



HITCH INSTALLATION INSTRUCTIONS

MAKE:	YEARS:	MODEL/TRIM:	YEARS:	MODEL/TRIM:
BMW	2019 - 2023	3 Series 330i	2021-2024	4 Series 430i Coupe & M-Sport
	2019 - 2023	3 Series 330e		
	2019 - 2023	3 Series M340i		
	2021 - 2023	4 Series 430i Convertible		
	2021 - 2023	4 Series M440i Convertible		

www.stealthhitches.com 833-694-4824

RACK RECEIVER KIT#: **SHR31003**

COMPATIBLE WITH TOW KIT: **SHT25002**



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**

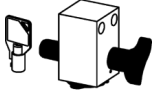



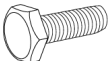





READ ALL INSTRUCTION WARNINGS AND LABELS




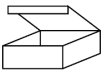


NO WELDING, METAL DRILLING OR VISIBLE TRIMMING REQUIRED




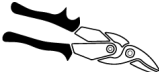






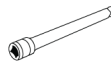

PARTS SUPPLIED WITH RACK RECEIVER KIT:

- 
LATCH BLOCK & KEYS
- 
(2) BOLTS
5/8" - 11 x 5"
- 
(2) 5/8"
NYLOCK NUTS
- 
2" RACK RECEIVER
- 
(4) 5/16" X 1"
BOLTS
- 
(4) 5/16" FLAT WASHERS
- 
(4) 5/16" SERRATED FLANGE NUTS
- 
(2) EXHAUST BRACKETS


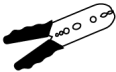



ADDITIONAL PARTS FOR TOW KIT:

- 
BALL MOUNT
7" RISE, SHORT
- 
CHAIN HOOKS
- 
2" BALL
- 
PASSIVE WIRING
KIT BOX

TOOLS REQUIRED:

- 
10mm, 1/2" &
15/16" OPEN END
WRENCH
- 
18mm DEEP WELL,
8mm, 10mm, 13mm,
1/2" & 15/16"
SOCKETS
- 
TORQUE
WRENCH
- 
TIN SNIPS
- 
SAFETY GLASSES
- 
RATCHET
- 
FLASHLIGHT
- 
T20 TORX
- 
PLASTIC PRY TOOLS
- 
90 DEGREE
PICK
- 
SOCKET
EXTENSION
- 
DREMEL TOOL
CONVERTIBLE ONLY

ADDITIONAL TOOLS FOR TOW KIT:

- 
PLIERS
- 
STRIPPER/
CRIMPING
TOOL
- 
MULTIMETER
- 
DRILL &
3/8" BIT
- 
SILICONE

<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.

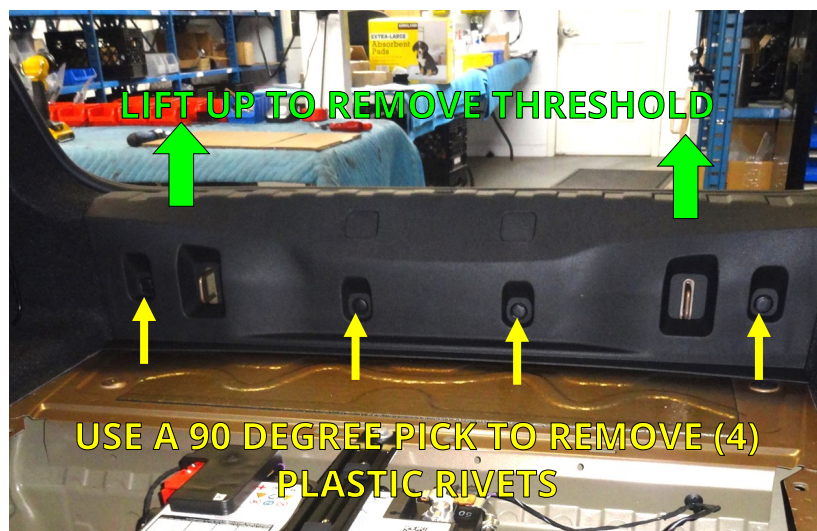
NOTICE: Installation of hitch requires removal of vehicle parts and interaction with vehicular electronics. Before installation, check the condition of body panels and note any locations where panels are not flush. Check the electronic functions of the vehicle, such as: headlights, taillights, turn signals, 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. Remove the trunk floor panel by lifting it up and out. Place the panel on blanket or safe area.



2. Remove the threshold in the rear cargo area, use a 90 degree pick to remove (4) plastic rivets. Use a pry tool to lift and remove the threshold.



3. **Non-Convertible models only.** In the rear cargo area, dislodge the rear side panel to gain access to a nut securing the taillight. Remove (4) plastic rivets with a 90 degree pick tool as shown. Repeat on other side of vehicle.



