



www.stealthhitches.com 833-694-4824

HITCH INSTALLATION INSTRUCTIONS

MAKE:
BMW

YEARS:
2016 - 2022
2016 - 2024
2024

MODEL/TRIM:
X1 sDrive 28i & M-Sport
X1 xDrive 28i & M-Sport
X1 M35i

RACK RECEIVER KIT#: **SHR31015**

COMPATIBLE WITH TOW KIT: **SHT25004**

2" RACK RECEIVER MAXIMUM PAYLOAD: 350 LBS

MAXIMUM TOW RATING: 3500 LBS

MAXIMUM TONGUE WEIGHT: 350 LBS



UNDER VEHICLE TRIMMING:

HEAT SHIELD: **YES**

FASCIA: **2023+ ONLY**

GRAVEL GUARD TRIMMING: **NO**



READ ALL INSTRUCTION WARNINGS AND LABELS



NO WELDING, METAL DRILLING OR VISIBLE TRIMMING REQUIRED

PARTS SUPPLIED WITH RACK RECEIVER KIT:



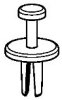
LATCH BLOCK
& KEYS



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



(2) 5/8"
NYLOCK NUTS



(8) PLASTIC
RIVETS



2" RACK
RECEIVER

ADDITIONAL PARTS FOR TOW KIT:



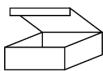
BALL MOUNT
5" RISE, SHORT



CHAIN HOOKS



2" BALL



PASSIVE WIRING
KIT BOX

TOOLS REQUIRED:



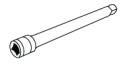
15/16" OPEN
END WRENCH



18mm DEEP WELL,
8mm, 10mm
& 15/16" SOCKETS



TORQUE
WRENCH



SOCKET
EXTENSION



SAFETY GLASSES



RATCHET



FLASHLIGHT



PAINTER'S TAPE



FLATHEAD
SCREWDRIVER



90 DEGREE
PICK



PLASTIC
PRY TOOLS



TIN SNIPS



PAINTER'S TAPE



FILE
2023+
MODELS ONLY



DREMEL TOOL
2023+
MODELS ONLY

ADDITIONAL TOOLS FOR TOW KIT:



MULTIMETER



PLIERS



STRIPPER/
CRIMPING
TOOL



12mm
SOCKET



PHILLIPS HEAD
SCREWDRIVER

RACK RECEIVER INSTALLATION: USE STEPS 1-25 & 43-49

TOW KIT INSTALLATION: USE STEPS 1-49

<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



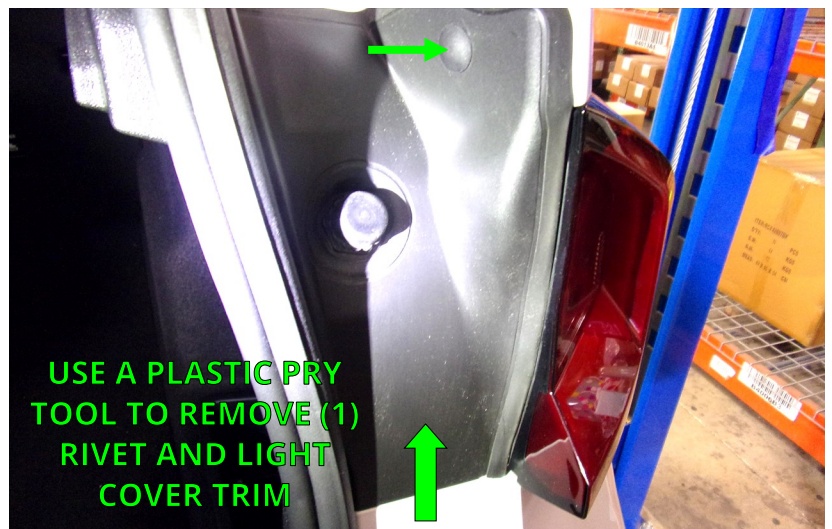
1. **2016-2022 Models** Remove the taillight cover. Locate and remove plastic screw from side wall using a flathead screwdriver or flat end of a pry tool. Unscrew the rubber stopper by turning it counterclockwise by hand.
2. **2016-2022 Models** Insert plastic pry tool at the bottom of the plastic cover and lift upward to remove taillight cover.



3. **2016-2022 Models** Locate and remove (1) screw holding the top of the fascia.
4. **2016-2022 Models** Remove (2) nuts that secure the taillight.



5. **2023+ Models** Use a plastic pry tool to remove the plastic rivet and light cover trim. Use the pry tool to pry on the bottom of the cover to remove it.



GAIN ACCESS TO MOUNTING AREA CONTINUED



10mm
SOCKET

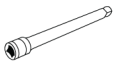


8mm
SOCKET

6. **2023+ Models** Under the area of the removed cover, use a socket to remove (1) screw and (1) nut securing the taillights (green arrows). Use a socket to remove (1) screw holding the top of the fascia (blue arrow).



10mm
SOCKET



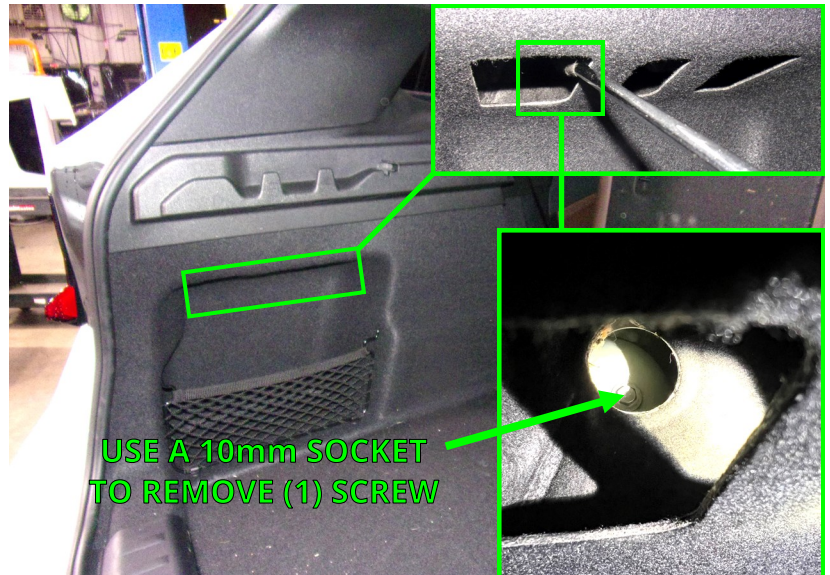
SOCKET
EXTENSION



FLASHLIGHT

7. **2023+ Models** inside the cargo area locate the indicated slot on the side of the cargo area side panels. Use a flashlight, socket, and socket extension to find and remove (1) screw securing the taillight.

NOTICE: A telescoping magnet may be needed to prevent dropping the screw once it is removed.



