

INSTALLATION INSTRUCTIONS

ELECTRIC TONNEAU COVER



APPLICATION: 2022-2026 TOYOTA TUNDRA (W/ OR W/O DECK RAIL SYSTEM) 5'5" BED

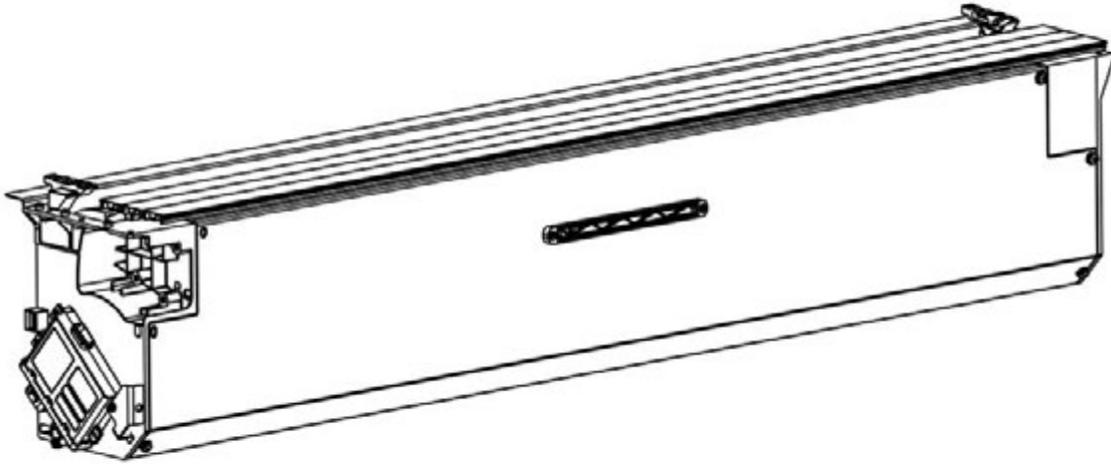
PART NUMBER: 19-50285

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	16MM DRILL BIT
10	6	MOUNTING BRACKET	
11	1	DRIVER REPLACEMENT TRACK	
12	1	PASSENGER REPLACEMENT TRACK	
13	1	ECU MAIN HARNESS SET	
14	1	POWER CABLE	
15	2	FRONT DRAIN TUBE	
16	2	FRONT DRAIN TUBE ADAPTER	
17	2	REAR DRAIN TUBE	
18	2	REAR DRAIN TUBE CLAMP	
19	2	TUBE CLAMP	
20	2	RUBBER RING	
21	3	BED RAIL TOP FOAM SPACER	
22	1	FRONT BED GAP FOAM SPACER	
23	8	FASTENING BUCKLE	
24	10	NYLON TIES	
25	1	THREADED KNOB	
26	6	M6 T-CHANNEL NUT	
27	6	M6 x 16MM TORX COMBO BOLT	

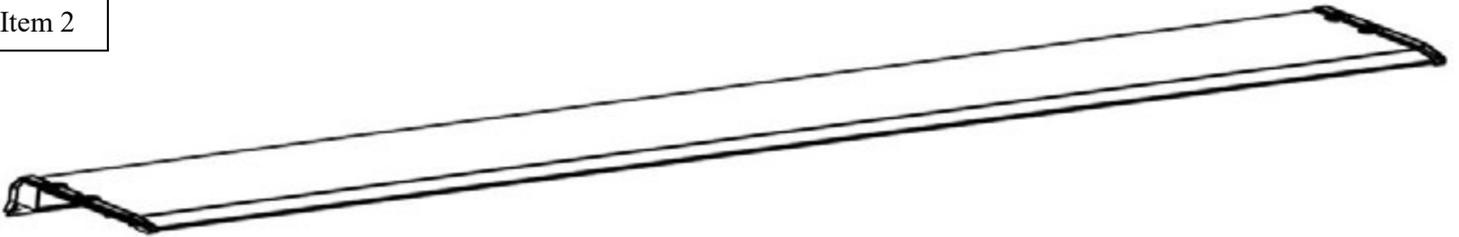
ITEM	QUANTITY	DESCRIPTION	TOOLS NEEDED
28	17	M6 x 20MM TORX COMBO BOLT	
29	12	M8 THREADED MOUNT BLOCK	
30	12	M8 TORX BOLT	
31	12	M8 LOCK WASHER	
32	12	M8 FLAT WASHER	
33	4	M5 COUNTERSUNK SCREW	
34	4	PLASTIC CAPS	
35	4	PLASTIC RINGS	
36	1	ADHESION PROMOTER	
37	2	KEY FOB REMOTE	
38	1	KEY FOB HOLDER	
39	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

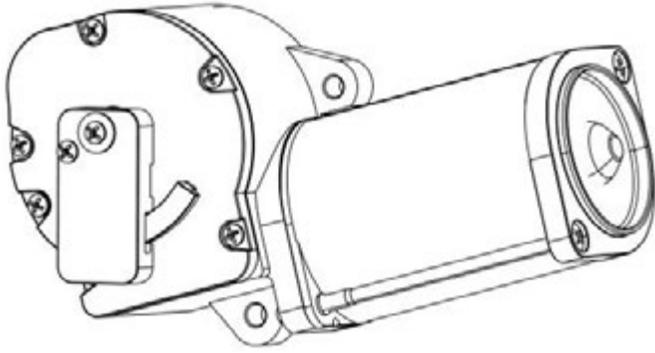


Passenger Side Opposite

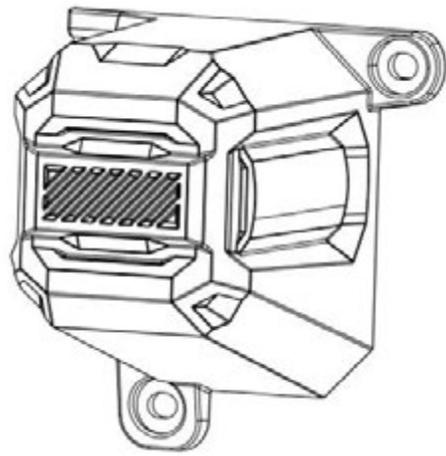
Item 5



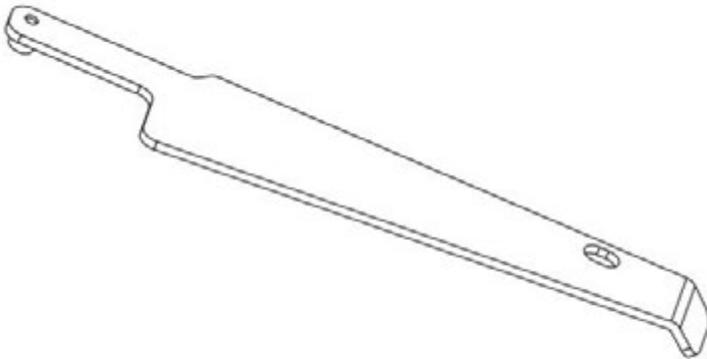
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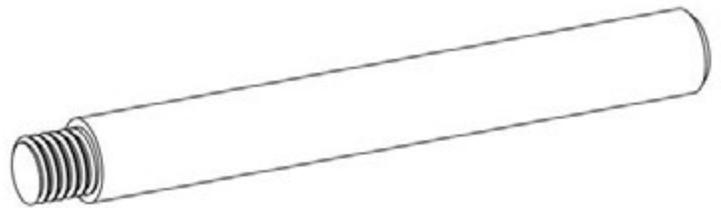
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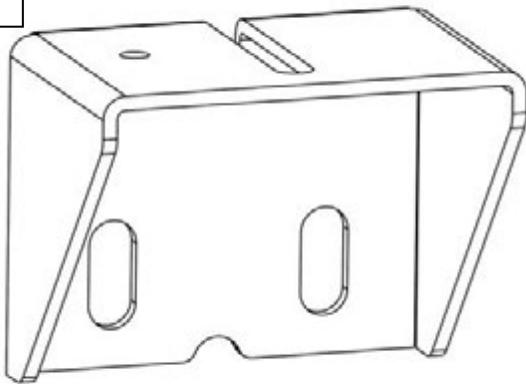
Item 8



Item 9



Item 10

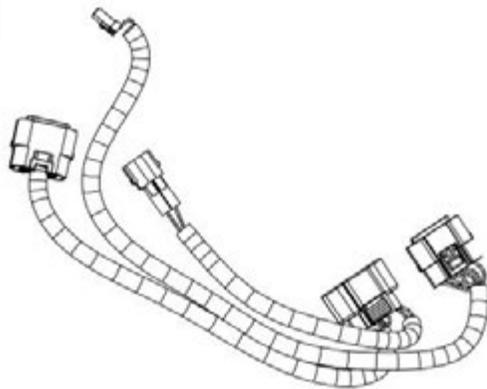


Item 11



Passenger Side Opposite

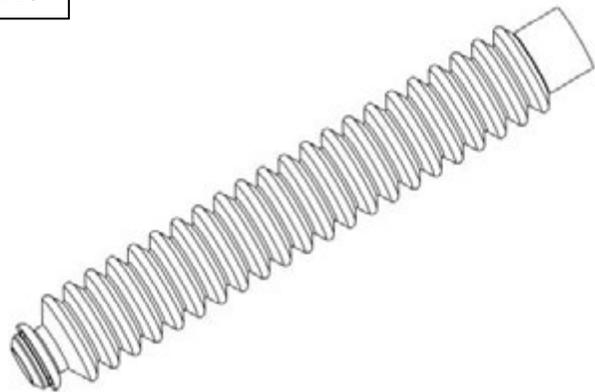
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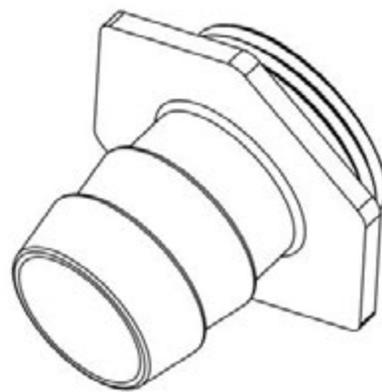
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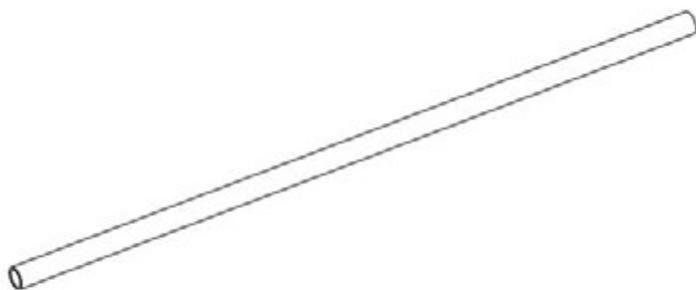
Item 15



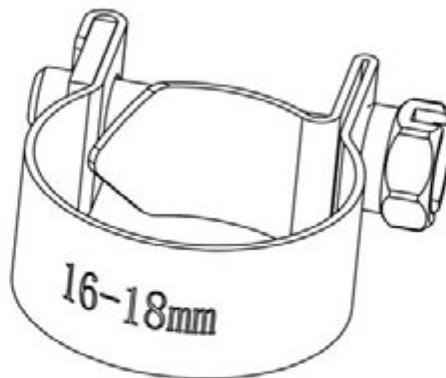
Item 16



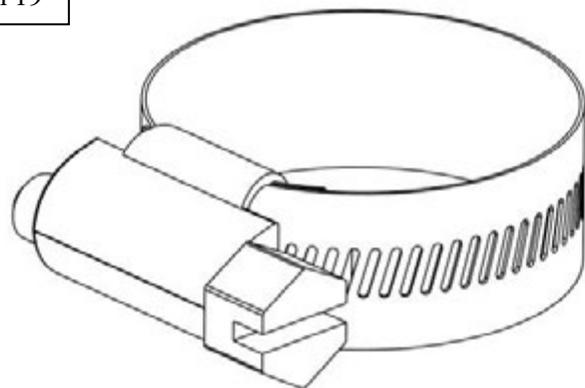
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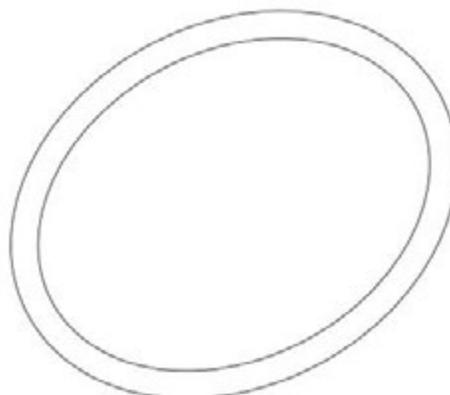
Item 18



