# Preparation

**Part Number: PT925 -42131** 

## **Kit Contents**

Item#	Quantity Reqd.	Description
1	1	LH Board Assembly
2	1	RH Board Assembly
3	1	LH Rear Mounting Bracket
4	1	RH Rear Mounting Bracket
5	2	Front Mounting Bracket
6	2	Front Pinch Weld Bracket
7	1	Jack Block
8	1	Jack Decal
9	1	Pinch weld Drill Templates
10	1	Hardware Bag
11	1	Owner's Manual Decal

# **Hardware Bag Contents**

Item#	Quantity Reqd.	Description
1	2	M12 Frame Locking Bolt
2	2	M12 Serrated Flange Nut
3	2	M8 U-Bolt
4	2	M8 Carriage Bolt
5	6	M8 Serrated Flange Nut
6	4	M5 SEMS bolt w/lead in tip
7	4	M5 Flange Nut
8	8	M8 Serrated Flange Bolt (with
		Loctite patch)

# **Additional Items Required For Installation**

Item#	Quantity Reqd.	Description

## **Conflicts**

N /	
Muc	guard

## **Recommended Tools**

Personal & Vehicle	Notes	
Protection		
Special Tools	Notes	
<b>Installation Tools</b>	Notes	
Ratchet	3/8"	
Shallow Sockets	8mm, 10mm (1/4" Drive)	
Deep Sockets	13mm, 18mm (3/8" Drive)	
Extension	3" long (3/8" Drive)	
Socket Adapter	3/8" Drive to 1/4" Drive	
Hand Wrench	8mm Combination	
Torque Wrench – Ft Lbs / Nm	3/8" Drive (3-60 ft lbs/4-81 Nm)	
Center Punch		
Drill Motor	3/8" Drive	
Drill Bit	5.5mm Bit (7/32")	
Plastic Scraper Tool		
Flat Blade Screw Driver	1/4" x 4"	
Hex Head Socket	3mm (1/4" Drive)	
Deburring Tool		
<b>Special Chemicals</b>	Notes	
Sealer	3M Pro Auto Body Sealant	

# **General Applicability**

# **Recommended Sequence of Application**

Item#	Accessory

\*Mandatory

# Vehicle Service Parts (may be required for reassembly)

Item#	Quantity Reqd.	Description

## Legend



**STOP:** Damage to the vehicle may occur. Do not proceed until process has been complied with.



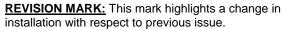
**OPERATOR SAFETY:** Use caution to avoid risk of injury.



<u>CAUTION:</u> A process that must be carefully observed in order to reduce the risk of damage to the accessory/vehicle and to ensure a quality installation.



**TOOLS & EQUIPMENT:** Used in Figures calls out the specific tools and equipment recommended for this process.



SAFETY TORQUE: This mark indicates that torque is related to safety.

Care must be taken when installing this accessory to ensure damage does not occur to the vehicle. The installation of this accessory should follow approved guidelines to ensure a quality installation.

These guidelines can be found in the "Accessory Installation Practices" document.

This document covers such items as:-

- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.).
- Safety (eye protection, rechecking torque procedure, etc.).
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.).
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.).

Please see your Toyota dealer for a copy of this document.

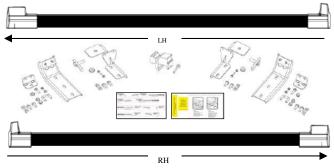
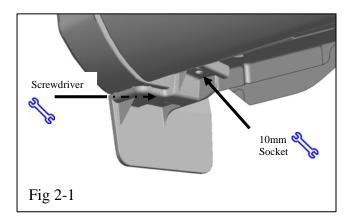
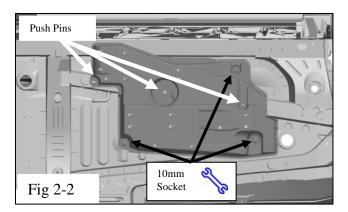


