HITCH INSTALLATION INSTRUCTIONS

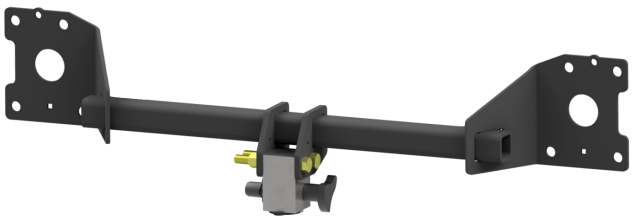
STEALTH HITCHES

www.stealthhitches.com 833•694•4824

MAKE:	YEARS:	MODEL/TRIM:
AUDI	2019 - 2023	Q8
	2020 - 2023	SQ8
	2020 - 2024	Q7 & SQ7

RACK RECEIVER KIT#: **SHR30016**

COMPATIBLE WITH TOW KIT: **SHT25010**



2" RACK RECEIVER MAXIMUM PAYLOAD: 600 LBS
MAXIMUM TOW RATING: 8000 LBS
MAXIMUM TONGUE WEIGHT: 800 LBS

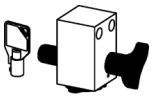
UNDER VEHICLE TRIMMING:

HEAT SHIELD: NO
FASCIA: Q8 ONLY
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

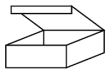

2" RACK RECEIVER

ADDITIONAL PARTS FOR TOW KIT:


BALL MOUNT 5" RISE, SHORT


CHAIN HOOKS

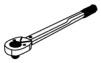

2" BALL

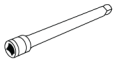

PASSIVE WIRING KIT BOX

TOOLS REQUIRED:


15/16" OPEN END WRENCH


18mm & 15/16" SOCKETS


TORQUE WRENCH


SOCKET EXTENSION


SAFETY GLASSES


RATCHET


FLASHLIGHT

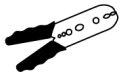

T25 TORX


PLASTIC PRY TOOLS


DREMEL TOOL


FILE

ADDITIONAL TOOLS FOR TOW KIT:


STRIPPER/ CRIMPING TOOL


PHILLIPS HEAD SCREWDRIVER


90 DEGREE PICK


DRILL & 3/8" BIT


PLIERS


T40 TORX


SILICONE


MULTIMETER


10mm SOCKET

RACK RECEIVER INSTALLATION: USE STEPS 1-15, & 34-39
PASSIVE TOW KIT INSTALLATION: USE STEPS 1-39

<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.

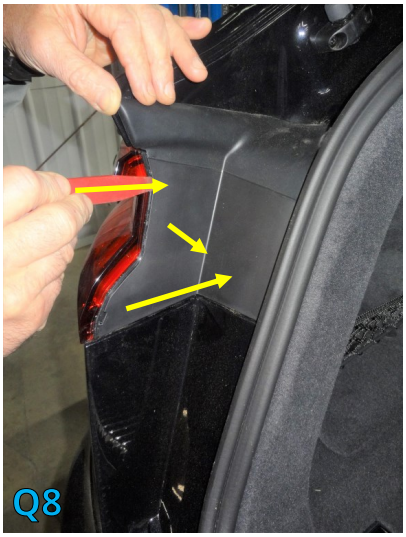
GAIN ACCESS TO MOUNTING AREA

PLASTIC PRY TOOLS

1. **Q8 Models only:** At the rear of the vehicle, remove the taillight cover. Insert plastic pry tool and pry inwards, while pushing the cover to the front of the vehicle.

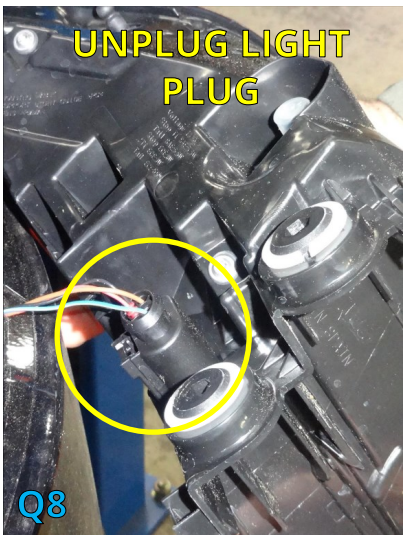
T25 TORX

2. **Q8 Models only:** Use a Torx socket to remove (2) screws securing the taillight. Remove (1) screw securing the fascia to the vehicle, with a Torx socket.



PLASTIC PRY TOOLS

3. **Q8 Models only:** With the screws removed, slide the light to the rear of the vehicle. A plastic pry tool can be used to help if the light does not slide freely. With the light dislodged, unplug the light plug by pushing down on the clip and pulling the plug outward. Repeat Steps 1-3 on other side of vehicle.



T25 TORX

4. Inside the rear wheel well, behind the tire, locate the (2) screws which are holding the bottom corner of the wheel well liner (yellow arrows). Remove these screws from inside the rear wheel well. Move wheel well liner back toward the tire. Behind the liner locate and remove (1) additional screw (green arrow)

GAIN ACCESS TO MOUNTING AREA CONTINUED

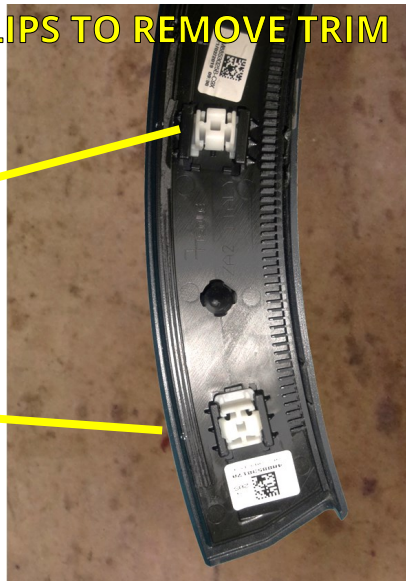
PLASTIC PRY TOOLS

5. The wheel well trim will need to be detached to gain access to the screws securing the fascia. Start behind the rear door and move to rear of the vehicle. Behind the rear door, find the forward end of the rear wheel well trim. Apply outward pressure and use a plastic pry tool to release clips on wheel well trim.

NOTE: *Open the rear doors for easier removal of the wheel well trim.*

PLASTIC PRY TOOLS

6. <u>On some vehicles</u>, the last two clips on the fender well trim may not immediately release. If so, move the wheel well liner away to gain access to the rear of the release clips. Squeeze release clips inward and apply outward pressure on wheel well trim to release clips. Place trim in a safe location.



