

# **HITCH INSTALLATION INSTRUCTIONS**

MAKE: YEARS:

**MODEL/TRIM:** 

TESLA 2020-2024

γ

www.stealthhitches.com

833•694•4824



# <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 <u>Rack Receiver only</u> 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.



Adding Stealth hitch components to the chassis of any vehicle can be hazardous. There is potential for unexpected combustion of fuel, electric shock, burns, shifting or falling of unstable vehicle, damage to vehicle, injury from tool usage and many other hazards. This installation must be completed by someone who is aware of the hazards involved. This person must be knowledgeable of proper safety procedures for a vehicle modification of this nature, and for usage of the equipment required to perform the installation.

Without proper knowledge, towing can be a dangerous activity. Understand all the risks involved with towing before proceeding. For information on towing safety, see **"The Trailer Handbook: A Guide to Understanding Trailer and Towing Safety"** from the National Association of Trailer Manufacturers, www.NATM.com and your trailer and tow vehicle manufacturer's owner's manual.

Do not exceed tow or tongue rating of coupler, tow or tongue rating of hitch, or tow or weight ratings of tow vehicle or trailer. See vehicle and trailer manufacturer information for ratings. Exceeding these ratings may cause damage to towing components or loss of attachment between the trailer and vehicle. While installation is being performed, check for signs of damage or excessive corrosion. Do not install hitch components over vehicle parts that are broken or have compromised structural integrity.

- This product was designed to fit vehicles in their original, "as manufactured" condition. Compatibility with vehicles having replacement parts, or other modifications is not guaranteed. Inspect vehicle for modifications before installation of this product.
  - Some accessories, like the rack receiver, are not rated for towing. Do not use any accessories without proper knowledge of their use.
- A visual inspection of the hitch should be performed before each use. Regularly check that all connections are secure, including those that secure the hitch to the vehicle. Check for cracks or damage to the hitch. Do not use the hitch if cracks or damage outside of normal wear is found. Using a hitch that has unsecure connections and/or cracks or damage could result in damage to the tow vehicle, trailer, towing components and loss of attachment between the tow vehicle and trailer.



Stealth hitches are not compatible with any weight distribution or sway control products. Adding additional products to the trailer or chassis which modifies the function of the Stealth hitch may cause hitch failure. **NOTICE:** Installation of hitch requires removal of vehicle parts and interaction with vehicular electronics. Before installation, check the condition of body panels and note any locations where panels are not flush. Check the electronic functions of the vehicle, such as: headlights, taillights, turn signals, cameras, backup sensors, Parking Distance Controller (PDC), foot activated cargo access, etc. It is the responsibility of the installer to restore the fit and function of the vehicle.

#### GAIN ACCESS TO MOUNTING AREA

1. Inside the rear cargo compartment lift up and remove the floor panel.



2. Use a pry tool to carefully pull up and remove the threshold in the rear cargo compartment.

THRESHOLD PRY-UPWARD WITH PLASTIC PRY TOOLS TO REMOVE THRESHOLD



PLASTIC PRY TOOLS

3. In the area under the threshold, locate the two plastic rivets on either side of the cargo area. Use a 90 degree pick tool to remove the rivets.



4. On both sides the rear cargo compartment, lift up and remove the fabric side rails.





5. In the area under the fabric side rails, use a 90 degree pick tool to remove (1) rivet. Lift out and remove the cargo pockets on each side of the cargo compartment.



2023+



- PLASTIC PRY TOOLS
- 6. Use a plastic pry tool to remove (2) rubber trunk stops on top of the taillights.





 Use a plastic pry tool to pull inward and dislodge the rear side panels on each side of the cargo compartment. Once dislodged, carefully pull each side panel away from the vehicle until it is possible to access the taillight nuts.





8. Unplug the wiring harnesses from the taillights by pushing down on the clips and pulling the plugs away from the lights, inside the vehicle. Use an 8mm socket to remove (2) rear taillight nuts.