Fig 1-1





# 1. Remove Running Board from Packaging.



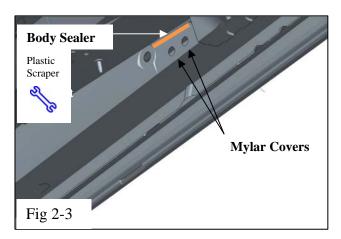
(a) Layout parts to check for damage. Check hardware bag contents for correct type and quantity as listed above. (Fig. 1-1)

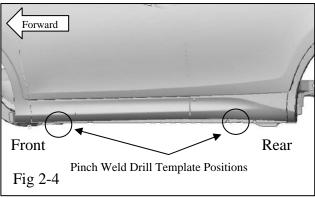
RUNNING BOARD

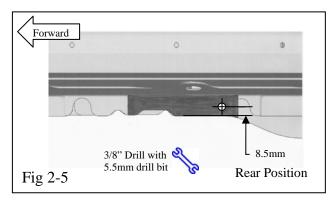
- (b) Read and understand the entire installation instructions prior to beginning.
- (c) Both running boards and rear brackets are side specific to this vehicle. Match running board end cap width and contour to vehicle wheel opening moldings (larger end cap forward). Rear brackets are marked as LH and RH for side designation.

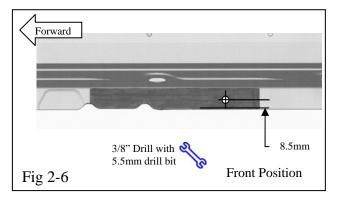
# 2. Preparation

- (a) Open all 4 doors before lifting vehicle to allow access for drilling pinch welds.
- (b) Remove and discard left and right rear diffusers. Use 10mm socket to remove retaining screw. (Fig. 2-1)
- (c) Using a flat blade screwdriver, insert blade forward between diffuser and under body. Carefully push in tab from top side of tab downward and slide diffuser out towards rear wheel. (Fig 2-1)
- (d) Remove and save right hand plastic undercover and hardware for reattachment. Use 10mm socket to loosen the 3 attachment nuts and remove the 3 push pins. (Fig 2-2)









(e) Remove the 2 Mylar hole covers on both left and right front underbody to access the front mounting bracket upper attachment holes. (Fig. 2-3)



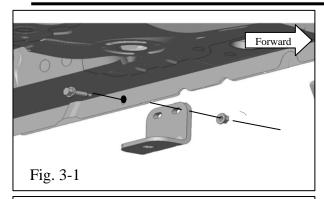
**NOTE:** Using plastic scraper tool or equivalent, remove any body sealer around 2 upper front mounting holes that may restrict the mounting bracket from seating into position. (Fig. 2-3)

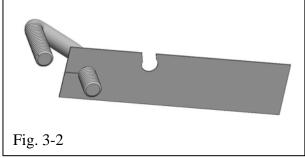
- (f) Locate front and rear pinch weld drill template positions.(Fig 2-4)
- (g) Remove pinch weld drill template from white paper backing and install template along jacking point of pinch weld.
- (h) Align lower edge of drill template with bottom of pinch weld and follow the outer most sheet metal contour. (Fig 2-5 & 2-6)
- (i) Ensure center of hole is at 8.5mm above bottom of pinch weld. Mark the center of the hole by using a center punch.

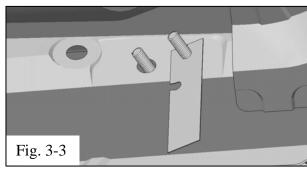


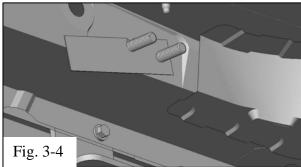
NOTE: Position of Sticky Template is important. Care should be taken to ensure proper positioning before drilling of holes. Brackets can be held in mounting position to verify that all mounting and pinch weld holes align properly before drilling.

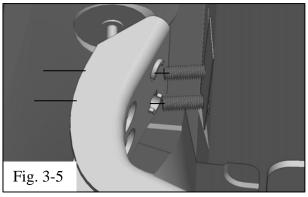
- (j) Drill holes using a 5.5mm dia drill bit in front and rear pinch weld location.
- (k) Remove drill templates and deburr holes from both sides of any metal shavings.











