HITCH INSTALLATION INSTRUCTIONS

MAKE:	YEARS:	MODEL/TRIM:
BMW	2023	i4

www.stealthhitches.com 833•694•4824

RACK RECEIVER KIT#: **SHR31041** COMPATIBLE WITH TOW KIT: **SHT25006**

2" RACK RECEIVER MAXIMUM PAYLOAD: 350 LBS
MAXIMUM TOW RATING: 3500 LBS
MAXIMUM TONGUE WEIGHT: 350 LBS

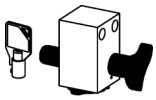
UNDER VEHICLE TRIMMING:

HEAT SHIELD: NO
FASCIA: NO
GRAVEL GUARD TRIMMING: YES

READ ALL INSTRUCTION WARNINGS AND LABELS

NO WELDING, METAL DRILLING OR VISIBLE TRIMMING REQUIRED

PARTS SUPPLIED WITH RACK RECEIVER KIT:


LATCH BLOCK & KEYS


(2) BOLTS 5/8" - 11 x 5"

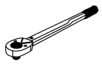

(2) 5/8" NYLOCK NUTS

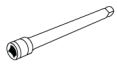

2" RACK RECEIVER

TOOLS REQUIRED:


15/16" OPEN END WRENCH


10mm 18mm, & 15/16" SOCKETS


TORQUE WRENCH


SOCKET EXTENSION


SAFETY GLASSES


RATCHET


FLASHLIGHT


DREMEL TOOL


PLASTIC PRY TOOLS


FILE


T20 TORX

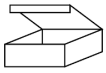

90 DEGREE PICK

ADDITIONAL PARTS FOR TOW KIT:


BALL MOUNT 7" RISE, SHORT

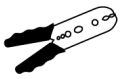

CHAIN HOOKS


2" BALL


PASSIVE WIRING KIT BOX

ADDITIONAL TOOLS FOR TOW KIT:


PLIERS


STRIPPER/ CRIMPING TOOL


MULTIMETER


FLATHEAD SCREWDRIVER


DRILL & 3/8" BIT


SILICONE


T40 TORX

RACK RECEIVER INSTALLATION: USE STEPS 1-11 & 40-44
TOW KIT INSTALLATION: USE STEPS 1-44

<THESE INSTRUCTIONS MUST BE GIVEN TO THE END USER>

NOTICE: Installation of Stealth products may or may not require the addition of a wiring harness to the vehicle.

- The Rack Receiver only product does not require adding a wiring harness.
- The Rack Receiver plus Tow Kit requires the addition of a "Passive" wiring harness to the vehicle. The passive harness "reads" the output of the vehicle's lights and translates the signals to the trailer without being connected to the vehicle computer.

INSTALLATION NOTE: In most instances, these instructions will only outline disassembly of vehicle components. Re-installation of components will require the installer to retain vehicle hardware and work through disassembly instructions in reverse order. When installation is complete, double check that all vehicle components have been replaced and are secured.

IMPORTANT SAFETY NOTICE FOR STEALTH HITCH INSTALLERS AND CUSTOMERS.

Read all installation and operating instructions along with all labels before installing or using this product. Do not perform any installation or towing procedures without fully understanding the correct tools and actions for all steps. Call for support if needed.

⚠WARNING **Failure to comply with the safety information in these instructions could result in serious injury or death.**

⚠ Do not modify this product in any manner. Doing so could alter its integrity and lead to a loss of attachment between the trailer and the tow vehicle.

⚠ Adding Stealth hitch components to the chassis of any vehicle can be hazardous. There is potential for unexpected combustion of fuel, electric shock, burns, shifting or falling of unstable vehicle, damage to vehicle, injury from tool usage and many other hazards. This installation must be completed by someone who is aware of the hazards involved. This person must be knowledgeable of proper safety procedures for a vehicle modification of this nature, and for usage of the equipment required to perform the installation.

⚠ Without proper knowledge, towing can be a dangerous activity. Understand all the risks involved with towing before proceeding. For information on towing safety, see **"The Trailer Handbook: A Guide to Understanding Trailer and Towing Safety"** from the National Association of Trailer Manufacturers, www.NATM.com and your trailer and tow vehicle manufacturer's owner's manual.

⚠ Do not exceed tow or tongue rating of coupler, tow or tongue rating of hitch, or tow or weight ratings of tow vehicle or trailer. See vehicle and trailer manufacturer information for ratings. Exceeding these ratings may cause damage to towing components or loss of attachment between the trailer and vehicle.

⚠ While installation is being performed, check for signs of damage or excessive corrosion. Do not install hitch components over vehicle parts that are broken or have compromised structural integrity.

⚠ This product was designed to fit vehicles in their original, "as manufactured" condition. Compatibility with vehicles having replacement parts, or other modifications is not guaranteed. Inspect vehicle for modifications before installation of this product.

⚠ Some accessories, like the rack receiver, are not rated for towing. Do not use any accessories without proper knowledge of their use.

⚠ A visual inspection of the hitch should be performed before each use. Regularly check that all connections are secure, including those that secure the hitch to the vehicle. Check for cracks or damage to the hitch. Do not use the hitch if cracks or damage outside of normal wear is found. Using a hitch that has unsecure connections and/or cracks or damage could result in damage to the tow vehicle, trailer, towing components and loss of attachment between the tow vehicle and trailer.

⚠ Stealth hitches are not compatible with any weight distribution or sway control products. Adding additional products to the trailer or chassis which modifies the function of the Stealth hitch may cause hitch failure.

NOTICE: Installation of hitch requires removal of vehicle parts and interaction with vehicular electronics. Before installation, check the condition of body panels and note any locations where panels are not flush. Check the electronic functions of the vehicle, such as: headlights, taillights, turn signals, cameras, backup sensors, Parking Distance Controller (PDC), foot activated cargo access, etc. It is the responsibility of the installer to restore the fit and function of the vehicle.

GAIN ACCESS TO MOUNTING AREA

PLASTIC PRY TOOLS

10mm SOCKET

1. Open the trunk. Remove the light cover trim next to each tail light with plastic pry tools. Use a socket to remove (1) screw from the top of the fascia. Repeat on other side of vehicle.

10mm SOCKET

T20 TORX

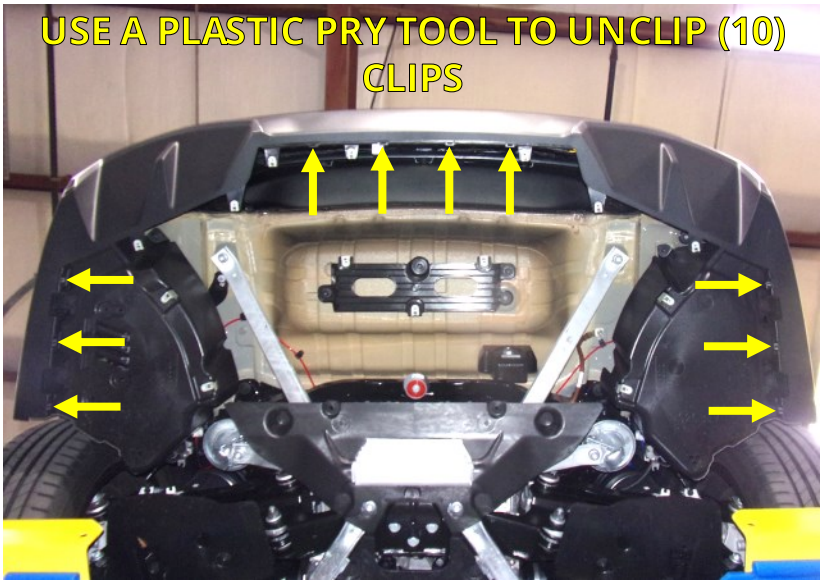
2. Inside the wheel well, locate and remove (3) screws securing the wheel well liner (yellow arrows). Move the wheel well liner to gain access to (1) screw (red arrow). Use a Torx to remove the screw.

