



General Applicability:

2018 Toyota RAV4

Issues

N/A

Kit Contents:

Item#	Component Description
1	Stay Bar (Strut)(right)
2	Stay Bar (Strut)(left)
3	Lower Ball Mount Brackets (vehicle side)
4	Control Box
5	Front Switch (Factory Style)
6	Rear Switch (Factory Style)
7	Rear Buzzer
8	BUS Box w/Harness
9	Main Harness
10	Power Supply Harness
11	Rear Button / Buzzer Harness
12	Lock Control Harness
13	Hardware bag (Nuts and Bolts)

Installation Kit Contents:

Item#	Component Description
1	Warning Labels
2	Wire Ties

Recommended Tools:

Safety Tools	
Seat/ Floor Covers	Blankets
Installation Tools	
10mm Socket / Ratchet	Side Cutters
#2 Phillips Screwdriver	Wire Fish
NRT-Nylon Removal Tool	Razor Knife
Hook Tool	Pick
Special Tools	

Legend

	STOP: Damage to the vehicle may occur. Do not proceed until process has been complied with.
	OPERATOR SAFETY: Use caution to avoid risk of injury.
	CRITICAL PROCESS: Proceed with caution to ensure a quality installation. These points will be audited on a completed vehicle installation.
	TOOLS & EQUIPMENT: This calls out the specific tools and equipment required for this process.
	REVISION MARK: This mark highlights a change in installation with respect to previous issue.

PRECAUTION / INSTALLATION NOTES:

- After **Safety** mandated preparatory steps have been taken, the installation sequence is the suggested method for completing the accessory installation.
- When prying panels, use masking tape on all surfaces that a tool may come in contact with to prevent marring.
- After a wire tie is fully fastened, cleanly cut excess wire tie length with a pair of wire cutters.
- The wiring information is on an “as is” basis without any representation or warranty. It is the installer’s responsibility to verify any circuit before interfacing with it using a digital multi-meter.
- Manufacturer’s service documents can be used for any vehicle disassembly that may be depicted differently from what the instruction states.
- To ensure safety and normal usage of the liftgate, please let a professional complete the install. Do not dismantle the liftgate product, may cause damage to vehicle.
- Start engine before installation; check dashboard display function, check button operation, and check for scratches or damage to exterior and interior. Report any issues immediately.
- Check whether the Tailgate can normally open and close. Check that interior lights are working with tailgate operation.
- Do not change any wires with engine ON.

A. Pre-Installation Precaution and Preparation

1. 2018 Toyota RAV4. (Figure A1)
2. Familiarize yourself with the installation instructions. Inspect kit components to verify everything is present, there is no damage, and to familiarize yourself with the parts.
3. Use Seat and Floor protectors to avoid damage to vehicle surfaces.



Disconnecting the battery prior to any ground or harness removal/ tapping to prevent possible vehicle damage is recommended. The battery may be temporarily reconnected and disconnected throughout the installation process to perform various tasks. However, prior to doing so all connectors and harnesses must be reassembled and reconnected. Once tasks are completed disconnect battery until installation is complete and Electric Tailgate system is ready to be tested. After testing, the vehicles interior may be re-assembled. Disconnecting the battery may cause certain vehicle settings to be lost. Manufacturer's recommendations for the battery removal should be followed.

B. Disassemble Vehicle Trim

1. Detach upper tailgate cover by using a Nylon Removal Tool /NRT and prying along upper edge. (Figure B1a-b) 
2. By hand pull out on trim to release fasteners. Make sure you retain the small white clips left after removing the trim piece. (Figure B2a-b)

Figure A1



Figure B1a



Figure B1b



Figure B2a



Figure B2b



3. Using a NRT and hand, remove the large liftgate trim piece. (Figure B3) 

Figure B3



4. By hand, reach behind the handle insert on the Liftgate. Press on the upper and lower sides to push out the handle. (Figure B4a-b) 