GAIN ACCESS TO MOUNTING AREA CONTINUED



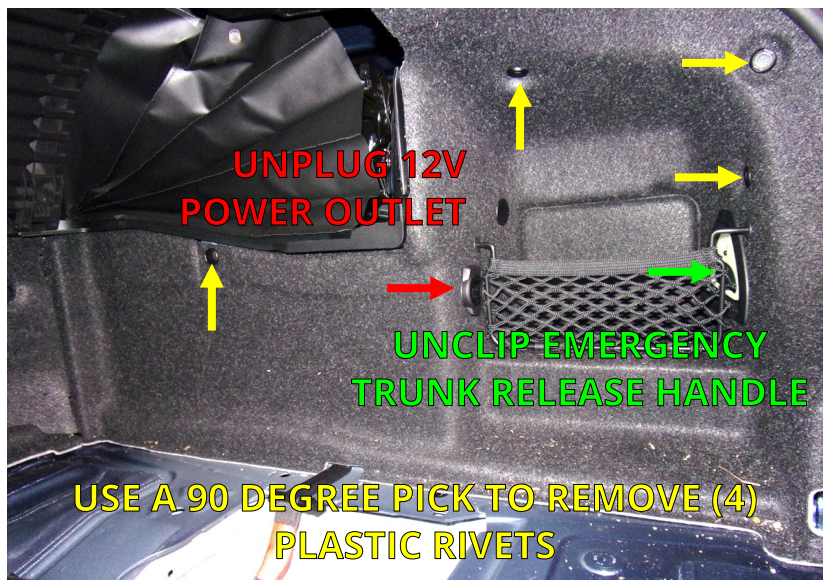
4. **Non-Convertible models only.** With a plastic pry tool, remove the light cover trim on each side of the vehicle.



5. **Convertible Models only.** Inside the cargo area, use a 90 degree pick tool to remove (5) rivets from the top cover panel. Pull down on the cover and unplug the cargo area light. Remove the top cover panel.



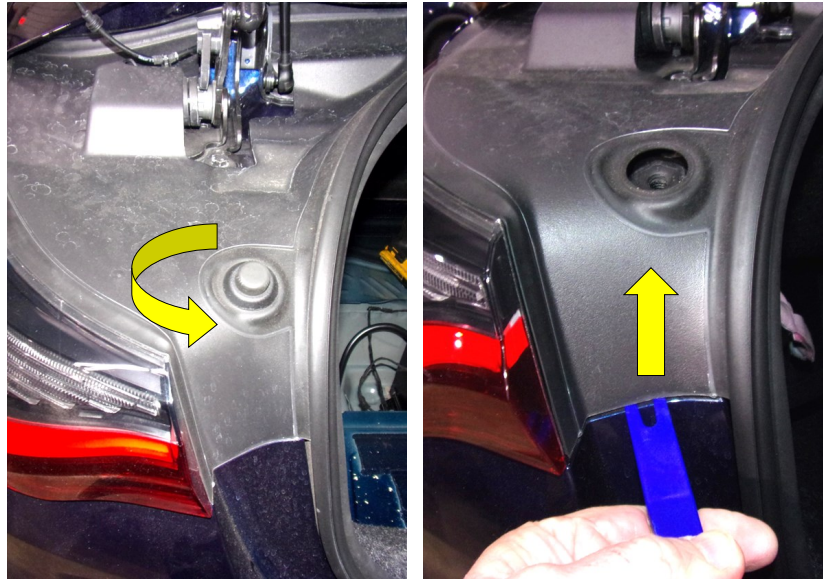
6. **Convertible Models only.** Use a 90 degree pick tool to remove (4) rivets from the passenger side panel (yellow arrows). Unclip the emergency trunk release handle. Unclip and remove the cable from the handle (green arrow). Use a pry tool to dislodge the side panel. Unplug the 12v power outlet (red arrow). Partially open up the side panel. On the driver side, repeat the removal of the (4) rivets and partial opening of the panel.



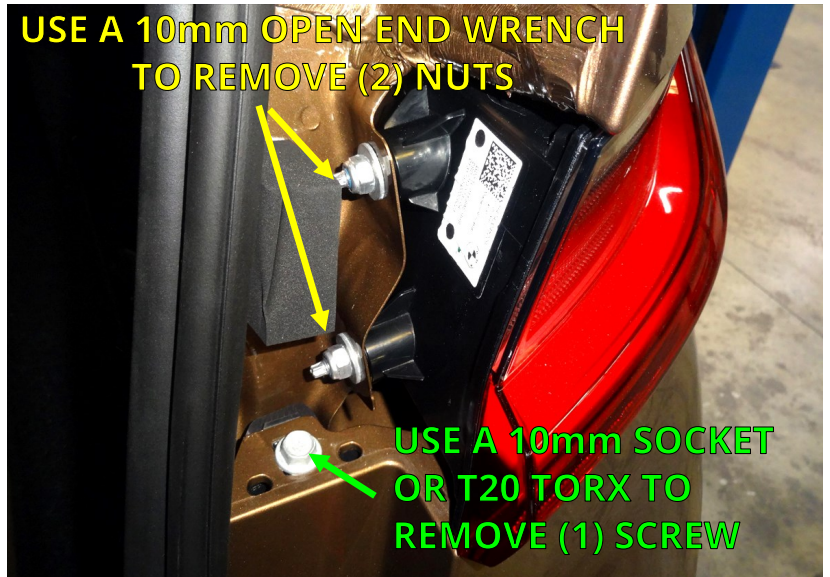
GAIN ACCESS TO MOUNTING AREA CONTINUED



- Convertible Models only.** Locate the trunk stop and turn it counter clockwise to remove. Use a plastic pry tool to dislodge the light cover trim.



