



Ground Terminal Bolts and Paths Retrofit

Classification Campaign Bulletin **Section/Group** 17 - Electrical **Country/Region** North America

Year 2017 **Model** Model 3 **Version** All

Bulletin Classification: *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 range listed. These instructions assume knowledge of motor vehicle and high voltage electrical component repairs, and should only be executed by trained professionals. Tesla assumes no liability for injury or property damage due to a failure to properly follow these instructions or repairs attempted by unqualified individuals.*

This Service Document supersedes SB-18-17-002, dated 26-Jan-18. Each content change is marked by a vertical line in the left margin. Discard the previous version and replace it with this one.

Condition

Certain Model 3 vehicles might have increased resistance at ground terminals, and might not provide sufficient signal reference ground at specific connectors.

Correction

Replace 16 ground terminal bolts and retrofit 4 grounding paths.

Correction Description	Correction	Time
SB-18-17-002 Not Applicable	S011817002	0.00
Replace Ground Terminal Bolts And Retrofit Grounding Paths	S021817002	2.60

Required Part(s):	Part Number	Description	Quantity
	1144125-00-A	SERVICE KIT, M3, 12V GROUND WIRE UPSIZE	1
	1447438-00-A	BOLT, HF, M6x20, [88], SNZN	16

Shop supplies:

Cable ties
 AT-Bk electrical tape

These part numbers were current at the time of publication. Use the revisions listed or later, unless otherwise specified in the Parts Manual.

Special Tool(s): 1025812-00-A Pin Drag Kit, MDLS

⚠ WARNING: For these procedures, wear proper PPE and take caution when using compressed air to remove metal shavings.

Service Kit Contents

Service kit 1144125-00-A contains four retrofit wires which are not individually labeled. Figure 1 shows the four retrofit wires.

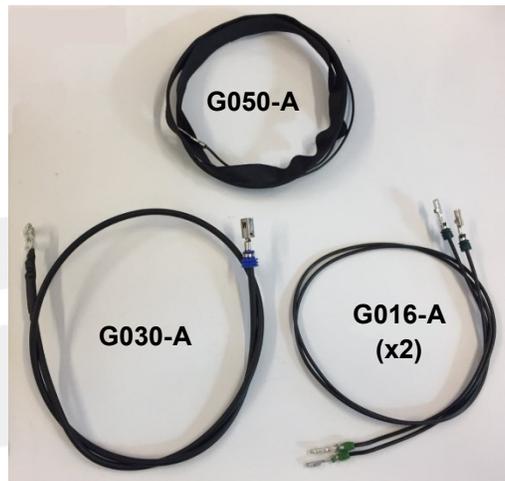


Figure 1 (Retrofit wires)

- Wire G050-A has a small eyelet, a tape strip, and connects X121-15 to G022.
- Wire G030-A has a large eyelet and connects X151-13 to G013.
- Wires G016-A have no eyelets and connect X260-3 to G011-3 and connect X261-3 to G012-2.

Procedures Overview

This bulletin affects 5 separate areas of the vehicle and involves replacing grounding bolts and, in certain areas, retrofitting grounding paths.

- Underhood storage area
 - ABS Modulator
 - LH Headlight
 - RH Headlight
- RH front passenger area
- LH front passenger area
- RH rear passenger area
- Trunk area

Underhood Storage Area

ABS Modulator

This procedure replaces one bolt on the VCFRONT and 3 bolts on the LH shear wall, and adds wire G030-A between connector X151 pin 13 and terminal G013.

1. Open the trunk, the hood, and all four doors, and keep them open until this service bulletin is completely finished.
2. Fully lower all four windows.

3. Remove the cowl screen panel (refer to Service Manual procedure 12250902).
4. Disconnect 12V power (refer to Service Manual procedure 17010200).
5. Remove and discard the ground terminal bolt at VCFRONT (Figure 2).



Figure 2

6. Use compressed air to clean any debris or shavings from the weld nut.
7. Hand install a new bolt, and then torque the bolt to 8 Nm.
8. Remove and discard the ground terminal bolts on the LH shear wall (Figure 3).



Figure 3

9. Use compressed air to clean any debris or shavings from the weld nuts.
10. Hand install a new bolt in both locations on the LH shear wall, and then torque the bolts to 8 Nm.

