

Part Number: PT413-42191

Kit Contents

Item #	Quantity Req.	Description
1	1	Fog Lamp, Chrome, Left
2	1	Fog Lamp, Chrome, Right

Hardware Bag Contents

Item #	Quantity Req.	Description
1		
2		
3		

Additional Items Required For Installation

Item #	Quantity Req.	Description
1		
2		
3		

Conflicts

None

Recommended Tools

Personal & Vehicle Protection	Notes
Special Tools	Notes
Installation Tools	Notes
#2 Phillips Screwdriver	3" long
10mm Socket	Standard length
1/4" drive extension	1-1/2"
1/4" drive ratchet	
Small Nylon Removal Tool	
Special Chemicals	Notes

General Applicability

MY19 and newer RAV4/RAV4 HV Standard and Adventure models

Recommended Sequence of Application

Item #	Accessory
1	
2	
3	

*Mandatory

Vehicle Service Parts (may be required for reassembly)

Item #	Quantity Req.	Description
1		
2		
3		

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.

 **CAUTION:** 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.

 **REVISION MARK:** This mark highlights a change in installation with respect to previous issue.

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

Procedure

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.

1. Prepare the vehicle

-  (a) Protect the fender before starting.
-  (b) The engine components and coolant may be hot.
- (c) Check the kit for contents and any damage.
- (d) Remove the battery cable from the negative terminal (Fig. 1-1)

 **CAUTION:** Do not touch the positive terminal with any tool during removal.

2. Place the Vehicle on Chassis Lift

- (a) Raise the vehicle to a comfortable working height.

3. Remove the Engine Under Cover

- (a) From inside the wheel well, remove the screw shown. (1) on each side of vehicle. LH shown (Fig. 3-1).

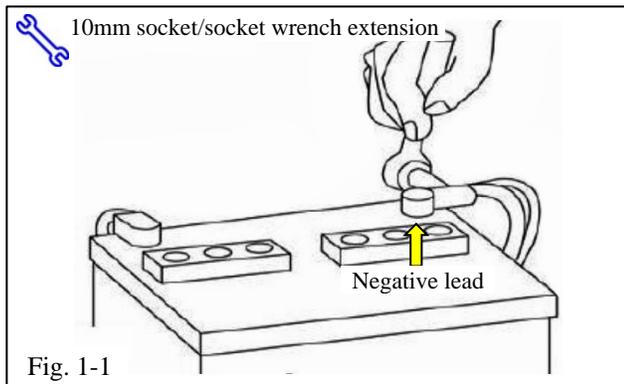
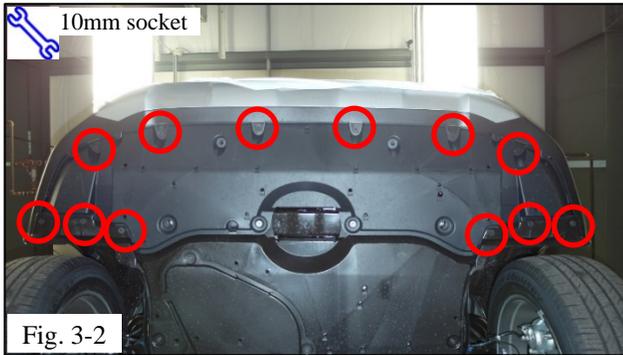