Item 19



Item 20



Item 21



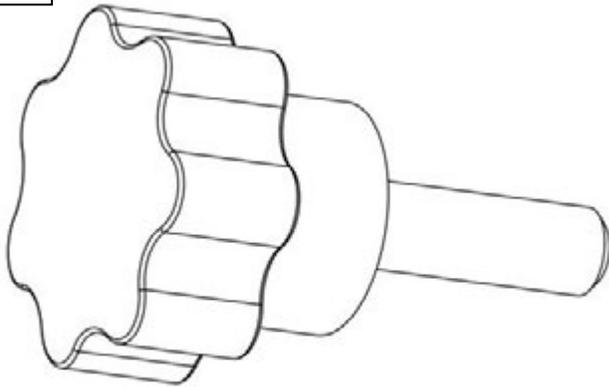
Soft Foam Seal

Item 22

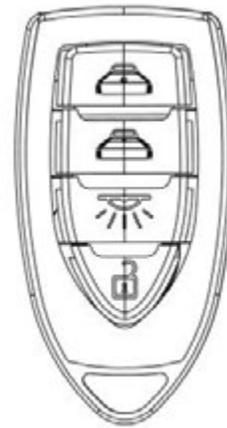


Hard Foam Seal

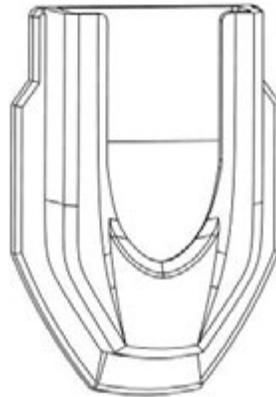
Item 25



Item 37



Item 38



PROCEDURE

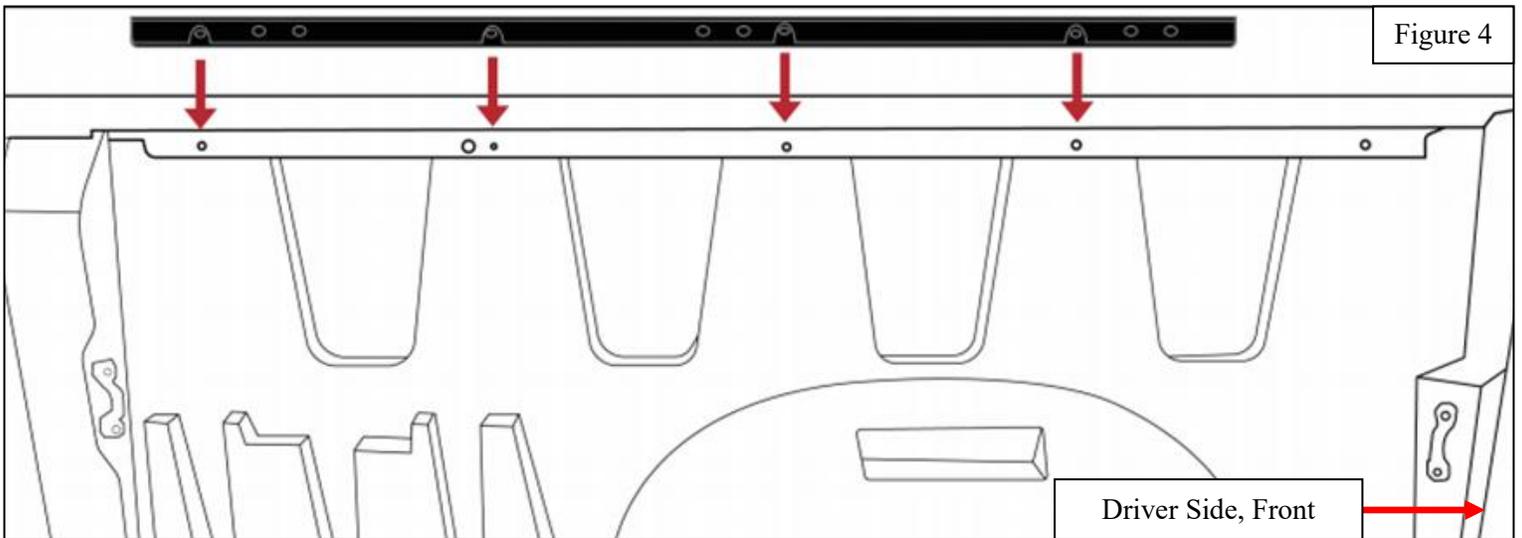
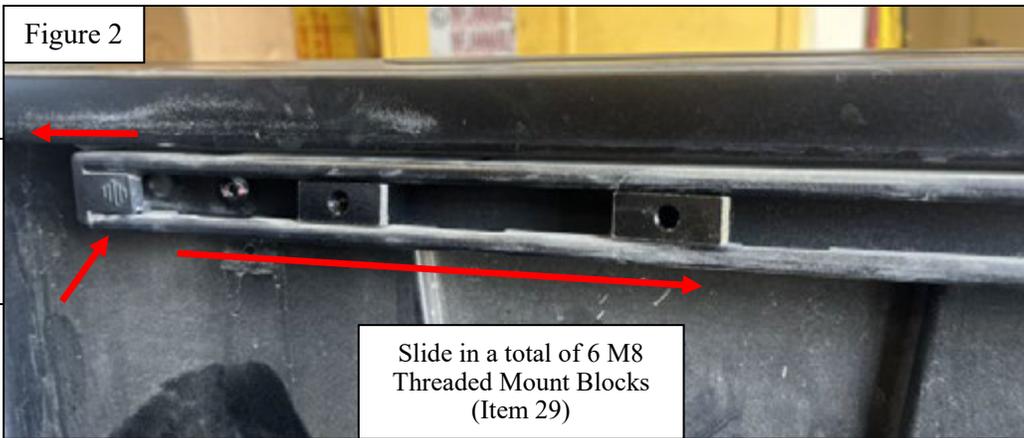
1. Remove contents from box, verify if all parts listed are present and free from damage. Carefully read and understand all instructions before attempting installation.

Failure to identify damage before installation could lead to a rejection of any claim.

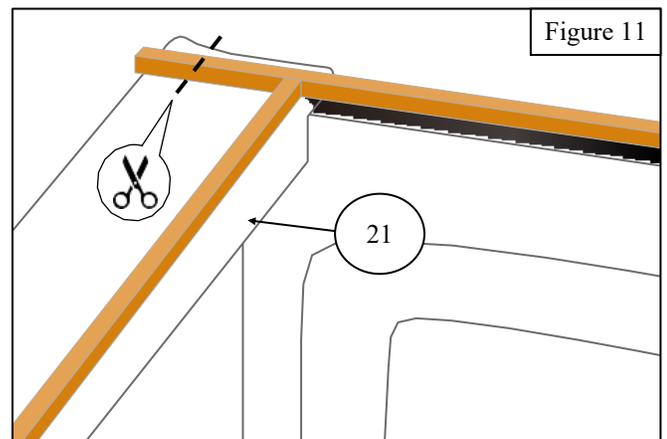
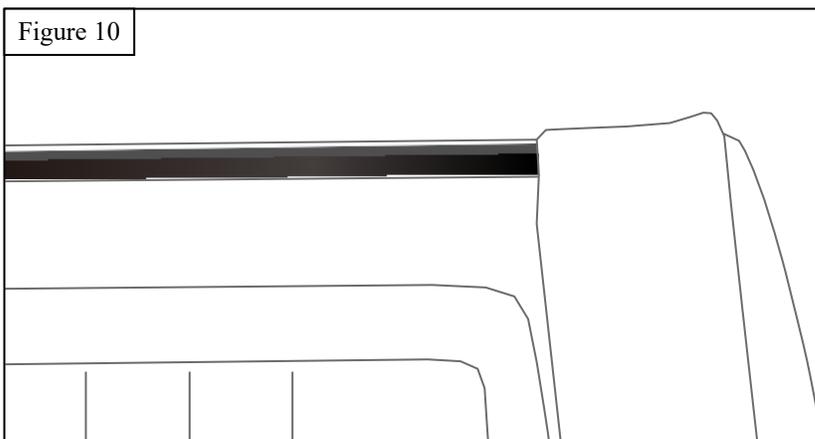
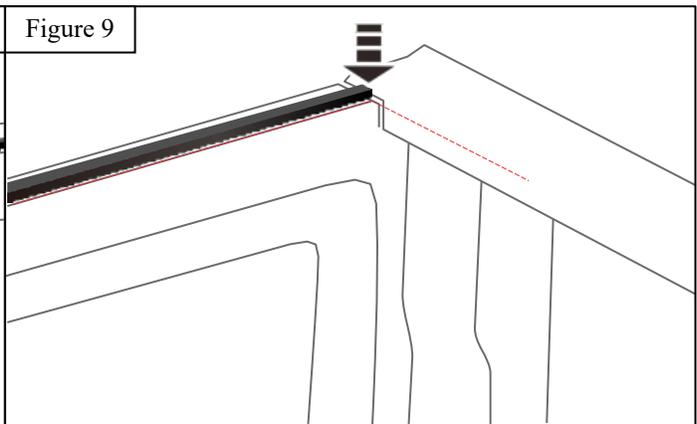
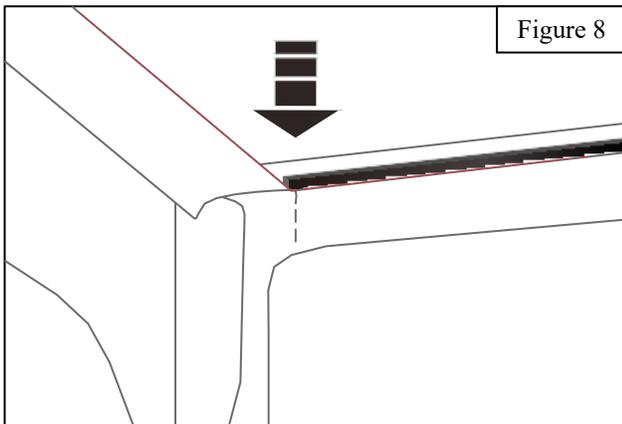
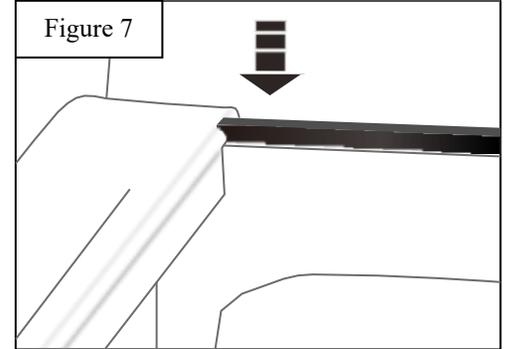
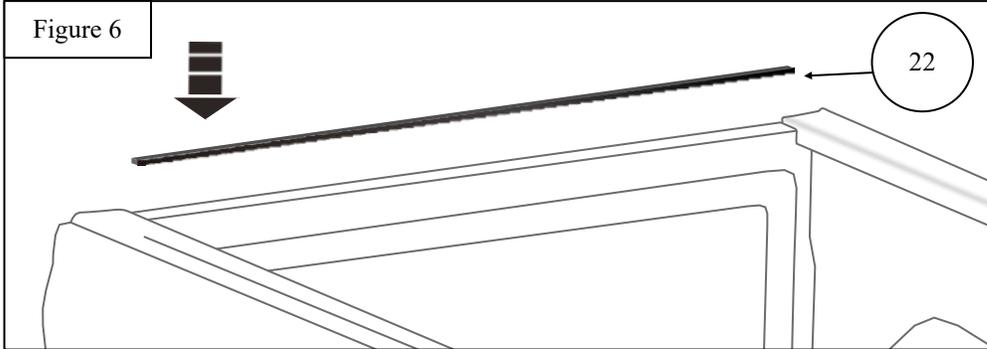
NOTE: Before any form of installation is done, prep the bed for installation. Start out by removing the front bed utility track, there are seven T30 Torx bolts along with one plastic tab at each end. Once all the bolts are removed, pull back firmly on the track to pop the plastic tabs out of the bed. Remove the plastic cap at the end of the side mounted utility track and slide in six M8 Thread Mount Blocks (**Item 29**). If the vehicle is not equipped with the side mounted utility tracks, install the included replacement tracks (**Items 11 and 12**) with four M6 x 20MM Torx Bolts (**Item 28**) using the threaded inserts in the side of the bed. The front-most bed insert will not be used. See **Figures 1-5**.