Figure B4a

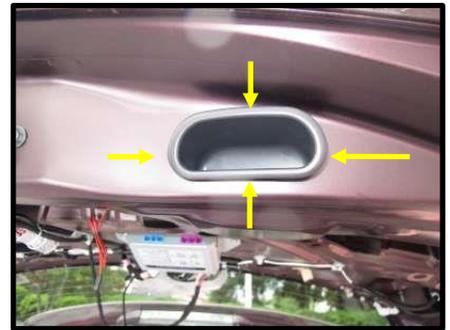


Figure B4b



5. Pry rubber harness gasket away from liftgate and vehicle panel. (Figure B5)

Figure B5



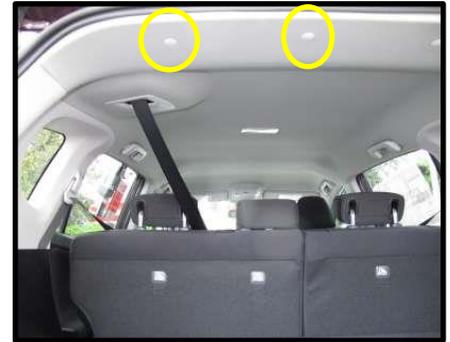
6. Remove rear driver side panels, upper or lower depending on preference of harness routing. (Figure B6)

Figure B6



7. Remove headliner fasteners using a NRT to allow for harness routing. (Figure B7) 

Figure B7



8. By hand, remove lower door sill panel. (Figure B8a-b)

Figure B8a



Figure B8b



9. By hand, twist off plastic nut at front of kick panel trim. Pull up and remove 2-piece lower panel. (Figure B9a-b)

Figure B9a



Figure B9b



10. Remove the left IP trim panel by hand.
(Figure 10a-b)

Figure B10a



Figure B10b



11. Lower the steering wheel adjustment handle.
Pull out and up on steering wheel for ease of removing trim panel. Turn steering wheel to the left and remove #2 Philips screw, then turn to the right and remove other screw.

Figure B11a



(Figure B11a-b) 

Figure B11b



12. Using an NRT, separate the upper and lower half steering wheel trim panels. Remove lower panel. (Figure B12a-b) 

Figure B12a





13. NOTE: To perform this process the installer must have a second person to hold the tailgate up or jack stand to hold tailgate in place. Using a hook tool pull out on retaining clips of the rear tailgate air struts. Do not remove clip completely, by wedging hook tool between clip and strut should allow removal of the strut.

(Figure B13a-c) 

Figure B12b



Figure B13a



Figure B13b



Figure B13c



Figure C1a



C. Electric Strut Bar Installation

1. Using a 10mm socket/ratchet, remove (2) bolts from the lower/ vehicle ball mount bracket. Using a 10mm socket/ratchet install the new ball mount brackets. (Figure C1a-b) 

2. Install new electric struts into place making sure that the strut marked **LEFT** is on the **Driver** side. Push upper and lower strut sockets onto strut ball with harness down and facing the vehicle.
- Continue installing **Passengers/ Right** side strut and ball mount bracket. (Figure C2a-b)

Figure C1b



Figure C2a



Figure C2b



3. Pop out the factory bushing. Using a Razor knife, cut out the bushing from the rubber flap. (Figure C3a-b)

Figure C3a



Figure C3b



4. Route a wire fish through the side metal panels from the bushing hole up to an opening in the liftgate. **NOTE: there are multiple layers of metal along the sides of the liftgate. Make sure you are routing in an area that will not damage the harness.** Attach harness to wire fish and pull it through the liftgate making sure the harness goes through the bushing opening. Remove slack in cable and rubber casing. Push bushing into the hole. Continue routing cable through liftgate area towards control module position. Route opposite side strut cable in the same manner. (Figure C4a-b)



Figure C4a



Figure C4b



Figure D1a



D. Control Box Location

1. Mount Control Box to center opening of the liftgate. The Control box will mount to the support frame. Install the (2) Nuts and bolts through the module and into two holes in the liftgate. Older models will bolt directly to the liftgate. (Figure D1a-c)

