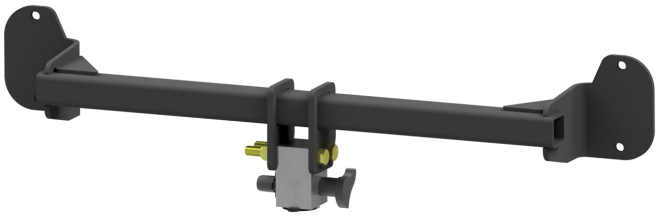
HITCH INSTALLATION INSTRUCTIONS

MAKE:	YEARS:	MODEL/TRIM:
BMW	2018 - 2021	X2 (F39 CHASSIS)

www.stealthhitches.com 833•694•4824

RACK RECEIVER KIT#: **SHR31016**

COMPATIBLE WITH TOW KIT: **SHT25004**



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

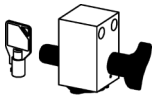
UNDER VEHICLE TRIMMING:

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

READ ALL INSTRUCTION WARNINGS AND LABELS

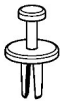
NO WELDING, METAL DRILLING OR VISIBLE TRIMMING REQUIRED

PARTS SUPPLIED WITH RACK RECEIVER KIT:


LATCH BLOCK & KEYS


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


(2) 5/8" NYLOCK NUTS


(6) PLASTIC RIVETS

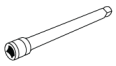

2" RACK RECEIVER

TOOLS REQUIRED:


15/16" OPEN END WRENCH


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


TORQUE WRENCH


SOCKET EXTENSION


RATCHET


SAFETY GLASSES


FLASHLIGHT


PAINTER'S TAPE


FLATHEAD SCREWDRIVER


90 DEGREE PICK

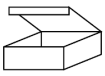

PLASTIC PRY TOOLS

ADDITIONAL PARTS FOR TOW KIT:


BALL MOUNT 5" RISE, SHORT


CHAIN HOOKS

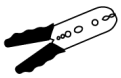

2" BALL


PASSIVE WIRING KIT BOX


(1) 14" CABLE TIE


(1) M6 NUT

ADDITIONAL TOOLS FOR TOW KIT:


STRIPPER/ CRIMPING TOOL


MULTIMETER


PLIERS


13mm SOCKET

RACK RECEIVER INSTALLATION: USE STEPS 1-17 & 30-32
TOW KIT INSTALLATION: USE STEPS 1-32

<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

FLATHEAD SCREWDRIVER

PLASTIC PRY TOOLS

1. Remove the taillight cover. Locate and remove plastic screw from side wall using a flathead screwdriver.
2. Insert plastic pry tool at the side of the plastic cover and pry inward. Then pry upward to remove rear taillight cover.

8mm SOCKET

10mm SOCKET

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

PLASTIC PRY TOOLS

5. 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.
6. With the light removed, disconnect the light plug by pushing down on the clip and pulling the plug outward. Repeat Steps 1-6 on other side of vehicle.

GAIN ACCESS TO MOUNTING AREA CONTINUED

PLASTIC
PRY TOOLS

7. Locate the rivets inside the rear wheel wells. Use a 90 degree pick or a pry tool to remove (3) rearward plastic rivets. The rivets secure the wheel well trim to the vehicle.

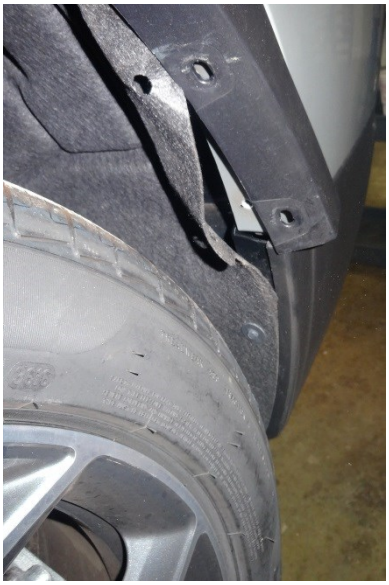
NOTE: *Make sure not to damage plastic trim piece.*

NOTE: *Replacement plastic rivets are supplied.*

PLASTIC
PRY TOOLS

8. Move wheel well lining to access to trim clips.

9. To allow partial removal of the rear wheel well trim, clips (3) 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.



