



HITCH INSTALLATION INSTRUCTIONS

MAKE: BMW **YEARS:** 2011 - 2016 **MODEL/TRIM:** 5 Series Sedan

www.stealthhitches.com 833•694•4824

RACK RECEIVER KIT#: **SHR31010**

COMPATIBLE WITH TOW KIT: **SHT25000**



2" RACK RECEIVER MAXIMUM PAYLOAD: 600 LBS
MAXIMUM TOW RATING: 6000 LBS
MAXIMUM TONGUE WEIGHT: 600 LBS

UNDER VEHICLE TRIMMING:

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

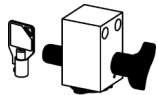


READ ALL INSTRUCTION WARNINGS AND LABELS



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



(2) 5/16" SERRATED FLANGE NUTS



(2) 5/16" FLAT WASHERS

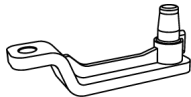


(2) BOLTS
5/16" x 1"



(4) 14" CABLE TIES

ADDITIONAL PARTS FOR TOW KIT:



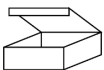
BALL MOUNT
5" RISE, SHORT



CHAIN HOOKS



2" BALL



PASSIVE WIRING
KIT BOX

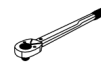
TOOLS REQUIRED:



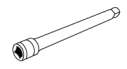
15/16" OPEN END WRENCH



18mm DEEP WELL,
8mm, 10mm, 13mm,
5/8" & 15/16"
SOCKETS



TORQUE WRENCH



SOCKET EXTENSION



SAFETY GLASSES



RATCHET



FLASHLIGHT



T40 TORX



90 DEGREE PICK



PLASTIC PRY TOOLS



FILE

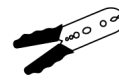


DREMEL TOOL

ADDITIONAL TOOLS FOR TOW KIT:



PLIERS



STRIPPER/
CRIMPING
TOOL



SILICONE



MULTIMETER



DRILL &
3/8" BIT

<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. With a pry tool, remove the light cover trim. Remove (1) screw holding the fascia that was exposed. Repeat on other side of vehicle.



2. Locate and remove (3) screws holding the fascia on inside of the rear wheel well. Repeat on other side of the vehicle.



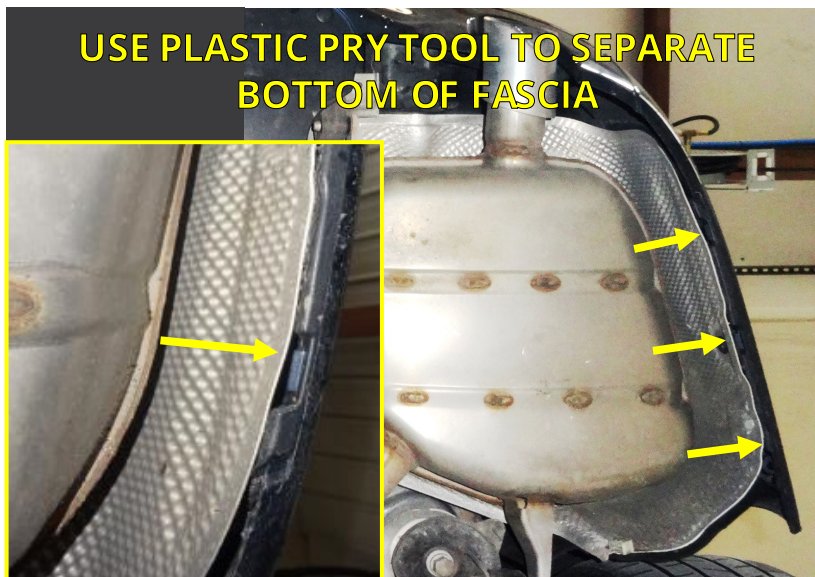
3. Under the rear of the vehicle, remove (3) screws and (6) plastic rivets from gravel guard.



