

HITCH INSTALLATION INSTRUCTIONS

MAKE: YEARS: MODEL/TRIM:

VOLVO 2018 - 2023 XC40

www.stealthhitches.com 833.694.4824

RACK RECEIVER KIT#: SHR33004

COMPATIBLE WITH TOW KIT: SHT25034A

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:



LATCH BLOCK & KEYS



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



(2) 5/8"NYLOCK NUTS



2" RACK **RECEIVER**



(2) BOLTS M10 x 40mm



(4) M10 FLAT WASHERS



(2) M10 LOCK WASHERS



(2) M10 **NYLOCK NUT**



(6) M10 SERRATED FLANGE NUTS

DOUBLE-SIDED

TAPE



(6) 8" CABLE TIES 2018-2022



MOUNT 2018-2022



(6) CABLE TIE (12) TRIM CLIPS



(1) 1/4" NYLON SCREW 2023+



(1) 1/4" WASHER 2023+



(1) 1/4" NYLON NUT 2023+

TOOLS REQUIRED:



15/16", 7/16", & END WRENCH



15/16", 7/16", & 15mm, 17mm 17mm OPEN & 15/16" SOCKETS



TORQUE WRFNCH



SOCKET **EXTENSION**



SAFETY GLASSES



RATCHET



FLASHLIGHT

T25 TORX



90 DEGREE



PICK



PLASTIC PRY TOOLS



FILE

DREMEL TOOL



FLATHFAD SCREWDRIVER



DRILL & 1/4" BIT (2023+)

ADDITIONAL PARTS FOR TOW KIT:



BALL MOUNT 5" RISE, SHORT





CHAIN HOOKS 2" BALL



ACTIVE WIRING KIT BOX

ADDITIONAL TOOLS FOR ACTIVE TOW KIT:



MULTIMETER



STRIPPER/ CRIMPING TOOL



8mm & 10mm



SOCKETS

PHILLIPS HEAD **SCREWDRIVER**

SIDE **CUTTERS**

RACK RECEIVER INSTALLATION: USE STEPS 1-10, & 32-45 ACTIVE TOW KIT INSTALLATION: USE STEPS 1-45

installing an ACTIVE tow kit, the vehicle must be programmed a Volvo Dealership before trailer lights will function. The last page of these instructions contain dealership programming instructions.

<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 a wiring harness that is compatible with the vehicle's wiring. The **Active Harness** plugs into the vehicle's wiring so that the vehicle's computer can communicate with the trailer wiring. This allows certain functions such as cameras or backup alarms to continue to operate as designed. Some active harnesses require reprogramming of the vehicle's computer before the trailer wiring is functional. Vehicles that require reprogramming need to be programmed at a dealership. Refer to the Active Harness section of the instructions to determine if programming is required for this install. *This programming must be taken into account* when planning the timing of the Stealth product install. The programming needs to be scheduled with a dealer in advance.

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.

knowledge of their use.



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



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.

NOTICE: If installing the tow option, the vehicle must be programmed at a Volvo dealer after the hitch and wiring have been installed. Programming arrangement should be made in advance of installation. The 7-way plug will not function until programming is complete.

GAIN ACCESS TO MOUNTING AREA

 Open the rear hatch of the vehicle. Locate and remove the (2) rubber door bumpers in the door seam by turning them counterclockwise.







2. Inside the rear wheel well, in front of the tire, remove the mud flap by removing (2) Torx screws and a plastic rivet.



3. After removing the mud flap, grasp the rear wheel well trim piece and pull outward to release clips. Start from the front of wheel well and continue around toward the rear. Remove wheel well trim.

NOTE: Limit bending to prevent distorting the shape of the trim.

NOTE: Replacement trim clips are provided if clips are broken during trim removal.



GAIN ACCESS TO MOUNTING AREA CONTINUED



 Inside the rear portion of the rear wheel well, remove (5) screws attached to the rear fascia, see image. Repeat Steps 2-4 on other side of vehicle.





5. Under the rear of the vehicle, remove (4) Torx screws from the bottom of the fascia.





6. The rear fascia is clipped to the vehicle body above and behind the wheel wells. Use a plastic pry tool to release (3) clips. Continue applying outward pressure on the fascia until all clips are released. Repeat on other side of vehicle.