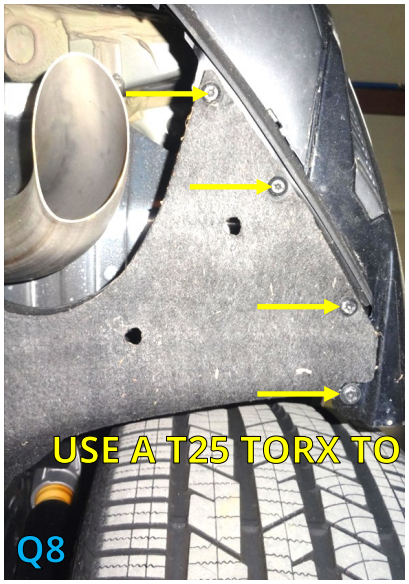
T25 TORX

7. Remove (2) screws from the fascia that were under wheel well trim.

GAIN ACCESS TO MOUNTING AREA CONTINUED

T25 TORX

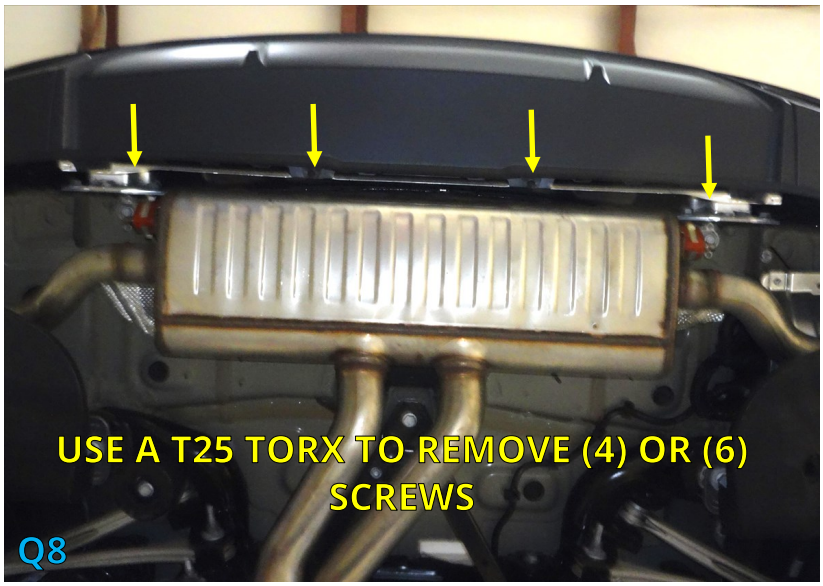
8. Remove (4) screws from the bottom of the fascia behind the rear tire. Repeat Steps 4-8 on other side of vehicle.



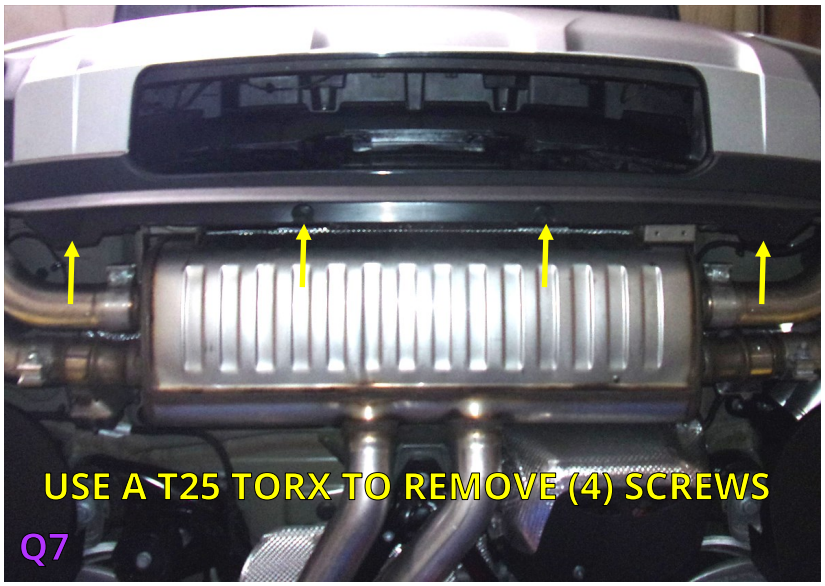
T25 TORX

9. Underneath the vehicle remove (4) or (6) screws connecting the fascia to the vehicle as shown.

(Q8 models top image)



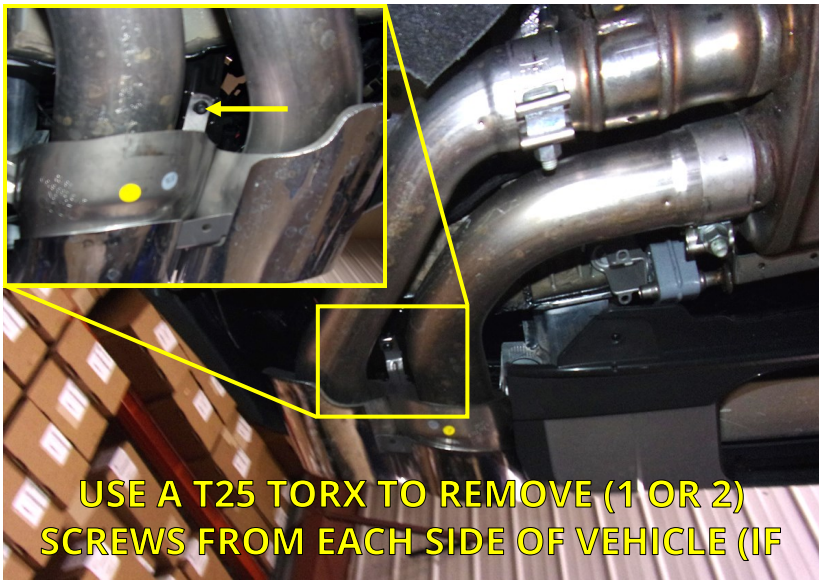
(Q7 models bottom image)



GAIN ACCESS TO MOUNTING AREA CONTINUED

T25 TORX

10. If present, remove (1or2) screws securing the exhaust bracket underneath the vehicle. Repeat on other side of vehicle.

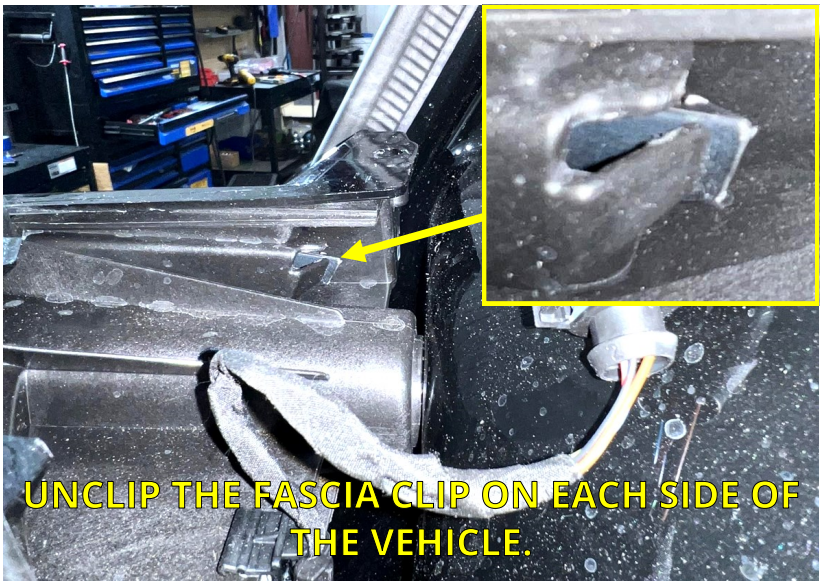


PLASTIC PRY TOOLS

11. The rear fascia is clipped to the vehicle body behind the wheel wells. Pull outward on the top front of the rear fascia to expose a 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.

    Continue applying outward pressure until all the clips are released. Repeat on other side of vehicle.

12. On some vehicles there is a clip on top of the fascia where the taillights were removed. If present, locate the indicated clip and release it on both sides of the vehicle.



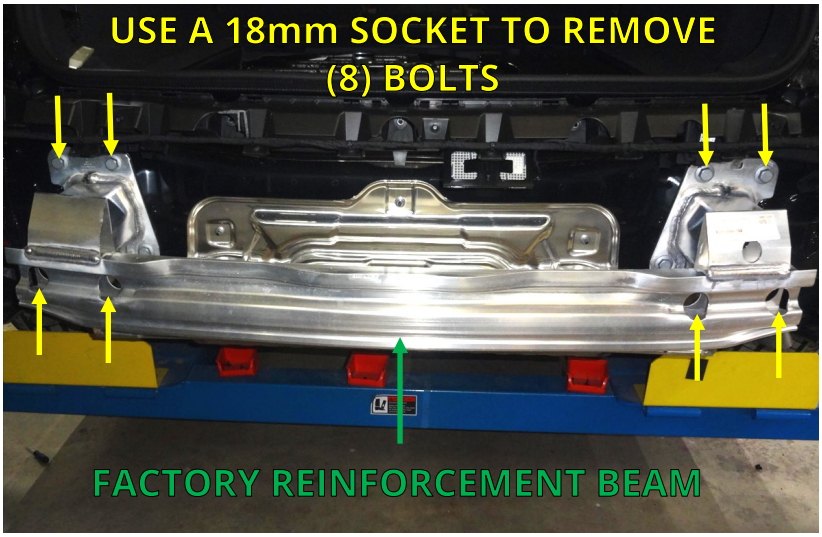
GAIN ACCESS TO MOUNTING AREA CONTINUED

12. The fascia will not be completely disconnected from the vehicle, a wiring harness attached to the fascia must remain attached. Before removing the rear fascia, set up a stand or place a pad down near the rear driver side of the vehicle. Carefully pull the fascia away from the vehicle. Move the fascia away from the vehicle and place on the stand or pad prepared earlier.

