

TOYOTA

Highlander

2016

LED Illumination Package (Interior and Exterior)

Part Number: 00016-00069

Accessory Code: LL1000



Conflicts

Note: None

Kit Contents

Item #	Quantity Req'd.	Description
1	4	Puddle Lights and Harnesses
2	1	Control Module
3	1	Power Harness
4	1	Hardware bag
5	2	Foot-well Lights
6	1	Foot-well Harness
7	1	Mounting Bracket Kit

Hardware Bag Contents

Item #	Quantity Req'd.	Description
1	15	Wire Ties
2	4	Foil Tape
3	5	Foam Tape
4	14	Plastic Rivets
5	3	Red T-Taps
6	3	Black T-Tap
7	1	Blue T-Tap
8	1	Sealing Putty

Additional Items Required For Installation

Item #	Quantity Req'd.	Description
1	1	62217-52120
1	1	62217-0E040

Recommended Tools

Safety Tools	
Special Tools	
Installation Tools	
Phillips Screwdriver	
Trim Removal Tool	Rivet Gun
Pliers	Needle nose pliers
Drill	Tape Measure
7/16" Drill Bit	Torque Wrench
11/64" Drill Bit	3mm Allen wrench
Drill Stop	Fish Tape
8,10&12mm Sockets/Ratchet	Utility Knife
Special Chemicals	
50/50 alcohol water mixture	
VPC Approved Sealant (opt.)	

Color Applicability/Trim Level

[illegible]

General Applicability


All Models


Recommended Sequence of Application


Item #	Accessory	
1	Light Package	
2	Running Boards	
3		


*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.

 **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.

SPECIAL NOTE: Installation Sequences

After **TMS** and **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.

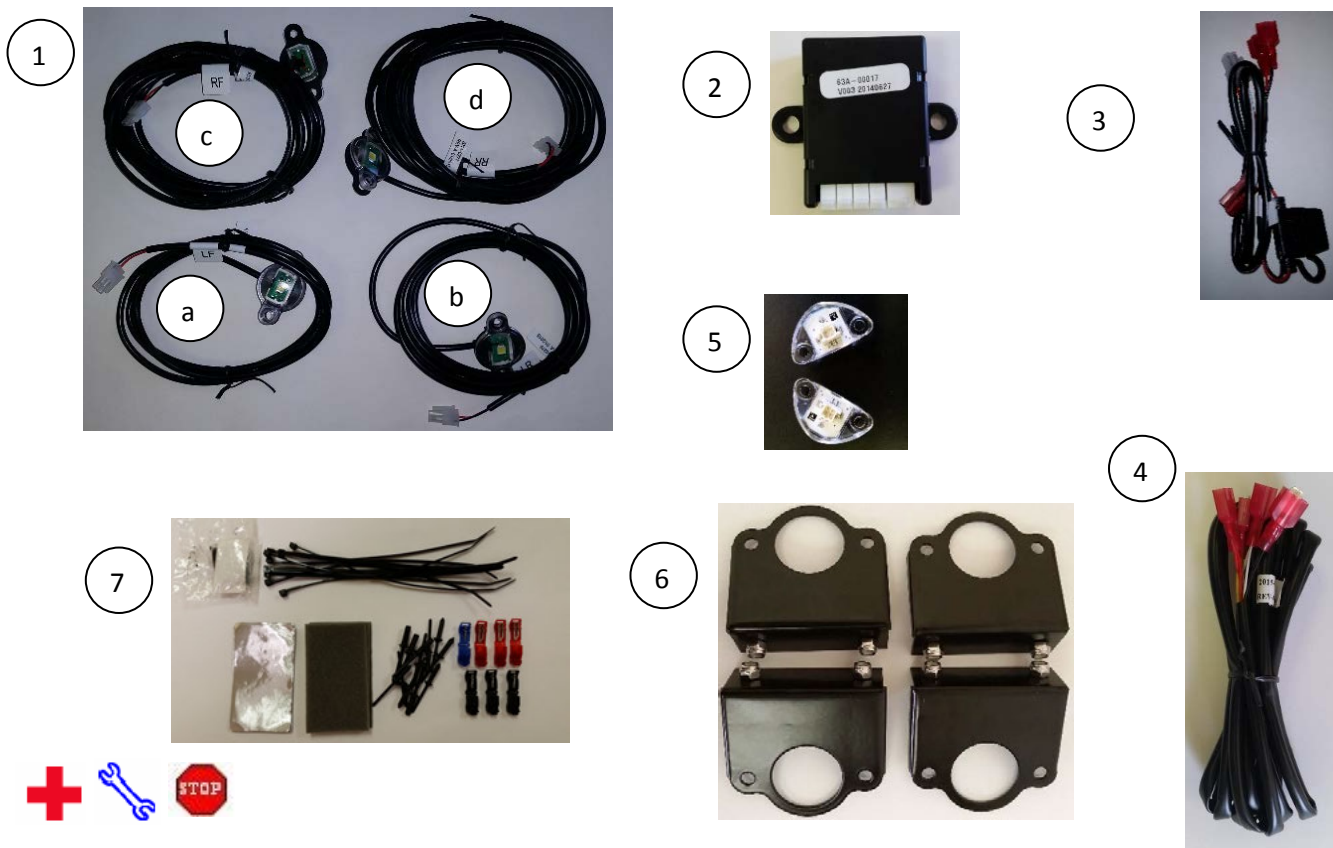
Care must be taken when installing this accessory to ensure damage does not occur to the vehicle. The installation of this accessory should follow approved guidelines to ensure a quality installation.

