

GENUINE TRAILER HITCH HARNESS KIT

INSTALLATION AND USER'S INSTRUCTIONS



Thank you for purchasing a Genuine Mazda Accessory.


Before removal and installation, please thoroughly read these instructions.


For your safety, please read the contents of this booklet to properly install and use the trailer hitch kit.

Keep these instructions with your vehicle records for future reference.

WARNING

- There are several  **WARNING** and  **CAUTION** sections in this booklet concerning safety when installing or removing the trailer hitch harness kit. Always read and follow the instructions in order to prevent injuries, accidents, and possible damage to the vehicle.

 **WARNING:** Indicates a situation in which serious injury or death could result if the warning is ignored.

 **CAUTION:** Indicates a situation in which bodily injury or damage to the vehicle could result if the caution is ignored.

- For areas indicating the tightening torque in this instruction manual, tighten to the specified torque by using a torque wrench. For areas in which the tightening torque is indicated inside parentheses (), the tightening torque is indicated as a reference value, however tightening using a torque wrench is not necessary.
- Do not modify the 7-Way Trailer hitch harness kit.
- Do not install the 7-Way Trailer hitch harness kit in any way other than described in the following instructions.
- If in doubt, please contact your Mazda dealer to install the accessory in order to prevent errors in installation.
- If you have any questions about the use of the accessory, ask your Mazda dealer for proper advice before using it.
- Mazda and its suppliers are not responsible for injuries, accidents, and damage to persons and property that arise from the failure of the dealer or installer to follow these instructions.
- To ensure safety and reliability of the work, installation, removal and disposal work must be carried out by an Authorized Mazda Dealership.
- Be careful not to lose removed parts, and be sure that they are kept free of dirt, scratches, or damage.

PART NAME: 7-WAY TRAILER HITCH KIT
PART NUMBER: VA41V7780
VEHICLE: CX-50

NOTE

To the dealer

- Please turn over these instructions to the customer after installation.

To the customer

- Keep these instructions after installation. The instructions may be necessary for installing other optional parts or removal of this accessory.
- Should the vehicle or this accessory be resold, Always transfer these instructions to the next owner.



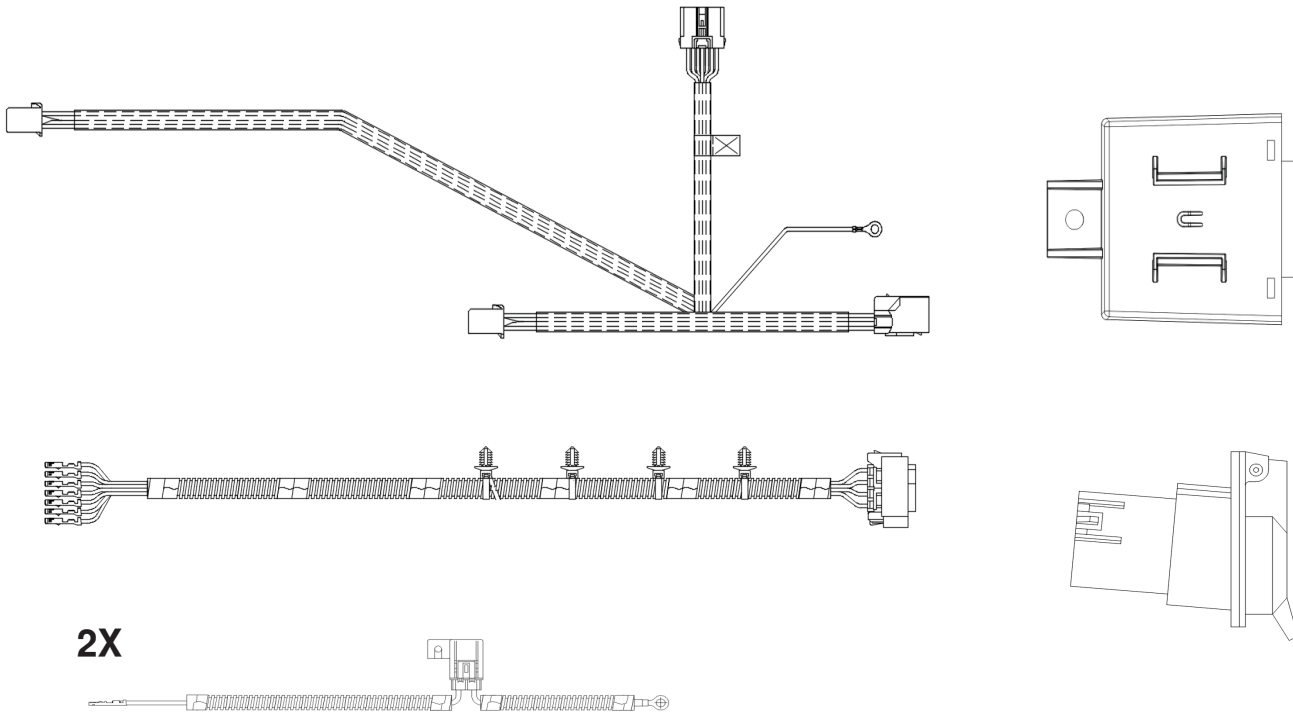
GENUINE ACCESSORIES

Installation Instructions

Part Number:
VA41V7780

7-Way Trailer Hitch Main Harness Kit

Applicable Models:
2022 > CX-50



2X

Hardware Kit Contents

Tools Required

| | | |
|-----------------------------------|---|---------------------------------------|
| A 10X Cable Tie | B Grommet | C Connector |
| D 4X #10-24 Bolt | E 4X Flat Washer | F 4X #10-24 Lock Nut |
| G Silicone | H Installation Instructions | |

| | | | |
|----------|--------------------|--------------|-----------------------|
| | Flat head | Phillips | Isopropyl Alcohol |
| | 10MM | | |
| 3/8" | 1/8" Hex Drive | | 20MM |

⚠️ INSTALLATION ALERT

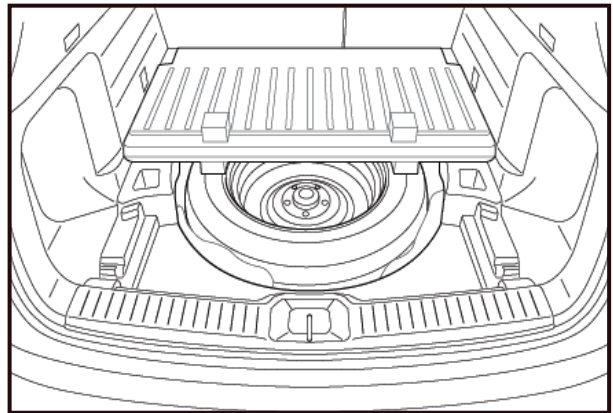
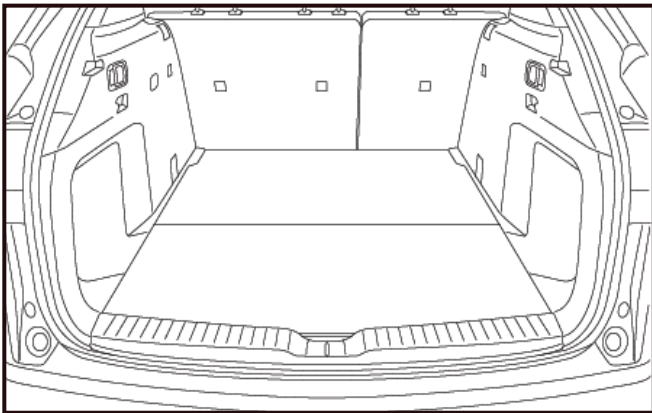
The following installation instructions apply to the 7-Way turbo model. The 50mm measurement on page 7 applies to the harness routing on this model. All other steps are to be performed per the instructions, including the removal when routing harness.

