



HITCH INSTALLATION INSTRUCTIONS

www.stealthhitches.com 833-694-4824

MAKE:
BMW

YEARS:
2012 - 2018
2014 - 2020

MODEL/TRIM:
3 Series Sedan & Wagon
4 Series convertible, Coupe, & Gran Coupe

RACK RECEIVER KIT#: **SHR31008**

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: **YES**
FASCIA: **NO**
GRAVEL GUARD TRIMMING: **NO**

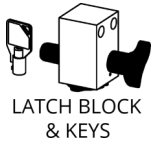


READ ALL INSTRUCTION WARNINGS AND LABELS



NO WELDING, METAL DRILLING OR VISIBLE TRIMMING REQUIRED

PARTS SUPPLIED WITH RACK RECEIVER KIT:



LATCH BLOCK & KEYS



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

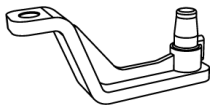


(2) 5/8"
NYLOCK NUTS



2" RACK
RECEIVER

ADDITIONAL PARTS FOR TOW KIT:



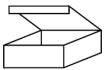
BALL MOUNT
7" RISE, SHORT



CHAIN HOOKS



2" BALL



PASSIVE WIRING KIT
BOX

TOOLS REQUIRED:



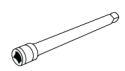
15/16" OPEN
END WRENCH



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



RATCHET



SOCKET
EXTENSION



TORQUE
WRENCH



FLASHLIGHT



PLASTIC
PRY TOOLS



TIN SNIPS



SAFETY GLASSES



T20 TORX



T30 TORX
**NOT NEEDED ON
SERIES 4 COUP AND
GRAND COUP**

ADDITIONAL TOOLS FOR TOW KIT:



DRILL &
3/8" BIT



PHILLIPS HEAD
SCREWDRIVER



STRIPPER/
CRIMPING
TOOL



MULTIMETER



PLIERS

<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. Using a plastic pry tool, remove the plastic cover plate next to each taillight.

- **3 Series only** Turn the plastic screw rivet counterclockwise to remove. Pry upward on plastic cover plate to remove.



- **4 Series only** Push (2) clips inward to remove.



2. Remove (2) nuts securing the taillight to the vehicle. Slide taillight rearward to remove. Disconnect light wiring connector. Repeat on other side of vehicle.



GAIN ACCESS TO MOUNTING AREA CONTINUED



8mm
SOCKET

— or —



T20 TORX
(4 SERIES)

3. On the bottom edge of the light fixtures locate the (2) screws attaching the fascia to the vehicle. Remove (2) screws from the fascia.



8mm
SOCKET



T30 TORX

— or —



T20 TORX
(4 SERIES)

4. Locate and remove (4) screws inside the rear wheel well connected to the rear fascia. Repeat on other side of vehicle.



8mm
SOCKET



T30 TORX
(3 SERIES & F33
CONVERTIBLE)

— or —



T20 TORX
(4 SERIES)