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, re-checking torque procedure, etc.).
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.).
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.).

Item	Quantity	Description	Part Number
1.	4	Puddle Lights and Harnesses	
(a)	1	LF (4.9') Puddle Light	00016-00064-05
(b)	1	LR (7.8') Puddle Light	00016-00064-06
(c)	1	RF (10.8') Puddle Light	00016-00064-07
(d)	1	RR (13.8') Puddle Light	00016-00064-08
2.	1	Control Module	00016-00064-04
3.	1	Power Harness	00016-00064-01
4.	1	Foot-well Harness	00016-00064-02
5.	2	Foot-well Lights	00016-00064-03
6.	4	Puddle Light Mounting Brackets	00016-00069-01
7.	1	Hardware Bag	



CAUTION: It is advisable to disconnect the negative battery cable for 3 minutes before beginning installation, to avoid unintended air bag deployment. Note and record any anti-theft radio codes prior to disconnecting.



VEHICLE PREPERATION:

1. Measure and drill locations for the rear light pod brackets using 11/64" drill bit. These should be centered below the 2nd grommet from the rear (Figure 1).
2. Measure and drill locations for the front light pod brackets using 11/64" drill bit. They should be centered approximately 7 1/2" back from the rear most front jack point (Figure 2).
3. Install all 4 mounting brackets using included bracket hardware. Brackets should be in-board of pinch weld, with bolts being fed through the pinch weld then the bracket (Figure 3).

NOTE: Apply VPC approved sealant to all pinch weld holes before mounting brackets.

4. Mount appropriate light in corresponding location securing in place with plastic rivets (Figure 4).

NOTE: Arrow on puddle light lens must face out, away from vehicle.