PLASTIC
PRY TOOLS

8. Slide the taillight to the rear of the vehicle. A plastic pry tool can be used to help if the light does not slide freely.
9. With the light removed, disconnect the light plug by pushing down on the clip and pulling the plug outward. Repeat Steps 1-9 on other side of vehicle.



GAIN ACCESS TO MOUNTING AREA CONTINUED



90 DEGREE
PICK

10. **2016-2022 Models** Locate the rivets inside the rear wheel well. Use a 90 degree pick or a pry tool to remove the (4) most rearward plastic rivets. The rivets secure the wheel well trim to the vehicle.

NOTE: Make sure not to damage plastic trim piece.

NOTE: Replacement plastic rivets are supplied.



PLASTIC
PRY TOOLS

11. **2016-2022 Models** Move wheel well lining to gain access to trim clips.
12. **2016-2022 Models** To allow partial removal of the rear wheel well trim, (3) clips will need to be disconnected. Apply outward pressure on wheel well trim. Start with the bottom clip and work up. Use a plastic pry tool to push down on clip to disconnect. Continue until all (3) clips are released.



GAIN ACCESS TO MOUNTING AREA CONTINUED



8mm
SOCKET



PAINTER'S TAPE

13. **2016-2022 Models** Behind the rear wheel well trim are (2) screws holding the fascia. Pull the trim away from vehicle to expose screws. Use a socket to remove screws. Repeat Steps 10-13 on other side of vehicle.

NOTE: To protect the trim from being scratched during the removal or replacement, cover it with painter's tape or something similar.

USE AN 8mm SOCKET
TO REMOVE (2)
SCREWS



90 DEGREE
PICK



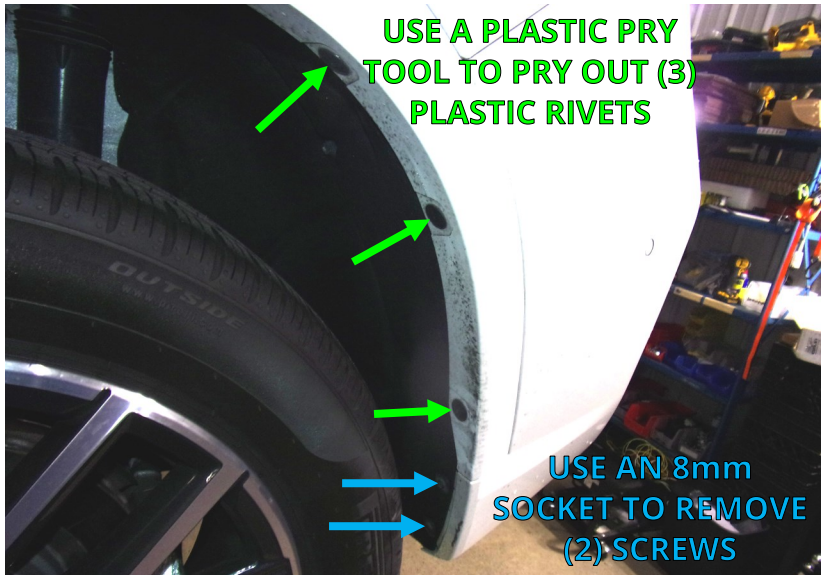
8mm
SOCKET

14. **2023+ Models** Locate the rivets inside the rear wheel well. Use a 90 degree pick or a pry tool to remove the (3) most rearward plastic rivets (green arrows). The rivets secure the wheel well trim to the vehicle. Use a socket to remove (2) screws securing the wheel well liner (blue arrows).

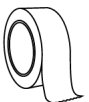
NOTE: Make sure not to damage plastic trim piece.

NOTE: Replacement plastic rivets are supplied.

USE A PLASTIC PRY
TOOL TO PRY OUT (3)
PLASTIC RIVETS



8mm
SOCKET



PAINTER'S TAPE

15. **2023+ Models** Behind the rear wheel trim is a screw holding the fascia. Pull the trim away from the vehicle to expose the screw. Use a socket to remove the screw. Repeat Steps 14-15 on the other side of the vehicle.

NOTE: To protect the trim from being scratched during the removal or replacement, cover it with painter's tape or something similar.

USE AN 8mm SOCKET
TO REMOVE (1) SCREW



GAIN ACCESS TO MOUNTING AREA CONTINUED



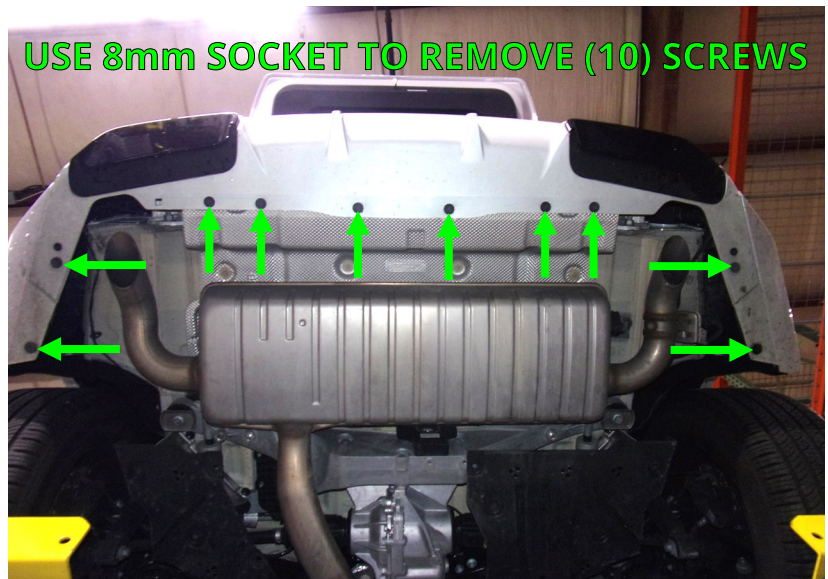
8mm
SOCKET

16. **2016-2022 Models** From underneath the vehicle, remove (12) screws from the bottom edge of the fascia, as shown.



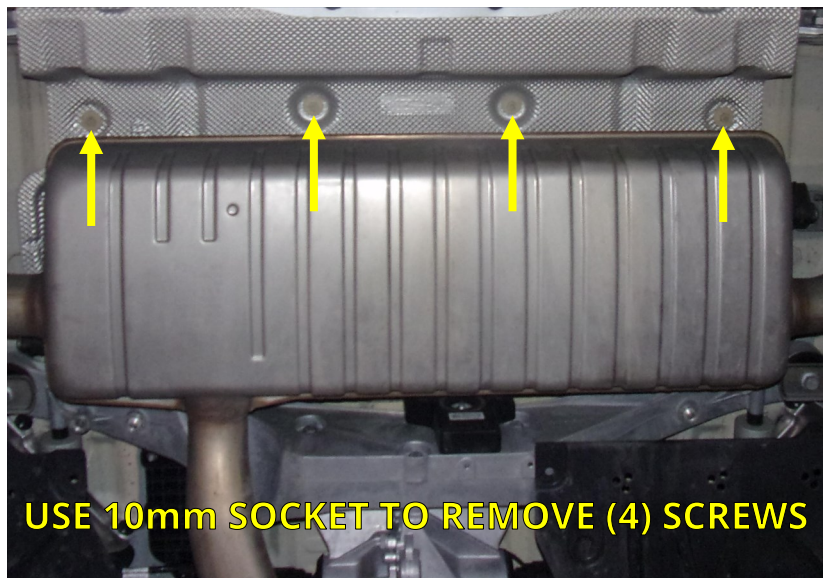
8mm
SOCKET

17. **2023+ Models** From underneath the vehicle, remove (10) screws from the bottom edge of the fascia, as shown.