10mm SOCKET

3. Under the rear of the vehicle, use a socket to remove (16) screws securing the gravel guard. Remove the panel and set aside.

PLASTIC
PRY TOOLS

4. With the gravel guard removed, locate and unclip (10) clips on the bottom edge of the fascia with plastic pry tools.

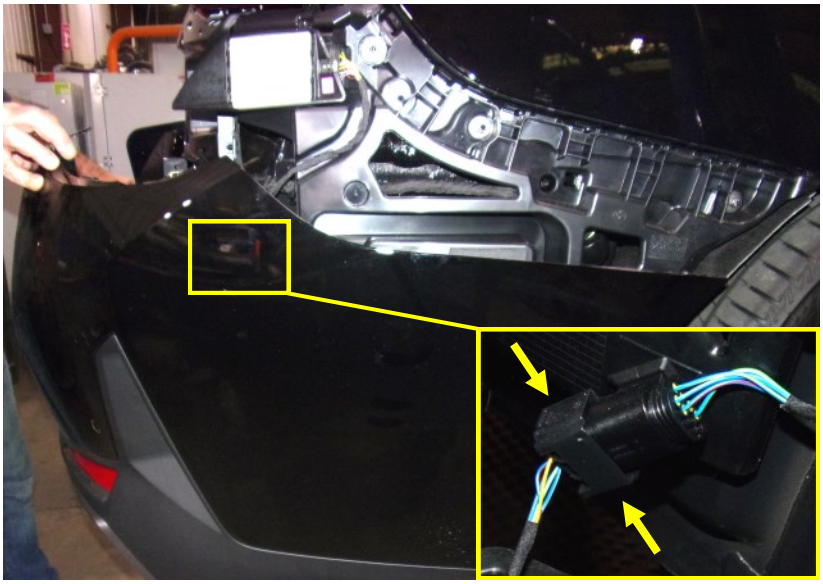


PLASTIC
PRY TOOLS

5. The rear fascia is clipped to the vehicle body behind the wheel wells. Pull outward on the top front of the rear fascia to expose a clip in the seam. With a plastic pry tool, push down on the exposed clip to disconnect. Continue to pull outward on the fascia and disconnect clips as they are exposed. Continue applying outward pressure until all the clips are released. Repeat on other side of vehicle.

6. This step requires a partner. Pull fascia slightly away from the vehicle. Disconnect the wiring harness plug on the passenger side of the vehicle. Remove the fascia completely.

NOTICE: Carefully remove the fascia and place on a blanket or pad.



GAIN ACCESS TO MOUNTING AREA CONTINUED

90 DEGREE PICK

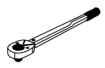
7. Use a 90 degree pick tool to remove (8) rivets securing the kick wand panel to the factory reinforcement beam. Unplug the kick wand panel connector and remove the panel. Save (2) rivets for reinstallation.

18mm SOCKET

8. Use a socket to remove the (4) nuts that secure the factory reinforcement beam to the vehicle. Save the nuts for the hitch installation. Discard the factory reinforcement beam.

INSTALL STEALTH HITCH FRAME

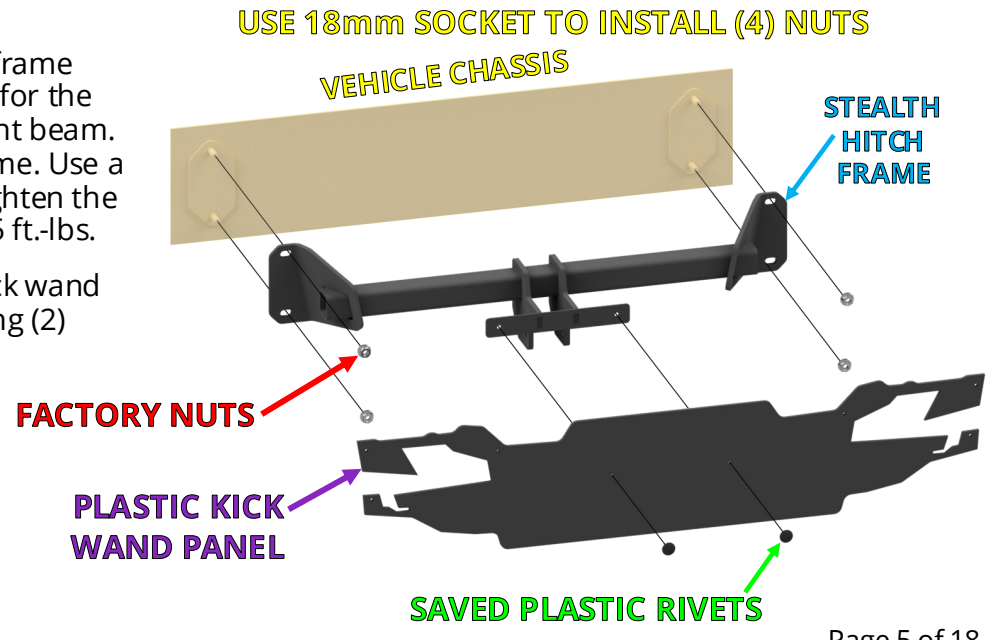
18mm SOCKET



TORQUE WRENCH

9. Install Stealth hitch frame over the studs used for the factory reinforcement beam. Center the hitch frame. Use a torque wrench to tighten the (4) factory nuts to 85 ft.-lbs.

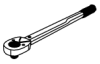
10. Attach the plastic kick wand panel as shown, using (2) saved plastic rivets.



MOUNT LATCH BLOCK

15/16" SOCKET

15/16" OPEN END WRENCH



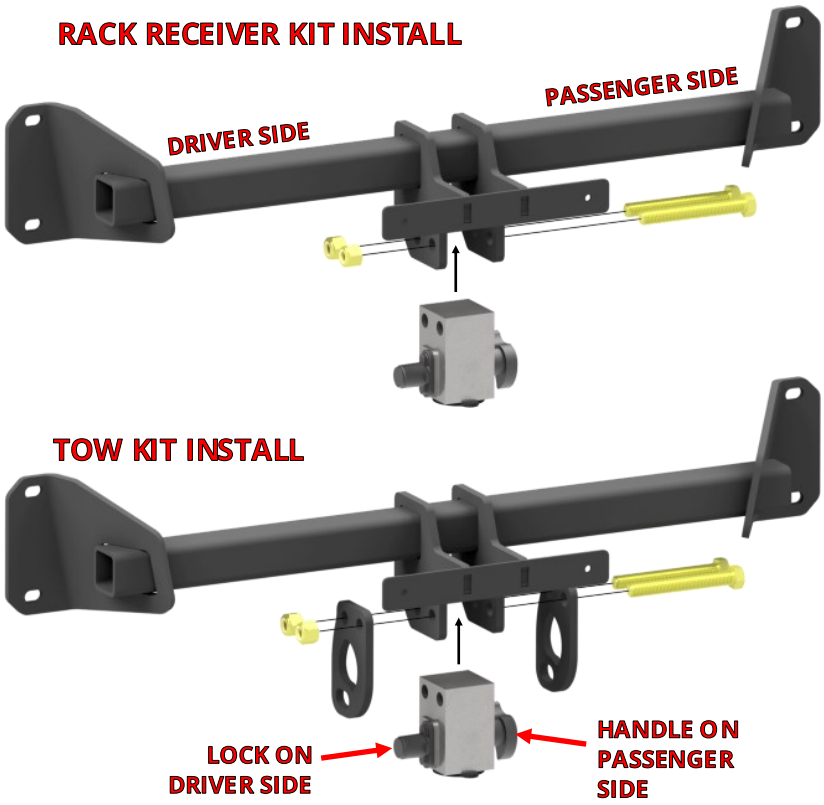
TORQUE WRENCH

11. Installation of the latch block varies depending on which kit you are installing.

- ***Rack Receiver Kit:*** Install the latch block with (2) 5/8"-11 x 5" bolts and (2) 5/8" nylock nuts. Tighten each bolt to 150 ft.-lbs.