Figure 1

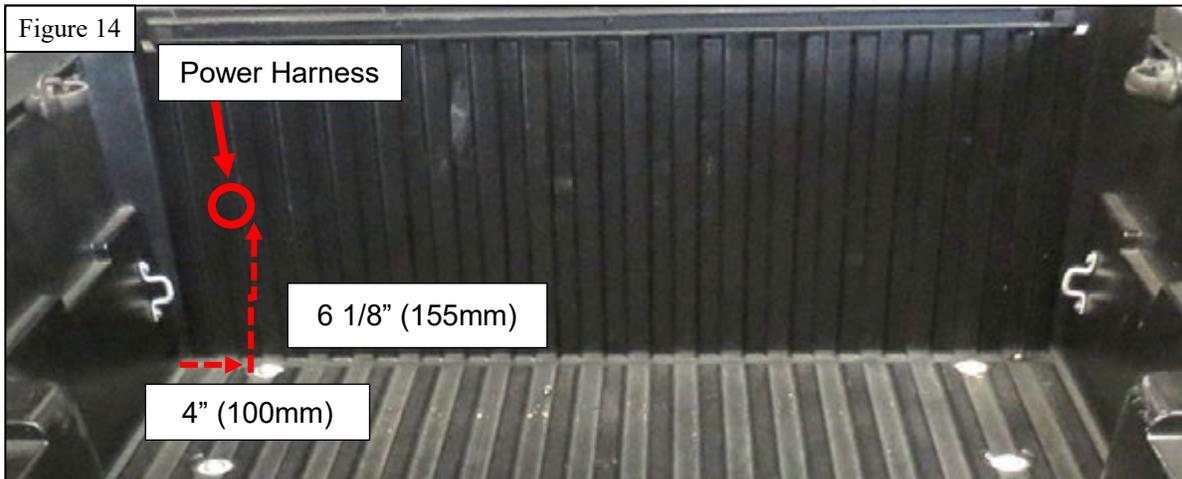
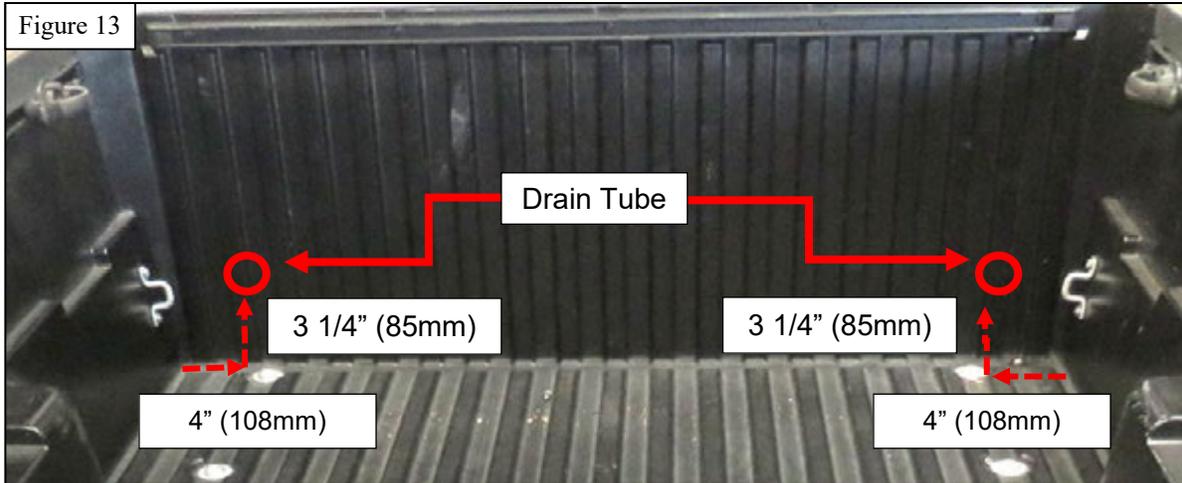
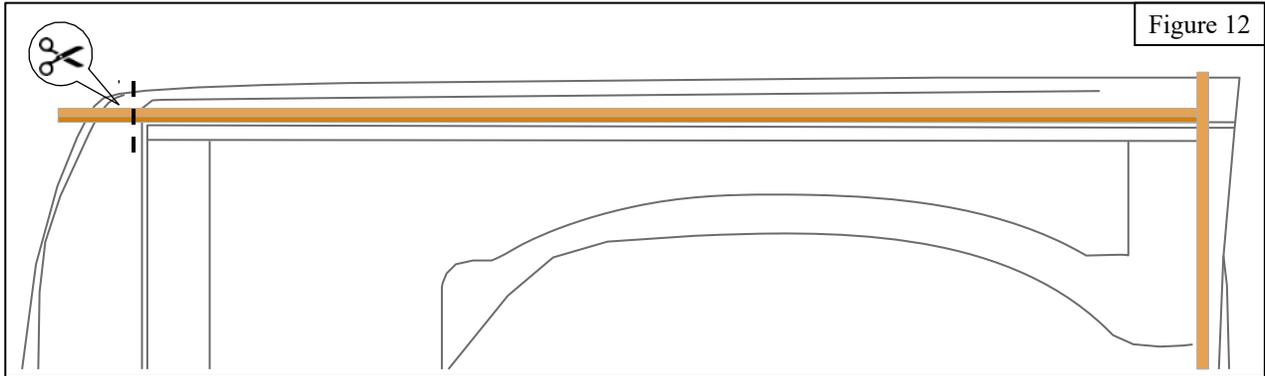




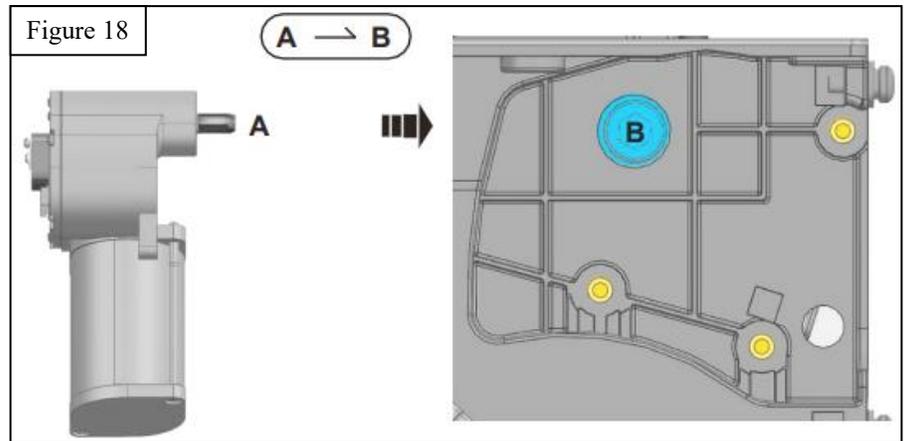
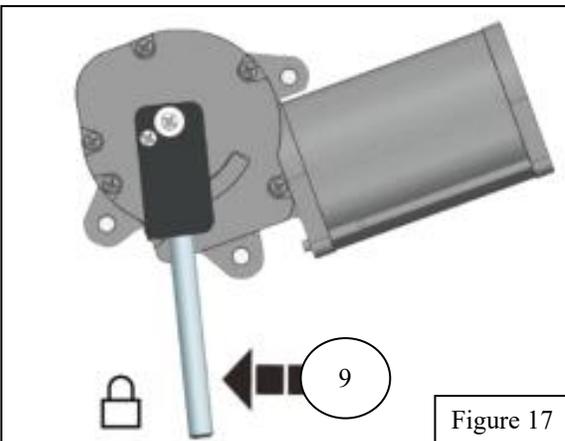
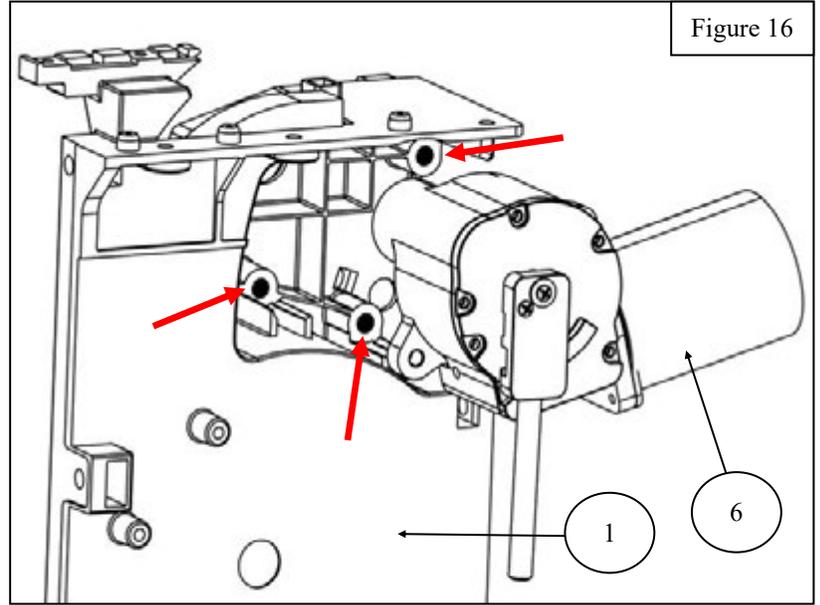
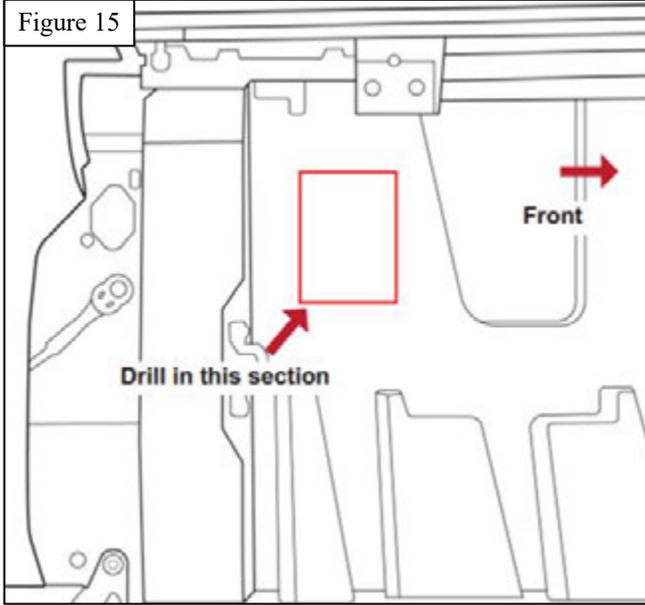
2. Clean the top of the plastic bed caps and the top of the front bed bulkhead of dirt/debris. Install the front bulkhead seal (hard foam seal, **Item 22**) across the top of the front bed wall. See **Figures 6-9**.
3. Install the water resistant seals (soft foam seals, **Item 21**) across the top of the front bulkhead (on top of the bulkhead seal) and the plastic bed caps. A small amount of sealant may be used at the corners of the front bulkhead to improve water resistance. See **Figure 10-12**.



4. Measure approximately 4" (100 mm) from the side of the bed, and 3 1/4" (85mm) up from the base of the bed. This will be done on both sides of the bed. Use the included 19MM Hole Saw (**Item 39**) to cut the front drain tube holes. The holes will be drilled into the raised vertical ribs at the front of the bed. See **Figure 13**.
5. For only the Driver Side, measure approximately 4" (100 mm) from the side of the bed and 6 1/8" (155mm) from the base of the bed. Use a 16mm (5/8") drill bit (not included) to drill the power harness hole. The hole will be drilled into one of the raised vertical ribs at the front of the bed. See **Figure 14**.
6. The holes for the rear drain tubes may be drilled in the location indicated below (Red Square), in front of the raised section at the rear of the bed. Use the included 19MM Hole Saw (**Item 40**) to drill one hole on each side of the bed. See **Figure 15**.



7. 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 16** as reference.
8. 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 17 & 18**.



9. Route the motor harness and the canister light harness under the motor and use three M6 x 20MM Torx Combo Bolts (**Item 28**) to attach the motor to the canister. See **Figure 19**.
10. 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 20** as reference.