00 Before Installation

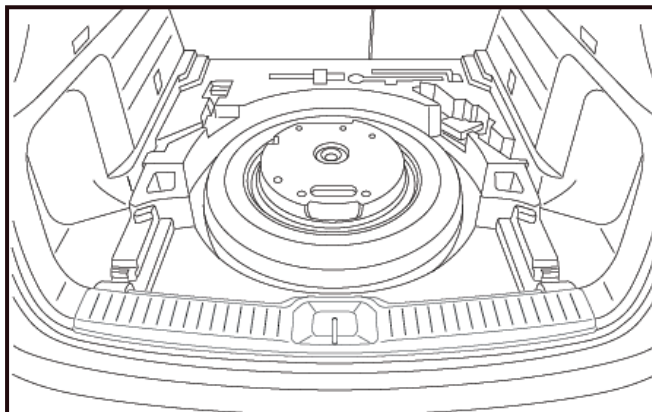
- 1) **Tow Hitch to be installed prior to 7-Way Tow Hitch Harness.**
- 2) Read all installation instructions before proceeding with install.
- 3) Be careful not to damage paint or kit components.
- 4) Do not over-tighten bolts, tighten to specified torque.
- 5) Record customer's preset radio stations (If Applicable).
- 6) Using a 10mm socket, remove negative (-) battery terminal.
- 7) Wrap protective tape around screwdrivers and fastener removal tools to prevent scratching the vehicle.

01 Access Storage Compartments

- 1) Open the rear hatch of the vehicle and lower the rear seats.
- 2) Lift and remove the deck panel exposing the spare tire compartment.



- 3) Lift and remove front foam insert and set aside.

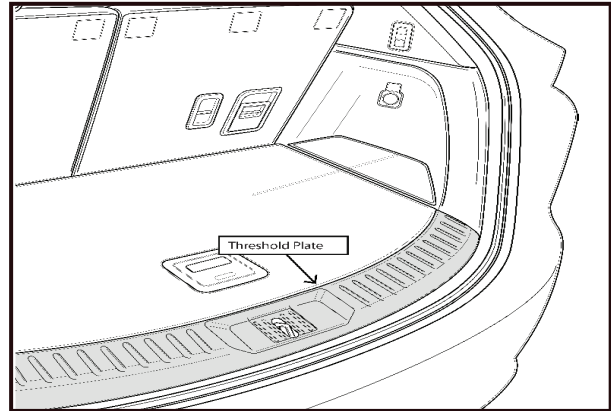
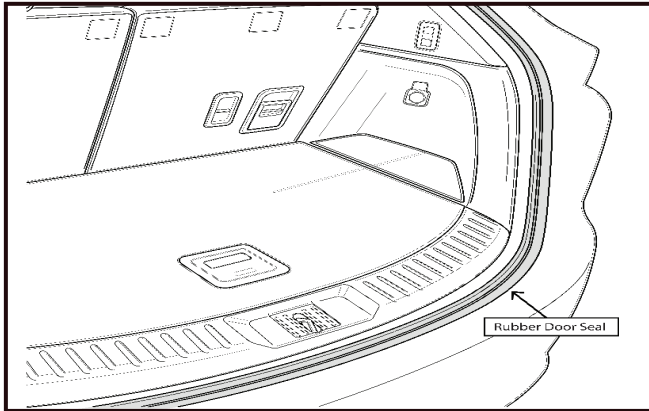


02 Remove Rear Threshold

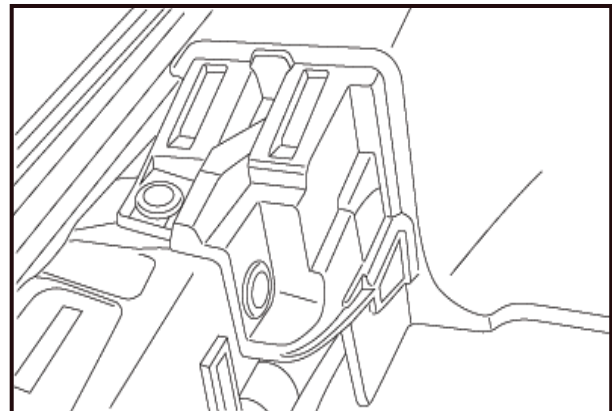
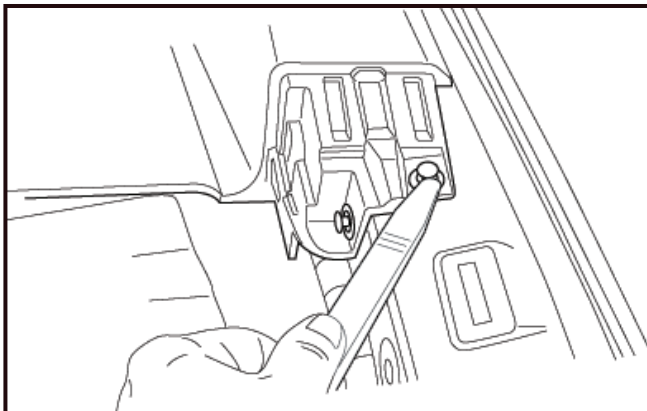
Tools Needed:



- 1) Carefully pull the rubber door seal away from the body.
- 2) Firmly pull up on the threshold plate and temporarily remove from the vehicle.

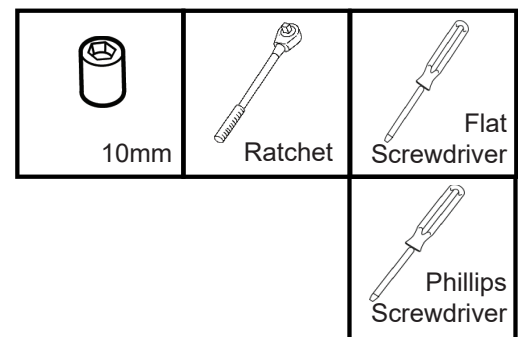


- 3) Locate fasteners holding driver and passenger side panels.
- 4) Using a fastener removal tool, carefully remove the plastic clips located on both sides of interior trim panels.

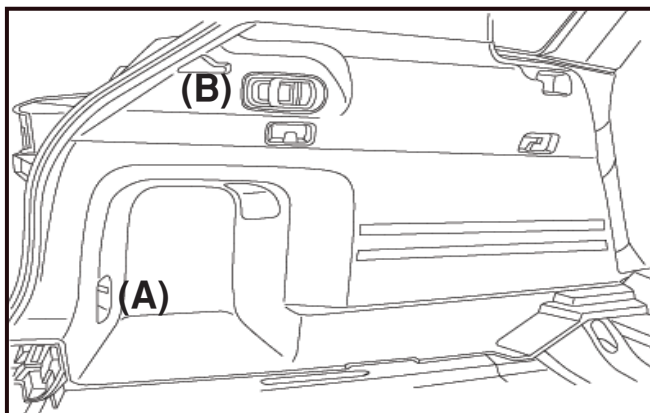


03 Interior Trim Panel Teardown

Tools Needed:

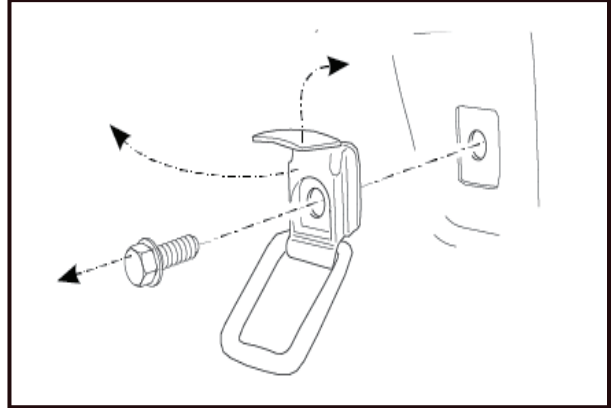
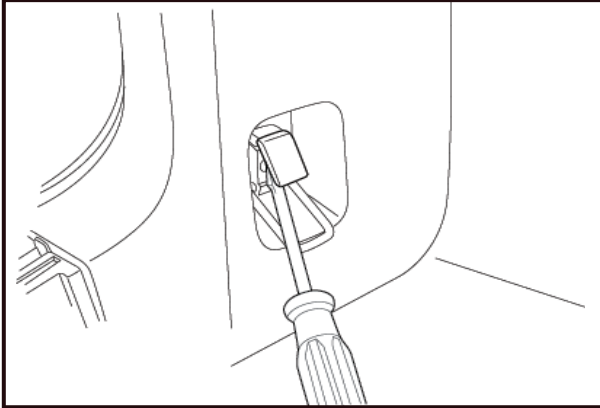


- 1) Starting the Driver side remove lower cargo tie down (A).