5. Underneath the vehicle, remove (9) screws from the bottom edge of the fascia.

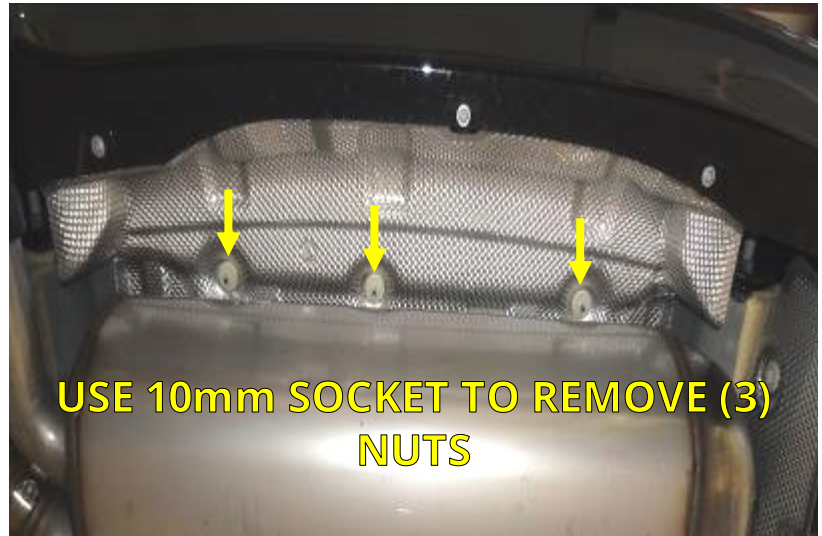


GAIN ACCESS TO MOUNTING AREA CONTINUED



10mm
SOCKET

6. Remove (3) nuts from the heat shield.



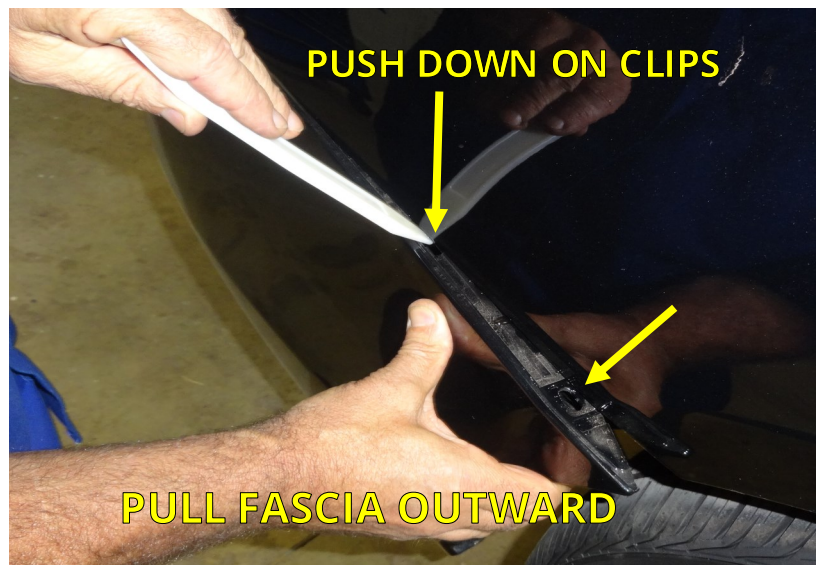
8mm
SOCKET

7. Remove (4) screws from the rear edge of the heat shield. Pull the heat shield down and set aside for later reinstallation.



PLASTIC
PRY TOOLS

8. 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.



GAIN ACCESS TO MOUNTING AREA CONTINUED

9. Pull fascia slightly away from the vehicle. Disconnect 4 PDC sensor plugs. To disconnect the PDC sensor plugs push lock clip downward, then pull plug outward. Remove the fascia completely.

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



10. Locate (4) clips holding the plastic kick wand holder to the factory reinforcement beam (green arrows). Unclip plastic kick wand holder from the factory reinforcement beam.

11. Remove (4) nuts securing the factory reinforcement beam. Remove reinforcement beam. Discard the reinforcement beam and save the nuts for hitch installation.