10mm
SOCKET

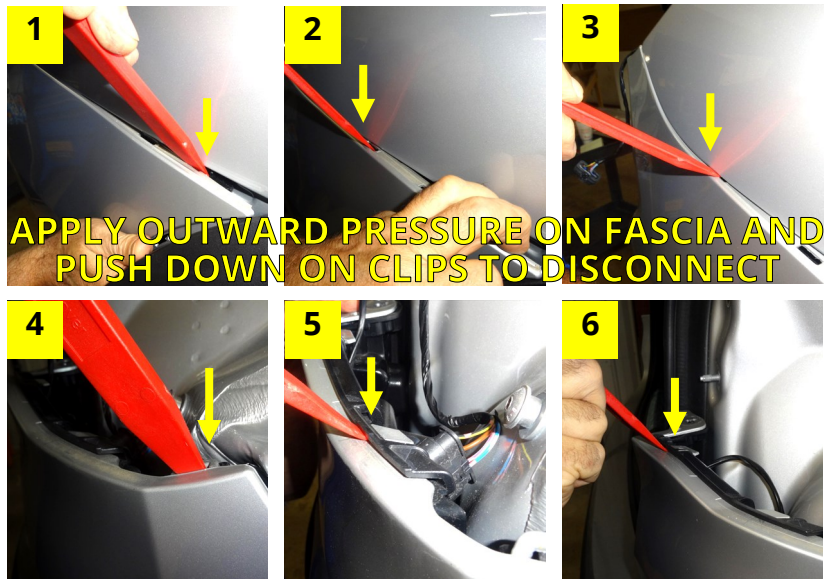
18. Locate and remove (4) screws from the heat shield.



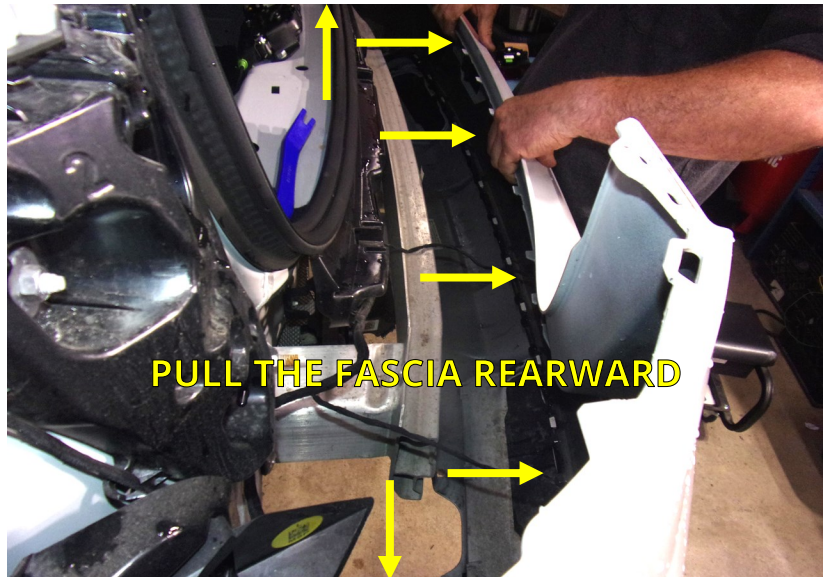
GAIN ACCESS TO MOUNTING AREA CONTINUED



19. The fascia is clipped to the vehicle body directly behind the wheel wells. Pull outward on the fascia to expose the first 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 until all clips are released. Repeat on other side of vehicle.

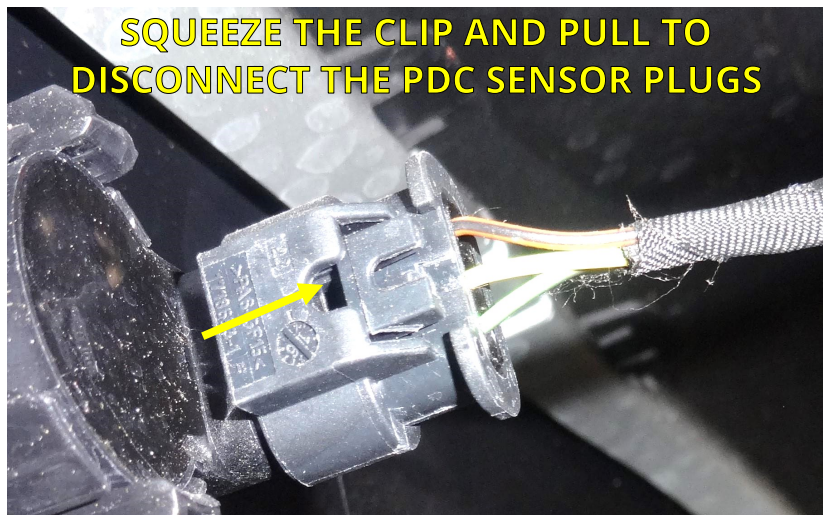


20. This step requires a partner. Pull the fascia rearward enough to access the (4 or 6) PDC sensor plugs.



21. Disconnect the (4 or 6) PDC sensor plugs. Squeeze clip and pull to unplug the PDC sensors. In some cases a 90 degree pick tool will be needed to disconnect the sensor plug. Remove the fascia completely.