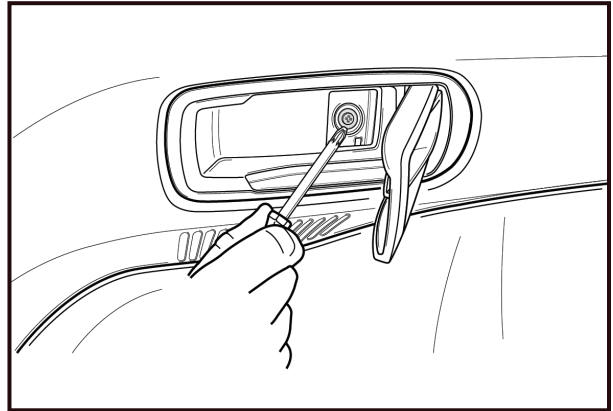
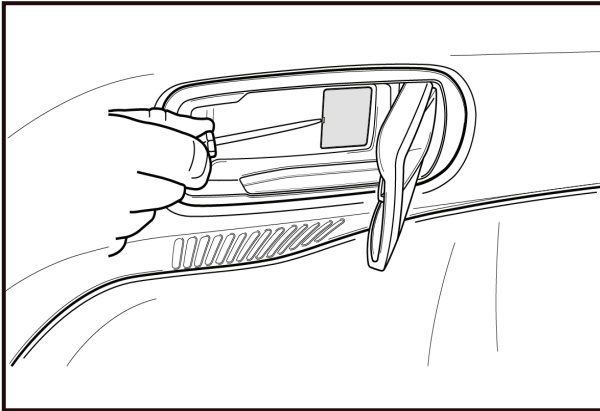


03 Interior Trim Panel Teardown(Continued)

- 2) Pull back hook and using a flat screwdriver open lid to access bolt.
- 3) Remove the bolt securing the lower cargo tie down using a 10mm socket (Torque Spec 9.0 - 12.0 N-m).

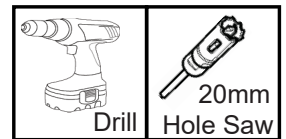


- 4) Carefully release latch cover using a small flat head screwdriver on rear seat release handle (B).
- 5) Remove screw securing seat belt release handle using a phillips screwdriver.
- 6) Repeat steps on the passenger side interior panel.

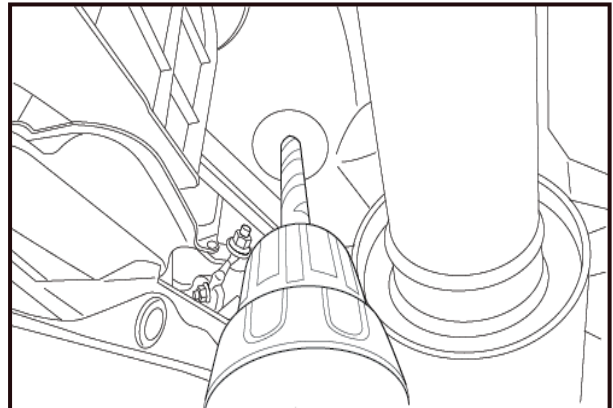
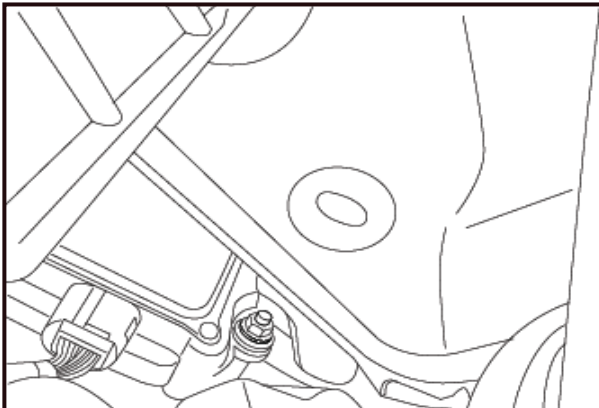


04 Drill O-Ring Grommet On Passenger Side Floor

Tools Needed:

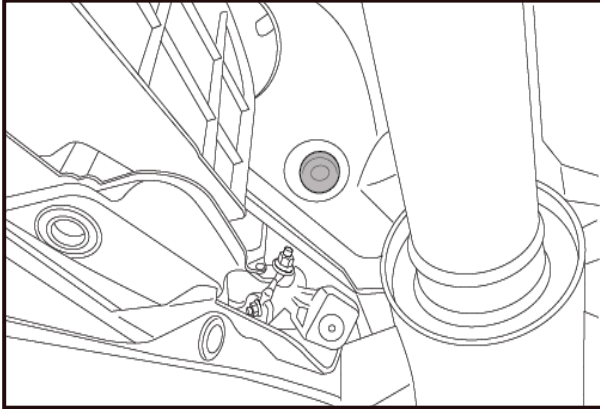


- 1) Prior to 7-Way connector installation, drill o-ring hole opening on passenger side floor using a drill and 20mm hole saw drill bit.
- 2) Locate small oval hole underneath vehicle near passenger side exhaust.
- 3) Using a drill and 20mm hole saw drill bit, drill hole where existing oval hole exists.



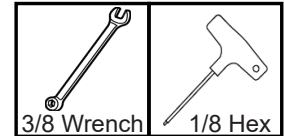
04 Drill O-Ring Grommet On Passenger Side Floor(Continued)

- 4) Clean hole of excess metal shavings in both interior and exterior and insert provided o-ring grommet into newly drilled hole.

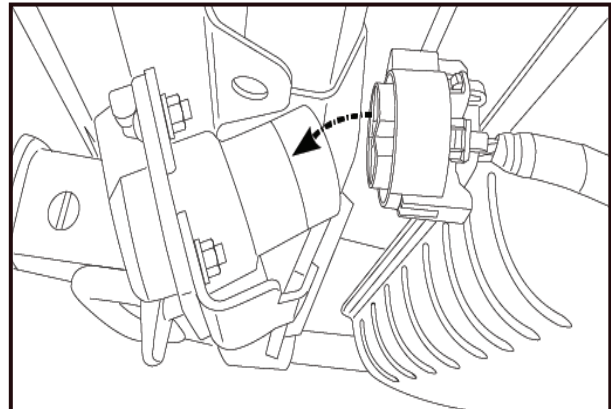
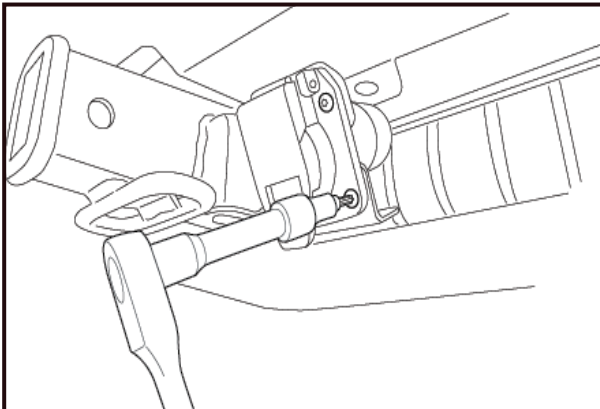


