 HYUNDAI Technical Service Bulletin	GROUP RECALL	NUMBER 23-01-027H-1
	DATE JUNE 2023	MODEL(S) SANTA CRUZ (NXT) SANTA FE (TM) SANTA FE HYBRID (TM HEV) SANTA FE PLUG-IN (TM PHEV)
SUBJECT:	TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL HARNESS/FUSE REPLACEMENT (RECALL 244)	

This TSB supersedes 23-01-027H to add remedy repair for Santa Fe, Santa Fe Hybrid, & Santa Fe Plug-in vehicles.

★ IMPORTANT

Vehicle repairs related to safety recalls are critically important and must be performed properly in accordance with TSB procedures. Review this bulletin in its entirety prior to beginning any repair work.

As required by federal law, dealers must not deliver new vehicles for sale or for lease to customers until all open recalls have been performed. Dealers must also perform all open recalls on used vehicles, demo, and rental vehicles prior to placing them into customer use and whenever an affected vehicle is in the shop for any maintenance or repair.

Access the “Vehicle Information” screen (VIS) via WEBDCS to identify open recalls.

Description: Certain 2022-2023MY Santa Cruz, 2019-2023MY Santa Fe, 2021-2023MY Santa Fe Hybrid, and 2022-2023MY Santa Fe Plug-in vehicles may be equipped with a Genuine Hyundai Accessory tow hitch assembly supplied by and available for purchase through Hyundai as a Port Installed Option (PIO), as a Dealer Installed Option (DIO) or through over the counter part sale. Certain tow hitch harness modules may develop an electrical short circuit. An electrical short could increase the risk of a tow hitch harness module fire while driving or while the vehicle is parked with the ignition off.

This bulletin provides the inspection procedure for vehicles NOT equipped with the trailer tow hitch and wire harness or only have the 7-PIN harness installed. For vehicles EQUIPPED with the 4-PIN wire harness, this bulletin provides the details for the 4-PIN extension/replacement, and the fuse replacement.

IMPORTANT NOTE:




The harness repair, both the extension and replacement, is **ONLY** applicable to Santa Fe, Santa Fe Hybrid, and Santa Fe Plug-in. Directions to address 4-PIN harness for Santa Cruz will be provided at a later date.

SUBJECT: TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL HARNESS/FUSE REPLACEMENT (RECALL 244)

Applicable Vehicles (Certain):

- 2022-2023MY Santa Cruz (NXT) produced 05/26/2021 – 03/20/2023
- 2019-2023MY Santa Fe (TM) produced 05/23/2018 – 03/20/2023
- 2021-2023MY Santa Fe Hybrid (TM HEV) produced 12/18/2020 – 03/20/2023
- 2022-2023MY Santa Fe Plug-in (TM PHEV) produced 05/13/2021 – 03/03/2023



Parts Information:

MODEL	PART NAME	PART NUMBER	IMAGE
SANTA FE (TM), SANTA FE HYBRID (TM HEV), SANTA FE PLUG-IN (TM PHEV)	EXTENSION WIRE KIT	S8F67-AC900-QQH	
	FUSE ASSY-TRAILER	18790-04930-QQH	
	EXTENSION HARNESS ASSY KIT	S2F67-AC700	

SUBJECT:**TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL HARNESS/FUSE REPLACEMENT (RECALL 244)****SST Information:**

DESCRIPTION	IMAGE
4 Pins Mini-Tester	
Electrical Tape	
Heat Gun	
Insulated Terminal Crimping Tool 3005CR	
Multimeter Test Tool (Set to read current in mA) 0.002a = 2mA	
Tester Light	

SUBJECT:**TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL HARNESS/FUSE REPLACEMENT (RECALL 244)**

Torque Wrench and 3/8” Socket	
General Crimping Tool	

NOTE: Other crimp tools can be used (e.g. general crimping tool above), as long as it is intended for insulated wire terminals (nylon terminal).

SUBJECT:**TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL HARNESS/FUSE REPLACEMENT (RECALL 244)****Warranty Information:**

MODEL	OP. CODE	OPERATION	OP. TIME	CAUSAL PART	NATURE	CAUSE
Santa Cruz (NXT) Santa Fe (TM) Santa Fe HYBRID (TM HEV) Santa Fe PLUG-IN (TM PHEV)	RC244HY1 RC244HY2 RC244HY3 RC244HY4	TRAILER TOW HITCH INSPECTION – NO 4-PIN WIRE HARNESS INSTALLED	0.2 M/H	S2F67-AC000 S2F67-AC100 S2F67-AC101 S2F67-AC400	I11	ZZ3
Santa Fe (TM) Santa Fe HYBRID (TM HEV) Santa Fe PLUG-IN (TM PHEV)	RC244HY5	INSPECTION, EXTENSION WIRE HARNESS REPAIR AND FUSE REPLACEMENT	0.7 M/H	S2F67-AC400	I11	ZZ3
Santa Fe (TM) Santa Fe HYBRID (TM HEV) Santa Fe PLUG-IN (TM PHEV)	RC244HY6	INSPECTION, EXTENSION HARNESS ASSEMBLY AND FUSE REPLACEMENT	0.4 M/H	S2F67-AC400	I11	ZZ3

NOTE 1: Submit Claim on Claim Entry Screen as “Campaign” type.

NOTE 2: Vehicle not equipped with Genuine Hyundai Accessory trailer tow hitch and 4-PIN wire harness installed - Claim must include a STUI picture of the rear center lower bumper clearly visible along with a piece of paper displaying the last 6 digits of the VIN and date of the inspection. **If not included, claim will be subject to debit.**

NOTE 3: Vehicle equipped with Genuine Hyundai Accessory trailer tow hitch and 4-PIN wire harness installed - Claim must include three (3) STUI pictures of the following: (1) wire splicing of the replaced Genuine Hyundai Accessory trailer tow harness pigtail or removed harness assembly, (2) Multimeter reading result, and (3) newly installed 15A fuse, along with a piece of paper displaying the last 6 digits of the VIN and date of the repair for each one. **If not included, claim will be subject to debit.**

NOTE 4: The incident parts are subject to callback through the normal Warranty Technical Center (WTC) parts return process. **Claim is subject to debit if the part is not returned.**

NOTE 5: Op times include VIN, Mileage, and Part (if applicable) validation. **All claims submitted that have incomplete, illegible, or missing documentation are subject to debit.**

SUBJECT:

TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL HARNESS/FUSE REPLACEMENT (RECALL 244)

Service Procedure:

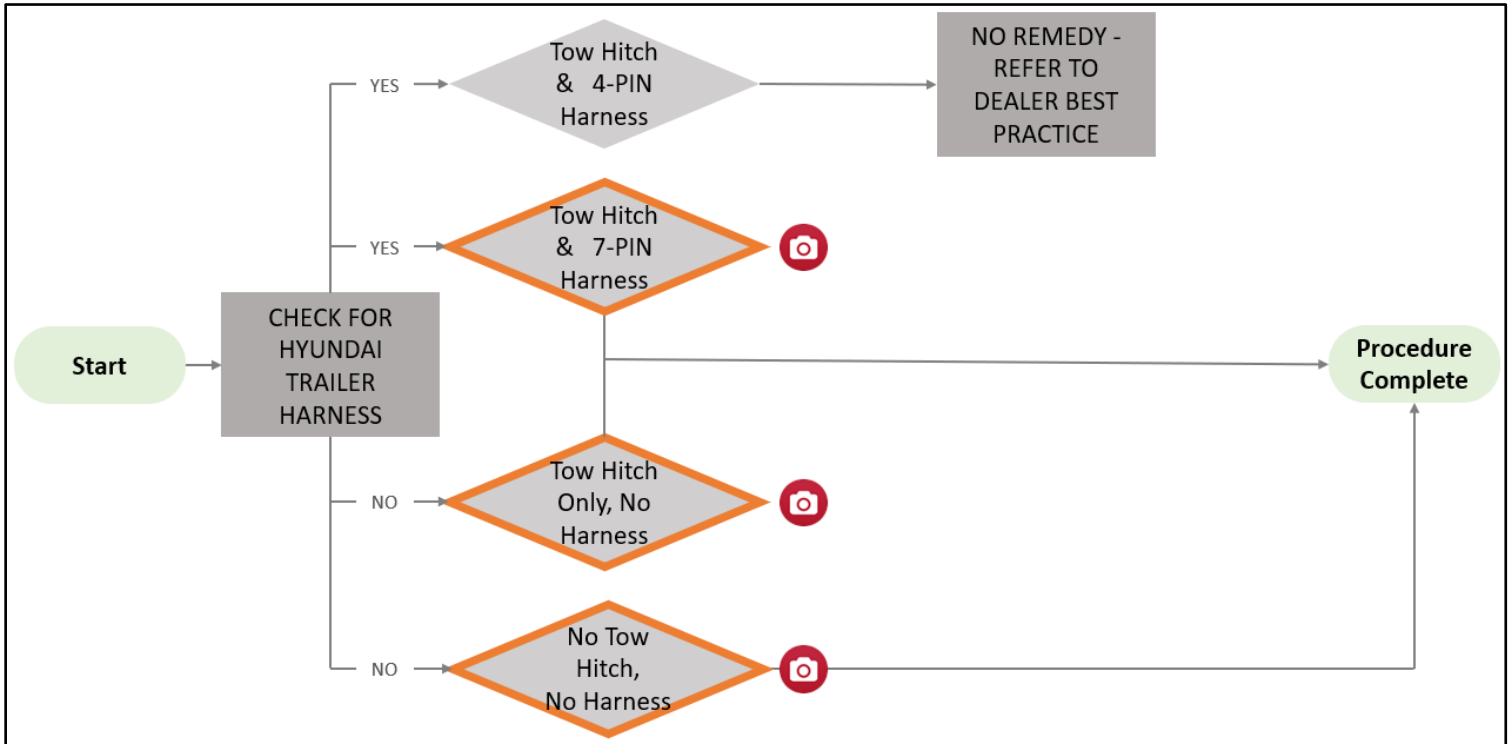
Refer to the link below for guided video information:
[Hyundai Service Learning - Recall 244 Service Procedure](#)

STUI

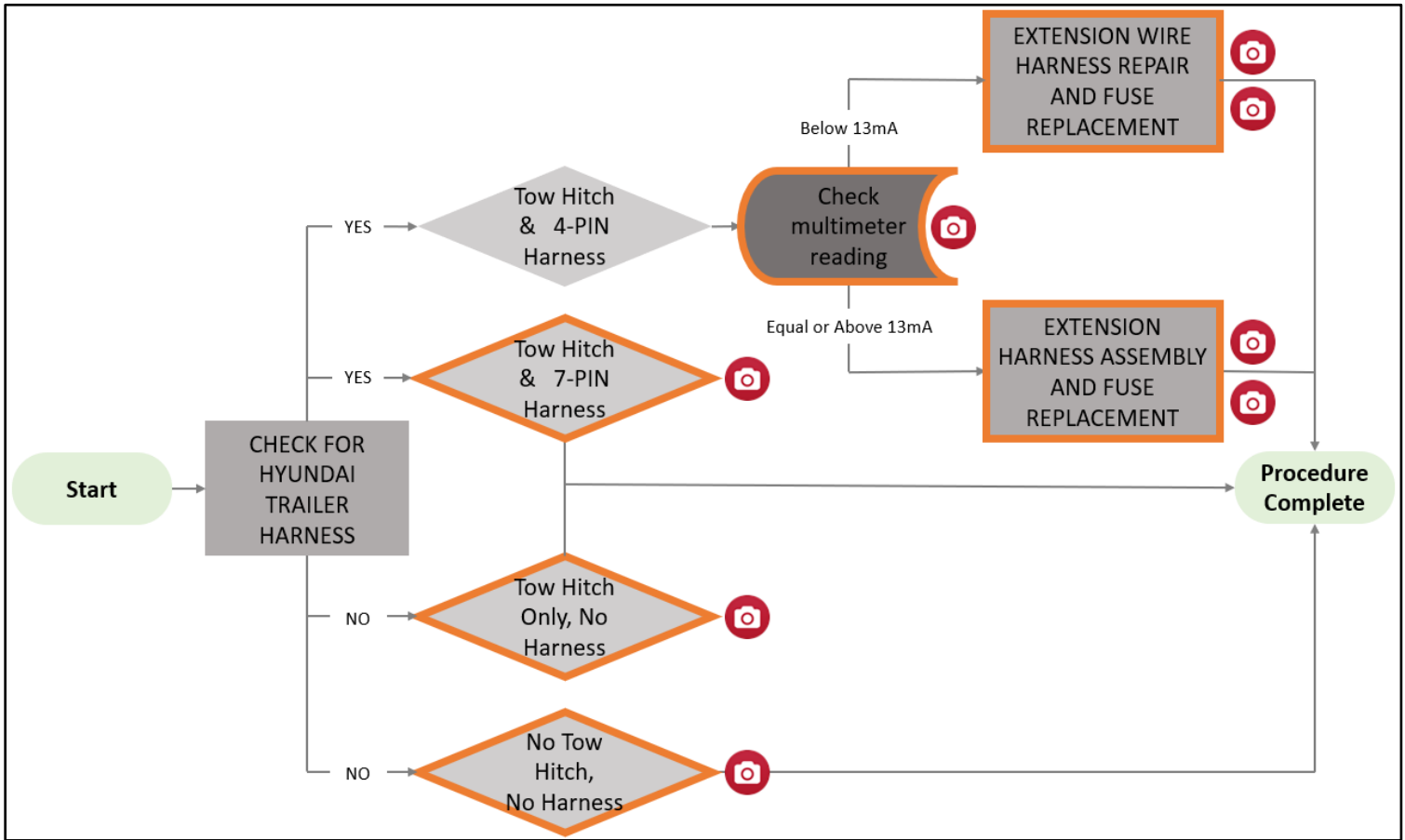


As outlined in the Digital Documentation Policy, all claims require VIN and Mileage validation through VCI connection or photo capture, AND photo capture(s) of the inspection/repair Part according to the steps in the TSB. **All claims submitted that have incomplete, illegible, or missing documentation are subject to debit.**