## 3. Install Front Left Hand Brackets to Vehicle



**NOTE:** If needed, remove any OEM pinch weld sealant that may interfere with proper installation of mounting hardware and or components.

- (a) Apply body sealant to drilled 5mm hole.
- (b) Align Pinch Weld Bracket to outside of pinch weld and install M5 bolt from inside drilled pinch weld hole outward through bracket, finger tighten nut. (Fig. 3-1)
- (c) Install plastic retaining clip to midpoint of threads on M8 U-bolt. (Fig. 3-2)



**NOTE:** Be sure to align secondary retaining notch facing inward of U-bolt as shown in Figure 3-2.



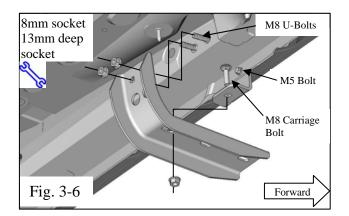
(d) Holding plastic retaining clip, guide the U-bolt through the upper front mounting bracket holes (Fig. 3-3).



- (e) Swing the plastic retaining clip over to other side of the U-bolt and connect the secondary retaining notch to U-bolt (Fig 3-4)
- (f) With the plastic U-bolt retaining clip firmly in place, align front bracket upper mounting holes with U-bolt and guide bracket into place (Fig 3-5)
- (g) Loosely install the 2 flange nuts to the U-bolt until U-bolt just passes through nut.
- (h) Remove plastic U-bolt retaining clip by releasing secondary retaining notch, then twist and pull clip out.



**NOTE:** Save plastic retaining clip for use on right side installation.



RAV4

- (i) Swing front mounting bracket up to pinch weld bracket and attach M8 carriage bolt finger tight. (Fig 3-6)
- (j) Snug all front mounting bracket hardware (M5 and M8).



**NOTE:** Make sure that the bracket is parallel to the ground.

(k) From the inside, torque front M5 bolt to 5Nm (48 in·lbf).



Torque: 5 N·m (48 in·lbf)

(l) Torque M8 Carriage Bolt Nut to 23 N·m (17 ft·lbf).



Torque: 23 N·m (17 ft·lbf)

(m) Torque both Front Bracket U-Bolt Nuts in 3 steps: 7 N·m (60 in·lbf), 14 N·m (10 ft·lbf), and a final torque of 23 N·m (17 ft·lbf)



1<sup>st</sup> Step: Torque: 7 N·m (60 in·lbf)

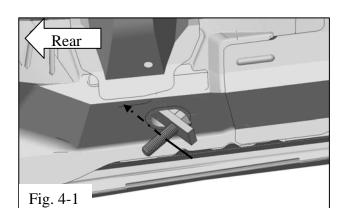
2<sup>nd</sup> Step: Torque: 14 N·m (10 ft·lbf)

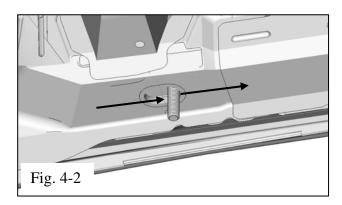


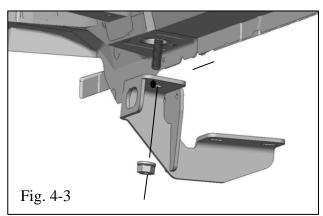
3<sup>rd</sup> Step: Torque: 23 N·m (17 ft·lbf)

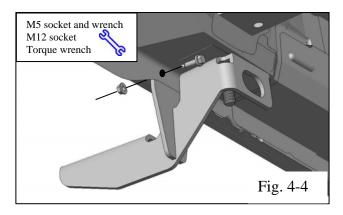


**NOTE:** It is important to tighten both U-bolt nuts in equal increments from side to side.









## 4. Install Rear Left Hand Bracket to Vehicle



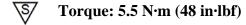
**NOTE:** If needed, remove any OEM pinch weld sealant that may interfere with proper installation of mounting hardware and or components.