- ***Tow Kit:*** Install the latch block and (2) chain hooks with (2) 5/8"-11 x 5" bolts and (2) 5/8" nylock nuts. Tighten each bolt to 150 ft.-lbs.

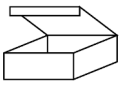
NOTICE: Keys are packaged within the latch block, remove keys and store in safe location.



IF INSTALLING A RACK RECEIVER KIT, SKIP TO STEP 40.
IF INSTALLING A TOW KIT, CONTINUE TO STEP 12.

INSTALL PASSIVE WIRING KIT

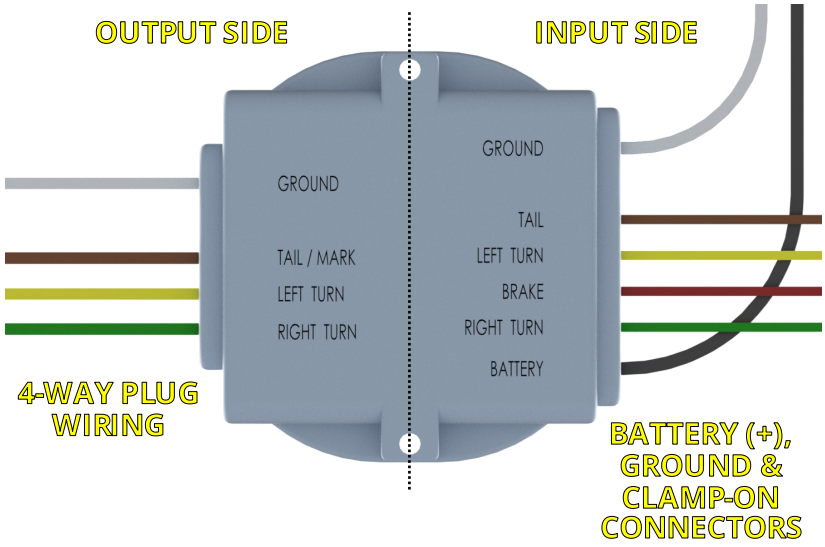
#	DESCRIPTION	QTY
1	4-WAY CONNECTOR HARNESS	1
2	CONTROL MODULE	1
3	4-WAY CONNECTOR COVER	1
4	CABLE TIE – 8”	8
5	CABLE TIE – 14”	2
6	MAGNETIC CABLE HOLDER	1
7	M8 SERRATED FLANGE NUT	1
8	FORK TERMINAL	1
9	ADHESIVE FOAM STRIP	2
10	BUTT CONNECTOR (BLUE)	1
11	BUTT CONNECTOR (RED)	4
12	CLAMP-ON CONNECTORS	4
13	POWER WIRE	1

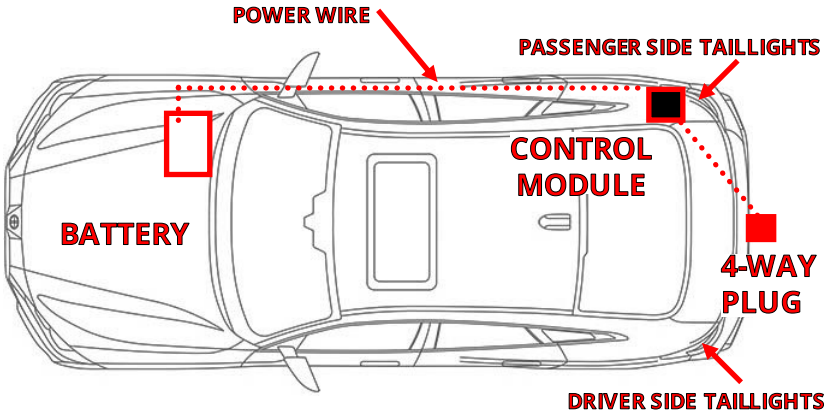


PASSIVE WIRING KIT BOX

12. Locate the wiring kit box. Review the contents of the box against the list above to check for missing components. The passive wiring kit uses a control module to manage the functions of the trailer lighting. The module has an **“input”** side that receives power from the vehicle’s battery and signals from the vehicle’s taillights. The **“output”** side of the module delivers this information to the 4-way plug. The control module is connected to the vehicle’s battery and taillight wiring as outlined in the next steps.

NOTICE: Do not allow electrical system to become disconnected from power or ground. Doing so may interrupt electrical systems.