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

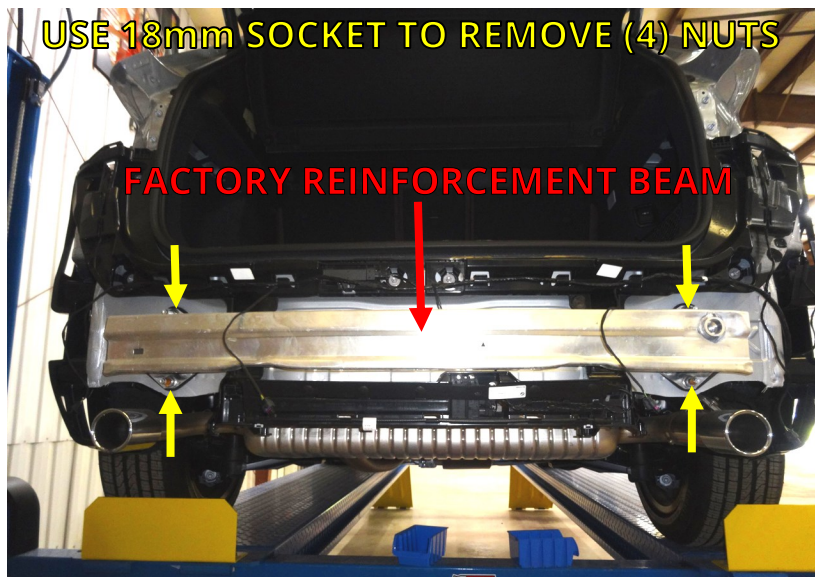


GAIN ACCESS TO MOUNTING AREA CONTINUED



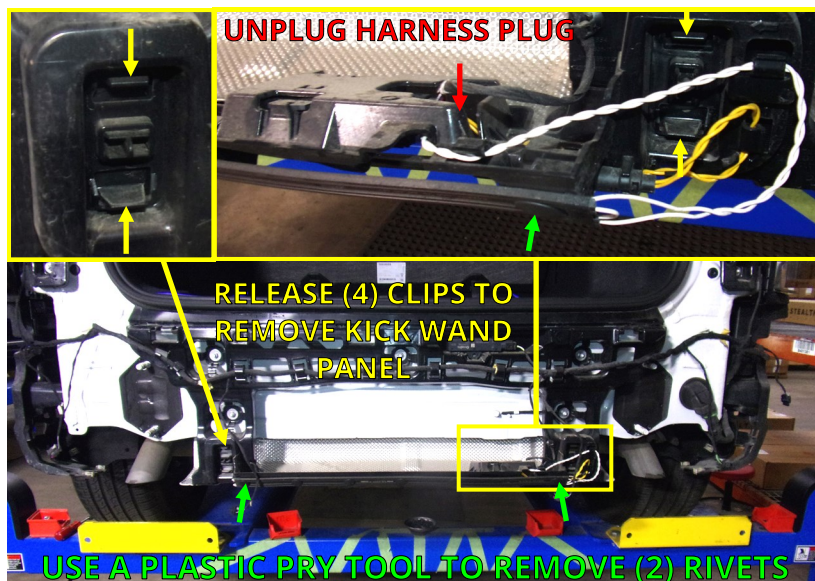
18mm
DEEP WELL
SOCKET

22. 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 reinforcement beam



PLASTIC
PRY TOOLS

23. **2023+ Models** Locate the (2) rivets securing the center piece of the kick wand panel. Use a plastic pry tool to remove the rivets (green arrows). Detach the kick wand panel by releasing the (4) clips holding the panel to the vehicle (yellow arrows). Unplug the harness plug still attached to the kick wand panel (red arrow) and remove the kick wand panel completely.



INSTALL STEALTH HITCH FRAME



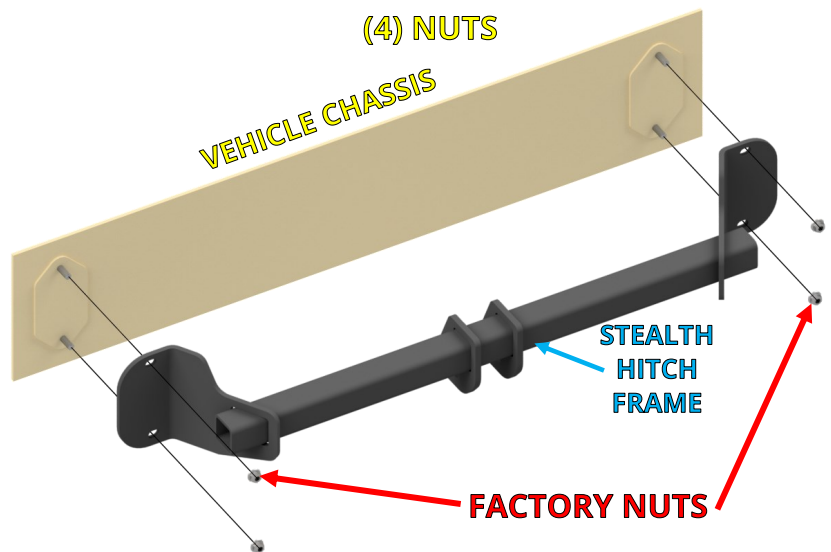
18mm
DEEP WELL
SOCKET



TORQUE
WRENCH

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

USE 18mm DEEP WELL SOCKET TO INSTALL
(4) NUTS



MOUNT LATCH BLOCK



15/16"
SOCKET



15/16" OPEN
END WRENCH



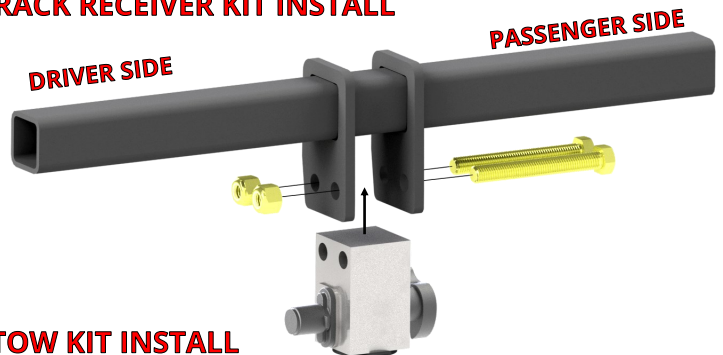
TORQUE
WRENCH

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

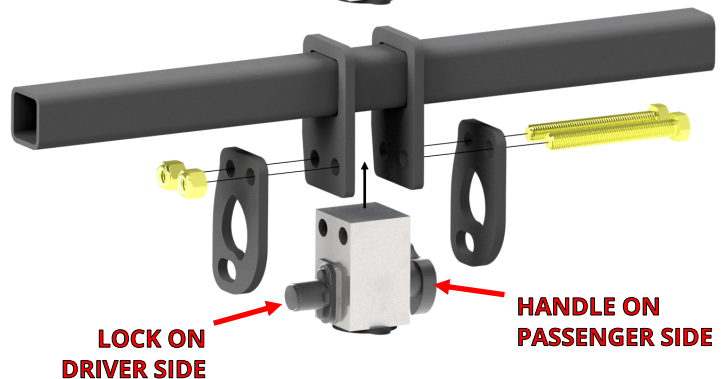
- **Rack Receiver Kit:** Install the latch block with (2) 5/8"-11 x 5" bolts and (2) 5/8" nylock nuts. Tighten each bolt to 150 ft.-lbs.
- **Tow Kit:** Install the latch block and (2) chain hooks with (2) 5/8"-11 x 5" bolts and (2) 5/8" nylock nuts. Tighten each bolt to 150 ft.-lbs.

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

RACK RECEIVER KIT INSTALL



TOW KIT INSTALL



IF INSTALLING A RACK RECEIVER KIT, SKIP TO STEP 43.
IF INSTALLING A TOW KIT, CONTINUE TO STEP 26.