PLASTIC PRY TOOLS



- 9. Remove each taillight by sliding it to the rear of the vehicle. A plastic pry tool can be used if necessary.
- 10. Use a 10mm socket to remove the screw which was under the taillights. This screw secures the top of the fascia to the vehicle.





11. With a 90 degree pick tool, locate and remove (3) plastic rivets located inside the rear wheel well behind the rear tires.

**NOTE:** Some vehicle models may have (4) rivets.



12. To gain access to a screw in the fascia, the wheel well trim will need to be partially detached. Starting at the bottom of the trim. use outward pressure to carefully pull the trim away from the vehicle.





PAINTER'S TAPE

13. Use an 8mm socket to remove (1) screw. Repeat Steps 11-13 on other side of vehicle.

**NOTE:** To protect the trim from being scratched, cover it with painter's tape or something similar.





10mm SOCKET

90 DEGREE PICK

14. Under the rear of the vehicle use a 10mm socket to remove (7) screws from the bottom of the gravel guard. Use a 90 degree pick tool to remove (6) rivets from the gravel guard.





15. 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 until all the clips are released. Repeat on other side of vehicle.





16. This step requires a partner. Slide the fascia rearward enough to access and disconnect the electrical sensor plug on the passenger side. A 90 degree pick tool can be used to open the clip and remove the plug. Remove the fascia completely.

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





# 10mm SOCKET

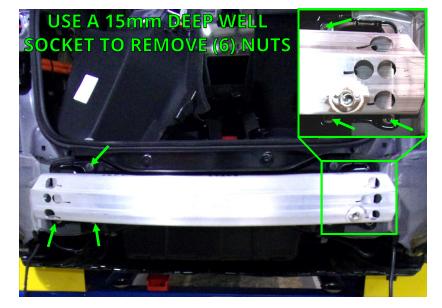
17. To gain access to the reinforcement beam nuts, use a 10mm socket to remove (4) screws from the plastic trim piece above the reinforcement beam. Let the trim piece hang down out of the way.

TIP: Mark the outside of each • screw before removal. Use the marks when replacing the trim piece to place it exactly where it was before removal.





18. Use a 15mm deep well socket to remove (6) nuts securing the factory reinforcement beam base plates to the vehicle. Save the nuts for later reinstallation.

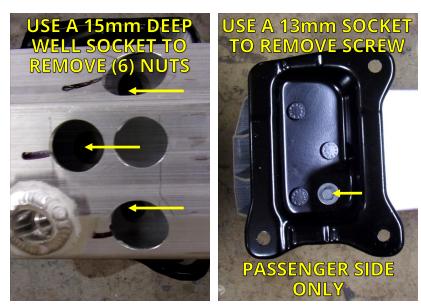






13mm SOCKET

- 19. Use a 15mm deep well socket to remove (6) nuts securing the factory reinforcement beam to the base plates on each side of the beam.
- 20. On the rear of the passenger side base plate. Use a 13mm socket to remove (1) M8 screw securing the passenger side factory reinforcement beam base plate to factory reinforcement beam. Discard the base plates and save the reinforcement beam.

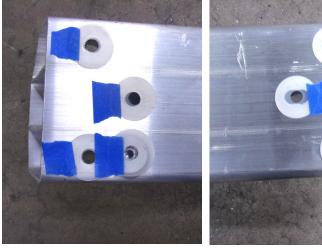


#### **INSTALL STEALTH HITCH FRAME**



21. Using painter's tape or other similar method, secure (7) nylon washers to the back of the factory reinforcement beam over each mounting hole, as shown.

