

		Tesla, Inc. Service Bulletin	Rework Electrical Harness Due To Water Ingress	
SB-20-17-002 February 29, 2020		R1		
Classification		Section/Group		Mobile Service
Campaign Bulletin		17 - Electrical		Can Perform (where permitted)
Model Year	Model	Country/Region		Version
2019	Model 3	Europe, Middle East, Africa, Asia Pacific		RHD
The model(s) and model year(s) listed are a general approximation of the affected VIN list. Refer to the VIN/Bulletin Tracker or Customer/Vehicle profile to determine applicability of this bulletin for a particular vehicle.				

Campaign Bulletin: This campaign bulletin addresses a known non-safety-related condition and provides recommended technical diagnosis and repair procedures. Apply this procedure to all vehicles in the affected VIN list.

This Service Document supersedes SB-20-17-002, dated 15-February-2020. Each content change is marked by a vertical line in the left margin. Discard the previous version and replace it with this one.

Condition

On certain RHD Model 3 vehicles, the front main harness upper CAN connectors to the steering rack might not have been properly weatherproofed. Consequently, water might have entered the connectors, and possibly corroded the terminals.

Correction

Inspect the vehicle for symptoms related to the condition. If symptoms are present, apply silicone dielectric paste to the connectors. If the connector terminals are corroded, replace the connectors altogether.

Correction Description	Correction	Time
SB-20-17-002 Not Applicable	S012017002	0.0
Inspect Connector, Apply Dielectric Paste, And Seal CAN Splices	S022017002	0.4
Inspect Connector, Replace Connector, And Seal CAN Splices	S032017002	1.0

	Part Number	Description	Quantity
Parts Required	1557918-01-A	BLUSEAL,LIQUID SEALER,BOTTLE,50ml	1
		And one of the following:	
	1031105-00-A	SILICONE PASTE, 3M 08946, 8 OZ. CAN	1
	1031105-01-A	LUBE, SILICONE MOLYKOTE 111, 150ML	1
	1031105-02-A	LUBE, SILICONE MOLYKOTE 111, 100ML	1
If Necessary	1558550-00-A	ASY,HARN,SERVICE PIGTAIL,3POS,F	1
	1558550-01-A	ASY,HARN,SERVICE PIGTAIL,3POS,M	1
	1061177-00-B	Wire Harness Repair Kit	As Required

These part numbers were current at the time of publication. Use the revisions listed or later, unless otherwise specified in the [Parts Catalog](#).

Special Tools	1060908-00-A	Soldering Iron and Heat Tool Kit
	1451046-00-A	Crimp Tool
	1061312-00-A	Replacement soldering tip
	1451045-00-A	Wire cutting and stripping pliers
	1115734-00-A	EDS Terminal and Connector reference

Shop Supplies Anti-abrasion tape

Inspect Connector X193

1. Open the hood, and seat the cowl screen cover so that there is a tight gap between it and the windshield.

 **NOTE:** A gap is tight when poured water flows over the gap and not through it (Figure 1).

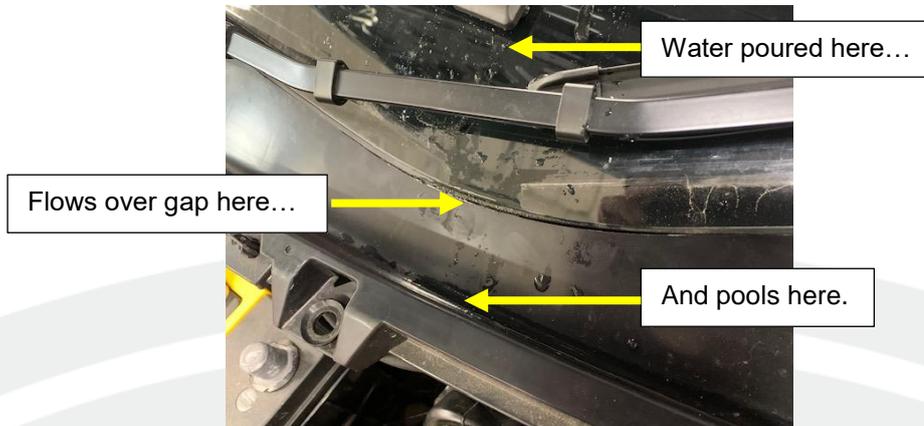


Figure 1

2. Disconnect 12V power (refer to Service Manual procedure 17010200).
3. Remove the underhood storage unit (refer to Service Manual procedure 15240702).
4. Disconnect the female side of the black upper CAN connector X193 from the male side (Figure 2), and then release the clip that attaches the male side to the steering rack (Figure 3).