NOTICE: If the electrical harness becomes disconnected the vehicle will need reprogramming at an Audi Dealership.

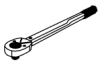
18mm SOCKET

13. With the fascia out of the way, locate and remove the (8) bolts attaching the factory reinforcement beam to the vehicle. **Save** the factory bolts for reinstallation. **Discard** the factory reinforcement beam.



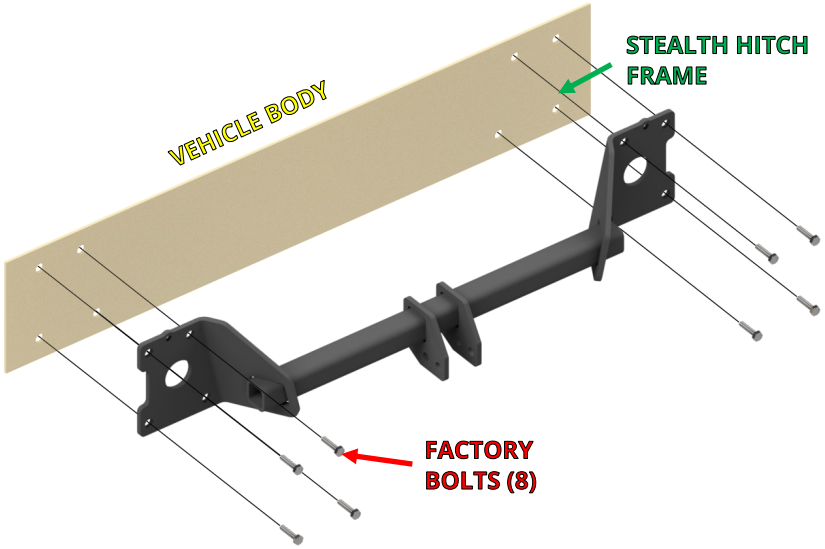
INSTALL STEALTH HITCH FRAME

18mm SOCKET



TORQUE WRENCH

14. Install the Stealth hitch frame onto the vehicle using (8) factory bolts, as shown. Center the hitch frame before tightening. Use a torque wrench to tighten the bolts to 85 ft.-lbs.



MOUNT LATCH BLOCK

15/16" SOCKET

15/16" OPEN END WRENCH

TORQUE WRENCH

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

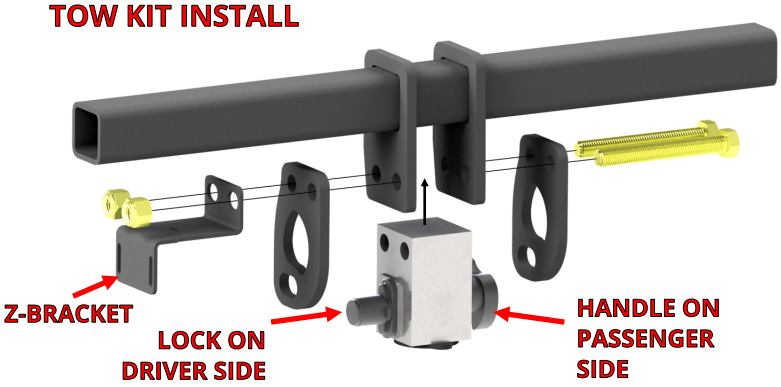
- ***Rack Receiver Kit:*** Install the latch block with (2) 5/8”-11 x 5” bolts and (2) 5/8” nylock nuts. Tighten each bolt to 150 ft.-lbs.

- ***Tow Kit:*** Retrieve Z-bracket from wiring harness kit box. Install the latch block, (2) chain hooks, and Z-bracket 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

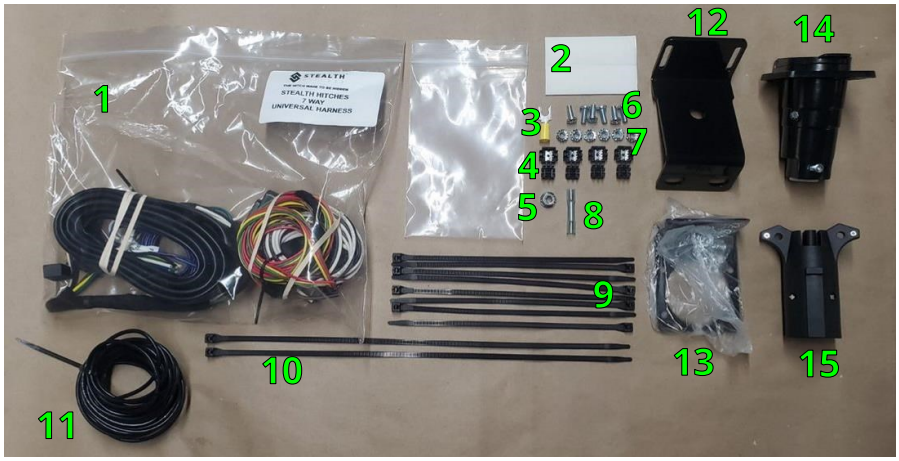
TOW KIT INSTALL

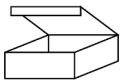


IF INSTALLING A RACK RECEIVER KIT, SKIP TO STEP 34
IF INSTALLING A TOW KIT, CONTINUE TO STEP 16.

INSTALL PASSIVE WIRING KIT

#	DESCRIPTION	QTY
1	7-WAY WIRING HARNESS • FUSE HOLDER & FUSE • CONTROL MODULE & WIRES	1
2	ADHESIVE FOAM STRIP	2
3	FORK TERMINAL	1
4	CLAMP-ON CONNECTORS	4
5	M6 FLANGE NUT	1
6	5/8" LONG PHILLIPS SCREWS	6
7	#10 LOCK NUT	6
8	BUTT CONNECTOR	1
9	CABLE TIE – 8"	8
10	CABLE TIE – 14"	2
11	POWER WIRE	1
12	Z-BRACKET	1
13	MOUNTING BRACKET	1
14	7-WAY HOUSING	1
15	7-POLE TO 4-POLE ADAPTER	1