11. Disconnect connector X151 from the ABS modulator (Figures 4 and 5).

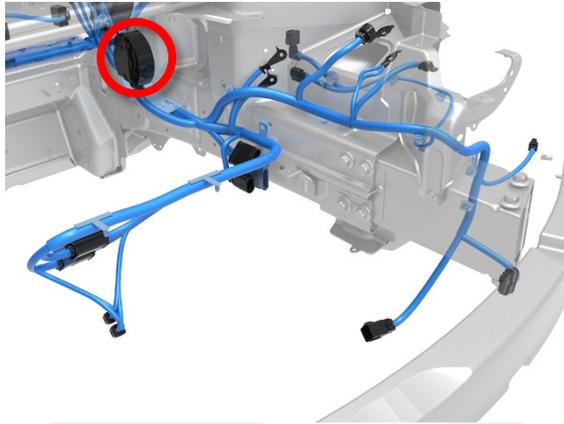


Figure 4 (Connector X151 location)



Figure 5 (Connector X151)

12. Carefully remove the cable tie that secures the electrical harness to the connector X151 backshell (Figure 6).



Figure 6

13. Release the clips that secure the connector backshell to the connector body, and then remove the backshell from the connector body (Figure 7).



Figure 7

14. Remove the electrical tape from both ends of the corrugated tubing surrounding the electrical harness at connector X151 (Figure 8).

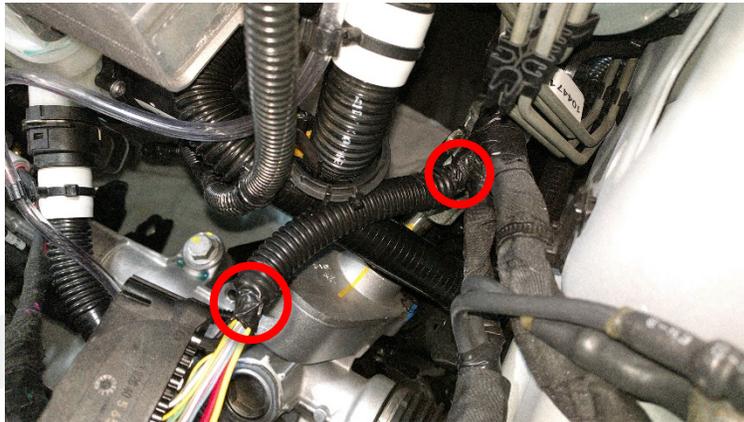


Figure 8

15. Slide the terminal locking clips (x4) on connector X151 up towards the harness, to the open position (Figure 9).

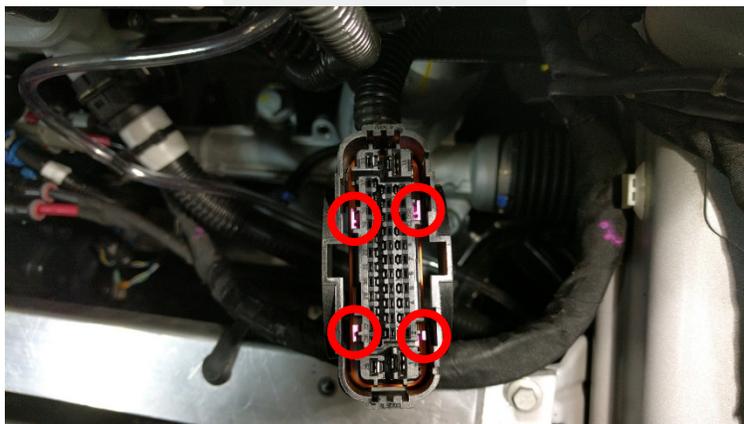


Figure 9 (Slide up to open, down to close)

16. Use the pin drag kit to extract pin 13 (black wire) from the connector (Figure 10).

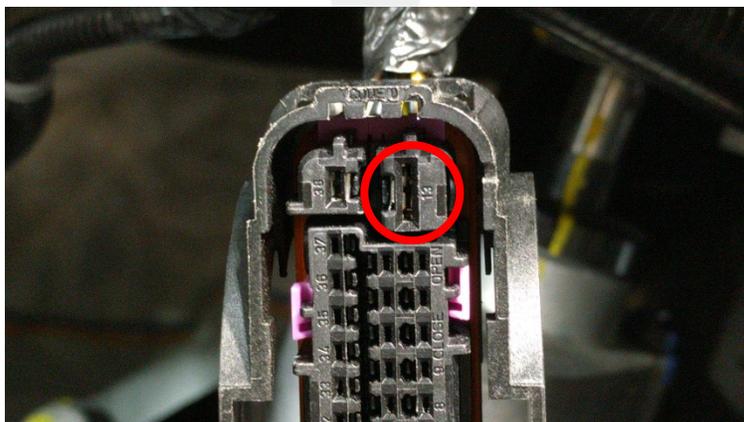


Figure 10 (Pin 13)

17. Cut the exposed terminal from the extracted black wire.

18. Insert the terminal end of wire G030-A into connector X151 at pin 13 (Figure 10).
19. Slide the terminal locking clips (x4) on connector X151 down away from the harness, to the closed position (Figure 9).
20. Insert wire G030-A into the corrugated tubing and tape both ends of the tubing with electrical tape (Figure 8).
21. Install the connector X151 backshell onto the connector body, and then fasten the clips that secure the backshell to the body (Figure 7).
22. Install a cable tie to secure the electrical harness to the connector X151 backshell, and then remove excess cable tie (Figure 6).
23. Connect connector X151 to the ABS modulator (Figures 4 and 5).
24. Route wire G030-A along the electrical harness and forward across the LH shear wall to ground point G013 (Figure 11).

