

RACK RECEIVER KIT#: SHR30007

www.stealthhitches.com

833.694.4824

HITCH INSTALLATION INSTRUCTIONS

MAKE: YEARS: AUDI

2009 - 2016 2010 - 2017 MODEL/TRIM:

A4 / A4-ALLROAD / S4 A5 Convertible & Coupe

2010 - 2017

S5 Convertible & Coupe

COMPATIBLE WITH TOW KIT: SHT25000/SHT25002



2" RACK RECEIVER MAXIMUM PAYLOAD: 350 LBS

MAXIMUM TOW RATING: 3500 LBS MAXIMUM TONGUE WEIGHT: 350 LBS

UNDER VEHICLE TRIMMING:

HEAT SHIELD: NO FASCIA: YES

GRAVEL GUARD TRIMMING: NO



READ ALL INSTRUCTION WARNINGS AND LABELS

NOTE: THE <u>A4/S4</u> REQUIRES CUTTING THROUGH STAINLESS STEEL SHEET METAL 0.05" THICK.



NO WELDING OR VISIBLE TRIMMING REQUIRED

PARTS SUPPLIED WITH RACK RECEIVER KIT:



LATCH BLOCK & KFYS

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



(2) 5/8" **NYLOCK NUTS**



(4) M10 1.5 x (4) M10 FLAT WASHERS 100mm BOLTS



2" RACK RECEIVER



(2) PLASTIC **RIVETS (USED** ON <u>A4/S4</u> ONLY)



21" CHROME **EDGE TRIM** (USED ON A4/S4 ONLY)

TOOLS REQUIRED:



15/16" OPEN

END WRENCH

16mm, 17mm & 15/16"



TORQUE



SOCKET

WRENCH





FLASHLIGHT

PLASTIC PRY TOOLS

SAFETY GLASSES

PHILLIPS HEAD

SCREWDRIVER



FILE

RATCHET

SOCKETS

T25 & T30 **TORX**

ADDITIONAL PARTS FOR TOW KIT:



(4) M10 LOCK

WASHERS

BALL MOUNT 5" RISE, SHORT (A4/S4 ONLY)



BALL MOUNT 7" RISE, SHORT (A5/S5 ONLY)





CHAIN HOOKS



10 mm HOLLOW NUT DRIVER



ADDITIONAL TOOLS FOR A5/S5 ONLY:

DREMEL TOOL



T40 TORX

ADDITIONAL TOOLS FOR A4/S4 ONLY:



DRILL & 1/2" BIT



T35 TORX



METAL CUTTING SAW BLADE



MINI RECIPROCATING SAW

ADDITIONAL TOOLS FOR TOW KIT:



STRIPPER/ CRIMPING TOOL



MULTIMETER



SILICONE



PLIERS



10mm SOCKET



DRILL & 3/8" BIT



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<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 <u>Rack Receiver plus Tow Kit</u> 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.



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.



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.



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.



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.



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.



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.



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.



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. In the vehicle cargo area, open the driver and passenger side access panels. On the floor, locate and remove (4) cargo anchors each attached with (2) screws

> A4/S4 only Squeeze to unplug 12 Volt power supply outlet behind on passenger side access panel.





2. Behind each panel locate the taillight retaining nut. Turn the nut counter clockwise to remove.

NOTE: The nut on the <u>A5/S5</u> has holes present on the top of the nut. Insert a Phillips head screwdriver into the holes to help turn the nut.







3. Slide each taillight to the rear of the vehicle. A plastic pry tool can be used to help if the light does not slide freely. Disconnect the light plug by pushing down on the clip and pulling the plug outward.









- 4. With a Torx bit, Locate and remove (3) screws holding the fascia inside the rear of each wheel well.
- 5. **A4/S4 only** Using plastic pry tools remove and discard (1) plastic rivet from the top edge of the fascia inside the wheel well as shown in image.

NOTE: Replacement plastic rivets are supplied.





6. Under the rear of the vehicle, remove (3) screws from the bottom of the fascia.



7. Remove the trunk floor panel by lifting it up and out. Place panel on blanket or safe area. Remove spare tire by turning knob counterclockwise.

NOTE: A5/\$5 only If installing the rack kit then the spare tire removal is optional.



8. **A5/\$5 only** Remove threshold in the rear cargo area. Grab threshold with both hands and lift up.







9. Locate and remove (4) fasteners in the rear of the cargo area.

A4/S4 only Use a T25 Torx to remove screws as shown. Remove threshold in the rear cargo area. Grab threshold with both hands and lift up.