05 Route 7-Flat Harness To Interior Of Vehicle

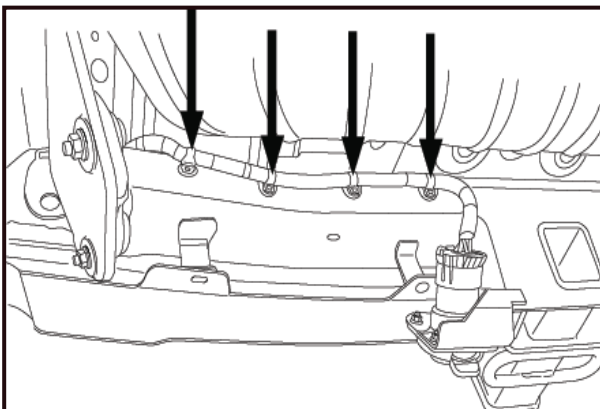
Tools Needed:



- 1) Place 7-Way trailer connector into hitch bracket and attach using bolts provided. **Torque all four nuts to 19.5 ft. lbs (2.2Nm).**
- 2) After 7-Way trailer connector is installed into the hitch bracket plug round 7-way harness connector into back of trailer connector.



- 3) After 7-Way connector is installed into the hitch bracket route harness towards o-ring grommet location on passenger side.
- 4) Attach wire harness to four holes on passenger side of main hitch.

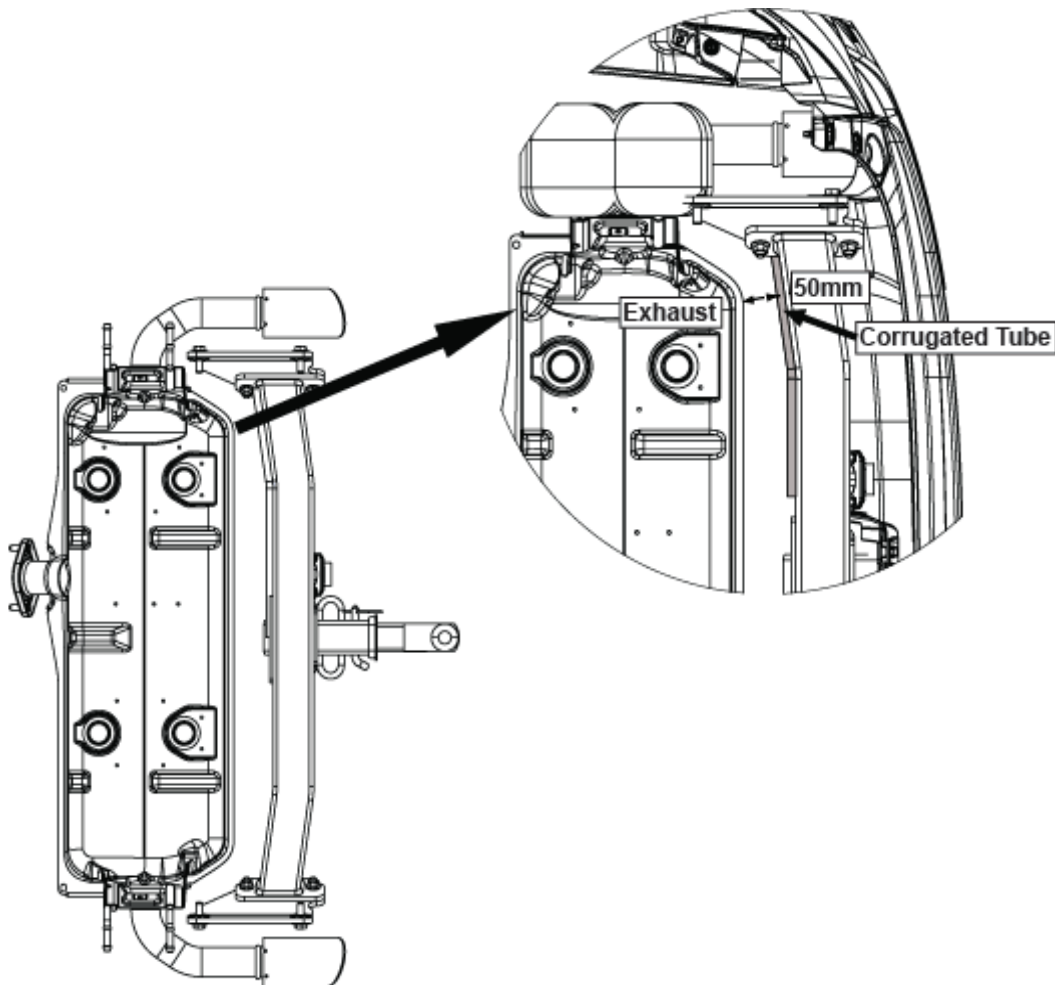


05 Route 7-Flat Harness To Interior Of Vehicle(Continued)



Due to extreme high temperatures produced by the exhaust, a minimum clearance of 50mm must be maintained between exhaust and harness. Failure to do so will result in severe damage to harness and loss of trailer functions, such as brake light and turn signals.

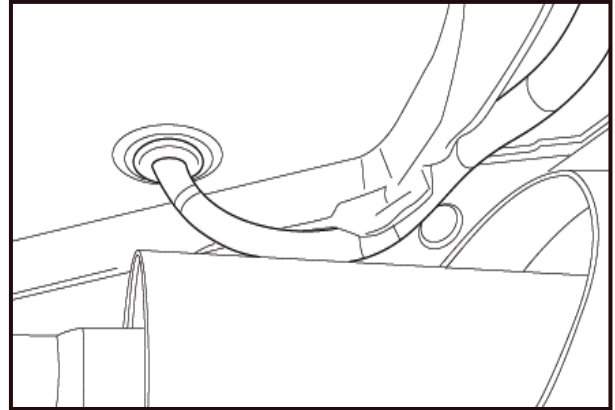
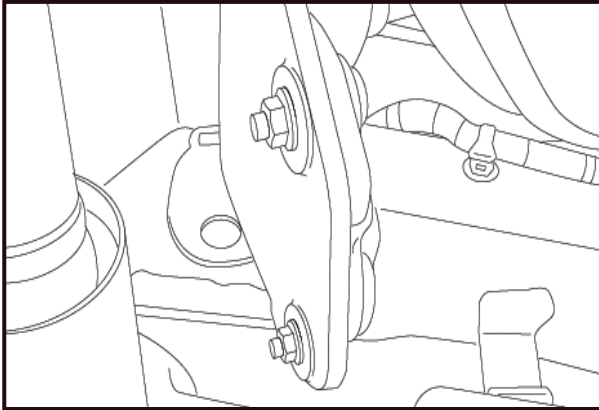
5) After performing Step 4, verify that a minimum of 50mm has been achieved between exhaust and harness. If 50mm has been achieved, move on to Step 6.



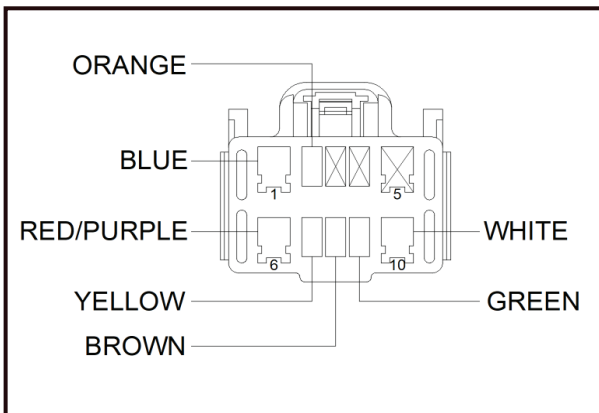
It's important that the corrugated tube is routed tightly against the hitch frame for protection. Damage to harness may occur otherwise.

