

# INSTALLATION INSTRUCTIONS

## ELECTRIC TONNEAU COVER



**APPLICATION:**  
2015-2026 FORD F150 5'5" BED  
2022-2026 FORD F150 LIGHTNING EV 5'5" BED

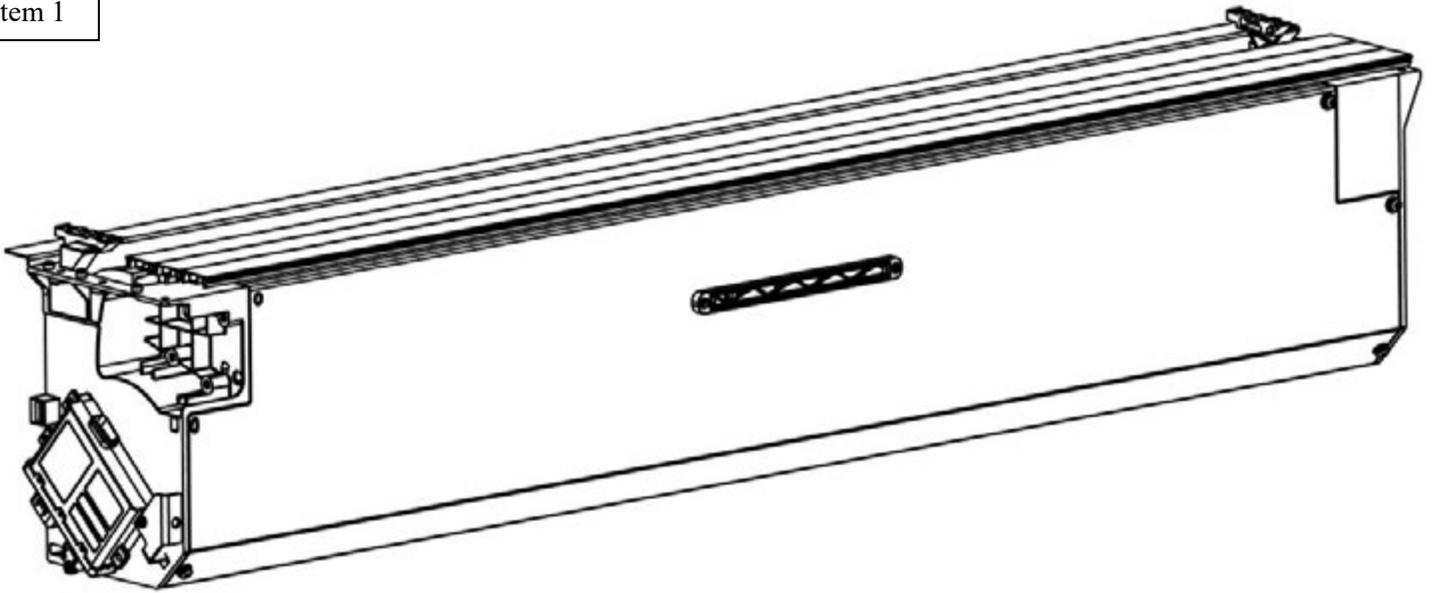
**PART NUMBER: 19-54625**

CONTENT			
ITEM	QUANTITY	DESCRIPTION	TOOLS NEEDED
1	1	TONNEAU COVER CANISTER ASSEMBLY	PHILIPS SCREWDRIVER
2	1	CANISTER COVER PLATE	FLAT SCREWDRIVER
3	1	DRIVER SIDE RAIL	RATCHET
4	1	PASSENGER SIDE RAIL	10MM SOCKET
5	1	ALIGNMENT BAR	10MM WRENCH
6	1	MOTOR	13MM SOCKET
7	1	MOTOR HOUSING	13MM WRENCH
8	1	BLOCK OFF PANEL	SCISSORS
9	1	MOTOR CLUTCH HANDLE	THREAD TAPPER WITH 6- 1.00 TAP
10	4	DOUBLE NUT SUPPORT BRACKET	
11	1	DRIVER FRONT MOUNTING BRACKET	
12	1	PASSENGER FRONT MOUNTING BRACKET	
13	2	REAR MOUNTING BRACKET	
14	1	ECU MAIN HARNESS SET	
15	1	POWER CABLE	
16	2	FRONT DRAIN TUBE	
17	2	FRONT DRAIN TUBE ADAPTER	
18	2	REAR DRAIN TUBE	
19	2	REAR DRAIN TUBE CLAMP	
20	2	TUBE CLAMP	
21	2	RUBBER RING	
22	3	BED RAIL TOP FOAM SPACER	
23	1	FRONT BED GAP FOAM SPACER	
24	8	FASTENING BUCKLE	
25	10	NYLON TIES	
26	1	THREADED KNOB	

ITEM	QUANTITY	DESCRIPTION	TOOLS NEEDED
27	8	M6 T-CHANNEL NUT	
28	8	M6 ALLEN COMBO BOLT	
29	33	M6 TORX COMBO BOLT	
30	4	M5 COUNTERSUNK BOLT	
31	4	PLASTIC CAPS	
32	4	PLASTIC RINGS	
33	1	ADHESION PROMOTER	
34	2	KEY FOB REMOTE	
35	1	KEY FOB HOLDER	
36	1	19MM HOLE SAW	

**ANTI-SEIZE LUBRICANT MUST BE USED ON ALL STAINLESS STEEL FASTENERS TO PREVENT THREAD DAMAGE AND GALLING**

Item 1



Item 2



Item 3

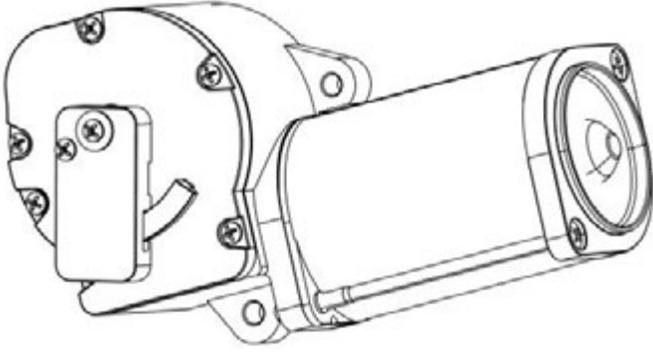


Passenger Side Opposite

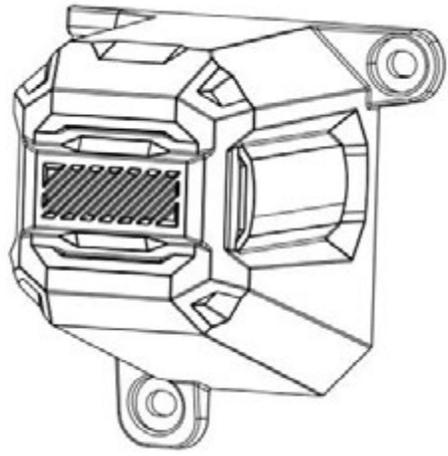
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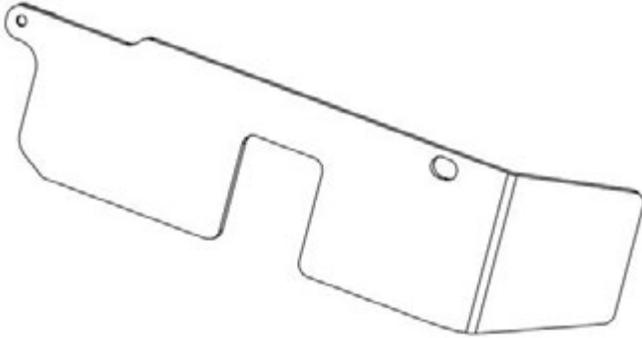
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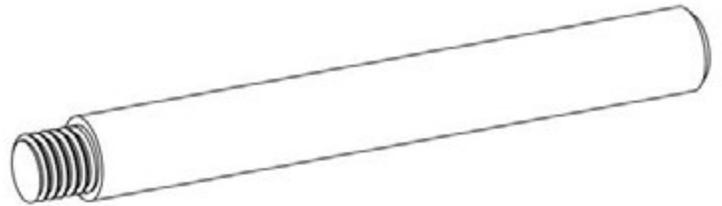
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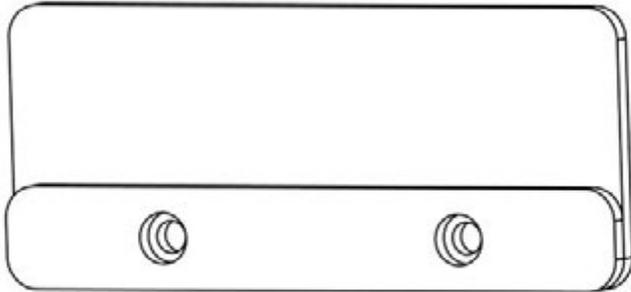
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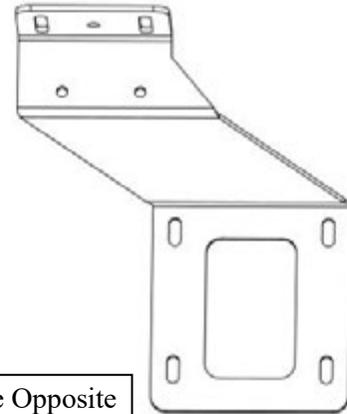
Item 9



Item 10



Item 11

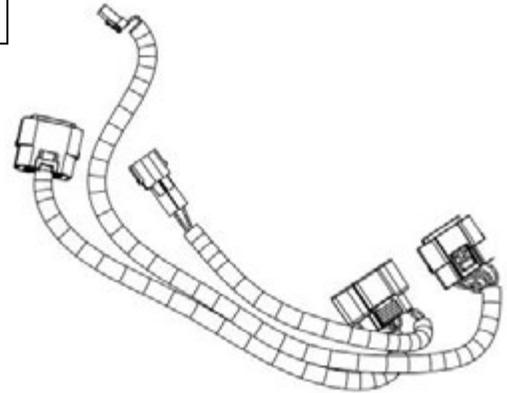


Passenger Side Opposite

Item 13



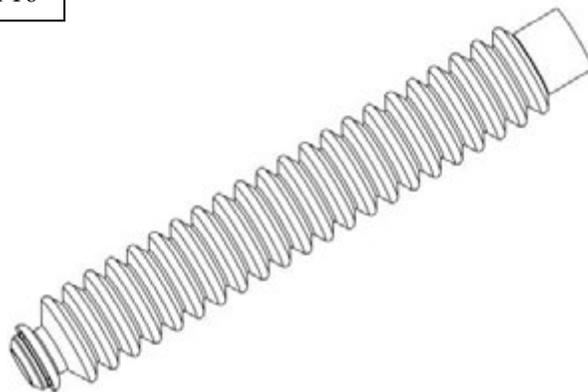
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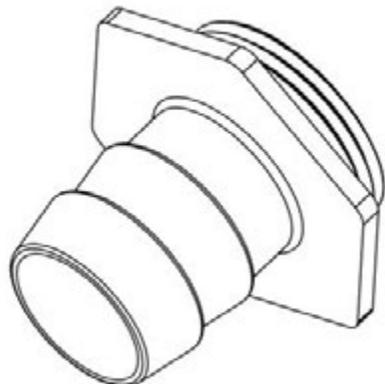
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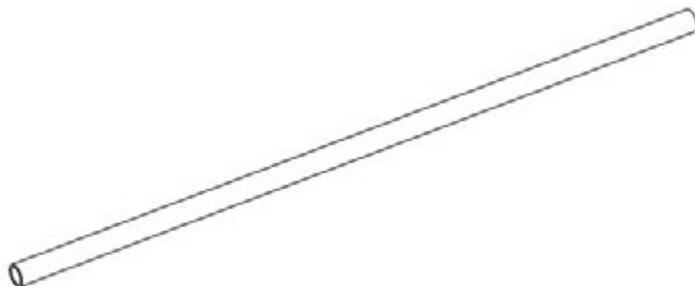
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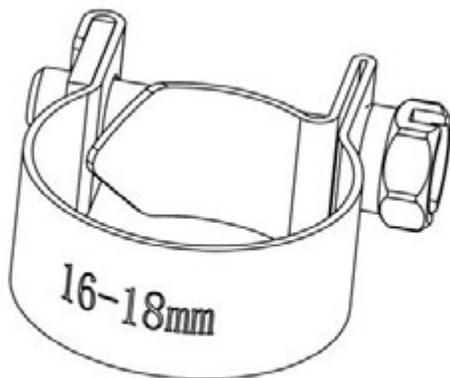
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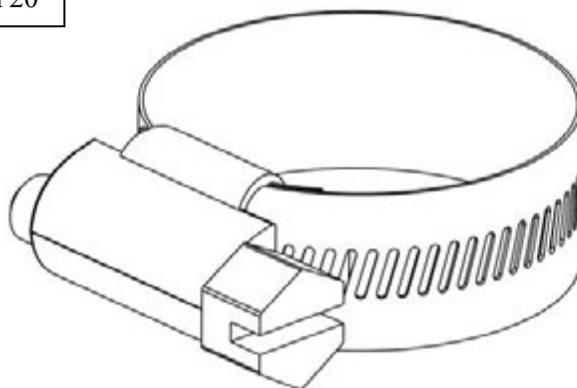
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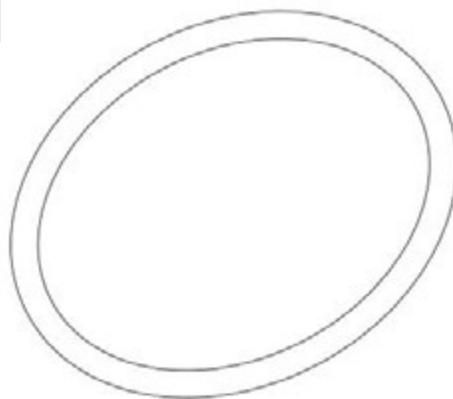
Item 19



