

TOYOTA

RAV4

2016

2 in 1 LED UPGRADE KIT

Part Number: T4R-2N1



Kit Contents

Item #	Quantity Reqd.	Description
1	2	DRL + Fog Light Housing
2	1	Driver Box
3	1	Harness bag
4	1	User's card
5	1	Switch

Hardware Bag Contents

Item #	Quantity Reqd.	Description
1	1	Hood Wire Harness
2	1	Cabin Wire Harness
3	25	8" Wire ties
4	2	Black T-Taps
5	1	14" wire tie
6	1	Relay
7	2	Phillip Head Screws
8	2	DRL Connectors

General Applicability

XLE, Limited

Conflicts






IMPORTANT NOTICE!! This LED Upgrade Kit Requires the Vehicle to be Equipped with Factory Installed Halogen Fog Lights

Recommended Tools

Safety Tools	
Safety Glasses	
Protective tape	
Electrical Tape	
Installation Tools	
10mm Wrench	
Phillips Screw Driver	
Pliers	
Panel Tool Removal	
Side Cutters	
Torque Wrench	
Special Chemicals	
3M Silicon Sealant	

Mandatory

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.

SPECIAL NOTE: After Auer Automotive Safety mandated preparatory steps have been taken, the installation sequence is the suggested method for completing the accessory installation. In some instances the suggested sequence is written for one associate to install and in others the sequence is given as part of a team accessory installation. Unless otherwise stated in the document, the associates may perform the installation steps in any order to make the installation as efficient as possible while maintaining consistent quality. Also some items listed to be removed may not need to be removed if caution is taken to not damage vehicle.
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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 quality installation.

Preparation



Remove negative battery cable

Installation

1. Route the DRL wire harness along the driver side from the battery towards the firewall of the vehicle. Secure the wire harness with wire ties as needed (picture 1)



Picture 1

2. From inside the car, locate the large vehicle harness grommet on the left side. If accessible, cut the auxiliary wiring nipple off the grommet or cut 1/4" slit in grommet. Using fish tape pull the red, black, red-white and black-white wires through firewall. Note: Extra caution should be taken not to damage the pins. Seal with 3M Silicone sealant from inside vehicle (pictures 2 & 2A)



