



# HITCH INSTALLATION INSTRUCTIONS

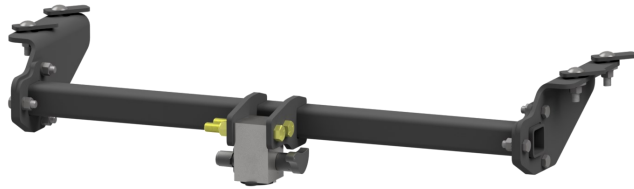
MAKE: YEARS: MODEL/TRIM:  
 FORD 2021-2023 MUSTANG MACH-E

www.stealthhitches.com 833-694-4824

RACK RECEIVER KIT#: **SHR11001**

COMPATIBLE WITH TOW KITS: **SHT25058**

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



## UNDER VEHICLE TRIMMING:

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

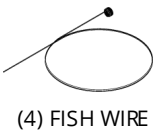
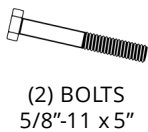
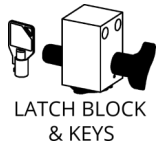


**READ ALL INSTRUCTION WARNINGS AND LABELS**

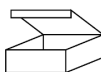


**NO WELDING, METAL DRILLING OR VISIBLE TRIMMING REQUIRED**

### PARTS SUPPLIED WITH RACK RECEIVER KIT:



### ADDITIONAL PARTS FOR TOW KIT:



### TOOLS REQUIRED:



### ADDITIONAL TOOLS FOR TOW KIT:



# <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 this vehicle.

- The Rack Receiver only product does not require adding a wiring harness.
- The Rack Receiver plus Tow Kit requires the addition a "Passive" wiring harness to this vehicle. The passive harness "reads" the output of the vehicle's lights and translates that 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](http://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.

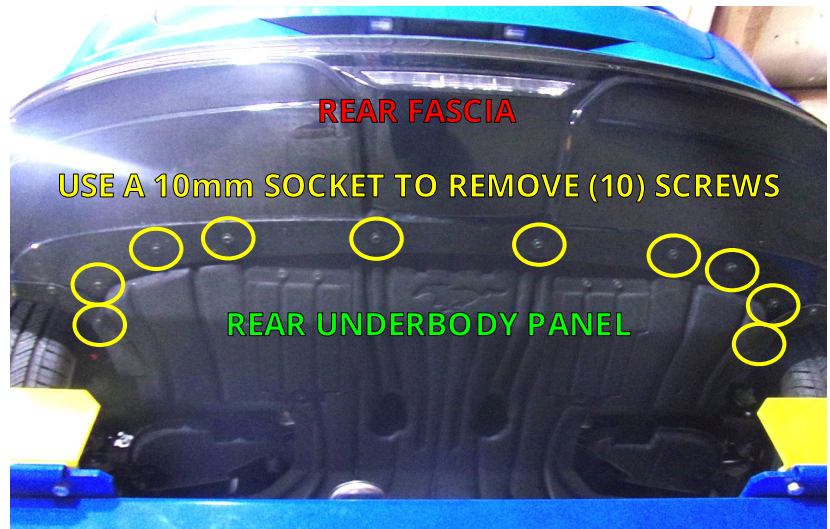
**NOTICE:** Installation of hitch requires removal of vehicle parts and interaction with vehicular electronics. Before installation, check the condition of body panels and note any locations where panels are not flush. Check the electronic functions of the vehicle, such as: headlights, taillights, turn 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



10mm SOCKET

1. Under the rear fascia, locate and remove (10) screws holding the rear edge of the underbody panel to the vehicle.

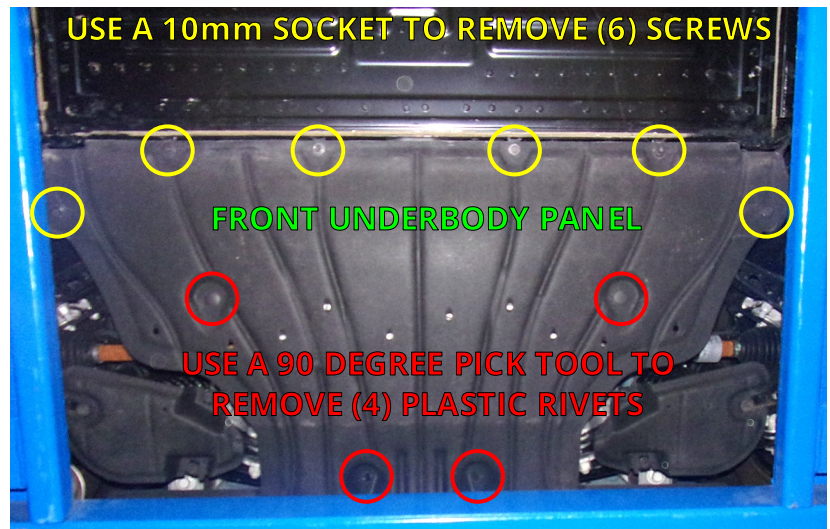


10mm SOCKET



90 DEGREE PICK

2. Under the mid-section of the vehicle, locate the front edge of the underbody panel. Use a socket to remove (6) screws from the front end of the panel. Use a 90 degree pick tool to remove (4) plastic rivets. Remove the underbody panel and put it aside.