PROCESS FLOW FOR SANTA CRUZ

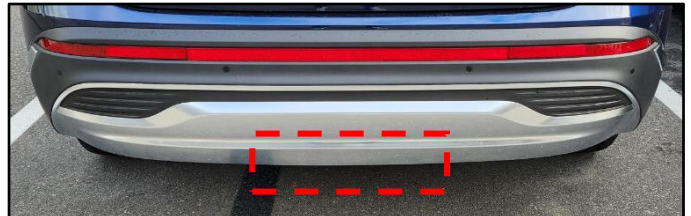


PROCESS FLOW FOR SANTA FE, SANTA FE HYBRID, & SANTA FE PLUG-IN



TRAILER TOW HITCH INSPECTION (ALL MODELS)

1. Visually inspect the center rear lower bumper for the following:
 - Genuine Hyundai Accessory trailer tow hitch and **4-PIN** wire harness installed.
 - Genuine Hyundai Accessory trailer tow hitch and **7-PIN** wire harness installed.
 - Genuine Hyundai Accessory trailer tow hitch installed, but no visible harness connection installed.
 - No trailer tow hitch installed
- 1A. If the vehicle is equipped with a Genuine Hyundai Accessory trailer tow hitch and **4-PIN** wire harness, please proceed to [page 10](#) and continue this Service Bulletin.



SUBJECT:**TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL HARNESS/FUSE REPLACEMENT (RECALL 244)**

1B. If the vehicle is equipped with a Genuine Hyundai Accessory trailer tow hitch and **7-PIN** wire harness, proceed to **step 2 to complete the procedure.**



1C. If the vehicle is not equipped with a Genuine Hyundai Accessory trailer tow hitch, then proceed to **step 2 to complete the procedure.**



1D. If the vehicle is equipped with a Genuine Hyundai Accessory trailer tow hitch, but there is no visible wire harness installed, then proceed **to step 2 to complete the procedure.**



SUBJECT:

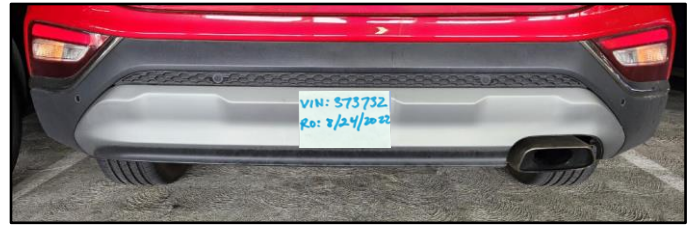
TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL HARNESS/FUSE REPLACEMENT (RECALL 244)

2. Write the last six digits of the VIN and date of inspection onto a piece of paper and place it near the center of the rear bumper.

STUI



Using STUI, take a picture of the rear center lower bumper with the last six digits of the VIN and date of the inspection included. Upload the photo to STUI.



Example to the right is a picture of a vehicle not equipped with the Genuine Hyundai Accessory trailer tow hitch.

3. Procedure complete.

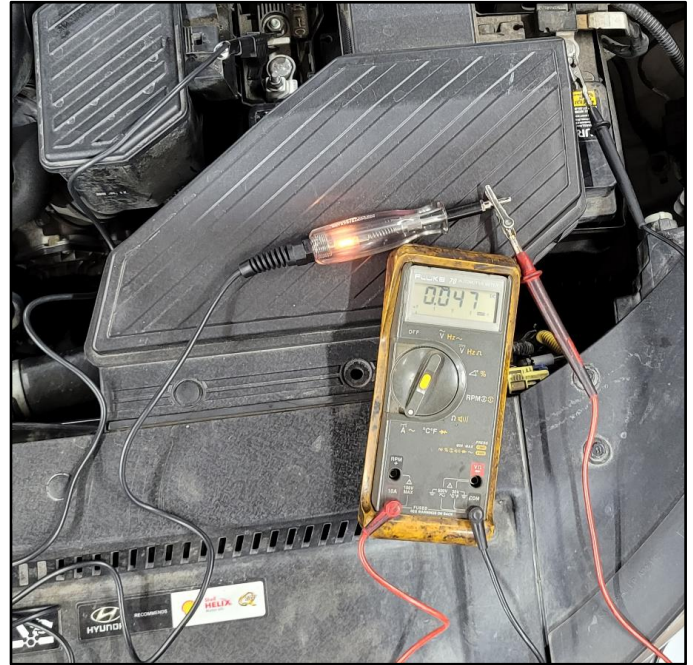
CONFIRM MULTIMETER TEST TOOL IS WORKING AS DESIGNED

NOTE: In some cases the multimeter test tool may have a blown fuse, and may not provide an accurate reading.

- To verify the multimeter test tool is operational, perform the steps listed below.
- Tester will require test light.

1. Connect the tester light to the positive terminal on the battery.

Utilizing the multimeter test tool, connect the black probe to the battery's black terminal, and red probe to tester light as shown in example photo.



2. If electrical reading is 47mA, and the test light is on, the multimeter is ready for use, and proceed to the next step.

If electrical reading is anything other than 47mA, consider checking the fuse.

3. Measure both terminals where the fuse was with a multimeter probe.



Information

Vehicle should be OFF, with key removed.



4. Check whether the multimeter is reading above, equal to, or below 13mA. Take a picture of the results.

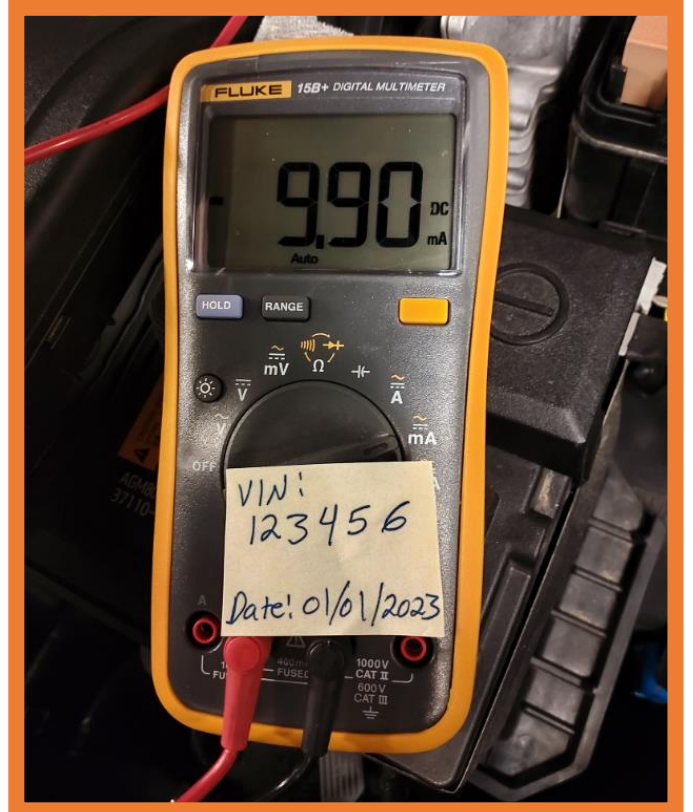
STUI



Using STUI, take a picture of the multimeter reading with the last 6 digits of the VIN and date of the repair on a piece of paper. Ensure picture is clear before taking. Upload the photo to STUI.