- Remove the (2) nuts securing the taillight to the vehicle. Remove (1) screw from the fascia, as shown.



10mm
SOCKET

- or -

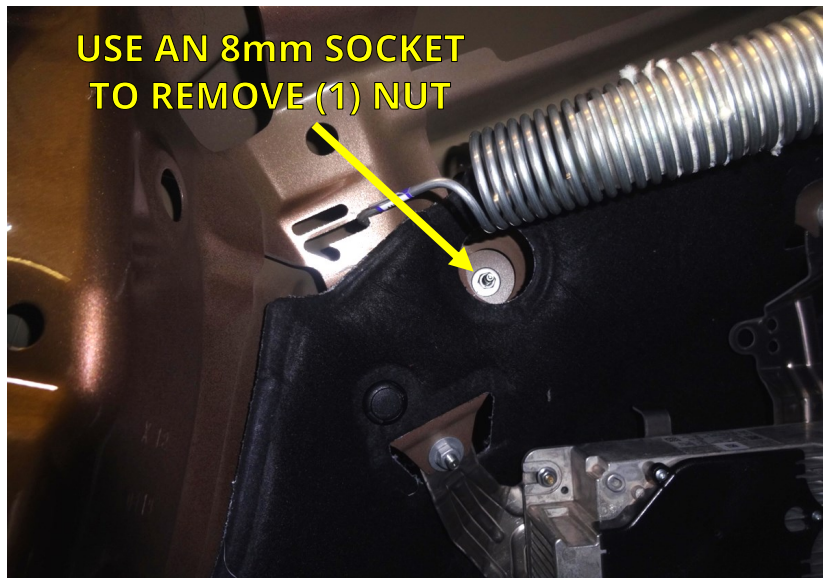


T20 TORX



8mm
SOCKET

- Non-Convertible models only.** Inside the rear access panel, move the sound proofing liner to gain access to the third taillight nut. Remove nut with a socket.

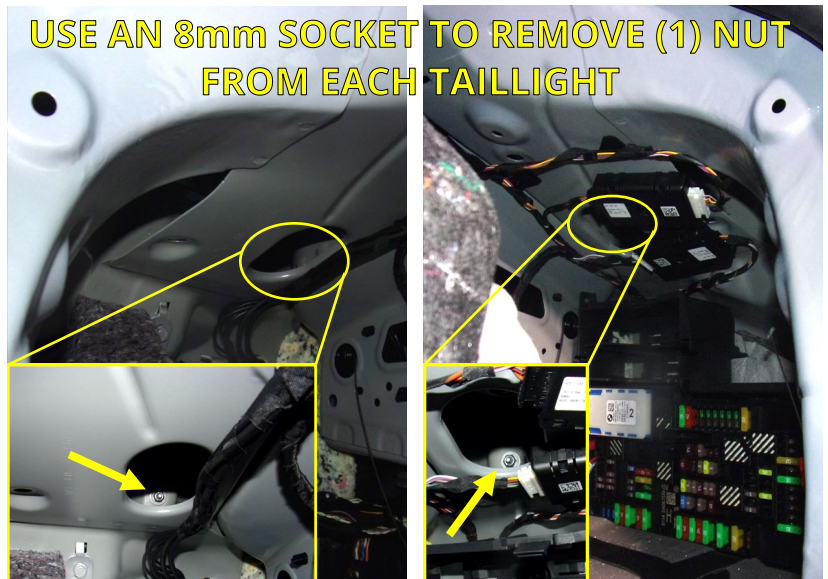


GAIN ACCESS TO MOUNTING AREA CONTINUED



8mm
SOCKET

10. **Convertible Models only.** Inside the rear access panel, move the sound proofing liner to gain access to the third taillight nut. Remove nut with a socket.



PLASTIC
PRY TOOLS

11. Slide the taillight to the side of the vehicle to dislodge. A plastic pry tool can be used to help if the light does not slide freely. With the light dislodged, unplug the taillight. Repeat Steps 7-11 on other side of vehicle.