Figure D1b



Figure D1c



E. Rear Cable Routing

1. Locate Tailgate button connector, disconnect the connector and insert Lock T-harness

3110122001056. Reconnect factory connector into T-harness. (Figure E1a-b)

Figure E1a



Figure E1b



2. Locate Tailgate latch connector. Disconnect the connector and insert Lock T harness of 3110122001056. Connect the factory connector into the T-harness. Continue routing cable towards Control Box. (Figure E2a-b)

Figure E2a



Figure E2b



3. Mount buzzer (1901454235500) and switch harness (3140122001016) to rear tailgate in location that will not interfere with tailgate trim panel. This cable also routes into rear switch (PBB280020000). Install switch and cable. Continue routing cable to control box. (Figure E3a-b)

Figure E3a



4. Route the main harness through the rubber gasket. Allow enough harness to extend towards rear of vehicle to reach Control box. **NOTE: use a wire puller to pull harness through gasket. Protect harness connectors by taping over them so they pass through easier.** (Figure E4)



5. Continue routing main harness into liftgate. Once inside liftgate, route harness following factory harness to rear of liftgate and Control box securing harness with supplied wire ties. (Figure E5a-b)

6. Using an 8mm socket install ground terminal of the main harness to the stud shown in figure.

(Figure E6a-b) 

Figure E3b



Figure E4

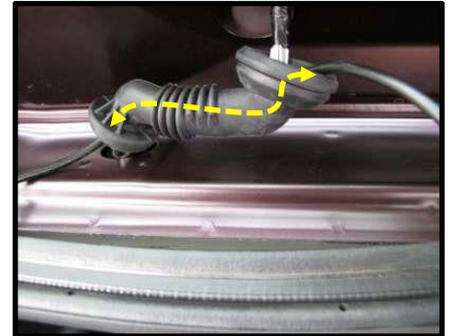


Figure E5a

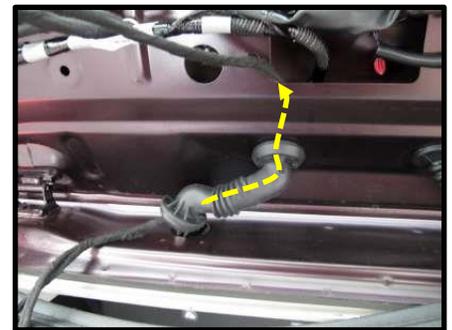


Figure E5b

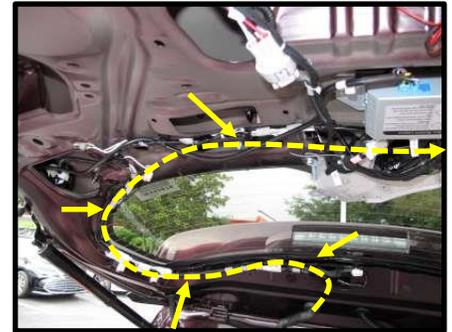


Figure E6a



7. Now route main harness into vehicle. Continue routing main cable through gasket between headliner and over to rear side panel. Continue behind side interior panel or lower panel depending on routing preference. **DO NOT route harness where it may interfere with seat belt or air bags.** (Figure E7a-b)

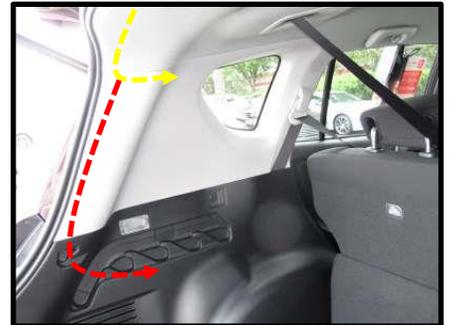
Figure E6b



Figure E7a



Figure E7b



8. Once harness exits passenger door area, tuck harness alongside trim panel and across sill area (Figure E8)

Figure E8



9. Continue routing cable forward tucked under lower B-pillar panel and into driver side sill area. (Figure E9a-b)

Figure E9a



F. Front Cable Routing

1. Locate Main power supply connector inside fuse box opening (White wire/ White connector). Disconnect harness and plug it into Power T-harness (3140122001028). Connect T-harness connector into original position on the BCM. Route cable and ground eyelet down to door sill. Connect ground loop eyelet to the factory stud shown. Continue routing power cable towards main harness in kick panel. (Figure F1a-d) 