05 Route 7-Flat Harness To Interior Of Vehicle(Continued)

- 6) Continue routing harness up and over main hitch body and over exhaust tunnel in rear bumper fascia to o-ring grommet location.

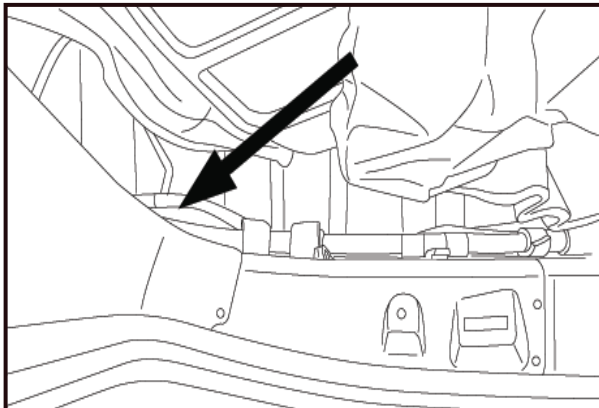


- 7) Route the seven terminated wire through the newly installed o-ring grommet into the interior of vehicle ensuring there is no slack on harness near exhaust tunnel.
- 8) Once harness is located inside vehicle insert seven terminated wired into 10-pin female connector provided. Firmly push terminal lock into locked position after wire are inserted.
- 9) Attach the 7-Way harness connector to the interior harness connector. The wires will match color to color at the connectors.



06 Interior Main Harness Routing

- 1) Gently pull driver's side trim panel away from body to locate the vehicle's white 8-Pin connector. Be careful not to damage panel.

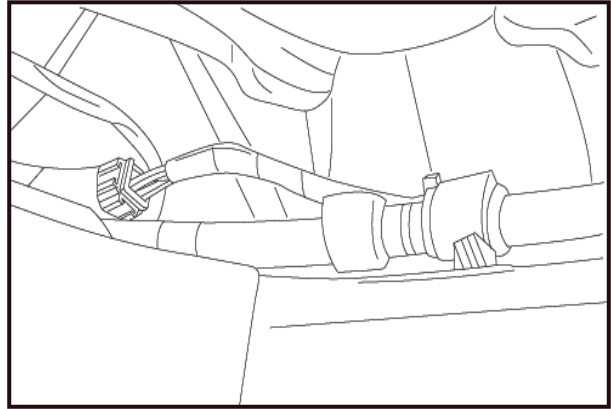
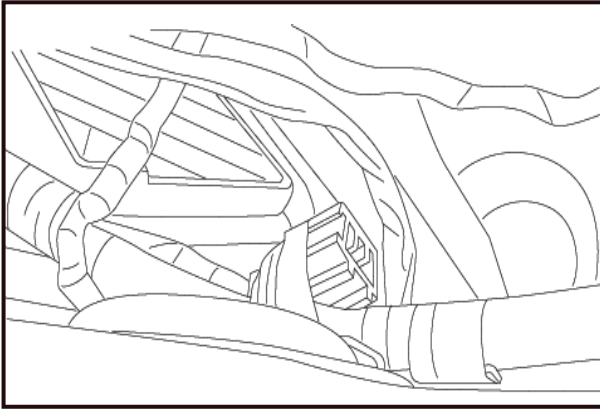


Tools Needed:

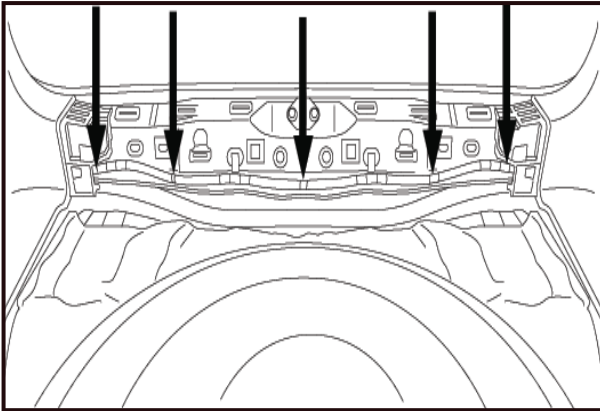


06 Interior Main Harness Routing(Continued)

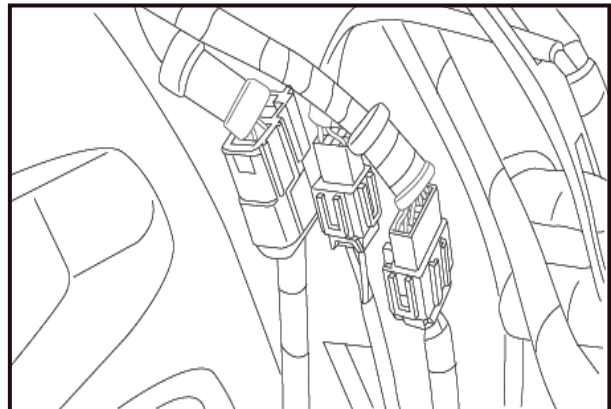
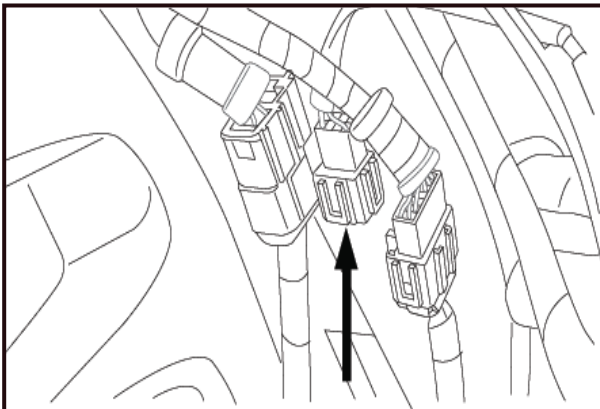
- 2) Locate vehicle's white 8-Pin connector taped to factory wire harness near floor of vehicle.
- 3) Insert the white 8-Pin connector from the long branch of trailer tow harness into the factory wire harness connector.



- 4) Route wire harness along factory wire harness along back of spare tire compartment and secure with five cable ties. Securely tighten cable ties and trim with wire cutters.

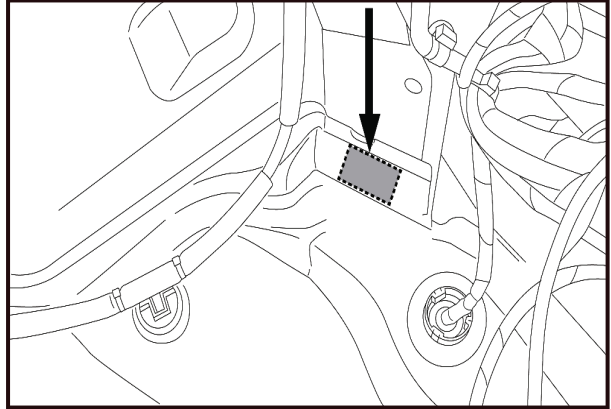
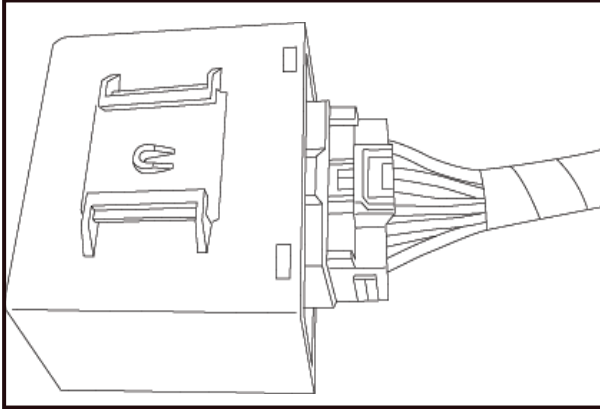


- 5) On passenger side pull trim panel away from body to locate vehicle's other white 8-Pin connector located near other vehicle connectors.
- 6) Insert the remaining white 8-Pin connector on the trailer tow harness into the factory wire harness connector.