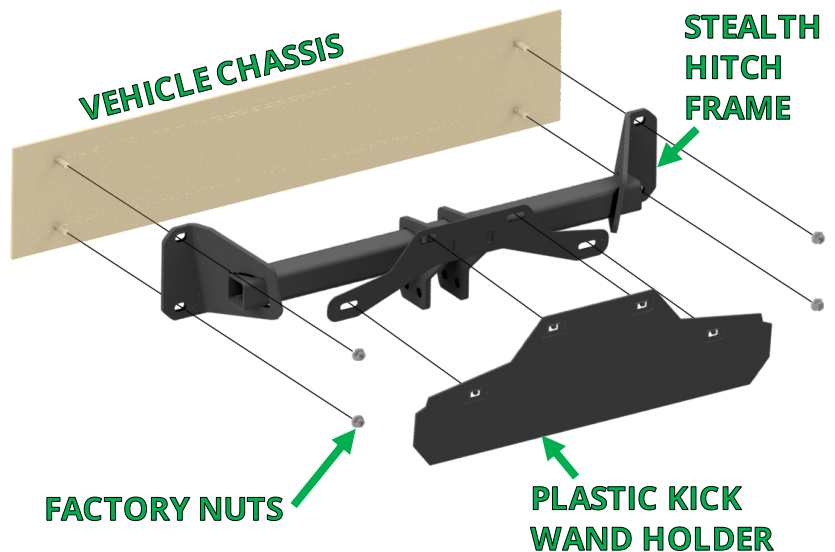


INSTALL STEALTH HITCH FRAME



12. Mount the Stealth hitch frame onto the vehicle studs with the (4) nuts saved from the factory reinforcement beam and torque to 85 ft.-lbs.

13. Reinstall plastic kick wand holder that was removed in Step 10 as shown.



MOUNT LATCH BLOCK



15/16"
SOCKET



15/16" OPEN
END WRENCH



TORQUE
WRENCH

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

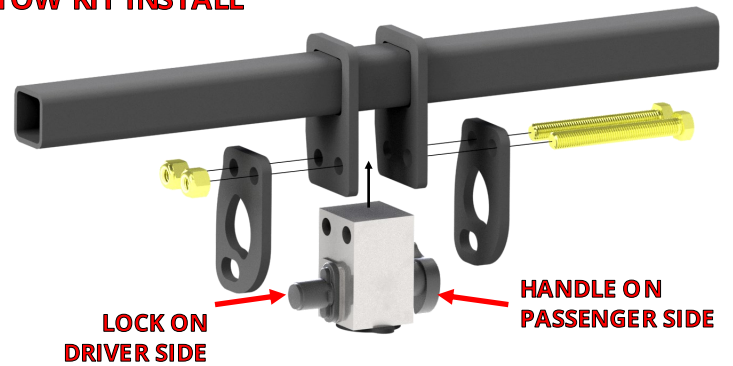
- **Rack Receiver Kit:** Install the latch block with (2) 5/8"-11 x 5" bolts and (2) 5/8" nylock nuts. Tighten each bolt to 150 ft.-lbs.
- **Tow Kit:** Install the latch block and (2) chain hooks with (2) 5/8"-11 x 5" bolts and (2) 5/8" nylock nuts. Tighten each bolt to 150 ft.-lbs.