Figure E9b



Figure F1a



Figure F1b

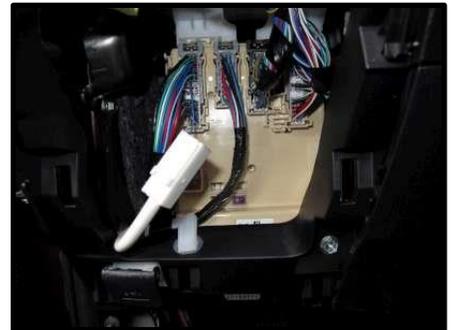
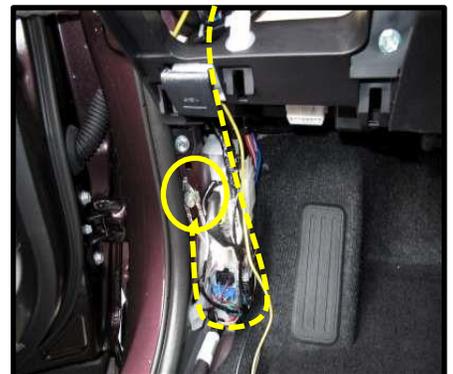


Figure F1c



Figure F1d



2. Locate blank button on IP trim panel and remove by pushing out from backside of panel. Install new liftgate button (PBB2800030000) into vacant spot. Connect Blue connector of the CAN BUS Module harness to the liftgate button.

(Figure F2a-c) 

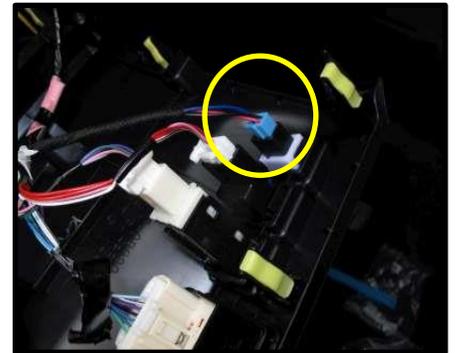
Figure F2a



Figure F2b



Figure F2c



3. Route T-harness of the CAN BUS Module over to steering wheel. Locate the Factory CAN harness connector underside of steering wheel (5wire / black connector). Unplug the CAN Connector. Connect T-harness (314012201040) into the receiving connector and to the CAN Connector. Secure excess cable with wire ties.

(Figure F3a-b) 

Figure F3a



Figure F3b

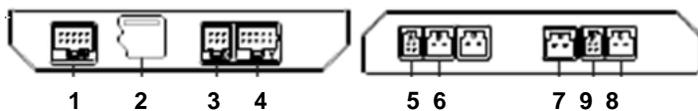


4. Mount or wire tie CAN BUS Module to side wall of the IP opening. Cables from button and CAN T Connectors should be routed around opening and secured. Route CAN BUS main cable to Main harness in lower kick panel. Make Main harness connections in lower kick panel. (Figure F4a-c)

G. Control Box Connections

1. Attach harnesses per diagram and connector fit.

(Figure G1a-c)



- 1.Tailgate Button/Lock harness
- 3.Button/Buzzer Harness
- 5.Main Harness
- 6.Main Harness
- 7.Passenger Stay Bar Harness
- 8.Driver Stay Bar Harness
- 9.Driver stay Bar Harness

Figure F3c



Figure F4a

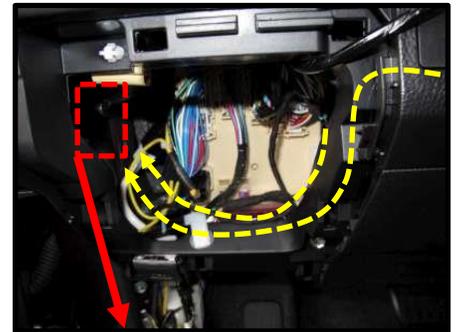


Figure F4b



Figure G1a



Figure G1b



Figure
G1c

2. Use wire ties to clean up all routing making sure cables do not rattle or interfere with any other vehicle parts or operation.