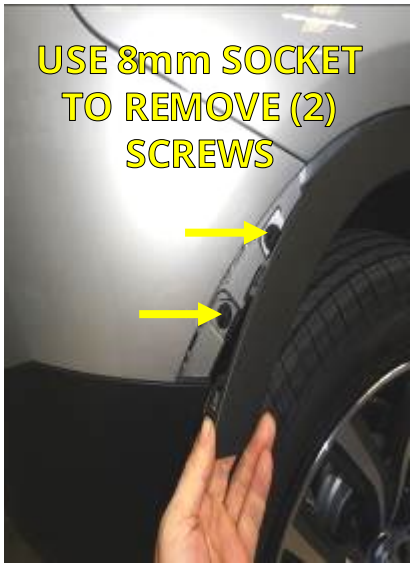
GAIN ACCESS TO MOUNTING AREA CONTINUED

8mm
SOCKET

PAINTER'S TAPE

10. 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 7-10 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.*

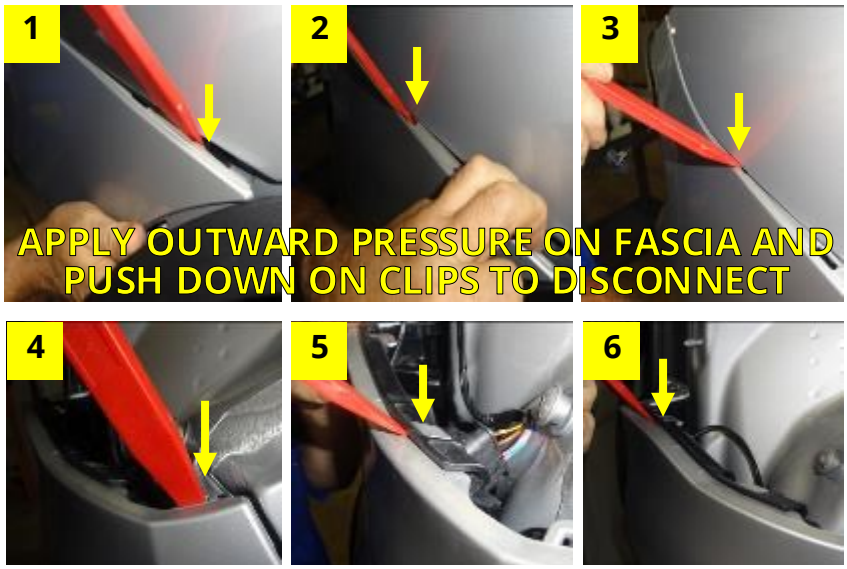


8mm
SOCKET

11. From underneath the vehicle, remove (8) screws from the bottom edge of the fascia.

PLASTIC
PRY TOOLS

12. 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.