Figure 19

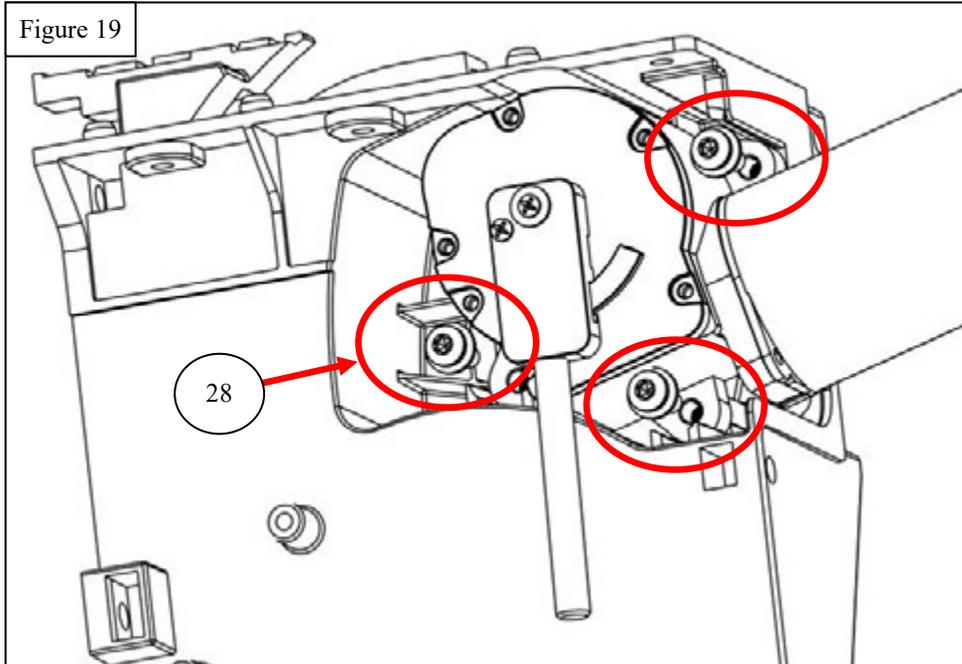
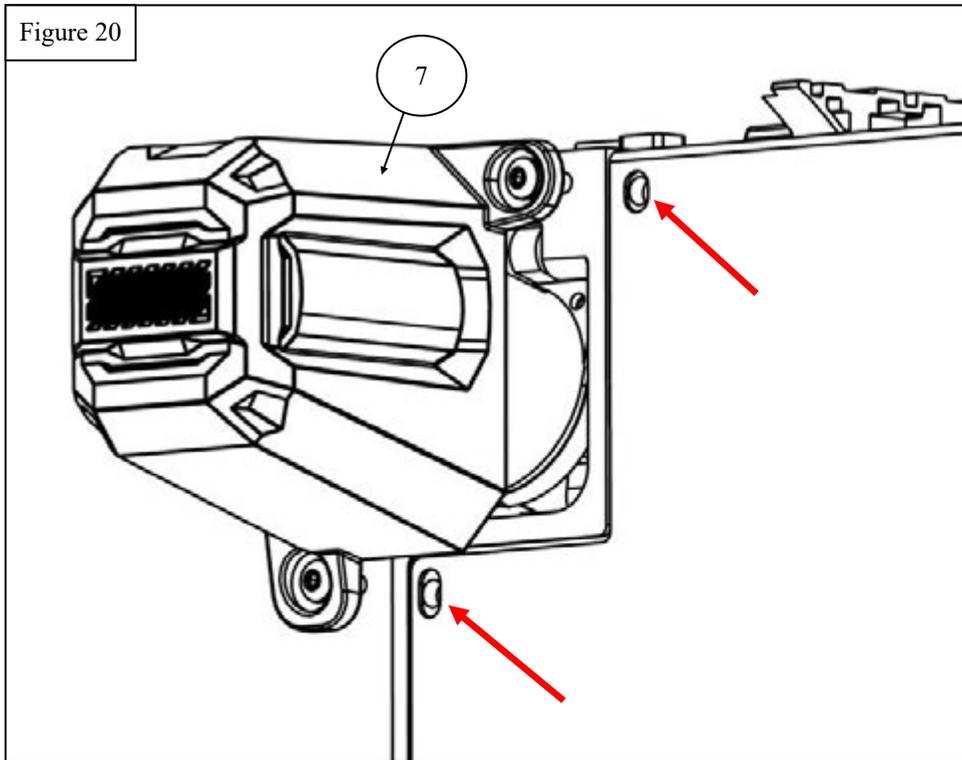
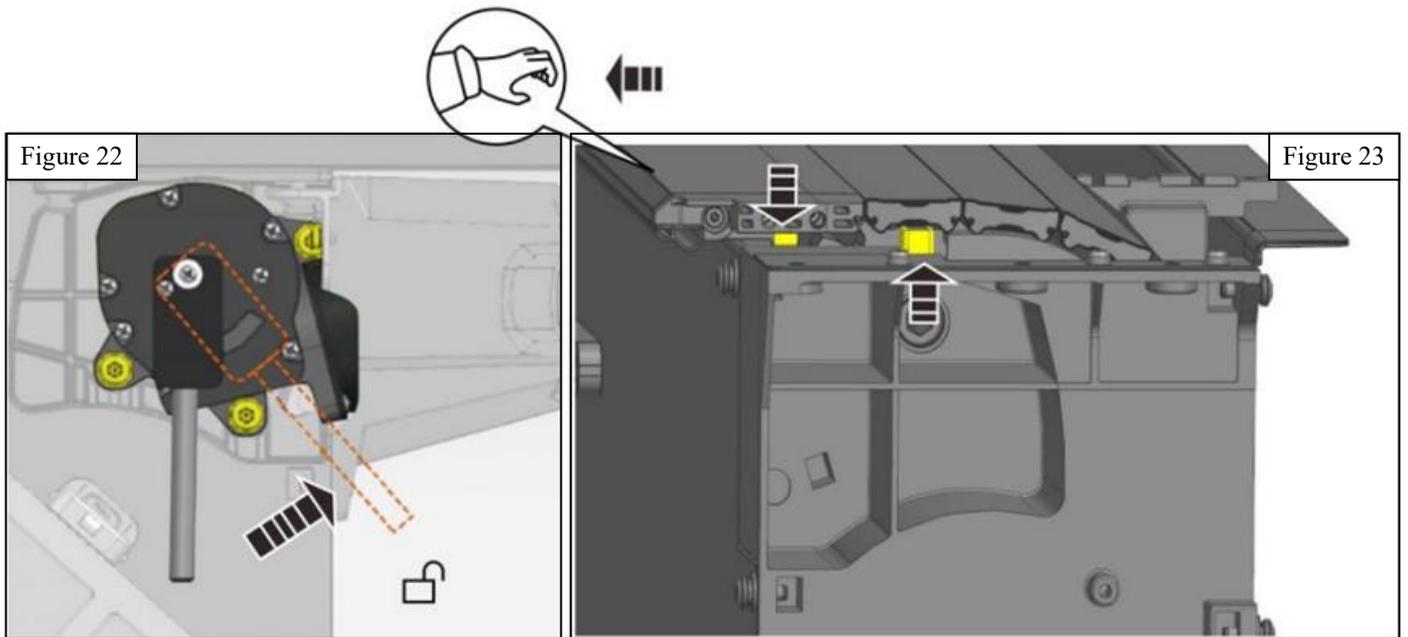
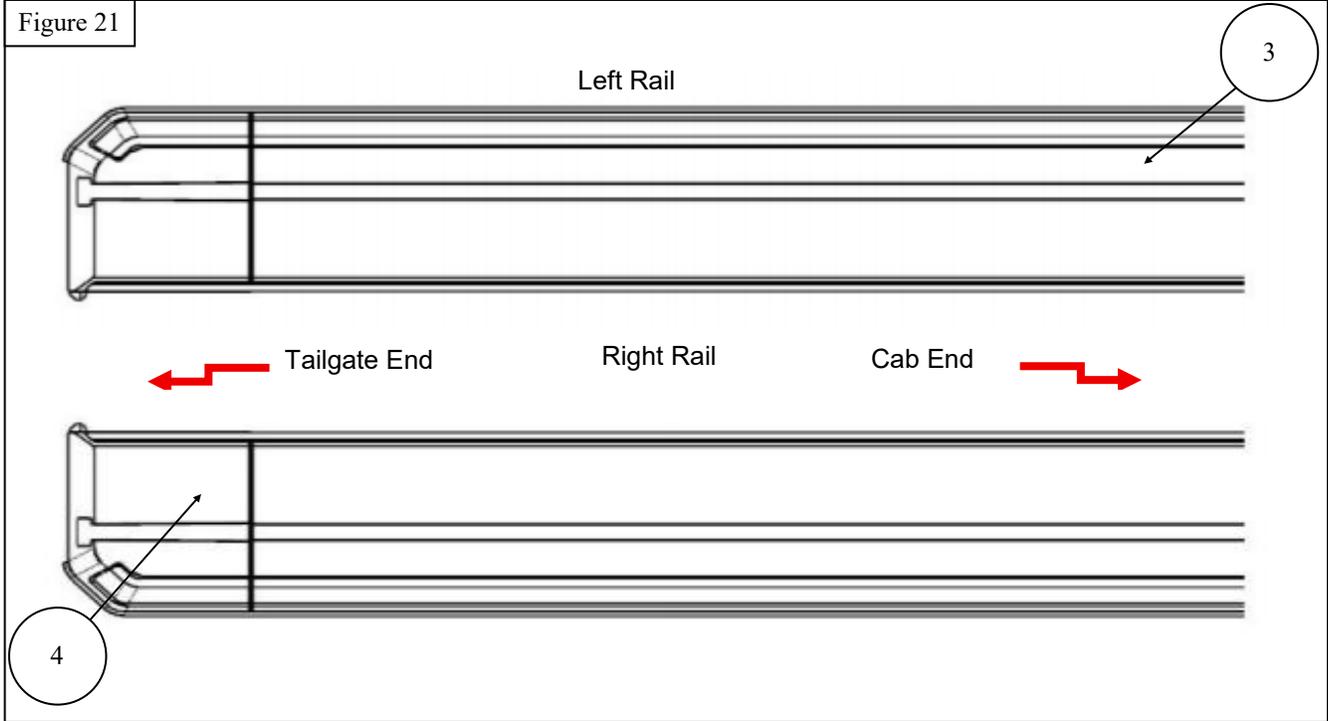