Item 20



Item 21



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Item 22



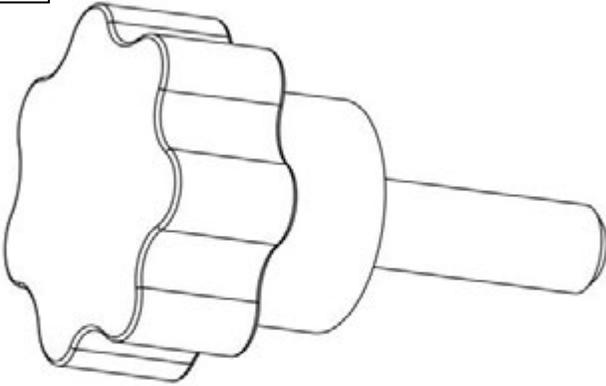
Soft Foam Seal

Item 23

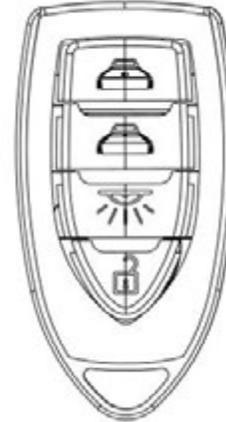


Hard Foam Seal

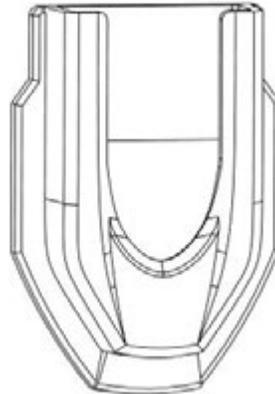
Item 26



Item 34



Item 35



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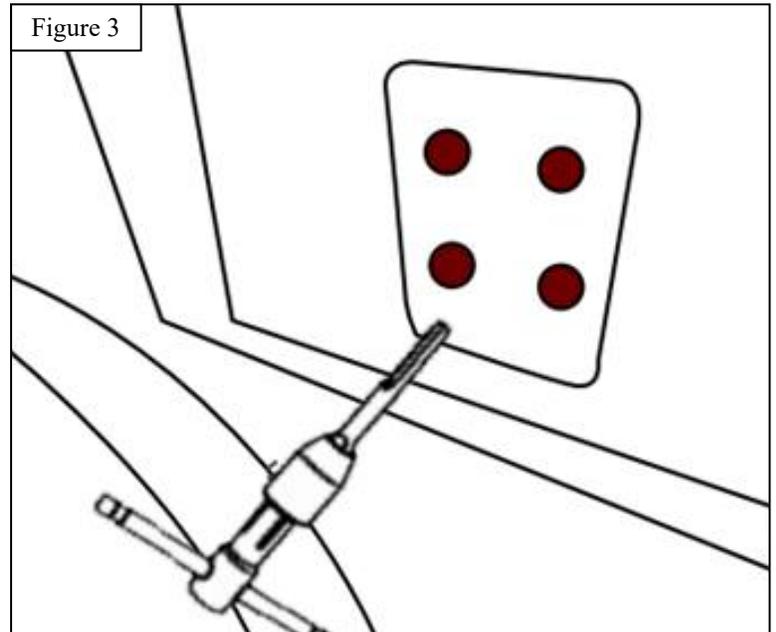
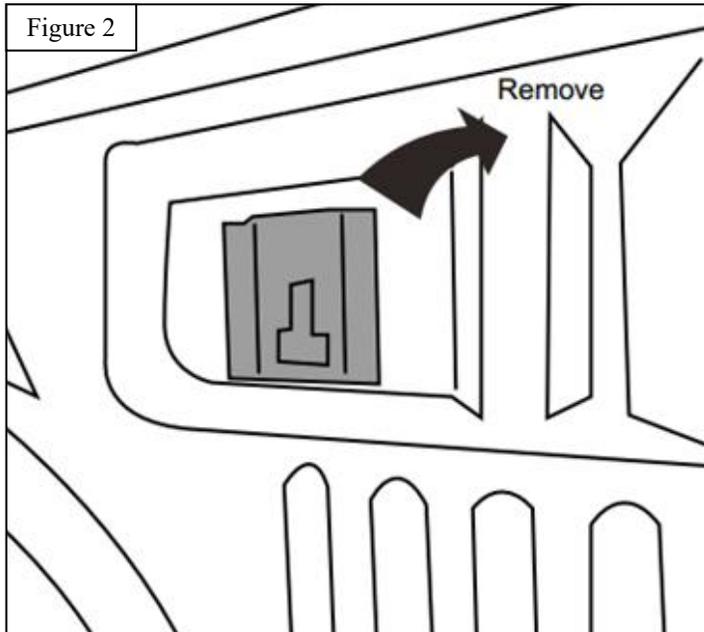
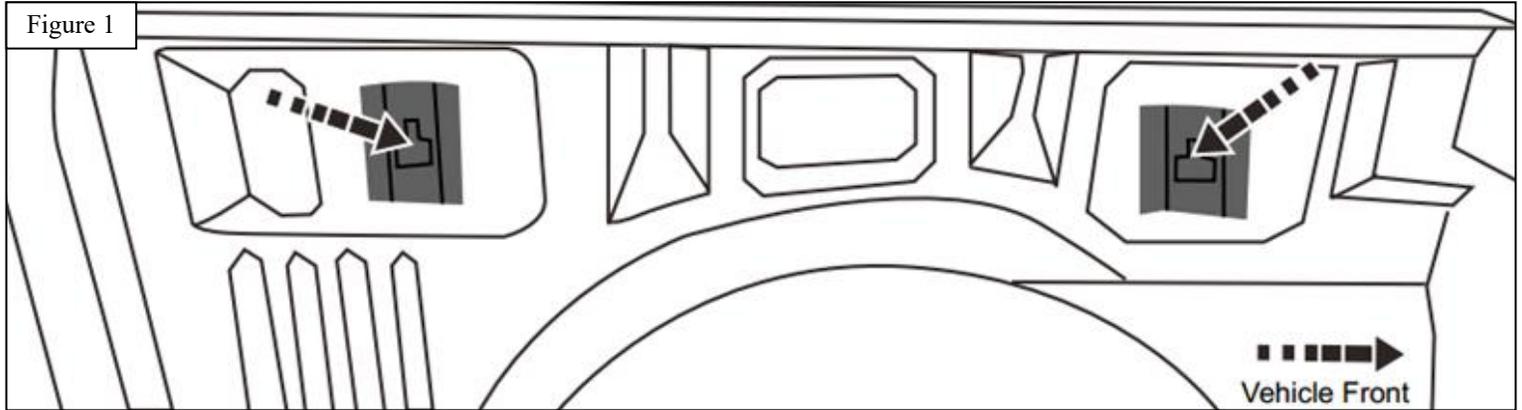
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DATE: 10/14/2025

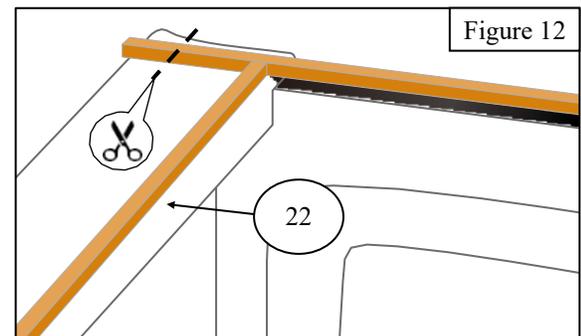
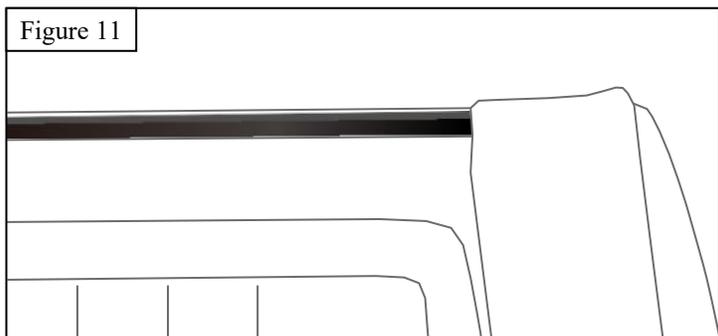
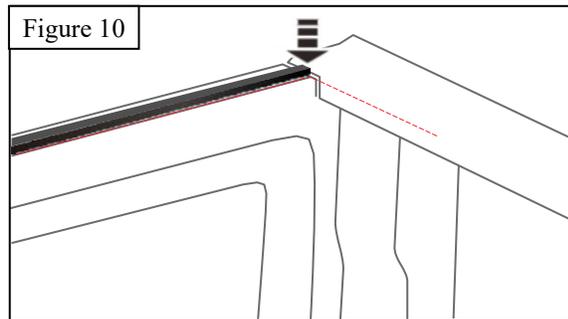
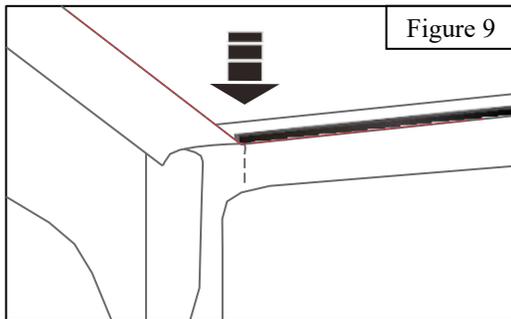
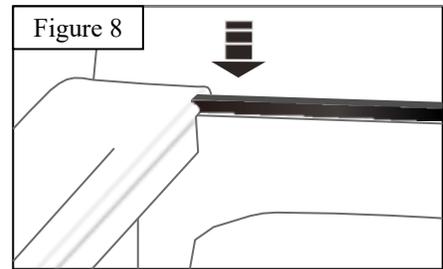
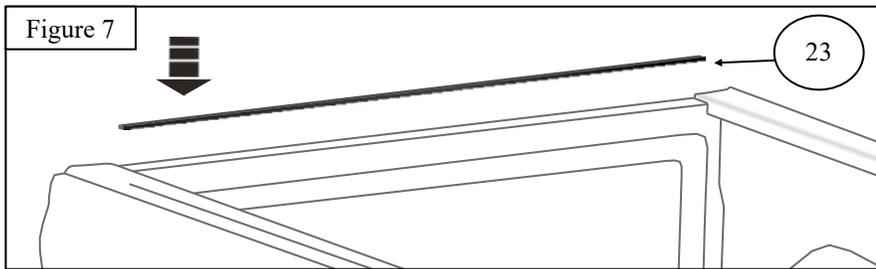
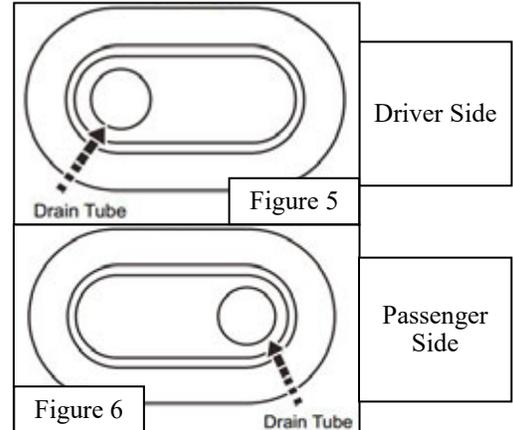
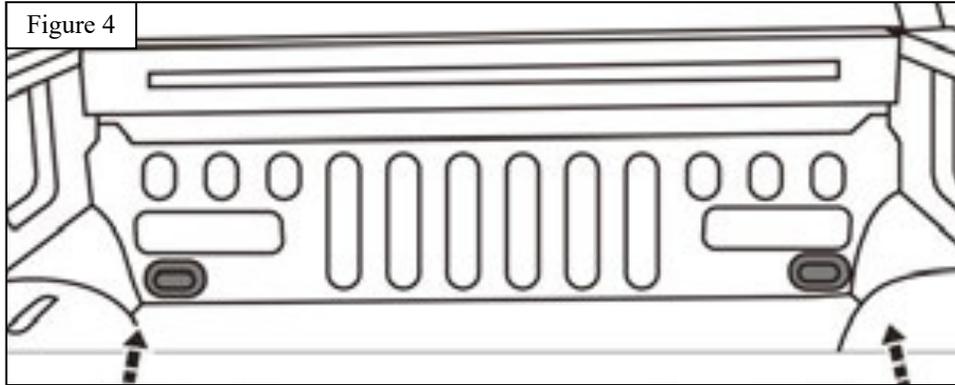
## PROCEDURE

1. Remove contents from box, verify if all parts listed are present and free from damage.  
Carefully read and understand all instructions before attempting installation.  
**Failure to identify damage before installation could lead to a rejection of any claim.**

**NOTE:** Before proceeding onto the next step, prep the truck bed for installation. Identify the two mounting locations on each side of the truck bed. If the truck is equipped with bed-mounted utility brackets, temporarily remove them now using a T30 torx wrench. These can be reinstated with the tonneau cover mount brackets. If the truck is not equipped with bed-mounted utility brackets, it may be necessary to use a thread tapping tool with a 6-1.00 tap to tap threads into the bed-mounted inserts. See **Figures 1-3**.