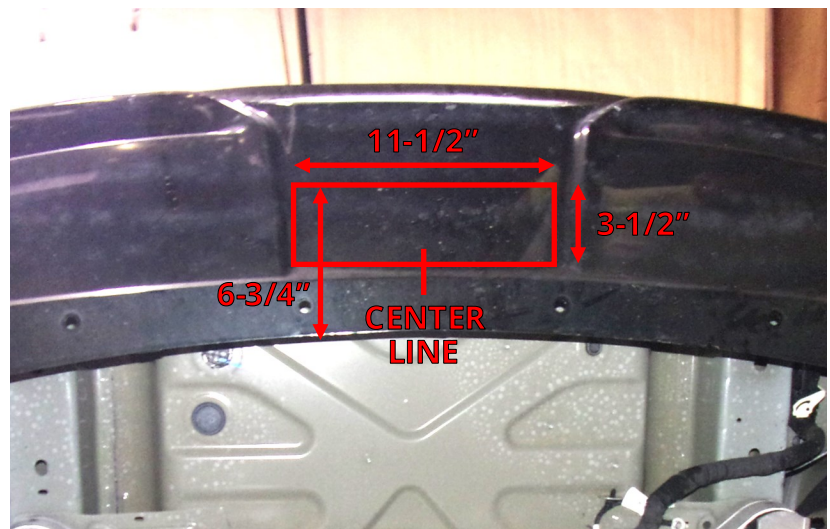
DREMEL TOOL



FILE

3. Use a Dremel tool to cut out fascia, as shown. Use a file to smooth out the cut.

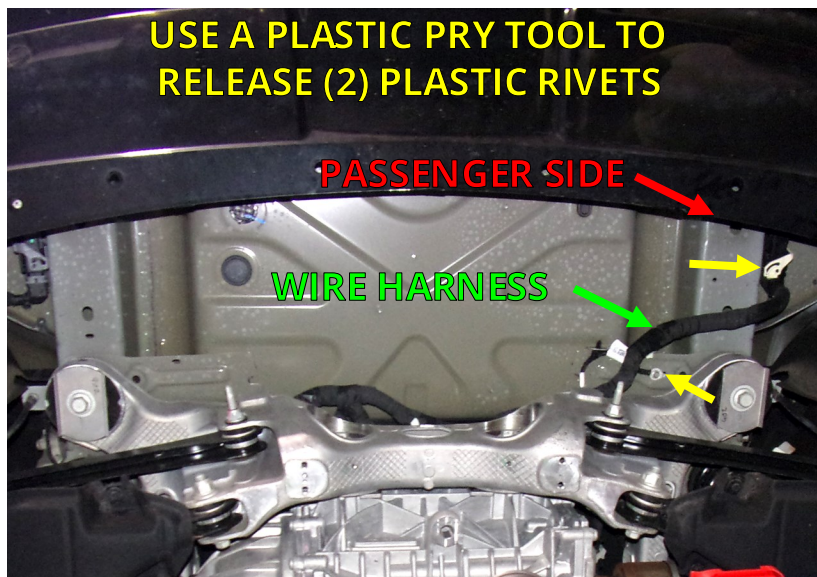
**NOTICE:** Check behind cut area for wires or other components before cutting.



## GAIN ACCESS TO MOUNTING AREA CONTINUED



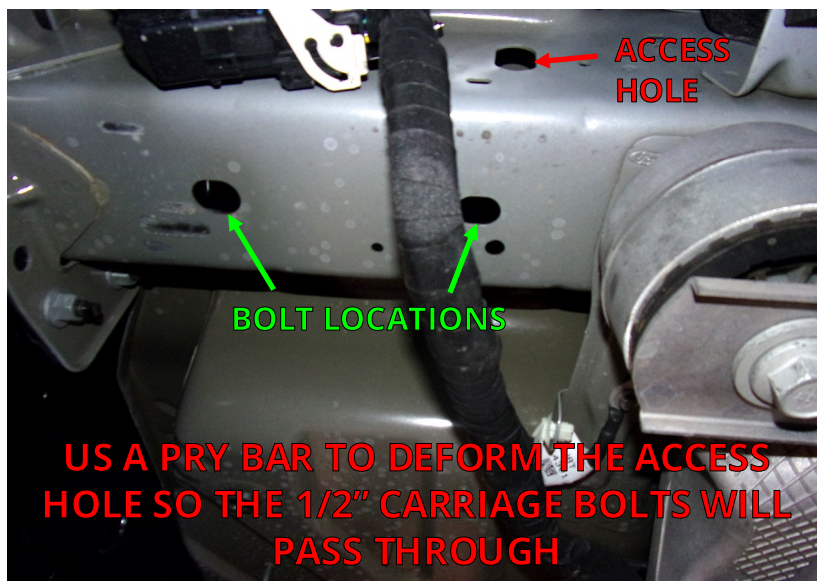
4. On the passenger side of the vehicle, locate the indicated wiring harness in the image. Use a plastic pry tool to free the harness from the (2) plastic rivets securing the harness.