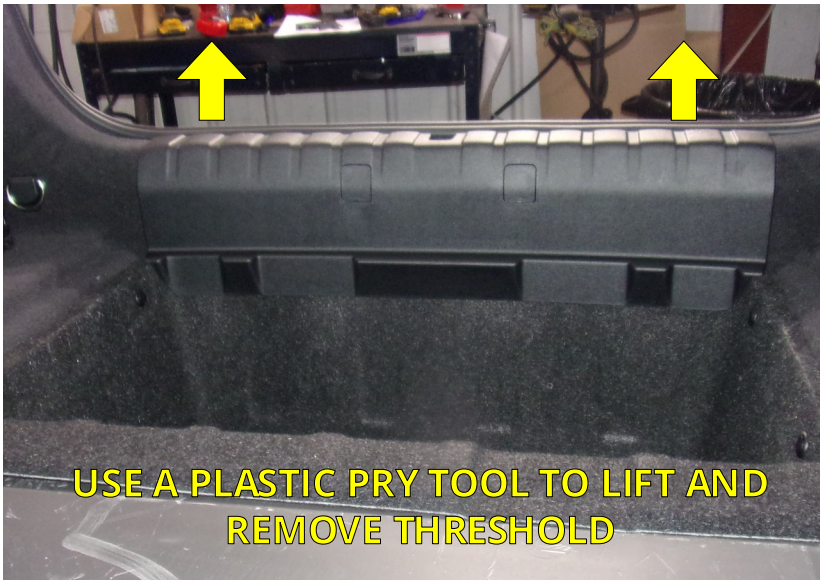




13. Inside the rear cargo area lift and remove the floor panel.

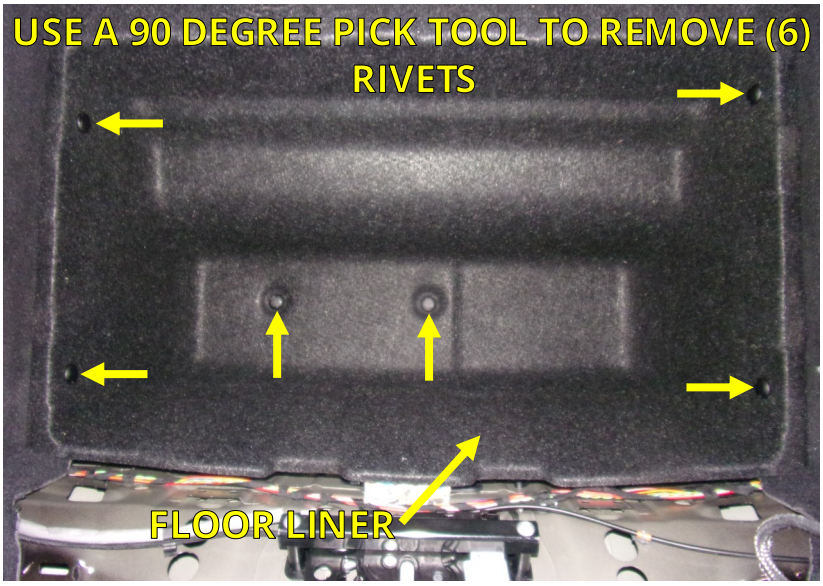
PLASTIC PRY TOOLS

14. Remove the threshold in the rear cargo area. Use a plastic pry tool on the side of the threshold, then lift up and remove.



90 DEGREE PICK

15. Use a 90 degree pick tool to remove (6) rivets from the floor liner inside the cargo area. Remove the liner and set it aside.



90 DEGREE PICK

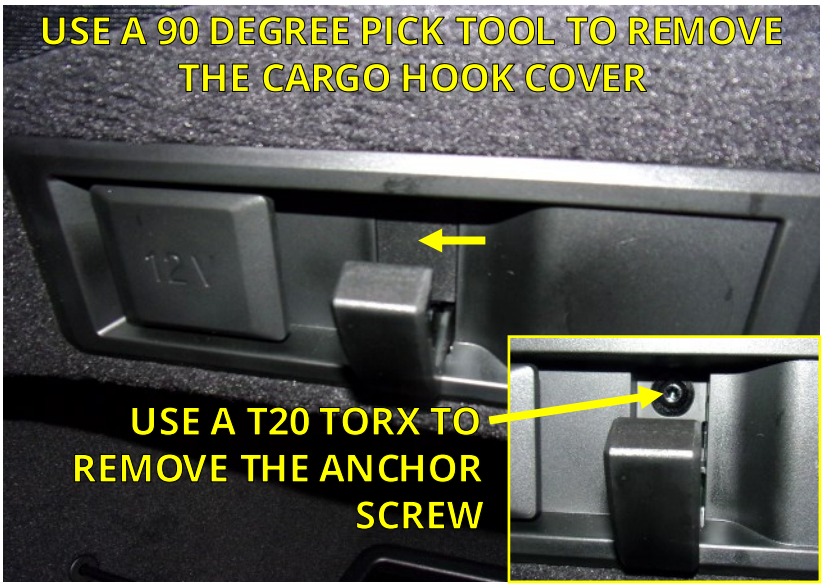
T40 TORX

16. On the passenger side of the cargo area locate and remove the two cargo anchors. Use a 90 degree pick tool to remove the cover and then use a Torx to remove each anchor.

T20 TORX

90 DEGREE PICK

17. On the same panel locate and remove the cargo hook. Use a 90 degree pick tool to remove the cover and then use a Torx to remove the anchor.



90 DEGREE PICK

PLASTIC PRY TOOLS

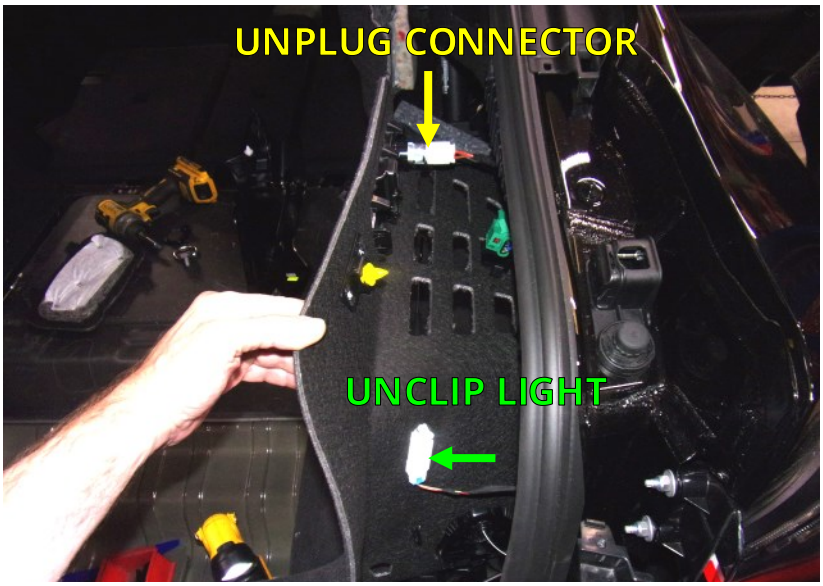
18. Open the rear passenger side door. Use a 90 degree pick tool to remove (1) plastic rivet located next to the door. Use plastic pry tools to remove the plastic upper panel above where the rivet was removed.

90 DEGREE PICK

19. Locate the plastic rivet which was underneath the plastic upper panel that was removed in the last step. Use a 90 degree pick tool to remove the rivet. Locate the emergency trunk release handle. Remove the pull cable from the handle, then slide the cable through the hole into the area behind the panel.

PLASTIC PRY TOOLS

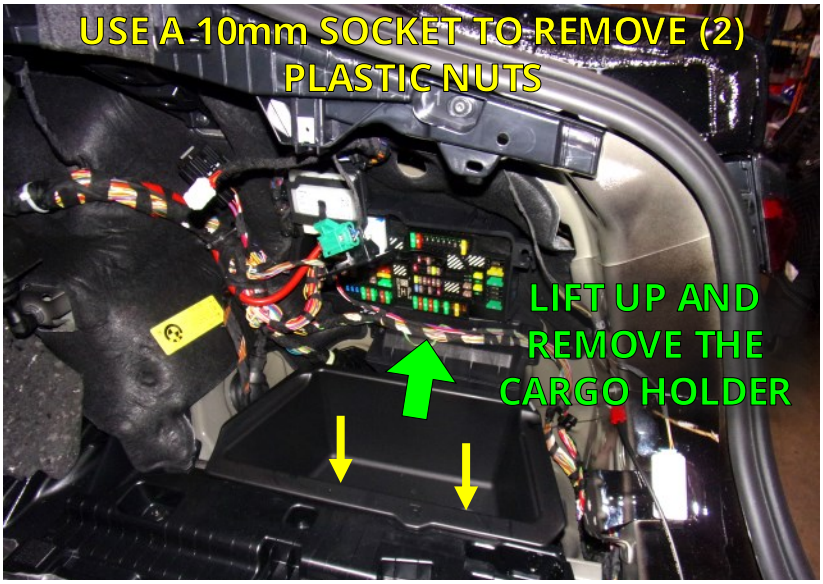
20. Use a plastic pry tool to dislodge the passenger side wall panel. Pull the top of the panel out to gain access to the area behind the panel. Locate the power plug connector and disconnect it (yellow arrow). Locate the cargo area light and unclip it from the side panel (green arrow).



21. Unclip the plug shown in the image from the side panel. Only unclip this plug from the panel; **do not unplug it.** Remove the side panel from the cargo area and set it aside.