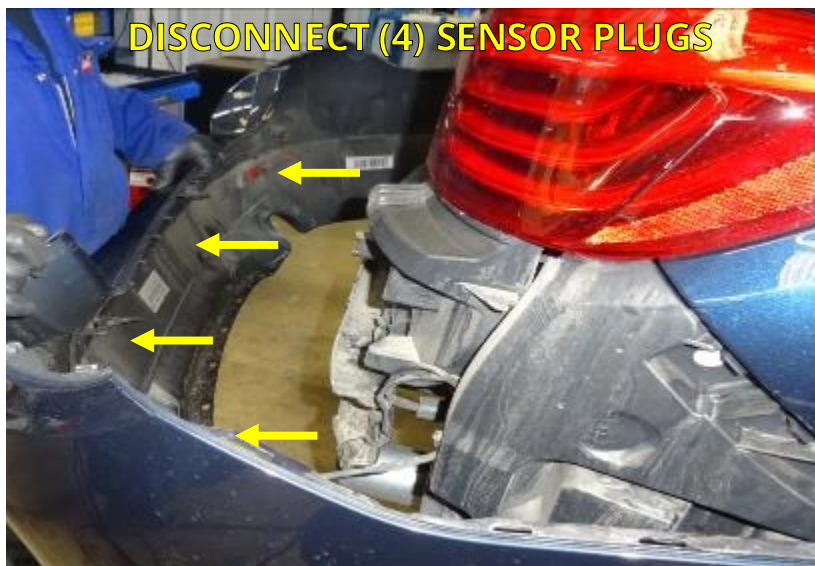
GAIN ACCESS TO MOUNTING AREA CONTINUED



4. Behind the wheel well, unclip and separate the bottom of the fascia with a plastic pry tool. There are (3) clips to unclip. Repeat on other side of vehicle.



5. The fascia is clipped to the vehicle body directly behind the wheel wells. Pull outward on the fascia release the clips. Continue applying outward pressure until all the clips are released. Repeat on other side of vehicle.
6. This step requires a partner. Pull the fascia rearward enough to access the sensor plugs located on the inside of the fascia. Disconnect the sensor plugs. Remove the fascia completely.



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

7. Remove the plastic kick wand holder by disconnecting (2) plugs and (4) clips.



GAIN ACCESS TO MOUNTING AREA CONTINUED

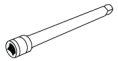


13mm
SOCKET

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



18mm
DEEP WELL
SOCKET



SOCKET
EXTENSION

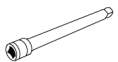
9. Remove (4) nuts securing the factory reinforcement beam. **Save** nuts for reinstallation. Remove the reinforcement beam and discard.