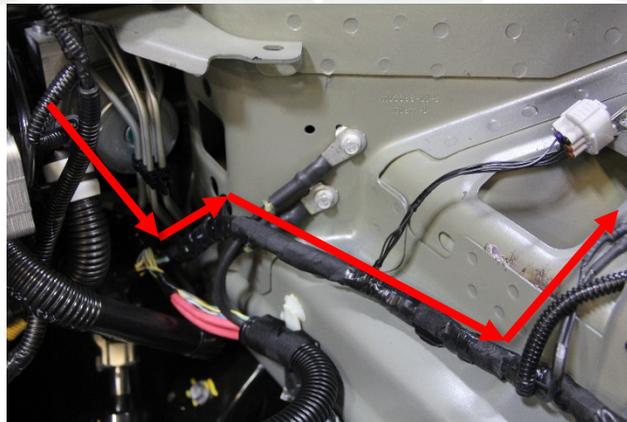


Figure 11 (Wire path)

25. Release the electrical harness clips (x2) from the body along the wire path (Figure 12).

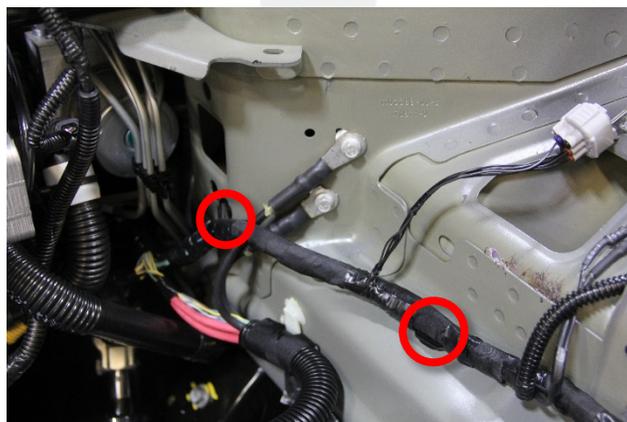


Figure 12 (Harness clips)

26. Secure wire G030-A to the electrical harness with electrical tape and cable ties.

27. Remove and discard the bolt that secures ground terminal G013 to the LH shear wall (Figure 13).



Figure 13

28. Separate the RH and LH eyelets of ground terminal G013 (Figure 14).

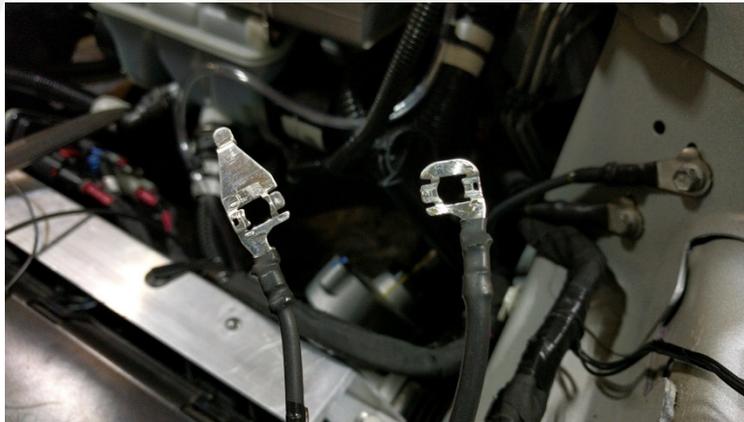


Figure 14 (LH and RH eyelets)

29. Cut the RH eyelet from the black wire.

NOTE: The RH eyelet is stamped with an "R".

30. Join the new RH and old LH eyelets together to make ground terminal G013 (Figure 15).



Figure 15

31. Secure ground terminal G013 to the LH shear wall with a new bolt (Figure 13).

- a) Use compressed air to clean any debris or shavings from the weld nut.
- b) Hand install a new bolt, and then torque the bolt to 8 Nm.

LH Headlight

This procedure replaces the G011 bolt on the LH shear wall, and adds wire G016-A between connector X260 pin 3 and connector G011 pin 3.

1. Remove and discard the ground terminal bolt that secures connector G011 to the LH shear wall (Figure 16).



Figure 16

2. Use compressed air to clean any debris or shavings from the weld nut.
3. Hand install a new bolt, and then torque the bolt to 8 Nm.