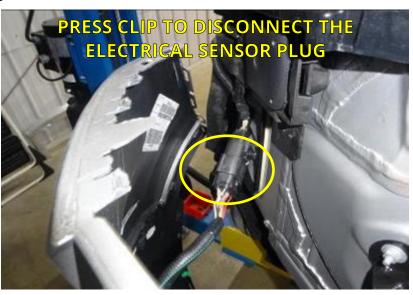
NOTICE: The fascia is connected to the vehicle by an electrical harness. Keep the fascia close to the vehicle until disconnected.



GAIN ACCESS TO MOUNTING AREA CONTINUED

7. This step requires a partner. Pull the fascia rearward enough to access the electrical sensor plug on the driver side of the vehicle. Press the clip to disconnect the electrical sensor plug. Remove the fascia.

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





8. Locate and remove the (6) nuts attaching the factory reinforcement beam to the vehicle. Discard the (6) factory nuts and the factory reinforcement beam.

NOTICE: On some vehicle models two foam pieces are present behind the fascia. Discard the foam pieces, do not attempt to re-install the foam pieces with the hitch installed.



INSTALL STEALTH HITCH FRAME



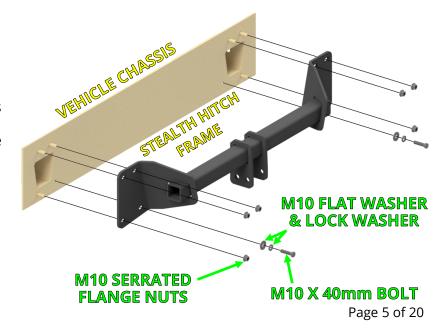
15mm SOCKET



17mm SOCKET



TORQUE WRENCH 9. Align the Stealth hitch frame holes with the vehicle studs. Use the (6) supplied M10 serrated flange nuts to fasten the hitch. Install (2) M10 x 40mm bolts, M10 flat washers and M10 lock washers, into the bottom inside holes of the hitch beam. Note that the holes for these bolts may or may not be threaded. If the holes are not threaded, use the (2) provided M10 Nylock nuts and M10 washers to secure the bolts inside the vehicle. Torque the (6) M10 nuts and (2) bolts to 35 ft.-lbs.



MOUNT LATCH BLOCK



15/16" SOCKET



15/16" OPEN END WRENCH

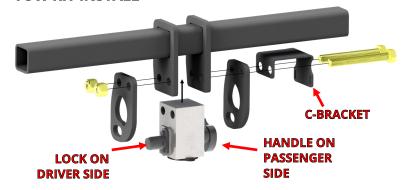


- 10. Installation of the latch block varies depending on which kit you are installing.
- Rack Receiver Kit: Install the latch block with (2) 5/8"-11 x 5" bolts and (2) 5/8" nylock nuts. Tighten each bolt to 150 ft.-lbs.
- from Kit: Retrieve C-bracket from wiring harness kit box. Install the latch block, (2) chain hooks, and C-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.



TOW KIT INSTALL





IF INSTALLING A RACK RECEIVER KIT, SKIP TO STEP 32. IF INSTALLING A TOW KIT, CONTINUE TO STEP 11.

INSTALL ACTIVE WIRING KIT

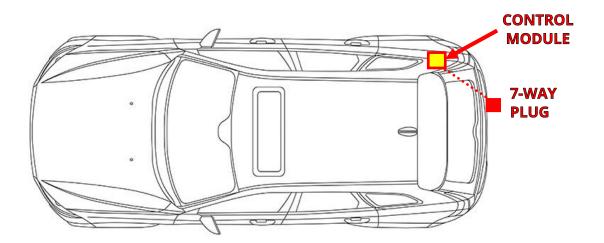
#	DESCRIPTION	QTY
1	VOLVO TOW WIRING HARNESS	1
2	VOLVO TOW CONTROL MODULE	1
3	C-BRACKET	1
4	MOUNTING BRACKET	1
5	7-POLE HOUSING	1
6	7-POLE TO 4-POLE ADAPTER	1
7	ADHESIVE FOAM STRIP	2
8	#10 LOCK NUT	6
9	5/8" LONG PHILLIPS SCREWS	6
10	CABLE TIE – 8"	2
11	CABLE TIE – 14"	2
12	40 AMP FUSE *NOT USED WITH VOLVO XC40*	1