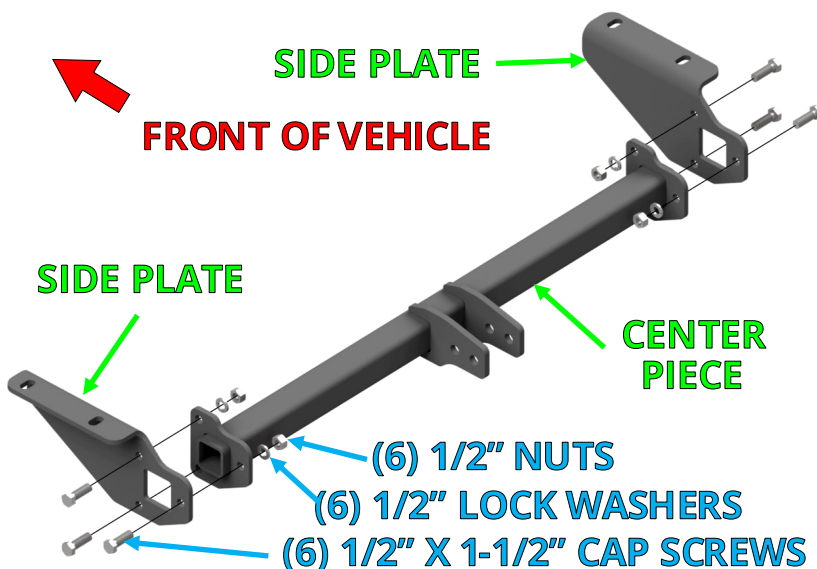
## PREPARE FOR HITCH INSTALLATION



5. In the next section the hitch will be raised and attached to the vehicle with 1/2" carriage bolts. The hardware may not fit into the access holes in the frame. If necessary, use a pry bar or wedge to deform the access holes slightly so the hardware will fit.

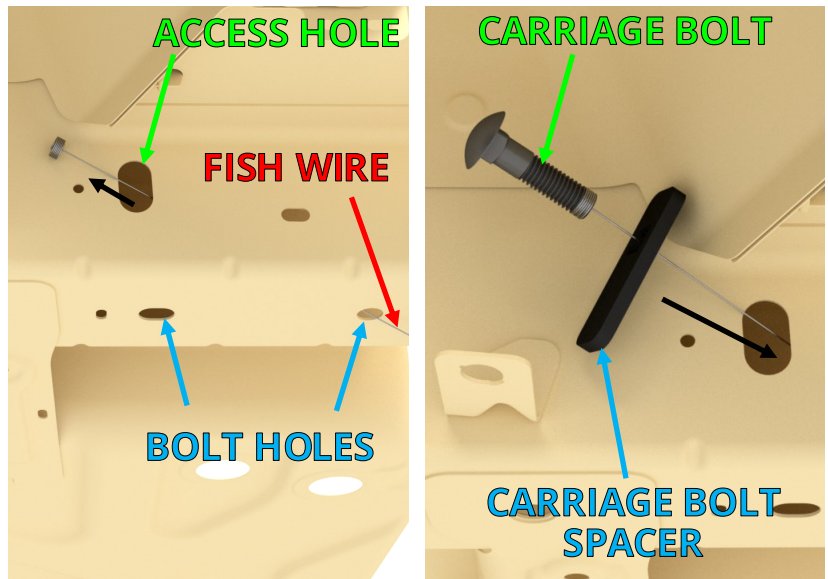


6. The Stealth hitch frame is made up of three pieces which must be assembled. Retrieve each of the assembly components. Assemble the Stealth hitch frame by attaching the two side plates to the center piece with (6) 1/2" x 1-1/2" cap screws, lock washers, and nuts, as shown.
- Torque each of the 1/2" bolts and nuts to 100 ft.-lbs.

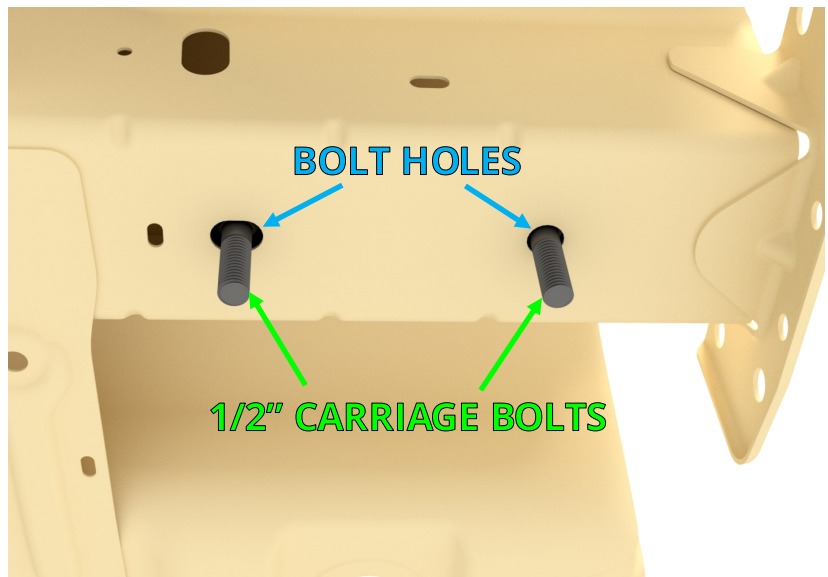


## INSTALL STEALTH HITCH

- Each carriage bolt will require the use of a fish wire to be placed in the correct location. Pass the threaded end of the fish wire up through the bolt hole and out the access hole. Place a carriage bolt spacer onto the fish wire and thread on a 1/2" x 2" carriage bolt. Push the carriage bolt spacer into the frame followed by the carriage bolt. The bolt will pass through the spacer and out of the bolt hole. When properly positioned, the carriage bolt's square corners will be seated inside the carriage bolt spacer.



- Repeat the procedure in Step 7 for the other (3) remaining bolt holes.



- Mount the Stealth hitch frame onto the (4) carriage bolts placed in the frame. Use 1/2" flat washers, 1/2" lock washers and 1/2" nuts to attach the frame to the vehicle.