5. Remove Undercarriage skid plates from both sides, then remove front floor pan drain plugs.

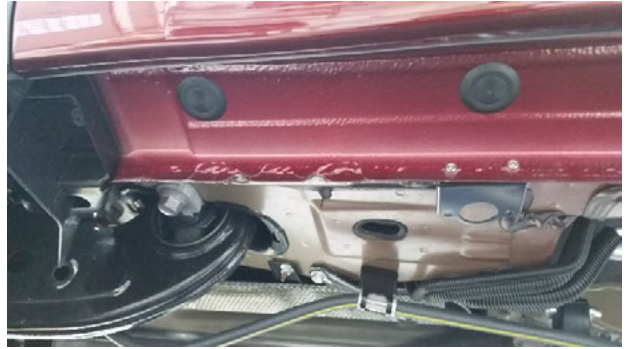


Figure 1

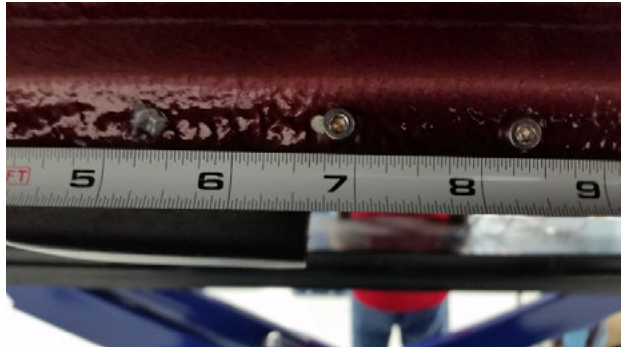


Figure 2



Figure 3



Figure 4

6. Remove Front Door Scuff Plate LH, Figure 5.

- a. Disengage the 2 clips (A)
- b. Disengage the 8 claws (B) and 2 guides to remove the front door scuff plate.

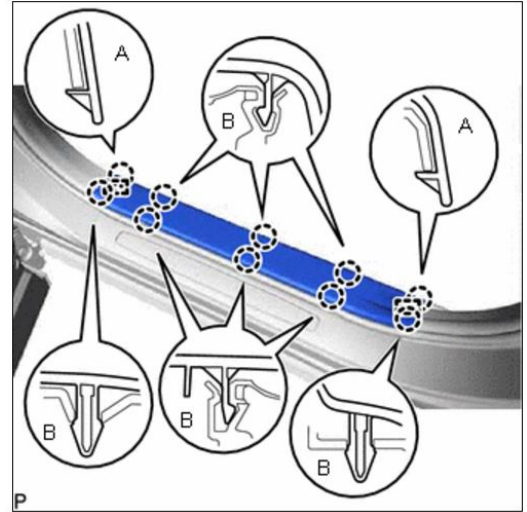


Figure 5

7. Remove both cowl side trim sub-assembly LH, Figure 6.

- a. Remove the clip.
- b. Disengage the claw and clip to remove the cowl side trim sub-assembly.

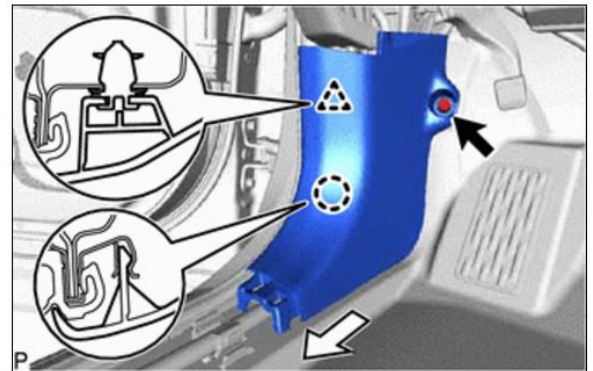


Figure 6

9. Repeat for RH side.

10. Cut a 6" slit in both the front floor pan sound insulation pads as shown in Figure 7.



Figure 7

11. Route passenger side rear harness over to e-brake line and secure with wire tie (Figure 8). Continue routing forward towards the drain plug and secure to the skid plate bracket (Figure 9).

12. Route the driver side rear harness forward and secure to the skid plate bracket.

13. Route the front harnesses together with the rears towards drain plug locations.

14. Using a sharp blade, cut an 'X' in the middle of each drain plug, in order to route harnesses through and into the vehicle.

15. Lift front sound insulation from slits made previously to gain access to the drain holes and route both front and rear puddle light harnesses up and into the vehicle.

16. Re-install drain plugs, with the harnesses threaded through plugs.

17. Seal harnesses to drain plugs using half of included sealing putty per side. Make sure to work putty completely around wires for a water tight seal (Figure 10).

NOTE: The use of VPC approved sealant can be used for sealing grommets.



Figure 8



Figure 9



Figure 10

- 18.** Cut a 1 ½” wide notch on the front outside edge of the driver side skid plate. Approximately 1 ¾” back from the front edge (Figure 11).