- (a) Apply body sealant to drilled 5mm hole.
- (b) Insert M12 Frame Locking Bolt into rear tie down hole on vehicle with long section of the frame locking tab towards rear of vehicle. (Fig 4-1)
- (c) Insert short side up into hole completely and slide bolt forward.(Fig 4-2)

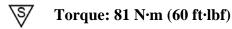


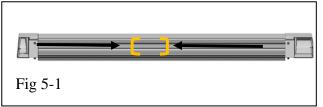
**NOTE:** Verify that Frame Locking Bolt Tab is completely inserted into mounting hole before continuing to next step.

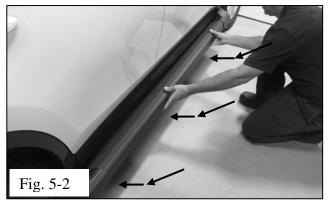
- (d) Guide M12 Frame Locking Bolt through hole in rear mounting bracket and finger tighten the M12 Flange Nut. (Fig 4-3)
- (e) Swing Rear Bracket up to Pinch Weld and install M5 bolt from inside drilled pinch weld hole outward through bracket, finger tighten nut. (Fig 4-4)
- (f) From inside, torque Pinch Tab on rear bracket to pinch weld M5 bolts to 5.5 N·m (48 in·lbf).

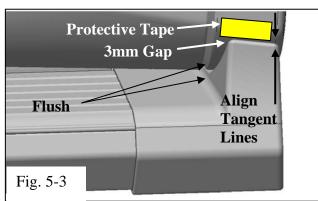


(g) Torque Rear Bracket M12 nut to 81 N⋅m (60 ft⋅lbf).













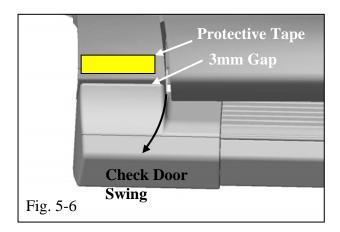
# 5. Install Left Hand Running Board to Brackets

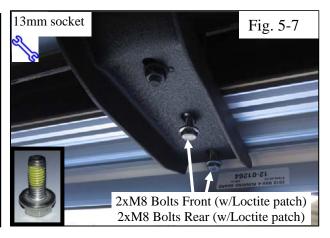


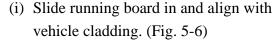
2013

**NOTE:** Running Boards are side specific. Match end cap width and contour with wheel opening molding (larger end cap forward).

- (a) Apply Protective Tape to front and rear vehicle moldings. (Fig. 5-3 and Fig. 5-6)
- (b) Slide the 2 running board Nut Locators to center of running board. (Fig. 5-1)
- (c) Set Running Board onto brackets, tilt board and slide inward. (Fig.5-2)
- (d) Position running board starting at the rear end cap and align Tangent lines between end cap and wheel opening moldings. (Fig. 5-3)
- (e) Set gaps between wheel opening moldings and end caps at 3mm. (Fig. 5-3)
- (f) Slide the running board nut locators to the edge of the mounting brackets and pull locators out of track nuts. (Fig. 5-4)
- (g) Using the end of the locator, slide the track nuts into position lining up with the holes in the mounting bracket. (Fig 5-5)
- (h) Loosely install M8 flange bolts into track nuts.

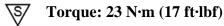




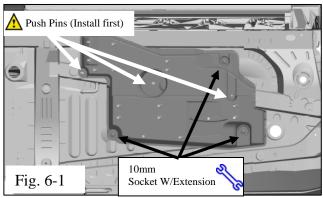


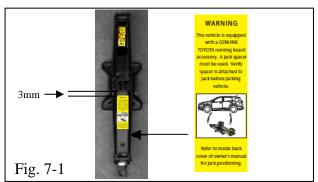
- (j) Carefully open front and rear door and verify that there is no interference between door and end cap. (Fig 5-6)
- (k) Verify front and rear end cap to wheel molding gap is set at 3mm. (Fig. 5-6)

(1) Torque the 4 flange bolts (M8 with Loctite patch) to 23 N·m (17 ft·lbf). (Fig. 5-7)



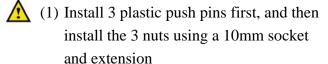
**NOTE:** End cap may need to be adjusted for proper door swing clearance. The front end cap can be loosened using an 8mm socket and moved forward.