- Torque each of the 1/2" nuts to 100 ft.-lbs.



3/4"  
SOCKET



TORQUE  
WRENCH

## MOUNT LATCH BLOCK



15/16"  
SOCKET



15/16" OPEN  
END WRENCH



TORQUE  
WRENCH

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

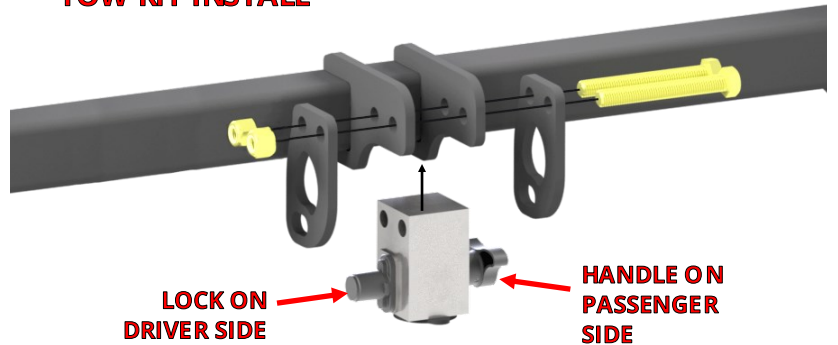
- **Rack Receiver Kit:** Install the latch block with (2) 5/8"-11 x 5" bolts and (2) 5/8" nylock nuts. Tighten each bolt to 150 ft.-lbs.
- **Tow Kit:** Install the latch block and (2) chain hooks with (2) 5/8"-11 x 5" bolts and (2) 5/8" nylock nuts. Tighten each bolt to 150 ft.-lbs.

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

### RACK RECEIVER KIT INSTALL



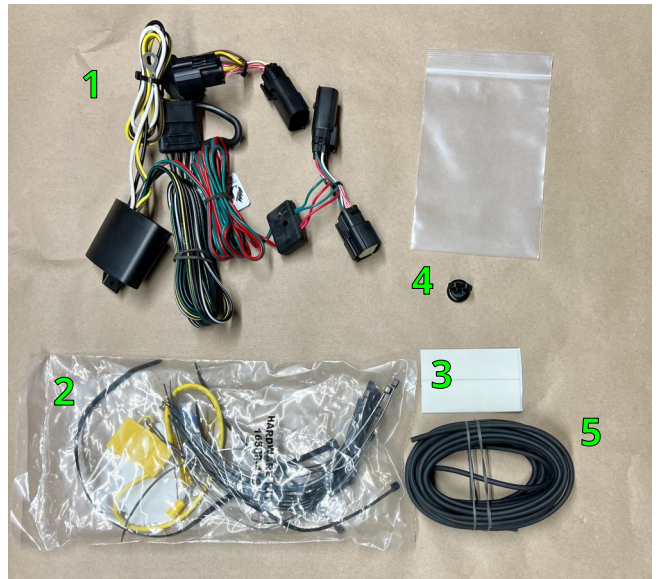
### TOW KIT INSTALL



IF INSTALLING A RACK RECEIVER KIT, SKIP TO STEP 31.  
IF INSTALLING A TOW KIT, CONTINUE TO STEP 11.

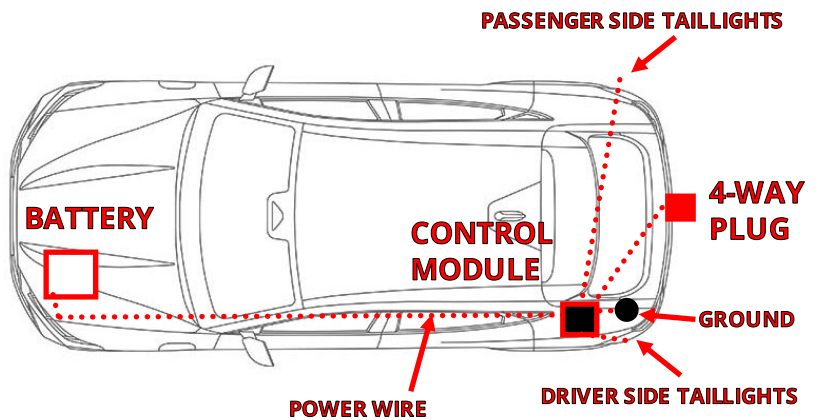
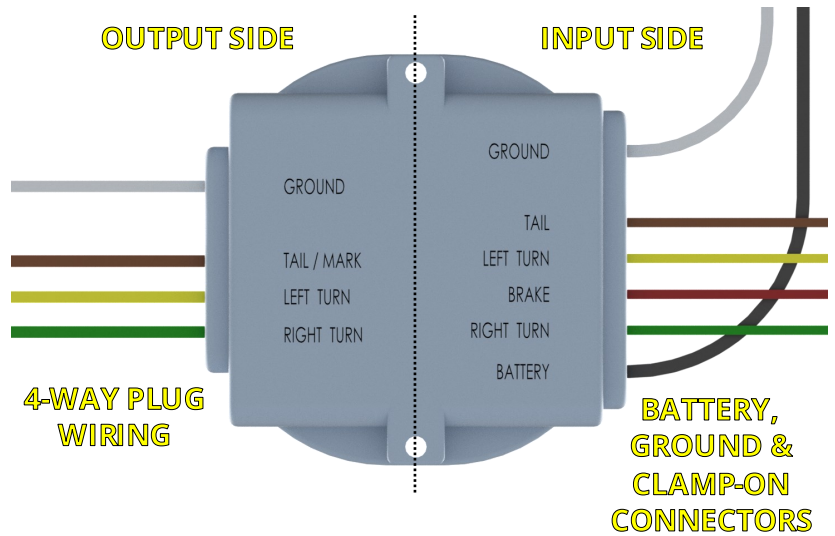
# INSTALL WIRING KIT