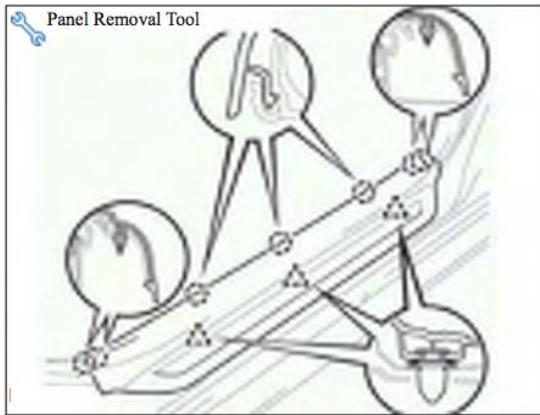
Picture 2: View from inside vehicle



Picture 2A: View from the engine compartment

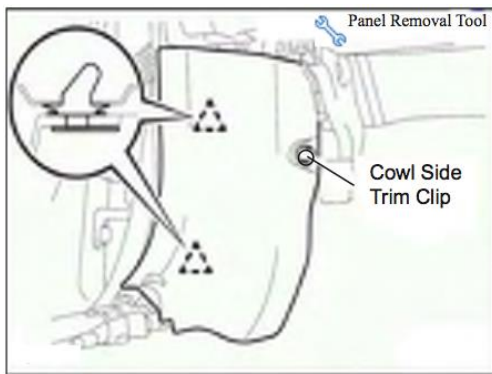
Vehicle Disassembly

3. Remove driver side door scuff plate: Disengage with panel tool and remove (pic.3)



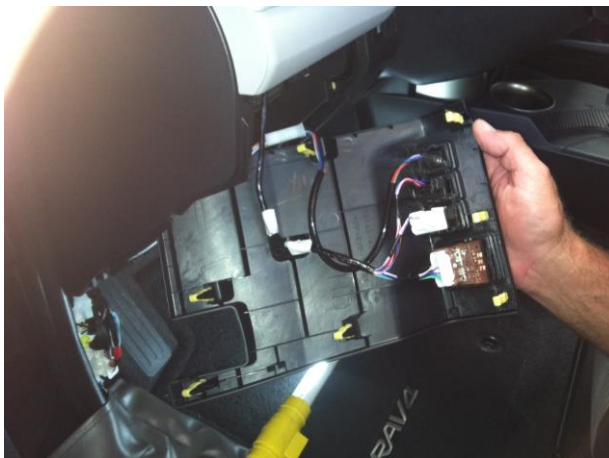
Picture 3

- Remove the driver side cowl side trim. Unscrew the cowl side trim clip. Disengage two (2) clips and remove the cowl side trim (picture 4)



Picture 4

- Remove driver's side upper panel (pic. 5)

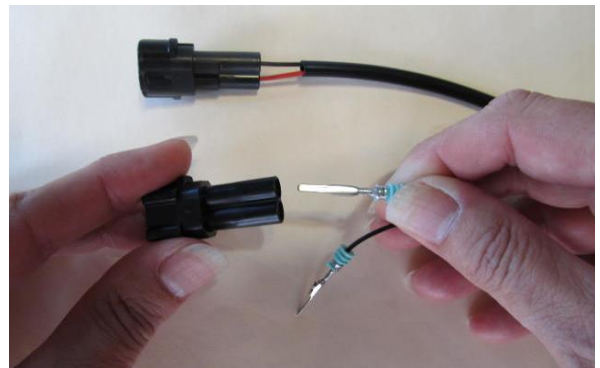


Picture 5

- Locate the wires that were pulled through the grommet in step 2. Route wire harness

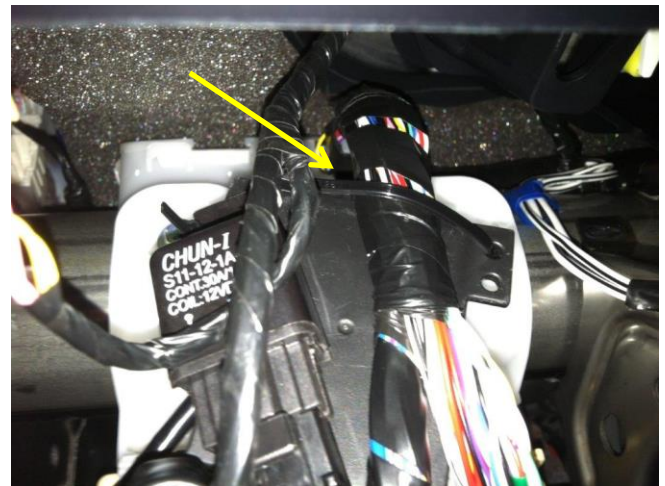
towards the left side of steering wheel. Use wire ties as needed.

- Using the driver box as a guide, push the pins of the DRL wire harness into the connector supplied in kit. Make sure that the wire colors of the connectors are aligned with the wire colors of the driver box: black with black and red with red, etc (picture 6)



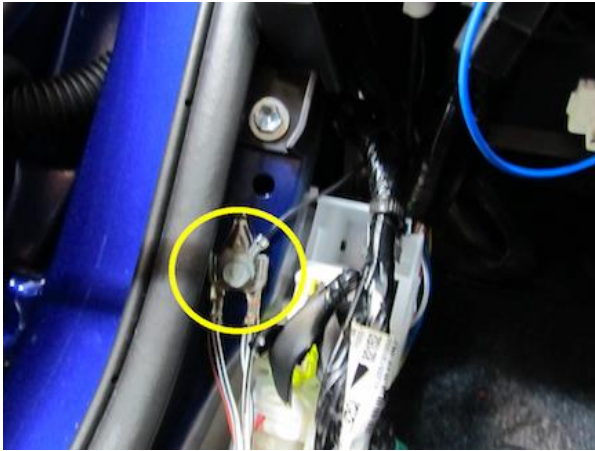
Picture 6

- Connect the driver box to the wire harness (make sure wire colors are aligned).
- Using a 14" wire tie, secure the driver box and relay to the main harness of the junction block (pic. 7).