2. Remove the two plastic plugs at the front of the bed. Use the included 19MM Hole Saw (**Item 36**) to drill one hole for the front drain tube into each of the plastic plugs. Clean the edges of the holes to remove any residue, and reinstall the plastic plugs. See **Figures 4-6**.
3. Clean the top of the plastic bed caps and the top of the front bed bulkhead of dirt/debris. Install the front bulkhead seal (hard foam seal, **Item 23**) across the top of the front bed wall. See **Figures 7-10**.
4. Install the water resistant seals (soft foam seals, **Item 22**) across the top of the front bulkhead (on top of the bulkhead seal) and the plastic bed caps. The seals applied to the plastic bed caps should be positioned as close to the inner edge of the bed as possible, trim off any excess. A small amount of sealant may be used at the corners of the front bulkhead to improve water resistance. See **Figure 11-13**.



5. Install the motor (**Item 6**) onto the Tonneau Cover Canister Assembly (**Item 1**), place the canister upright on level ground and locate the mounting location for the motor on the driver side. Use **Figure 14** as reference.
6. Install the motor clutch handle (**Item 9**) onto the motor assembly. Lift the handle upward to disengage the motor. Rotate the motor arm (A) so that it aligns with the rotating shaft in the canister (B). See **Figures 15 & 16**.

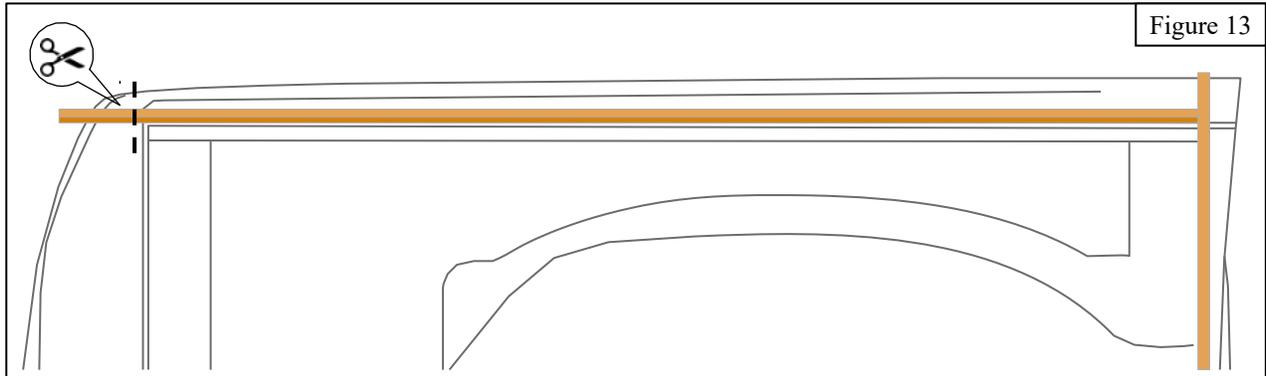


Figure 13

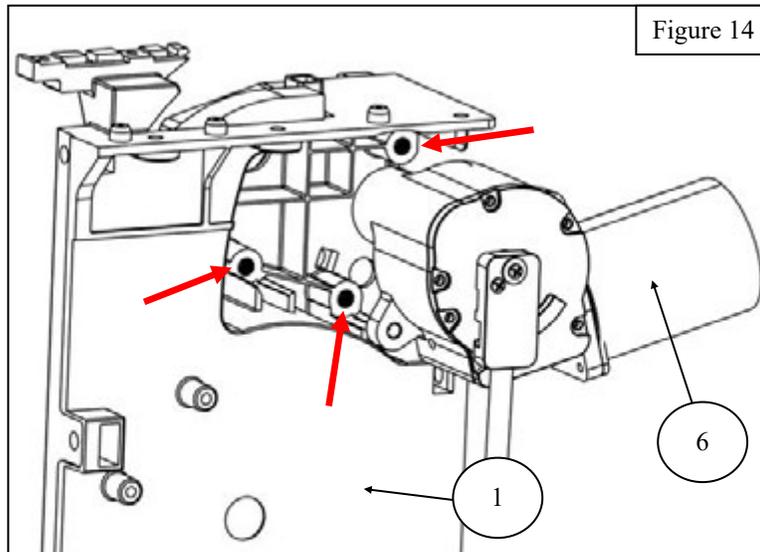


Figure 14

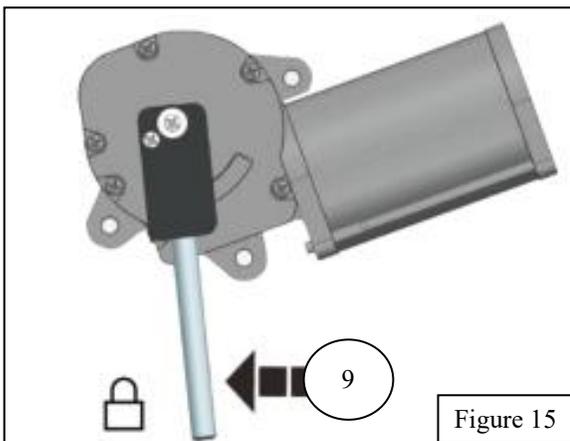


Figure 15

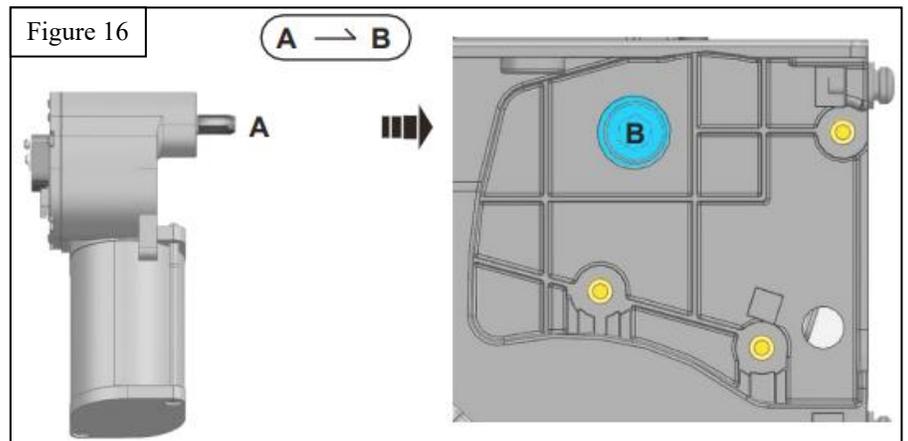


Figure 16

7. Route the motor harness and the canister light harness under the motor and use three M6 Torx Combo Bolts (**Item 29**) to attach the motor to the canister. See **Figure 17**.
8. Briefly remove the two T30 Torx bolts from the canister, and line up the mount holes on the Motor Housing (**Item 7**) with the holes on the canister. Reinstall and tighten the two T30 Torx bolts that were previously removed. Use **Figure 18** as reference.

Figure 17

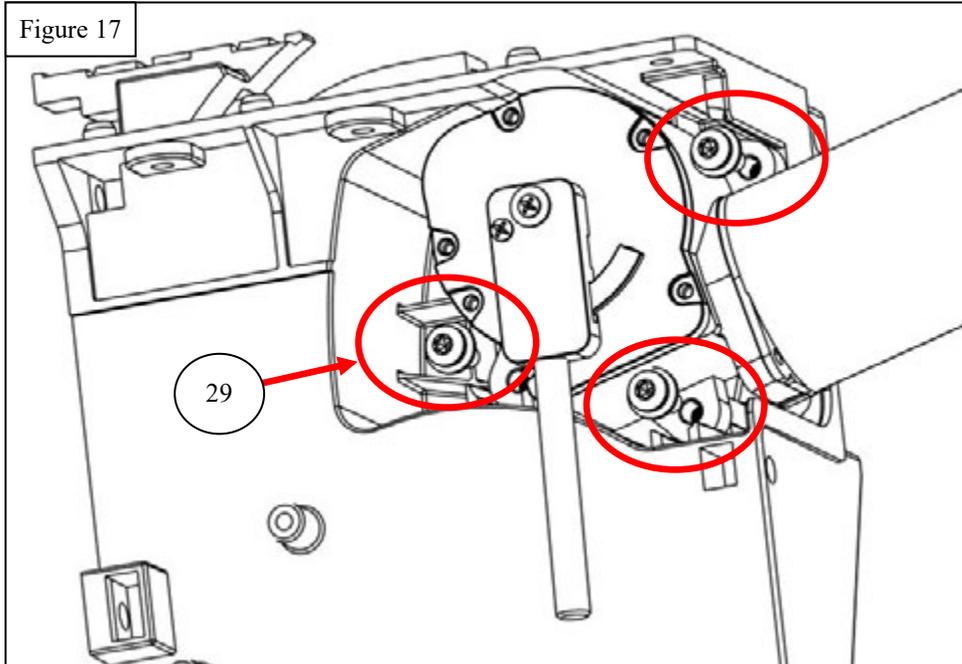
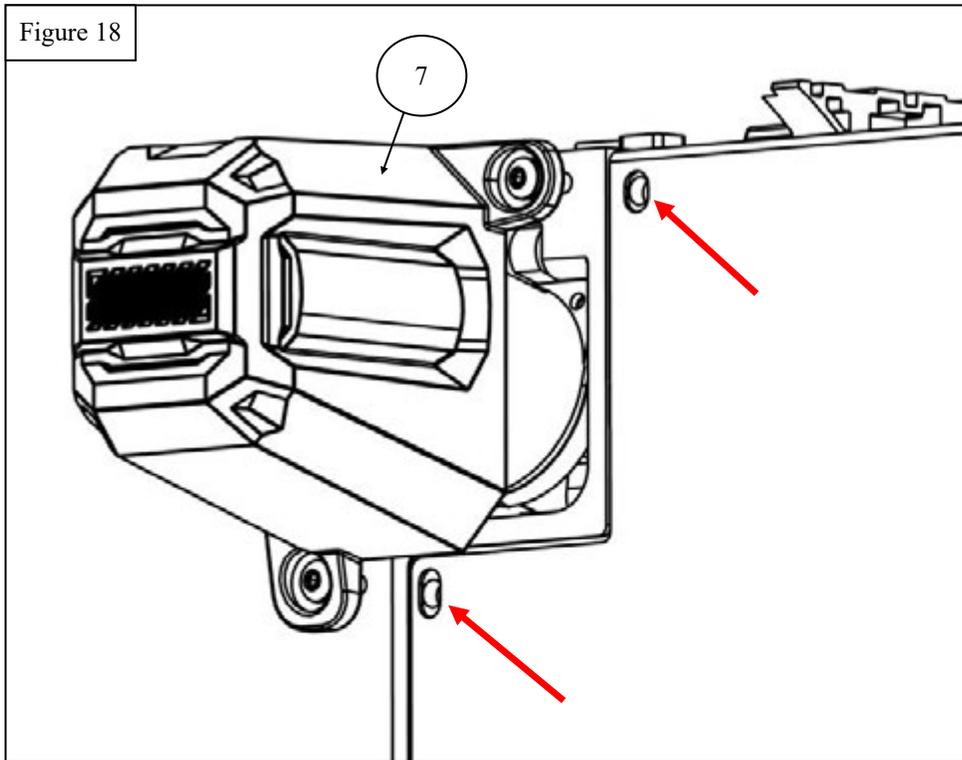
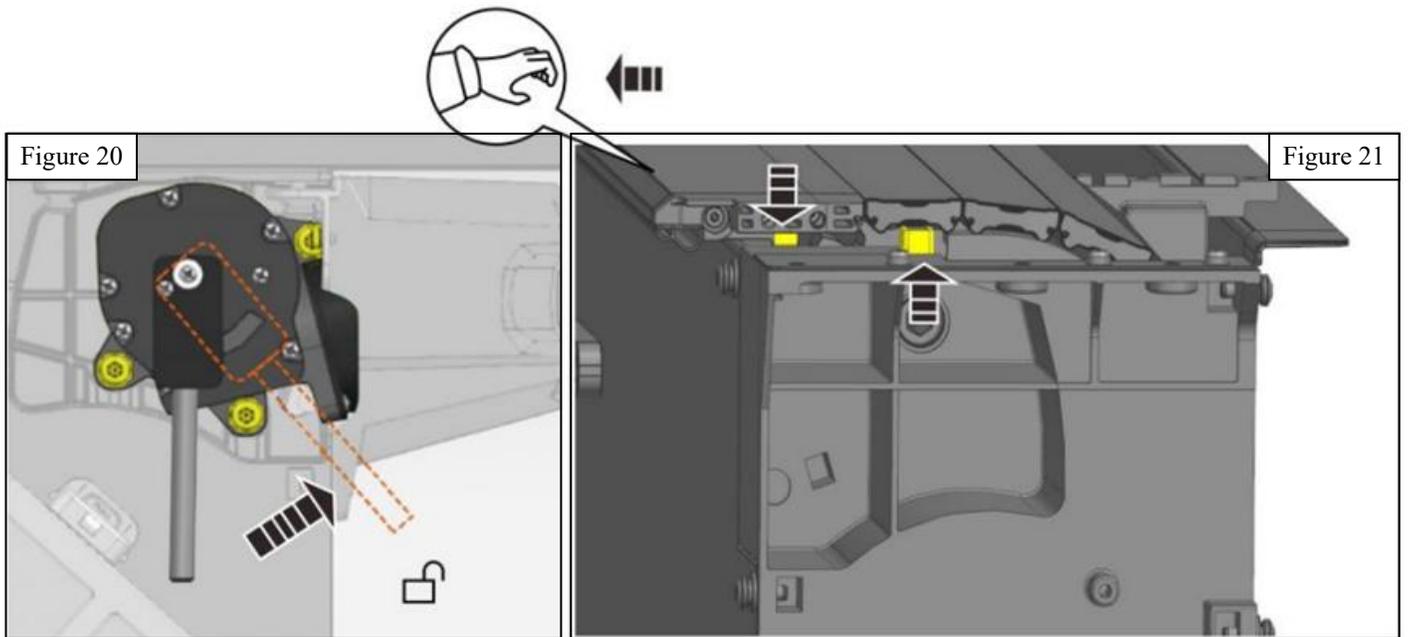
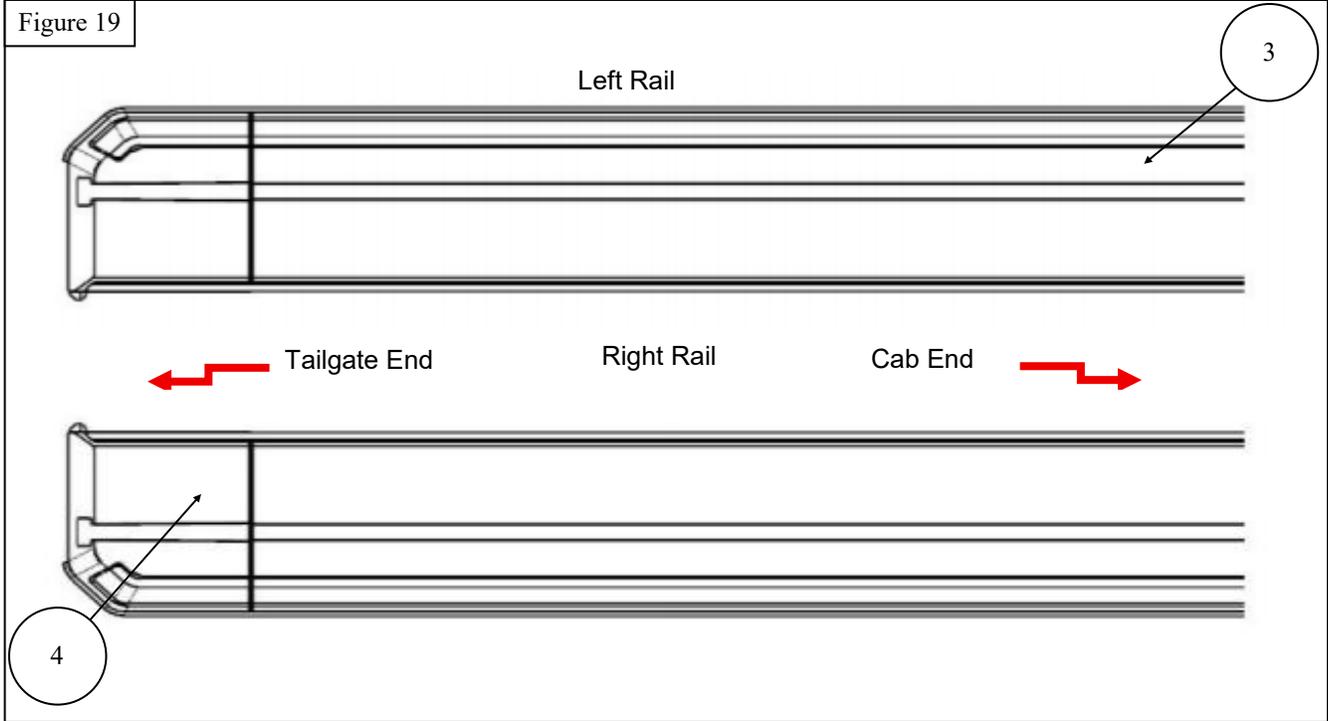