 **3. IMPORTANT: Manually close the tailgate door to initialize the Power Lift Gate System. Function test the System to verify proper operation as follows.**

H. System Testing

1. With tailgate in the closed position, push the front button to open and close the liftgate.
2. Open tailgate using rear outer factory button.
3. Close tailgate using rear inner button.
4. With Keyless Remote, press the UNLOCK button 3x (Long press unlock on some higher trim levels) to open or close liftgate.
5. Check safety Intelligent anti-pinch. Close liftgate using button, put obstacle in path of closing door. Door will automatically stop and reverse position.

I. System Adjustments

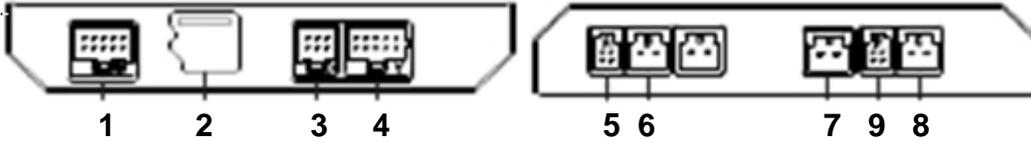
- 1. Height Adjustment:** Manually adjust tailgate to preferred height. Press and hold inside **TAILGATE BUTTON** until system beeps 2 times, then release. Cycle system to verify height adjustment.
- 2. Speed Adjustment:** Press and hold inside **TAILGATE BUTTON** until system beeps 5 times, then release 10 quick beeps= fast, 1 long beep=slow (default)
3. Video of adjustments available on YouTube @ <https://www.youtube.com/watch?v=HZY5rlysk4Y>

J. Reassemble Trim and Complete Installation

1. Re-install rear tailgate trim panel.
2. Re-install all other trim panels previously removed.
3. Check all previously disconnected factory connectors and accessories to ensure they are all connected and operational.

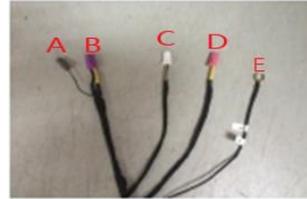
**For Customer or Technical support please call VOXX Support:
1-800-645-4994
9 AM – 6 PM (EST -Eastern
Monday - Friday**

HARNESS CONNECTIONS:



POWER WIRE

- A. Connect to Control box port. -5
- B. Connect to Control box port. -6
- C. Connect to BUS box wire -D
- D. Connect to Power supply unit -B
- E. Ground



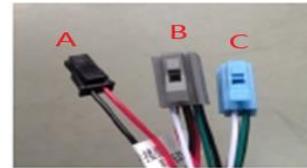
POWER SUPPLY UNIT

- A1-A2. Power out
- A. Ground
- B. Connector joint power wire -A



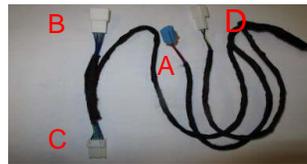
REAR BUTTON WIRE

- A. Buzzer -A
- B. Control box port -3
- C. Rear button port



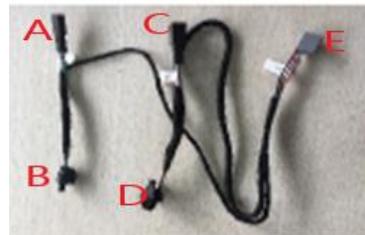
BUS BOX WIRE

- A. Front button terminal
- B. Connect to CAN BUS connector
- C. Connect to CAN BUS terminal
- D. Connector joint power wire -B



LOCK CONTROL WIRE

- A. Tailgate button in
- B. Tailgate button out
- C. Lock control in
- D. Lock control out
- E. Control box port -1



ELECTRIC STRUT

- A. Connect to Control box port -8-9
- B. Connect to Control box port -7



Buzzer

- A. Connect to Rear button wire -A