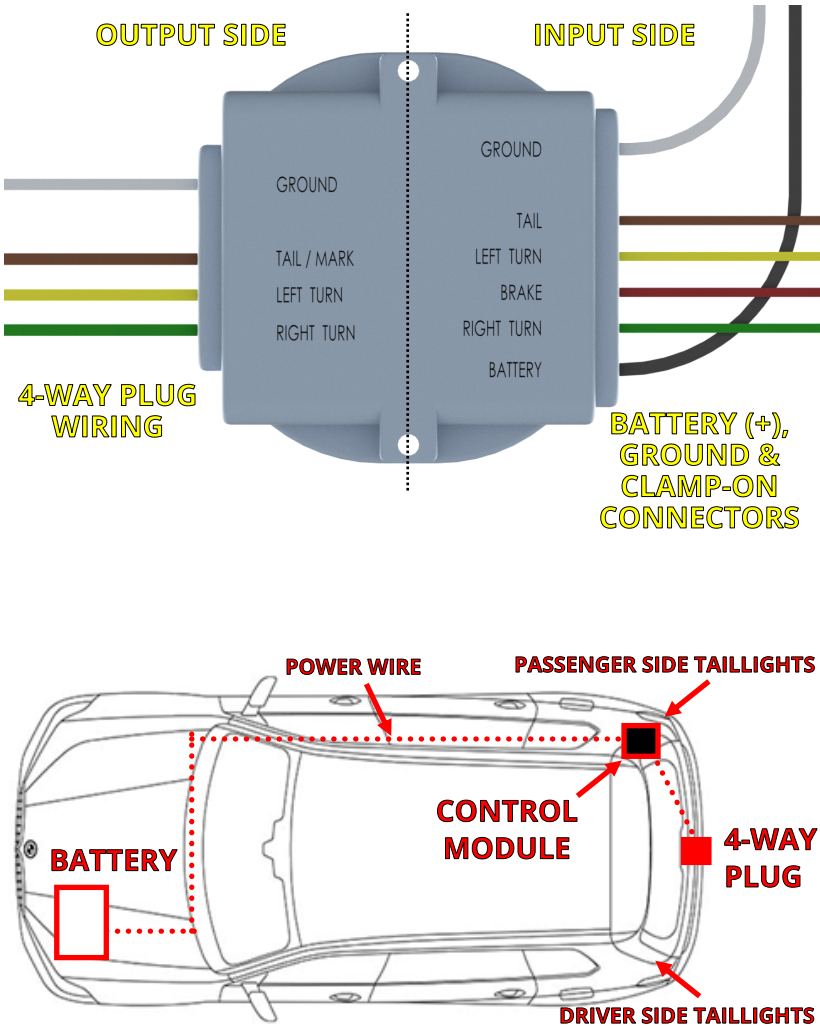
INSTALL PASSIVE WIRING KIT

#	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



26. 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.



INSTALL WIRING KIT CONTINUED

27. Inside the engine compartment locate and remove the rubber seal between the engine and the plastic panels, as shown.

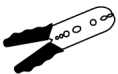
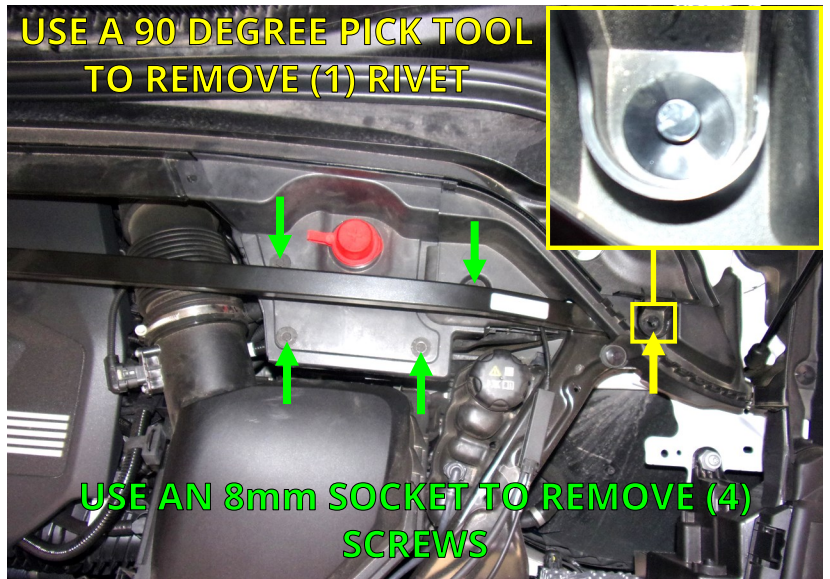


8mm
SOCKET



90 DEGREE
PICK

28. Gain access to the battery in the engine compartment by using a socket to remove (4) screws (green arrows) and using a 90 degree pick tool to remove (1) rivet (yellow arrow). With the hardware removed lift up to remove the battery cover.

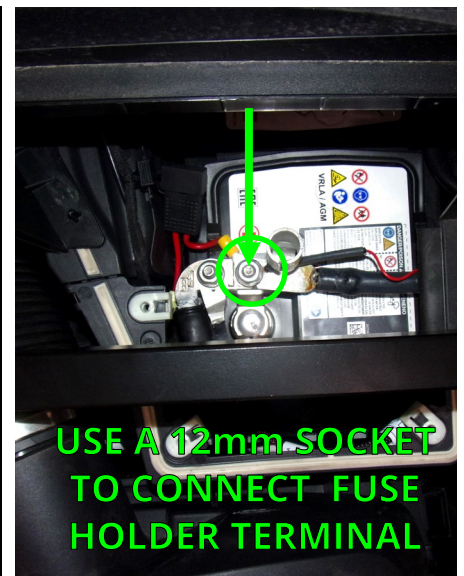
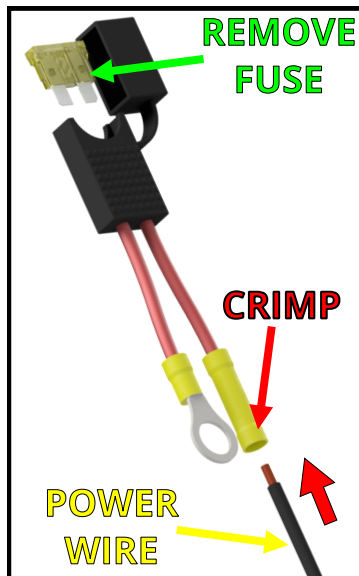


STRIPPER/
CRIMPING
TOOL



12mm
SOCKET

29. Locate the fuse holder in the wiring kit box and remove the fuse. Locate the power wire and unroll it. Use a crimping tool to attach one end of the power wire to the fuse holder. Use a socket to connect the eyelet to the battery where shown (green arrow).