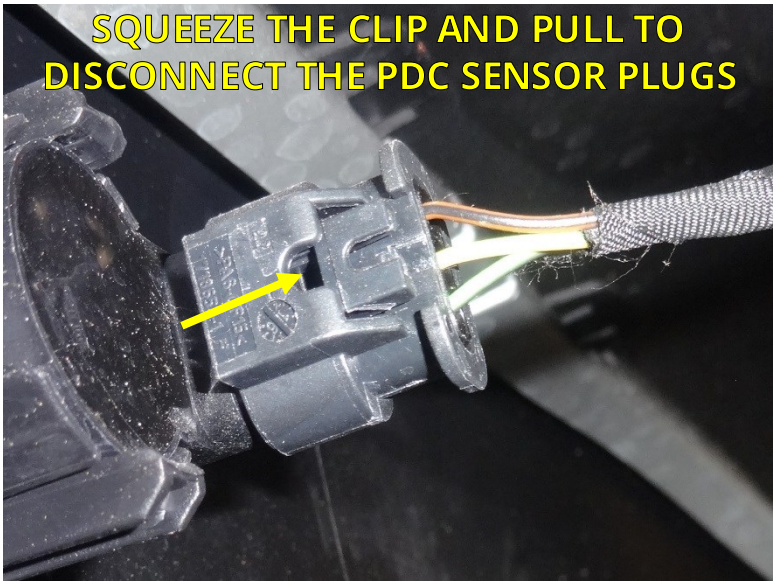


13. This step requires a partner. Pull the fascia rearward enough to access the (7) PDC sensor plugs.

90 DEGREE PICK

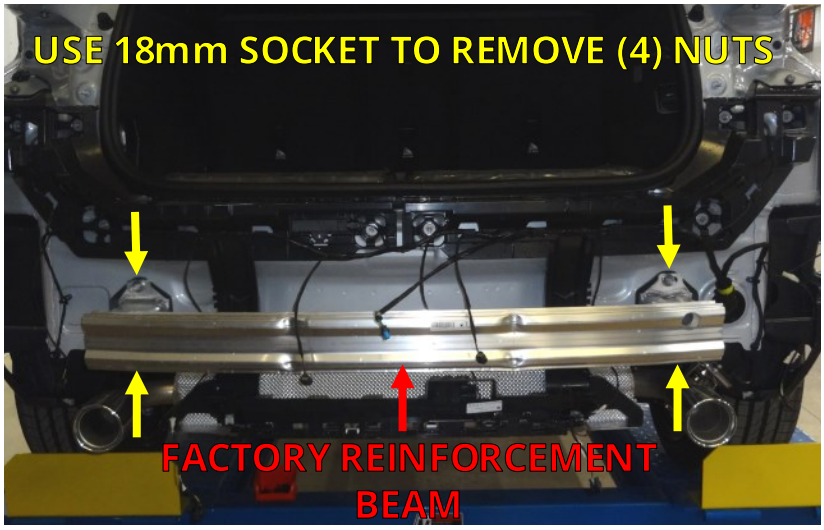
14. Disconnect the (7) PDC sensor plugs. Squeeze clip and pull to unplug the PDC sensors. In some cases a 90 degree pick tool will be needed to disconnect the sensor plug. Remove the fascia completely.

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



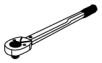
18mm DEEP WELL SOCKET

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



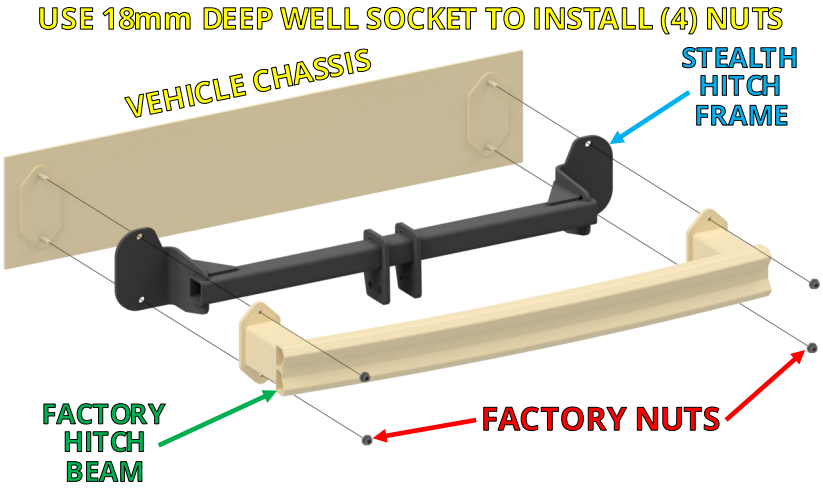
INSTALL STEALTH HITCH FRAME

18mm DEEP WELL SOCKET



TORQUE WRENCH

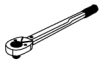
16. Mount the Stealth hitch frame onto the vehicle studs and place the factory reinforcement beam on top. Attach the frame and beam to the vehicle with (4) saved nuts. Torque each nut to 85 ft. -lbs.



MOUNT LATCH BLOCK

15/16" SOCKET

15/16" OPEN END WRENCH



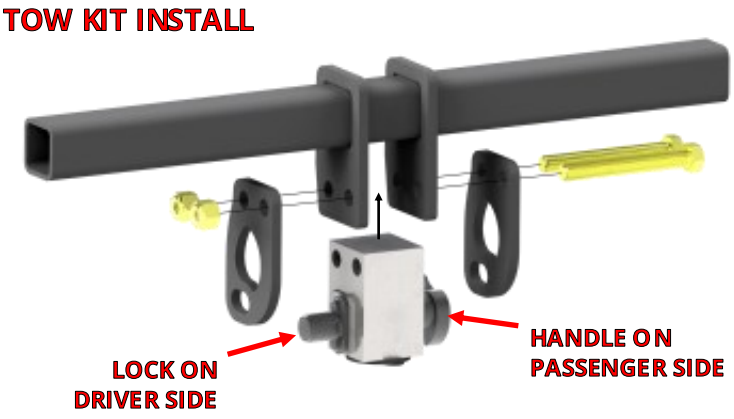
TORQUE WRENCH

17. 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 to150 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.