Fig. 1-1

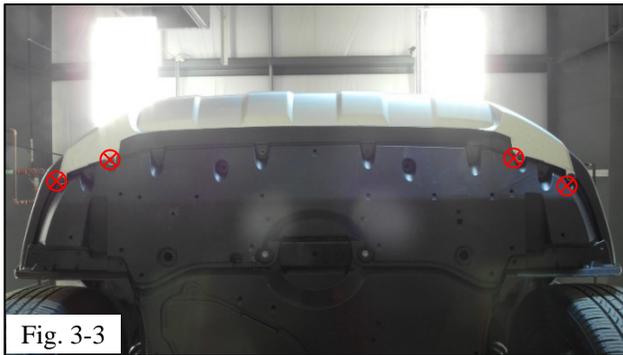


Fig. 3-1

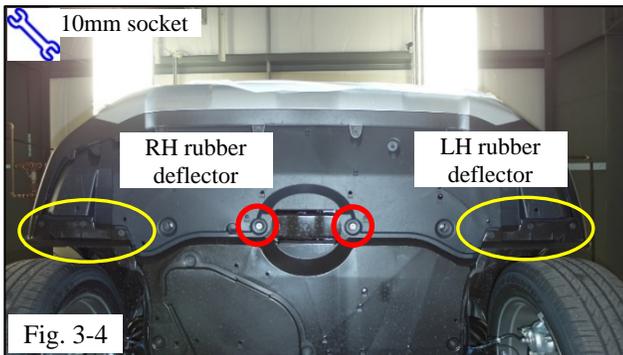


(b) From under the vehicle, remove the (12) screws (Fig. 3-2).

 **NOTE:** Standard Grade shown.



(1) Adventure grade will have (2) additional push fastener per side. Do not remove these (Fig. 3-3).

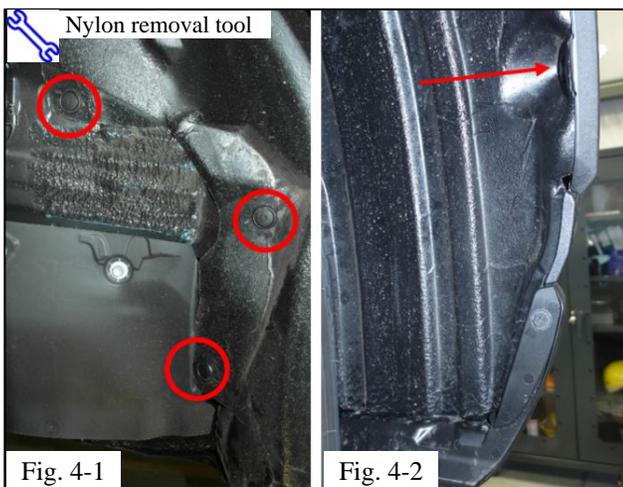


(c) Next, remove the (2) screws as indicated in red (Fig. 3-4).

(1) These screws do not need to be fully removed from the cover.

(d) Remove the engine under cover along with LH and RH rubber deflectors (Fig. 3-4).

4. Partially Remove the Fender Liners

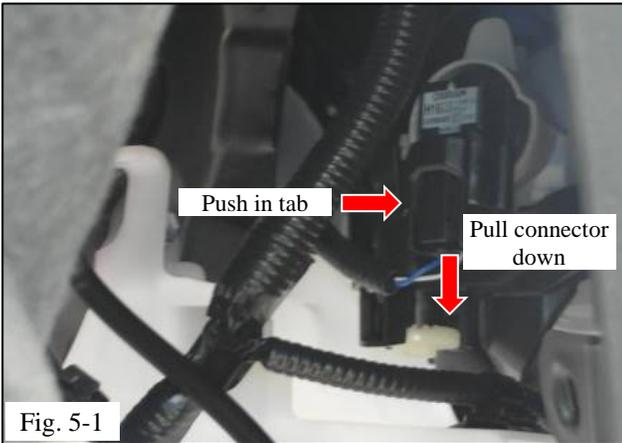


(a) Starting on either side of the vehicle, turn the wheel outward to gain additional clearance.

(b) From inside the wheel well, remove the (3) push fasteners. RH shown (Fig. 4-1).

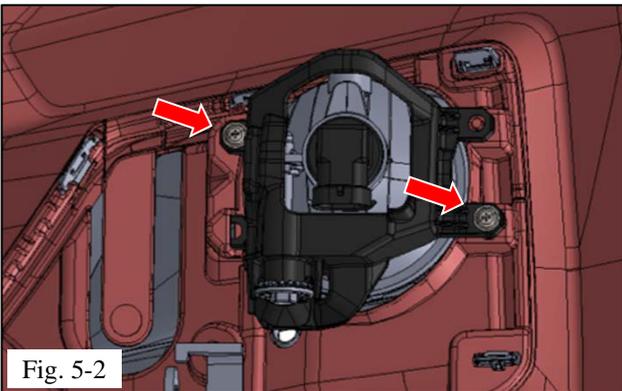
(c) Remove the (1) push fastener from the bumper. RH shown (Fig. 4-2).