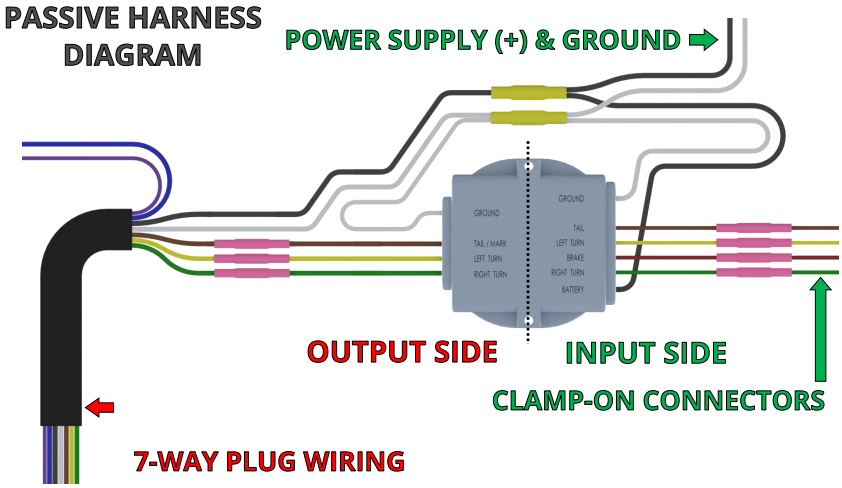


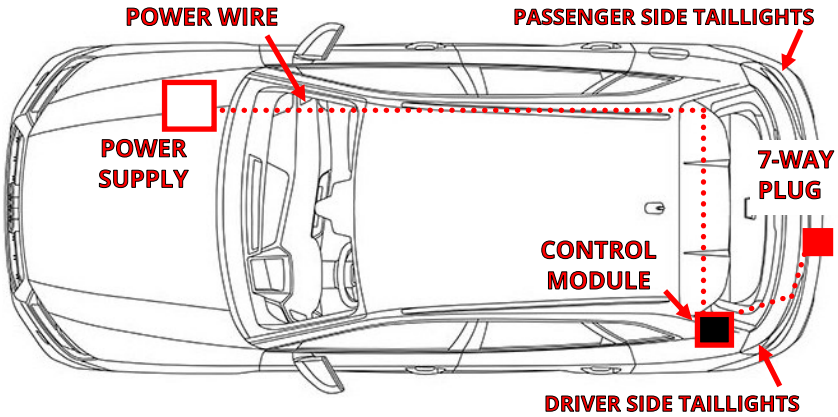


PASSIVE WIRING KIT BOX

16. 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 7-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.





17. Remove the cargo area floor panel by lifting it up and out. Place panel on blanket or safe area.

18. Remove the cargo net from the driver side cargo compartment. Remove fuse panel cover by lifting it up and out.

PLASTIC PRY TOOLS

19. Carefully remove threshold in the rear cargo area. Use a pry tool then pull up and lift off.

INSTALL WIRING KIT CONTINUED

90 DEGREE PICK

T40 TORX

20. Inside the rear cargo area, locate and remove (2) cargo anchor hooks on the driver side of the vehicle. Use a 90 degree pick to lift up plastic cover to gain access to a screw. Remove screw with a Torx socket.

90 DEGREE PICK

T25 TORX

- ***NOTE:*** *<u>On some vehicle models,</u>* an air ride suspension control panel is present on the driver side of the cargo area. Use a 90 degree pick tool to open the small cover as shown. Use a T-25 Torx to remove the screw under the cover. Remove the control panel and unplug the attached wires.

21. Dislodge the rear driver side panel to gain access to the wiring harness and grommet. Unplug (2) plugs to gain more access.

DRILL & 3/8" BIT

22. Locate and remove rubber grommet on the driver side of the vehicle. Drill a 3/8" hole in grommet. Pass the grommet over the 7-way output wires. Route the output wires from inside the vehicle to outside of vehicle through the grommet hole.

INSTALL WIRING KIT CONTINUED

PLIERS

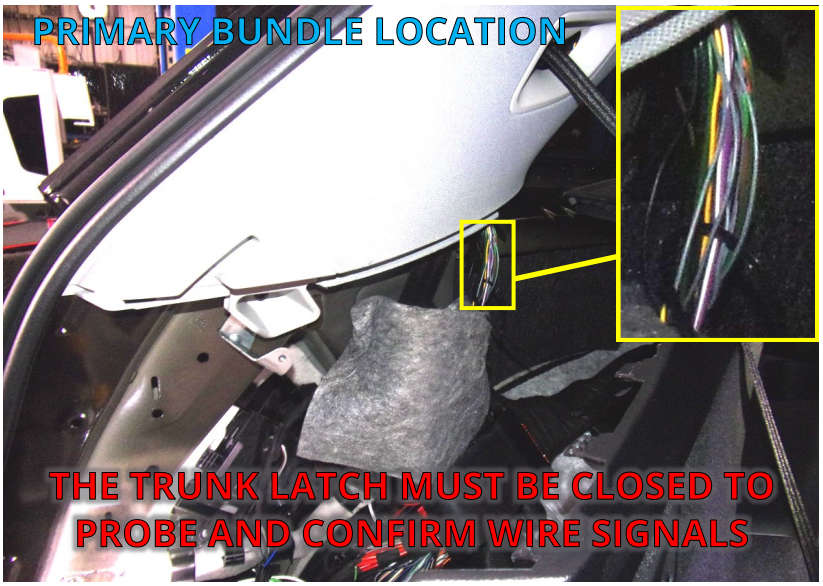
MULTIMETER

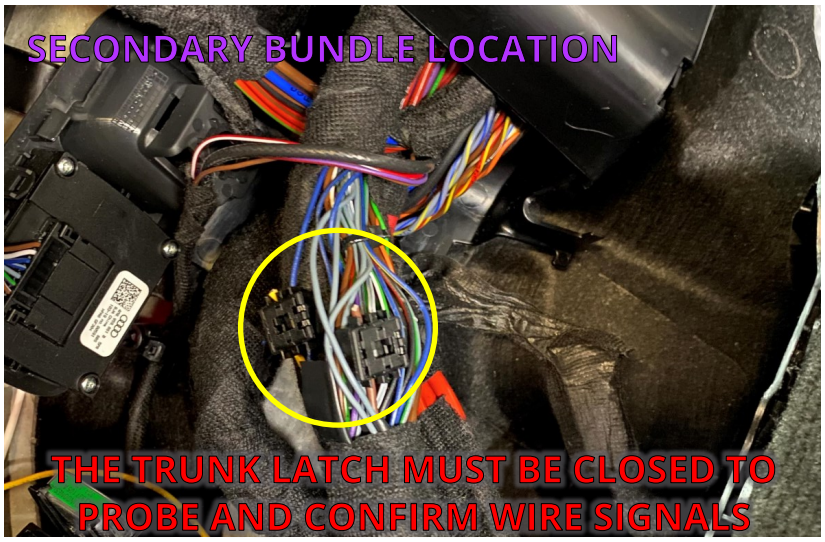
23. Inside the driver side cargo compartment locate the indicated part of the vehicle wiring harness. Carefully remove the tape from around the wires. Use the provided clamp-on connectors to attach the input side wires of the control module to the vehicle wiring, as indicated in the reference table below.

NOTICE: Verify wire signals with multimeter. Manufacturer may use different colors and wires with different functions may have identical colors. The trunk latch must be closed when probing and confirming wire signals.

(Primary bundle location-top)

(Secondary bundle location-bottom)

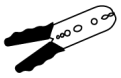




CLAMP-ON CONNECTOR COLOR REFERENCE TABLE

SIGNAL INPUT WIRES			POWER & GROUND WIRES		
FUNCTION	HARNESS	VEHICLE			
LEFT TURN	YELLOW	GREY	12V+ (POWER)	BLACK	POWER SUPPLY
RIGHT TURN	GREEN	BLACK/BLUE	GROUND	WHITE	GROUND STUD
MARKER	BROWN	GREY/GREEN			
BRAKE	RED	***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.***			
REVERSE	PURPLE	For use with trailer reverse lights or to disable the trailer brakes when backing with surge brakes. To connect, isolate vehicle's reverse light circuit and connect the purple wire from the trailer wiring harness to vehicle reverse light circuit. ***Trailers rarely have reverse lights or surge brakes.***			
ELECTRIC BRAKE	BLUE	Only used when a hard wired brake controller is mounted inside the vehicle and your trailer has electric brakes. See brake controller instructions for this wire.			