INSTALL STEALTH HITCH FRAME

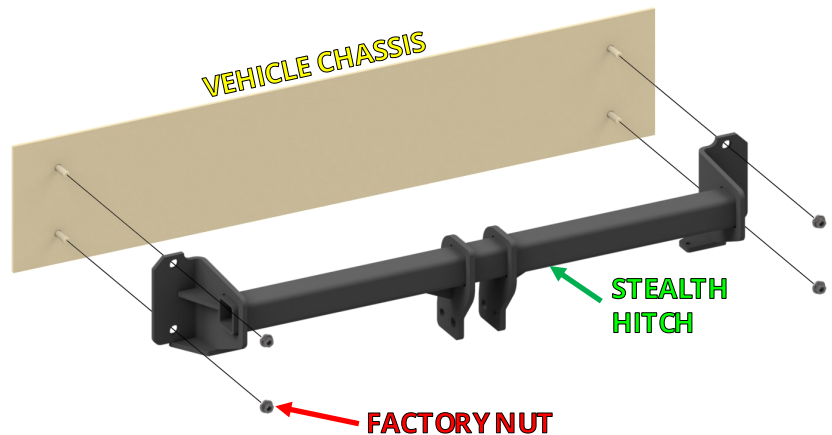


18mm
DEEP WELL
SOCKET



SOCKET
EXTENSION

10. Install Stealth hitch frame. Center the hitch frame. Use a torque wrench to tighten the factory nuts to 85 ft.-lbs.



MOUNT LATCH BLOCK



15/16"
SOCKET



15/16" OPEN
END WRENCH



TORQUE
WRENCH

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

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

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

RACK RECEIVER KIT INSTALL

DRIVER SIDE

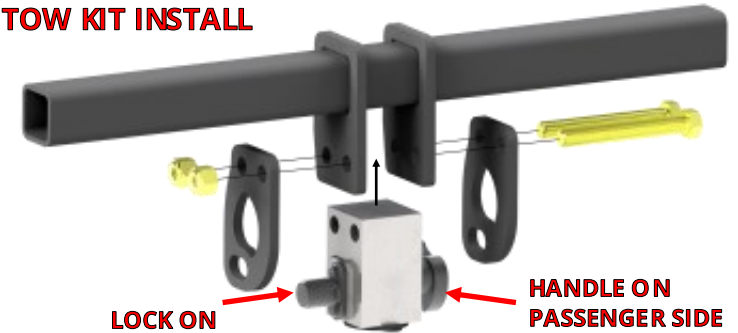
PASSENGER SIDE



TOW KIT INSTALL

LOCK ON
DRIVER SIDE

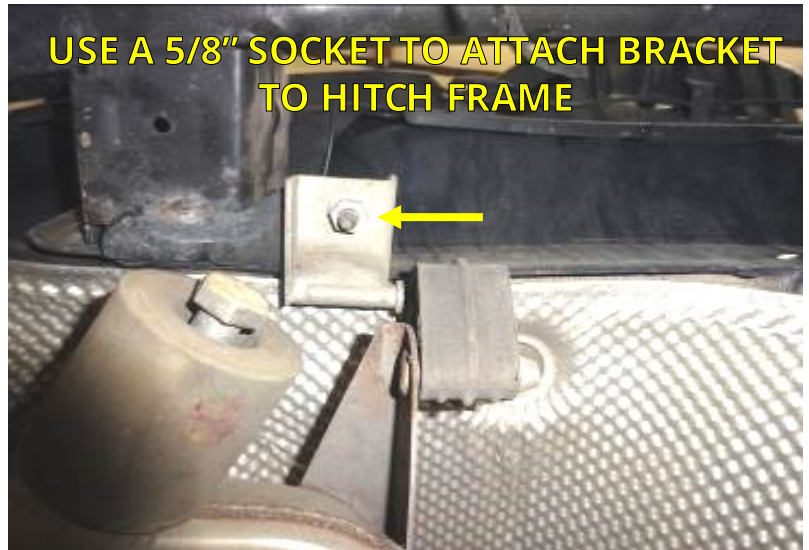
HANDLE ON
PASSENGER SIDE



5/8"
SOCKET