Picture 7

- Secure the black wire with a ring terminal from DRL harness to ground location behind kick panel (picture 8)

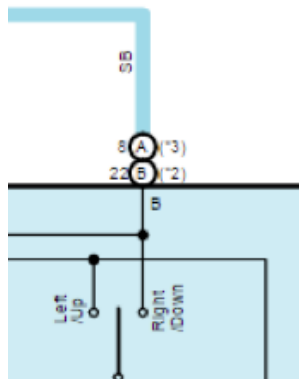


Picture 8

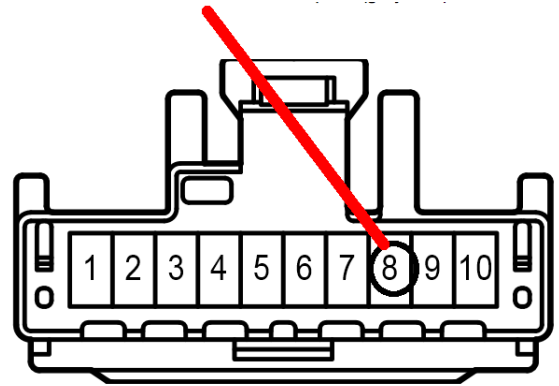


Note: If vehicle is made in Canada (TMMC), then follow step 12. If vehicle is made in Japan (TMC), then follow step 13.

11. Canada made vehicles (TMMC): At connector G39 install a black T-Tap to pin 8, SKY BLUE wire. Then connect the red wire from DRL harness to T-tap. Connector G39 is located at the back of mirror control switch. (pictures 9 and 9A)

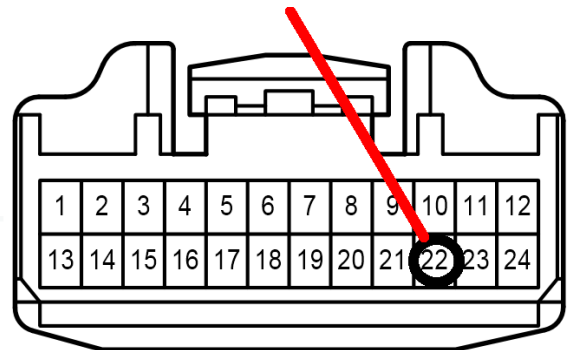


Picture 9: Mirror control switch
 Connector G39, Pin 8: TMMC made
 Connector G151, Pin 22, TMC made

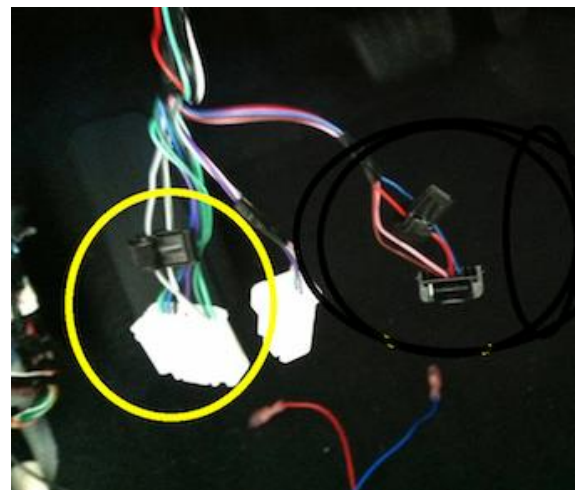


Picture 10A: Mirror control switch G39
 NOTE: For Canada made vehicles ONLY

12. (Japan (TMC) made vehicles: At connector G151 install a black T-Tap to pin 22, SKY BLUE wire. Then connect the red wire from DRL harness to T-tap. Connector G151 is located at the back of mirror control switch. (pictures 10 and 11)



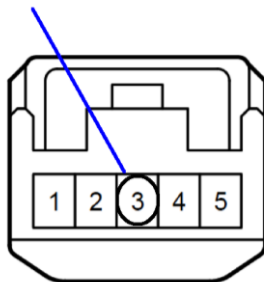
Picture 10: Mirror control switch G151
 NOTE: For Japan made vehicles ONLY



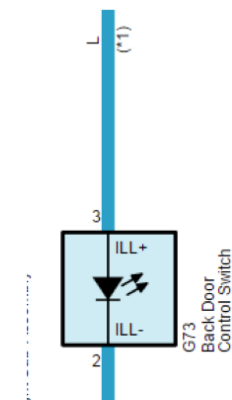
Picture 11

13. At the rear hatch control switch connector G73, pin 3, install a black T-Tap to the BLUE wire. Then connect the blue wire from DRL harness to t-tap. Connector G73 is located at the rear hatch dash switch. (Pictures 12, 13 and 14).