(d) Bend fender liner back to gain additional access for removal/installation of the lamp assembly.



5. Remove the OE Lamp Assembly

- (a) Disconnect the lamp assembly from the vehicle wire harness by pressing on the release tab and pulling down. RH shown. (Fig. 5-1).



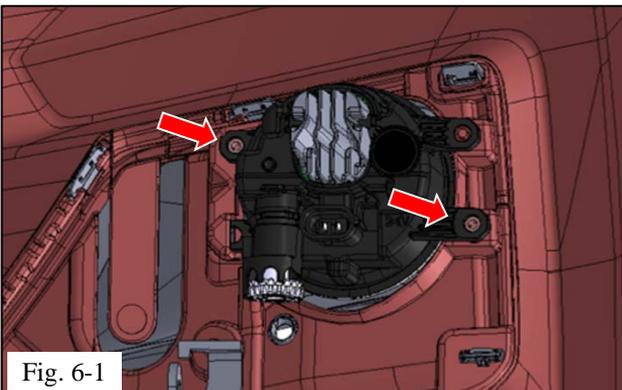
- (b) Using #2 Phillips screwdriver, remove the (1) inner and (1) outer mounting screws and save for re-use (Fig. 5-2).

⚠ NOTE: The right-hand lamp has limited access due to the washer bottle.

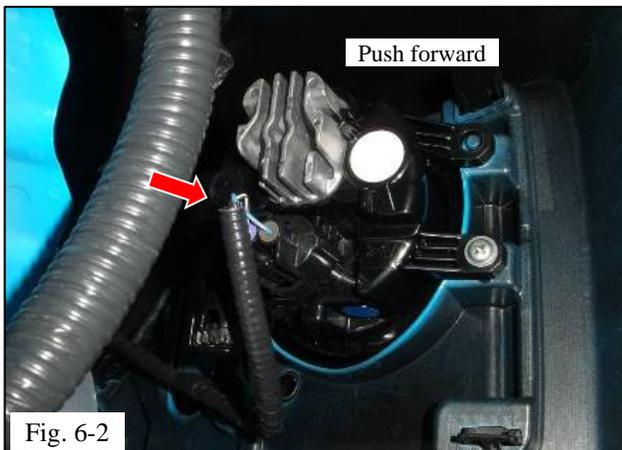
- (c) Remove the OE Fog Lamp and discard.

6. Install the LED Fog Lamp

- (a) Installation is the reverse of removing OE Fog Lamp.



- (1) Insert the mounting tabs of the LED Fog Lamp into the mounting slots of bumper as shown (Fig. 6-1).
- (2) Secure with the (2) previously saved screws (Fig. 6-1).



- (b) Reconnect the fog lamp connector by inserting into the fog lamp and pressing forward engaging the release tab (Fig. 6-2).

7. Partially Reassemble the Vehicle.

- (a) Bend the fender liner back into position.
- (b) Reinstall the (3) previously removed fender liner push fastener (Fig. 4-1).
- (c) Reinstall the (1) previously removed bumper push fastener (Fig. 4-2).

8. Install the Opposite Side Fog Lamp.

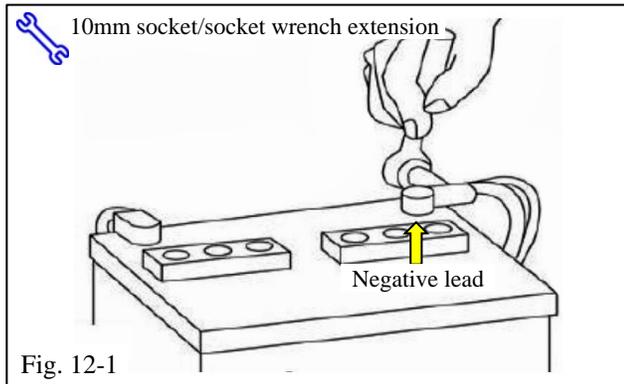
- (a) Repeat Steps 4-7 on opposite side of vehicle.

9. Final Vehicle Reassembly.

- (a) Reinstall the engine under cover.
 - (1) The front edge of the cover will rest on top of the screw tabs.
- (b) Reinstall the (2) previously removed fender liner bumper screws (Fig. 3-3).
- (c) Reinstall the (12) previously removed engine under cover screws (Fig. 3-2).