10mm
SOCKET

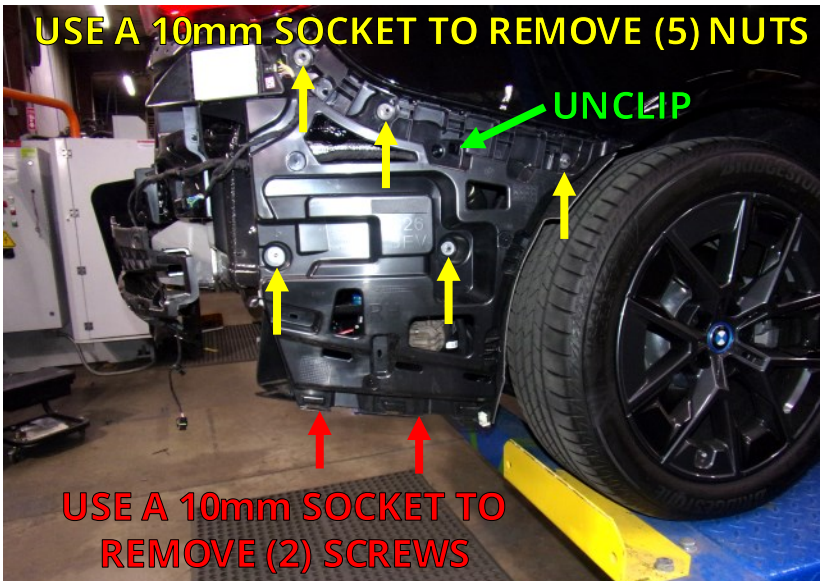
22. On the passenger side of the cargo area, use a socket to remove (2) plastic nuts inside the plastic cargo holder. Lift up and remove the cargo holder and set aside.



10mm
SOCKET

PLASTIC
PRY TOOLS

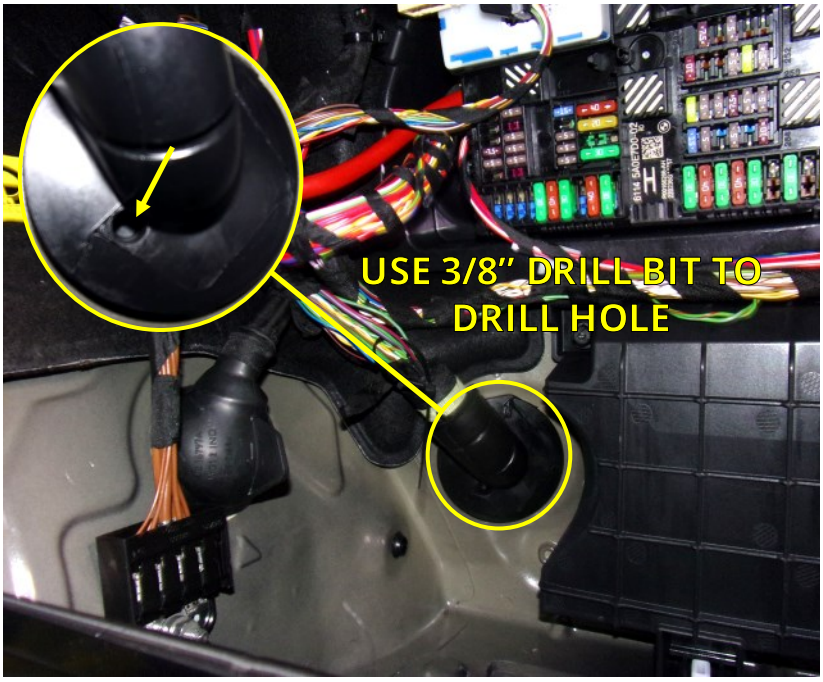
23. On the outside of the vehicle behind the passenger side tire, use a socket to remove (5) nuts and (2) screws (yellow and red arrows) which hold the fascia support panel. Use a pry tool to unclip (1) clip in the panel (green arrow). Pull the fascia support panel away from the vehicle to dislodge the panel. It is not necessary to fully remove the panel.

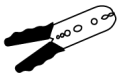


DRILL &
3/8" BIT

24. Inside the cargo area on the passenger side, find the wire harness grommet. Use a 3/8" drill bit to drill a hole through the grommet in the indicated area.

25. Retrieve the 4-way connector harness from the wiring kit box. Feed the tail wires through the hole in the grommet from the outside of the vehicle to the inside of the cargo area. Retrieve the control module from the wiring kit box. Feed the black power wire through the grommet from the inside of the cargo area to the outside of the vehicle.

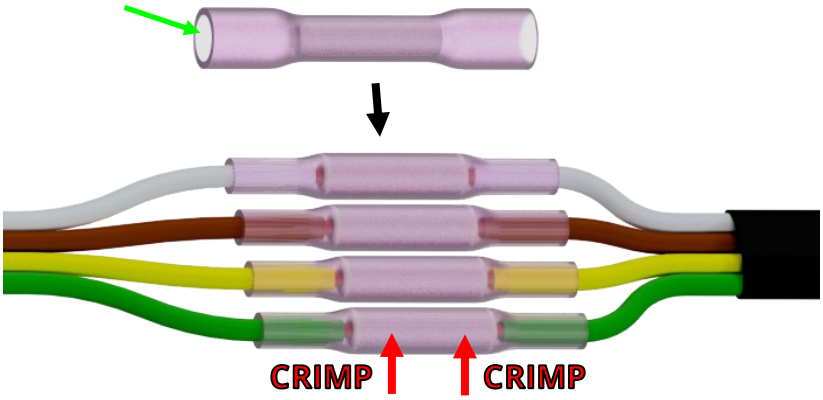




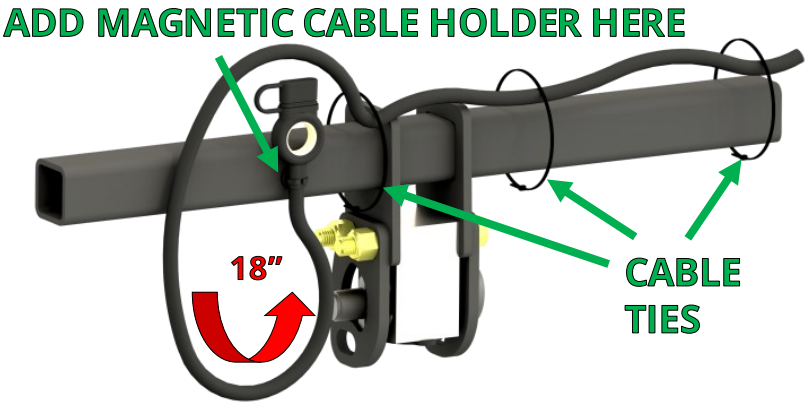
STRIPPER/ CRIMPING TOOL

26. Locate the tail of the 4-way connector harness and the output side wires of the control module. Attach each similar color wire to each other using a red butt connector and crimping tool.

NOTICE (OPTIONAL): The butt connectors are heat shrink connectors. Apply heat to waterproof the connectors after crimping.

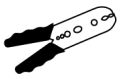


27. Secure harness to Stealth hitch frame with cable ties. Maintain an 18" loop from the cable tie to the 4-way plug. Add the magnetic cable holder and secure to the harness close to the 4-way plug, with a cable tie.



28. Secure the control module to an inside wall of the passenger side cargo compartment with the supplied adhesive foam strips.