T20 TORX



10mm
SOCKET

- or -



8mm
SOCKET

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



GAIN ACCESS TO MOUNTING AREA CONTINUED



10mm
SOCKET

- or -



8mm
SOCKET



PLASTIC
PRY TOOLS

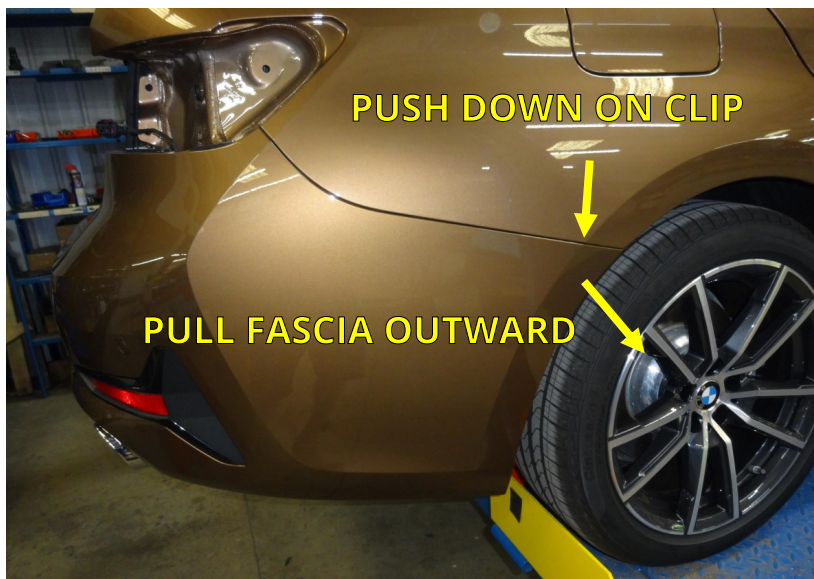


PLASTIC
PRY TOOLS

13. Underneath the vehicle, remove (7) screws attaching the gravel guard and remove (yellow arrows). Remove (6) screws attaching the fascia to the vehicle (green arrows). Locate and unclip (4-10) clips attached to the fascia (red line), see image.

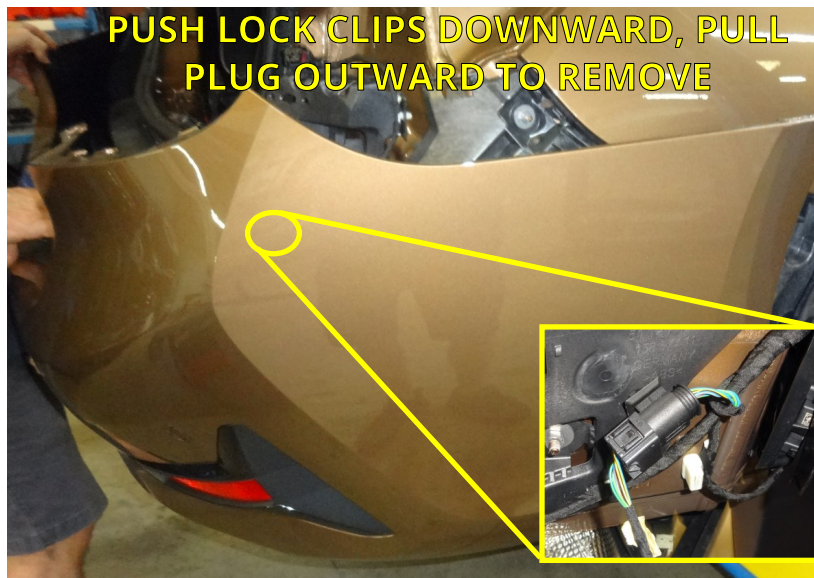


14. The fascia is clipped to the vehicle body directly behind the wheel wells. Pull outward on the fascia to expose the first clip in the seam. With a plastic pry tool, push down on the exposed clip to disconnect. Continue to pull outward on the fascia and disconnect clips as they are exposed.



15. This step requires a partner. Pull fascia slightly away from the vehicle. Disconnect PDC sensor plug on the passenger side of the vehicle. To disconnect the PDC sensor plug push lock clips downward, then pull plug outward. Remove the fascia completely.

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

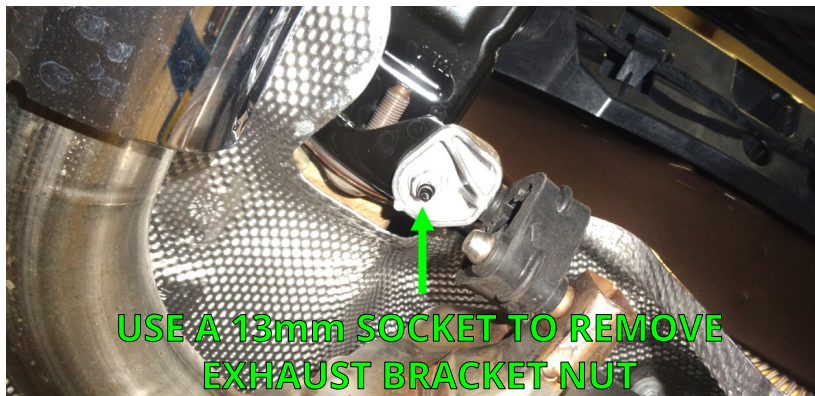


GAIN ACCESS TO MOUNTING AREA CONTINUED



13mm
SOCKET

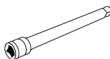
16. Locate the two exhaust brackets under the rear of the vehicle, above the muffler. Use a socket to remove (1) exhaust bracket nut on each side of the vehicle.



90 DEGREE
PICK



18mm
DEEP WELL
SOCKET



SOCKET
EXTENSION



8mm
SOCKET
- or -



10mm
SOCKET

17. Using a 90 degree pick tool remove the (6) rivets holding the plastic kick wand holder to the factory reinforcement beam (yellow arrows). **Save** (2) rivets for later reinstallation. Use an 8mm or 10mm socket to remove (2) screws (red arrows). Remove the plastic kick wand holder from the factory reinforcement beam.

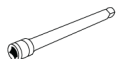


18. Use a socket to remove (4) nuts securing the factory reinforcement beam to the vehicle then remove the reinforcement beam (green arrows). **Save** (4) nuts and discard the factory reinforcement beam.