INSTALL WIRING KIT CONTINUED



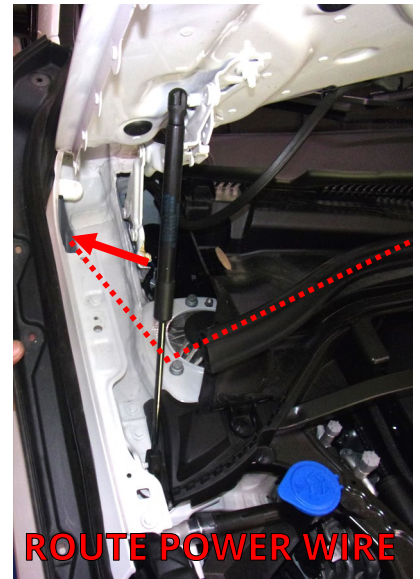
90 DEGREE
PICK

30. On the passenger side of the engine compartment locate the plastic panel shown in the image. Use a 90 degree pick tool to remove (4) plastic rivets. Lift up and dislodge the panel. Route the power wire from the battery terminal over to the panel area. Pass the wire down to the area behind the passenger side front tire.

NOTE: Use a stiff wire to “fish” the power wire to the correct area if needed.



USE A 90 DEGREE
PICK TOOL TO
REMOVE (4) RIVETS



ROUTE POWER WIRE



8mm
SOCKET

31. Underneath the vehicle behind the passenger side front tire, use a socket to remove (2) screws. Open up the wheel well liner and find the power wire (and fish wire).



USE AN 8mm SOCKET TO REMOVE (2)
SCREWS



PHILLIPS HEAD
SCREWDRIVER

32. The power wire will be routed from behind the passenger side front tire, underneath the vehicle, to the area in front of the rear tire. Use a Phillips head screwdriver to remove (4) screw rivets in the underbody trim. Use the trim to hold and hide the power wire as much as possible. Avoid areas where the power wire can be pinched or damaged.

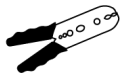
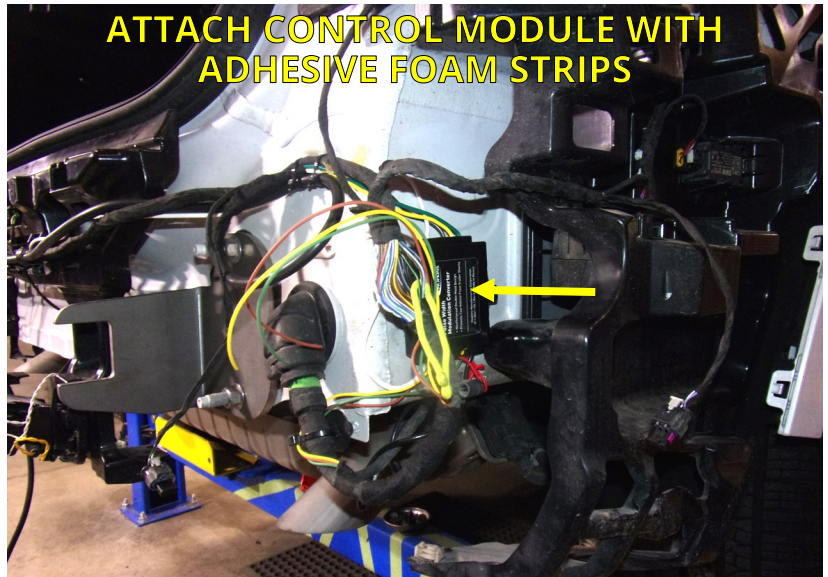


USE A PHILLIPS HEAD SCREW DRIVER TO
REMOVE (4) SCREW RIVETS IN THE
PASSENGER SIDE UNDERBODY TRIM.

SCREW RIVET

INSTALL WIRING KIT CONTINUED

33. Retrieve the control module from the wiring kit box. Use adhesive foam strips to attach the control module to the vehicle body on the passenger side rear corner of the vehicle, as shown.

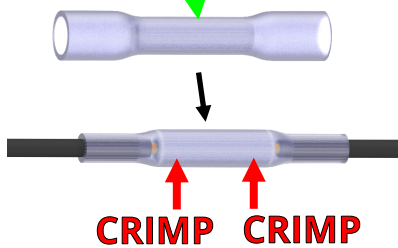


STRIPPER/
CRIMPING
TOOL

34. Locate the power wire from the engine compartment and the power wire from the control module. Use the blue butt connector and a crimping tool to join the wires. Cut the wires so there is not a lot of excess wire before crimping.

NOTICE (OPTIONAL): The butt connector is a heat shrink connector. Apply heat to waterproof the connector after crimping.

BLUE BUTT
CONNECTOR WITH
HEAT-SHRINK ENDS



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



STRIPPER/
CRIMPING
TOOL



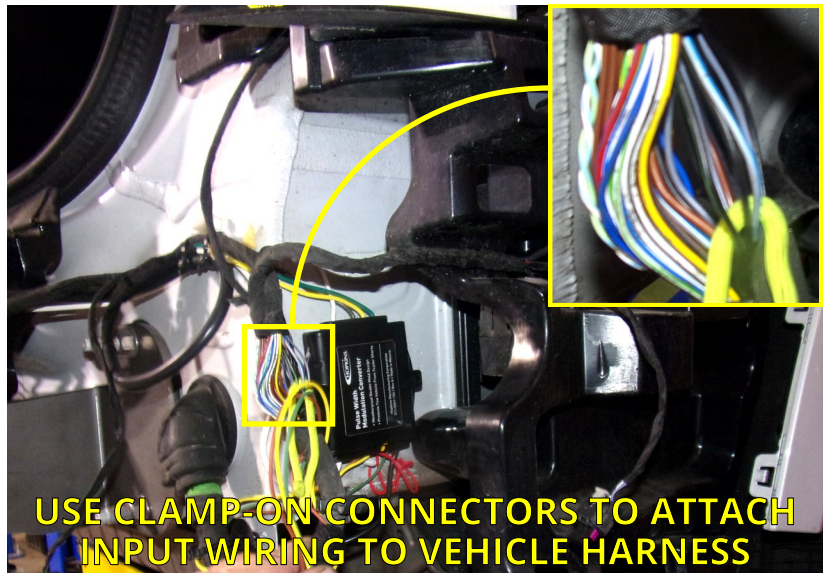
MULTIMETER



PLIERS

35. The wires on the input side of the module need to be attached to the vehicle wiring. Locate the indicated part of the vehicle wiring harness. Use clamp-on connectors to connect input wires to the vehicle harness. (As shown in reference table on the next page.)