Figure 2



Figure 3

5. Inspect the terminals inside of the male and female connectors.

- If any of the terminals appear to have corrosion (Figures 4 and 5), both connectors must be replaced. Skip to section "Replace Connector X193".



✘ Figure 4 – Corrosion on male connector

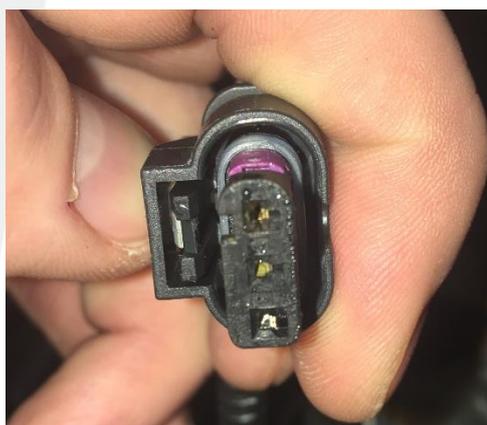


✘ Figure 5 – Corrosion on female connector

- If the terminals appear clean and without corrosion (Figures 6 and 7), regardless if there is water present, continue to the next step.



✔ Figure 6 – Wet, but no corrosion on male connector



✔ Figure 7 – Wet, but no corrosion on female connector

6. If water is present, wrap each side of connector X193 with an air gun in a shop towel, and then blow out the water from the connector.

- ⚠ CAUTION:** Wear proper Personal Protective Equipment, including safety goggles, when performing this step.

7. Apply a liberal amount of silicone dielectric paste to both male and female sides of connector X193, and then reconnect the male and female sides (Figure 8).



Figure 8

8. Fasten the clip that attaches the black upper CAN connector X193 to the steering rack (Figure 3).
9. Skip to section “Seal CAN Splices” later in this document.

Replace Connector X193

⚠ CAUTION: Completely read and comprehend [SI-17-17-002](#), “Electrical Harness Repair” before performing this procedure.

📄 NOTE: Repair to this “Safety-Critical” circuit has been pre-approved by Technical Specialists. However, still provide the Toolbox information and take photos of the splice progressions as described in [SI-17-17-002](#).

1. Disconnect the two large connectors from the steering rack assembly (Figure 9).

⚠ CAUTION: Do not disconnect the blue connectors.

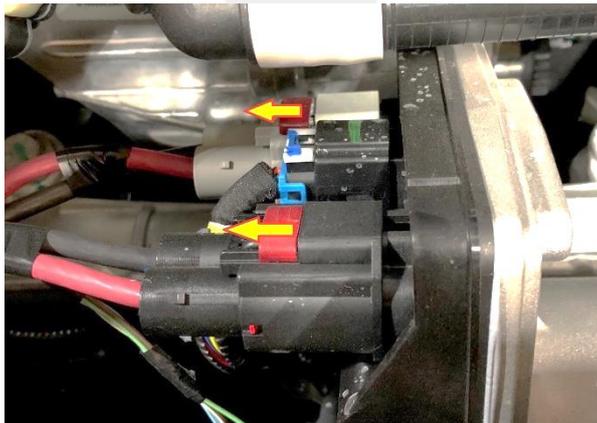


Figure 9

2. Disconnect the female side of the grey lower CAN connector X192 from the male side (Figure 10), and then release the clip that attaches the male side to the steering rack (Figure 11).

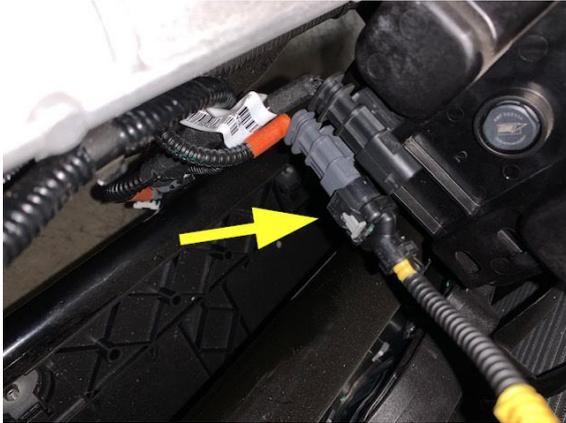


Figure 10



Figure 11

3. Release the clip that attaches the electrical harness to the steering rack (Figure 12).



Figure 12

4. Release the clips (x4) that attach the shield halves to the main front electrical harness at connector X193F, and then remove the shield halves (Figure 13).



Figure 13

5. Remove the tape and the corrugated tubing segment from the main front harness branch for connector X193F (Figure 14) to expose the 3 wires inside (Figure 15).