4. Disconnect connector X260 from the LH headlight (Figures 17 and 18).

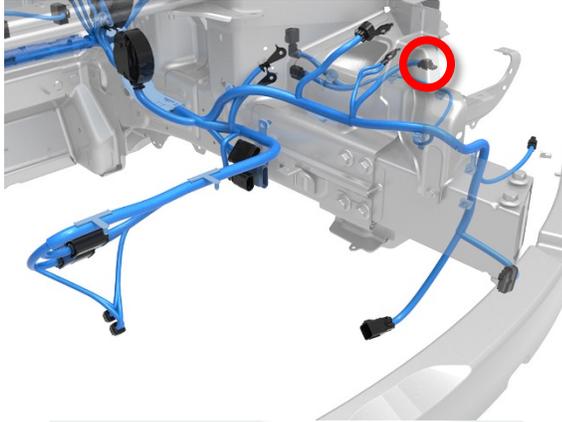


Figure 17 (Connector X260 location)



Figure 18 (Connector X260)

5. Slide the terminal locking clip on connector X260 out to the open position (Figure 19).

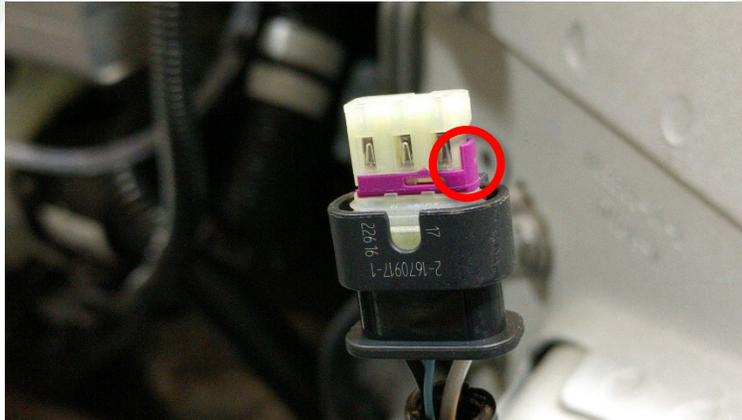


Figure 19 (Slide out to open, in to close)

6. Use the pin drag kit to extract pin 3 (black wire) from the connector (Figure 20).

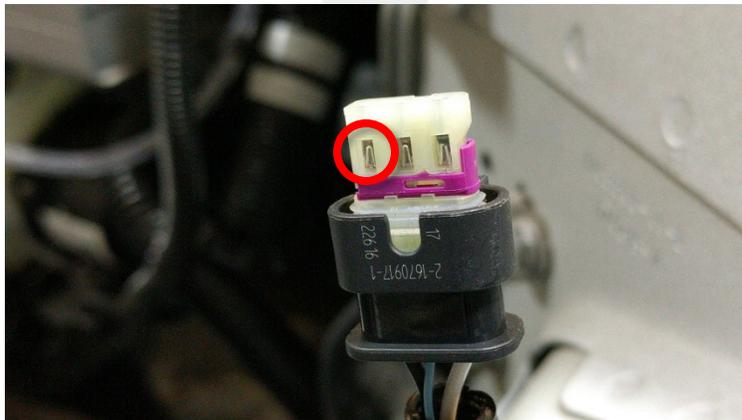


Figure 20 (Pin 3)

7. Compare the exposed terminal with the ends of wire G016-A to determine the correct end to insert into connector X260.

8. Cut the exposed terminal from the extracted black wire.
9. Insert the correct end of wire G016-A into connector X260 at pin 3 (Figure 20).
10. Slide the terminal locking clip on connector X260 into the closed position (Figure 19).
11. Bundle the wires at the connector and secure them with electrical tape (Figure 21).



Figure 21

12. Connect connector X260 to the LH headlight (Figures 17 and 18).
13. Route wire G016-A along the electrical harness, down, and back up to ground connector G011 (Figure 22).

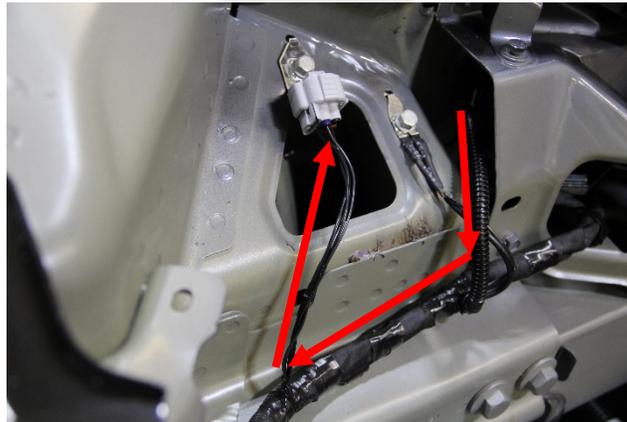


Figure 22 (Wire path)