#	DESCRIPTION	QTY
1	4-WAY WIRING HARNESS	1
2	HARNESS KIT BAG	1
	• 8-3/4" CABLE TIES	20
	• 14" CABLE TIE	1
	• FUSE HOLDER	1
	• 15 AMP FUSE	1
	• GROUNDING EYELET	1
	• SELF-TAPPING SCREW	1
	• BUTT CONNECTORS	2
3	ADHESIVE FOAM STRIP	2
4	MAGNETIC CABLE HOLDER	1
5	POWER WIRE	1



11. 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.

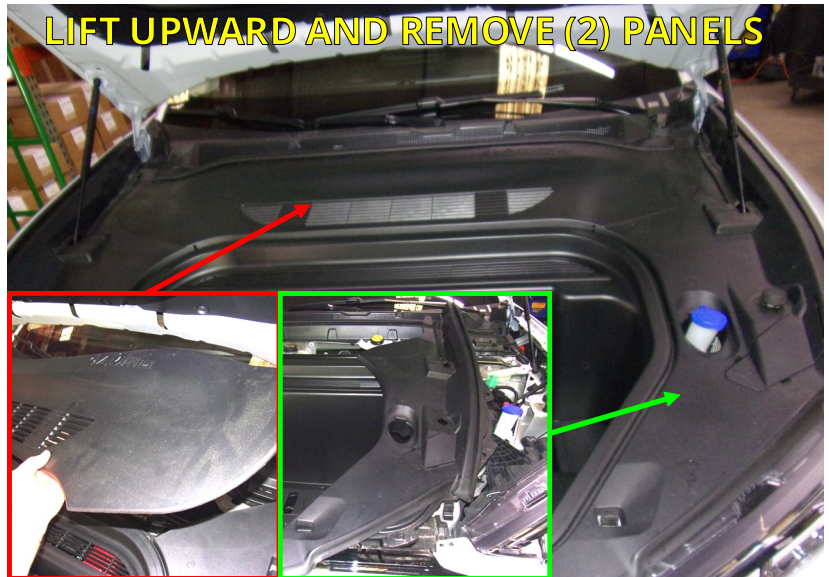
**NOTICE: Do not allow electrical system to become disconnected from power or ground. Doing so may interrupt electrical systems.**



# INSTALL WIRING KIT



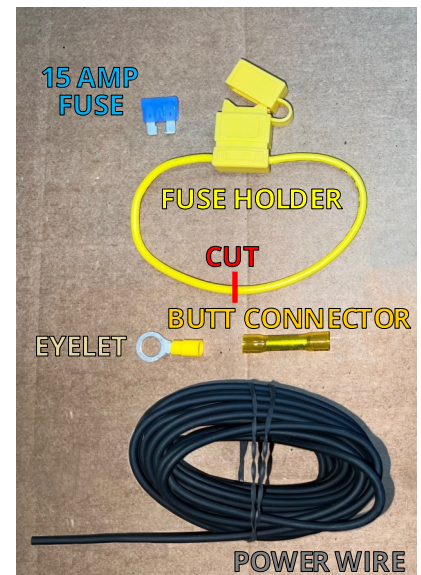
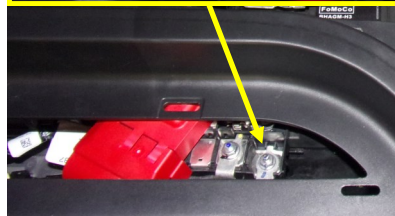
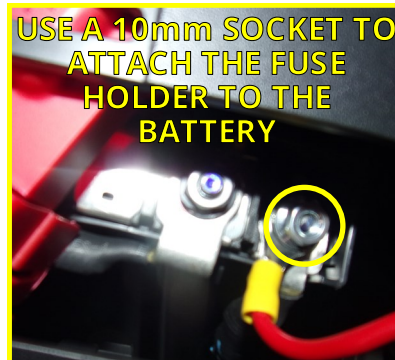
12. Open the vehicle hood. With a plastic pry tool, unclip and remove the rear cover panel and the driver's side panel, as shown.



13. With a plastic pry tool, unclip and remove the plastic grit cover as shown. Removing this panels will reveal the battery positive terminal.



14. Locate the fuse holder in the wiring kit box and remove the fuse. Cut the fuse wire loop in half. Crimp an eyelet to one end and a yellow butt connector to the other. Use a 10mm socket to connect the eyelet to the battery. Locate the power wire and unroll it. Use a crimping tool to attach one end of the power wire to the fuse holder.