### TAPE NYLON WASHERS TO THE BACK OF THE REINFORCEMENT BEAM

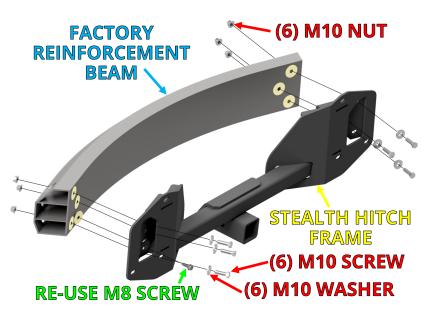




13mm SOCKET

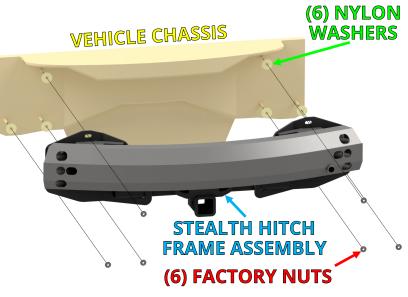


TORQUE WRENCH 22. Attach the factory reinforcement beam to the Stealth hitch frame. Use a 13mm socket to replace the M8 screw that was removed in Step 20. Insert the provided (6) M10 screws and washers into the remaining (6) holes at the back of the frame, and attach (6) M10 nuts inside the front of the beam to secure it in place. Center the beam with the hitch frame. Torque the M8 bolt to 25 ft.-lbs and the M10 bolts to 45 ft.-lbs.





TORQUE WRENCH 23. Place (6) nylon washers onto the factory studs. Next, install the Stealth hitch frame assembly onto the vehicle studs. Adjust the Stealth hitch frame so it is positioned in the center of the vehicle. Use a 15mm socket to secure the hitch with the (6) nuts that were removed in a previous step. Torque the (6) M10 nuts to 45 ft.-lbs.



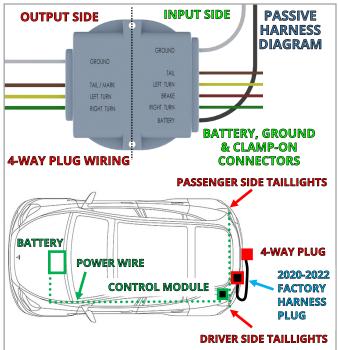


IF INSTALLING A RACK RECEIVER KIT, SKIP TO STEP 46. IF INSTALLING A TOW KIT, CONTINUE TO STEP 24.

#### **INSTALL WIRING KIT**



- 24. Locate the wiring kit box. Review the contents of the box against the list below to check for missing components.
- The <u>2020-2022</u> wiring kit uses a 4-way plug wire that connects directly to the vehicle through a factory installed plug. The wire has an "input" side that receives power and signals from the vehicles electronic systems. The "output" side of the wire is the 4-way plug.
- The <u>2023-2024</u> 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, *see passive harness diagram.* The control module is connected to the vehicle's



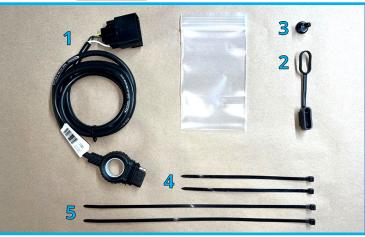
battery and taillight wiring as outlined in the next steps.

#### 2023-2024 WIRING KIT BOX

#	DESCRIPTION		
1	4-WAY PLUG WITH WIRE	1	
2	CONTROL MODULE	1	
3	4-WAY CONNECTOR COVER	1	
4	CABLE TIE – 8"	8	
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 (BLUE)	1	
11	BUTT CONNECTOR (RED)	4	
12	CLAMP-ON CONNECTORS	4	
13	POWER WIRE	1	



2020-2022 WIRING KIT BOX



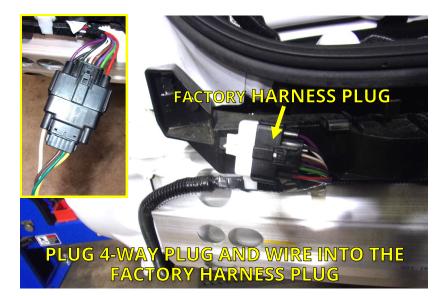
#	DESCRIPTION	QTY
1	4-WAY PLUG AND WIRE	1
2	4-WAY CONNECTOR COVER	1
3	MAGNETIC CABLE HOLDER	1
4	CABLE TIE – 8"	2
5	CABLE TIE – 14"	2