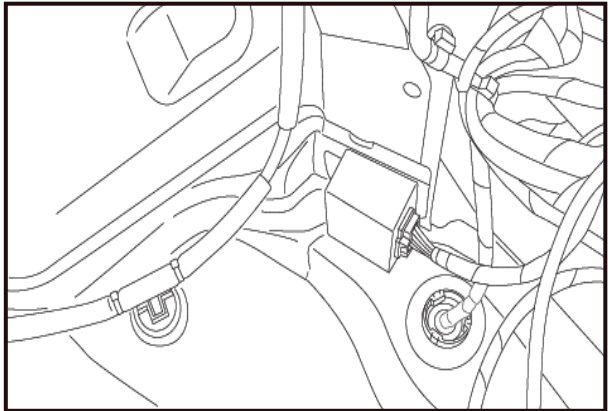
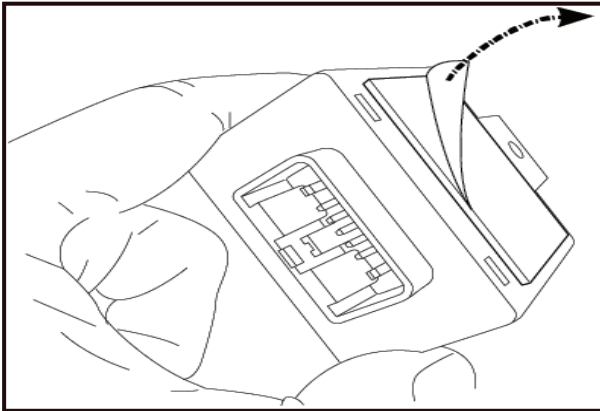


06 Interior Main Harness Routing(Continued)

- 7) Insert 14-Pin connector on main interior harness into trailer tow module.
- 8) Clean the indicated area on sheet metal with alcohol.
- 9) Remove adhesive backing from the trailer tow module.



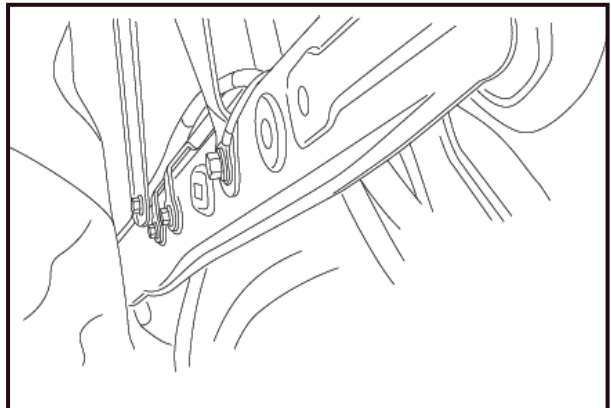
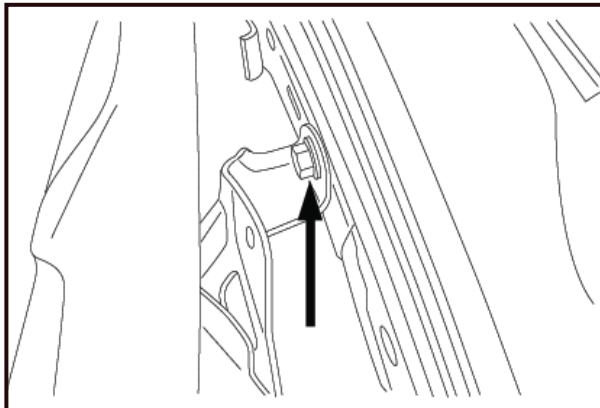
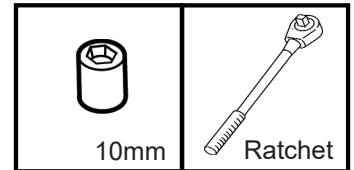
- 10) Secure to the side of the vehicle in the location near the floor shown by pressing firmly against the module to the sheet metal.



07 Ground Wire Attachment

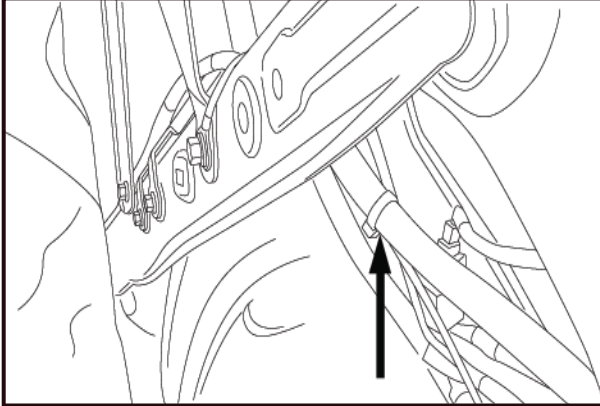
- 1) Locate bolt behind passenger side interior panel as shown.
- 2) Remove the bolt using a socket and 10mm socket (Torque Spec 9.0 - 12.0 N-m).
- 3) Route White ground wire with ring terminal behind frame and attach to the bolt location and tighten (Torque Spec 9.0 - 12.0 N-m).

Tools Needed:



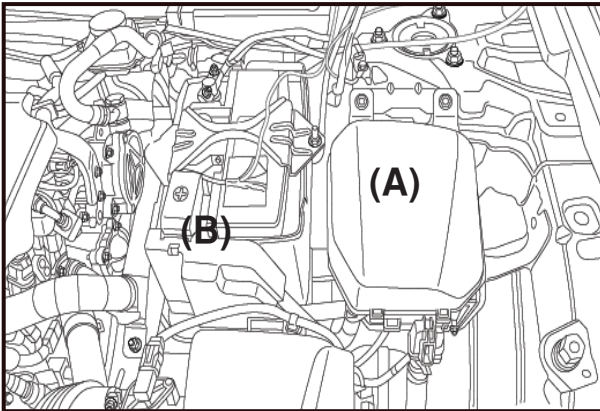
07 Ground Wire Attachment(Continued)

- 4) Use a small cable tie and attach to adjacent wire.
Note: Secure remaining wires using cable ties If needed.

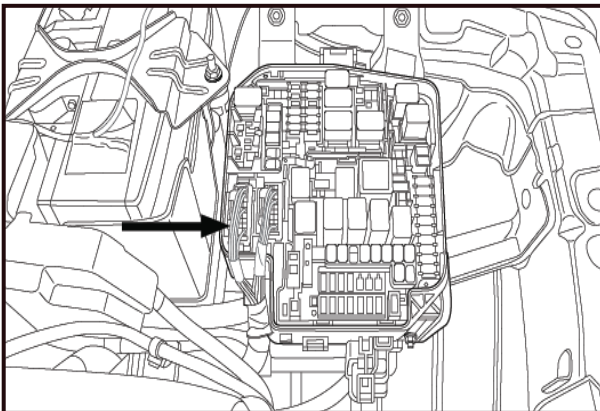


08 Battery Jumper Installation

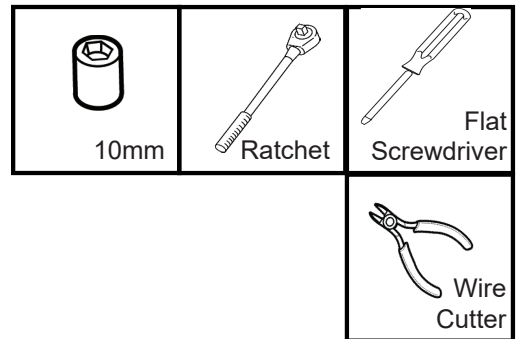
- 1) Open hood of car and locate fuse box(A) and battery(B).
- 2) Remove fuse box cover and positive battery cover using a flat screwdriver.