Figure 14



Figure 15

6. Remove connector X193F from the main front harness by cutting:

- Blue wire – Cut wire 60 mm from X193F
- Brown wire – Cut wire 80 mm from X193F
- Yellow wire – Cut wire 100 mm from X193F

7. Discard connector X193F.

8. Strip 5 mm of insulation off each wire end, and then twist each end to prevent fraying (Figure 16).



Figure 16

9. Prepare the replacement female connector pigtail by cutting:

- Yellow wire – Cut wire 100 mm from female connector
- Brown wire – Cut wire 80 mm from female connector
- Blue wire – Cut wire 60 mm from female connector.

10. Strip 5 mm of insulation off each wire end of the pigtail, and then twist each end to prevent fraying (Figure 16).

11. Use the information, guidelines, and procedures in [SI-17-17-002](#) to create 3 staggered splices.

 **NOTE:** Refer to “Repairing Using a Single Splice” for assistance.

12. If possible, reinstall the corrugated tubing segment (Figure 14).

 **NOTE:** If the corrugated tubing segment does not fit over the splices, continue to the next step.

13. Wrap the 3 wires with anti-abrasion tape where they are exposed to the environment.
14. Attach the shield halves to the main front electrical harness at new connector X193F, and then fasten the clips (x4) (Figure 13).
15. Remove the tape and the corrugated tubing segment from the steering rack harness for connector X193M (Figure 17) to expose the 3 wires inside (Figure 18).



Figure 17



Figure 18

16. Remove connector X193M from the steering rack harness by cutting:

- Orange/White wire – Cut wire 60 mm from X193M
- Green/White wire – Cut wire 65 mm from X193M
- Purple/White wire – Cut wire 70 mm from X193M

17. Discard connector X193M.

18. Strip 7 mm of insulation off each wire end, and then twist each end to prevent fraying (Figure 19).

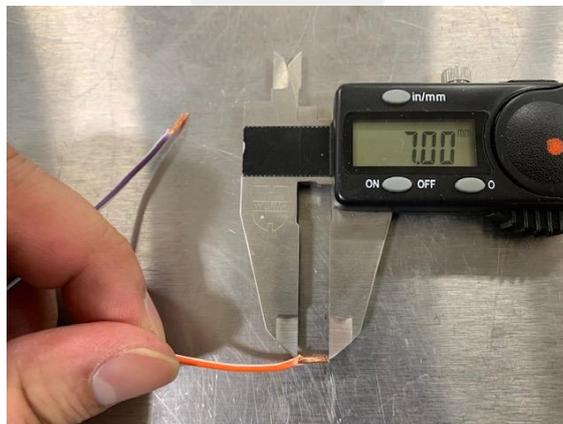


Figure 19

19. Prepare the replacement male connector pigtail by cutting:

- Purple/White wire – Cut wire 70 mm from male connector
- Green/White wire – Cut wire 65 mm from male connector
- Orange/White wire – Cut wire 60 mm from male connector.

20. Strip 7 mm of insulation off each wire end of the pigtail, and then twist each end to prevent fraying (Figure 19).

21. Use the information, guidelines, and procedures in [SI-17-17-002](#) to create 3 staggered splices.

NOTE: Refer to “Repairing Using a Single Splice” for assistance.

22. If possible, reinstall the corrugated tubing segment (Figure 17).

 **NOTE:** If the corrugated tubing segment does not fit over the splices, continue to the next step.

23. Wrap the 3 wires with anti-abrasion tape where they are exposed to the environment.

24. Fasten the clip that attaches the electrical harness to the steering rack (Figure 12).

25. Reconnect grey CAN connector X192, and then fasten the clip that attaches connector X192 to the lower position on the steering rack (Figures 10 and 11).

26. Apply a liberal amount of dielectric paste to both male and female sides of black CAN connector X193 and then reconnect the male and female sides (Figure 8).

27. Fasten the clip that attaches connector X193 to the upper position on the steering rack (Figure 3).

28. Connect the two large connectors to the steering gear assembly (Figure 9).

29. Continue to section "Seal CAN Splices".

Seal CAN Splices

1. Release the clips that attach the main front harness to the LH frame rail (Figures 20 and 21).



Figure 20 – RWD vehicles have 1 clip

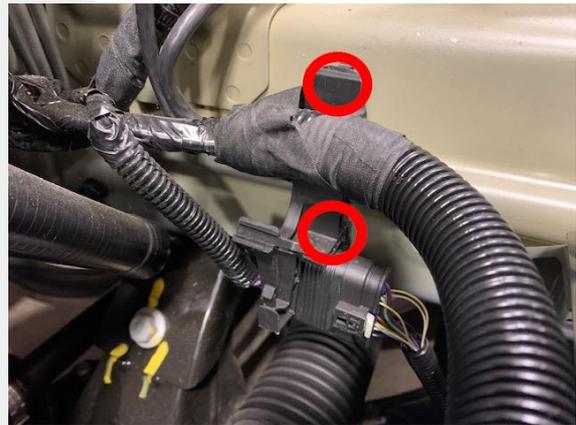


Figure 21 – Dual Motor vehicles have 2 clips

2. Remove the tape covering the corrugated tubing of the main front harness between the LH frame rail and underhood storage unit reinforcement (Figure 22).