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

RACK RECEIVER KIT INSTALL



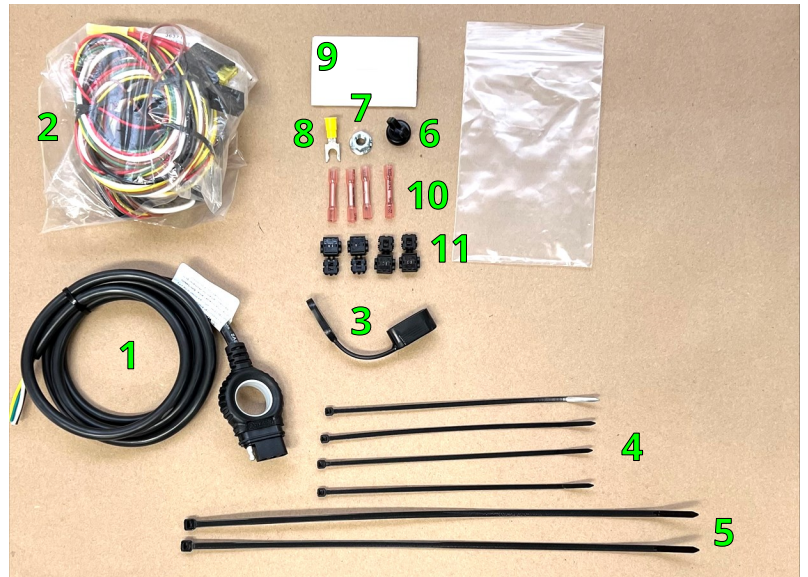
TOW KIT INSTALL



**IF INSTALLING A RACK RECEIVER KIT, SKIP TO STEP 31.
IF INSTALLING A TOW KIT, CONTINUE TO STEP 15.**

INSTALL PASSIVE WIRING KIT

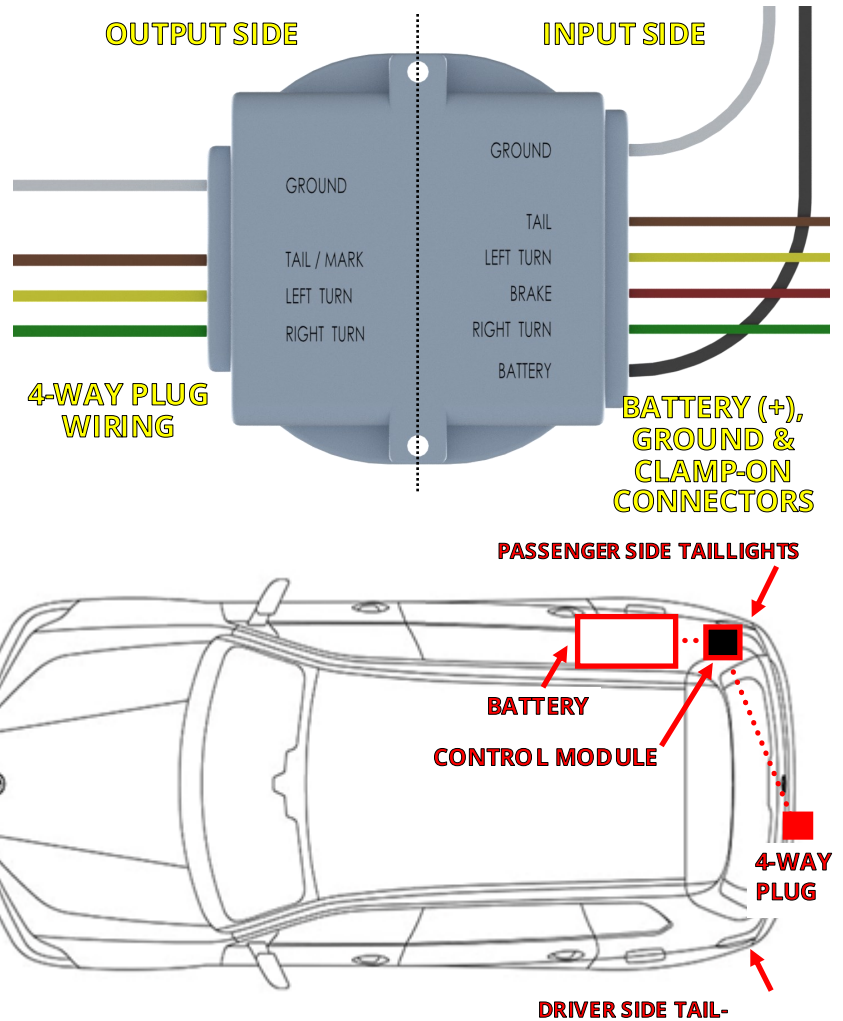
| # | DESCRIPTION | QTY |
|----|-------------------------|-----|
| 1 | 4-WAY CONNECTOR HARNESS | 1 |
| 2 | CONTROL MODULE | 1 |
| 3 | 4-WAY CONNECTOR COVER | 1 |
| 4 | CABLE TIE - 8" | 4 |
| 5 | CABLE TIE - 14" | 2 |
| 6 | MAGNETIC CABLE HOLDER | 1 |
| 7 | M8 SERRATED FLANGE NUT | 1 |
| 8 | FORK TERMINAL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



PASSIVE WIRING KIT BOX

15. 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

16. Lift to remove the cargo area floor panel.

NOTE: *Excludes F33*



17. On the passenger side, turn the knob 90° and remove the panel for battery access.

NOTE: *The 3 Series wagon is different than the photo.*

NOTE: *Excludes F33*



18. **F33 only** Locate and remove (7) rivets holding the passenger side panel. Remove side panel to gain access to wiring and battery.