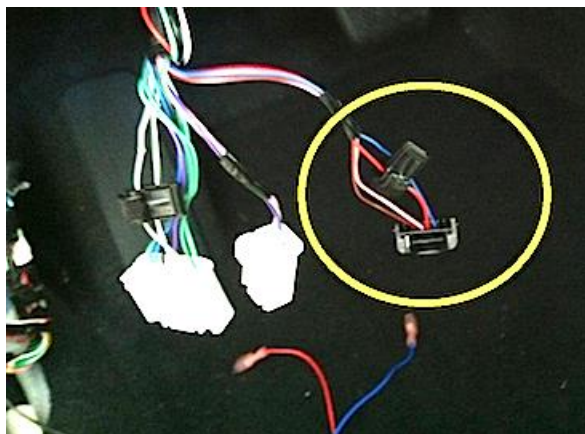
***Note: Pin 5 wire color is green for vehicles made in USA, 4WD manual transmission.*



Picture 12: Rear Door switch connector G73

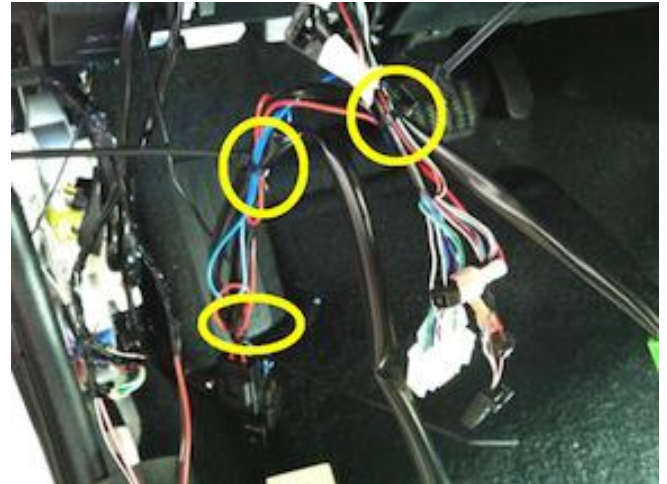


Picture 13: Rear Door Switch



Picture 14

14. Secure any excess wire from t-taps, fuse and relay to main wire harness (picture 15 & 15A). Make sure to leave enough lead on the switch green connector.



Picture 15



Picture 15A

15. Push out the switch knockout located at the left of the steering wheel (picture 16).
16. Route DRL switch connector through switch knockout connector.
17. Mount switch into dash panel. Then connect the switch wire harness to switch (pic 16)