INSTALL STEALTH HITCH FRAME



18mm
DEEP WELL
SOCKET



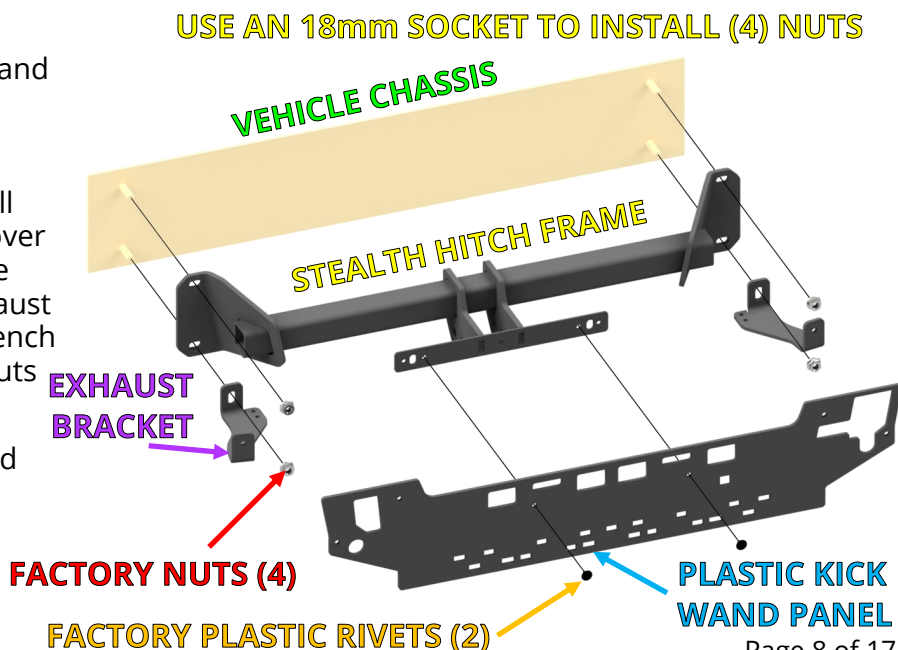
SOCKET
EXTENSION



TORQUE
WRENCH

19. Install Stealth hitch frame and exhaust brackets over the studs used for the factory reinforcement beam. The exhaust brackets will install on the bottom two studs over the hitch frame. Center the hitch frame. Level the exhaust brackets. Use a torque wrench to tighten the (4) factory nuts to 85 ft.-lbs.

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



INSTALL STEALTH HITCH FRAME CONTINUED



DREMEL TOOL

21. **4 Series 430i Convertible Models only.** On some vehicles the plastic kick wand panel may interfere with the Stealth hitch frame due to a raised portion and will need to be modified. Using a Dremel tool remove the raised portion, as shown in the images. Replace the panel onto the Stealth hitch frame.



DREMEL TOOL

22. **4 Series M440i & M-sport Models only.** On some vehicles the plastic kick wand panel may interfere with the Stealth hitch frame due to a raised portion and will need to be modified. Using a Dremel tool remove the raised portion, as shown in the images. Replace the panel onto the Stealth hitch frame.

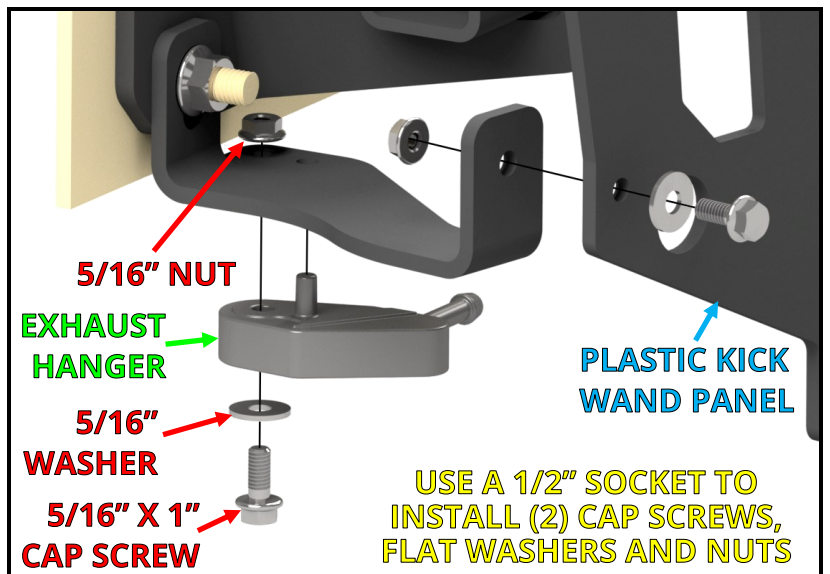


1/2"
SOCKET



1/2"
OPEN END
WRENCH

23. Using the supplied 5/16" cap screws, flat washers, and flange nuts, reattach the exhaust hangers and the plastic kick wand panel to the exhaust bracket as shown in the image. Repeat on both sides of the vehicle.