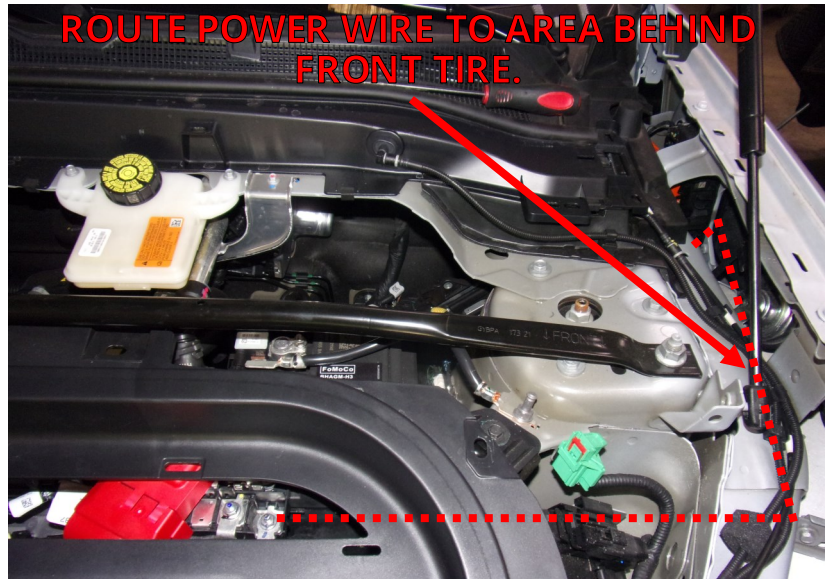
**NOTICE (OPTIONAL):** The butt connector is a heat shrink connector. Apply heat to waterproof the connector after crimping.



## INSTALL WIRING KIT CONTINUED

15. Route the power wire to the driver side and then down to the area behind the front tire.

**NOTE:** Use a stiff wire to "fish" the power wire to the correct area if needed.



PLASTIC PRY TOOLS



T25 TORX



10mm SOCKET

16. Locate the fasteners behind the driver side front tire as shown in the image. Use a plastic pry tool to remove the plastic rivet. Use a Torx to remove (1) screw. Use a socket to remove (2) screws. With the fasteners removed, open up the wheel well liner and find the power wire (and fish wire).



PLASTIC PRY TOOLS

17. Use a plastic pry tool to remove (7) rivets from the plastic channel cover on the driver side. Route the power wire from behind the front tire, through the channel, to the rear of the vehicle.

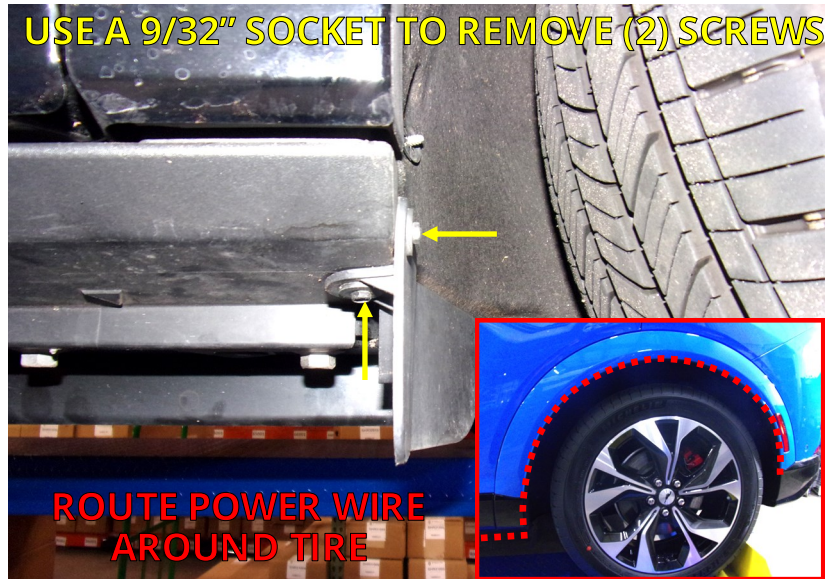


## INSTALL WIRING KIT CONTINUED



9/32"  
SOCKET

18. Use a socket to remove (2) screws in front of the rear tire. Route the power wire from the plastic channel to the rear wheel well. Route the power wire around the rear tire behind the wheel well liner.



90 DEGREE  
PICK

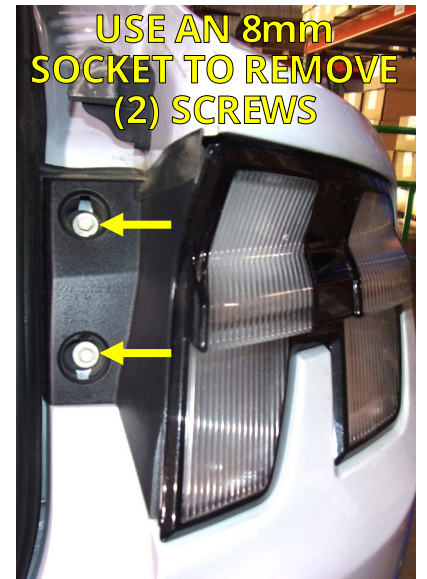
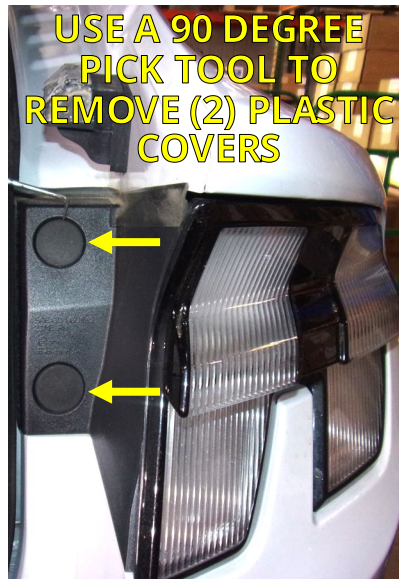