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

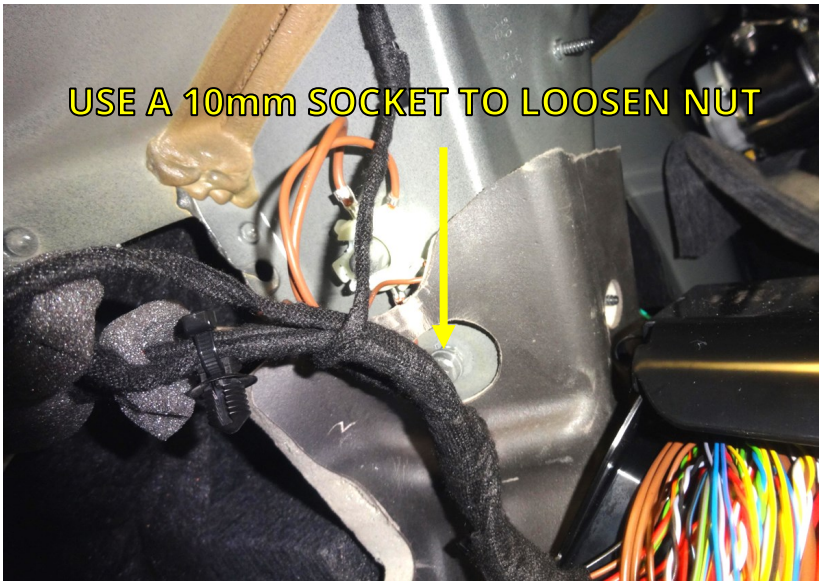


STRIPPER/ CRIMPING TOOL

10mm SOCKET

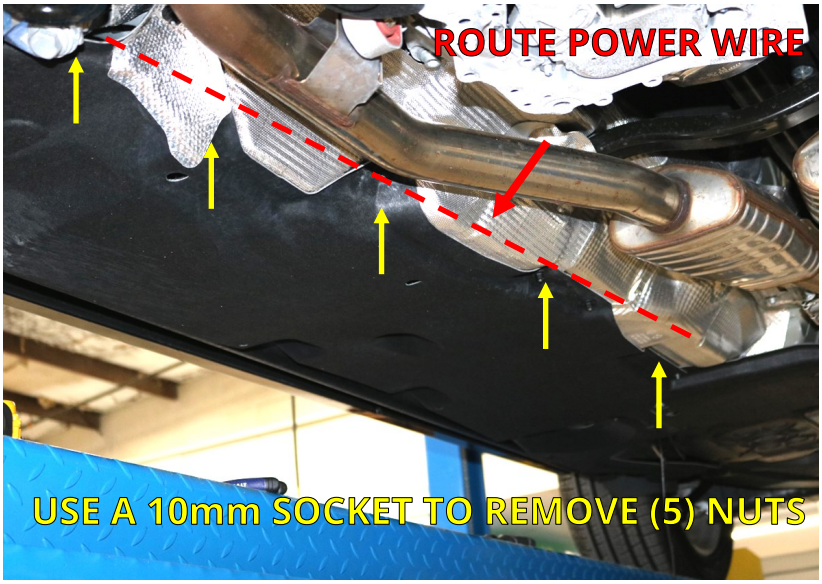
24. Locate the ground stud in the rear driver side cargo compartment. Trim white ground wire so it will reach stud without excess wire. Crimp supplied fork terminal to the ground wire with a crimping tool. Loosen the ground stud and secure the fork to the terminal.

NOTICE: Loosen ground stud just enough to install fork terminal, so vehicle wiring does not lose ground.

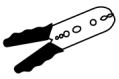


10mm SOCKET

25. The power wire will be routed from the driver side cargo compartment to the vehicle's power supply in the engine compartment. It will be run under the vehicle to the passenger side, then forward to the engine compartment. Use existing wiring harnesses to route the wire where possible. Under the vehicle remove (5) nuts and loosen gravel guard to enable the wires to be routed under the gravel guard.



10mm SOCKET

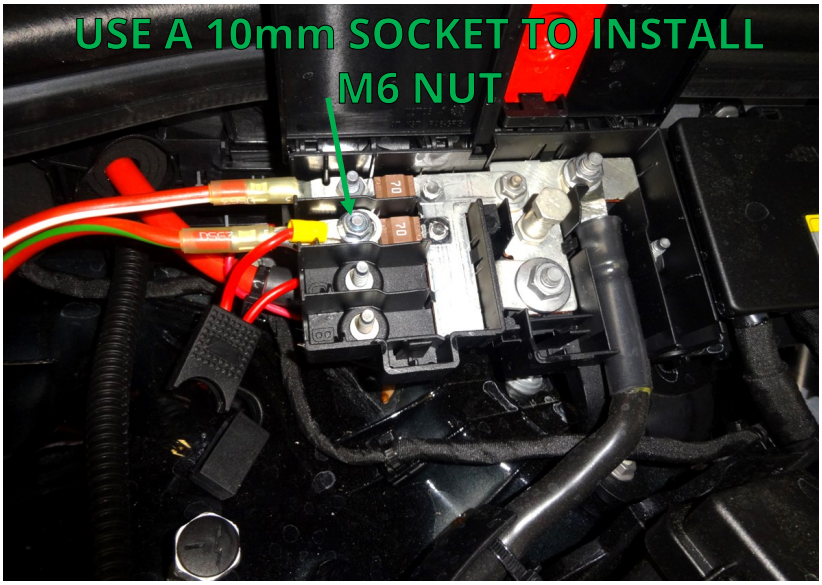


STRIPPER/ CRIMPING TOOL

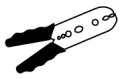
MULTIMETER

26. Open the vehicle power supply cover. Confirm 12V power on studs. Locate the fuse holder and M6 flange nut supplied in the wiring kit box. Remove the fuse from the fuse holder. Crimp the fuse holder lead to the black power wire. Connect the ring terminal to the power supply with the M6 nut. Add 20 amp fuse when installation is complete

NOTE: *Do not loosen the power supply nut, just add M6 nut on top of ring terminal.*



INSTALL WIRING KIT CONTINUED



STRIPPER/ CRIMPING TOOL

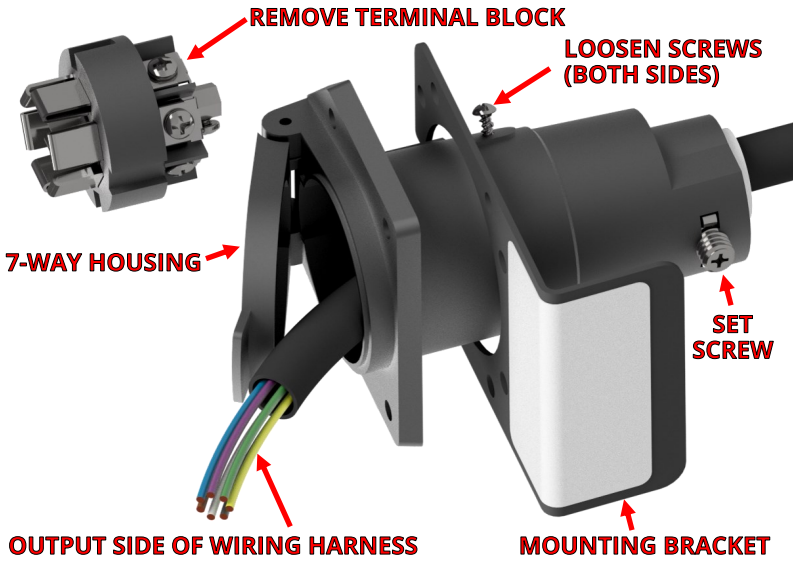
27. Determine the amount of power wire needed to reach the control module inside the vehicle. Trim the control module power wire to remove excess length. Use the included butt connector to crimp the power wire leading from the power supply to the control module power wire.

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

WIRE 7-WAY PLUG

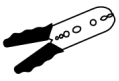
PHILLIPS HEAD SCREWDRIVER

28. Locate the 7-way housing. Use a screwdriver to loosen (2) screws. Remove 7-way round terminal block. Place the mounting bracket onto the 7-way housing as shown. Use a screwdriver to loosen the set screw at the bottom of the 7-way housing. Route output side wires of the wiring harness through the 7-way housing.



Please follow instructions below very carefully.
Incorrect wiring of the 7-way receptacle causes the vast majority of wiring problems.