MOUNT LATCH BLOCK



15/16"
SOCKET



15/16" OPEN
END WRENCH



TORQUE
WRENCH

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

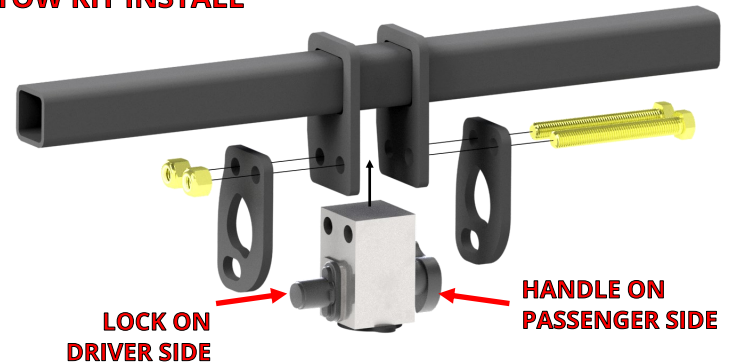
- **Rack Receiver Kit:** Install the latch block with (2) 5/8"-11 x 5" bolts and (2) 5/8" nylock nuts. Tighten each bolt to 150 ft.-lbs.
- **Tow Kit:** Install the latch block and (2) chain hooks with (2) 5/8"-11 x 5" bolts and (2) 5/8" nylock nuts. Tighten each bolt to 150 ft.-lbs.

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

RACK RECEIVER KIT INSTALL



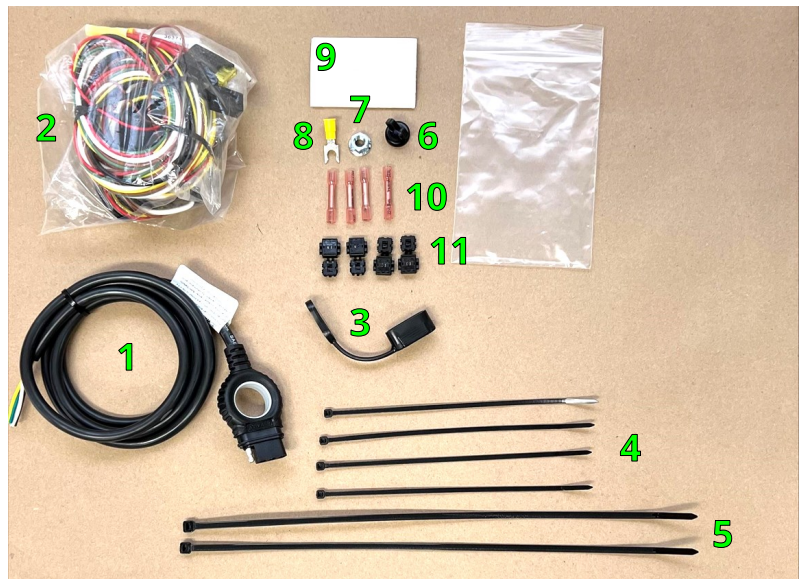
TOW KIT INSTALL



IF INSTALLING A RACK RECEIVER KIT, SKIP TO STEP 38.
IF INSTALLING A TOW KIT, CONTINUE TO STEP 25.