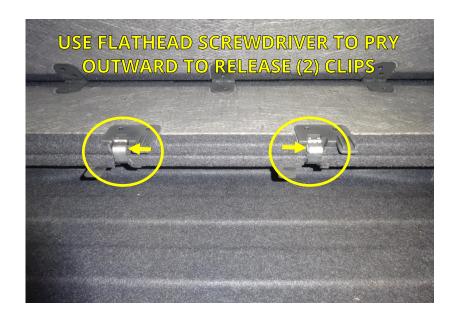
11. Locate the wiring kit box. Review the contents of the box against the list above to check for missing components. *The active wiring kit* uses a Volvo computer control module to manage the functions of the trailer lighting. The module must be "programmed" before it will be functional. The module will connect to the vehicle through an included wire harness. The harness has an "input" side that receives power and signals from the vehicle's electronic systems. The "output" side of the harness delivers this information to the 7-way plug. The harness and computer module installation are outlined in the next steps.

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





12. Remove the first part of the cargo area floor panel by inserting a flathead screwdriver to pry outward and release (2) clips, as shown.



13. Remove the second part of the cargo area floor panel by pulling the spring lock out of the hole. Lift the spring lock upward to the release latch on floor panel. Remove the cargo floor panel by lifting upward.



14. Lift up to remove floor pan.





15. Locate the rear passenger side seatbelt cover. It is located over the area where the seat belt retracts into the vehicle. Slide the seatbelt cover forward to remove. A plastic pry tool can be used if necessary.







16. Under the removed cover, Use a socket to remove (1) screw from the seat belt guide bracket. Lift up on the guide bracket to release (2) clips. Remove seat belt guide bracket. A plastic pry tool can be used, if necessary.



17. Behind the passenger side rear door, remove the trim piece. Starting at the top of trim piece, pull inward until all the clips are released.



18. Locate and remove the passenger side upper trim piece. Starting at the bottom of the upper trim piece, pull inward until all clips are released. Slide the upper trim piece down to remove.





19. Locate and remove (2) plastic nuts on the threshold.







20. To gain access to screws holding threshold, use a plastic pry tool to remove the plastic trim cover. Remove (2) screws, one per side. Pull up to remove threshold.



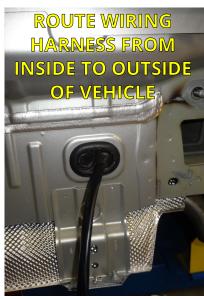


21. Locate and remove the side panel on the passenger side wall of the rear cargo compartment. The panel is connected by (3) clips. Release the clips and pull the panel inward to remove the panel.



22. Locate the oval grommet on the passenger side, rear wall of the vehicle. Remove and discard the grommet. Route output wires of the wiring harness from inside of the vehicle to the outside through the hole where the grommet was. Pull the wires out of the vehicle until the rubber grommet attached to the wiring harness is out of the hole. Securely seat the harness grommet into the hole.

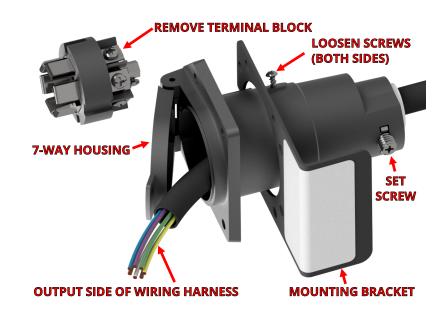




WIRE 7-WAY PLUG



PHILLIPS HEAD SCREWDRIVER 23. 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.



WIRE 7-WAY PLUG CONTINUED

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

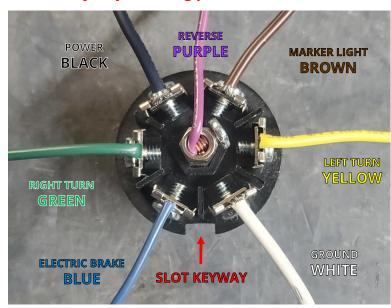


PHILLIPS HEAD SCREWDRIVER



- 24. 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 housing may not match the correct wire configuration. Please disregard and follow the instruction above.