12. Attach exhaust brackets to hitch frame with supplied 5/16" nuts and bolts. Torque to 35 ft.-lbs.

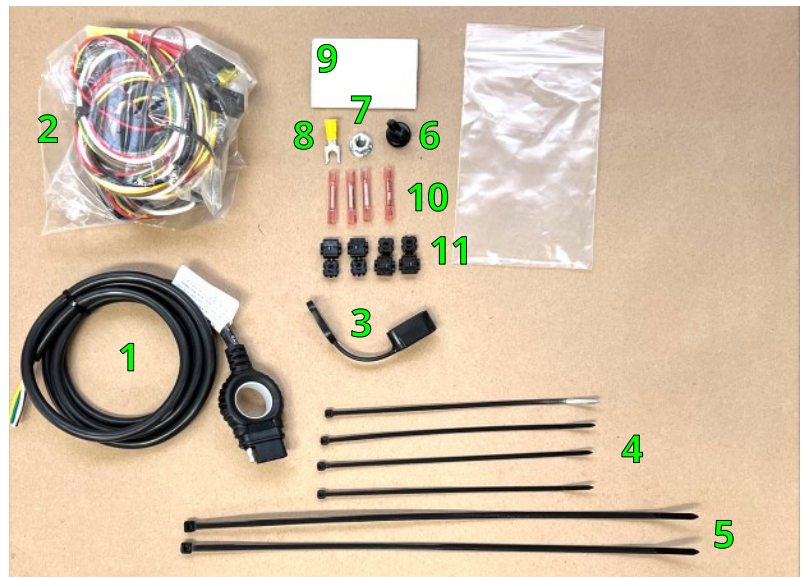
USE A 5/8" SOCKET TO ATTACH BRACKET TO HITCH FRAME



**IF INSTALLING A RACK RECEIVER KIT, SKIP TO STEP 29.
IF INSTALLING A TOW KIT, CONTINUE TO STEP 13.**

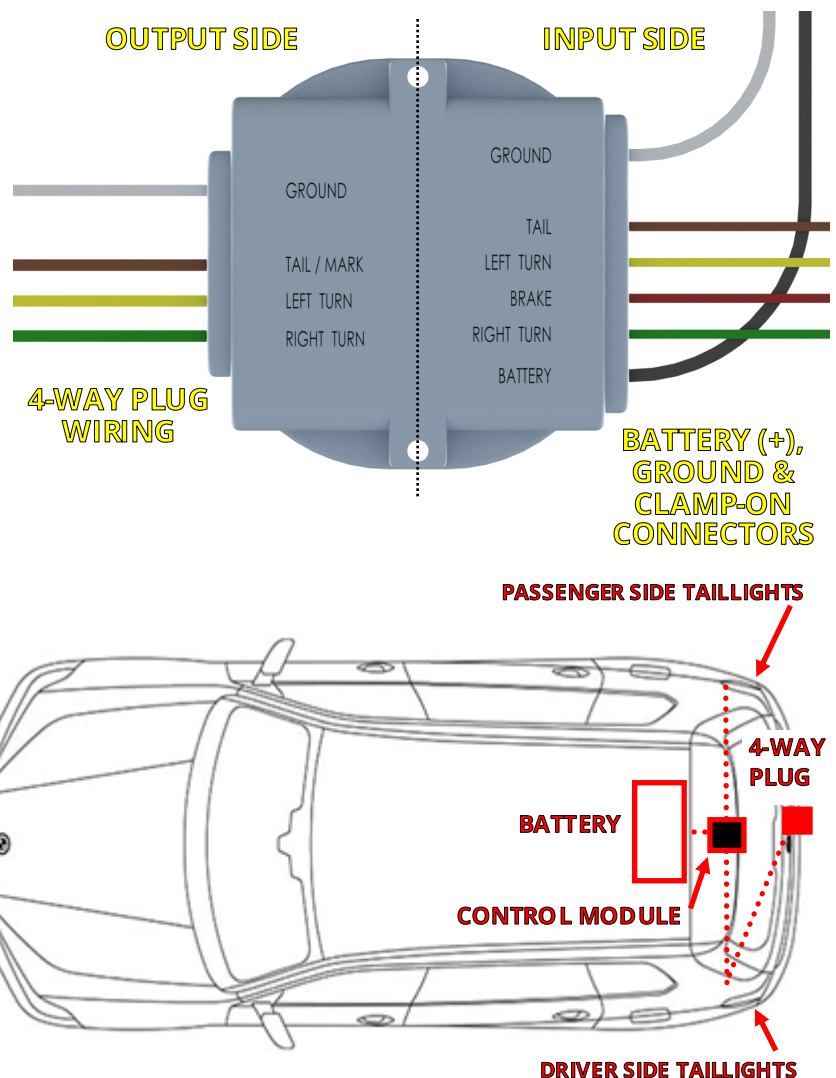
INSTALL PASSIVE WIRING KIT

| # | 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 |



13. 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

14. Remove cargo area floor panel and divider tray. Remove (2) nuts.



90 DEGREE
PICK



T40 TORX

15. On driver side of vehicle, remove (2) rivets and cargo anchor from side panel. Dislodge the driver side panel to access taillight wiring.



