN Radio Upgrade with Rear Camera	A091	B053	S011217005

***NOTE:** Order parts separately for specific region. Use Complete Kit Part Number for DMS part entry.