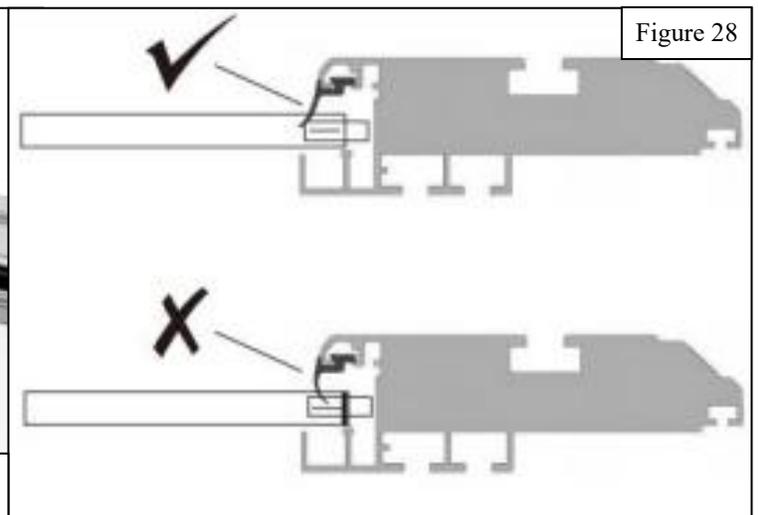
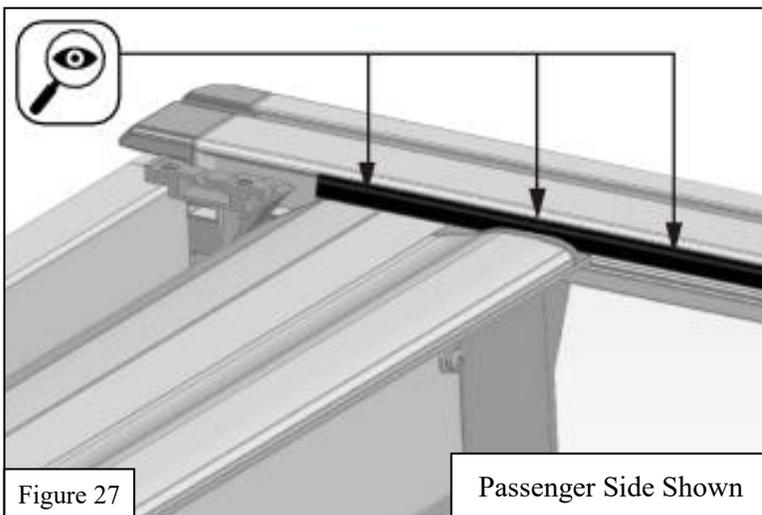
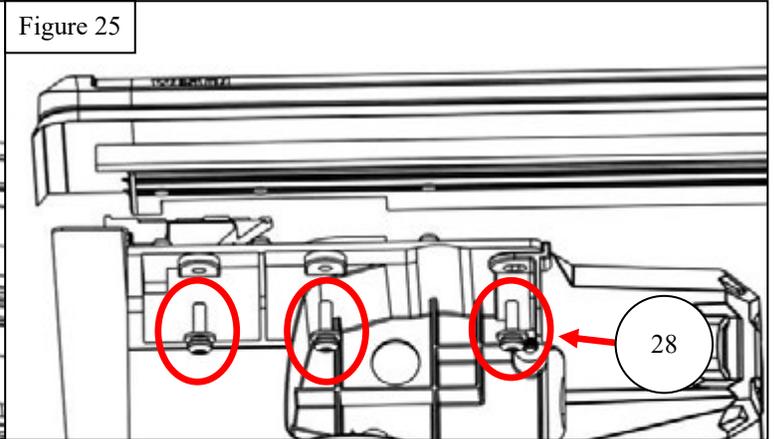
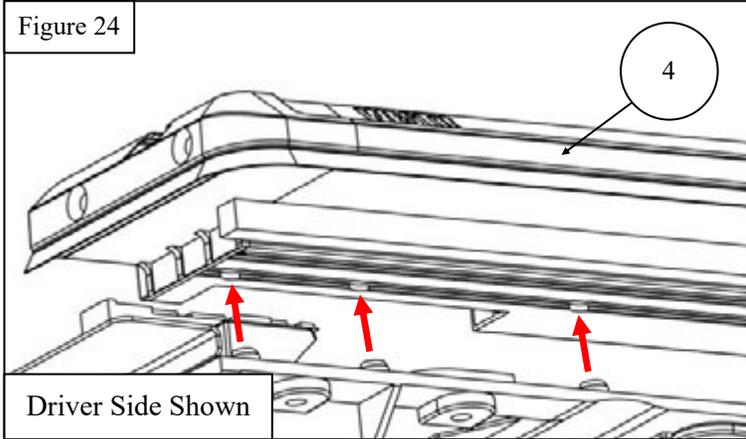
Figure 20



11. Remove the protective plastic wrapping from the side rails and identify the driver and passenger side rails (**Items 3 & 4**). See **Figure 21**.
12. 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 limit block on the canister. See **Figure 22 & 23**.



13. 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 24**.
14. Check that the side rail is sitting flush on top of the canister, then use 3 M6 x 20MM Torx Bolts (**Item 28**) to install the side rail onto the canister. See **Figures 25-28**.
15. Repeat steps 10 and 11 for the driver side rail (**Item 3**).



16. Pull the clutch handle downward to engage the motor. See **Figure 29**.
17. 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 35**) into each hole on the canister cover plate, then use 4 M5 Countersunk bolts (**Item 33**) to attach the canister cover plate to the canister. Finally use the Plastic Caps (**Item 34**) to cover the hardware. Use **Figures 30 and 31** as reference.
18. 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 32**.

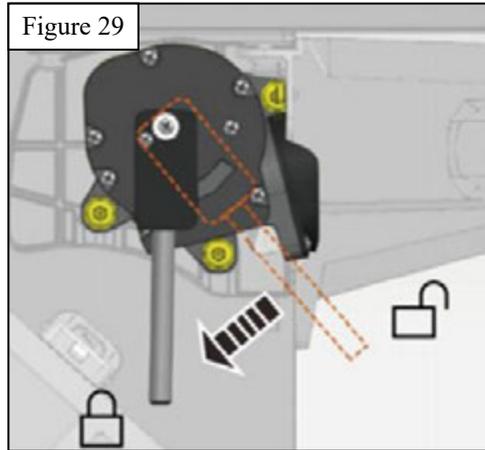


Figure 29

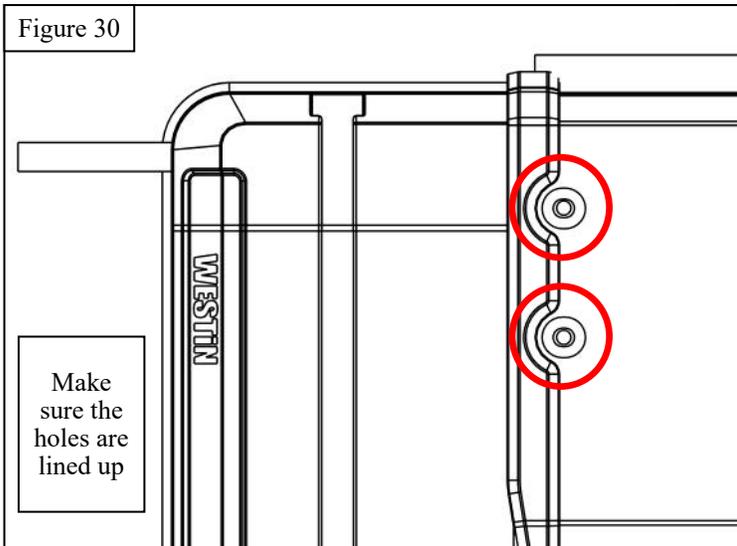


Figure 30

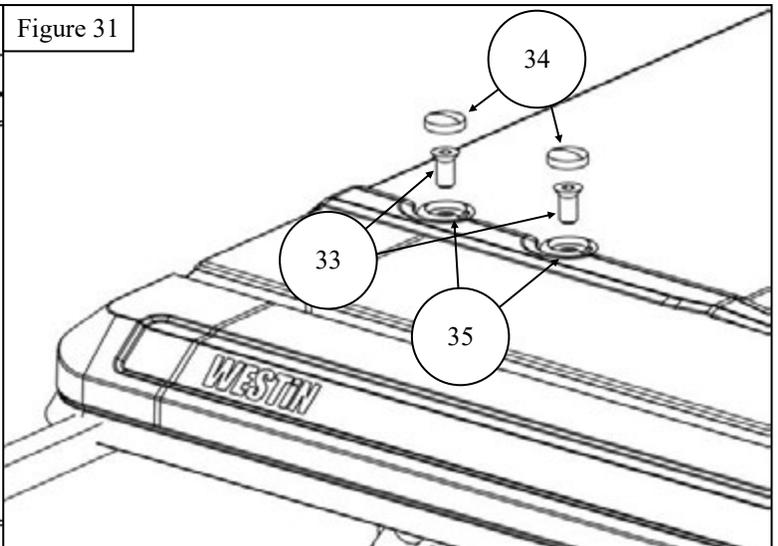


Figure 31

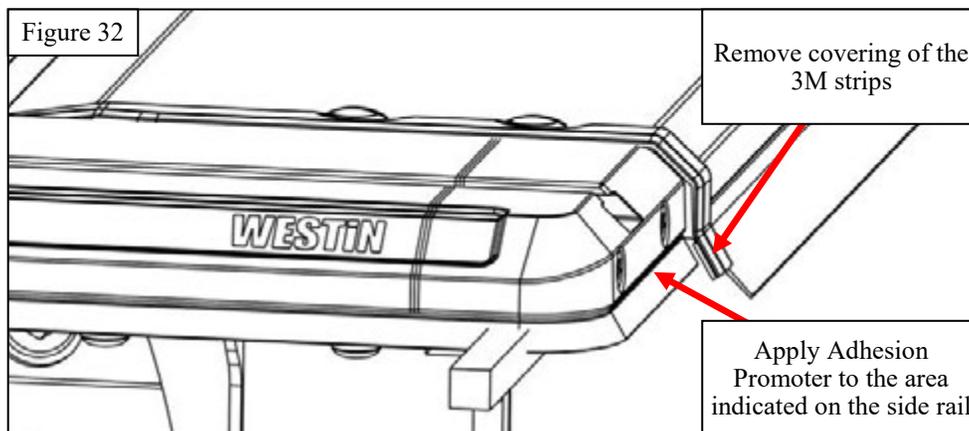


Figure 32

19. Connect the wire harness onto the tonneau cover by connecting the two large connectors on the ECU main harness (**Item 13**) to the bottom of the ECU. See **Figure 33**.
20. 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 34**.
21. Use the fastening buckles (**Item 23**) to organize the wire harness, at this time the power harness (**Item 14**) needs to remain unplugged.