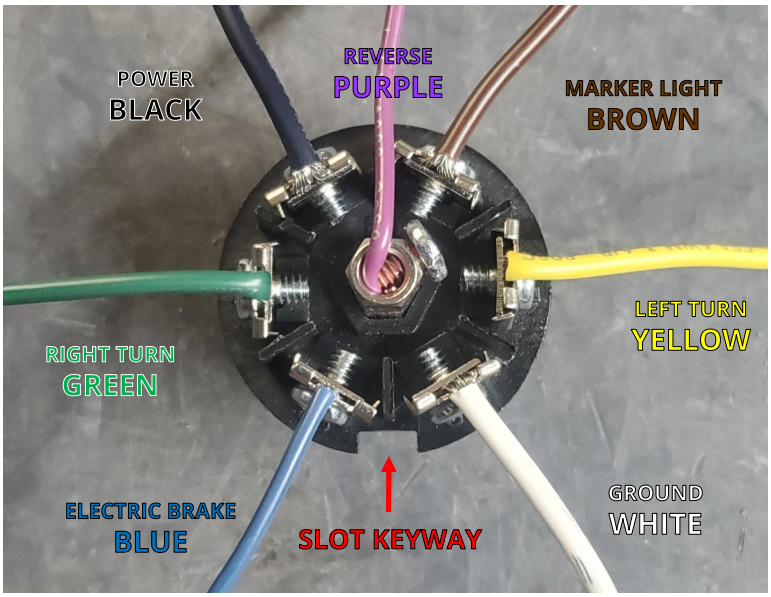
PHILLIPS HEAD SCREWDRIVER



STRIPPER/ CRIMPING TOOL

29. Locate the slot keyway. Starting from the keyway going **clockwise**, attach the wires as follows:
    - Blue
    - Green
    - Black
    - Brown
    - Yellow
    - White
    - Purple (middle)

NOTICE: Markings on the receptacle may not match the correct wire configuration. Please disregard and follow the instruction above.



TEST 7-WAY HARNESS WIRING

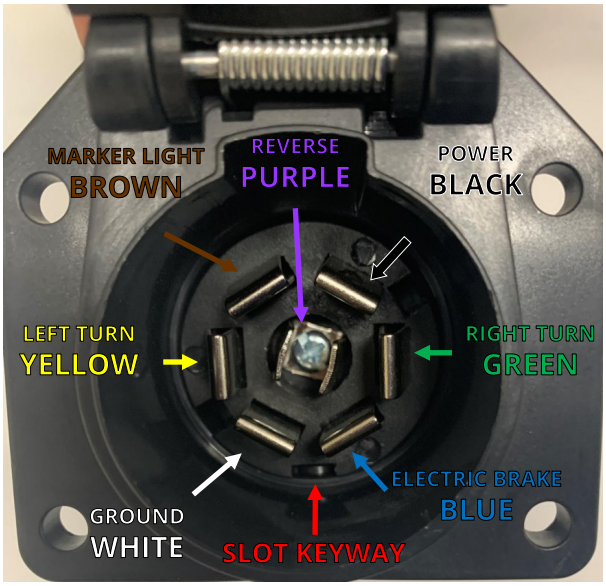
PHILLIPS HEAD SCREWDRIVER

MULTIMETER

30. Put the 7-way receptacle back together. While everything is still accessible, you should test the wiring to make sure everything is connected properly and in working order. **Replace the 20 Amp fuse into the fuse holder located near the power supply.**

NOTICE: The trunk latch must be closed when probing and confirming wire signals.

NOTE: *Taillights will need to be temporarily plugged in during testing.*

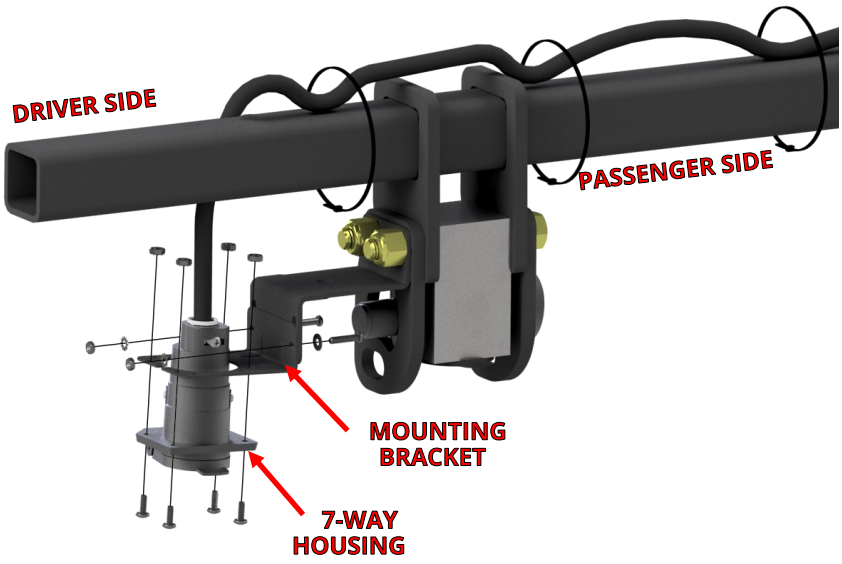


- Start by connecting the multimeter negative probe to the ground blade on the 7-way receptacle.
- Next, connect the multimeter positive probe to the power blade on the 7-way receptacle and check for 12 volts.
- Once that is confirmed, move the positive probe to the left turn blade on the 7-way receptacle and check for 12 volts when the vehicle left turn blinker is active. You should see it pulse.
- Next, move the positive probe to the right turn blade and check for 12 volts when the right turn blinker is active. You should see it pulse.
- Next, move the positive probe to the marker/taillights. With the vehicle lights on you should see 12 volts constant.
- Lastly, with the brake depressed, move the positive probe to the left turn blade where you should see 12 volts constant. Move the probe to the right turn blade where you should also see 12 volts constant.

PHILLIPS HEAD SCREWDRIVER

SILICONE

31. Attach the mounting bracket and 7-way housing to the Stealth hitch frame as shown. Secure harness to Stealth hitch frame with cable ties.
32. 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.
33. Use the provided adhesive foam strips to secure the control module to an inside body panel. Use silicone to waterproof the grommet. Reinstall cargo area components. Refer to Steps 17-21.



CUT ACCESS TO LATCH BLOCK

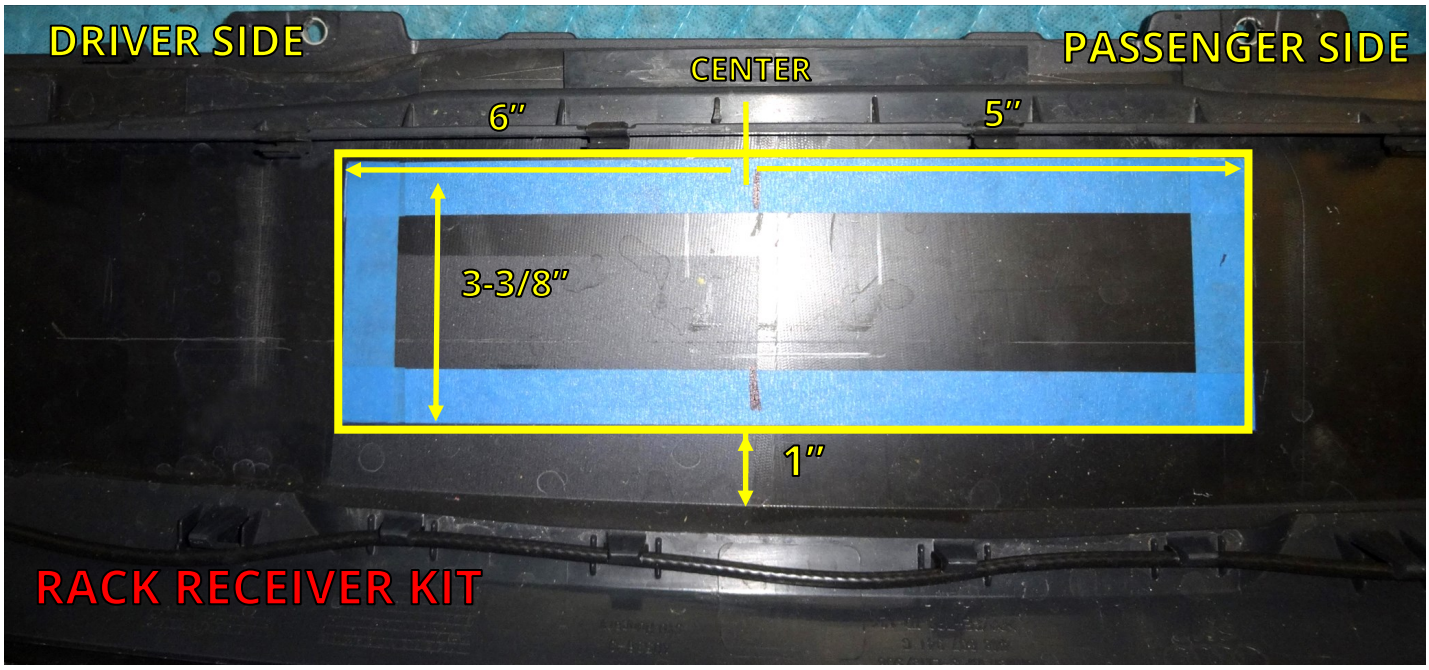
CONTINUE TO STEP 34 FOR Q8 MODELS, STEP 35 FOR NON S-LINE MODELS, AND STEP 36 FOR Q7 MODELS.