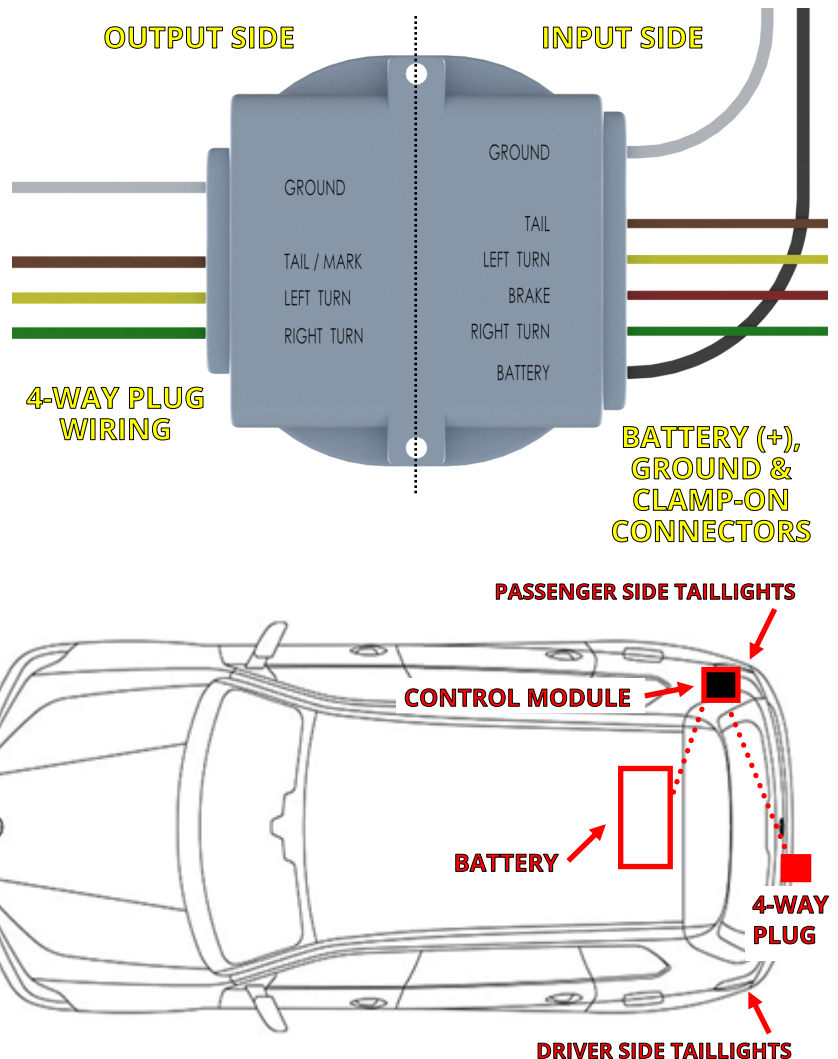
INSTALL WIRING KIT

#	DESCRIPTION	QTY
1	4-WAY CONNECTOR HARNESS	1
2	CONTROL MODULE	1
3	4-WAY CONNECTOR COVER	1
4	CABLE TIE - 8"	4
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 (RED)	4
11	CLAMP-ON CONNECTORS	4



25. 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



10mm
SOCKET

26. Locate and remove the plastic cover on the passenger side behind the rear tire. Use a socket to remove (5) nuts.

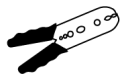


DRILL &
3/8" BIT

27. Locate rubber wiring harness grommet that was uncovered by removal of plastic cover. Drill a 3/8" hole in the grommet. Make sure to drill through grommet only and not to damage harness.

NOTICE: Confirm that there is nothing inside vehicle behind grommet that can be damaged.

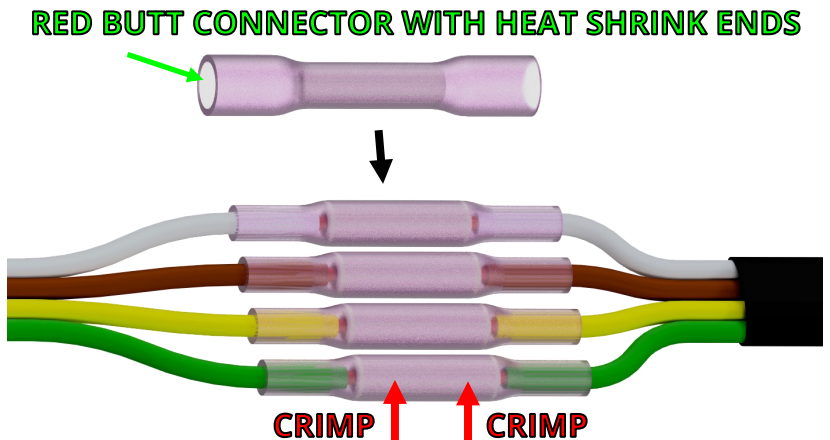
28. Feed the wires and black sheathing of the 4-way plug through the grommet from outside of the vehicle to the inside of the vehicle.



STRIPPER/
CRIMPING
TOOL

29. On the passenger side of the vehicle, place the wiring harness control module behind the side panel. 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.



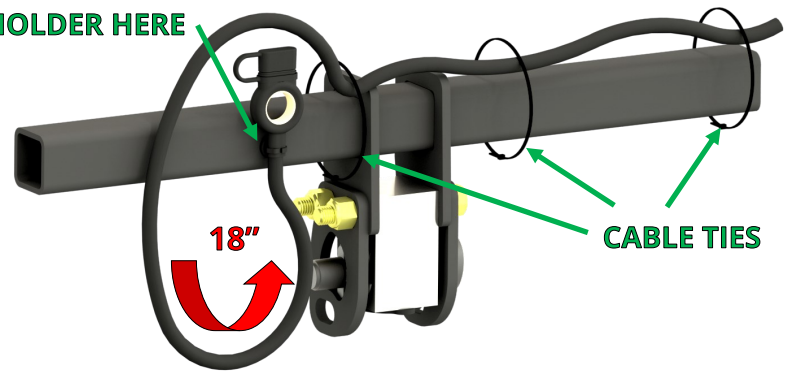
MATCH THE WIRE COLORS AND CRIMP EACH WIRE INTO THE SIDE OF EACH BUTT CONNECTOR. APPLY HEAT TO WATERPROOF AFTER CRIMPING

INSTALL WIRING KIT CONTINUED

30. 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.