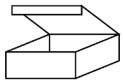
NOTICE: Keys are packaged within the latch block, remove keys and store in safe location.



IF INSTALLING A RACK RECEIVER KIT, SKIP TO STEP 30.
IF INSTALLING A TOW KIT, CONTINUE TO STEP 18.

INSTALL PASSIVE WIRING KIT

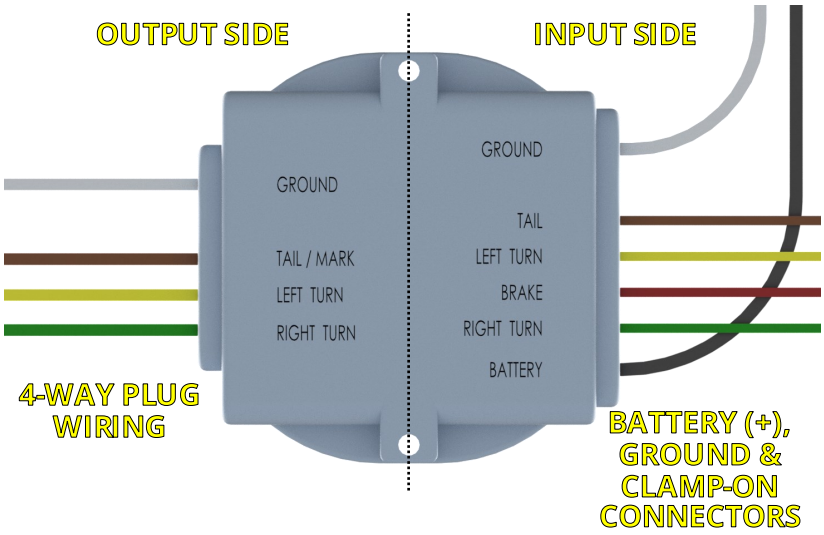
#	DESCRIPTION	QTY
1	4-WAY CONNECTOR HARNESS	1
2	CONTROL MODULE	1
3	4-WAY CONNECTOR COVER	1
4	CABLE TIE – 8”	8
5	CABLE TIE – 14”	2
6	MAGNETIC CABLE HOLDER	1
7	M8 SERRATED FLANGE NUT	1
8	FORK TERMINAL	1
9	ADHESIVE FOAM STRIP	2
10	BUTT CONNECTOR (BLUE)	1
11	BUTT CONNECTOR (RED)	4
12	CLAMP-ON CONNECTORS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