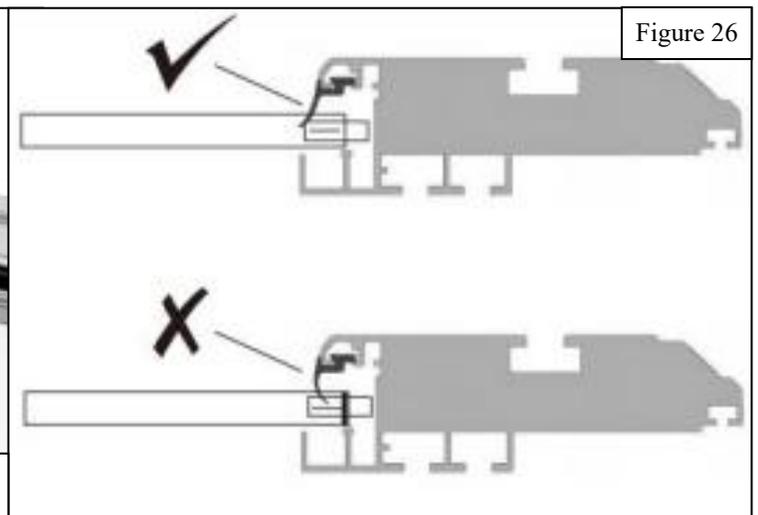
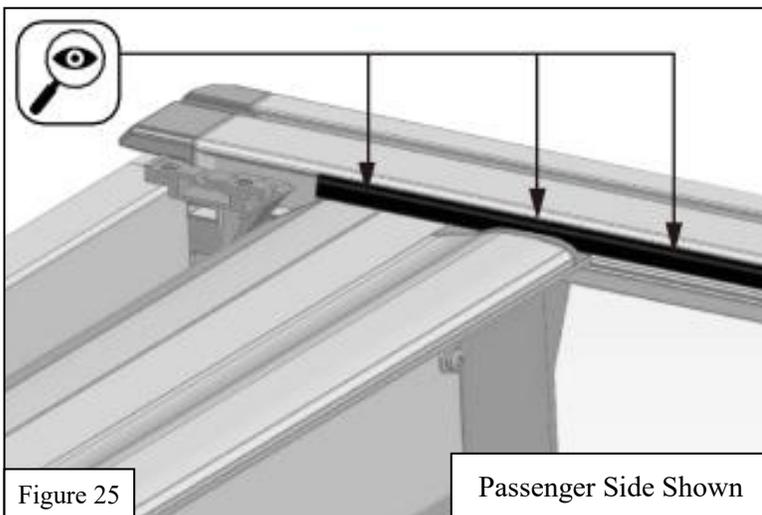
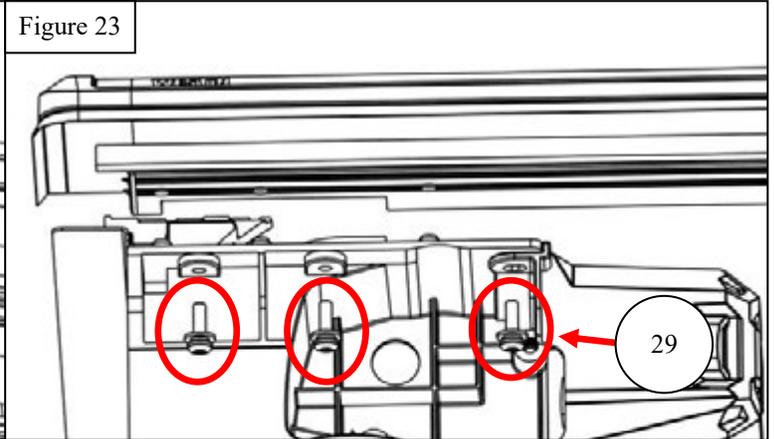
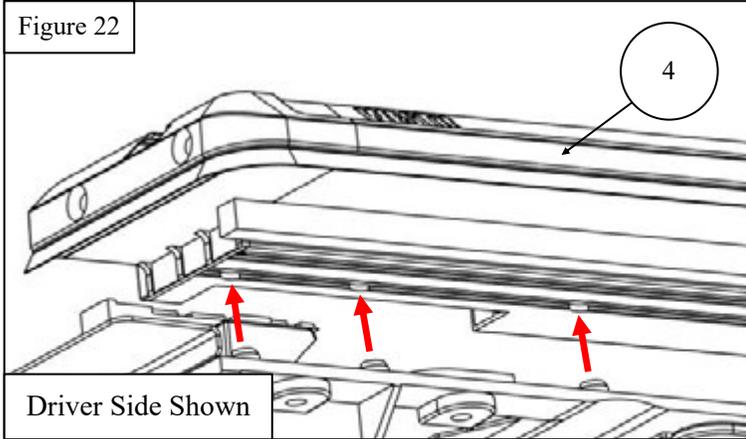
Figure 18



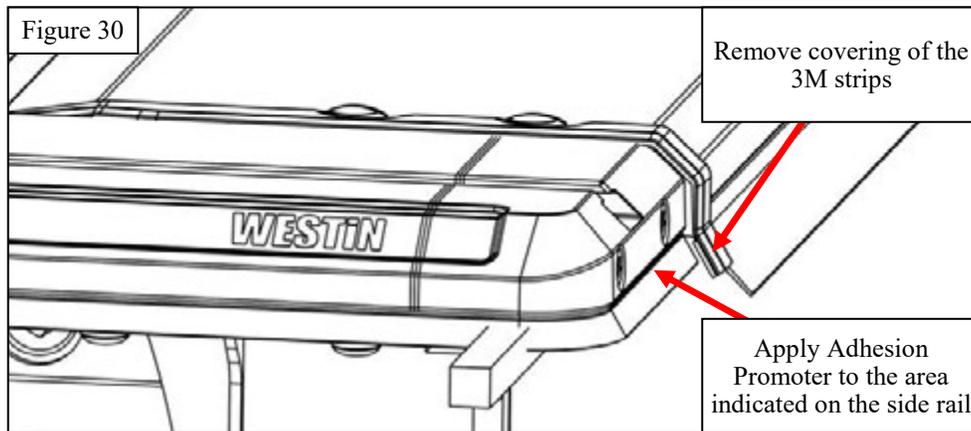
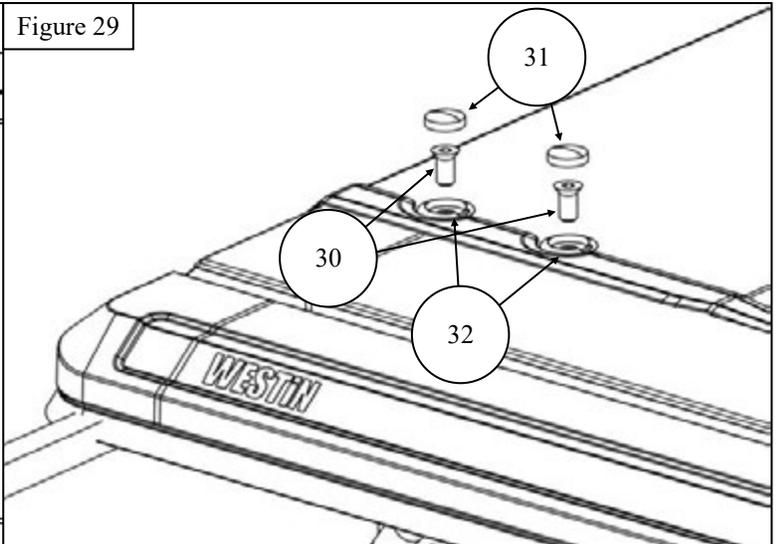
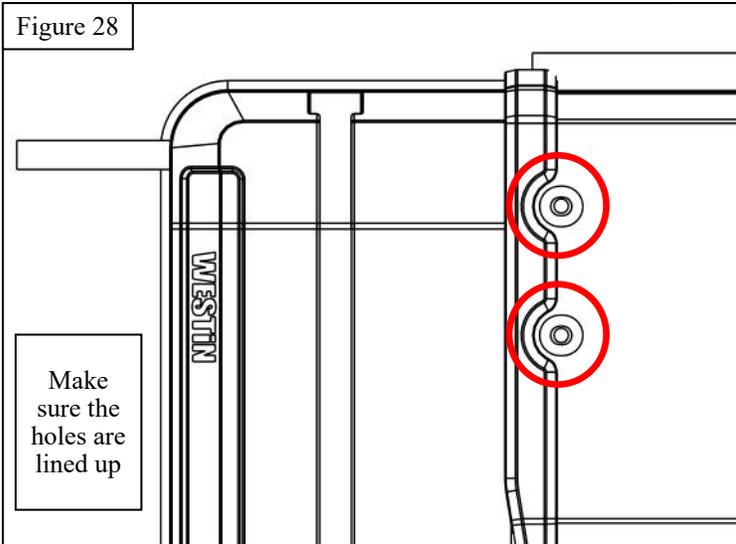
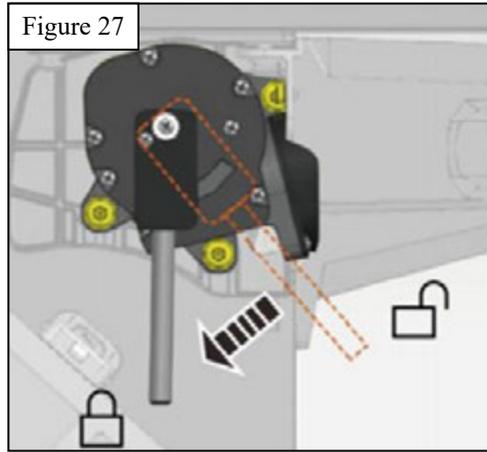
9. Remove the protective plastic wrapping from the side rails and identify the driver and passenger side rails (**Items 3 & 4**). See **Figure 19**.
10. Lift the motor clutch handle to disengage the motor, and carefully pull the tonneau cover out from the canister and ensure that the stopper on the tonneau cover is in front of the limit block on the canister. See **Figure 20 & 21**.