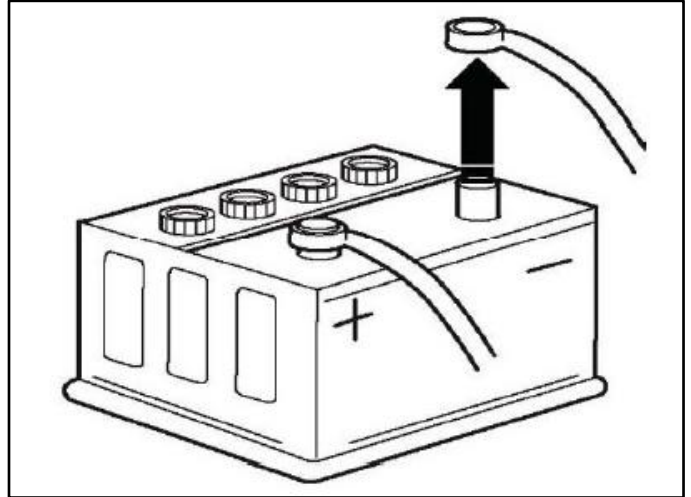
If reading is **below 13mA**, proceed to step 5 to perform wire harness repair with extension wire kit, install an updated fuse, and fuse label.

If reading is **equal to or above 13mA**, the accessory harness assembly must be removed and replaced. An updated fuse must also be installed with a new fuse label. Proceed to [page 25](#) for harness assembly removal and replacement procedure.

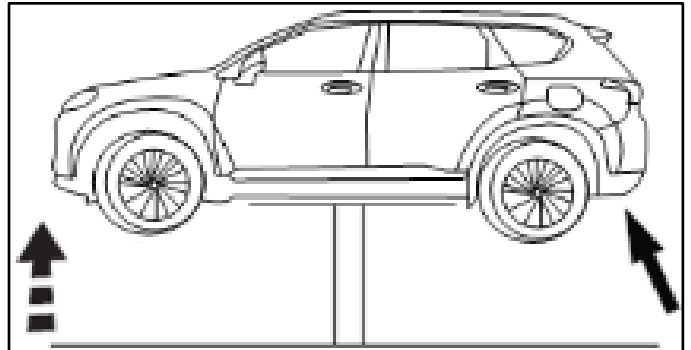


**WIRE HARNESS REPAIR (EXTENSION WIRE KIT), FUSE REPLACEMENT, AND FUSE LABEL
ATTACHMENT
(FOR SANTA FE, SANTA FE HYBRID, SANTA FE PLUG-IN)**

5. A) Record any pre-set radio stations, if applicable.
B) Open the vehicle's hood.
C) Remove the cap from the negative (-) battery cable, if applicable.
D) Disconnect and isolate the vehicle's negative (-) battery cable.

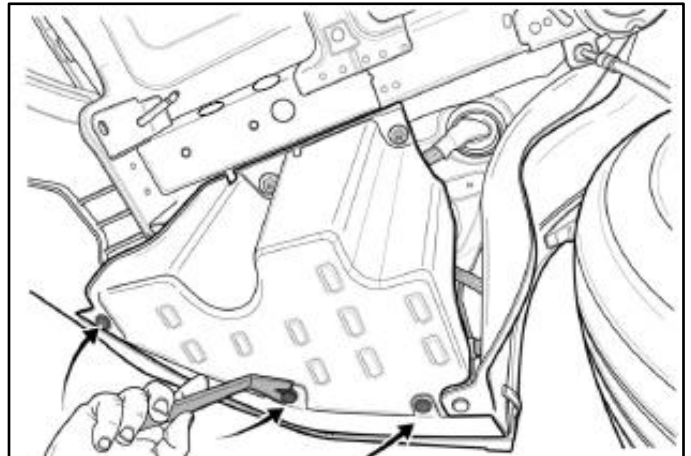


6. Lift vehicle.



7. Remove rear bumper under cover by removing the three plastic push clips under the driver side plastic cover.

Loosen the two plastic nuts and lower the driver side plastic cover panel and dislodge the 12-Pin connector clip.



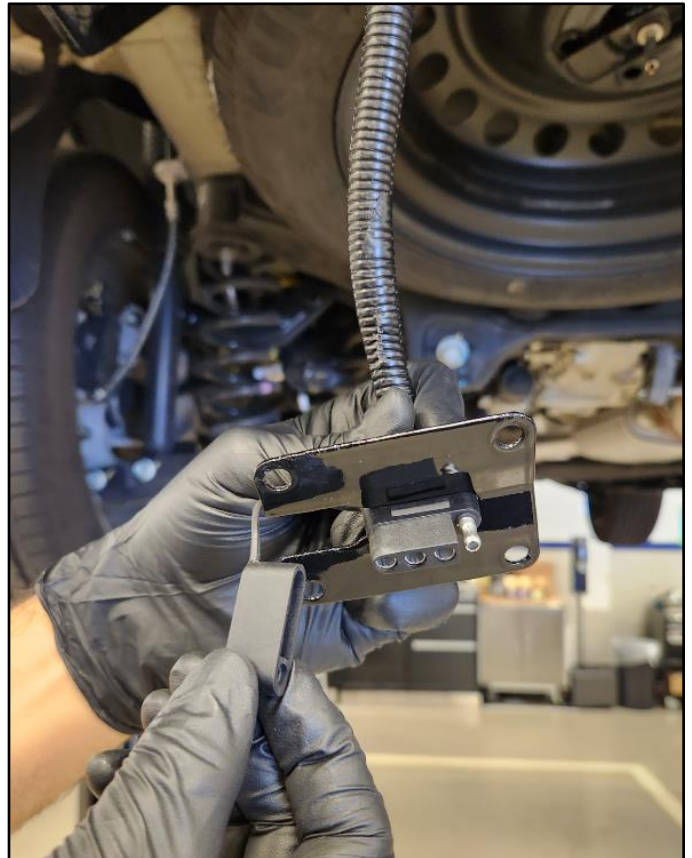
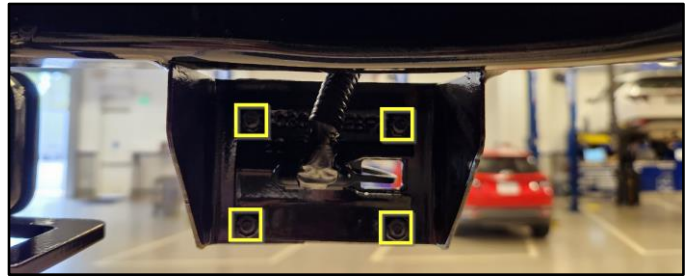
8. Release the 4-Pin connector fixing bolts (x4) and remove the connector from the outer and inner bracket plate.