Figure 11

- 19.** Re-install undercarriage skid plates.



Figure 12

- 20.** Route driver side harnesses from slit in sound material under foam foot board towards kick panel. Tape in place using foam tape (Figure 12).

- 21.** Route the passenger side puddle light harnesses from slit in sound material under foam foot board and across to driver side, fishing behind center console (Figures 13 & 14).



Figure 13



Figure 14



22. Remove No. 1 Instrument Panel undercover sub-assembly.

- a. Remove the 2 screw <D> (Figure 15).
- b. Disengage the claw, clip and guide (Figure 16).
- c. Disengage the connector clamp.
- d. Disconnect each connector to remove the No. 1 Instrument Panel undercover sub-assembly.



Figure 15

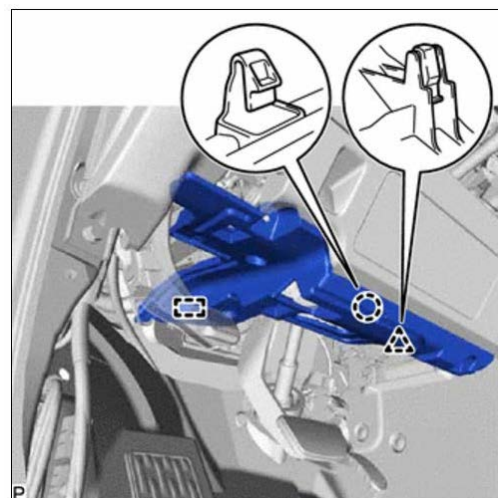


Figure 16

23. Remove Instrument Panel Finish Panel End LH.

- a. Using a molding remover, disengage the 5 claws and 3 guides, and remove the instrument panel finish panel end LH as shown in Figure 17.

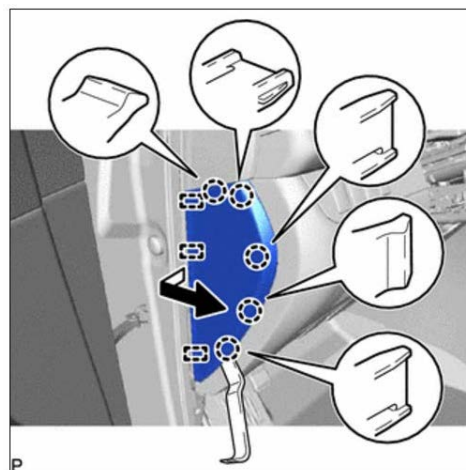


Figure 17

24. Disconnect Hood Lock Control Lever sub-assembly.

- a. Disengage the claw and 2 guides to disconnect the hood lock control lever sub-assembly (Figure 18).

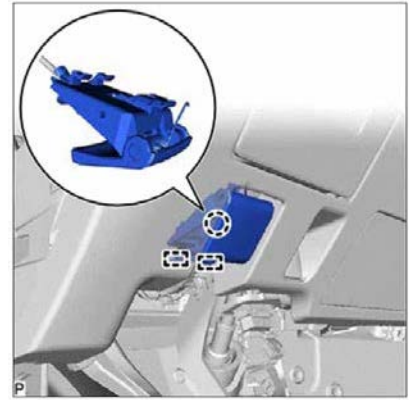


Figure 18

25. Remove Lower Instrument Panel Finish Panel Sub-assembly.

- a. Remove the bolt (Figure 19).
- b. Disengage the 10 claws and 4 clips (Figure 20).
- c. Disconnect each connector to remove the lower instrument panel finish panel sub-assembly.