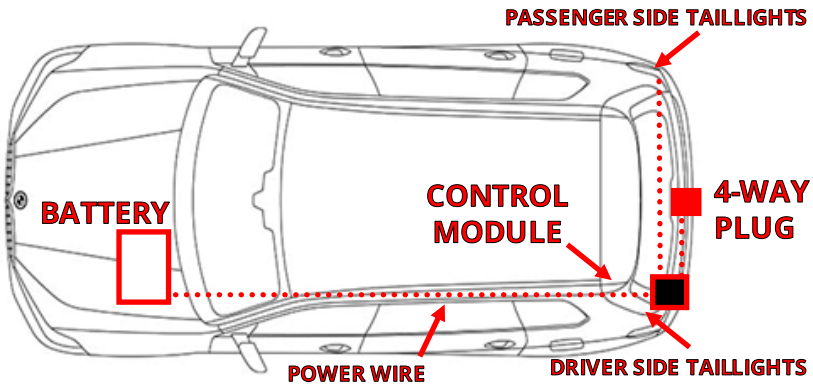


PASSIVE WIRING KIT BOX

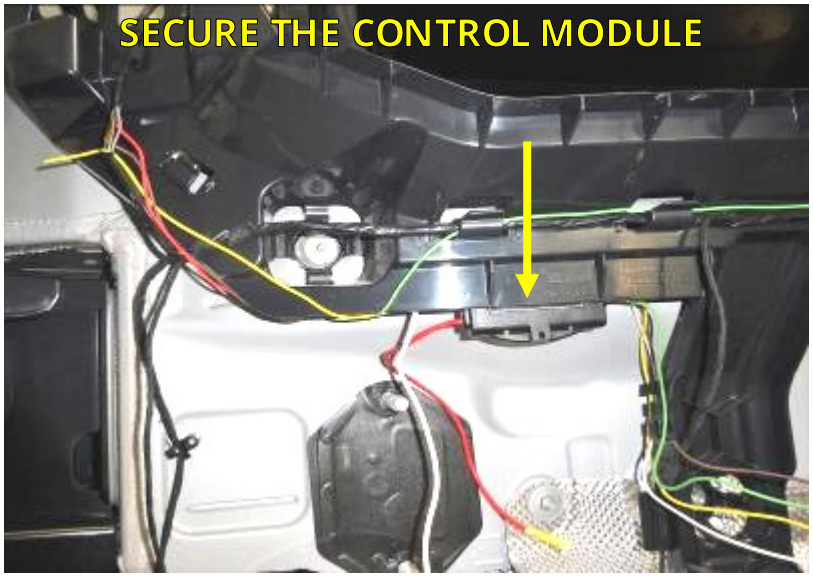
18. Locate the wiring kit box. Review the contents of the box against the list above to check for missing components. The passive wiring kit uses a control module to manage the functions of the trailer lighting. The module has an **“input”** side that receives power from the vehicle’s battery and signals 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.

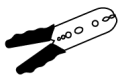
NOTICE: Do not allow electrical system to become disconnected from power or ground. Doing so may interrupt electrical systems.





19. Retrieve the control module, adhesive strips, and 14" cable tie. Use the adhesive strips and 14" cable tie to mount and secure the control module to the vehicle on the driver side, as shown.

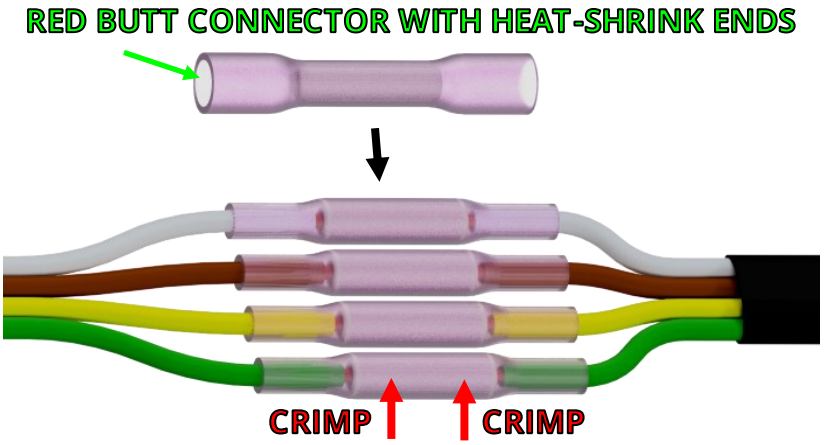




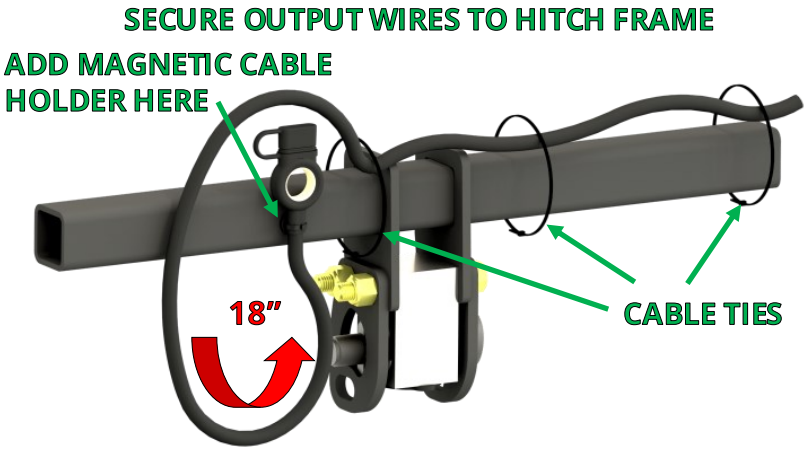
STRIPPER/ CRIMPING TOOL

20. 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.