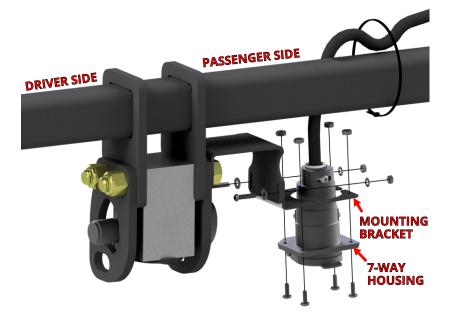


INSTALL 7-WAY PLUG



PHILLIPS HEAD SCREWDRIVER

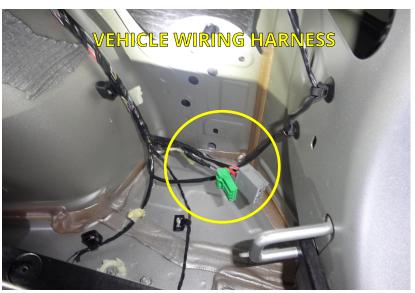
- 25. Put the 7-way housing back together.
- 26. Attach the mounting bracket and 7-way housing to the Stealth hitch frame as shown. Secure harness to Stealth hitch frame with cable ties.



INSTALL WIRING KIT CONTINUED

27. Locate the vehicle wiring harness on the passenger side of the vehicle.

NOTE: The harness plugs may be wrapped in foam or tucked behind the compartment liner and may be difficult to locate.





28. Locate ground stud in the rear passenger side cargo area. Route the grounding ring from the Volvo tow wiring harness to the ground stud. Carefully remove the ground nut while keeping any vehicle wires in continuous contact with the stud. Place the grounding ring connector over the stud. Replace the nut and tighten.

NOTICE: Do not allow vehicle wiring to lose ground contact.



NOTE: Complete all wiring steps before connecting the trailer wiring harness connector to the control module, to prevent electrical surge.

- 29. Plug the two vehicle wiring harness connectors and the Volvo tow wiring harness connector into the control module.
- 30. Use the supplied adhesive foam strips to secure the control module, on the passenger side, in the location shown in the photo.



NOTE: The dealer may need the information printed onto the Volvo tow control module to complete programming. Place the module in an orientation that can be easily read inside the compartment. Taking a photo of the label may also be prudent.

31. 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.

NOTICE: Discard the 40 Amp fuse included in the wiring kit. The fuse is used in other vehicle installations and is not needed for the Volvo XC40.



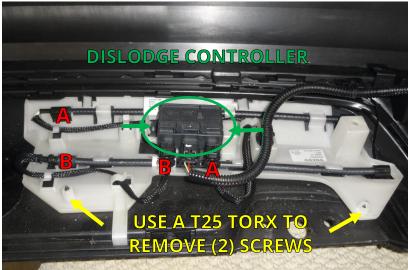
IF INSTALLING THE HITCH ON A 2018 THROUGH 2022 MODEL YEAR VEHICLE, CONTINUE TO STEP 32.

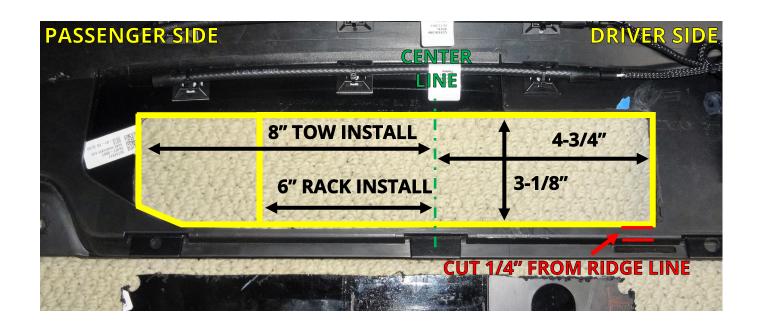
IF INSTALLING THE HITCH ON A 2023 OR NEWER MODEL YEAR VEHICLE, SKIP TO STEP 37.