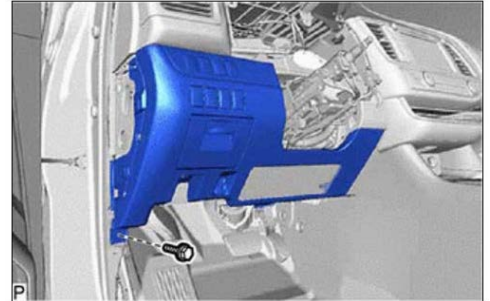


Figure 19

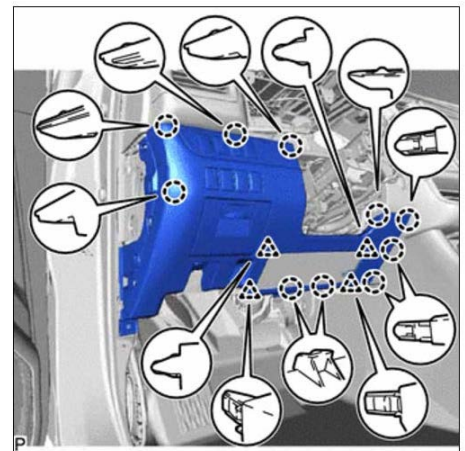


Figure 20

26. Remove No. 2 Instrument Panel Under Cover Sub-assembly.

- a. Disengage the 4 claws and 2 guides to remove the No.2 instrument panel under cover sub-assembly (Figure 21).

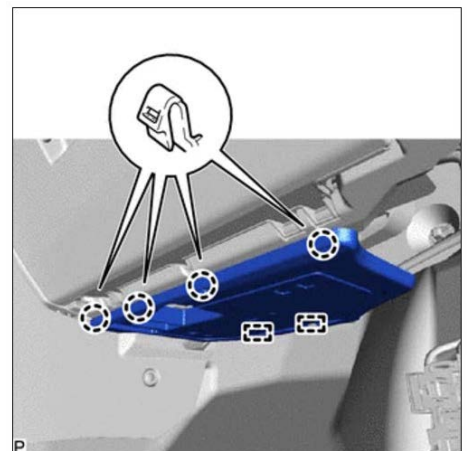


Figure 21

27. Remove Front Pillar Garnish LH

- Apply protective tape around the front pillar garnish LH as shown in Figure 22.
- Pull the upper part of the front pillar garnish toward the inside of the cabin and disengage the front pillar garnish LH from the base of the 2 front pillar garnish clips.

HINT:

Let the front pillar garnish LH hang from the 2 front pillar garnish clips.

- While pushing the tabs of the front pillar garnish clip (A) in the direction indicated by the arrow shown in Figure 23, disengage the front pillar garnish clip (A).
- Using needle nose pliers with the tips wrapped with protective tape, rotate the front pillar garnish clip (B) 90° in the direction indicated by the arrow (1) in Figure 24.
- Pull the front pillar garnish LH in the direction indicated by the arrow (2) shown in Figure 24 to disengage it from the front pillar garnish clip (B).
- Pull the front pillar garnish LH in the direction indicated by the arrow (3) shown in Figure 24 to disengage the 2 guides and remove the front pillar garnish LH.

These clips CAN NOT be reused.
DESTROY and DISPOSE of clips.
See Figure 18



NOTE: Install a new A-Pillar garnish upper and middle clip when replacing garnish at end of installation. A-Pillar clips 62217-52120 & 0E040 are not provided in the kit. These items must be ordered separately.