90 DEGREE
PICK



T40 TORX

16. On passenger side of vehicle, remove (2) rivets and cargo anchor from side panel. Dislodge the passenger side panel to access taillight wiring.

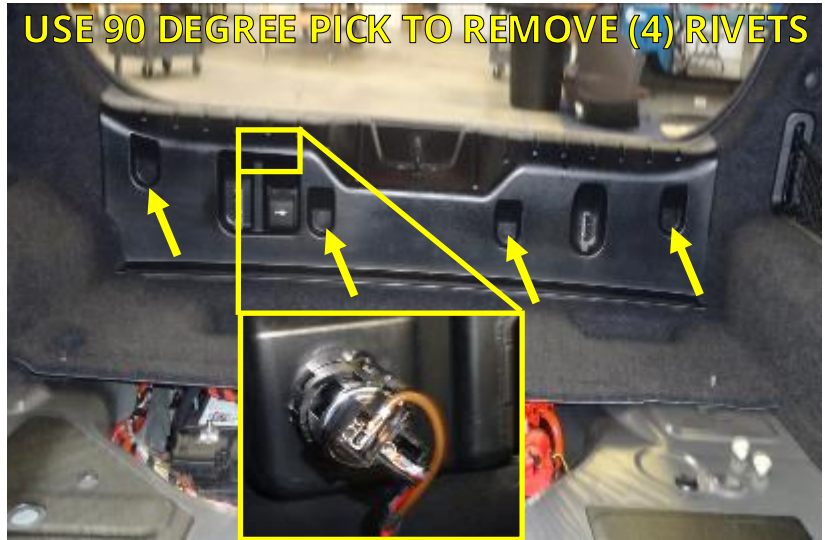


INSTALL WIRING KIT CONTINUED



90 DEGREE PICK

17. Remove the threshold in the rear of the cargo area. Use a 90 degree pick to remove (4) rivets. Carefully lift up on threshold. The threshold will be attached by a power plug. Disconnect plug before completely removing threshold.

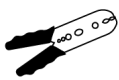


DRILL & 3/8" BIT

18. Locate and remove rubber grommet on driver side of vehicle. Drill a 3/8" hole in the center of the grommet. Retrieve the 4-way connector harness. Pass the grommet over the wires so the plug will be on the outside of the vehicle. Thread the end of the wires into the hole.



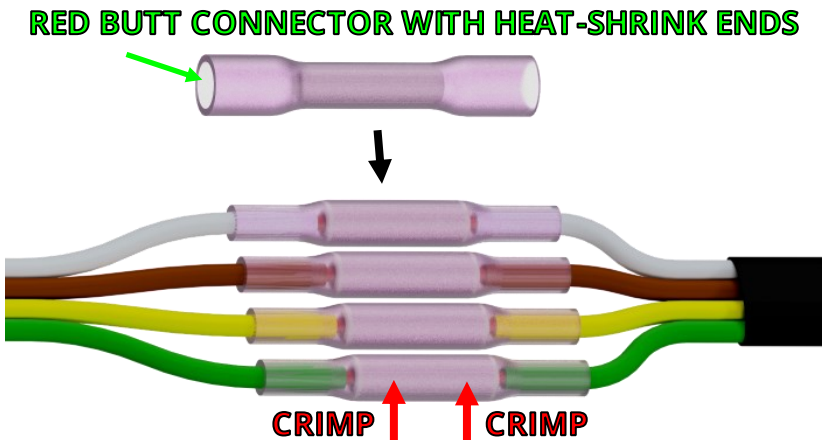
DRILL A 3/8" HOLE IN GROMMET



STRIPPER/CRIMPING TOOL

19. 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.