CUT ACCESS TO LATCH BLOCK (2018 - 2022 VEHICLES)



- 32. Inside the removed fascia, locate the hands-free trunk release cable holder. Remove (2) Torx screws.
- 33. Mark the front and rear trunk release cables to ensure that they are returned to their original placement on the vehicle. Dislodge the controller by releasing (2) clips. Remove trunk release cables. Discard the trunk release holder.







34. Trim the bottom of the fascia, as shown, with Dremel tool. Use a file to smooth out the cut.



NOTE: The cut out necessary for the tow kit is larger on the passenger side than the rack receiver kit.

FILE

NOTE: Verify that there are no electrical components in the way before cutting.

CUT ACCESS TO LATCH BLOCK, (2018 - 2022 VEHICLES) CONTINUED



35. Use double-sided tape to mount the hands-free trunk release controller in the location shown. Clean the area inside the fascia thoroughly before attaching double-sided tape and cable tie mounts.



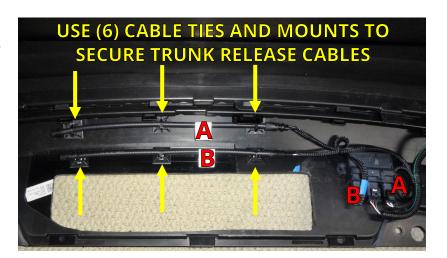


SIDE CUTTERS



36. Use (6) cable tie mounts and cable ties to secure the handsfree trunk release cables to the rear of the fascia, as shown. Replace cable (A) and (B) in the same front and rear locations, as they were when removed in Step 33.

Skip to Step 43 to continue.



CUT ACCESS TO LATCH BLOCK, (2023+ VEHICLES)

37. Locate the hands-free trunk release cable holder inside the removed fascia. Before the fascia can be trimmed the hands-free trunk release cable holder must be removed. Unplug the wiring harness as shown in the image (yellow arrow). Release the clip securing the hands-free trunk release cable holder to the fascia (green arrow). Slide the hands-free trunk release cable holder toward the passenger side until it comes away from the fascia and can be removed (red arrow).



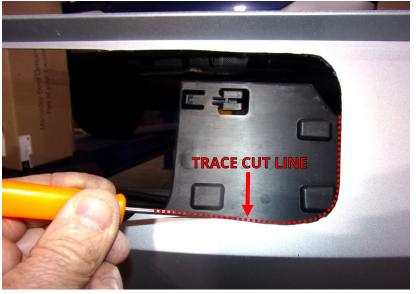




38. With the hands-free trunk release cable holder removed, use a Dremel tool to extend the opening of the cutout in the fascia as shown in the image. Notice that the bottom edge of the cut is in line with the existing cut in the fascia (yellow arrows). Smooth the cut with a file.



39. Replace the kick wand holder into the fascia. Use the (2) remaining locating slots to position the kick wand holder and slide it to the driver side to secure it in the original location. On the outside of the fascia mark the kick wand holder by tracing the cutout in the fascia. Remove the kick wand from the fascia.



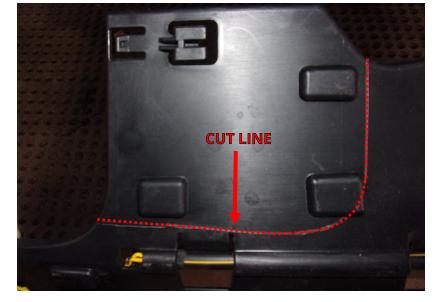
CUT ACCESS TO LATCH BLOCK, (2023+ VEHICLES) CONTINUED





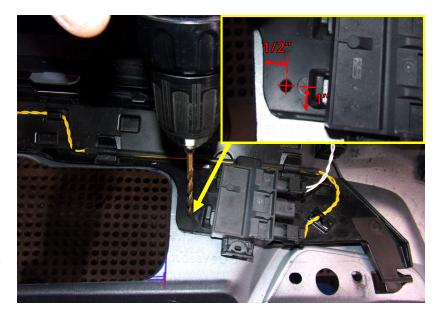
FILE

40. With the hands-free trunk release cable holder, use a Dremel tool to cut along the marked line made on the kick wand. Smooth the cut with a file.