Figure 33

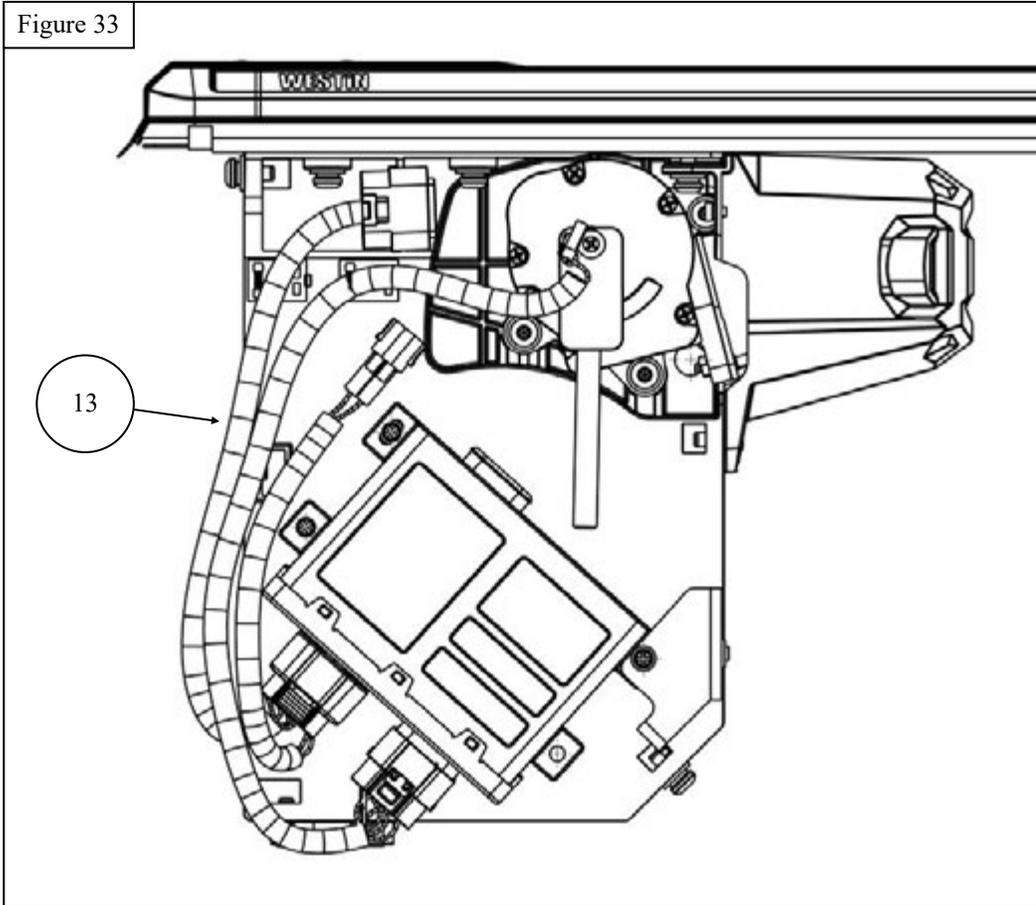
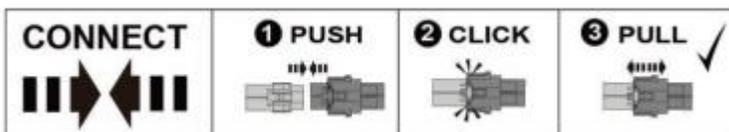
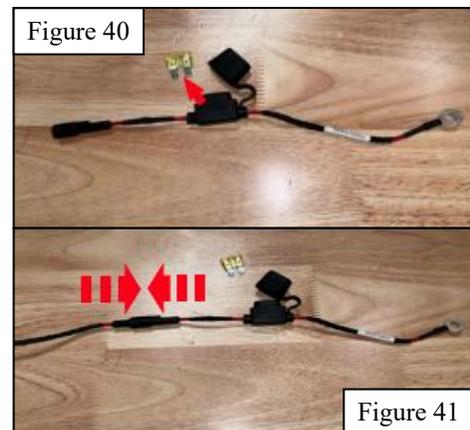
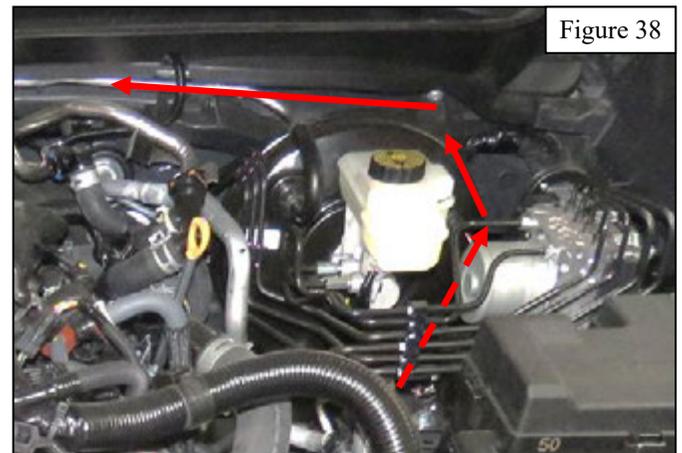
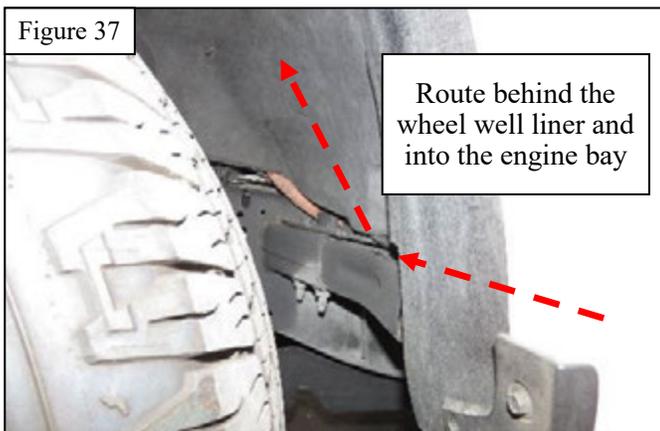
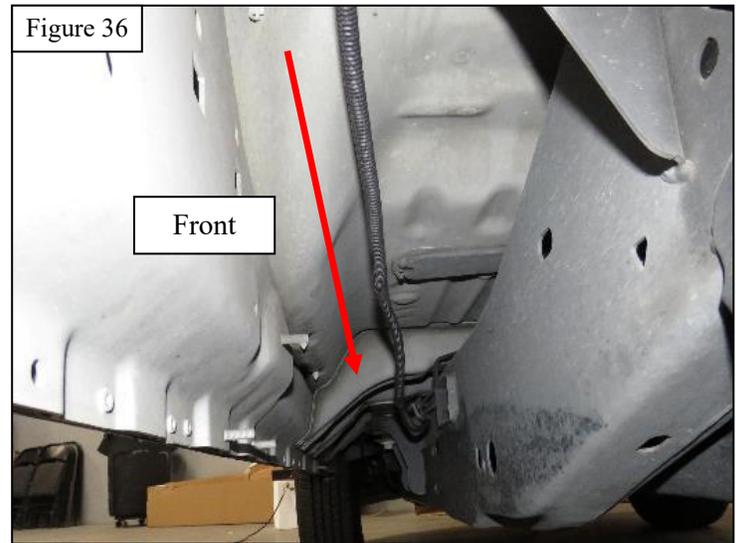
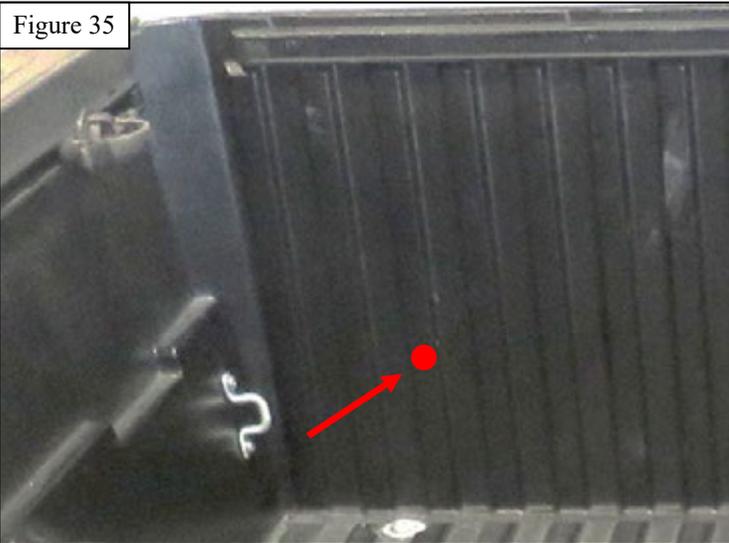


Figure 34



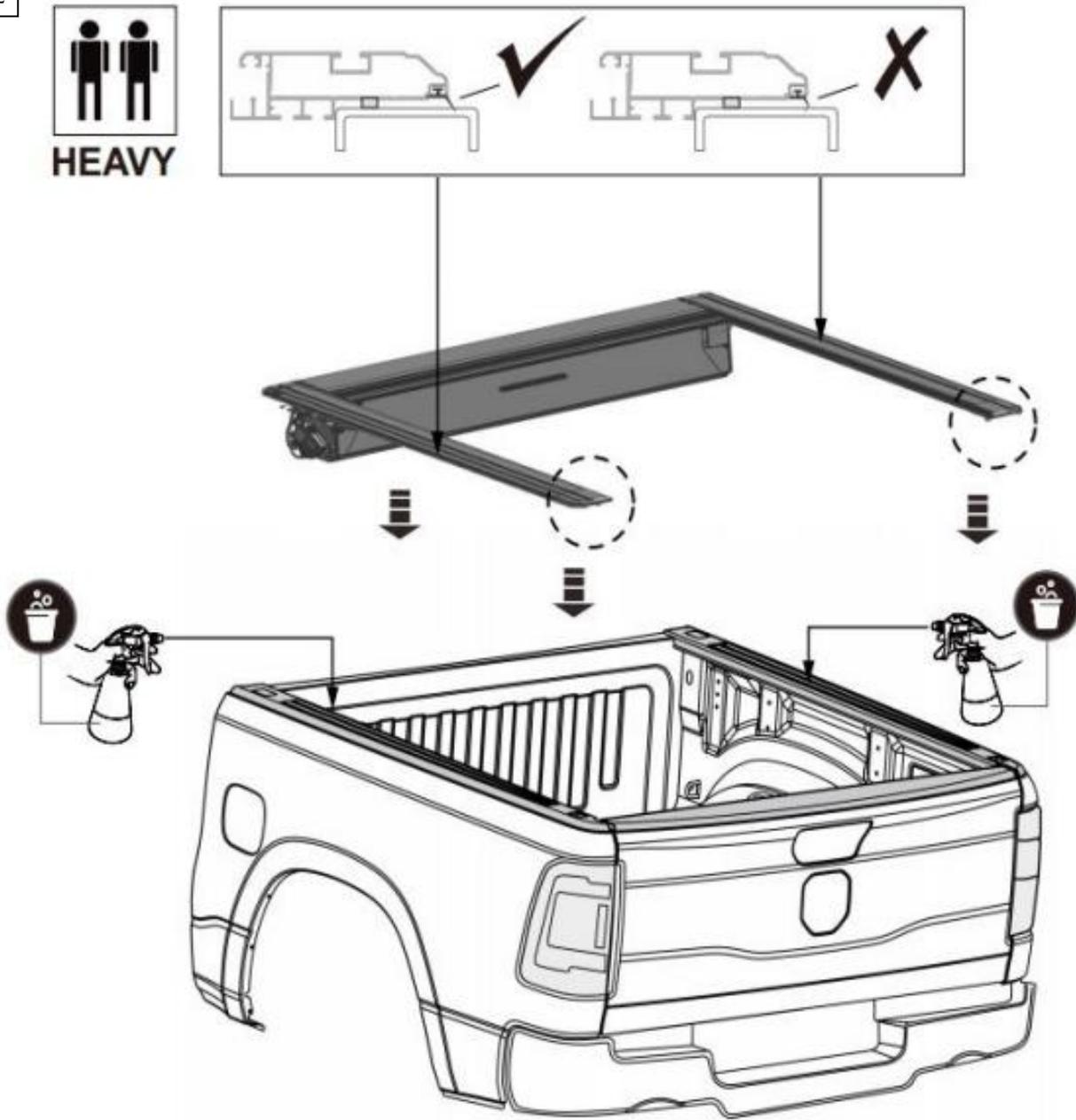
**PULL THE CONNECTORS
NOT THE CABLE**

22. The power harness will be routed out through the hole on the driver side of the bed, using the 16mm (5/8") hole that was drilled at this location in **step 5**. 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 the wire ties, 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 to secure the wire harness along the frame. Leave about 1.5 ft of power harness loose in bed. Remove the fuse from the fuse holder, do not connect the power harness to the vehicle battery at this time. See **Figures 35-41**.



23. 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 42**.

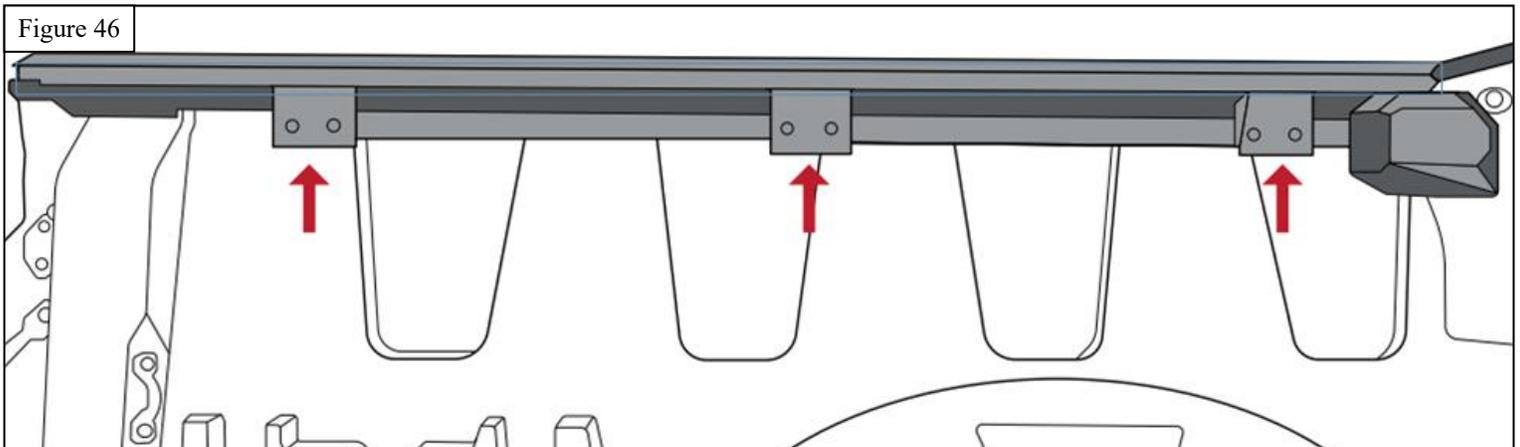
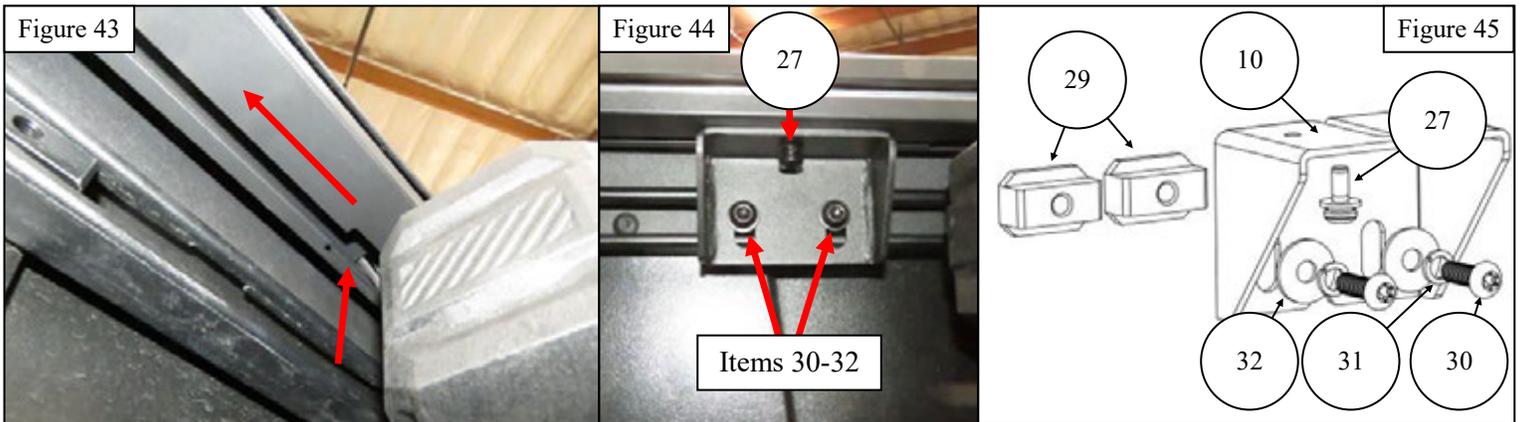
Figure 42



Similar Vehicle Shown

24. Starting on the driver's side, insert three M6 T-Channel Nuts (**Item 26**) into the channel on the bottom of the driver side rail. Use three Mounting Brackets (**Item 10**) and attach the brackets onto the tonneau cover rail using one M6 x 16MM Torx Combo Bolt (**Item 27**). Use two M8 Torx Bolt, Lock Washer, and Flat Washer (**Items 30-32**) to attach the mounting brackets to the bed side. This M8 hardware will be attached to the M8 Threaded Mounting Blocks (**Item 29**) previously install in the utility track. See **Figures 43-45 and 46** as reference.
25. Repeat step 24 for the passenger side rail and brackets (**Item 10**).