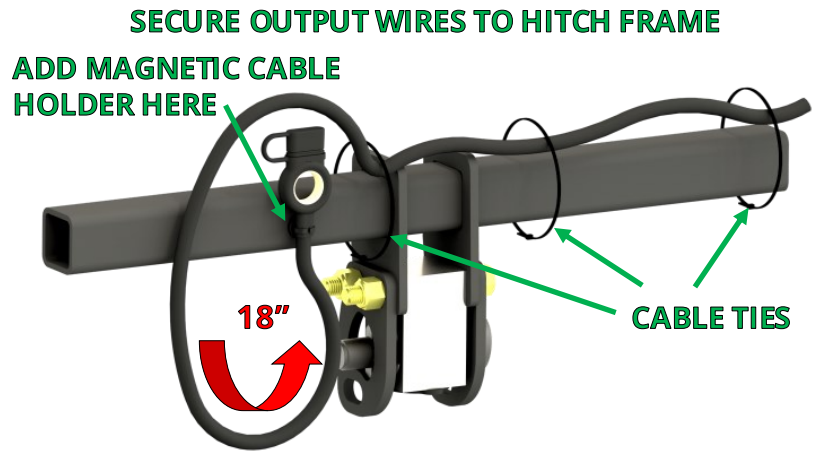
NOTICE (OPTIONAL): The butt connectors are heat shrink connectors. Apply heat to waterproof the connectors after crimping.



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

20. 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.



21. Place control module in the vehicle's battery compartment. Use provided adhesive strips to secure control module.



PLIERS



MULTIMETER

22. The wires on the input side of the module need to be attached to the vehicle wiring. Inside the driver side cargo compartment, locate the indicated part of the vehicle wiring harness. Use clamp-on connectors to connect the brown and yellow wires to wires behind taillight. (As shown in reference table on next page.)

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



INSTALL WIRING KIT CONTINUED



PLIERS













MULTIMETER

23. In the passenger side cargo compartment locate the indicated part of the vehicle wiring harness. Use a clamp-on connector to connect the green wire to right turn signal wire behind the taillight. (As shown in reference table below.)



CLAMP-ON CONNECTOR COLOR REFERENCE TABLE

| SIGNAL INPUT WIRES | | | POWER & GROUND WIRES | | |
|--------------------|---|---|--|--|-------------|
| FUNCTION | HARNESS | VEHICLE | | | |
| LEFT TURN |  YELLOW |  BLUE/GREEN | 12V+ (POWER) |  BLACK | BATTERY (+) |
| RIGHT TURN |  GREEN |  BLUE/TAN | GROUND |  WHITE | BATTERY (-) |
| MARKER |  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. | | |
| BRAKE |  RED |  GREEN/BLUE | | | |