11. Starting on the passenger side, line up the rail with the canister and carefully slide it inward, ensuring that the ends of the tonneau cover slats are properly inserted into the side rail channel. It may be necessary to lift up part of the side rail sweep seal so that it stays on top of the cover slats and does not get tucked in. See **Figure 22**.
12. Check that the side rail is sitting flush on top of the canister, then use three M6 Torx Bolts (**Item 30**) to install the side rail onto the canister. See **Figures 23-26**.
13. Repeat steps 11 and 12 for the driver side rail (**Item 3**).



14. Pull the clutch handle downward to engage the motor. See **Figure 27**.
15. Install the canister cover plate (**Item 2**), place the canister cover plate on top of the canister and make sure the mount holes line up with the mount points on the canister. Place one plastic ring (**Item 32**) into each hole on the canister cover plate, then use 4 M5 Countersunk bolts (**Item 30**) to attach the canister cover plate to the canister. Use **Figures 28 and 29** as reference.
16. Remove the covering over the adhesive strips on the ends of the weather seal and press onto the bottom of the side rails. See **Figure 30**.



17. Connect the wire harness onto the tonneau cover by connecting the two large connectors on the ECU main harness (**Item 14**) to the bottom of the ECU. See **Figure 31**.
18. Identify the smaller leads on the ECU main harness and connect each one to the corresponding lead on the tonneau cover/ side rails. See **Figure 32**.
19. Use the fastening buckles (**Item 24**) to organize the wire harness, at this time the power harness (**Item 15**) needs to remain unplugged.

Figure 31

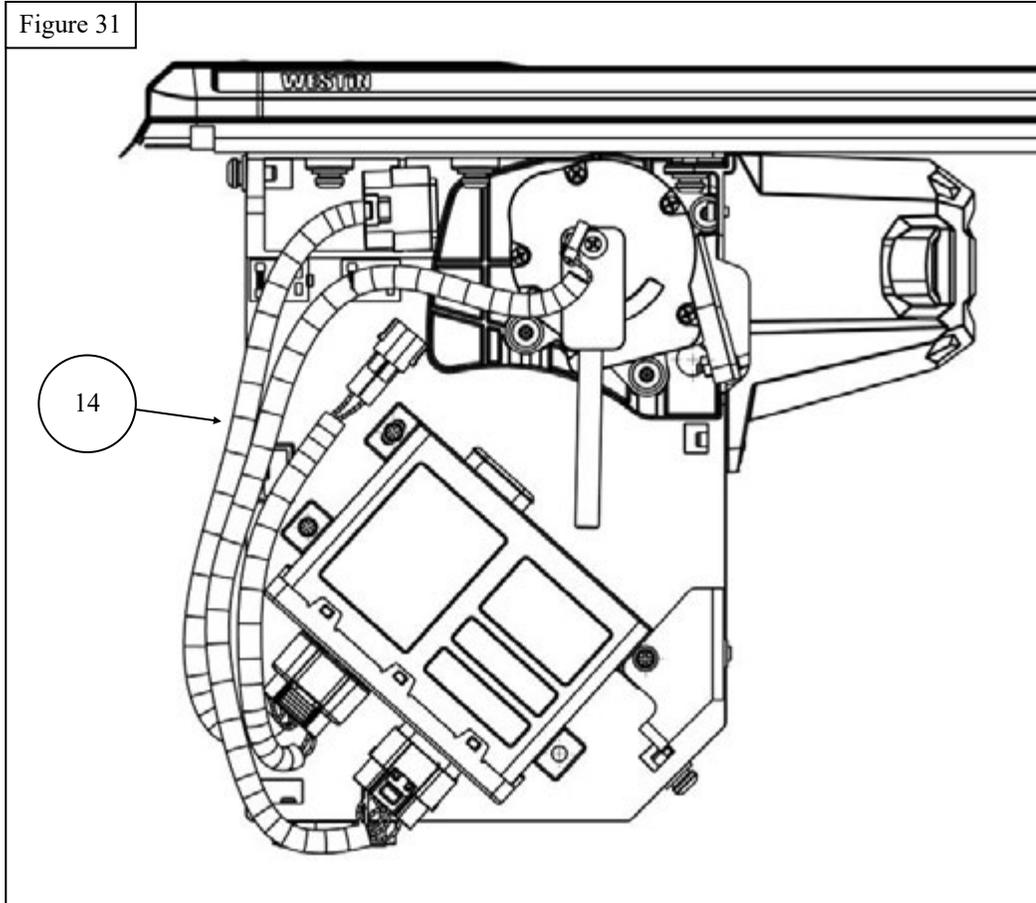
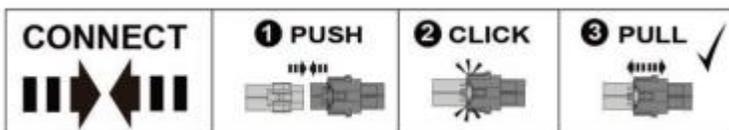
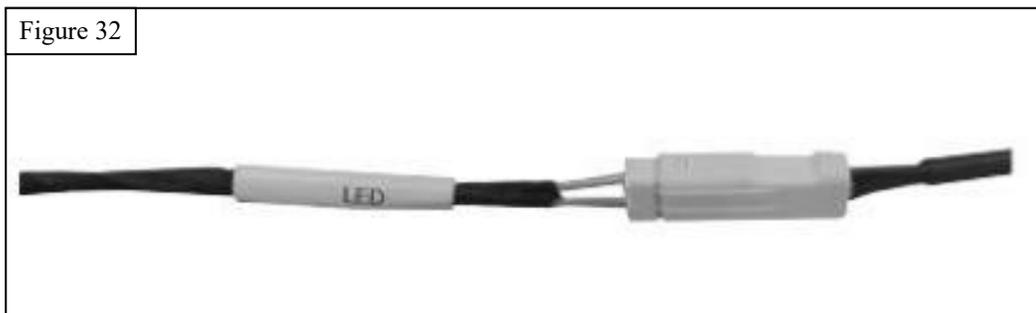
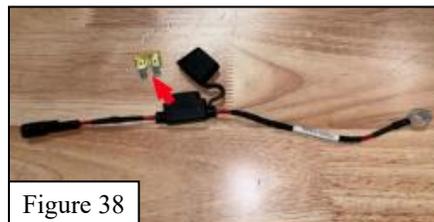
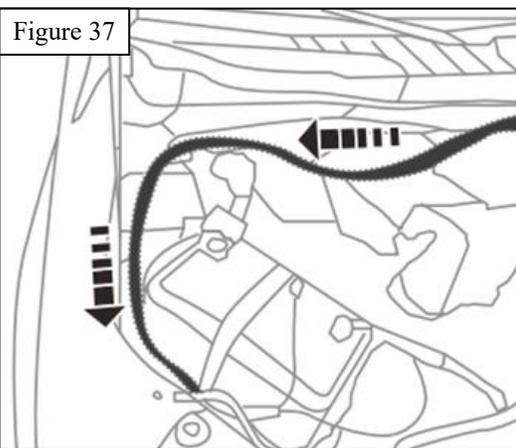
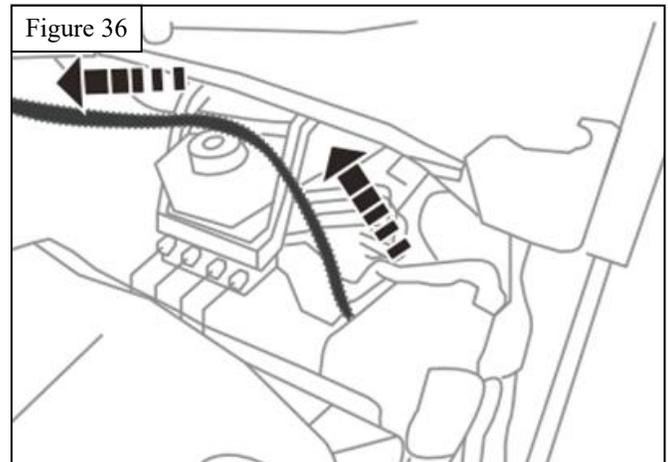
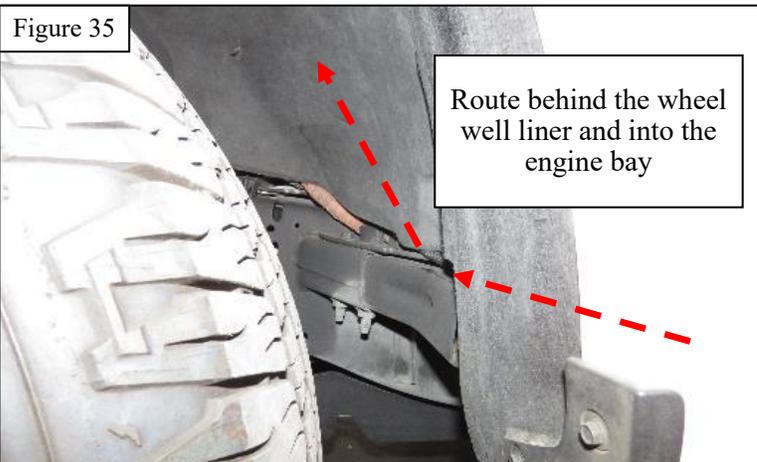
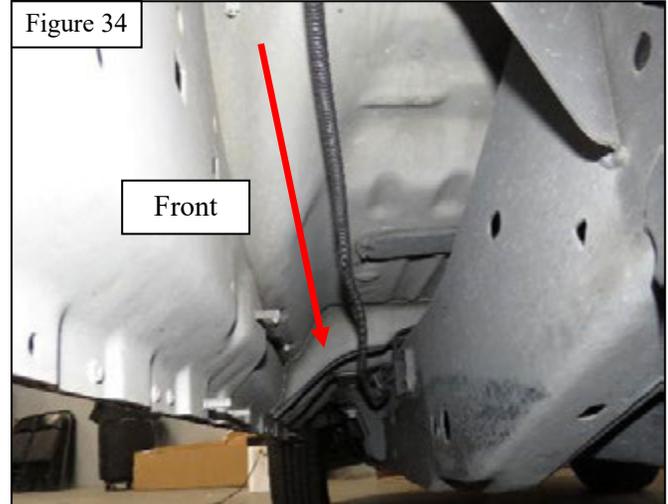
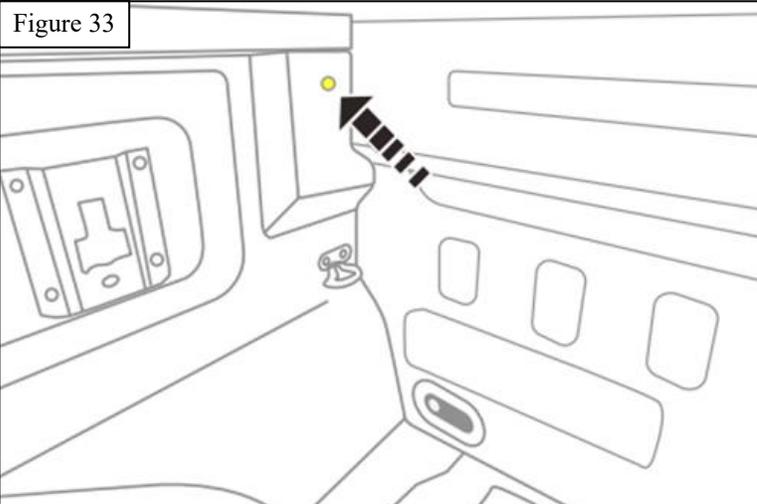