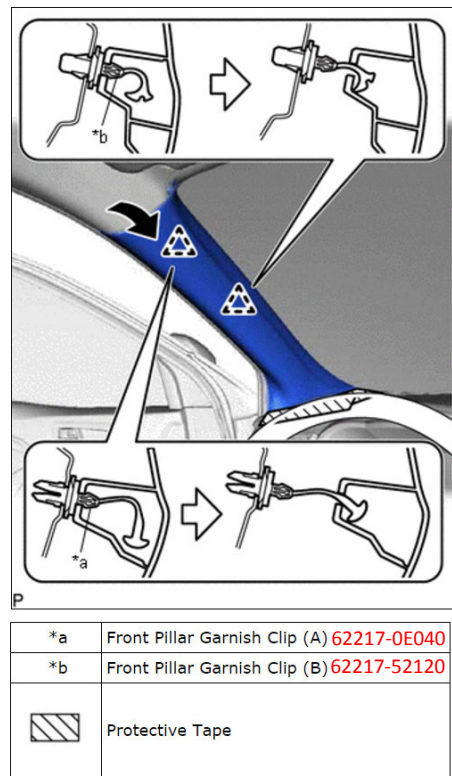


Figure 22

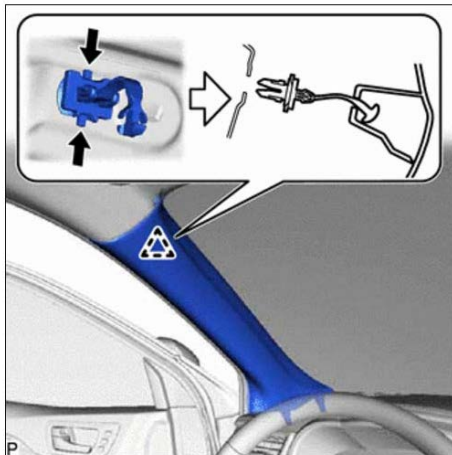


Figure 23

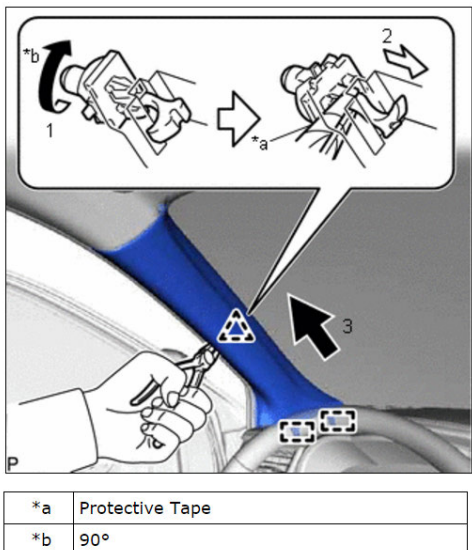


Figure 24

- 28.** Mark location for passenger side foot-well light, 1" back from the rib, and $\frac{3}{4}$ " over from the vertical rib of the No. 2 panel as shown in Figure 25.



Figure 25

- 29.** Drill a $\frac{7}{16}$ " hole where the connector will fit and align with flat side of light facing the seat. Using a $\frac{11}{64}$ " drill bit, drill mounting holes and attach light using included rivets.

- 30.** Mark where Driver side foot-well light will be mounted, 1" from the ribs in both directions (Figure 26).



Figure 26

- 31.** Drill a $\frac{7}{16}$ " hole where the connector will fit and align with flat side of light facing the seat. Using a $\frac{11}{64}$ " drill bit, drill mounting holes and attach light using included rivets.

- 32.** Fish long end of foot-well harness from driver side, behind center console to passenger side.

- 33.** Attach harness to foot-well light in No. 2 panel, secure sound deadening and reinstall panel (Figure 27).



Figure 27

34. Drop the fused end of the power harness from the lower corner of the A-pillar down towards the driver's kick panel, securing in existing wire locations.

35. Using a Red T-tap, connect the **Red** wire from the Puddle Light power harness to the **Red** wire in **Pin 18** of the **SF1** connector in the A-pillar (Figure 28).

36. Using a Red T-tap, connect the **Black** wire from the Puddle Light power harness to the **White** wire in **Pin 11** of the **SF1** connector in the A-pillar (Figure 28).

37. Connect the **Red** wire from the foot-well harness to the red wire from the puddle light power harness. Connect the **White** wire from the foot-well harness to the white wire from the puddle light harness.

38. Using a Red T-tap, connect the **Yellow** wire from the foot-well harness to the **Black** wire in **Pin 24** of the **4F** connector in the JB (Figure 29).