A5/S5 only Use a 10mm hollow nut driver to remove nuts. Inside the cargo area (2) nuts are located under where the threshold was removed, as shown in image. Each side compartment also has (1) nut against the rear wall to remove.



USE A T25 TORX TO REMOVE (4) SCREWS

USE 10mm HOLLOW NUT DRIVER TO REMOVE (4) NUTS



10. On both sides of the cargo compartment, remove the side rails by lifting up, as shown.



11. A fascia lock pin was exposed on each side when the taillights were removed. This pin holds the fascia to the vehicle.



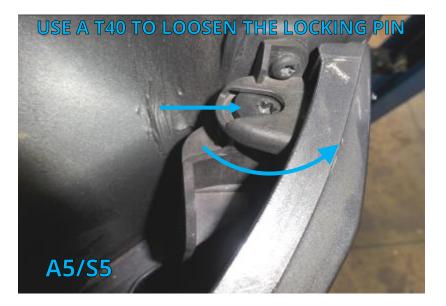
A4/S4 only Remove the pin on each side of the vehicle. Use a pry tool and lift up.





A5/S5 only Loosen the pin on each side of the vehicle by turning counterclockwise with a Torx. While turning, put outward pressure on plastic fascia. Only loosen the locking pin until it releases the fascia.

NOTE: Loosening the locking pin too much can result in dislodging the turn screw from the locking bracket.





12. The rear fascia is clipped to the vehicle body above and 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, until you get to the fascia pin. Repeat on other side of vehicle.



13. 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 of the vehicle. Carefully pull the fascia away from the vehicle and place on the stand or pad prepared earlier.

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



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



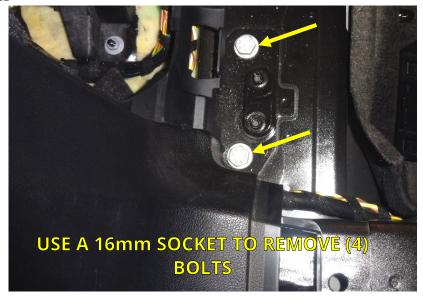
14. A4/S4 only Inside the cargo area remove (4) screws securing the rail brackets to gain access to bolts securing the factory reinforcement beam.





15. Remove (2) bolts that secure the factory reinforcement beam on each side. Discard (4) factory bolts.

NOTE: There may be a liner that needs to be moved to gain access to the bolts.



16. Slide the factory reinforcement beam to the rear to remove. Discard factory reinforcement beam.

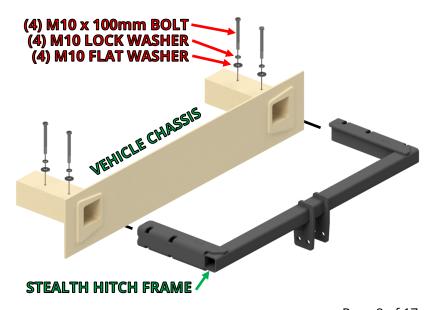


INSTALL STEALTH HITCH FRAME





TORQUE WRENCH 17. Slide the Stealth hitch frame into the chassis where the factory reinforcement beam was removed. Align the hitch frame holes with the four holes in the vehicle. Attach the hitch frame with the supplied (4) M10 bolts, (4) lock washers & (4) flat washers. Center the hitch frame before tightening. Torque bolts to 45 ft.-lbs.



MOUNT LATCH BLOCK





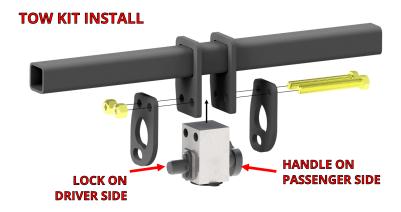
15/16" OPEN END WRENCH



- 18. 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.



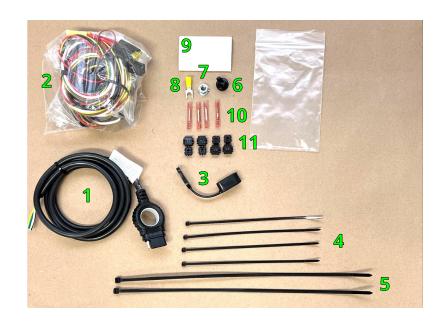




IF INSTALLING A RACK RECEIVER KIT, SKIP TO STEP 37. IF INSTALLING A TOW KIT, CONTINUE TO STEP 19.