Technician will need a torque wrench and 3/8" socket to complete this task.



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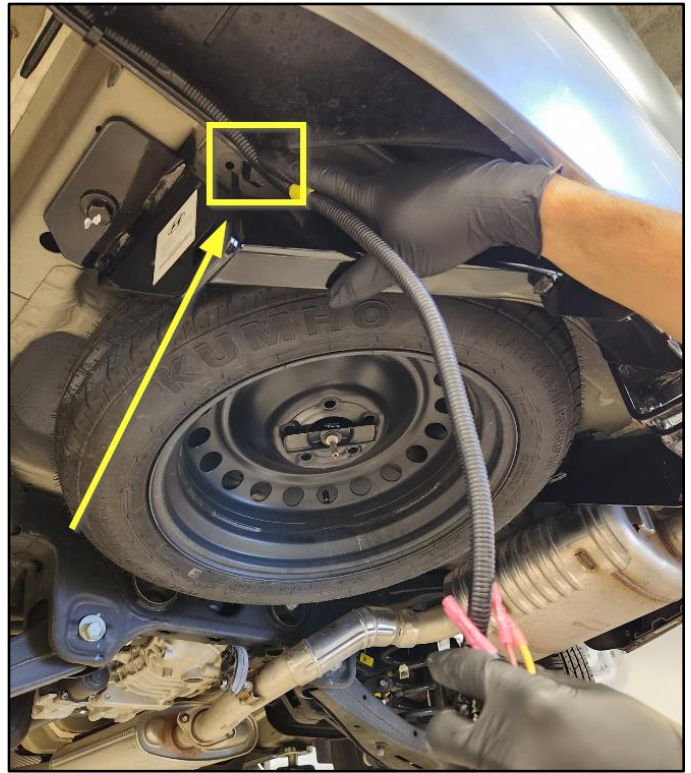
SUBJECT:

**TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL
HARNESS/FUSE REPLACEMENT (RECALL 244)**

9. Cut two cable ties and separate the 4-Pin connector.

***i* Information**

The purpose of this step is to give the Technician enough room to measure the **Extension Wire Kit**.



10. Pull out the 4-Pin connector to mark where to cut.



SUBJECT:**TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL HARNESS/FUSE REPLACEMENT (RECALL 244)**

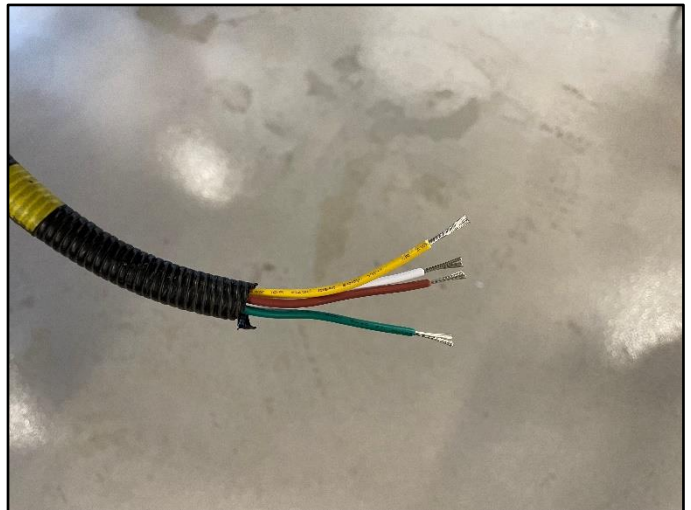
11. Cut the harness to match the length of the extension wire.



12. Cut off about 10 cm of the corrugated tube and pull out the wires.



13. Strip the sheath of the wires. Expose 8-10mm of the wiring.



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14. Match the wires by color and crimp them.



15. Blow hot air onto the butt splice / quick connector until it shrinks (**350°C/650°F**).



16.

STUI



Using STUI, take a picture of the wire spliced with the last 6 digits of the VIN and date of the repair on a piece of paper. Upload the photo to STUI.



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17. Raise the corrugated tube up to the mark and seal both ends with electrical tape.



18. Install the connector behind the hitch connector bracket by:
1. Inserting the 4-Pin connector into the inner bracket
 2. Placing the connector through the hitch connector bracket
 3. Install the outer bracket to the inner bracket by and tightening the bracket bolts. Make sure to apply dust cover to connector.

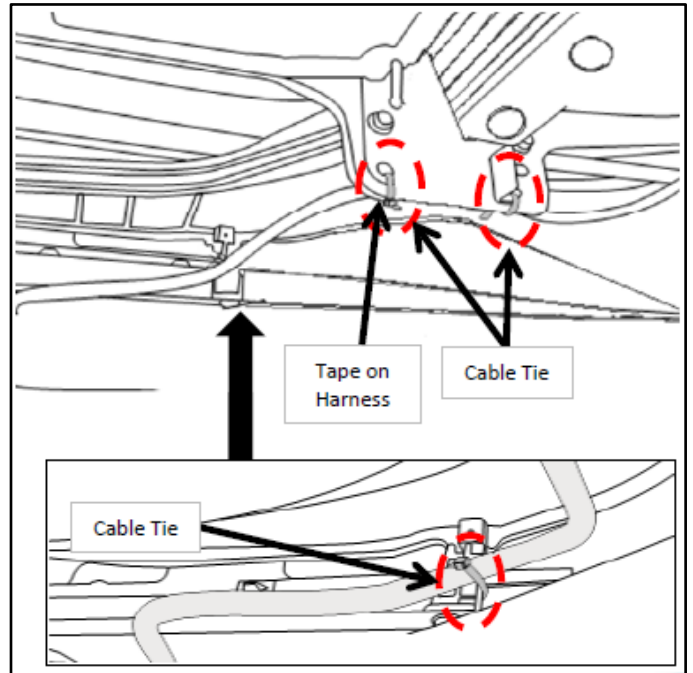
4-Pin connector tightening nut:
2.2 N·m (0.22 kgf·m, 19.5 lbf·in).





- 19. Fasten and secure harness with cable ties that were previously cut.