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



10mm SOCKET



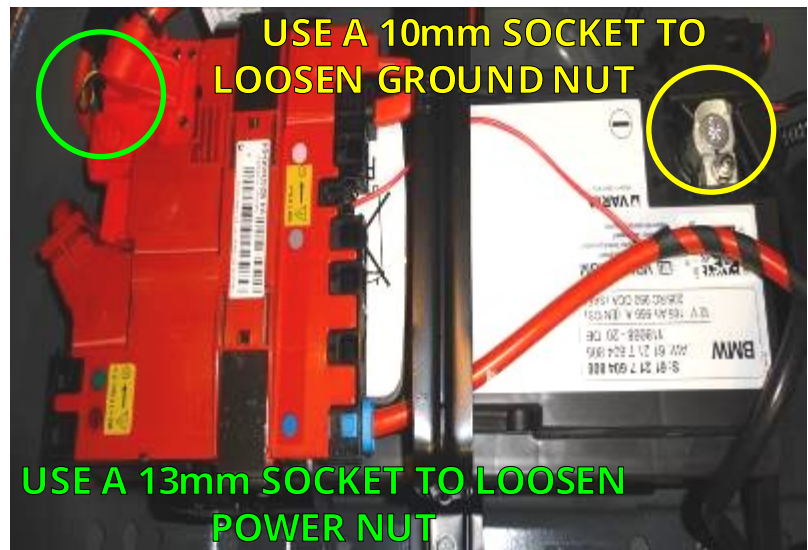
13mm SOCKET



STRIPPER/
CRIMPING
TOOL

24. Locate the fork terminal supplied in the wiring kit box. Trim white ground wire so it will reach negative battery terminal (-) without excess wire. Crimp the fork terminal to the ground wire. Connect the ground wire to the negative battery terminal (-).

25. 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 (+).



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

INSTALL WIRING KIT CONTINUED



SILICONE



MULTIMETER

26. Reinstall the 20 Amp fuse in the harness fuse holder located near the battery.
27. Test the 4-way plug using a multimeter or connect the plug to a trailer and verify that the lights and brakes work correctly.
28. Secure all wires and wiring components. Replace the grommet removed earlier on the rear driver side of the vehicle. Use silicone to waterproof the grommet. 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. Reinstall threshold, floor panel, and side panels in reverse order. Refer to Steps 14-17.

NOTICE: Remember to plug in the power plug in Step 17 before reinstalling the threshold.

CUT ACCESS TO THE LATCH BLOCK



DREMEL TOOL



FILE

29. Trim the plastic antenna holder in the area along the bottom edge. Cut off 4 inches, as shown.

NOTE: Make sure all wires and cables are removed from cut area.



30. After trimming the plastic antenna holder secure it to the hitch frame using (4) supplied cable ties. Guide the cable ties through the four clip slots, around the hitch beam and over the top of the kick wand holder to secure.



CUT ACCESS TO THE LATCH BLOCK CONTINUED



DREMEL TOOL



FILE

31. Cut out gravel guard as shown with Dremel tool. Use a file to smooth out the cut.



DREMEL TOOL



FILE

32. Cut out fascia as shown with Dremel tool. Use a file to smooth out the cut.



REINSTALL VEHICLE COMPONENTS

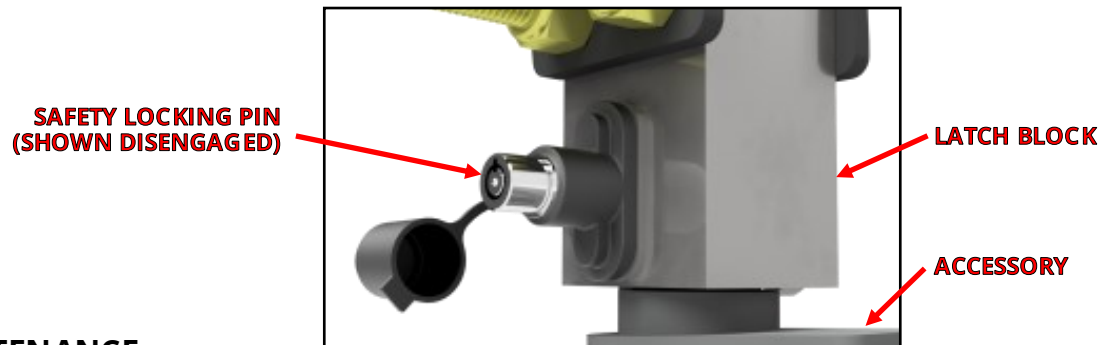
33. Reattach and secure the fascia and other vehicle components in reverse order. Refer to Steps 1-6.

NOTICE: Remember to plug in the sensor plugs in Step 6 before reinstalling the fascia.



FINAL VEHICLE EXAMINATION

34. Examine the body panels to ensure that they are in a pre-installation condition. Test the electronic functions of the vehicle. Correct any inconsistencies.
35. 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.