21. 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.



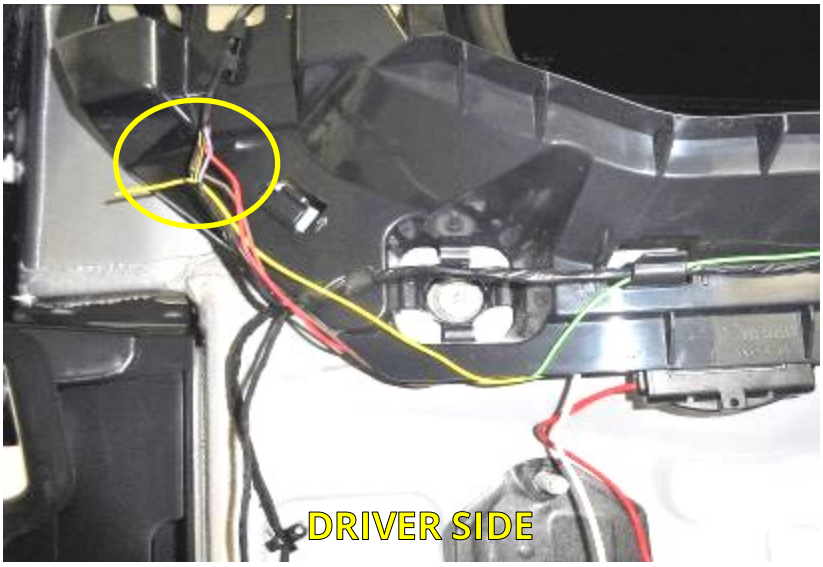
INSTALL WIRING KIT CONTINUED

PLIERS

MULTIMETER

22. The wires on the input side of the module need to be attached to the vehicle wiring. Route the left turn signal wire (yellow), marker light wire (brown) and brake wire (red) to the driver side of vehicle. Remove the tape from the taillight wiring harness to expose wires. Use clamp-on connectors to connect to indicated wires. (As shown in reference table below).

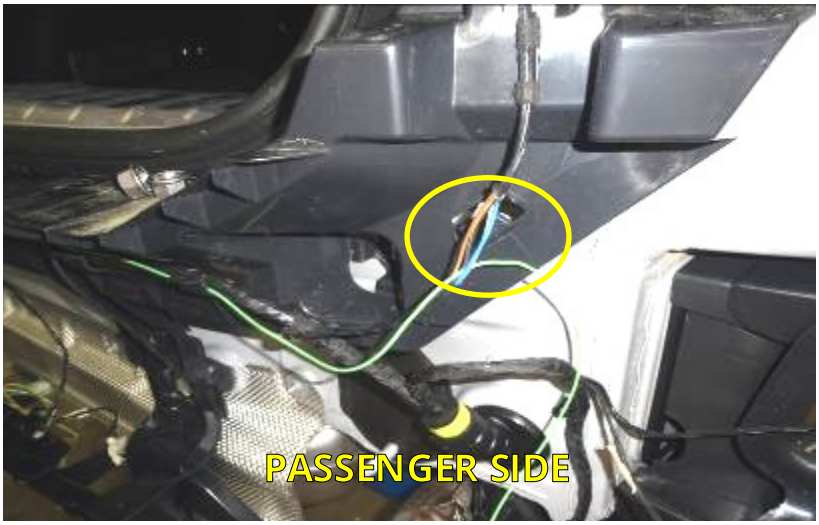
NOTE: *Vehicles may have different wire colors than those shown. Verify circuits (wire colors) with multimeter.*



PLIERS

MULTIMETER

23. Route the right turn signal wire (green) to the passenger side of vehicle. Remove the tape from the taillight wiring harness to expose wires. Use clamp-on connector to connect to indicated wire. (As shown in reference table below).