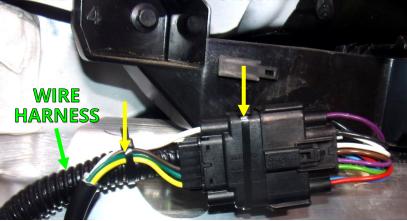
IF INSTALLING A TOW KIT ON A **2020-2022** VEHICLE, CONTINUE TO STEP 25. IF INSTALLING A TOW KIT ON A **2023-2024** VEHICLE, SKIP TO STEP 28

#### INSTALL 2020-2022 WIRING KIT

25. On the driver side, on top of the factory reinforcement beam, find the factory harness plug. Remove the harness plug cover. Retrieve the 4-way plug and wire from the wiring kit box and plug it into the factory harness plug.



26. Use (2) 8" cable ties to secure the plugs to the wire harness attached to factory reinforcement beam. USE (2) CABLE TIES TO SECURE PLUGS TO THE FACTORY REINFORCEMENT BEAM

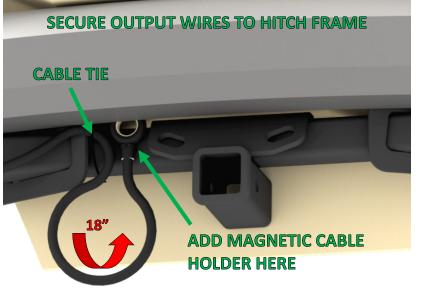


27. Secure harness to Stealth hitch frame with cable ties. Maintain an 18" loop from the cable tie to the 4-way plug. Add the magnetic cable holder and secure to the harness close to the 4-way plug, with a cable tie.

NOTICE: The 4-way plug and wire must be routed so that it will not interfere with the fascia when it is reinstalled. Adjust wiring if necessary.



Skip to Step 46 to continue installation.





28. In the driver side wheel well, locate and remove a plastic nut securing the liner and pull the liner back to reveal a rubber grommet.

29. Remove the grommet from the opening and drill a hole in the grommet. This grommet will be used to route the output wires and power wire from outside of the vehicle into the inside of the vehicle.





 The power wire will be routed through a plastic channel located on the bottom driver side of the vehicle. In the rear driver side wheel well, find the (2) plastic push pin rivets located in the front side of the wheel well. Remove the rivets using a 90 degree pick tool to gain access to channel.





31. Route the power wire to the front of the vehicle by running the wire over the plastic under body trim. The trim is attached to the vehicle by (2) screws. Along the trim, locate and remove the fasteners with a 10mm socket. Pull down the plastic trim and feed the wire into the channel.





32. In the front driver side wheel well, find the (2) plastic push pin rivets located in the rear side of the wheel well. Remove the rivets using a 90 degree pick tool. The power wire will be routed up into the hood area starting here.



33. Remove cover panel by lifting it straight up around the edges to gain access to the battery.







STRIPPER/ CRIMPING TOOL

34. Route the power wire from the driver side wheel well up to the area of the battery. Use a fish tape or similar tool to pull the wire up. Locate the fuse holder supplied in the wiring kit box. Remove the fuse from fuse holder. Crimp fuse lead to power wire and connect to the positive battery terminal (+) using the supplied M8 nut.

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



35. In the rear driver side wheel well, route the power wire around the wheel well to the rear of the vehicle. Pull any slack out of the power wire. Feed the black power wire along with the wires of the 4-way output harness into the vehicle through the grommet which had a hole drilled into it earlier.