Figure 32



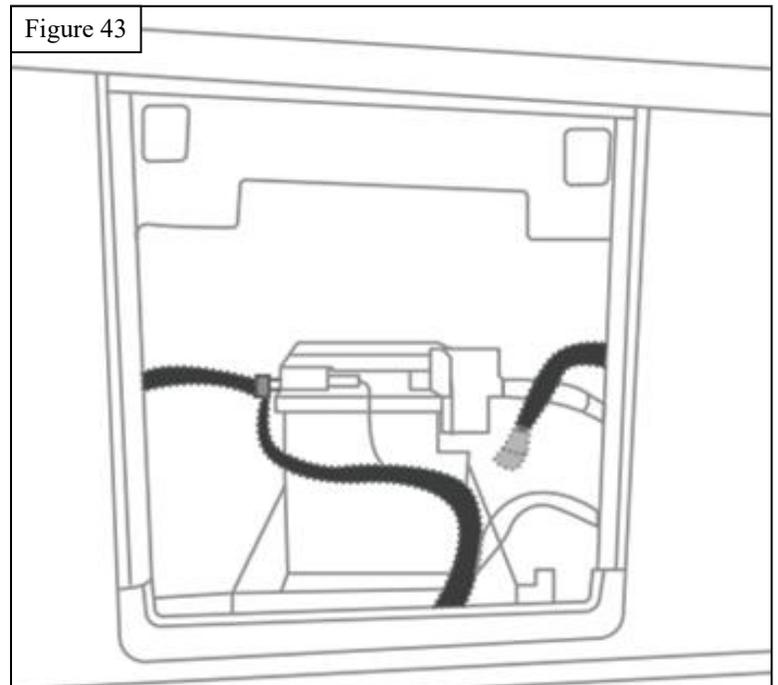
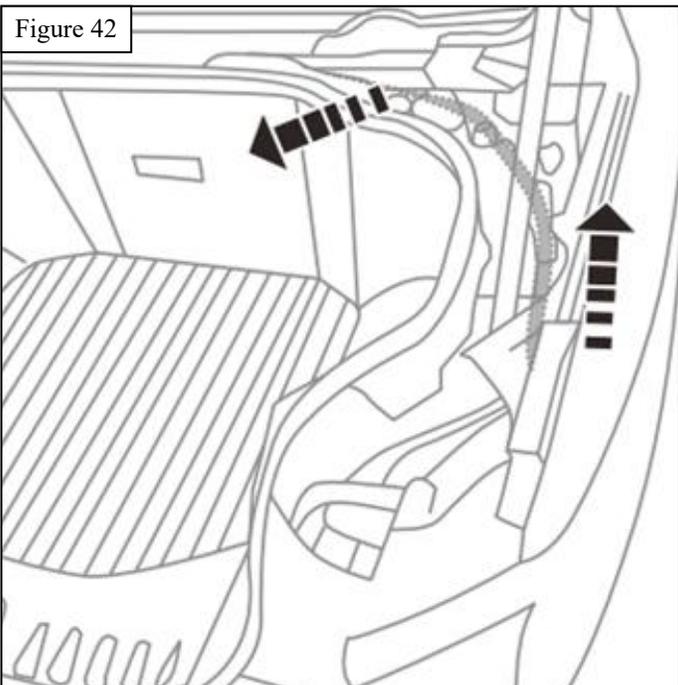
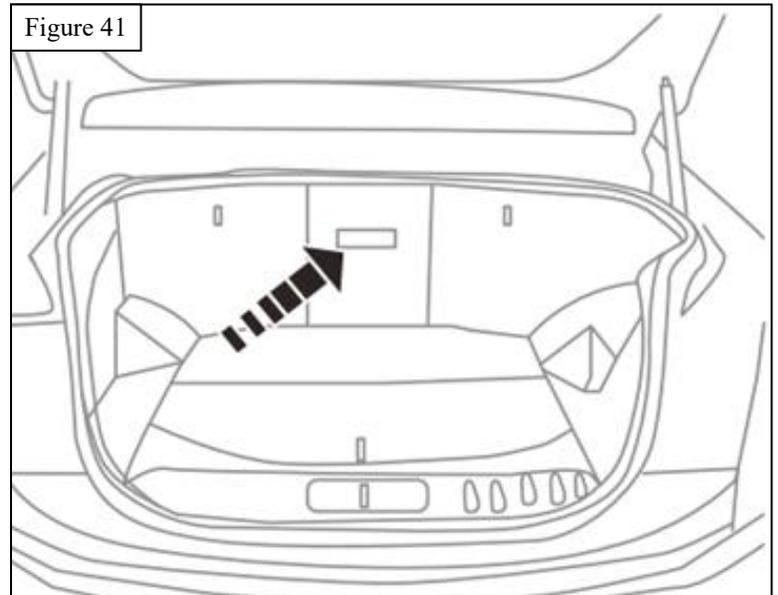
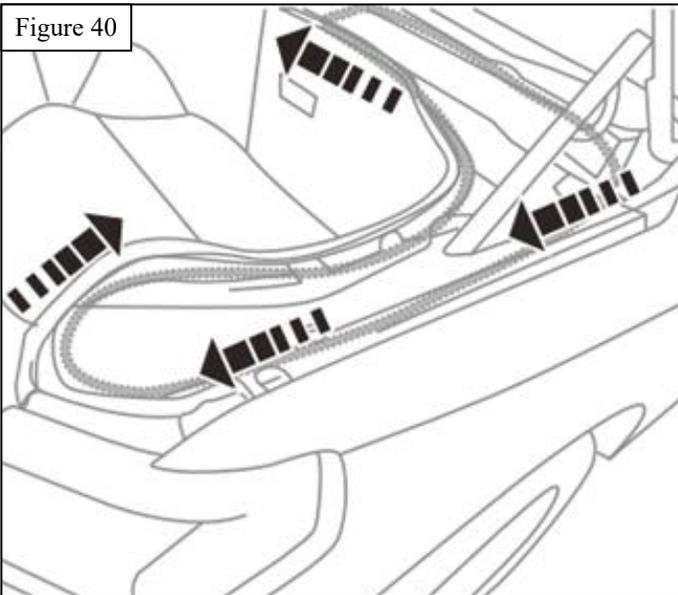
**PULL THE CONNECTORS  
NOT THE CABLE**

20. The power harness (**Item 15**) will be routed out through the hole near the top driver side of the bed. From there the harness will travel down the length of the vehicle frame, up into the engine bay, and to the vehicle battery on the passenger side. Using Wire Ties (**Item 25**), secure the wire harness so it does not come into contact with moving parts or exhaust pipes. Keep the wire harness as high as possible along the frame to prevent damage while driving. Use Wire Ties (**Item 25**) to secure the wire harness along the frame. Leave about 1.5 ft. of the power harness loose in the bed. Remove the fuse from the fuse holder on the positive power harness connector and connect it to the main power harness. Do not connect power harness to the vehicle battery at this time. See **Figures 33-39**.



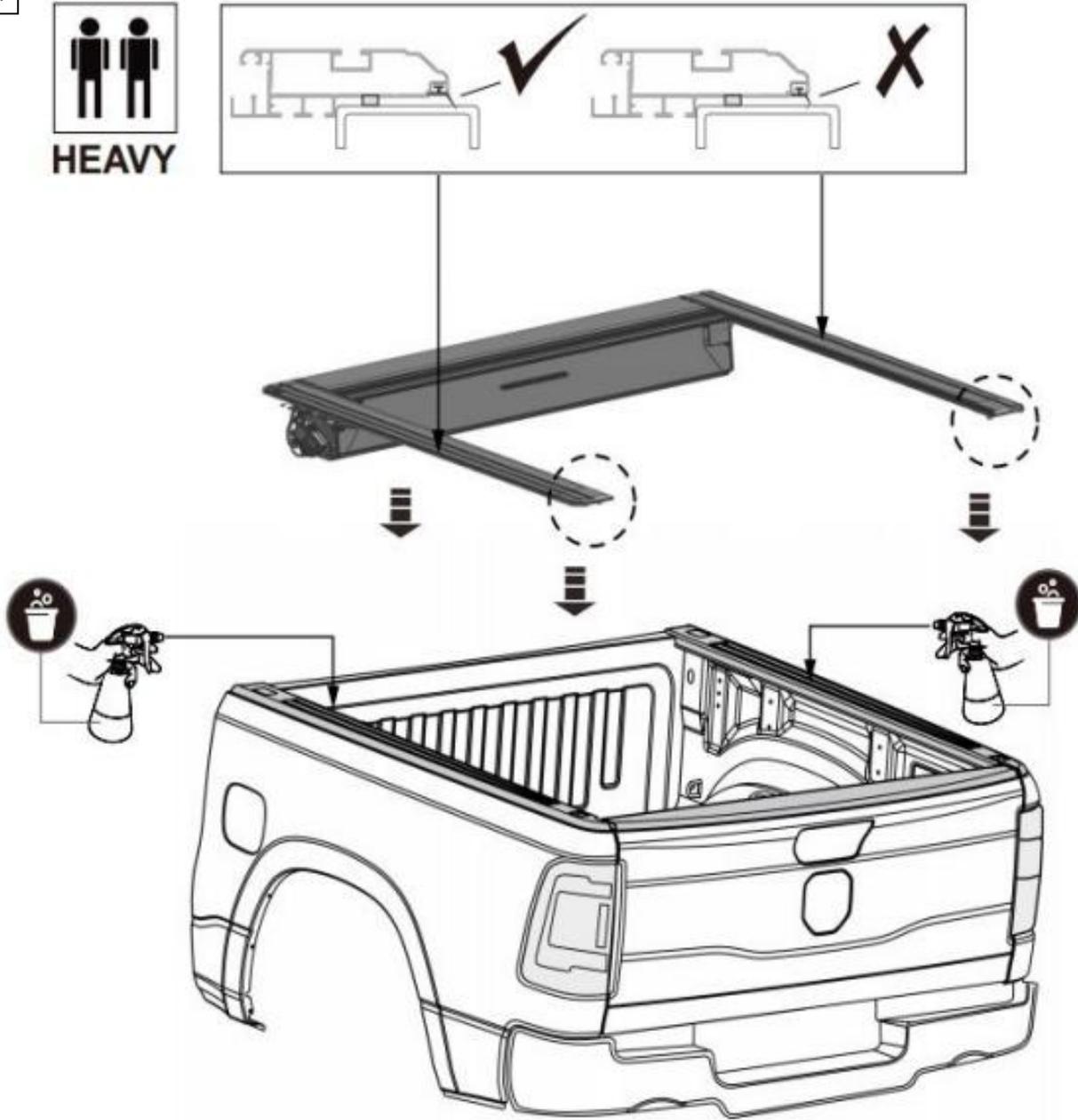
## WIRING INSTRUCTIONS FOR 2022+ FORD LIGHTNING ONLY

21. Remove the driver side plastic panel by twisting the plastic clips along the perimeter. Remove the square panel inside the front trunk to reveal the battery. Route the power harness (**Item 15**) up through the driver side wheel well and behind the front trunk tub until it reaches the battery. Remove the fuse from the fuse holder, do not connect the power harness to the battery at this time. See **Figures 40-43**.



22. With assistance, carefully lift the tonneau cover assembly, and place it on top of the truck bed. Do not slide the tonneau cover along the bed as this will damage the foam seals. Leave the front of the tonneau cover about 1ft from the front of the bed and connect the power harness to the connector on the ECU main harness. Carefully lift the tonneau cover and position it as far forward as possible without touching the front of the bed. Leave a small gap between the canister and the front of the bed. See **Figure 44**.

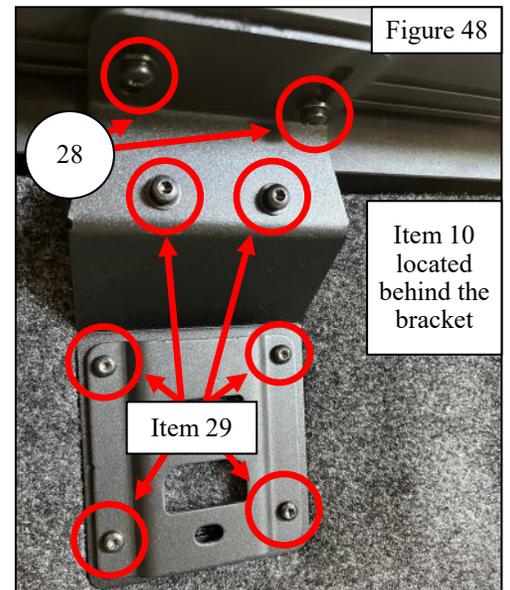
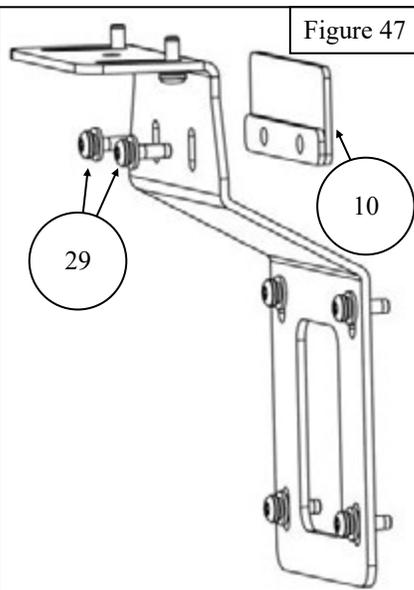
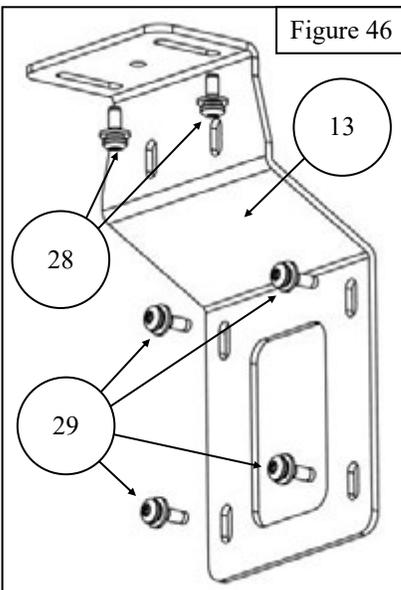
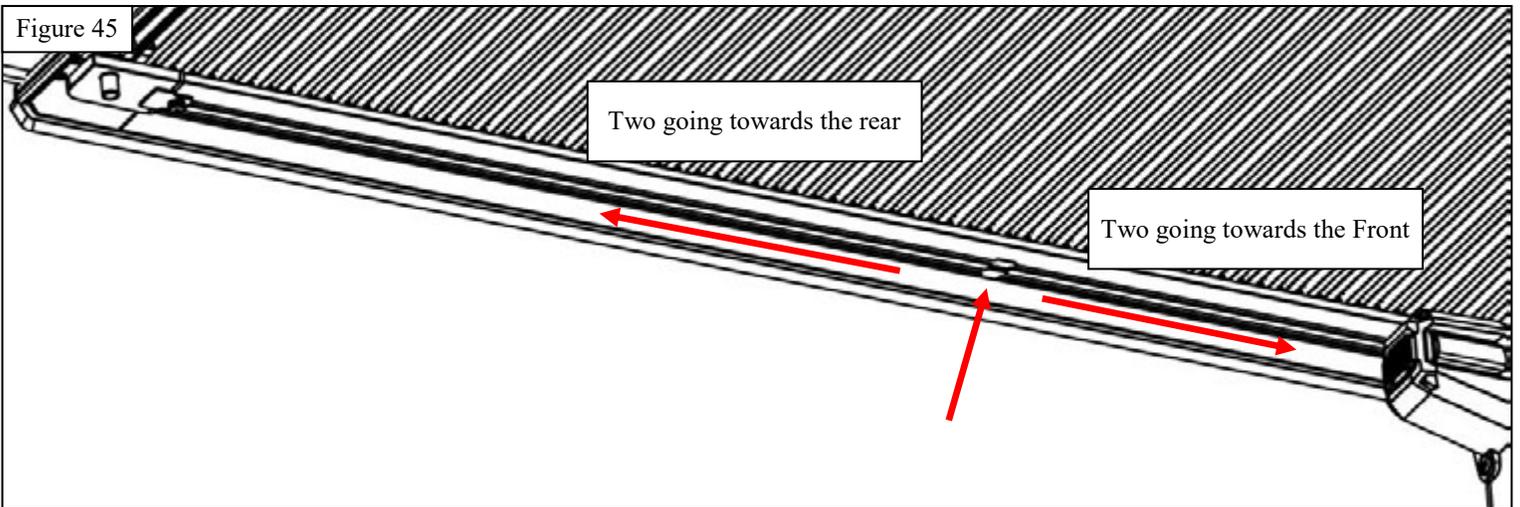
Figure 44