INSTALL PASSIVE WIRING KIT CONTINUED

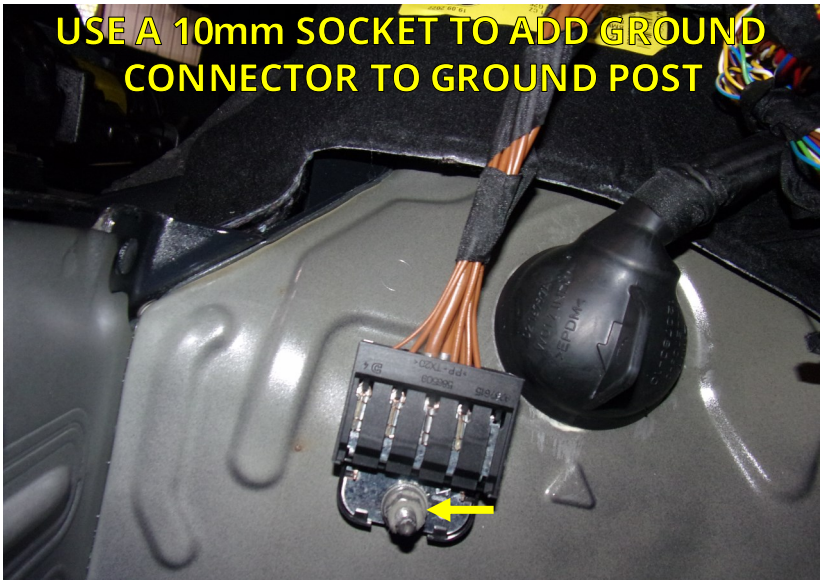


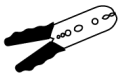
STRIPPER/ CRIMPING TOOL

10mm SOCKET

29. Locate the ground stud inside the passenger side cargo compartment. Trim the white ground wire so it will reach the stud without excess wire. Crimp the supplied fork terminal to the ground wire with a crimping tool. Loosen the ground stud and secure the fork to the stud.

NOTICE: Loosen ground stud just enough to install fork terminal, so vehicle wiring does not lose ground.





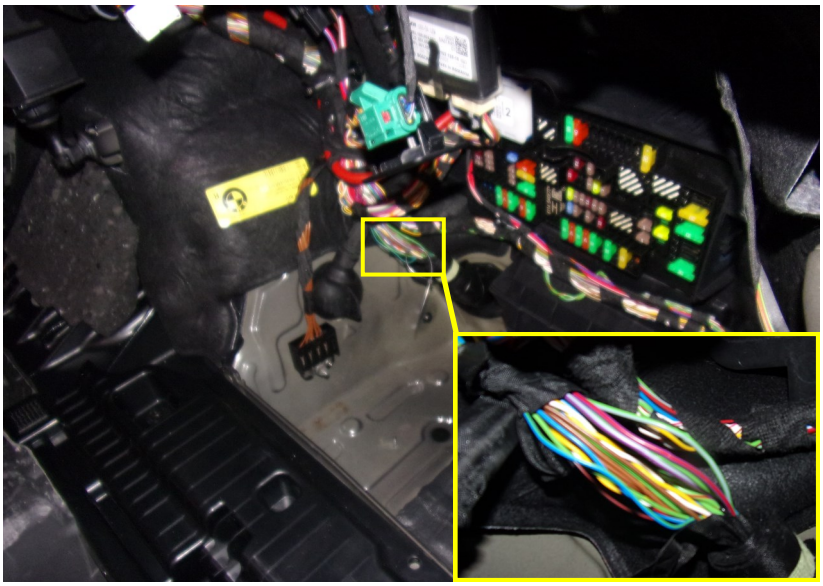
STRIPPER/ CRIMPING TOOL

MULTIMETER

PLIERS

30. The wires on the input side of the module need to be attached to the vehicle wiring. Inside the passenger side cargo compartment locate the indicated part of the vehicle wiring harness. Use clamp-on connectors to connect the yellow, green, and brown wires. (As shown in reference table below.)

NOTE: *Vehicles may have different wire colors than those shown. Verify circuits (wire colors) with multimeter.*



CLAMP-ON CONNECTOR COLOR REFERENCE TABLE

SIGNAL INPUT WIRES			POWER & GROUND WIRES		
FUNCTION	HARNESS	VEHICLE			
LEFT TURN	YELLOW	GREEN/BLUE	12V+ (POWER)	BLACK	BATTERY (+)
RIGHT TURN	GREEN	GREEN/GRAY	GROUND	WHITE	GROUND STUD (-)
MARKER	BROWN	PURPLE/RED			
BRAKE	RED	NOT USED			

NOTICE: Do not connect the red brake wire. This vehicle does not utilize a separate brake circuit. The brake signal is sent down the left and right turn circuits simultaneously.

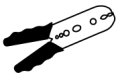
NOTE: If two colors are listed, the first color is the dominant color.

INSTALL PASSIVE WIRING KIT CONTINUED

FLATHEAD SCREWDRIVER

90 DEGREE PICK

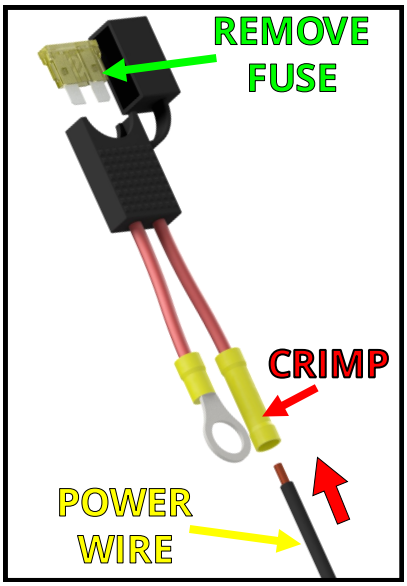
31. The plastic cover on the passenger side of the engine compartment will need to be removed. The cover lock is unlocked by turning it 90 degrees with a flathead screwdriver (yellow arrow). Use a 90 degree pick tool to remove (5) rivets from the edge of the cover (green arrows). Remove the cover and set it aside.



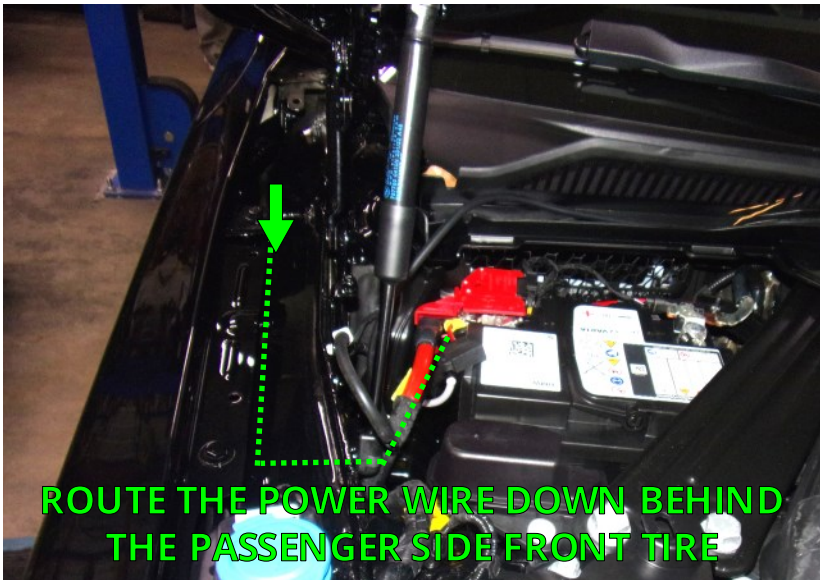
STRIPPER/ CRIMPING TOOL

10mm SOCKET

32. Locate the fuse holder supplied in the wiring kit box. Remove the fuse from the fuse holder. Crimp fuse lead to the power wire. Connect fuse ring terminal to the positive battery terminal (+).