INSTALL PASSIVE WIRING KIT

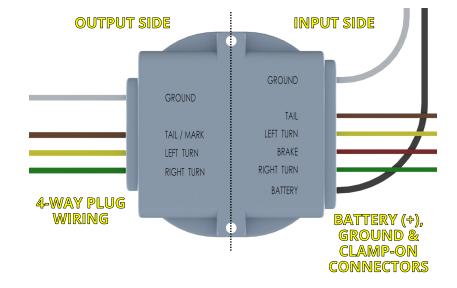
#	DESCRIPTION	QTY
1	4-WAY CONNECTOR HARNESS	1
2	CONTROL MODULE	1
3	4-WAY CONNECTOR COVER	1
4	CABLE TIE – 8"	4
5	CABLE TIE – 14"	2
6	MAGNETIC CABLE HOLDER	1
7	M8 SERRATED FLANGE NUT	1
8	FORK TERMINAL	1
9	ADHESIVE FOAM STRIP	2
10	BUTT CONNECTOR (RED)	4
11	CLAMP-ON CONNECTORS	4

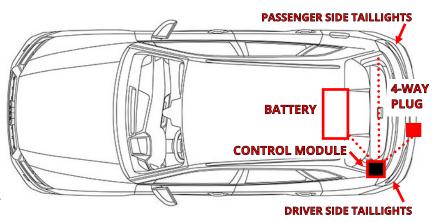




19. Locate the wiring kit box. Review the contents of the box against the list above to check for missing components. The passive wiring kit uses a control module to manage the functions of the trailer lighting. The module has an "input" side that receives power from the vehicle's battery and signals 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.

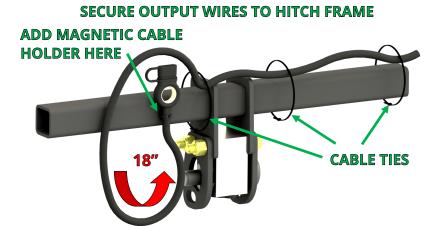
NOTICE: Do not allow electrical system to become disconnected from power or ground. Doing so may interrupt electrical systems





INSTALL WIRING KIT CONTINUED

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. Locate and remove rubber grommet from the driver side of the rear wall. Drill a 3/8" hole in the center of the grommet. Place the outside of the grommet over the ends of the wires. The ends of the 4-way wires will enter the vehicle where the grommet was removed.
- 22. Locate the control module in the passive wiring kit box. Place the control module in the driver side cargo compartment.

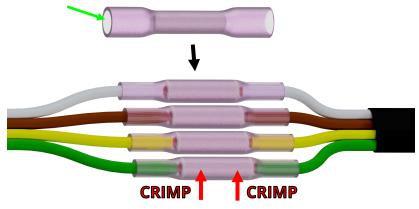




23. On the driver side of the vehicle, locate the tail of the 4-way connector wire and the output side wires of the control module. Attach each similar color wire to each other using a red butt connector and crimping tool.

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

RED BUTT CONNECTOR WITH HEAT-SHRINK ENDS



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



IF INSTALLING AN <u>A5/S5</u>, SKIP TO STEP 29. IF INSTALLING AN <u>A4/S4</u>, CONTINUE TO STEP 24.

INSTALL A4/S4 WIRING KIT



PLIERS



24. 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 below.)

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







25. Use an existing vehicle wire harness as a guide to route the green input wire to the passenger side of the vehicle. 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.)



A4/S4 CLAMP-ON CONNECTOR COLOR REFERENCE TABLE								
SIG	INAL INPUT	<u>WIRES</u>	POWER & GROUND WIRES					
<u>FUNCTION</u>	<u>HARNESS</u>	VEHICLE	POWER & GROUND WIRES					
LEFT TURN	YELLOW	■ GRAY/BLACK	12V+ (POWER)	BLACK	BATTERY (+)			
RIGHT TURN	GREEN	BLACK/GREEN	GROUND	WHITE	GROUND STUD			
MARKER	BROWN	GRAY	NOTICE: <u>Do not connect the red brake wire.</u> This vehicle does not utilize a separate brake circuit. The brake signal					
<u>BRAKE</u>	RED	NOT USED	is sent down the left and right turn circuits simultaneously.					

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

INSTALL A4/S4 WIRING KIT CONTINUED



10mm SOCKET



26. Locate the ground stud on the driver side of the rear wall. 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 ground stud.