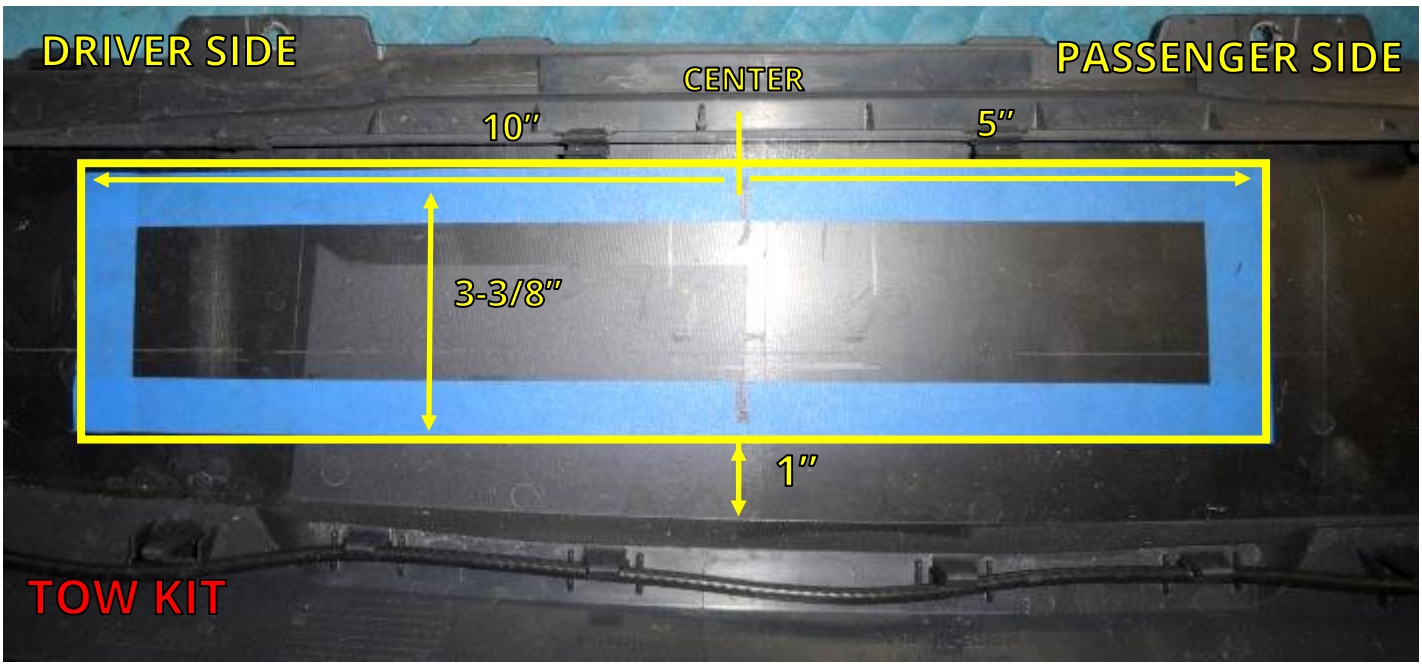
FILE

DREMEL TOOL

34. **Q8 Models only:** Cut out the gravel guard with a Dremel tool. Use a file to smooth out the cut.

NOTE: *The access hole size is different for the rack receiver and tow kits, follow the correct template.*