- 3) Locate and identify 22-Pin connector in fuse box that the main harness power wire will be inserted to and unplug.

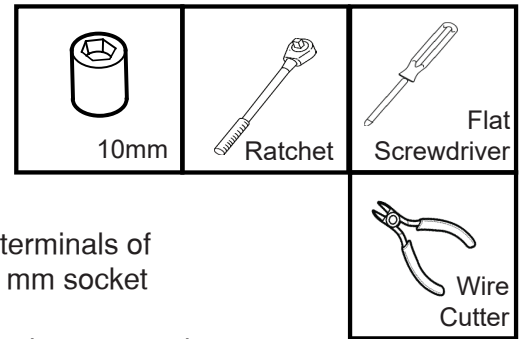


Tools Needed:

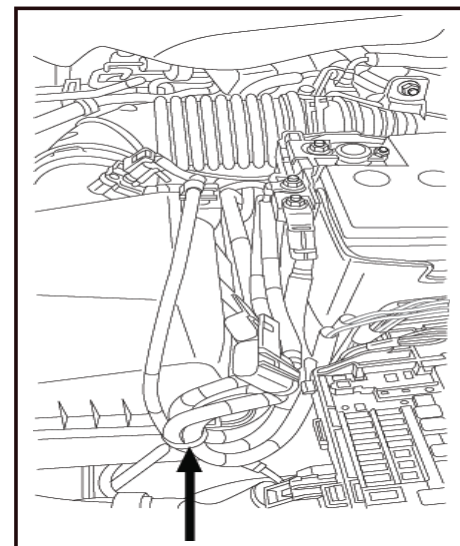
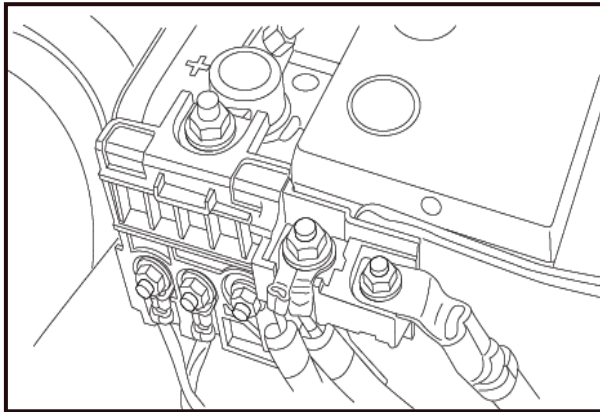
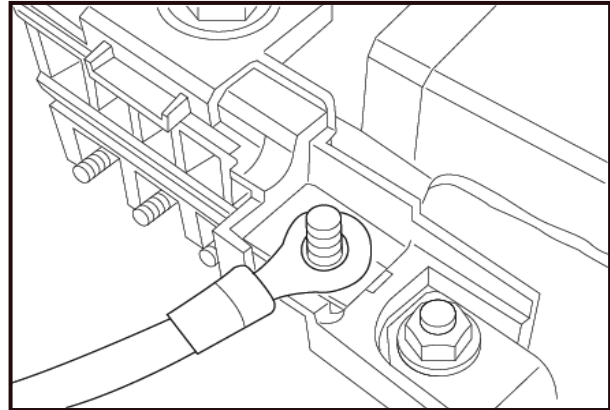
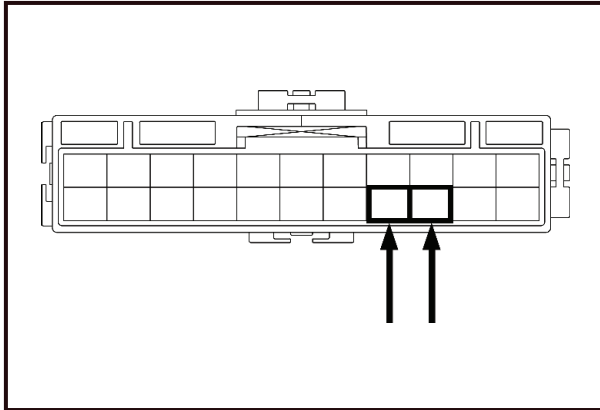


08 Battery Jumper Installation(Continued)

Tools Needed:

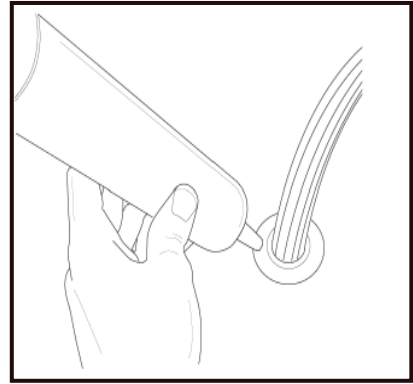


- 4) Locate the proper cavities to be populated. Grip the wire behind the terminal of Battery jumper harnesses and firmly insert into the connector. Repeat until all two Battery jumpers are plugged into the 22-Pin factory connector.
- 5) Reinsert connector back into fuse box.
- 6) Using a 10mm socket remove nut on battery post. Place ring terminals of Battery jumper harnesses over stud and reattach nut using 10 mm socket (**Torque Spec 9.0 - 12.0 N-m**).
- 7) Place cable tie around Battery jumper harnesses to factory wire harness and securely tighten cable tie and trim with wire cutters.
- 8) Reattach positive battery cover and fuse box cover and close hood.



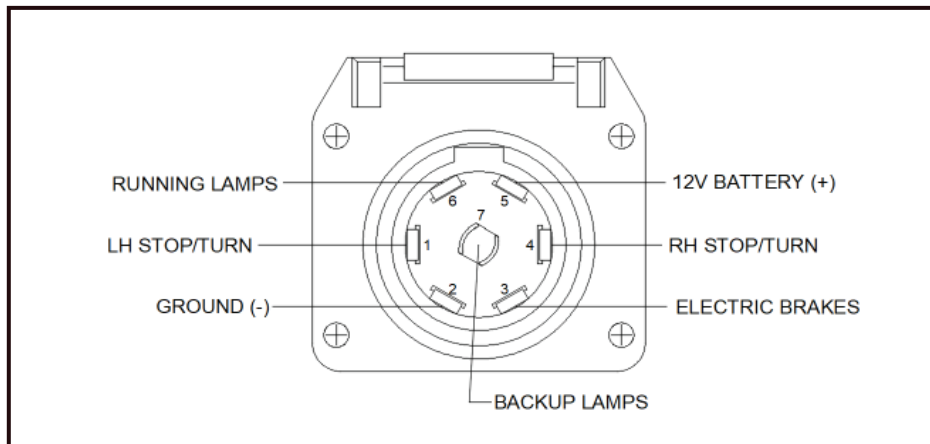
09 Finishing Steps

- 1) Seal the O-Ring floor grommet with silicone to prevent any possible water intrusion.
- 2) Reinstall all trim, tie downs and interior panels in reverse order of removal, ensuring all fasteners are properly installed.
- 3) Clean vehicle.
- 4) Vacuum and clean any debris by installation.
- 5) Place installation instructions in the glove box.
- 6) Connect negative (-) battery terminal.



10 Confirm Correct Operation

- 1) Ensure all connections are complete.
- 2) Use a 12V tester to check each signal function.
 - A) Verify tail light, right turn/brake, left turn/brake and backup circuits by activating each function on the vehicle individually using the appropriate terminal on the trailer connector.