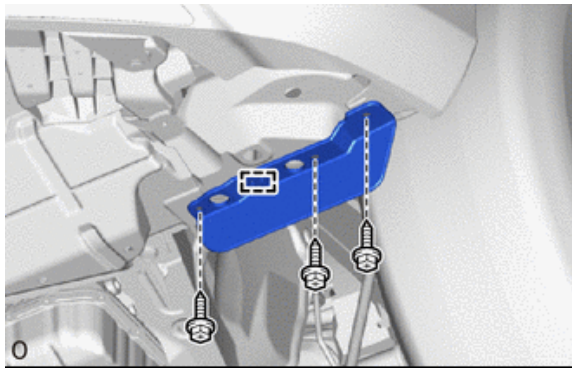


Picture 16

- 18. Reinstall panels and connectors

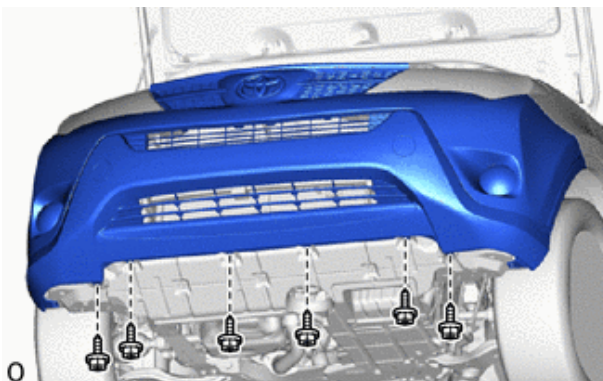
ENGINE COMPARTMENT

- 19. Remove front fender splash shields by removing 3 screws. Then detach the clamp (picture 17)



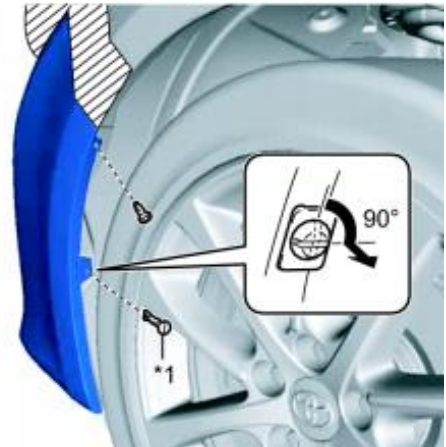
Picture 17

- 20. Remove 6 screws at the bottom of front bumper cover (picture 18)



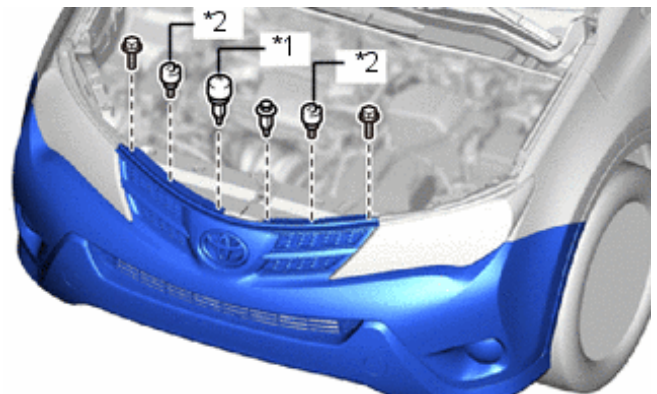
Picture 18

- 21. Remove the top screw securing fender lining. Then, using a screwdriver, turn clip 90 degrees and remove the pin/clip. Use same procedure for LH and RH sides (picture 19)



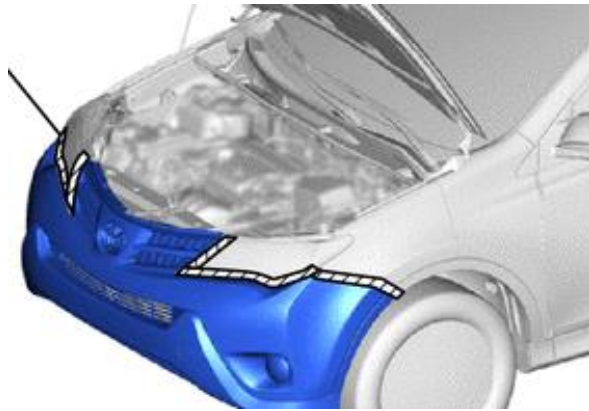
Picture 19

- 22. Remove the center hood cushion and 2 radiator grill protectors (picture 20), then remove 2 bolts and clips



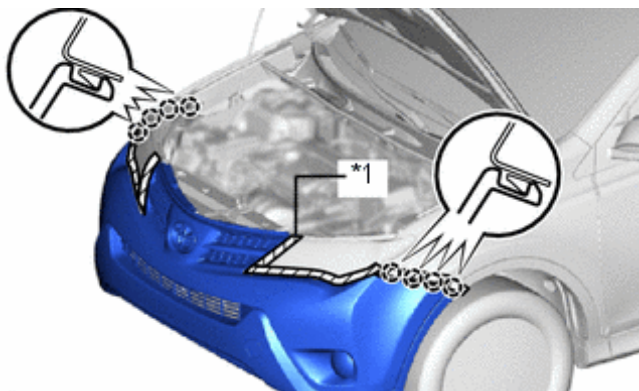
Picture 20

- 23. Put protective tape around the bumper cover (picture 21)