CLAMP-ON CONNECTOR COLOR REFERENCE TABLE

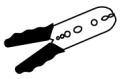
SIGNAL INPUT WIRES			POWER & GROUND WIRES		
FUNCTION	HARNESS	VEHICLE			
LEFT TURN	YELLOW	BLACK/WHITE	12V+ (POWER)	BLACK	BATTERY (+)
RIGHT TURN	GREEN	BLUE/GRAY	GROUND	WHITE	GROUND STUD
MARKER	BROWN	GRAY/PURPLE			
BRAKE	RED	BLACK/PURPLE			

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 WIRING KIT CONTINUED

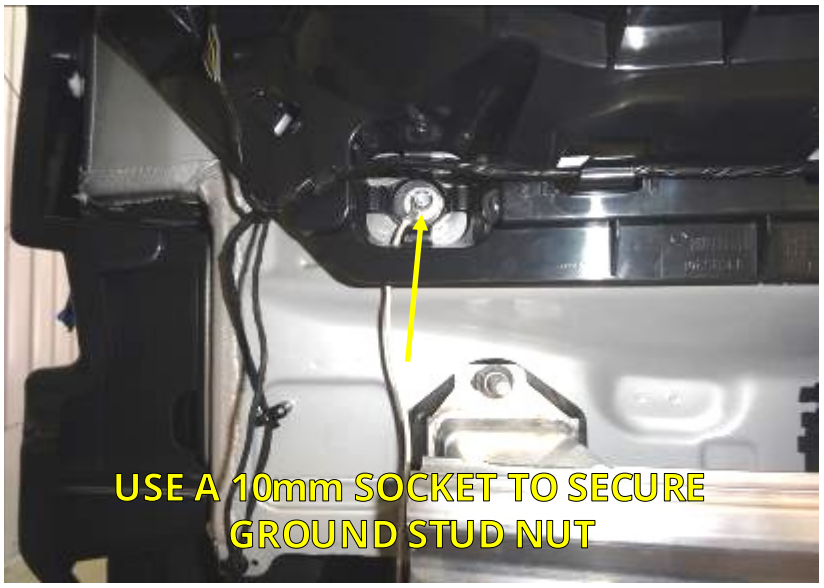
10mm SOCKET



STRIPPER/ CRIMPING TOOL

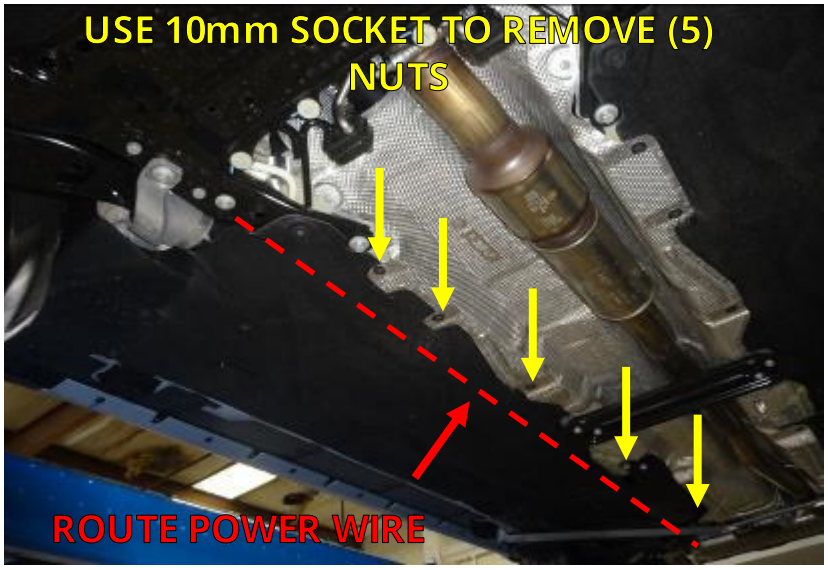
24. Locate ground stud on driver side of vehicle. Trim white ground wire so it will reach ground without excess wire. Crimp the supplied fork terminal to the ground wire. Connect the ground wire to the stud using the supplied M6 nut.

NOTICE: Add supplied nut on top of vehicle nut, so vehicle wiring does not lose ground.

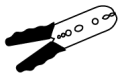


10mm SOCKET

25. The power wire will need to be routed to the engine compartment where it will connect to the battery. Route the wire from the rear of vehicle to the gravel guard on the driver side undercarriage. Loosen the (5) nuts holding the gravel guard to allow routing through it. Then pass the wire up into the engine compartment.