14. Secure wire G016-A to the electrical harness with electrical tape and cable ties.

15. Disconnect ground connector G011 from the LH shear wall ground receptacle (Figures 23 and 24).

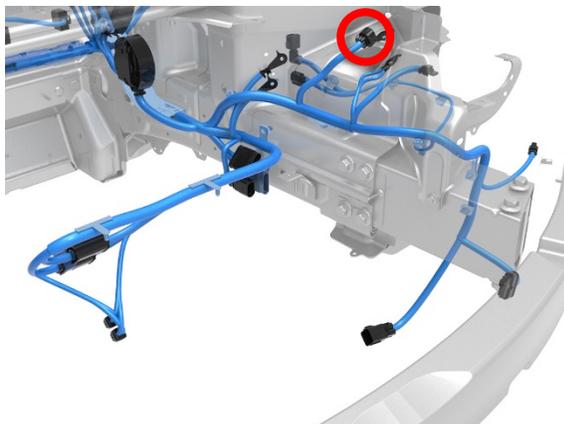


Figure 23 (Connector G011 location)



Figure 24 (Connector G011)

16. Remove the terminal locking cover from connector G011 (Figure 25).

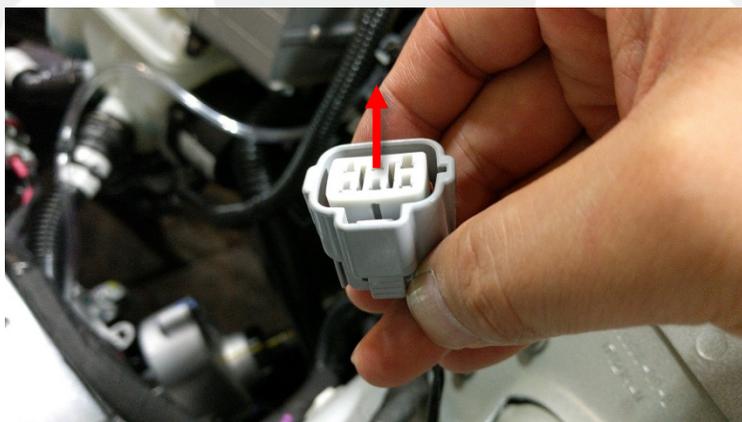


Figure 25 (Removal direction shown)

17. Use the pin drag kit to extract pin 3 from the connector (Figure 26).



Figure 26 (Pin 3)

18. Cut the exposed terminal from the extracted black wire.

19. Insert the terminal end of wire G016-A into connector G011 at pin 3 (Figure 26).
20. Install the terminal locking cover into connector G011 (Figure 25).
21. Connect ground connector G011 to the LH shear wall ground receptacle (Figures 23 and 24).
22. Fasten the electrical harness clips to the body (Figure 12).

RH Headlight

This procedure replaces two bolts on the RH shear wall, and adds wire G016-A between connector X261 pin 3 and connector G012 pin 2.

1. Remove and discard the ground terminal bolts on the RH shear wall, as identified in Figure 27.

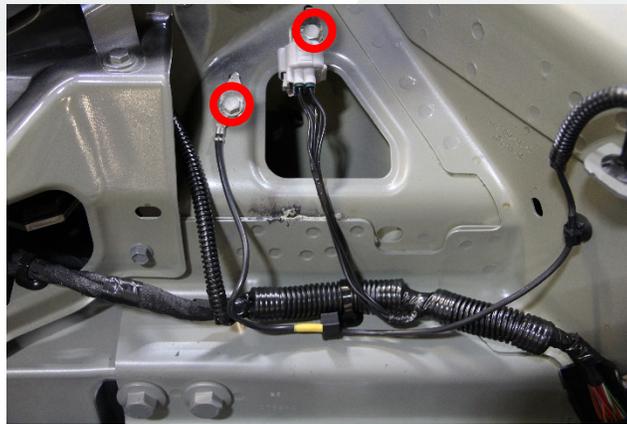


Figure 27

2. Use compressed air to clean any debris or shavings from the weld nuts.
3. Hand install a new bolt in both locations on the RH shear wall, and then torque the bolts to 8 Nm.
4. Disconnect connector X261 from the RH headlight (Figures 28 and 29).