SECURE OUTPUT WIRES TO HITCH FRAME

ADD MAGNETIC CABLE HOLDER HERE



PLIERS



MULTIMETER

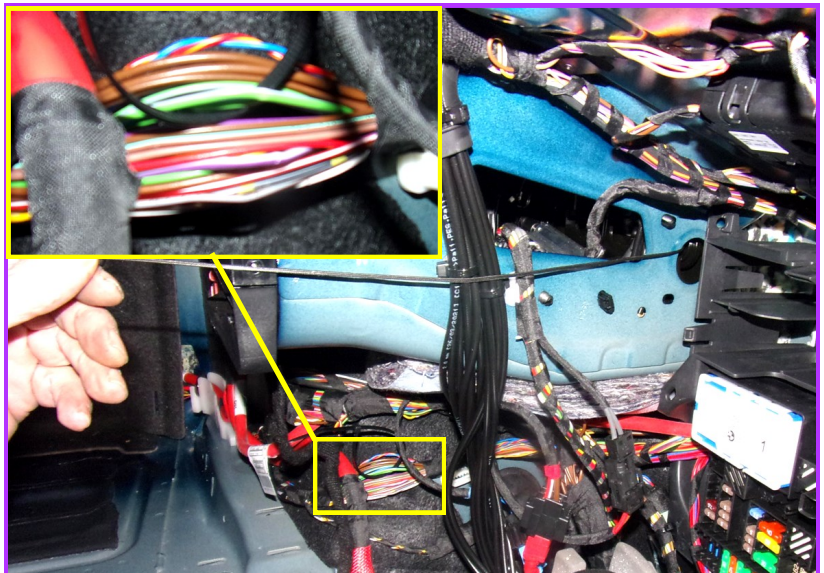
31. The wires on the input side of the module need to be attached to the vehicle wiring. Inside the passenger side vehicle compartment, locate the indicated part of the vehicle wiring harness. Use clamp-on connectors to connect to vehicle wiring harness. (As shown in reference table on the next page.)

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

NON-CONVERTIBLE












CONVERTIBLE



NON-CONVERTIBLE MODELS










CLAMP-ON CONNECTOR COLOR REFERENCE TABLE

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

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

CONVERTIBLE MODELS

CLAMP-ON CONNECTOR COLOR REFERENCE TABLE

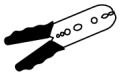
SIGNAL INPUT WIRES			POWER & GROUND WIRES		
<u>FUNCTION</u>	<u>HARNESS</u>	<u>VEHICLE</u>			
<u>LEFT TURN</u>	 YELLOW	 GREEN/BLUE	<u>12V+ (POWER)</u>	 BLACK	BATTERY (+)
<u>RIGHT TURN</u>	 GREEN	 GREEN/GRAY	<u>GROUND</u>	 WHITE	GROUND STUD
<u>MARKER</u>	 BROWN	 GRAY/PURPLE	NOTICE: Do not connect the red brake wire. This vehicle does not utilize a separate brake circuit. The brake signal is sent down the left and right turn circuits simultaneously.		
<u>BRAKE</u>	 RED	NOT USED			

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

INSTALL WIRING KIT CONTINUED



10mm
SOCKET



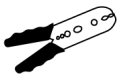
STRIPPER/
CRIMPING
TOOL

32. Trim white ground wire so it will reach the negative battery terminal (-) without excess wire. Crimp supplied fork terminal to the ground wire with a crimping tool. Connect the ground wire to the negative battery terminal (-).

NOTICE: Loosen battery terminals just enough to install wiring, so vehicle wiring does not lose ground or power.



10mm
SOCKET



STRIPPER/
CRIMPING
TOOL

33. Locate the fuse holder supplied in the wiring kit box. Remove the fuse from fuse holder. Trim black power wire so it will reach the positive battery terminal (+) without excess. Crimp fuse holder lead to power wire. Connect fuse ring terminal to the positive battery terminal (+).



SILICONE

34. Reinstall the 20 Amp fuse in the fuse holder. 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.

35. Use the provided adhesive foam strips to secure the control module to an inside body panel. Use silicone to waterproof the grommet with the 3/8" hole drilled through it.
36. 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.

CUT ACCESS TO LATCH BLOCK



TIN SNIPS

37. Cut the gravel guard with tin snips as shown in the image.

REINSTALL VEHICLE COMPONENTS

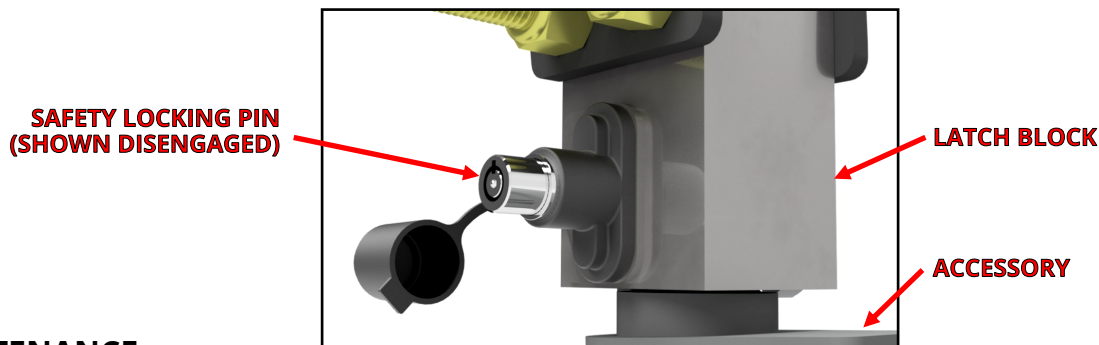
38. Reattach and secure the fascia, taillights, and other vehicle components in reverse order. Refer to Steps 1-15.

NOTICE: Remember to plug in the sensor plug in Step 15 before reinstalling the fascia.



FINAL VEHICLE EXAMINATION

39. Examine the body panels to ensure that they are in a pre-installation condition. Test the electronic functions of the vehicle. Correct any inconsistencies.
40. 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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