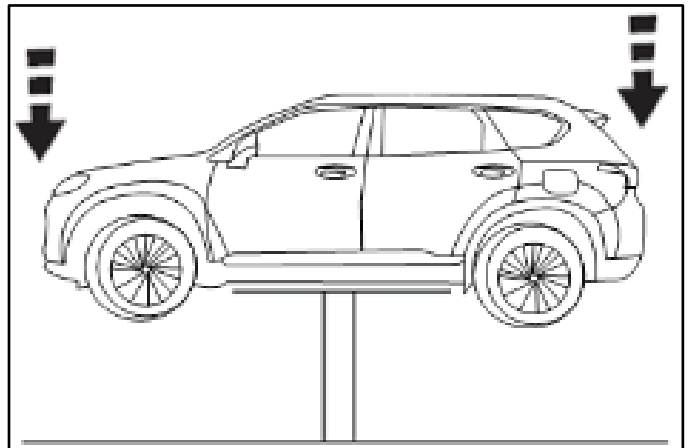
Examples shown in photo.



20. Reinstall rear bumper under cover.



21. Lower vehicle.



SUBJECT:**TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL HARNESS/FUSE REPLACEMENT (RECALL 244)**

22. A) Reconnect the vehicle's negative (-) battery cable.

Torque to:

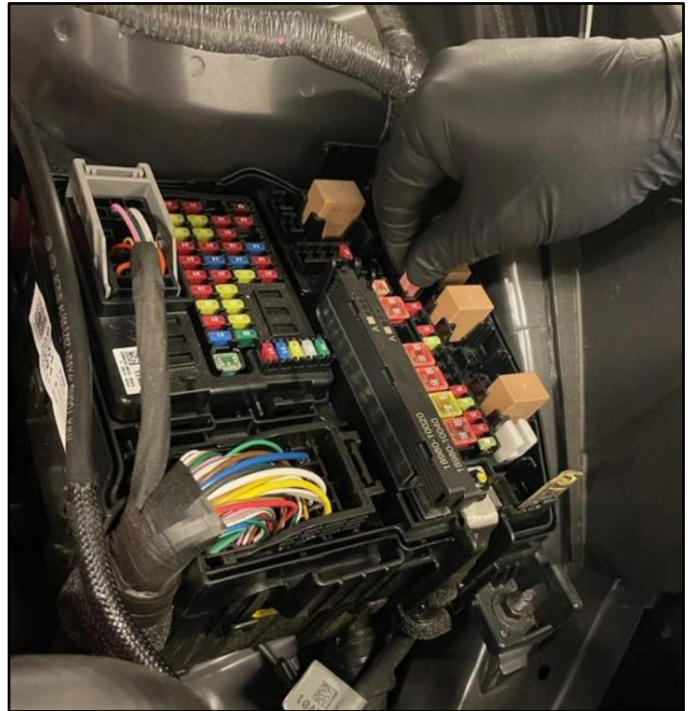
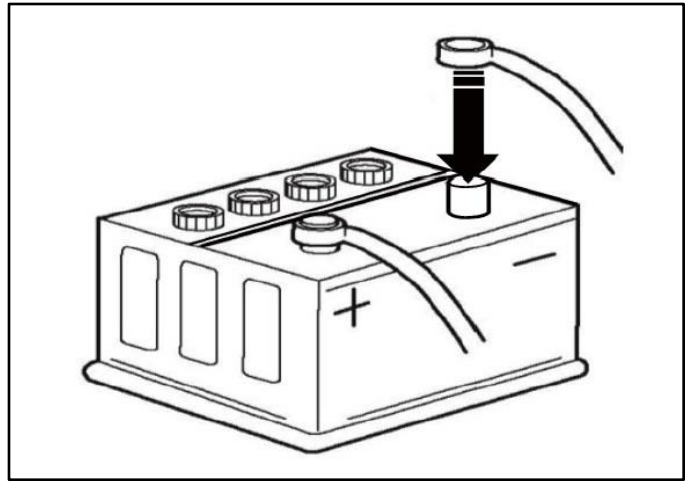
5.0 ~ 6.0 Nm (0.5 ~ 0.6 kgf.m, 45 ~ 52 lb-in).

- B) Reinstall the cap from the negative (-) battery cable, if applicable.

- C) Close the vehicle's hood.

- D) Reprogram any pre-set radio stations, if applicable.

23. Replace the trailer fuse (same as step 2 on page 11) and attach the 15A sticker to the junction box cover.

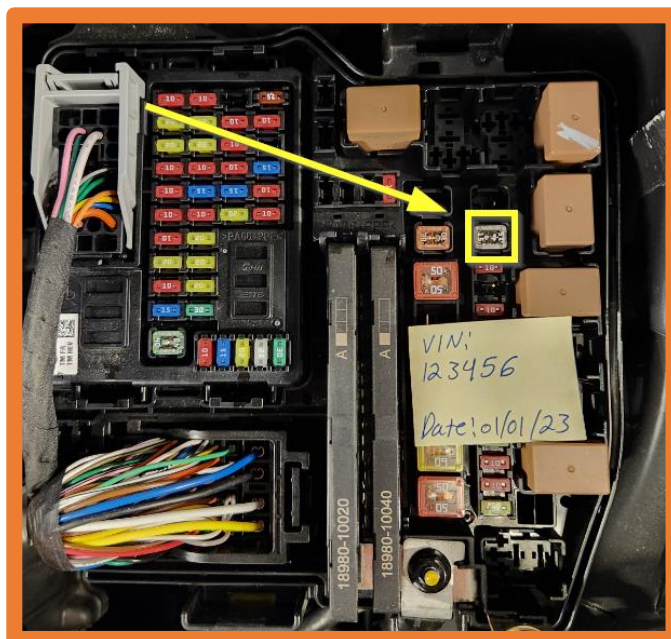


24. Take a photo using STUI.

STUI



Using STUI, take a picture of the engine fuse box with the 15A fuse installed and the last 6 digits of the VIN and date of the repair on a piece of paper. Ensure picture is clear before taking. Upload the photo to STUI.



SUBJECT:**TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL HARNESS/FUSE REPLACEMENT (RECALL 244)**

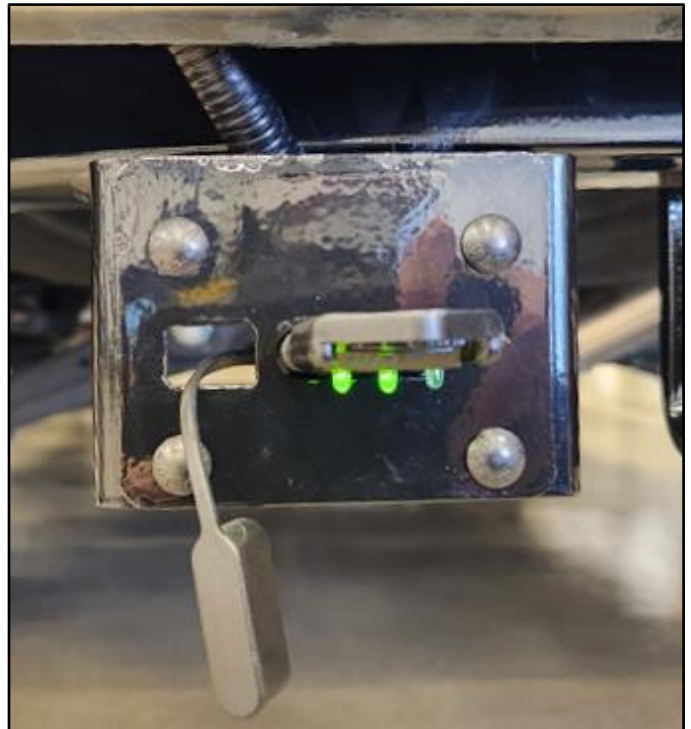
25. Connect the 4 pins mini-tester to the trailer hitch 4 pins connector.