# **6.** Install Right Hand Side Brackets and Running Boards

- (a) Repeat steps 2 thru 5 for right hand side installation.
- (b) Re-install plastic under-cover using the same attaching hardware.



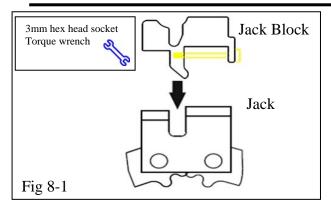
# 7. Jack Warning Sticker Placement

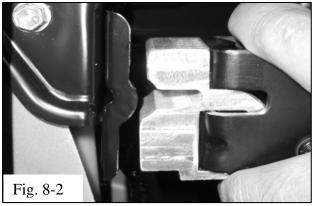
(a) Remove the Jack from rear cargo department.

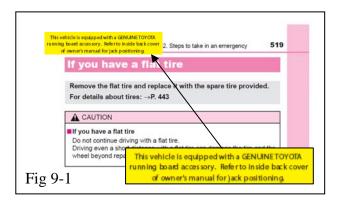


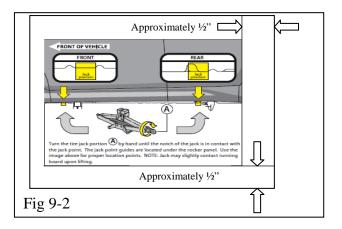
**NOTE:** Make sure Jack is free from dirt and grease.

(b) Place yellow 25mm x 38mm sticker, 3mm from top edge of jack arm. (Fig.7-1)









## 8. Jack Block Installation

- (a) Remove M5 Button Head Screw from Jack Block.
- (b) Matching contours set Jack Block down on Jack and install Button Head Screw.(Fig 8-1)
- (c) Torque Jack Block screw to 4 N·m (36 in·lbf).

# Torque: 4 N·m (36 in·lbf)

(d) Place jack back into jack compartment and expand to provide a tight fit and to prevent jack block from rattling. (Fig. 8-2)



**NOTE:** Make sure jack is properly secured.

# 9. Owner's Manual Sticker Placement

- (a) Retrieve vehicle Owner's Manual from glove compartment.
- (b) Go to section 7: "WHEN TROUBLE ARISES".
- (c) Locate the "If You Have a Flat Tire" (page 519).
- (d) In this section at the top inside edge, place the yellow 12mm x 76mm warning sticker as shown. (Fig 9-1)
- (e) Go to inside back cover of the vehicle Manual
- (f) Place the white 101mm x 76mm sticker on the inside of the cover as shown. (Fig 9-2)
- (g) Replace the Owner's Manual.

Checklist - these points **MUST** be checked to ensure a quality installation.

Check:	Look For:		
Accessory Function Checks			
Check end cap alignment to fender flair	Small adjustments can be made to the front		
	end caps if necessary.		
Warning decals have been placed in	Top left of page 519 and inside back cover.		
Owner's Manual			
FOR TORQUE AUDIT I	PURPOSES ONLY (PPO)		
Description	Torque Range	Page #	
Inspect torque M8 bracket/vehicle hardware	▼ 18-28 N·m (13-21 ft·lbf)	5	
Inspect torque M5 bracket hardware	▼ 4-7 N·m (3-5 ft·lbf)	5,6	
Inspect torque M12 bracket hardware	<b>◎</b> 61-101 N·m (45-75 ft·lbf)	6	
NOTE: Stainless Steel M8 bracket/board bolts	▼ 18-28 N·m (13-21 ft·lbf)	8	
(8 places) with Loctite Patch can only be audited at	(10 20 1 1 11 (10 21 10 102)		
the time of installation.			
Vehicle Function Checks			
Contact between door and running board		1 6	

Small adjustments can be made to the front end caps if contact exists.

# Vehicle Appearance Check

After accessory installation and removal of protective cover(s), perform a visual inspection.

Ensure no damage (including scuffs and scratches) was caused during the installation process.

(For PPO installations, refer to TMS Accessory Quality Shipping Standard.)