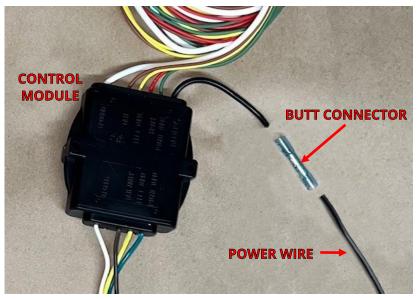


STRIPPER/

CRIMPING

TOOL

36. 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 blue butt connector to crimp the power wire leading from the battery to the control module power wire.

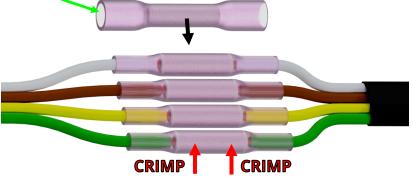




STRIPPER/ CRIMPING TOOL 37. On the Driver side of the vehicle, Locate the tail of the 4-way connector wire and the output side wires of the control module. Attach each similar color wire to each other using a red butt connector and crimping tool.

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

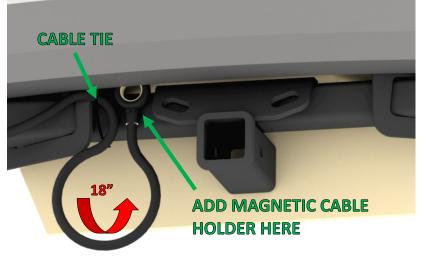
#### **RED BUTT CONNECTOR WITH HEAT-SHRINK ENDS**



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

38. 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.

#### **SECURE OUTPUT WIRES TO HITCH FRAME**





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STRIPPER/ CRIMPING TOOL

39. Locate the ground stud in the rear driver side cargo area. 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.





PLIERS



MULTIMETER

40. The wires on the input side of the module need to be attached to the vehicle wiring. In the driver side of the cargo area, remove enough wire loom to gain access to taillight wiring. Use clamp-on connectors to connect the yellow, red and brown wires to wires behind taillight. (As shown in reference table on the next page.)

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

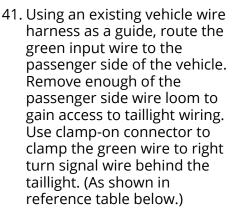




PLIERS

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MULTIMETER





#### CLAMP-ON CONNECTOR COLOR REFERENCE TABLE

	SIGNAL INPUT	POWER & GROUND WIRES			
<b>FUNCTION</b>	<u>HARNESS</u>	VEHICLE	<u> </u>		
LEFT TURN	YELLOW	RED	<u>12V+ (POWER)</u>	BLACK	BATTERY (+)
<u>RIGHT TURN</u>	GREEN	RED	<u>GROUND</u>		GROUND STUD
MARKER	BROWN	YELLOW			
BRAKE	RED	GREY			



42. Reinstall the 20 Amp fuse in the harness fuse holder.

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

43. Test the 4-way plug using a multimeter or connect the plug to a trailer and verify that the lights and brakes work correctly.

MULTIMETER



SILICONE

44. 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. Use the provided adhesive foam strips to secure the control module to an inside body panel. Use silicone to waterproof the grommet in driver side rear wheel well.

45. Reattach and secure the underbody plastic channel and the wheel well fender liners. Replace the cover panel under the hood, refer to Steps 28-33.

#### **REINSTALL VEHICLE COMPONENTS**

46. Reattach and secure the fascia, taillights, and other vehicle components in reverse order. Refer to Steps 1-17.

#### NOTICE: Remember to plug in the sensor plug in Step 16 before reinstalling the fascia.

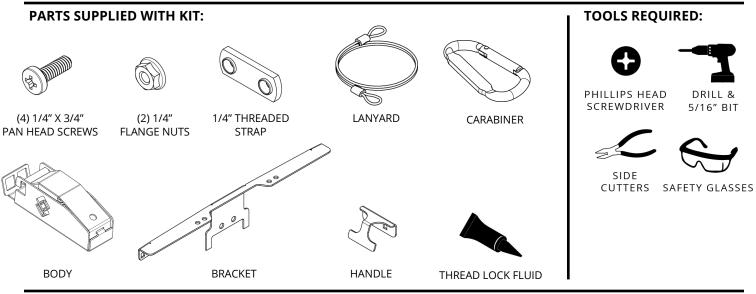
47. Examine the body panels to ensure that they are in a preinstallation condition. Test the electronic functions of the vehicle. Correct any inconsistencies.