A second person is required to confirm the 4 pins mini-tester validation.

Perform the validation following the table on the next page.

***i* Information**

The verification lights are on the opposite side of the mini tester. To validate this process, the Technician must view lights, either by utilizing a mirror, their mobile device, or getting down to eye level by taking a knee or laying down.



4 Pins Mini-Tester Light Validation



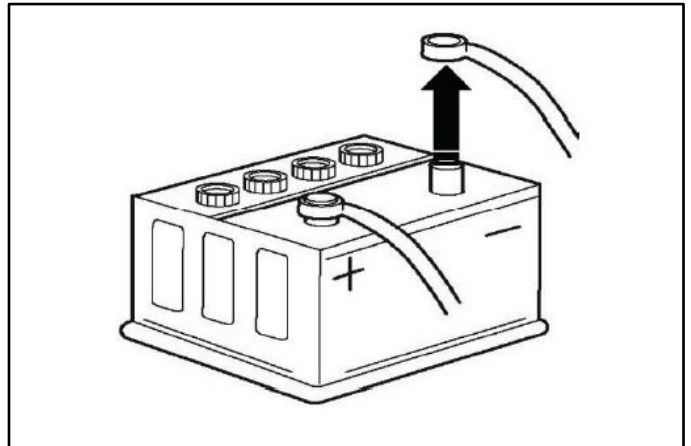
NOTE: The three lights are TAIL, LT, and RT

Activate From Vehicle	Light Output From Mini-Tester	
	Engine Off	Engine On
Right Turn Signal ON	No light	RT light flashes
Left Turn Signal ON	No light	LT light flashes
Hazard On	LT and RT light flashes	LT and RT light flashes
Brake Depressed	LT and RT light constantly ON	LT and RT light constantly ON
Turn Light Switch to ON position	TAIL light constantly ON	TAIL light constantly ON
Turn Light Switch to ON position and Hazard ON	TAIL light constantly ON and LT and RT light flashes	TAIL light constantly ON and LT and RT light flashes
Turn Light Switch to ON position and Brake Depressed	TAIL light constantly ON and LT and RT light constantly ON	TAIL light constantly ON and LT and RT light constantly ON

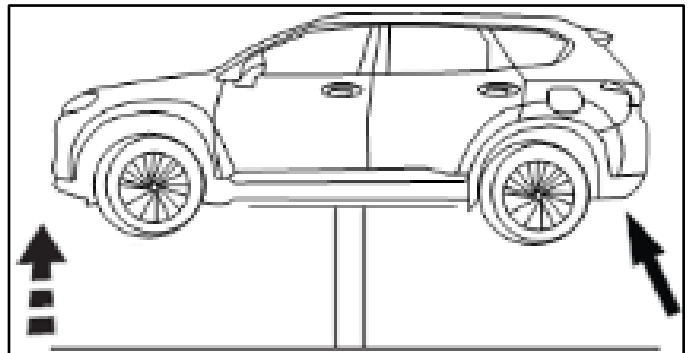
26. Procedure complete.

SUBJECT:**TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL HARNESS/FUSE REPLACEMENT (RECALL 244)****EXTENSION HARNESS ASSEMBLY, FUSE REPLACEMENT, AND FUSE LABEL ATTACHMENT (FOR SANTA FE, SANTA FE HYBRID, AND SANTA FE PLUG-IN)**

1. A) Record any pre-set radio stations, if applicable.
B) Open the vehicle's hood.
C) Remove the cap from the negative (-) battery cable, if applicable.
D) Disconnect and isolate the vehicle's negative (-) battery cable.

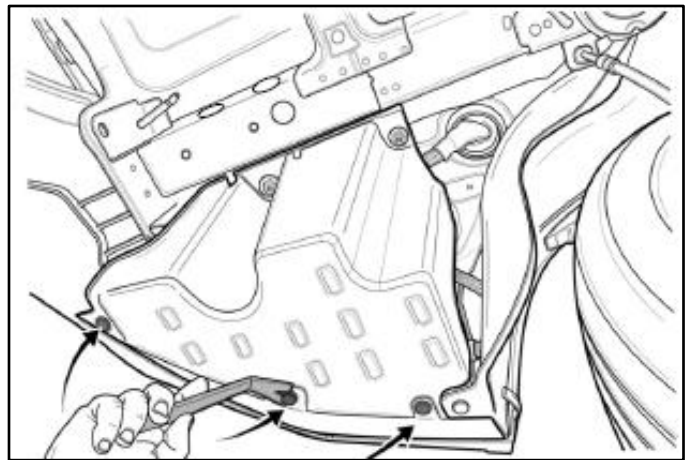


2. Lift vehicle.



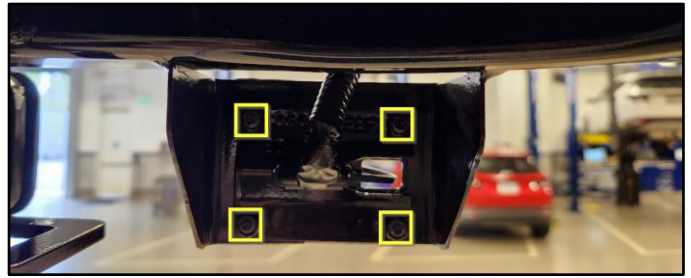
3. Remove rear bumper under cover by removing the three plastic push clips under the driver side plastic cover.

Loosen the two plastic nuts and lower the driver side plastic cover panel, and dislodge the 12-Pin connector clip.



4. Release the 4-pin connector fixing bolts.





5. Cut the cable ties and separate the 4-Pin connector.



6. Locate the factory 12-Pin harness connector on the driver's side rear quarter panel area.

NOTE: Disconnect and remove the original 12-pin harness with connector from the vehicle factory connector.