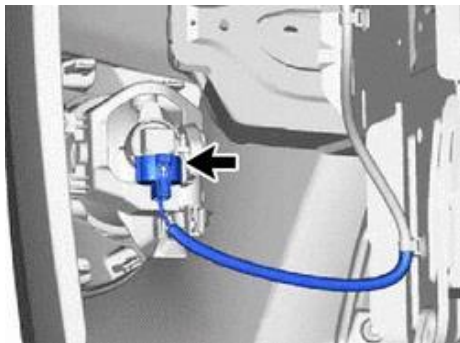


Picture 21

24. Detach the 8 claws then slowly remove the front bumper cover. Unplug the factory fog lights and any other connector attached to the bumper. Then remove bumper from vehicle (picture 22)

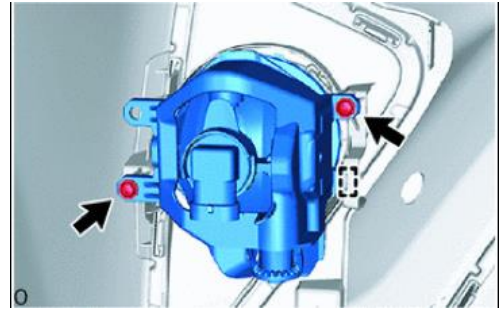


Picture 22



Picture 23

25. Place bumper on a workbench. Remove the factory fog lights: Remove 2 Philip screws (do not discard the screws, as they will be used to mount 2in1 light).



Picture 23A

26. Mount the LH and RH 2in1 Lights into bumper: use the factory screws (picture 24)



Picture 24

27. In the engine compartment, route the wire harness behind the driver's side head-lamp towards the radiator grill. Then route to the passenger side, securing harness by the bumper absorber assy. Use wire ties as shown (pictures 25~25B).

Picture 25:
Driver side head-lamp: showing securing excess wires

Picture 25A: Driver side: securing wire harness behind by radiator

Picture 25B

28. Reinstall bumper to vehicle. Before securing the bumper to the vehicle, connect the 2in1 light terminals: 2in1 fog light terminals to factory fog light wire terminal, and 2in1 DRL terminal to DRL wire harness (Picture 26).

Connect any other removed terminal/connector to the bumper, then secure bumper to vehicle.

Picture 26

29. Reinstall lower splash shield.
30. Adjust LED fog lights.

31. Reconnect negative battery terminal.
Torque terminal to 48 in-lbs.

Fog Light Aiming

Traditional fog lights are usually mounted in the front bumper about 10-24 inches from the ground. There are two important issues to address when installing fog lights: the first is to minimize the amount of return glare into the drivers eyes, and the other is to minimize the glare into oncoming eyes. Both of these issues must be accomplished while putting as much light as possible on the road.

These fog weather light aiming instructions are suggestions taken from common practice and the S.A.E. standard J583. Some modifications to these instructions may be necessary to minimize glare.

Visual aim is made with the top of the beam 4 inches below the lamp center at 25 feet with the lamp facing straight forward (see picture 27)

Picture 27

NOTE: Use only hand tools to adjust the fog light aiming screw. DO NOT use automatic tools, as they will damage the fog light

Checklist – these points MUST be checked to ensure quality installation

Check System for Operation

1. DRL will work at full power when ignition switch is ON. DRL will dim out to DOT specifications when lights are ON.
2. If DRL switch position is off, DRL will not work at any time.

Check

Accessory Functions Checks

-
- DRL function.....
 - Fog Lights function.....
 - All Panels snapped into place.....
 - Fog Lights.....
 - Battery Terminal.....
 - Operation Guide.....

Vehicle Function checks

-
- Check functions all switch functions

Look For:

-
-
 -
 - Loose panels and switches
 - Visually confirm lights are straightforward
 - Re-torque battery terminals to 48 in-lb
 - Place DRL operation guide inside glove box.