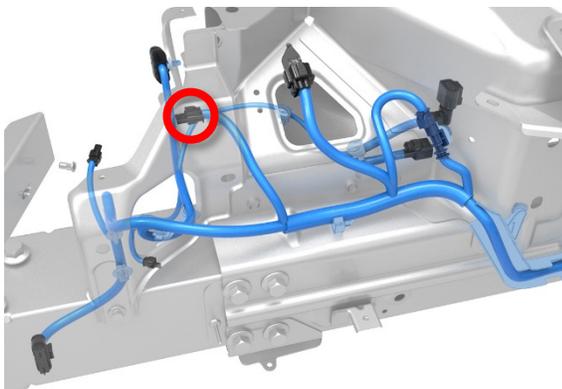


Figure 28 (Connector X261 location)



Figure 29 (Connector X261)

5. Slide the terminal locking clip on connector X261 out to the open position (Figure 19).

6. Use the pin drag kit to extract pin 3 (black wire) from the connector (Figure 20).
7. Compare the exposed terminal with the ends of wire G016-A to determine the correct end to insert into connector X261.
8. Cut the exposed terminal from the extracted black wire.
9. Insert the correct end of wire G016-A into connector X261 at pin 3 (Figure 20).
10. Slide the terminal locking clip on connector X261 into the closed position (Figure 19).
11. Bundle the wires at the connector and secure them with electrical tape (Figure 21).
12. Connect connector X261 to the RH headlight (Figures 28 and 29).
13. Route wire G016-A along the electrical harness, down, and back up to ground connector G012 (Figure 30).



Figure 30 (Wire path)

14. Release the electrical harness clip from the body along the path (Figure 31).



Figure 31 (Harness clip)

15. Secure wire G016-A to the electrical harness with electrical tape and cable ties.

16. Disconnect ground connector G012 from the RH shear wall ground receptacle (Figures 32 and 33).

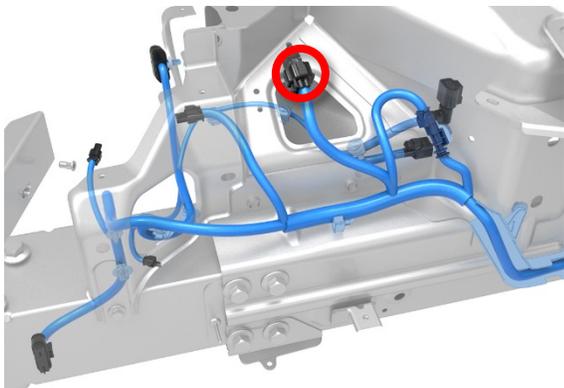


Figure 32 (Connector G012 location)



Figure 33 (Connector G012)

17. Remove the terminal locking cover from connector G012 (Figure 25).

18. Use the pin drag kit to extract pin 2 from the connector (Figure 34).



Figure 34 (Pin 2)

19. Cut the exposed terminal from the extracted black wire.

20. Insert the terminal end of wire G016-A into connector G012 at pin 2 (Figure 34).

21. Install the terminal locking cover into connector G012 (Figure 25).

22. Connect ground connector G012 to the RH shear wall ground receptacle (Figures 32 and 33).

23. Fasten the electrical harness clip to the body (Figure 31).

RH Front Passenger Area

This procedure replaces two bolts in the RH front passenger area, and adds wire G050-A between connector X121 pin 15 and ground terminal G022.

1. Remove the nuts that secure the car computer to the body.
2. Remove the RH lower B-pillar trim (refer to Service Manual procedure 15183402).
3. Remove and discard the ground terminal bolt, located to the rear of the B-pillar (Figure 35).



Figure 35

4. Use compressed air to clean any debris or shavings from the weld nut.
5. Hand install a new bolt, and then torque the bolt to 8 Nm.
6. Remove the RH footwell cover (refer to Service Manual procedure 14055402).
7. Remove the RH center console side panel carpet (refer to Service Manual procedure 15195402).

8. Release the clips (x3) that secure the carpeting to the body in the RH footwell, and then pull back the carpeting to expose the RH toeboard ground terminal (Figure 36).

NOTE: The foam on the back of the carpet resists pulling the carpet back.



Figure 36

9. Disconnect connectors X172 (black) and X121 (white) from the car computer (Figure 37).

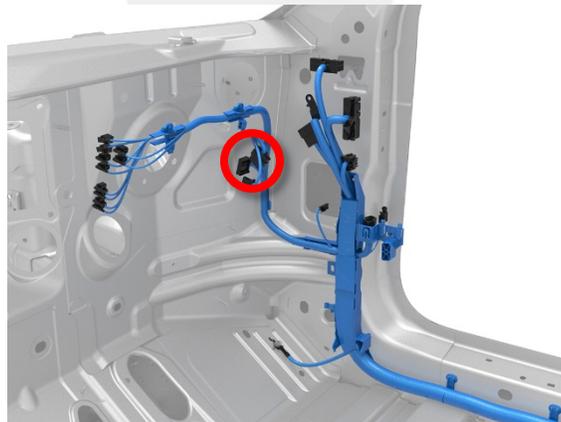


Figure 37 (Connector X172 and X121 locations)