10. Return the front wheels to straight.

11. Lower the vehicle.

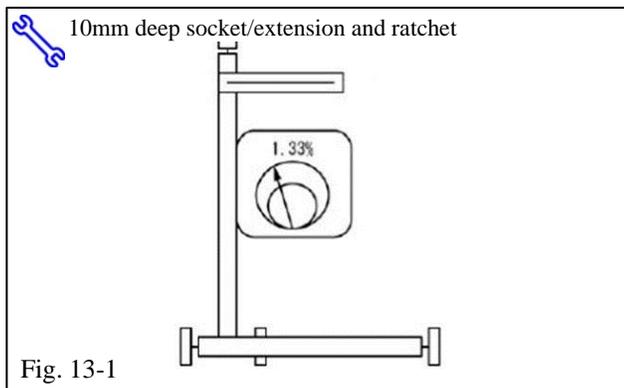


12. Reconnect the Battery.

- (a) Reconnect the negative (-) battery cable (Fig. 12-1).

Torque: 5.4 N•m (48 in•lbs)

CAUTION: Do not touch the positive terminal with any tool.

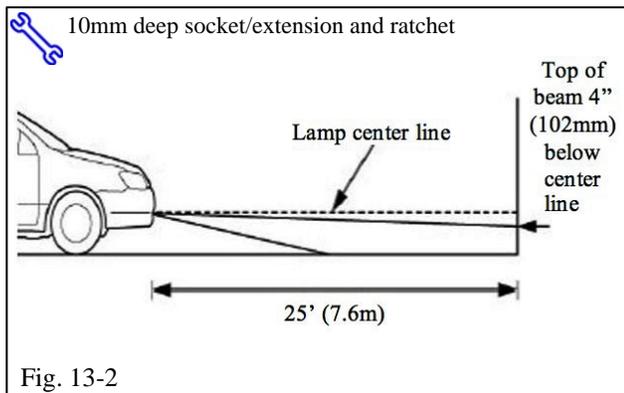


13. Aim the Fog Lights (DIO only).

- (a) Align the Fog Light Beam.

NOTE: If available, use a Hella Photometric Beam Setter (or equivalent) to align the fog light beam (Fig. 13-1).

- (b) If a beam setter is not available, use a wall to aim the lights.



- (1) Position the vehicle on a flat surface at a distance of 25 feet (7.6m) from the fog light to a wall (Fig. 13-2).

- (2) Measure the distance from the center of the lamp to the ground and mark off the same height on the wall. This is the fog light centerline (Fig. 13-2).

- (3) Turn on the fog lights and adjust them so that the top of the beam (high intensity portion) falls 4 inches (102 mm) below the mark on the wall (the fog light centerline) (Fig. 13-2).

- (c) Use a #2 Phillips screw driver to turn the adjustment gear on the fog lights.

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

<u>Check:</u>	<u>Look For:</u>
<p><u>Accessory Function Checks</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Install a short pin (if necessary) <input type="checkbox"/> Turn the headlights on <input type="checkbox"/> Check the fog light switch illumination <input type="checkbox"/> Turn the fog lights on <input type="checkbox"/> Switch the high beams on <input type="checkbox"/> Turn the headlights off <input type="checkbox"/> Check the fog light switch orientation 	<ul style="list-style-type: none"> Headlights function as normal Switch lights up Fog lights turn on Fog lights off Headlights and fog lights turn off The lamp symbol faces left
<p><u>Vehicle Function Checks</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Taillights/brake lights/turn signals <input type="checkbox"/> Reverse lights & emergency flashers <input type="checkbox"/> Mirror, dimmer controls, fuel door switch <input type="checkbox"/> Traction control <input type="checkbox"/> Hood release latch 	<ul style="list-style-type: none"> All function properly Function properly Function properly Functions properly Functions properly
<p><u>Vehicle Appearance Check</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> After accessory installation and removal of protective cover(s), perform a visual inspection. 	<p>Ensure no damage (including scuffs and scratches) was caused during the installation process.</p> <p>(For PPO installations, refer to TMS Accessory Quality Shipping Standard.)</p>