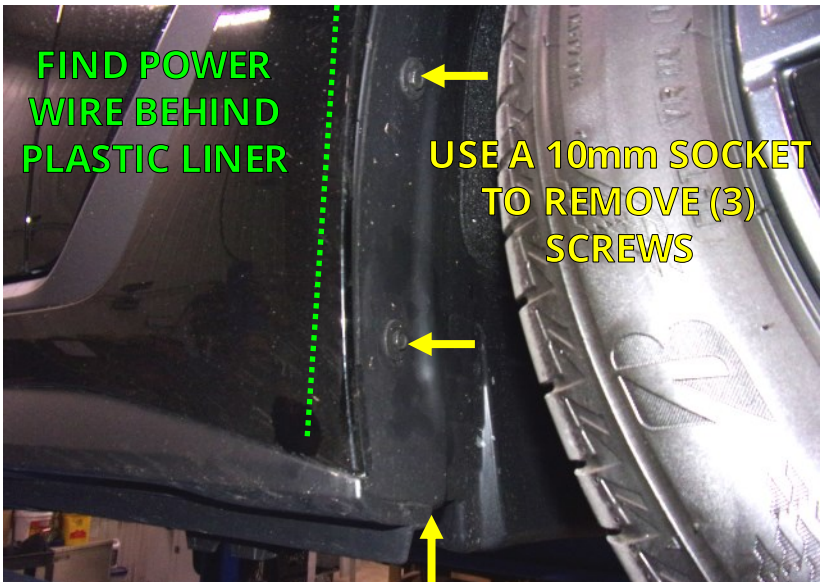


33. Use the space behind the passenger side front tire to route the power wire to the bottom of the vehicle. If necessary, "fish" the wire down with a stiff wire.



10mm SOCKET

34. Behind the passenger side front tire, use a socket to remove (3) screws holding the plastic tire liner. Fold the liner back and locate the power wire.

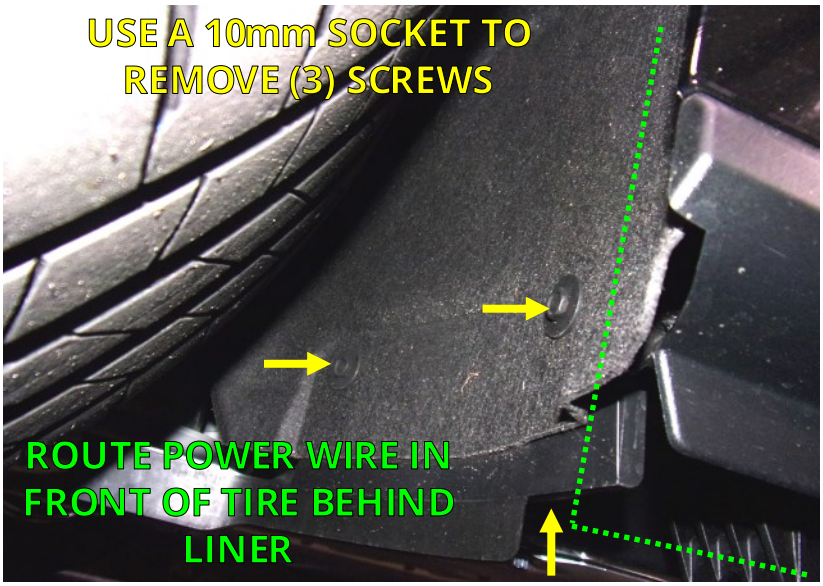


90 DEGREE PICK

35. Use a 90 degree pick tool to remove (10) rivets from the plastic cover on the bottom passenger side of the vehicle. Run the power wire toward the rear of the vehicle under the cover.

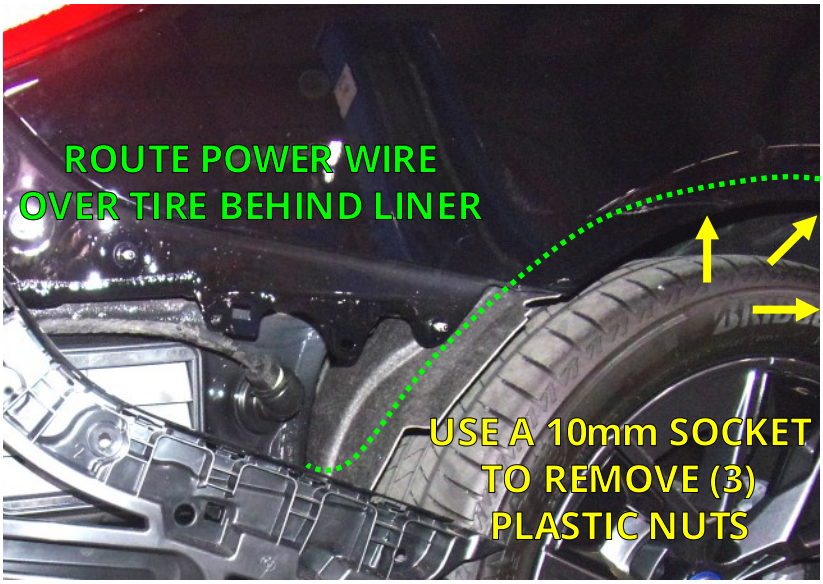
10mm SOCKET

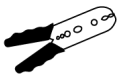
36. In front of the passenger side rear tire, use a socket to remove (3) screws holding the tire liner. Route the power wire from the plastic cover into the space in front of the tire.



10mm SOCKET

37. Use a socket to remove (3) screws holding the tire liner above the rear passenger side tire. Route the power wire over the tire and to the area where the control module power wire comes through the hole in the grommet.

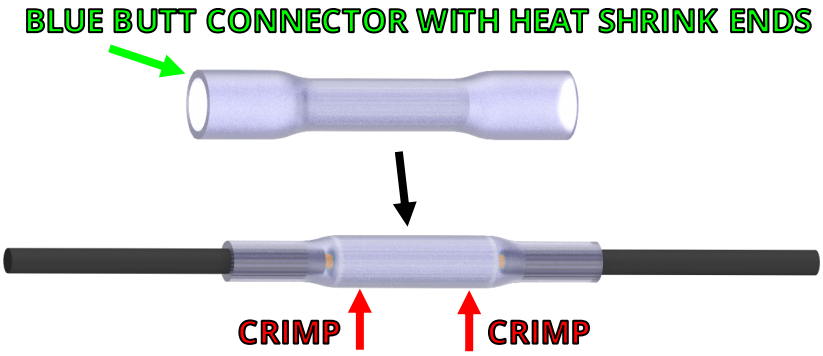




STRIPPER/ CRIMPING TOOL

38. Trim the power wires to remove excess length. Use the included blue butt connector to crimp the power wires together. Reinstall the 20 Amp fuse in the fuse holder located near the battery.

NOTICE (OPTIONAL): The butt connectors are heat shrink connectors. Apply heat to waterproof the connectors after crimping.