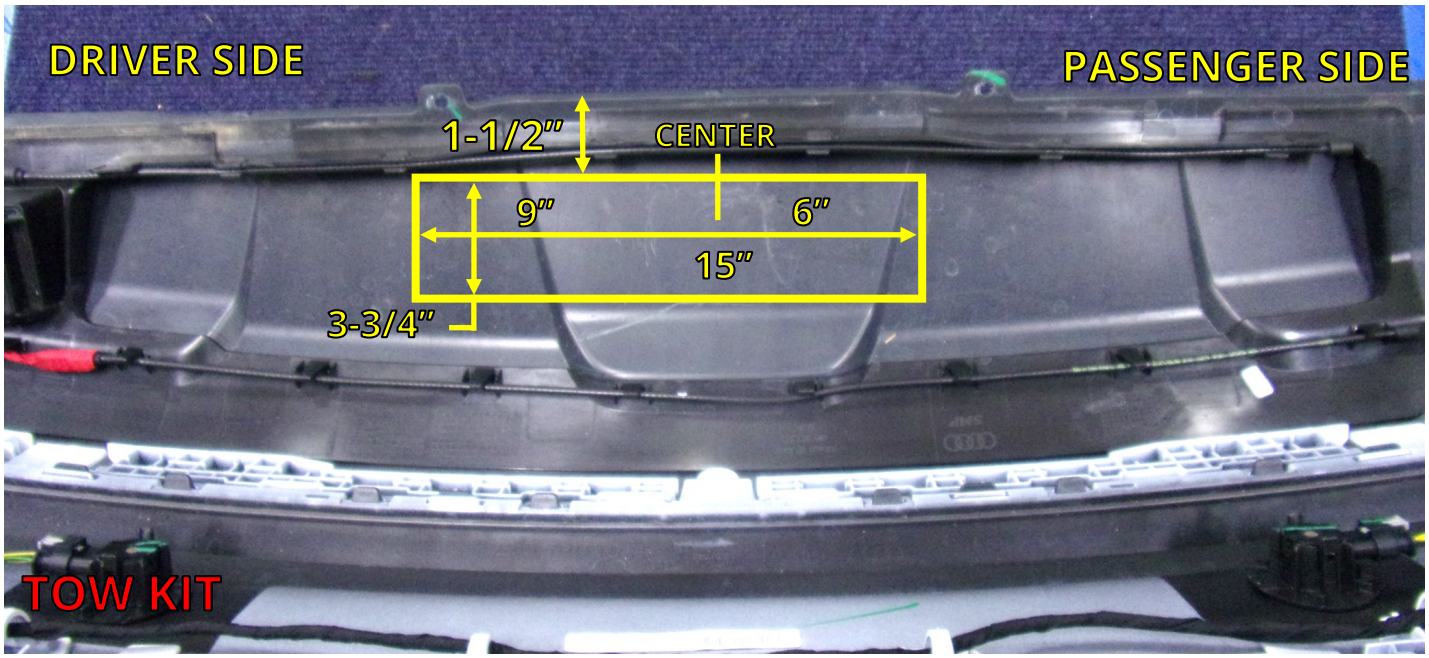
CUT ACCESS TO LATCH BLOCK

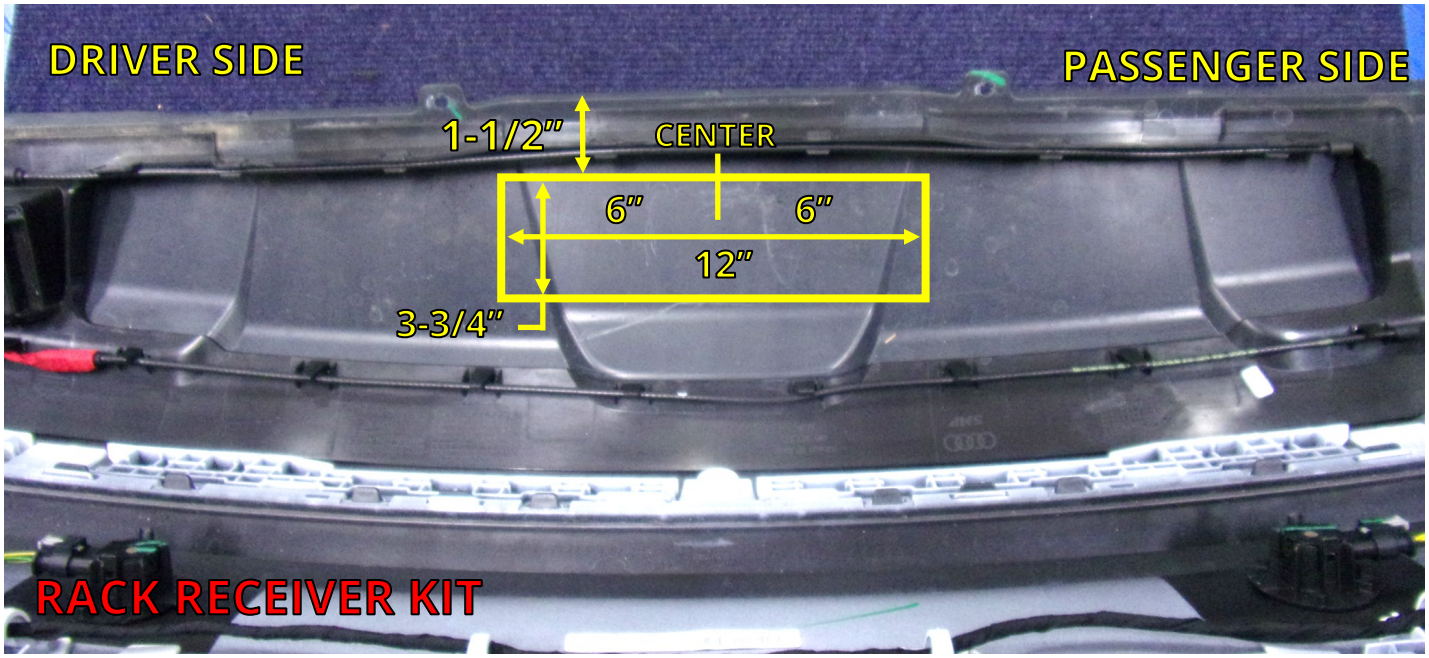
DREMEL TOOL

35. **Non S-Line models only:** Cut out the gravel guard with a Dremel tool. Use a file to smooth out the cut.

NOTE: *The access hole size is different for the rack receiver and tow kits, follow the correct template.*

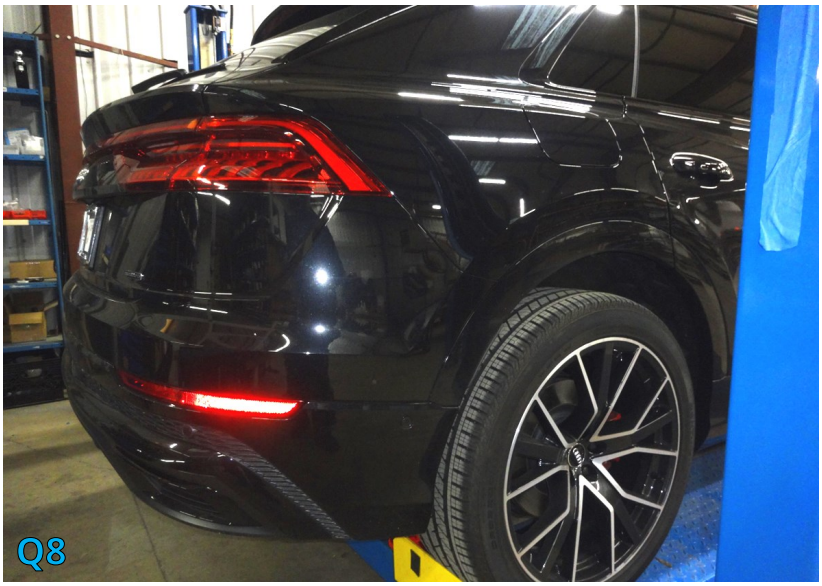
FILE



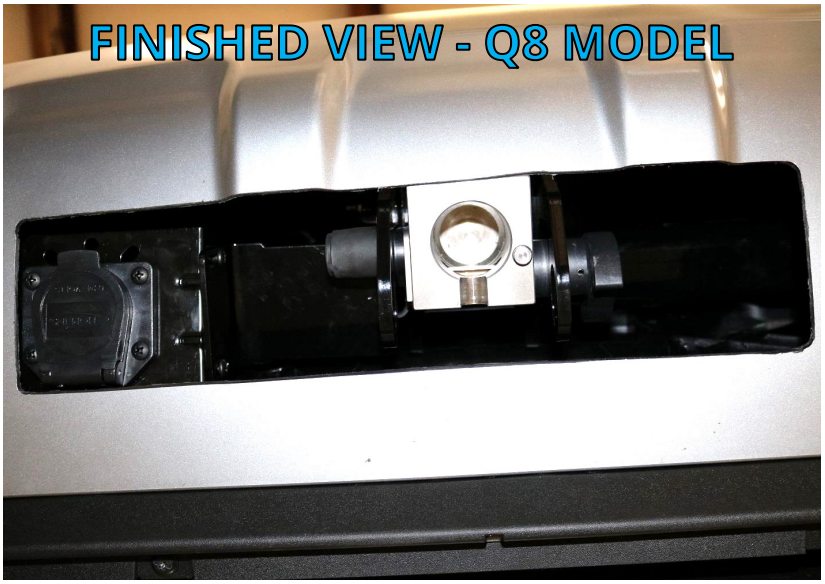


REINSTALL VEHICLE COMPONENTS

36. Reattach and secure the fascia, taillights, and other vehicle components in reverse order. Refer to Steps 1-12.



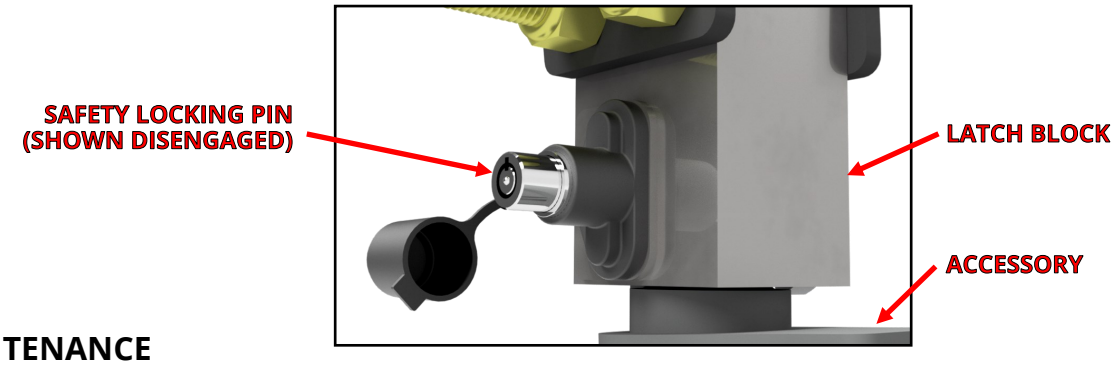
37. The finished, under vehicle view.



FINAL VEHICLE EXAMINATION

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