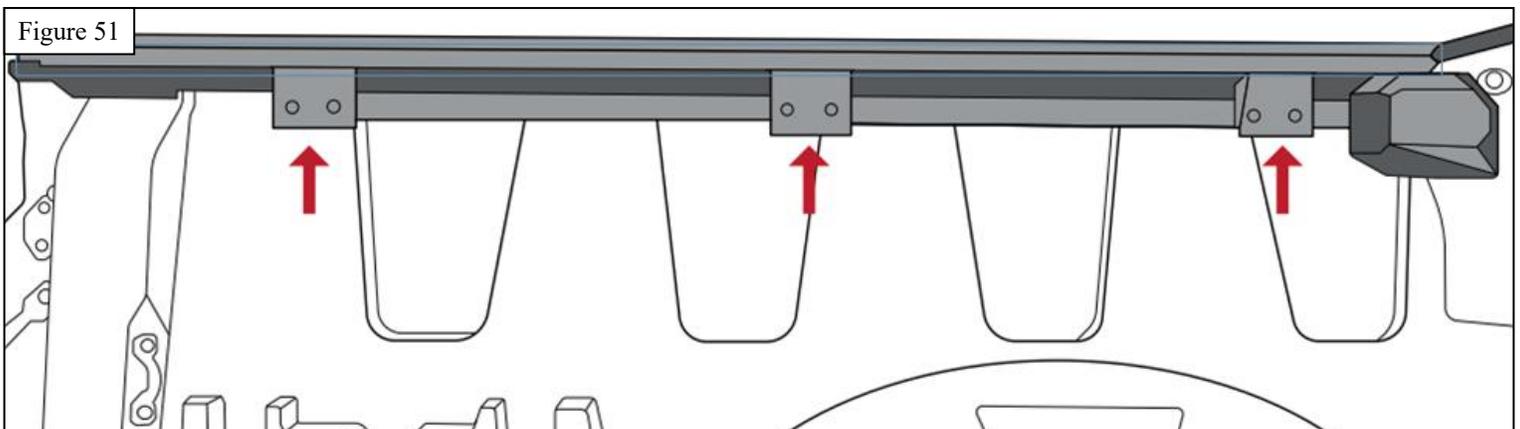
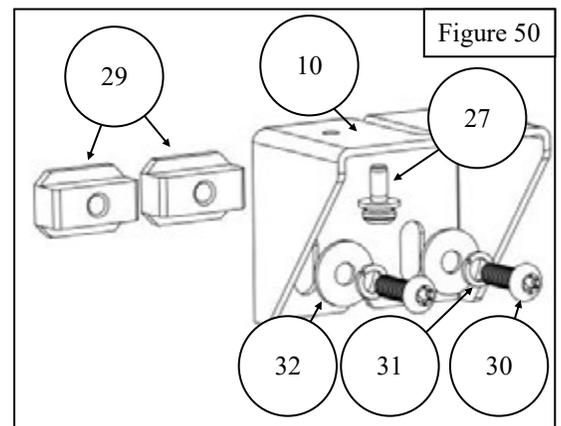
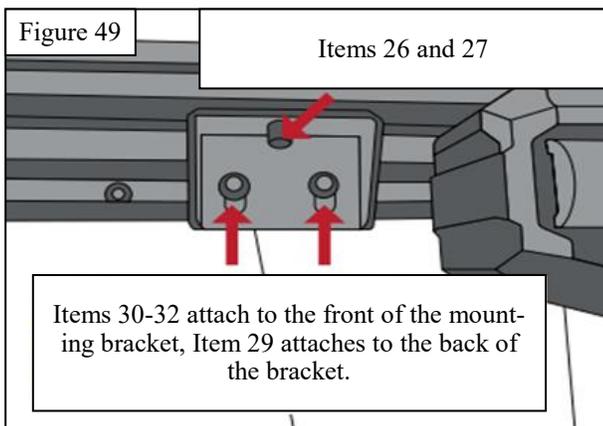
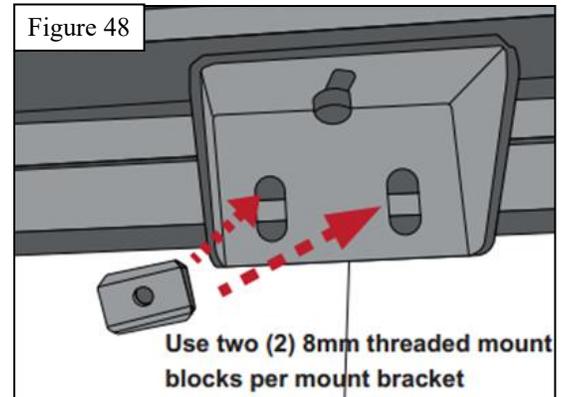
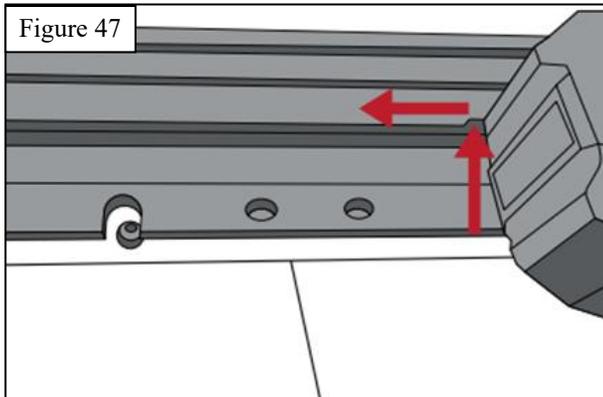
NOTE: Leave all mounting bracket hardware loose



**THE FOLLOWING PAGE IS ONLY IF VEHICLE HAS NO FACTORY UTILITY TRACKS
IF IT DOES, SKIP TO STEP 28**

26. Starting on the driver's side, insert three M6 T-Channel Nuts (**Item 26**) into the channel on the bottom of the driver side rail and align them with the mounting points on the replacement tracks (**Item 11**) previously installed on **pages 5 and 6**. Use three Mounting Brackets (**Item 10**) and attach the brackets onto the tonneau cover rail using one M6 M6 x 16MM Torx Combo Bolt (**Item 27**) per bracket. Use two M8 Torx Bolts, Lock Washers, Flat Washers, and M8 Threaded Mount Blocks (**Items 29-32**) per bracket. See **Figures 47-51** as reference.
27. Repeat steps 26 for the passenger side rail and brackets (**Items 10 and 12**).

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 level 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 52 and 53**.

Figure 52

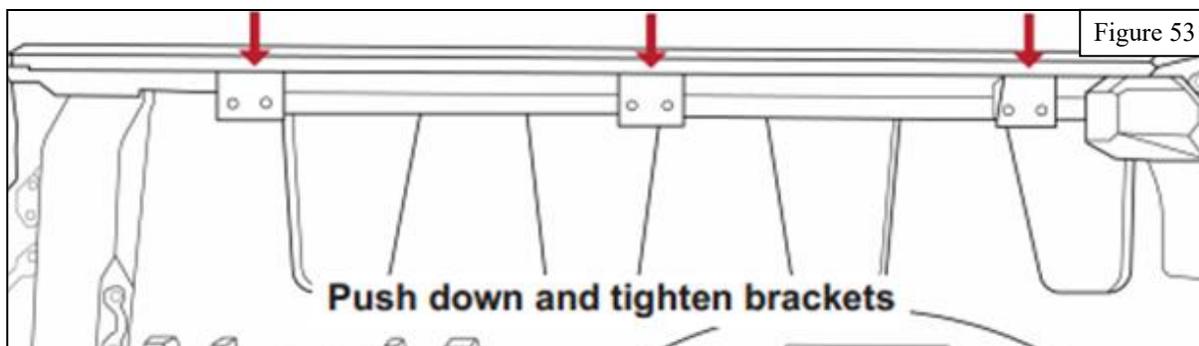
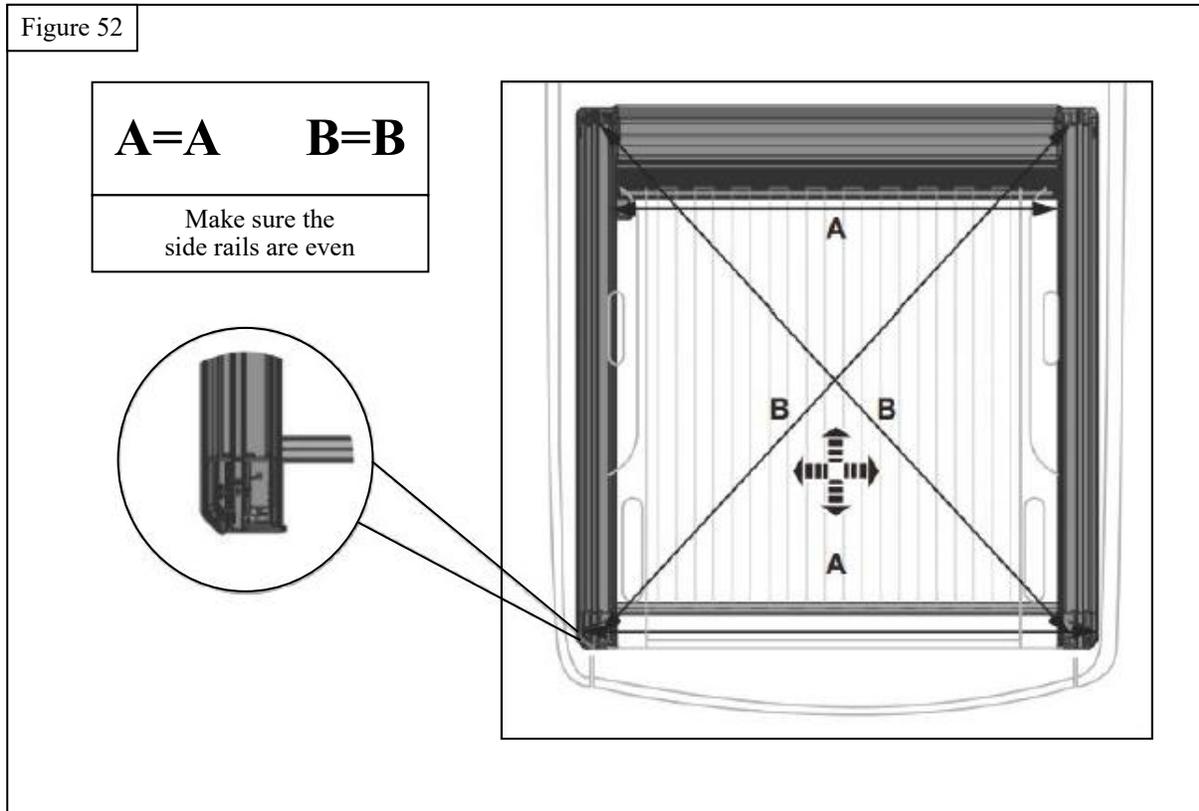
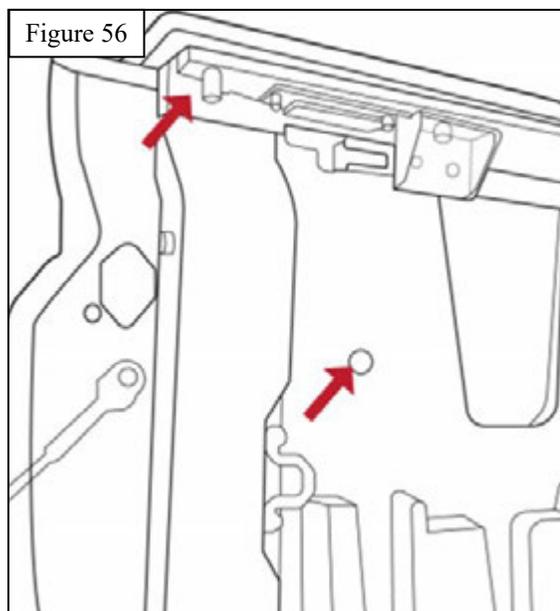
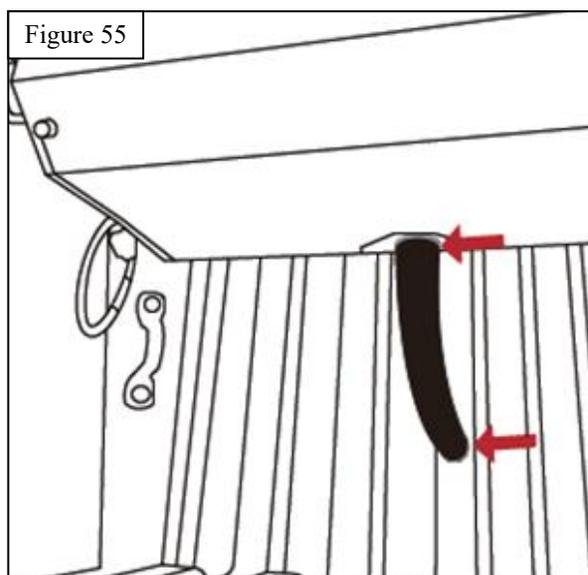
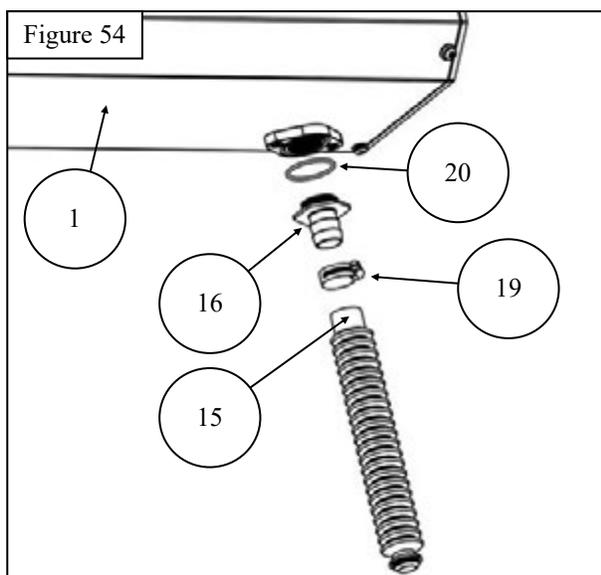