CRIMP EACH WIRE INTO THE SIDE OF THE BUTT CONNECTOR. APPLY HEAT TO WATERPROOF AFTER CRIMPING

SILICONE

MULTIMETER

39. Complete wiring installation.

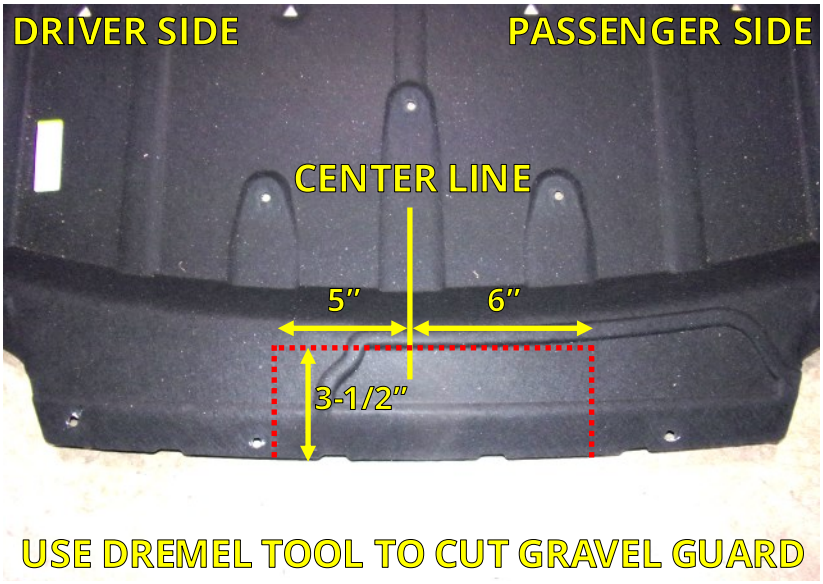
- Test the 4-way plug using a multimeter or connect the plug to a trailer and verify that the lights and brakes work correctly.
- Secure all wires and wiring components.
- Use silicone to waterproof the grommet with the 3/8” hole drilled through it.
- Use the remaining cable ties to secure wiring so that it is not loose and will not interfere with replacement of the fascia. Wiring should not be visible once the vehicle is reassembled.
- Reattach and secure the cargo area side panels, the fascia support panel, the battery cover, and the wheel well liners. Refer to Steps 13-37.

PREPARE FASCIA

DREMEL TOOL

FILE

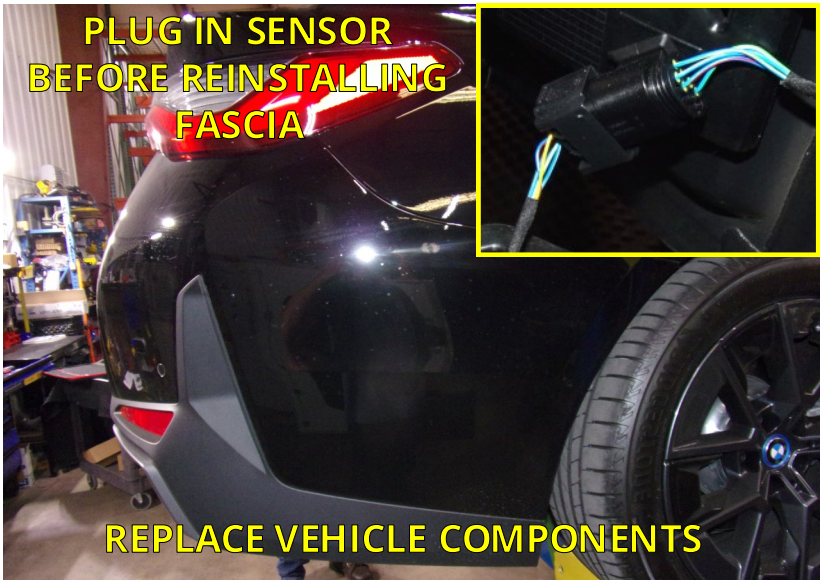
40. Cut out a section of the gravel guard with a Dremel tool as shown in the image. Use a file to smooth the edges of the cut.



FINISH INSTALLATION

41. Reattach and secure the fascia, gravel guard and other vehicle components in reverse order. Refer to Steps 1-6.

NOTICE: It's important to remember to plug in the sensor before you completely install the fascia.



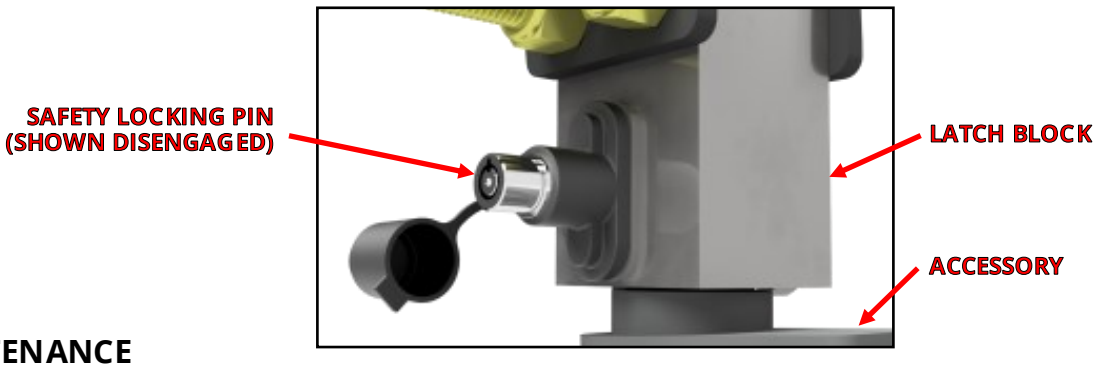
42. Finished view.

FINAL VEHICLE EXAMINATION

43. Examine the body panels to ensure that they are in a pre-installation condition. Test the electronic functions of the vehicle. Correct any inconsistencies.

44. Ensure that hitch components work properly.

- ***Verify that the lock works correctly.*** Push in the safety lock on the latch block then unlock with key. The lock should slide back out with the key when unlocked.
- ***Verify that each accessory can be installed correctly.*** Use the following steps to install and remove each accessory that will be used with the hitch. *(Rack Receiver and Ball Mount if purchased.)*
    1. Prepare latching mechanism. Turn handle clockwise if needed.
    2. Firmly insert "post" of accessory into latch block until handle releases indicating that the accessory is latched.
    3. Push in the safety locking pin until it fully engages. The locking pin prevents the handle from turning when pushed in, and confirms that the block is securely latched onto the accessory. The safety locking pin will not depress if the accessory is not fully latched.
    4. Use key to release safety locking pin.
    5. While holding on to the accessory, rotate handle clockwise to release and remove the accessory.
- ***Verify that no part of the accessories come into contact with the body of the vehicle.***



PRODUCT USE AND MAINTENANCE

NOTICE: ***If the hitch is being installed by a professional, the installer is responsible for training the end user in the use and maintenance of the product.***

- **Accessory installation procedure:**
    1. Prepare latching mechanism. Turn handle clockwise if needed.
    2. Firmly insert "post" of accessory into latch block until handle spins counter-clockwise indicating that the accessory is latched.
    3. Always depress the safety locking pin and check that it has fully engaged.
- ***Never use any accessory with the safety lock disengaged.*** Until the safety locking pin is engaged, the handle is able to turn. A fully engaged safety locking pin is confirmation that the accessory is properly latched into the latch block.
- ***Never use the rack receiver for towing.*** The rack receiver accessory is only to be used with payload carrying products, such as bike racks or luggage racks.
- ***Before each use, give the post of the accessory a light coating of lithium based grease.***
- ***Before each use, inspect the hitch to ensure that all bolted connections are secure and that no cracks or damage are present.*** Do not tow with the hitch if cracks or damage outside of normal wear is found.
- ***Remove the Stealth accessories from the latch block after each use.*** Do not leave accessories plugged in for extended periods of time.

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