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



2016-2022 MODELS CLAMP-ON CONNECTOR COLOR REFERENCE TABLE

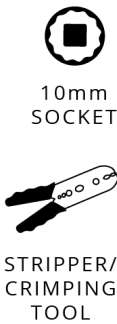
SIGNAL INPUT WIRES			POWER & GROUND WIRES		
FUNCTION	HARNESS	VEHICLE			
LEFT TURN	 YELLOW	 BLACK/WHITE	12V+ (POWER)	 BLACK	BATTERY (+)
RIGHT TURN	 GREEN	 BLUE/GRAY	GROUND	 WHITE	GROUND STUD
MARKER	 BROWN	 GRAY/PURPLE			
BRAKE	 RED	 BLACK/YELLOW			

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

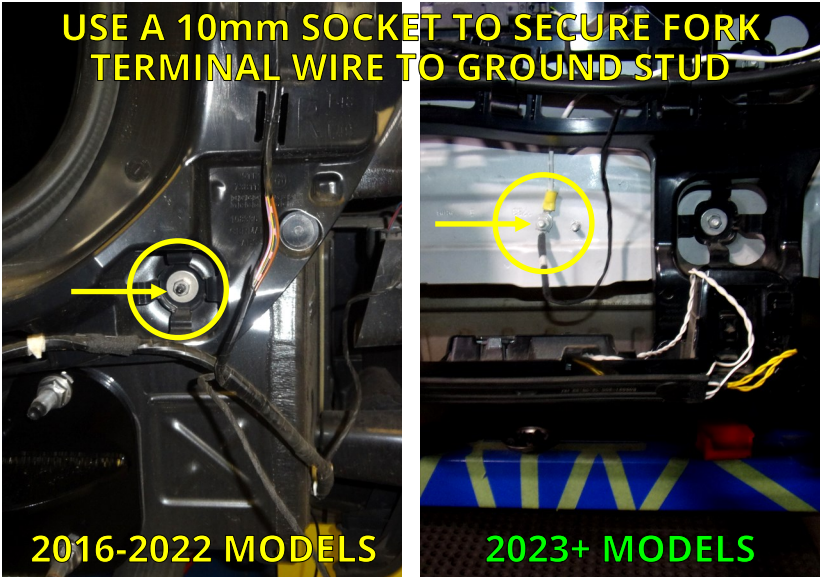
2023+ MODELS CLAMP-ON CONNECTOR COLOR REFERENCE TABLE

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

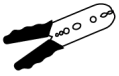
NOTE: If two colors are listed, the first color is the dominant color.



36. Locate the ground stud in the area on the passenger side rear of vehicle, as shown. Trim white control module ground wire so it will reach 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 terminal.



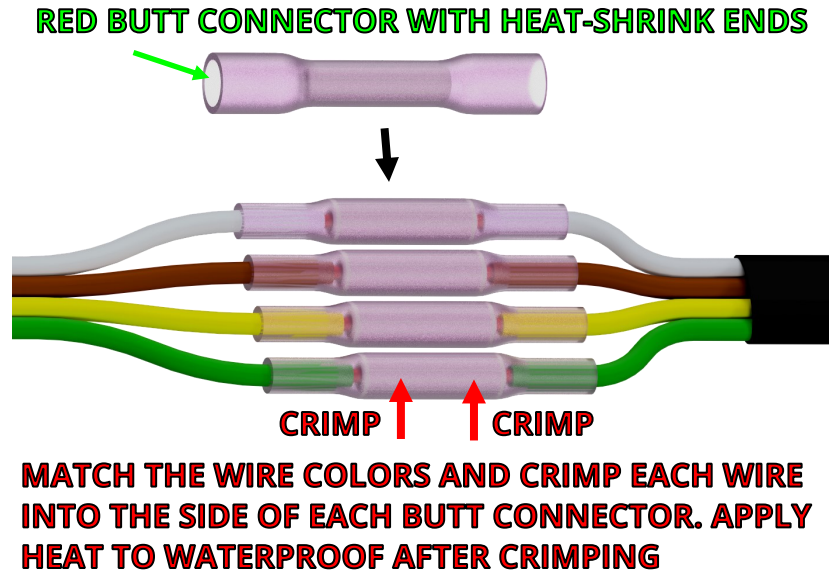
INSTALL WIRING KIT CONTINUED



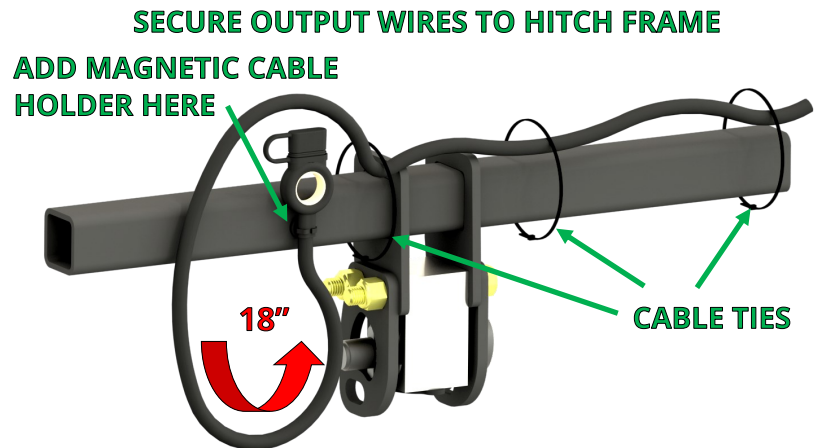
STRIPPER/
CRIMPING
TOOL

37. Locate the tail of the 4-way connector wire 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.



38. 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.



MULTIMETER

39. Reinstall the 20 Amp fuse in the harness fuse holder located near the battery.
40. Test the 4-way plug using a multimeter or connect the plug to a trailer and verify that the lights and brakes work correctly.

NOTE: Taillights will need to be temporarily plugged in during testing.

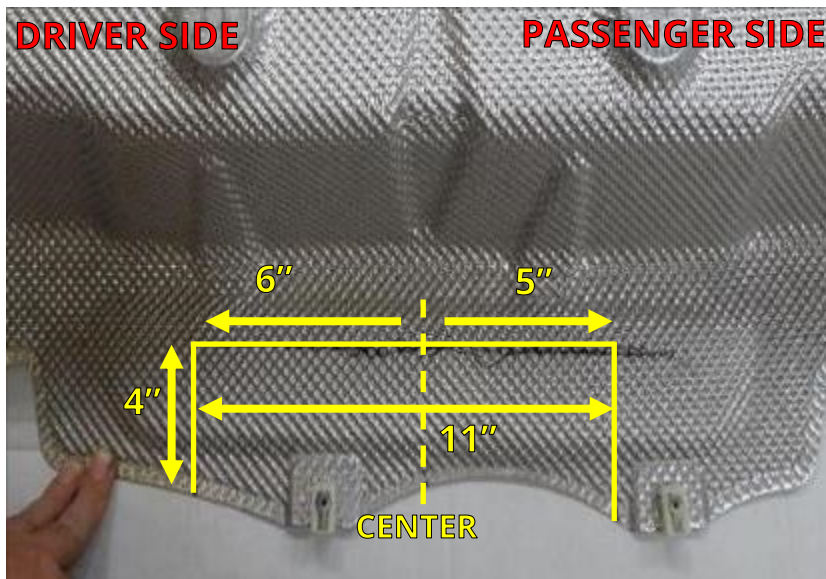
39. Secure all wires and wiring components. Use the remaining cable ties to secure wiring so that it is not loose and will not interfere with replacement of the fascia. Wiring should not be visible once the vehicle is reassembled.
40. Reinstall battery cover, engine compartment rubber seal, passenger side engine plastic panel, and underbody trim. Refer to Steps 27-32.