INSTALL WIRING KIT CONTINUED



T20 TORX



10mm
SOCKET

19. Locate and remove the plastic cover on the passenger side behind the rear tire. Use a Torx to remove (3) screws (yellow). Use a socket to remove (2) nuts (green). Push down to unclip in (2) places (red).



DRILL &
3/8" BIT

20. Locate rubber wiring harness grommet that was uncovered by removal of plastic cover. Drill a 3/8" hole in the grommet for wiring harness. 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.



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



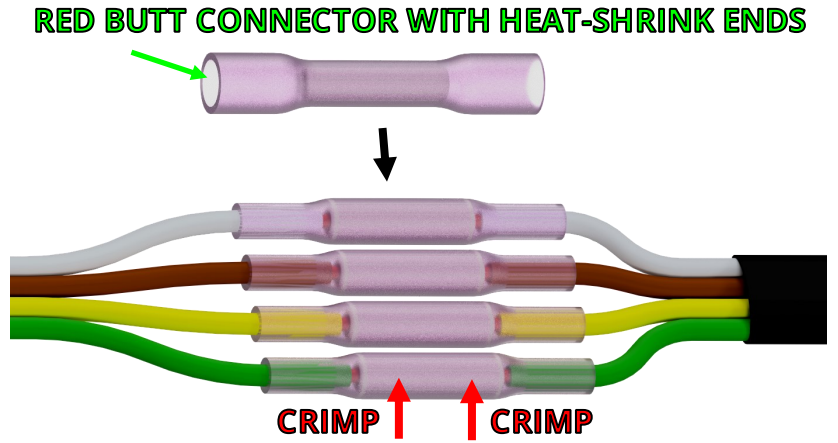
INSTALL WIRING KIT CONTINUED



STRIPPER/
CRIMPING
TOOL

22. 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.

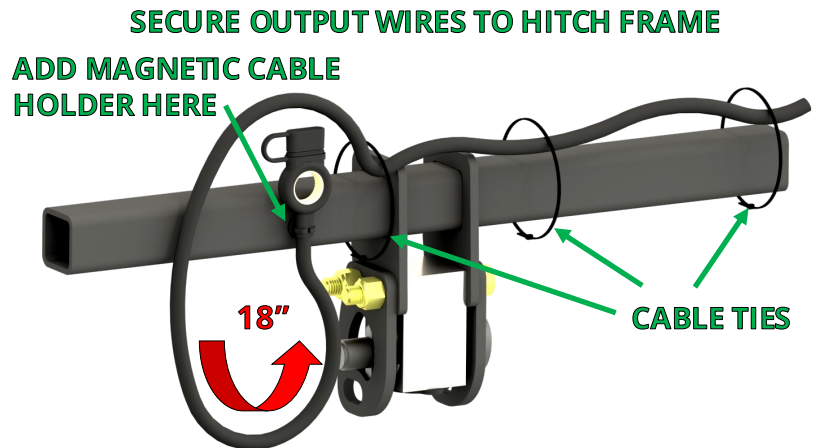
NOTICE (OPTIONAL): The butt splice connectors are heat shrink connectors. Apply heat to waterproof the connectors after crimping.



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

23. 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.

NOTE: The output harness may be secured on passenger or driver side of the hitch frame.