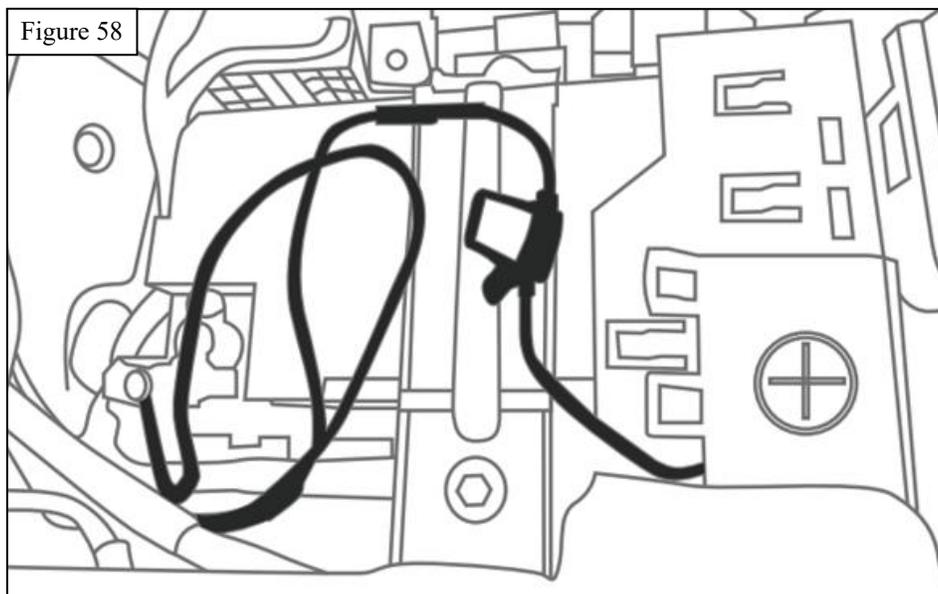
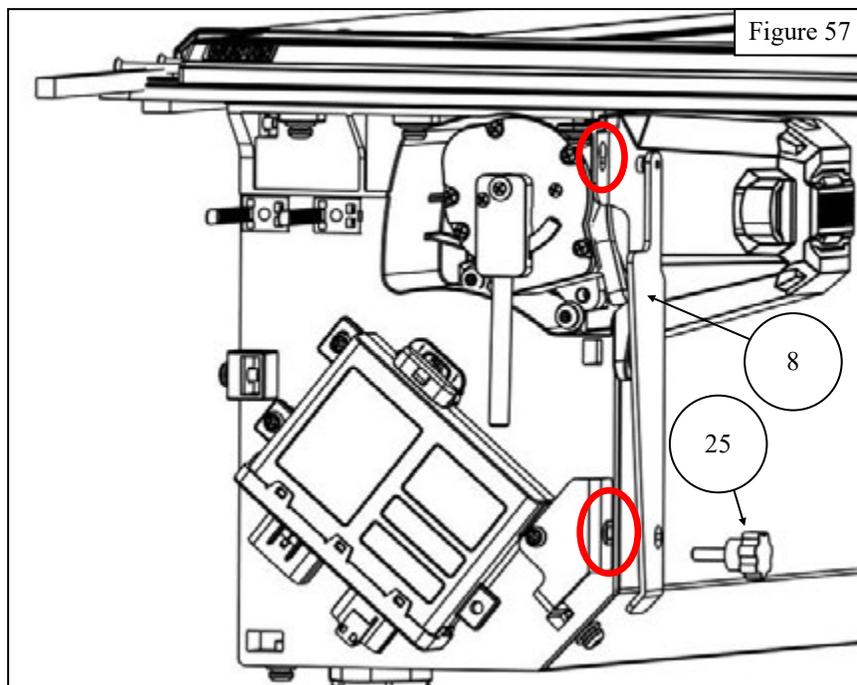
Figure 53

29. Install the Front Drain Tube Adapters (**Item 16**) onto the Front Drain Tubes (**Item 15**) and tighten using the supplied tube clamps (**Item 19**). Screw the drain tube adapter into the threaded mounting hole on the bottom of the canister. See **Figures 54 & 55**.
30. Route the end of the front drain tube through the hole that was cut into the base of the bed from **step 4**. See **Figure 55**.
31. Slip the end of the Rear Drain Tube (**Item 17**) with the Rear Drain Tube Clamp (**Item 18**) onto the drain outlet at the end of the side rail. Route the bottom of the rear drain tube through the hole near the top of the bed. Tighten the tube clamp until the drain tube is snug on the drain outlet. See **Figure 56**.

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.

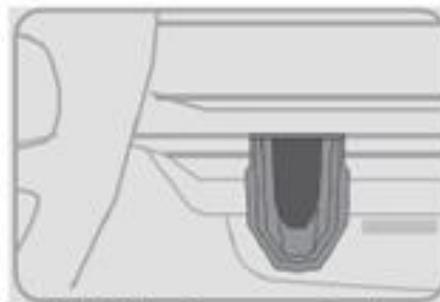
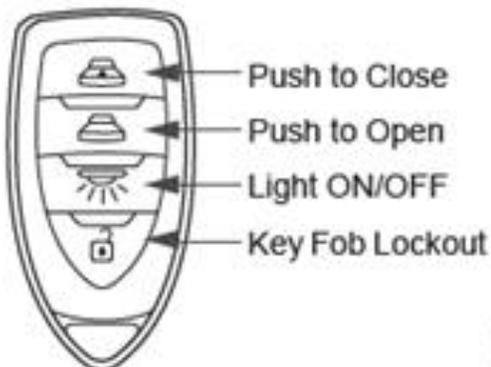


32. Double check that all mounting bracket hardware is tight.
33. Ensure that the tonneau cover is engaged. If it is still in manual operation mode, push the motor clutch lever down, then pull on the end of the tonneau cover until the motor clicks, signifying that it is fully engaged.
34. Install the 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 25**) into the bottom hole to lock the block off panel in place. See **Figure 57**.
35. 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 58**.



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

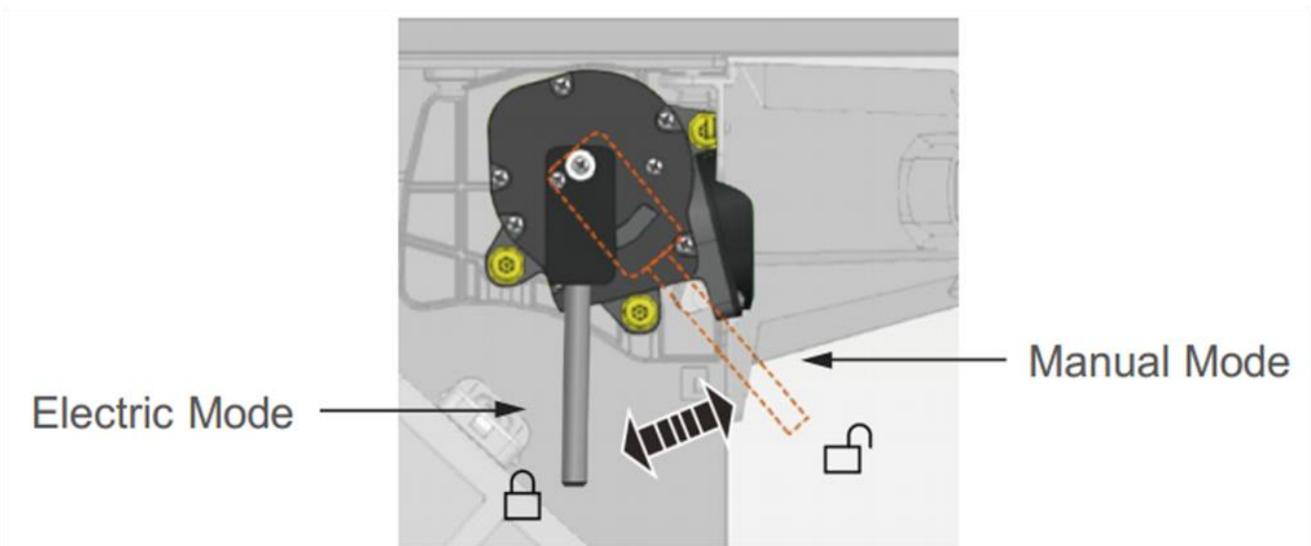
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Functions:

- 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:



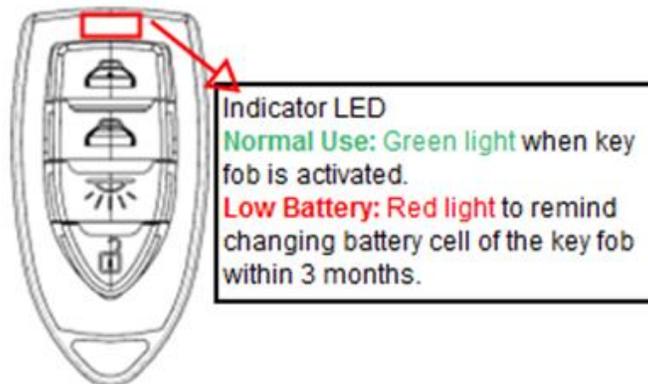
- System Status Indication (for repairing and troubleshooting ONLY): This function is used for troubleshooting when there's something wrong with the system and will indicate the status of the system through the flashing of the LED Light. There are two different signals of the LED Light, long flash and 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 lifting 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 shift, 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



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