Similar Vehicle Shown

23. Starting on the driver's side, insert four M6 T-Channel Nut Blocks (**Item 27**) into the channel on the bottom of the driver side rail and position them above the mounting points for the mounting brackets. See **Figure 45**.
24. Install the Driver Front Mounting Bracket and a Rear Mounting Bracket (**Items 11 & 13**) to the corresponding bed mounting points. Use four M6 Torx Combo Bolts (**Item 29**) to attach the mounting brackets to the bed side and two M6 Allen Combo Bolts (**Item 28**) to attach the mounting brackets to the side rails. This same hardware will be used for both the front and rear mounting brackets. See **Figures 46 and 48**.
25. Attach the Double Nut Support Brackets (**Item 10**) to the mounting brackets previously installed using two M6 Torx Bolts (**Item 29**). See **Figures 47 & 48**.
26. The Factory Utility brackets removed in prep stage at the beginning of the procedure can be reinstalled on top of the tonneau cover mounting brackets at this time. See **Figure 48**.
27. Repeat steps 23-26 for the passenger side rail and brackets (**Items 11, 12, and 14**).

**NOTE:** Leave all mounting bracket hardware loose



28. Align the side rails by using the Alignment Bar (**Item 5**). Insert the bar into the channel on the inner side of both side rails. Slide the alignment bar along the channels and check that the distance between the side rails is the same front-to-rear. Shift the ends of the side rails until the optimum position is achieved, then carefully push down on the end of the side rails and tighten the hardware for the rear mounting brackets. Use the alignment bar to double check the gap between the side rails and measure the distance between the outside of each side rail and the outer edge of the bed to ensure they are positioned centrally. This process may need to be repeated a few times until all measurements are optimal. After this has been completed, proceed to tighten the hardware for the front and center brackets, carefully pushing down on the side rails above each mounting bracket before tightening the hardware. As a final check to make sure the tonneau cover will operate smoothly, it can be manually moved through its full range of motion. Pull the motor clutch lever up to disengage the motor, then carefully pull on the tonneau cover. If it moves easily with no binding/ rough spots, proceed with the rest of the installation. If it is difficult to operate or has rough spots, the side rails will need further adjustment until the tonneau cover operates smoothly. See **Figures 49 & 50**.

Figure 49

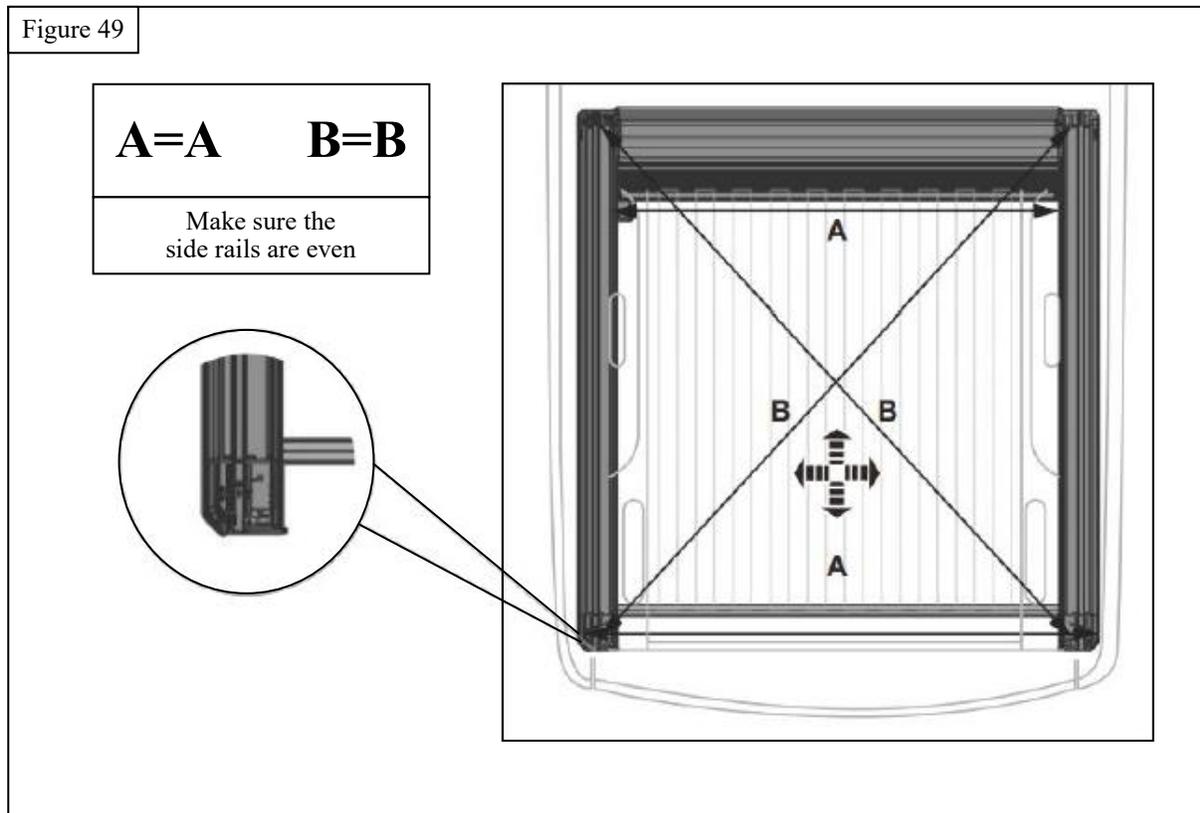
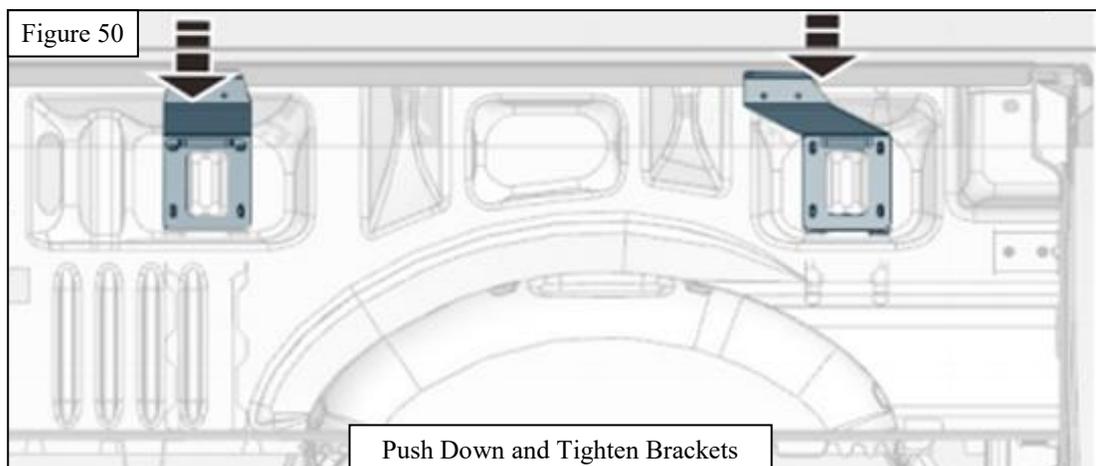
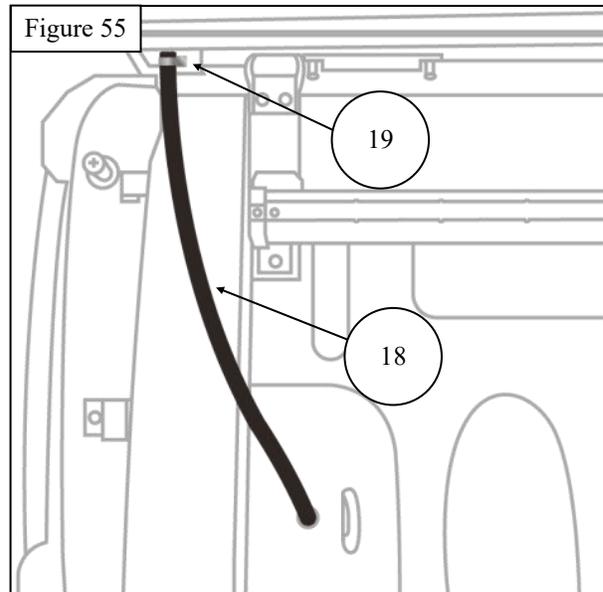
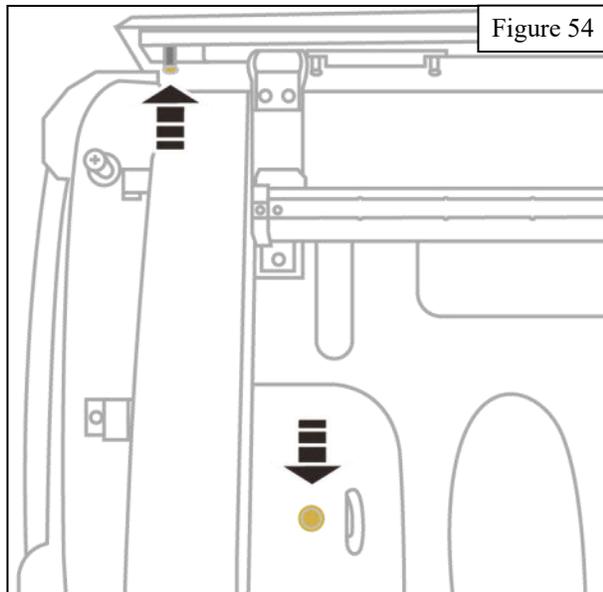
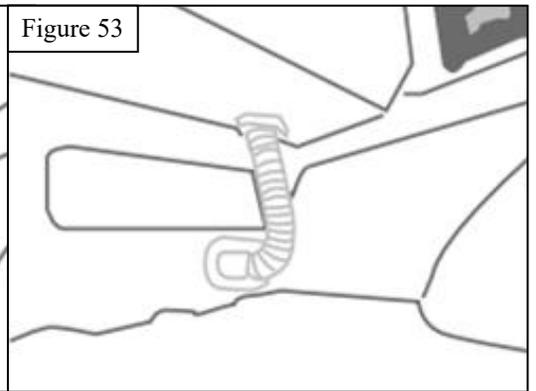
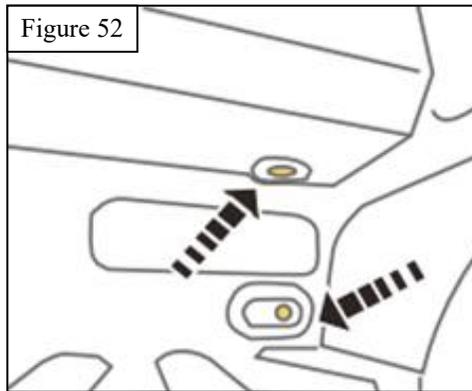
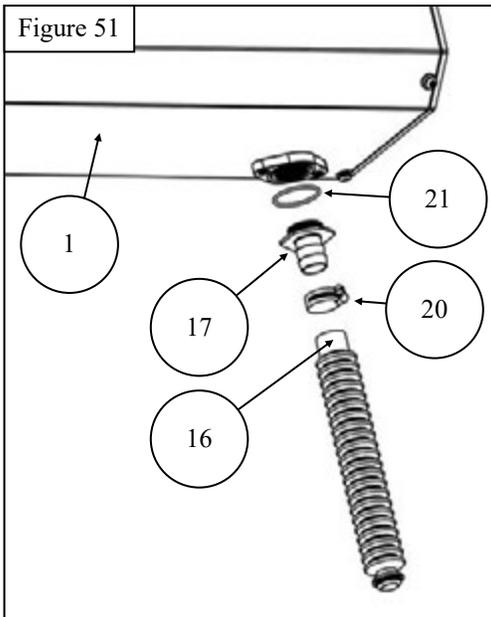


Figure 50

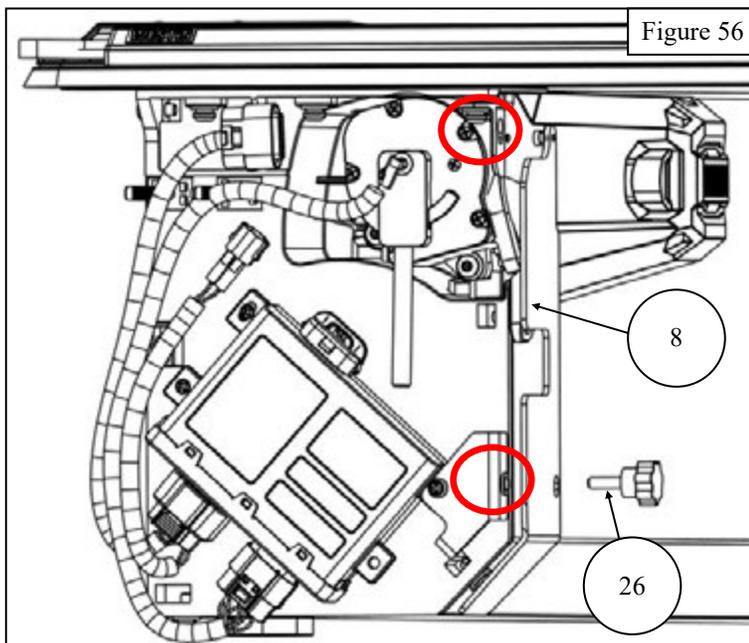


29. Install the Front Drain Tube Adapters (**Item 17**) onto the Front Drain Tubes (**Item 16**) and tighten using the supplied tube clamps (**Item 20**). Screw the drain tube adapter into the threaded mounting hole on the bottom of the canister. See **Figures 51 & 52**.
30. Route the end of the front drain tube through the hole in the side of the bed, located next to the front bed tie down hoop. See **Figures 52 & 53**.
31. Slip the end of the Rear Drain Tube (**Item 18**) with the pre-installed tube clamp (**Item 19**) onto the drain outlet at the end of the side rail. See **Figures 54 & 55**.
32. Route the bottom of the rear drain tube through the hole at the base of the bed, next to the rear bed tie down hoop. Tighten the tube clamp until the drain tube is snug on the drain outlet. See **Figure 55**.