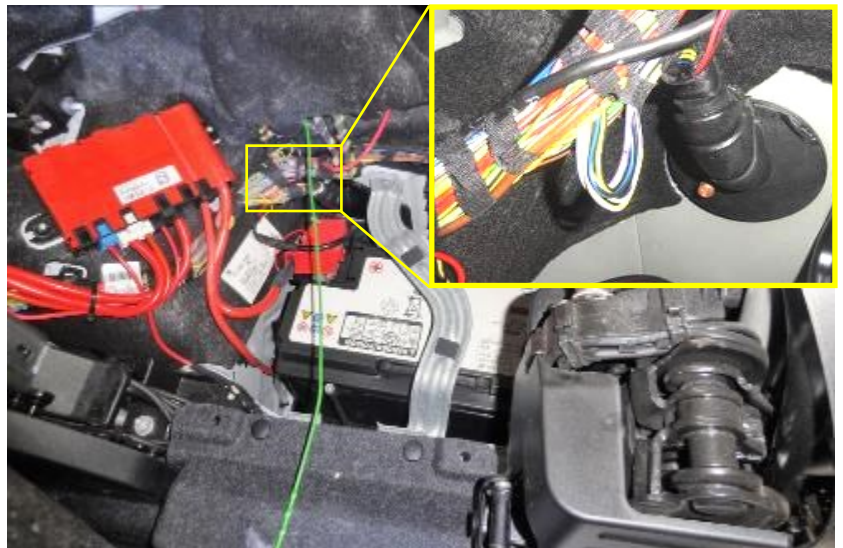
PLIERS













MULTIMETER

24. 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 next page.)

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 |  BLACK/WHITE | 12V+ (POWER) |  BLACK | BATTERY (+) |
| RIGHT TURN |  GREEN |  BLACK/GRAY | GROUND |  WHITE | BATTERY (-) |
| MARKER |  BROWN |  GRAY/PURPLE | | | |
| BRAKE |  RED |  BLACK/YELLOW | | | |

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



10mm
SOCKET



STRIPPER/
CRIMPING
TOOL

25. 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

26. 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 (+).

27. 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.