10. Open the terminal locking clips on connector X121 (Figure 38).

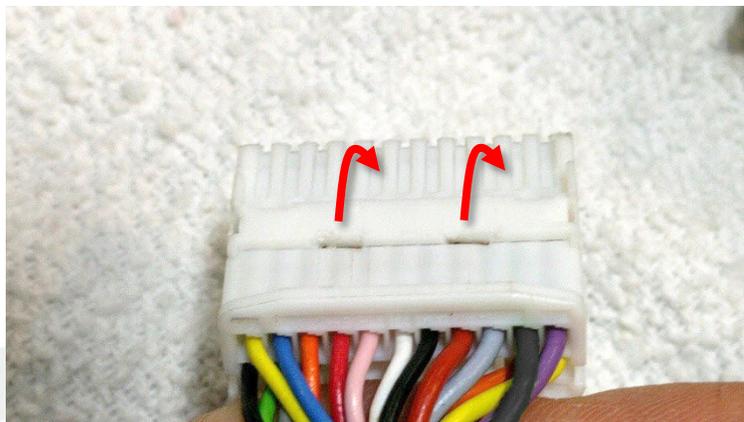


Figure 38 (Opening direction shown)

11. Use the pin drag kit to extract pin 15 (black wire) from the connector (Figure 39).

⚠ CAUTION: If there is a green wire at pin 15, stop this procedure and contact Service Engineering for further instruction.

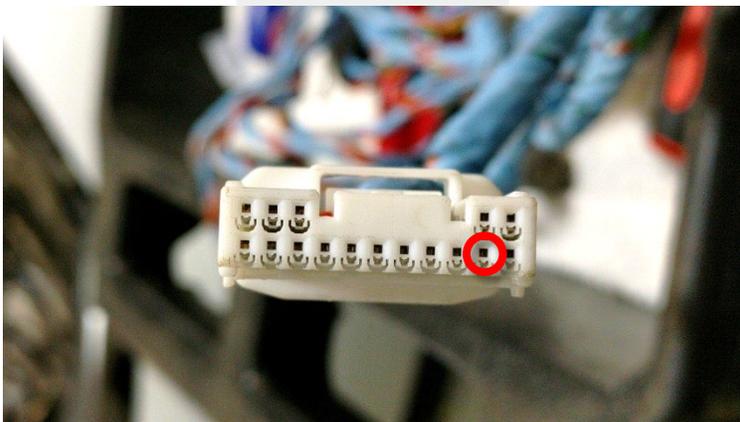


Figure 39 (Pin 15)

12. Cut the exposed terminal from the extracted black wire.

13. Insert the terminal end of wire G050-A into connector X121 at pin 15 (Figure 39).

14. Close the terminal locking clip on connector X121 (Figure 38).

15. Connect connectors X121 and X172 to the car computer (Figure 37).

16. Install the original nuts that secure the car computer to the body (torque 6.8 Nm).

17. Route wire G050-A along the electrical harness and down to the RH toeboard ground terminal G022 (Figures 40 and 41).

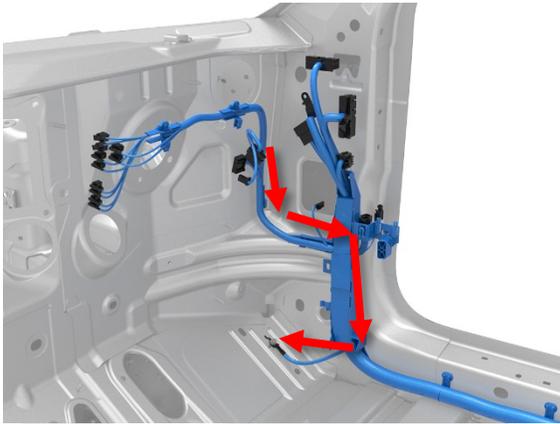


Figure 40 (Wire path location)



Figure 41 (Wire path)

18. Secure wire G050-A to the electrical harness with electrical tape and cable ties.

19. Remove and discard the bolt that secures ground terminal G022 to the RH toeboard (Figure 42).

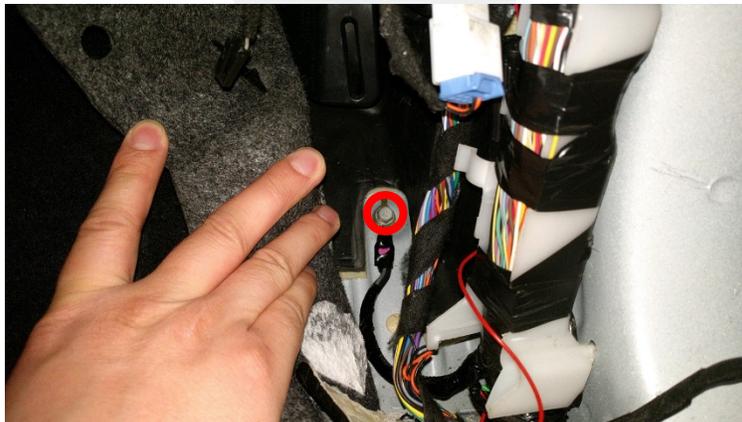


Figure 42

20. Remove the electrical tape from ground terminal G022.

21. Insert a new bolt to temporarily align the eyelet of wire G050-A on top of ground terminal G022, and then wrap both terminal shanks with electrical tape (Figure 43).