41. With the cut in hands-free trunk release cable holder complete, replace the handsfree trunk release cable holder back into the fascia into its original location. Due to the removal of the locking clip in the hands-free trunk release cable holder a fastener must be added to secure the hands-free trunk release cable holder to the fascia. Use a 1/4" drill bit to make a hole through the hands-free trunk release cable holder and the fascia as indicated in the image.

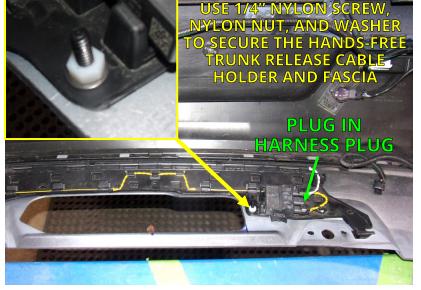






42. Use the provided 1/4" nylon screw, nylon nut, and washer to secure the hands-free trunk release cable holder to the fascia through the drilled hole as shown in the image.

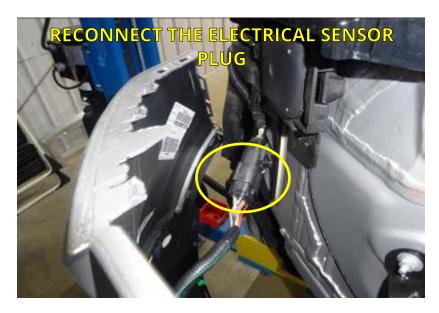
Replace the harness plug removed in Step 37.



REINSTALL VEHICLE COMPONENTS

43. Reattach and secure the fascia and other vehicle components in reverse order. Refer to Steps 1-7 and 12-21.

NOTICE: Remember to plug in the electrical sensor plug in Step 7 before reinstalling the fascia.

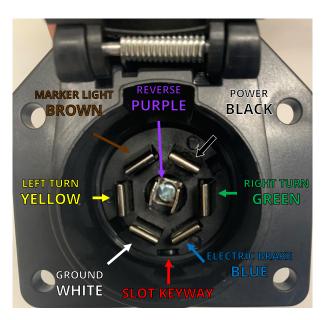


TEST 7-WAY HARNESS WIRING, PROGRAMMING MUST BE COMPLETED BEFORE TESTING.



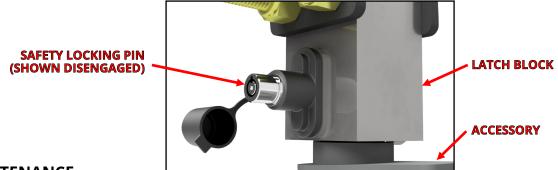
- Start by connecting the multimeter negative probe to the ground blade on the 7-way receptacle.
- Next, connect the multimeter positive probe to the power blade on the 7-way receptacle and check for 12 volts.
- Once that is confirmed, move the positive probe to the left turn blade on the 7-way receptacle 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.

NOTICE: Most <u>Active</u> harness installations will require programming before testing can be completed. Testing Active wiring harness installations with a multimeter or LED tester may not work. Some vehicles may need to "sense" the current being used by the plug to function. After programming is complete, use an incandescent light testing device or trailer to test in these specific cases.



FINAL VEHICLE EXAMINATION

- 44. Examine the body panels to ensure that they are in a pre-installation condition. Test the electronic functions of the vehicle. Correct any inconsistencies.
- 45. 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.
 - 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 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.

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DEALERSHIP PROGRAMMING INSTRUCTIONS

PROGRAMMING VOLVO TRAILER CONTROL UNITS FOR VOLVO XC 40 *SAVE THIS PAGE AND PRESENT TO VOLVO PROGRAMMING STAFF*

- 1. Must use OBD2 connector **9513108B** with an ethernet cable.
- 2. Install control module, fuse and ground per instructions.
- 3. Connect to vehicle to programming computer.
- 4. Go to **Software tab** and **New hardware tab** and see if software is available, if not continue to Step #5
- 5. Go to Information Tab
- 6. Click on Installation instructions, accessories.
- 7. Click on **Group #8** "BODY AND INTERIOR", then **Group #89** "MISCELLANEOUS", then **Group #892** "TOWING AND RECOVERY UNIT", then click "TOW BAR HITCH".
- 8. Scroll to almost the end and click on the software part number 31664323
- 9. This will move the software to your cart, and you will perform the download as normal