 **NOTE:** This step removes the frame rail clips from the corrugated tubing. Retain the clips for later reuse.



Figure 22

3. Cut the corrugated tubing 10 mm from the LH wing of the T-clip, and then remove the tubing from the main front harness (Figure 23).

⚠ CAUTION: Do not cut any wires within the corrugated tubing. Carefully cut the tubing from the inside out.

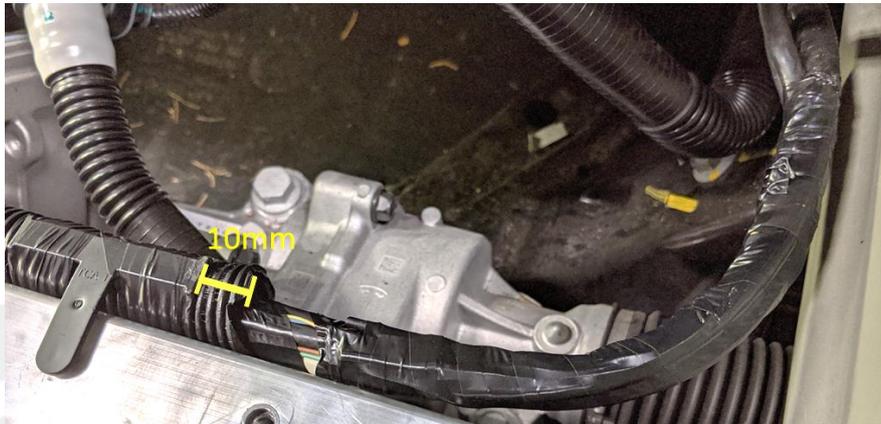


Figure 23

4. Carefully remove tape from the harness bundle to access the blue and yellow CAN splices (Figure 24)



Figure 24

5. Drape a shop towel over the underhood storage unit reinforcement to protect it from any spilled liquid.
6. Hold the blue CAN splice pointing down, apply 2 drops of BluSeal to the junction of the blue wires, and allow a few seconds for the liquid to seep into the splice (Figure 25).

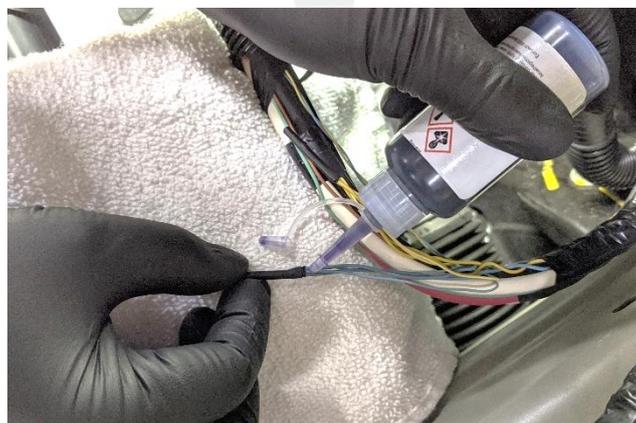


Figure 25

7. Hold the yellow CAN splice pointing down, apply 2 drops of BluSeal to the junction of the yellow wires, and allow a few seconds for the liquid to seep into the splice (Figure 26).



Figure 26

8. Remove the shop towel and wipe up any spilled liquid.
9. Position the blue and yellow CAN splice on top of the harness bundle, and then wrap the bundle with anti-abrasion tape (Figure 27).



Figure 27

10. If possible, reinstall the corrugated tubing segment, and then use anti-abrasion tape to wrap the corrugated tubing (if installed) and to attach the frame rail clips to the main front harness (Figure 28).

NOTE: If the corrugated tubing segment does not fit over the splices, continue to use the anti-abrasion tape to attach the frame rail clips to the main front harness.



Figure 28 – RWD vehicle frame rail clip shown, Dual Motor vehicle similar

11. Fasten the clips that attach the main front harness to the LH frame rail (Figures 20 and 21).
12. Install the underhood storage unit (refer to Service Manual procedure 15240702).
13. Connect 12V power (refer to Service Manual procedure 17010200).