**NOTE:** Do not overtighten the front drain tube adapters as this may damage the plastic fittings, and do not overtighten the tube clamps as this may cause damage to the drain outlet.

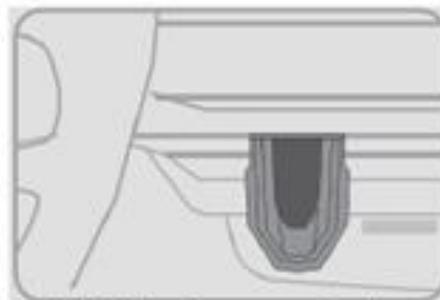
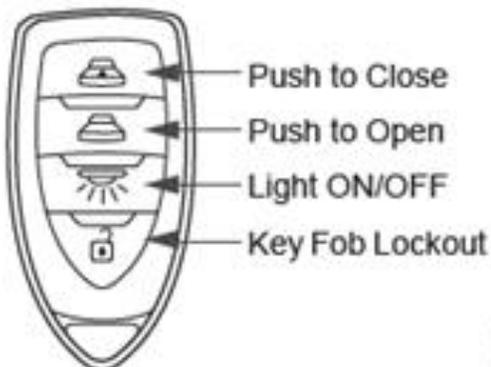


33. Double check that all mounting bracket hardware is tight.
34. Ensure that the tonneau cover is engaged. If it is still in manual operation mode, push the motor clutch lever down, then pull on the end of the tonneau cover until the motor clicks, signifying that it is fully engaged.
35. Install the Block Off Panel (**Item 8**) on the driver side of the canister. Insert the nub on the top of the block off panel into the slot on the motor cover and pull down to hold it in place. Thread the knob (**Item 26**) into the bottom hole to lock the block off panel in place. See **Figure 56**.
36. Under the hood, locate the positive and negative terminals on the vehicle battery. Carefully install the positive and negative ends of the tonneau cover power harness onto the corresponding terminals on the vehicle battery. Once the tonneau cover power harness is securely attached to the vehicle battery, place the fuse back into the fuse holder and push the cap down until it is locked in place. Secure the wires in the engine bay so they will not get damaged by moving/hot components. See **Figure 57**.



# OPERATION OF THE TONNEAU COVER

## Remote Key Fob



Key Fob Holder for convenient access



### **Prior to the first use of the tonneau cover, the self-calibration process must be performed:**

- Press the Key Fob Lockout button to unlock the key fob, then press and hold the Light On/Off button for 3 seconds to activate the self-calibration function.
  - When it starts, the LED light will flash 3 times to confirm it has entered the self-calibration process. **Once the self-calibration has started, do not press any other buttons or interrupt the tonneau cover until the process has completed.**
  - The tonneau cover will open all the way to learn the fully open position
  - After 2 seconds, the tonneau cover will automatically close all the way to learn the fully closed position
  - When the self-calibration is complete, the LED light will flash 3 times to confirm that the self-calibration process has been successfully completed

### **The self-calibration function should be used under the following conditions:**

- The first time the tonneau cover is installed and connected to power
- Any time after the tonneau cover has been put into manual operation mode
- Any time it appears the tonneau cover is not fully opening or closing

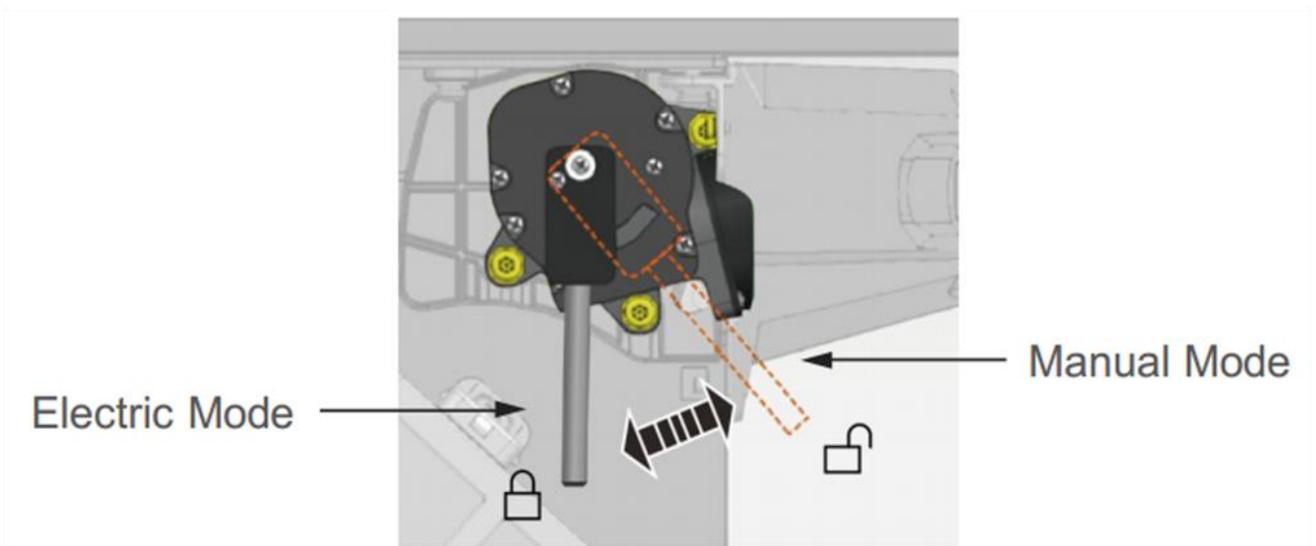


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**Functions:**

- Tonneau Cover Key Fob Lockout- when the key fob is locked, the buttons on the key fob will not operate the tonneau cover until it is unlocked.
  - Press key fob lock button- key fob use will be locked/unlocked
  - The key fob will automatically enter lockout mode if it is out of range of the antenna for more than 5 minutes
  - The first time the tonneau cover is connected to power or if it is disconnected from power, the key fob will enter its default “locked” status
  - The ECU will emit a sound to signify the status of the key fob each time the lock/unlock button is pressed
    - 1 beep- key fob is unlocked
    - 2 beeps- key fob is locked
- To open the tonneau cover- with the key fob in range, press the open button on the key fob (must be unlocked)
- To close the tonneau cover- with the key fob in range, press the close button on the key fob
- LED Light:
  - Auto Mode- when the tonneau cover opens, the light will automatically turn on and will stay on for 5 minutes. The light will automatically turn off once the tonneau cover is fully closed
  - Manual Mode- press the light button on the key fob to turn the light on/off. If the key fob is in its “lockout” mode, it will only turn the LED light off if it is already on
- Intermittent stopping- pressing the open/close button at any time the tonneau cover is operating will immediately stop it at its current position. Tonneau cover movement will resume by pressing either button (open or close) and will move in the direction corresponding to the button pressed (open or close) independent of the initial direction of travel prior to stopping
- Anti-pinch Protection- if the tonneau cover detects an obstruction while it is operating, it will stop and back off about 4 inches. It will resume operating by pressing either the open or close button
- Switching to manual/electric modes- the tonneau cover can be switched between manual and electric operating modes by rotating the motor clutch handle up or down, as seen below:



- System Status Indication (for repairing and troubleshooting ONLY): This function is used for troubleshooting when there's something wrong with the system and will indicate the status of the system through the flashing of the LED Light. There are two different signals of the LED Light, long flash and short flash, the error can be determined through the coding shown below:
  - Self-Calibration: start with long flash 2 times, and short flash 3 times; end with long flash 2 times, and short flash 3 times
  - Motor Position Sensor Error: long flash 3 times, and short flash 1 time
  - High Voltage: long flash 4 times, and short flash 2 times
  - Low Voltage: long flash 4 times, and short flash 3 times

## FINAL NOTES

- Open and close the tonneau cover to ensure that it is operating without rubbing or binding
- Open and close the tailgate to check for proper movement
- On some models, a better fit with the tailgate may be obtained if the rear of the side rails are adjusted slightly up or down
- Recheck that all mounting hardware is tight.
- Check that the side rails are spaced evenly on the bed, and adjust accordingly

## MAINTENANCE AND CARE

- Periodically clean the canister of dirt or debris that may have been collected inside
- Periodically check front and rear drain tubes and clean as needed
- A non-graphite dry lubricant may be sprayed onto the circular track inside the canister to maintain smooth operation of the tonneau cover
- Remove any snow or large debris from on top of the tonneau cover before opening
- Clean with mild soap and water only, do not use strong chemicals or cleaners. Do not wax the tonneau cover
- Periodically check that the tonneau cover is securely attached to the truck bed and that the mount brackets have not come loose. Frequent usage of the tonneau cover or vibrations from driving on rough road may cause the tonneau cover to require adjustment
- Inspect the remote key fob and replace the battery as needed. The LED light on the key fob will change from green to red to indicate low voltage from the battery and that it should be replaced soon



# WARNING AND SAFETY INFORMATION

- Do not use the truck bed as a passenger compartment. In case of entrapment: Disengage the motor by removing the cover panel and lift the clutch release handle upward (front driver side of bed). Pull on the tonneau cover to retract.
- Do not store or transport volatile materials such as solvents, chemicals, or liquids as fumes may accumulate inside the bed. Do not allow solvents, chemicals, or oils to come into contact with the tonneau cover. If this happens clean the tonneau cover immediately with a mild detergent and water solution.
- Do not stand/sit or rest heavy objects on the tonneau cover.
- Do not fill or store volatile liquid containers such as fuel cans while under the tonneau cover.
- Do not drive the vehicle with the motor clutch disengaged– A free-moving tonneau cover may move causing injury or damage to property while driving
- The tonneau cover is designed to be water and dust resistant in the majority of situations, in certain extreme environments a certain level of ingress is to be expected. Items that are of high value and are susceptible to water damage should be packaged accordingly. Condensation on the underside of the tonneau cover should be expected under certain conditions (cool days/nights).
- Do not subject the tonneau cover to excessive open/close forces. Excessive force may damage internal components, replacement of which may not be covered in your warranty
- While the tonneau cover has a built-in safety feature to prevent damage and injury, you must keep obstructions clear of cover during opening/closing
- To ensure your tonneau cover continues to operate in a trouble-free manner we recommend recalibrating the cover every 6 months. This interval may be reduced if you notice any irregularities when opening or closing the cover



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**INSTALLATION COMPLETE**



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## WARNING



Failure to follow these instructions could lead to death, personal injury, and / or property damage.

### **FASTENERS:**

All Westin supplied fasteners must be utilized and installed in accordance with the installation instructions and apply torque to the specifications as defined. **DOUBLE CHECK ALL FASTENERS BEFORE INITIAL USE, AND PERIODICALLY IN THE FUTURE TO ENSURE PROPER FUNCTION AND SAFETY.**

### **DRILLING:**

Most Westin products do not require drilling for installation. If drilling is defined as required, use caution when drilling a vehicle. **FAILURE TO REVIEW AN AREA TO BE DRILLED MAY RESULT IN PERSONAL INJURY AND/OR INJURY TO OTHERS AS WELL AS VEHICLE DAMAGE.**

### **EYE PROTECTION:**

**ALWAYS WEAR SAFETY GLASSES OR GOGGLES DURING THE INSTALLATION PROCESS TO AVOID PERSONAL INJURY.**

### **MAXIMUM TOWING/CARRYING CAPACITY: (if applicable)**

The Westin Receiver Hitches will have a visible tow rating label affixed directly on the product. User should never exceed the vehicle manufacturers maximum tow and weight rating regardless of the capacity of the hitch. **FAILURE TO FOLLOW THESE GUIDELINES WILL VOID THE WESTIN WARRANTY AND MAY RESULT IN PERSONAL INJURY AND/OR INJURY TO OTHERS AS WELL AS VEHICLE DAMAGE.**

### **FOR CALIFORNIA RESIDENTS ONLY-PROP 65 WARNING:**

Some products may contain chemicals such as DEHP, which can cause cancer, birth defects or other reproductive harm. For more info go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)



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