NOTE: Do not wrap the bolt or eyelets with tape.



Figure 43

22. Secure the terminals to the RH toeboard with the new bolt (Figure 42).
 - a) Use compressed air to clean any debris or shavings from the weld nut.
 - b) Hand install a new bolt, and then torque the bolt to 8 Nm.
23. Push the carpeting forward and fasten the clips (x3) that secure the carpeting to the body in the RH footwell.
24. Install the RH center console side panel carpet (refer to Service Manual procedure 15195402).
25. Install the passenger footwell cover (refer to Service Manual procedure 14055402).
26. Install the RH lower B-pillar trim (refer to Service Manual procedure 15183402).
27. Install the cowl screen panel (refer to Service Manual procedure 12250902).

LH Front Passenger Area

This procedure replaces two bolts in the LH front passenger area.

1. Remove the LH lower B-pillar trim (refer to Service Manual procedure 15183402).

2. Remove and discard the ground terminal bolt adjacent to the driver seat, at the B-pillar (Figure 44).



Figure 44

3. Use compressed air to clean any debris or shavings from the weld nut.
4. Hand install a new bolt, and then torque the bolt to 8 Nm.
5. Remove the driver footwell cover (refer to Service Manual procedure 14055302).
6. Remove the LH center console side panel carpet (refer to Service Manual procedure 15195402).
7. Release the clips (x3) that secure the carpeting to the body in the LH footwell, and then pull back the carpeting to expose the LH toeboard ground terminal (Figure 45).

NOTE: The foam on the back of the carpet resists pulling the carpet back.



Figure 45

8. Remove and discard the ground terminal bolt on the LH toeboard (Figure 45).
9. Use compressed air to clean any debris or shavings from the weld nut.
10. Hand install a new bolt, and then torque the bolt to 8 Nm.
11. Push the carpeting forward and fasten the clips (x3) that secure the carpeting to the body in the LH footwell.

12. Install the LH center console side panel carpet (refer to Service Manual procedure 15195402).
13. Install the driver footwell cover (refer to Service Manual procedure 14055302).
14. Install the LH lower B-pillar trim (refer to Service Manual procedure 15183402).

RH Rear Passenger Area

This procedure replaces the bolt on the parcel shelf.

1. Remove the package tray trim (refer to Service Manual procedure 15243002).
2. Remove and discard the ground terminal bolt on the parcel shelf (Figure 46).



Figure 46

3. Use compressed air to clean any debris or shavings from the weld nut.
4. Hand install a new bolt, and then torque the bolt to 8 Nm.
5. Install the package tray trim (refer to Service Manual procedure 15243002).

Trunk Area

This procedure replaces 4 bolts in the trunk compartment.

1. Remove the LH trunk side trim (refer to Service Manual procedure 15245002).
2. Remove the RH trunk side trim (refer to Service Manual procedure 15245102).

3. Remove and discard the ground terminal bolt on the LH rear quarter below the taillight (Figure 47).



Figure 47

4. Use compressed air to clean any debris or shavings from the weld nut.
5. Hand install a new bolt, and then torque the bolt to 8 Nm.
6. Remove and discard the ground terminal bolt on the RH rear quarter, below the taillight and rear of the amplifier (Figure 48).



Figure 48

7. Use compressed air to clean any debris or shavings from the weld nut.
8. Hand install a new bolt, and then torque the bolt to 8 Nm.
9. Install the RH trunk side trim (refer to Service Manual procedure 15245102).
10. Install the LH trunk side trim (refer to Service Manual procedure 15245002).
11. Remove the trunk lid trim (refer to Service Manual procedure 15111902).

12. Remove and discard the ground terminal bolts (x2) on the underside of the trunk lid (Figure 49).



Figure 49

13. Use compressed air to clean any debris or shavings from the weld nuts.

14. Hand install a new bolt in both locations, and then torque the bolts to 8 Nm.

15. Install the trunk lid trim (refer to Service Manual procedure 15111902).

16. Connect 12V power (refer to Service Manual procedure 17010200).

17. Close the trunk, the hood, and all four doors.

18. Fully raise all four windows.

Affected VIN(s) Affected Model 3 vehicles built before approximately August 2, 2017.

NOTE: This is a simplified summary 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.

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