CUT ACCESS TO LATCH BLOCK



TIN SNIPS

43. **2016-2022 Models** Use tin snips to trim heat shield as shown. Bend back cut sections to eliminate sharp edges.



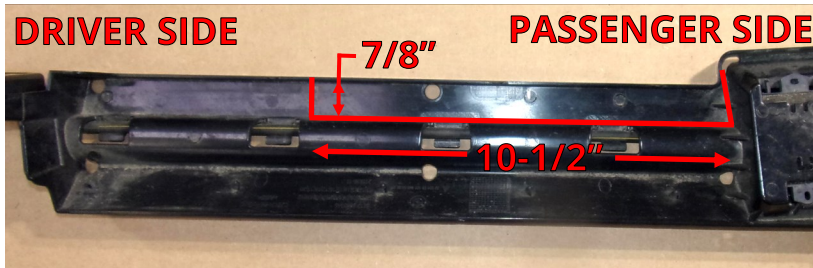
DREMEL TOOL



FILE

44. **2023+ Models** Use a Dremel tool to cut out the kick wand panel, as shown. Use a file to smooth out the cut.

NOTICE: Do not damage any wiring or electrical components while cutting.

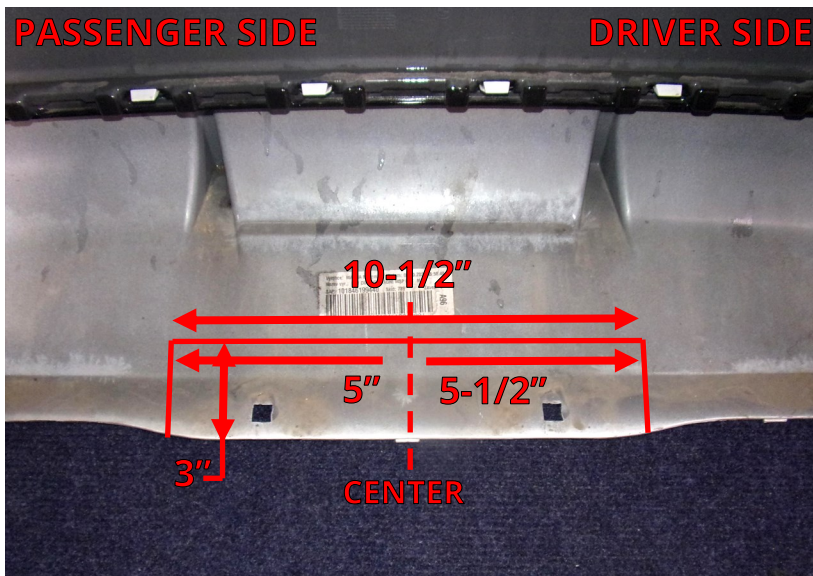


DREMEL TOOL



FILE

45. **2023+ Models** Use a Dremel tool to cut out the fascia, as shown. Use a file to smooth out the cut.

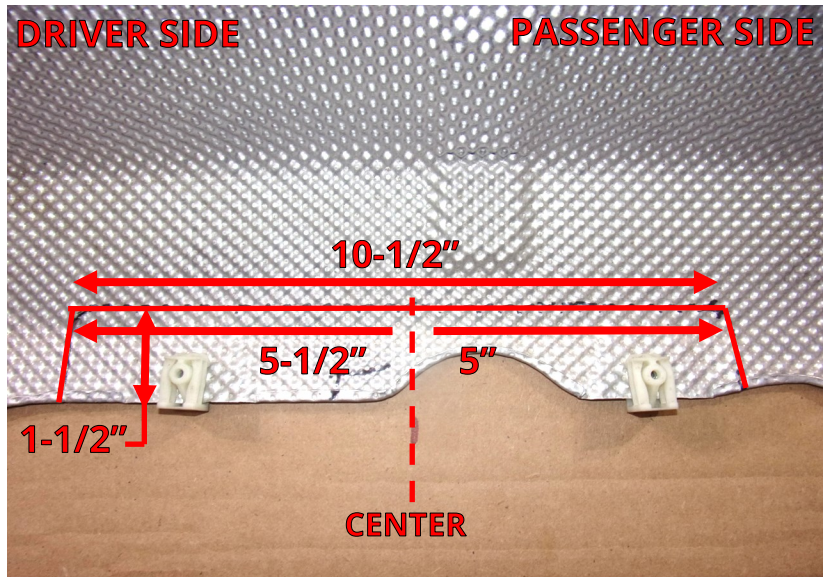


CUT ACCESS TO LATCH BLOCK CONTINUED

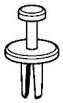


TIN SNIPS

46. **2023+ Models** Use tin snips to trim heat shield as shown. Bend back cut sections to eliminate sharp edges.



REINSTALL VEHICLE COMPONENTS



(8) PLASTIC RIVETS

47. Reattach and secure the fascia, taillights, and other vehicle components in reverse order. Refer to Steps 1-23.

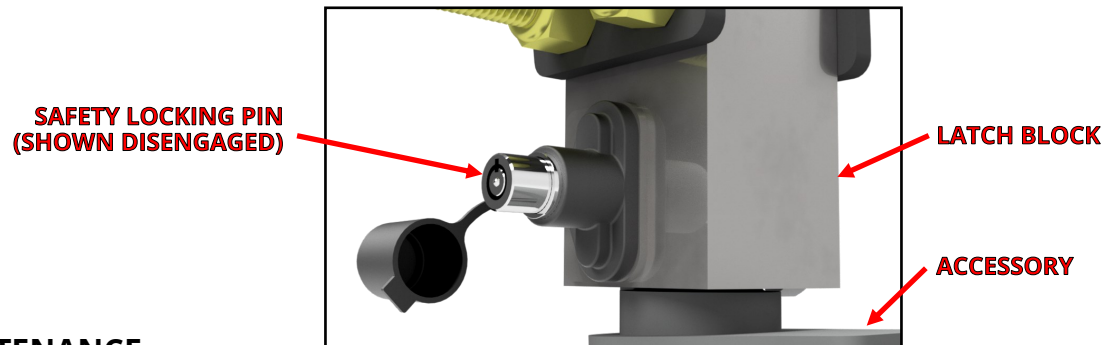
NOTICE: Remember to plug in the (4) or (6) PDC sensor plugs in Step 20 before reinstalling the fascia.

NOTE: Replace plastic rivets in the wheel well with supplied plastic rivets, see Step 10 or 14.



FINAL VEHICLE EXAMINATION

48. Examine the body panels to ensure that they are in a pre-installation condition. Test the electronic functions of the vehicle. Correct any inconsistencies.
49. 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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