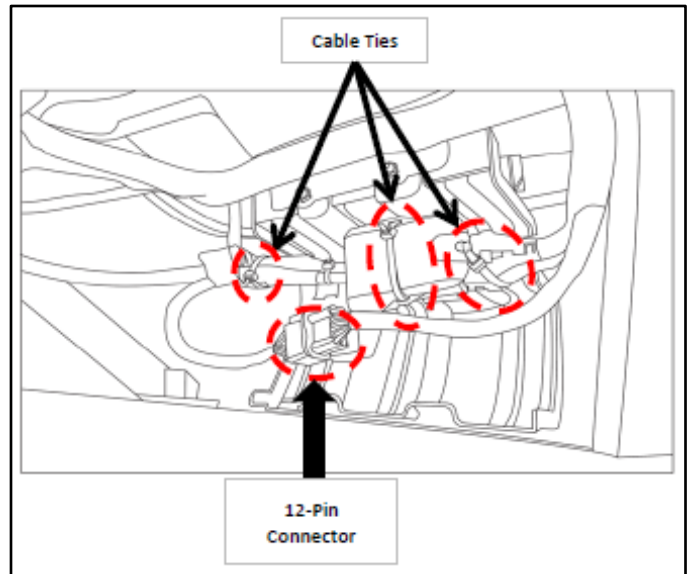
7. Connect the replacement Tow Hitch Harness 12-Pin Connector to the vehicle factory connector as shown.

Using two (2) cable ties, secure the Tow Hitch Module to the factory harness connector as shown.

Using one (1) cable tie, secure the two (2) Tow Hitch Harness leads to the factory harness as shown.

Trim excess cable tie material.





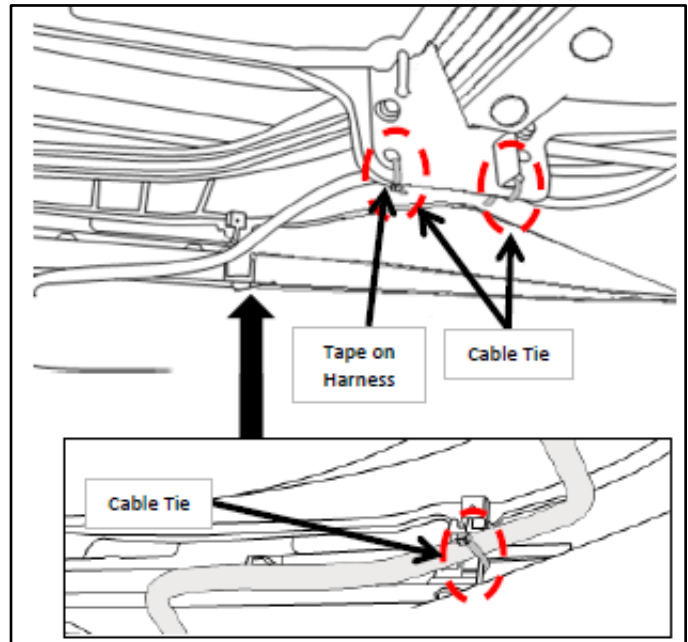
- 8. Route the Tow Hitch Harness behind the rear bumper as shown. Using two (2) cable ties, secure the Tow Hitch Harness to vehicle's steel mounting holes as shown.

NOTE: The tape on the harness must be located be at the left cable tie on the vehicle's steel mounting hole (closest hole to the center of the vehicle).

Continue to route the harness along the rear bumper beam as shown.

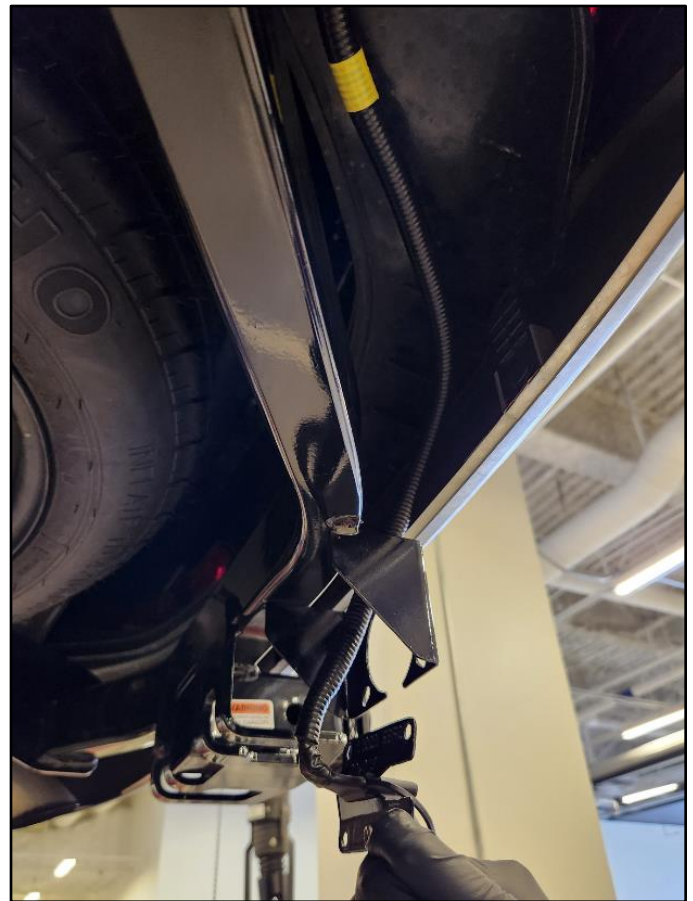
Using one (1) cable tie, secure the Tow Hitch Harness to the bumper bracket as shown.

Trim excess cable tie material.



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9. Repeat Steps 18 through 26 on pages 18-24.

10.

STUI

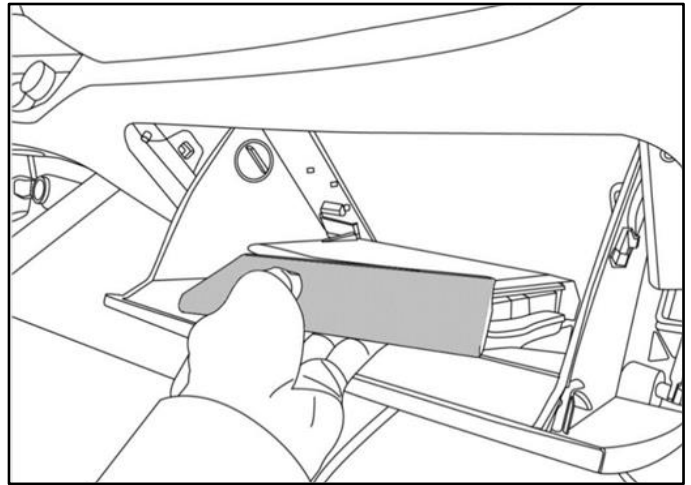


Using STUI, take a picture of the removed harness with the last 6 digits of the VIN and date of the repair on a piece of paper. Ensure picture is clear before taking. Upload the photo to STUI.



SUBJECT:**TRAILER TOW HITCH HARNESS INSPECTION AND 4 PINS PIGTAIL HARNESS/FUSE REPLACEMENT (RECALL 244)**

11. Place the tow hitch harness caution card into the glove box.



12. The procedure is complete.