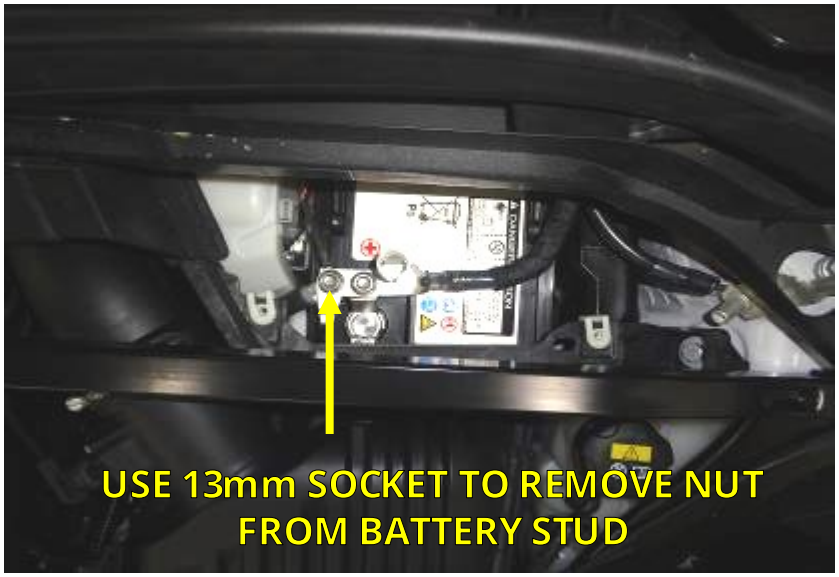


13mm SOCKET



STRIPPER/ CRIMPING TOOL

26. Uncover the vehicle battery. Locate the fuse holder supplied in the wiring kit box. Remove the fuse from fuse holder. Trim excess black power wire length. Crimp fuse holder lead to power wire. Connect fuse holder ring terminal to the positive battery terminal (+).

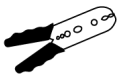


INSTALL WIRING KIT CONTINUED

MULTIMETER

27. Determine the amount of power wire needed to reach the control module at the rear of the vehicle. Trim the control module power wire to remove excess length. Use the included blue butt connector to crimp the power wire leading from the battery to the control module power wire. Reinstall the 20 Amp fuse in the harness fuse holder located near the battery.

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



STRIPPER/ CRIMPING TOOL

28. Test the 4-way plug using a multimeter or connect the plug to a trailer and verify that the lights and brakes work correctly.

29. 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. Secure the gravel guard.

REINSTALL VEHICLE COMPONENTS

30. Reattach and secure the fascia, taillights, and other vehicle components in reverse order. Refer to Steps 1-14.

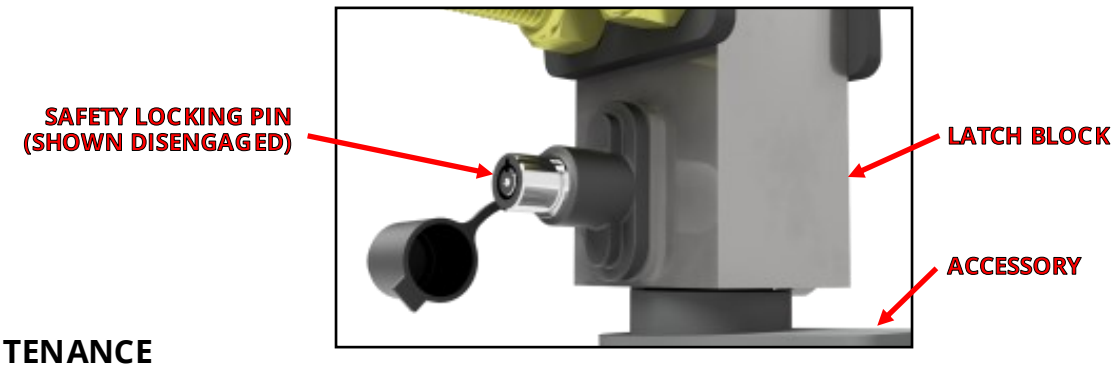
NOTICE: Remember to plug in the (7) PDC sensor plugs in Step 14 before reinstalling the fascia.

NOTE: *Replace plastic rivets in the wheel well with supplied plastic rivets, see Step 7.*

FINAL VEHICLE EXAMINATION

31. Examine the body panels to ensure that they are in a pre-installation condition. Test the electronic functions of the vehicle. Correct any inconsistencies.
32. 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.