8mm  
SOCKET

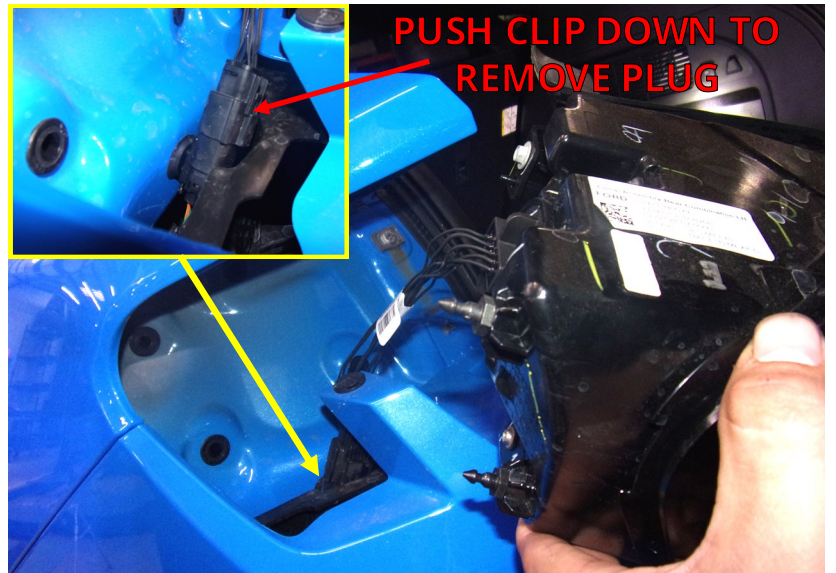


PLASTIC  
PRY TOOLS

19. Next to each taillight are (2) plastic covers. Use a 90 degree pick tool to remove each cover. Use an 8mm socket to remove the screw under each cover. With the screws removed, use a plastic pry tool to dislodge each taillight.

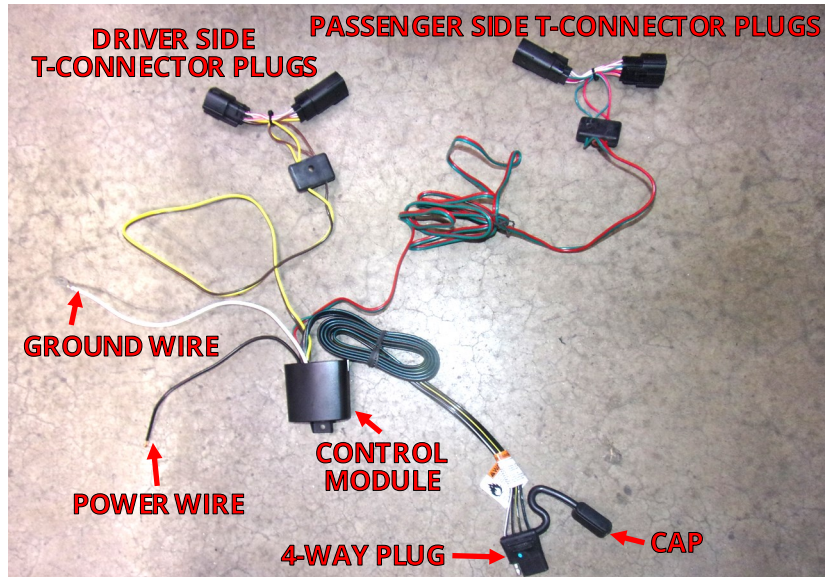


20. Slide each taillight to the rear. Unplug the taillights by pushing down on the clip on the taillight plug. Place each taillight in a safe location to avoid scratches.



## INSTALL WIRING KIT CONTINUED

21. Retrieve the 4-way wiring harness from the wiring kit box. The harness will be placed into the vehicle from underneath.



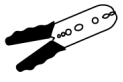
22. Route the driver side T-connector plugs (with yellow wire) from under the vehicle to the driver side light compartment through the gap between the fascia and the vehicle body. Retrieve the driver side taillight. Plug in each connector to the corresponding taillight plug. Slide the taillight back into the vehicle.



23. Route the passenger side T-connector plugs (with green wire) over the Stealth hitch beam to the passenger side of the vehicle. Pass the plugs up into the passenger side light compartment through the gap between the fascia and vehicle body. Retrieve the passenger side taillight. Plug in each connector to the corresponding taillight plug. Slide the taillight back into the vehicle.



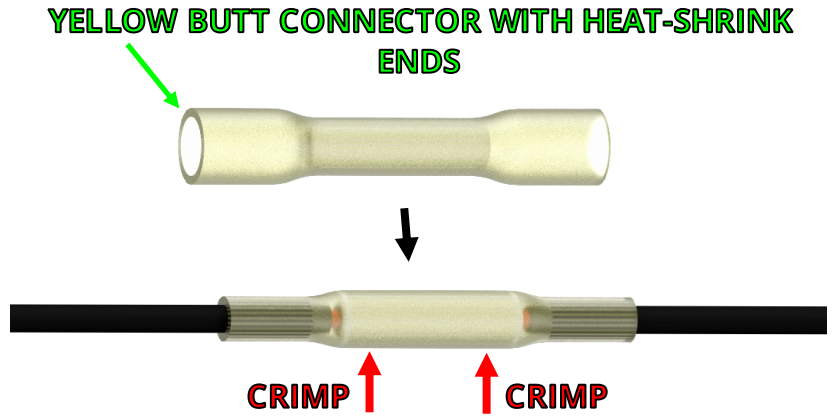
## INSTALL WIRING KIT CONTINUED



STRIPPER/  
CRIMPING  
TOOL

24. Locate the control module's power wire and the power wire that comes from the front compartment. Use a yellow butt connector and a crimping tool to join the wires together.