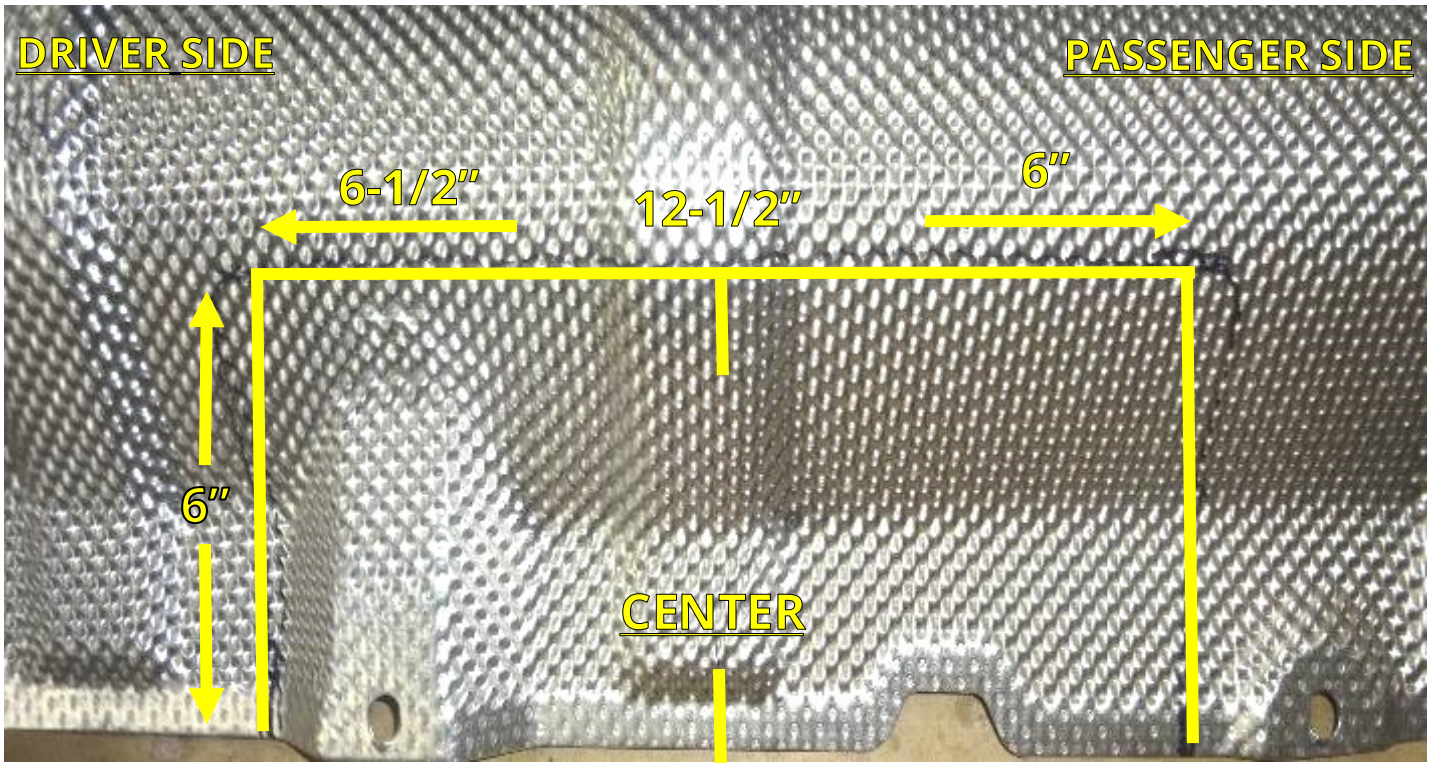


INSTALL WIRING KIT CONTINUED

28. Use the provided adhesive foam strips to secure the control module behind the battery as shown.
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.
30. Reinstall components in Steps 16-19 in reverse order.



CUT ACCESS TO LATCH BLOCK



TIN SNIPS



PLIERS

31. Use tin snips to cut and remove the indicated section from the heat shield. Bend all the sharp edges back with pliers, to prevent sharp exposed metal surfaces.

NOTE: On some vehicles it may be necessary to deform the heat shield slightly where it touches the hitch, when replacing the heat shield.



REINSTALL VEHICLE COMPONENTS

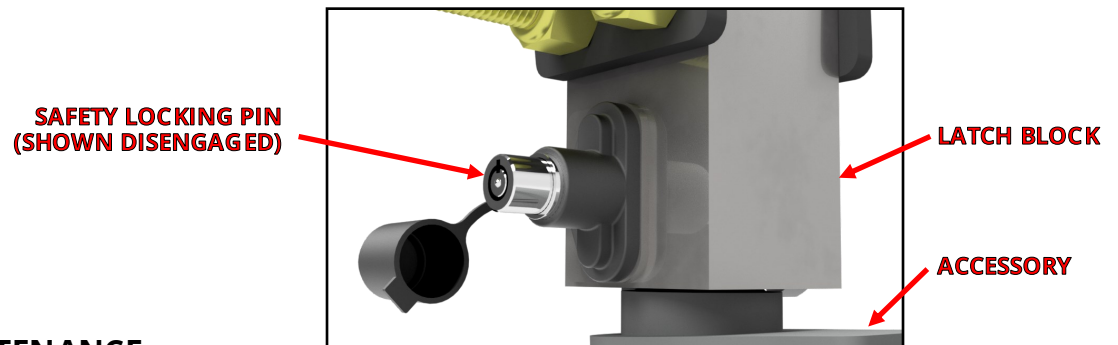
32. Reattach and secure the fascia, taillights, and other vehicle components in reverse order. Refer to Steps 1-9.

NOTICE: Remember to plug in the sensor plugs in Step 9 before reinstalling the fascia.



FINAL VEHICLE EXAMINATION

33. Examine the body panels to ensure that they are in a pre-installation condition. Test the electronic functions of the vehicle. Correct any inconsistencies.
34. 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.