11 Inspection: Trailer Hitch Wiring Kit

Inspect the installed / reinstalled parts for the following items:

| Inspection Parts | Inspection Items (.) | | | |
|---|----------------------|--|---|-----------------|
| | Clearance and fit | Scratches, dirt and harness interference | Installation, tightening and engagement | Operation check |
| Tow harness functions | -- | -- | -- | • |
| Tow harness | • | • | • | -- |
| Driver-side left rear interior trim panel | -- | -- | • | -- |
| Passenger-side right rear interior trim panel | • | • | • | -- |
| Passenger-side right kick plate and rubber seal | • | • | • | -- |
| Rear threshold plate | • | • | • | -- |
| Rear storage compartments | • | • | • | -- |
| Rear floor covering | • | • | • | -- |
| Vehicle negative power cable | -- | -- | • | -- |

Notes:

1. Verify signal functionality at the trailer harness plug using the test procedure on page 12.

11 Inspection: Trailer Hitch Wiring Kit(Continued)

Caution: When the battery is disconnected, the DSC may stop operating.

(The DSC OFF indicator will flash at this time, and the TCS / DSC operation indicator will illuminate.)

1. Turn the ignition switch to 'OFF' and then turn it back to 'ON'.
2. Turn the steering wheel clockwise as far as it will go, and then turn it back counterclockwise as far as it will go.
3. Check that the TCS / DSC operation indicator is turned off.
4. Turn the ignition switch to 'OFF' and then turn it back to 'ON'.
5. Check that the TCS / DSC operation indicator is turned off. If the TCS / DSC operation indicator is still illuminated or the DSC indicator is not turned off when the ignition switch is turned back to 'ON' contact your Mazda dealer.

Caution: If the battery is disconnected, the power windows may no longer fully open or fully close automatically.

1. Turn the ignition key to the 'ON' position.
2. Press the power window switch to fully open the power windows.
3. Lift up the power window switch to fully close the power windows, and keep it pulled up for approximately two seconds.
4. Position the engine switch at 'OFF', and then at 'ON' again.
When the function doesn't work after these procedures, please contact your Mazda dealer.

Caution: If the battery is disconnected, the TPMS (Tire Pressure Monitoring System) initial setting is reset and the system may not operate normally.

1. Adjust the tire pressure (verify tire pressure using label on body side with driver's door open).
2. Turn the ignition switch to the 'ON' position.
3. Press the TPMS (SET) switch (long-press it until TPMS warning light in meter flashes two times and a beep sounds one time).
4. Turn the ignition switch to 'OFF'.
5. If the TPMS warning light illuminates or flashes even though the above procedure has been performed, contact an Authorized Mazda Dealer.

| | | |
|----------|---------|---------------------|
| Date: | | |
| Vehicle: | | |
| VIN: | | |
| Approved | Checked | Person in charge |

TROUBLESHOOTING GUIDE (TURBO)

PART NUMBER:
VA41V7780
VAS1V7780

APPLICABLE MODELS:
2022 > CX-50

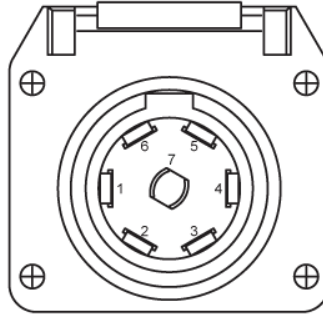
7-WAY TRAILER HITCH WIRING KIT

TOOLS REQUIRED

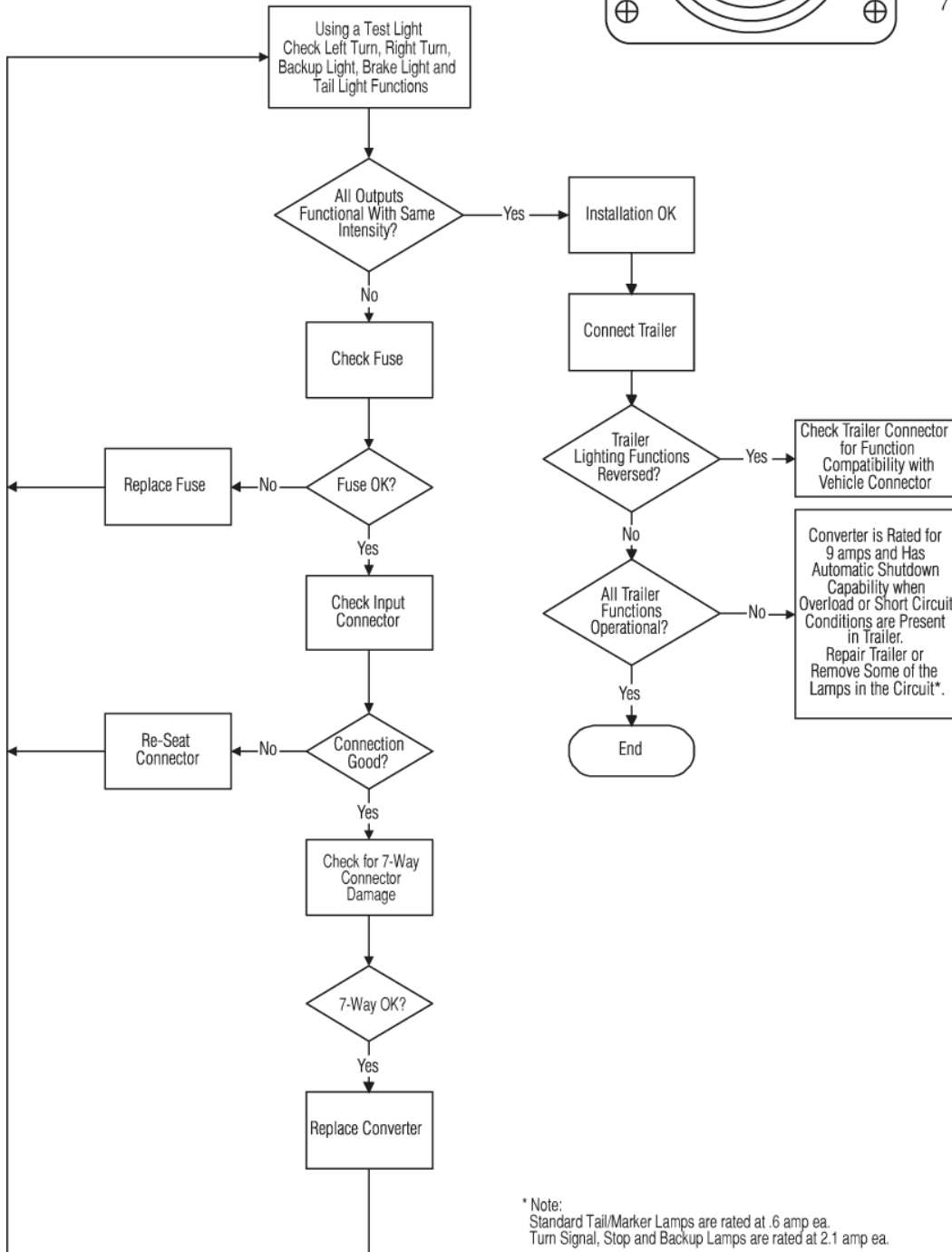
TEST LIGHT

METHOD

1. Insert Tester into 7-Way trailer connector.
2. Confirm individual circuit operations.



- | | |
|-------------------|----------|
| 1 LH STOP/TURN | YELLOW |
| 2 GROUND (-) | WHITE |
| 3 ELECTRIC BRAKES | BLUE |
| 4 RH STOP/TURN | GREEN |
| 5 12V BATTERY (+) | RED/BLUE |
| 6 RUNNING LAMPS | BROWN |
| 7 BACKUP ALARM | ORANGE |



* Note:
 Standard Tail/Marker Lamps are rated at .6 amp ea.
 Turn Signal, Stop and Backup Lamps are rated at 2.1 amp ea.