# **TESLA MODEL Y COVER SUPPORT**

ACCESSORY KIT#: SHX88300



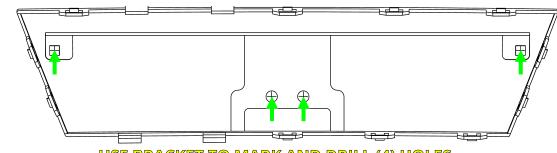
**WARNING:** Before using any towing product, carefully read and fully understand all product labels, instructions, and any associated vehicle manual warnings for your safety.

**NOTE:** The hitch cover is not provided and must be sourced from the install vehicle or from a 3rd party.

#### PREPARE THE COVER



1. Retrieve the Tesla Model Y hitch cover from the vehicle and the bracket from the cover support box. Position the bracket inside the cover as shown in the image below. The bracket should be centered and against the bottom of the cover. Mark the center of each hole (green arrows). Remove the bracket and carefully drill each hole with a 5/16" drill bit.

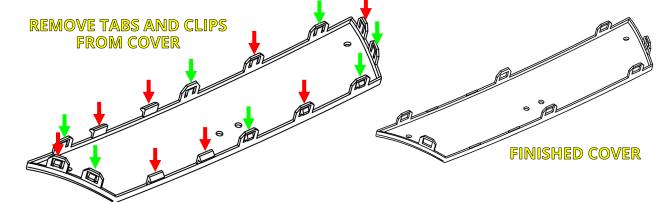


USE BRACKET TO MARK AND DRILL (4) HOLES

2. Use a side cutters to remove some of the tabs from the cover as shown below (red arrows). Remove the clips from the middle of the remaining tabs (green arrows)



SIDE CUTTERS



#### ASSEMBLE THE COVER

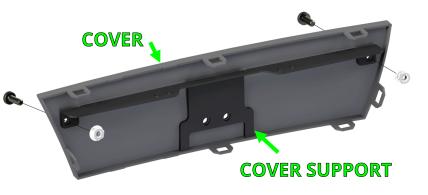


PHILLIPS HEAD SCREWDRIVER



TREAD LOCK FLUID  Attach the bracket to the cover. Use a Phillips head screwdriver to secure the two parts together using (2) pan head screws and flange nuts in the outermost holes.

**NOTE:** Add a small amount of permanent thread lock fluid to each screw thread, follow all labels and instructions when using the thread lock product.



USE PHILLIPS HEAD SCREW DRIVER TO SECURE BRACKET AND COVER TOGETHER

4. Retrieve the body from the support box and tuck the front flange between the cover and the cover support as shown in the image.



TUCK THE FRONT FLANGE OF THE BODY BETWEEN THE COVER AND COVER SUPPORT

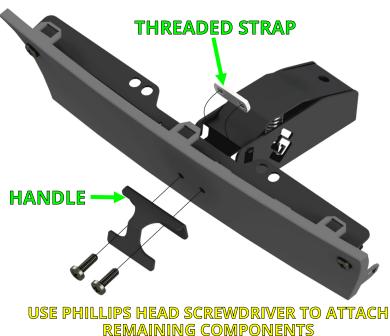


PHILLIPS HEAD SCREWDRIVER



TREAD LOCK FLUID 5. Retrieve the handle and the threaded strap. Use a Phillips head screwdriver to secure the handle, cover, bracket, and body together using (2) pan head screws and the threaded strap. Ensure that the screws pass through the large slots in the front flange of the body. Do not fully tighten the screws at this time.