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



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

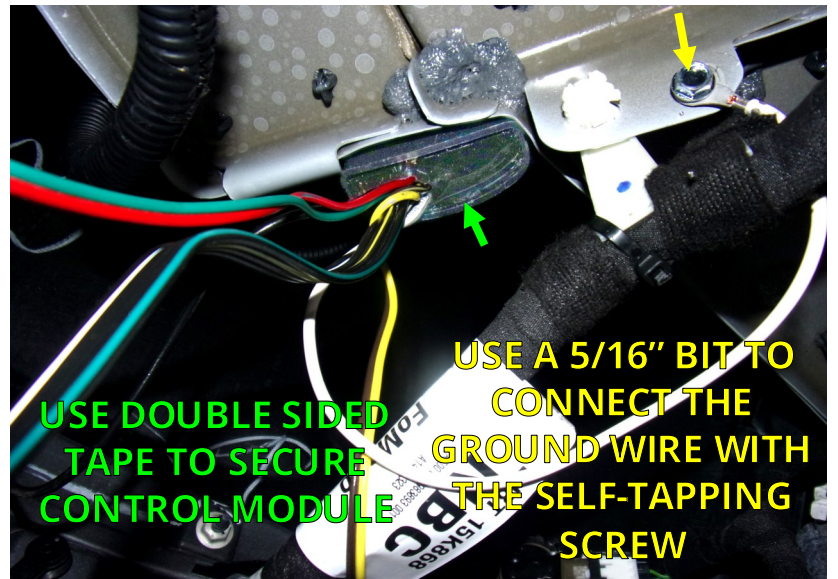


5/16" HEX BIT

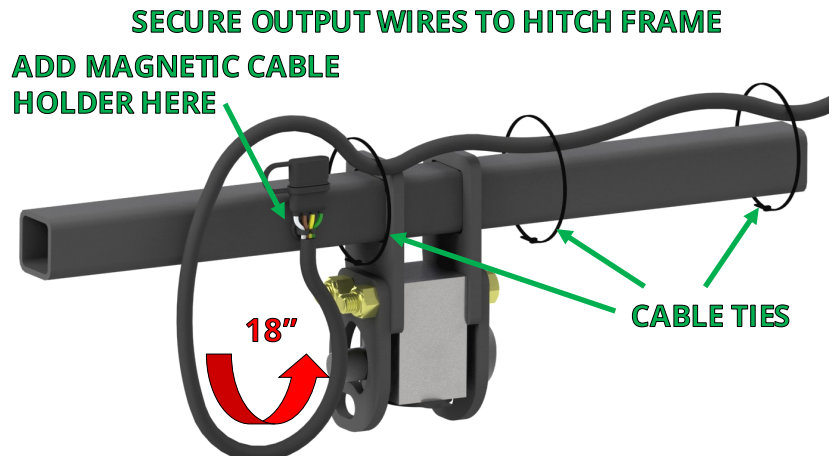
25. Retrieve the double sided foam tape from the wiring kit box. Under the rear driver side of the vehicle, attach the control module to a smooth flat surface as shown in the image. The epoxy side of the control module with the wires should be facing down.

**NOTICE:** Clean the area before attaching double sided tape to vehicle.

25. Connect the ground wire to a metal flange of the vehicle using the provided self-tapping screw.



27. Secure 4-way plug to the 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



MULTIMETER

28. Reinstall the 15 Amp fuse in the harness fuse holder.
29. Test the 4-way plug using a multimeter or connect the plug to a trailer and verify that the lights and brakes work correctly.
30. 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 underbody panel. Wiring should not be visible once the vehicle is reassembled.

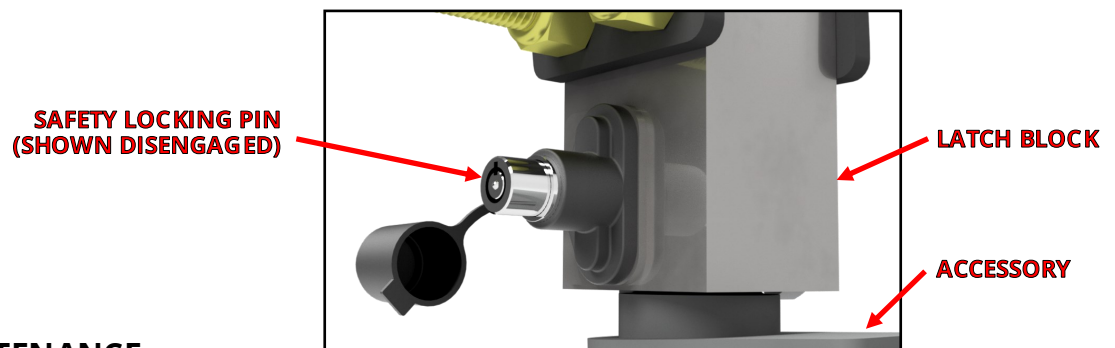
## REINSTALL VEHICLE COMPONENTS

31. Reattach and secure the underbody panel, and other vehicle components in reverse order. Refer to Steps 1-2. If the wiring kit was installed replace the taillight covers, the front battery covers, and the plastic channel, see Steps 12-19.



## FINAL VEHICLE EXAMINATION

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

SHR11001\_(pn 2120-11001-2) 06 06 2023