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

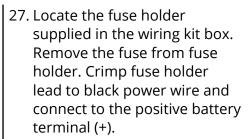




SOCKET



CRIMPING TOOL



28. On driver side of vehicle, use supplied adhesive foam strips to attach control module to an inside body panel.



Skip to Step 34 to complete wiring kit installation.



INSTALL A5/S5 WIRING KIT



PLIERS



29. 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 a clampon connector to connect the vellow wire to the wire 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 A5/S5 WIRING KIT CONTINUED



MULTIMETER

30. Use an existing vehicle wire harness as a guide to route the **green and brown** input wires to the **passenger side** of the vehicle. Locate the indicated part of the vehicle wiring harness. Use clamp-on connectors to connect the green and brown wires to the right turn and marker light signal wires behind the taillight. (As shown in reference table below.)



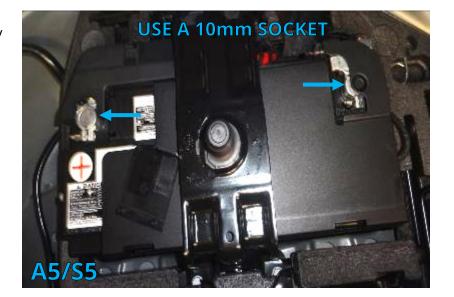
A5/S5 CLAMP-ON CONNECTOR COLOR REFERENCE TABLE									
SIGNAL INPUT WIRES			POWER & GROUND WIRES						
<u>FUNCTION</u>	<u>HARNESS</u>	<u>VEHICLE</u>	POWER & GROUND WIRES						
LEFT TURN	YELLOW	GRAY/WHITE	12V+ (POWER)	BLACK	BATTERY (+)				
RIGHT TURN	GREEN	GRAY/BLUE	GROUND	WHITE	BATTERY (-)				
MARKER	BROWN	GRAY/WHITE	NOTICE: <u>Do not connect the red brake wire.</u> This vehicle does not utilize a separate brake circuit. The brake signa						
<u>BRAKE</u>	RED	NOT USED	is sent down the left and right turn circuits simultaneously.						

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





- 31. 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 (-).
- 32. 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 (+).



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

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INSTALL WIRING KIT CONTINUED

33. On the driver side of the vehicle, use the provided adhesive foam strips to secure the control module.





- 34. Reinstall the 20 Amp fuse in the harness fuse holder located near the battery.
- 35. Test the 4-way plug using a multimeter or connect the plug to a trailer and verify that the lights and brakes work correctly.
- 36. 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.



CUT ACCESS TO LATCH BLOCK







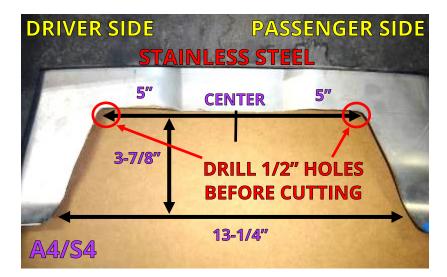


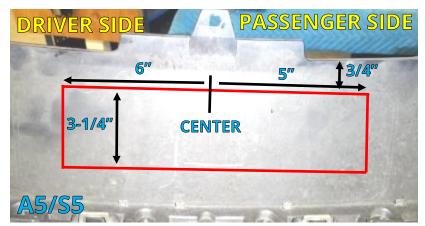


37. The fascia needs to be cut to allow access to the latch block.

> **A4/S4 only** To cut the fascia use equipment suitable to cut 0.05 stainless steel. Drill 1/2" holes in indicated corners before. Cut out fascia as shown. Use a file to smooth out edges of the cut. Add trim to edges of cut out.

A5/S5 only Cut out fascia with Dremel tool. Use a file to smooth out edges of the cut.





REINSTALL VEHICLE COMPONENTS

38. Reattach and secure the fascia, taillights, and other vehicle components in reverse order. Refer to Steps 1-14.

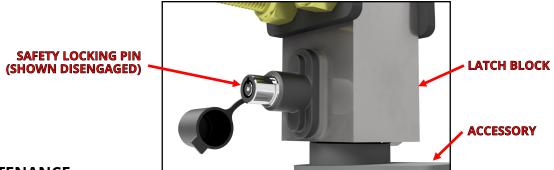
NOTE: A4/S4 only Replace plastic rivets in the wheel well with supplied plastic rivets, see Step 5.





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. (<u>Rack Receiver</u> and <u>Ball Mount</u> 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.
 - 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 counterclockwise 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.

SHR30007_(pn 2120-30007-2) 01 31 2024