**NOTE:** Add a small amount of permanent thread lock fluid to each screw thread, follow all labels and instructions when using the thread lock product. Complete Steps 6 and 7 before the thread locker fluid dries, provided thread locker is workable for 20 minutes.



#### **TEST FIT THE COVER**

6. Place the cover assembly into the receiver hitch inside the Tesla Model Y.

#### **INSERT COVER ASSEMBLY INTO RECEIVER HITCH**

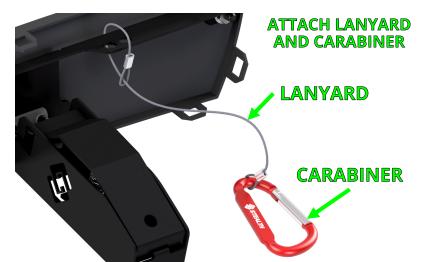




PHILLIPS HEAD SCREWDRIVER 7. Push the cover all the way in until the plastic cover can be seated into the trapezoid hole in the fascia. Move the cover around until it is aligned with the hole and can be pushed all the way in. Use a Phillips head screwdriver to tighten the (2) screws in the handle. ADJUST COVER POSITION AND USE A PHILLIPS HEAD SCREWDRIVER TO TIGHTEN THE TWO SCREWS IN THE HANDLE



8. Remove the cover. The cover assembly is designed with a safety feature that causes it to 'hang up' during removal. Lift up on the handle while pulling the cover out when it stops. Attach the lanyard and carabiner to the cover assembly as shown in the image. Ensure that the carabiner is securely connected to the tow loops on the receiver hitch when the cover assembly is in use.



**WARNING:** As an extra layer of security to ensure the cover assembly does not accidentally fall out of the vehicle and become a road hazard, securely attach and use the provided lanyard and carabiner as instructed, whenever the cover is being used.

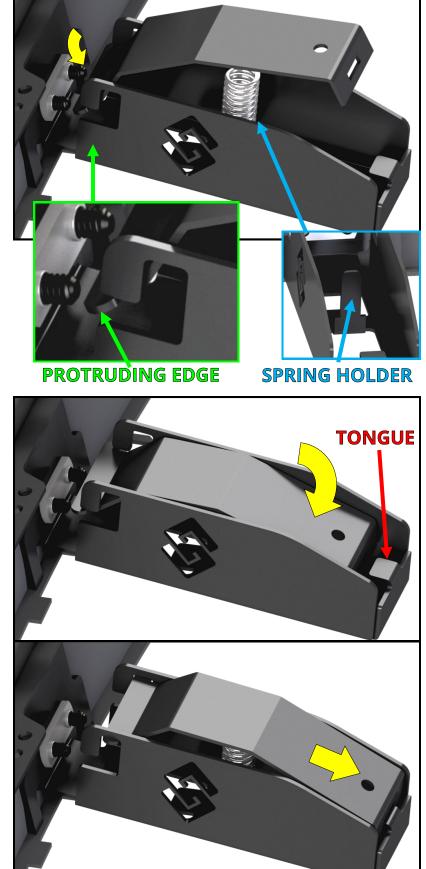
#### FRICTION PLATE ASSEMBLY

This section includes information on attaching the friction plate and spring to the body in case they become separated.

- 1. Place the spring onto the spring holder inside the body of the cover, as shown in the blue detail.
- 2. Insert the end of the friction plate with the two protruding edges into the slots at the front of the body. Ensure that the two protrusions are positioned in the center of the overhanging part of the slot, as depicted in the green detail.

3. Apply pressure to the friction plate, compressing the spring until the slot on the end of the friction plate aligns with the tongue at the rear of the body.

4. Push the friction plate onto the tongue, effectively securing the friction plate in place.



ATTACH FRICTION PLATE TO BODY OF COVER ASSEMBLY