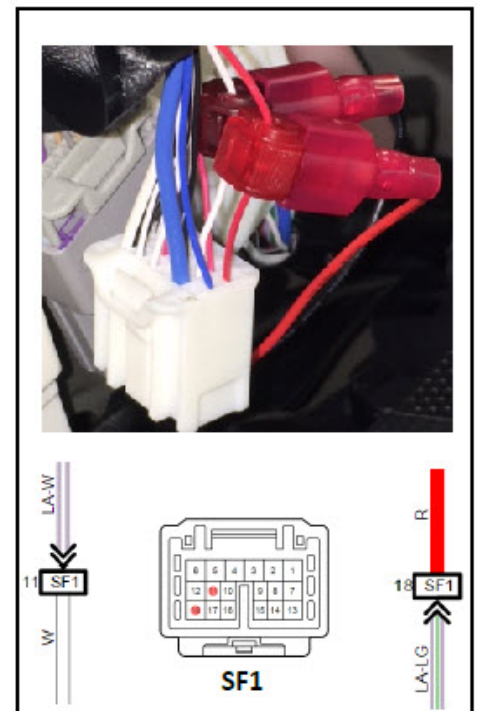


Figure 28

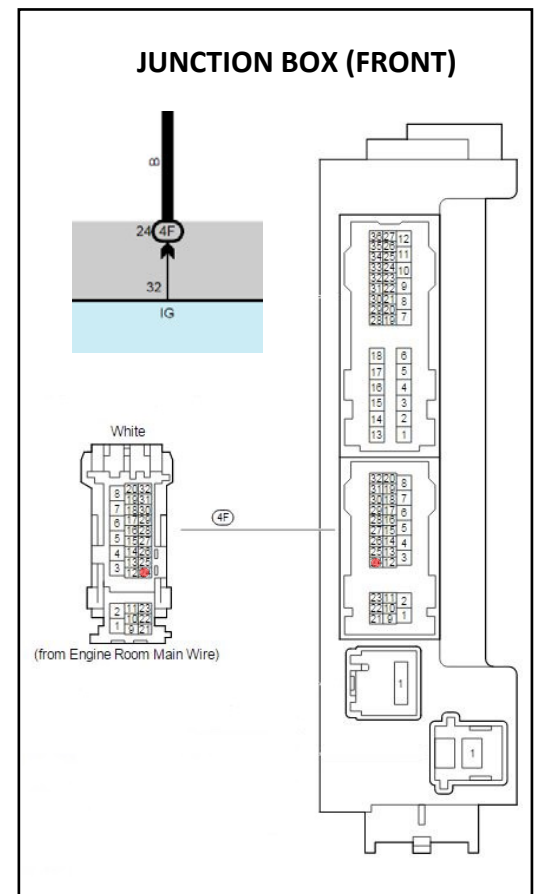


Figure 29

39. Using a Blue T-tap, connect the **Black** wire from the foot-well harness to the **White/Black** wire in the **IF2** connector in the driver side kick panel (Figure 30).

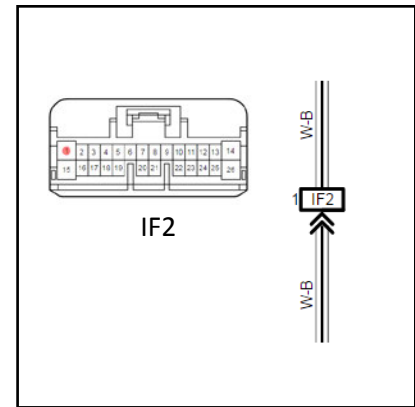


Figure 30

40. Route passenger side puddle and foot-well harnesses along the emergency brake cable as shown in (Figure 31).



Figure 31

41. Route short side of foot-well harness up towards the OB2 connector and wire tie in place.

42. Connect all puddle light harnesses and mount the control module to the top of the factory harness to the right side of the fuse panel. (Figure 32).



Figure 32

NOTE: Prior to buttoning up, verify the emergency brake function. Confirm wires do not interfere with operation

TESTING AND REASSEMBLY



1. REINSTALL ALL TRIM PANELS IN THE ORDER OF REMOVAL TAKING SPECIAL CARE TO MAKE SURE ALL HARNESSSES AND WIRING ARE PROPERLY SECURED. MAKE SURE HARNESSSES ARE NOT PINCHED OR BOUND BY TRIM PIECES.



2. RECONNECT NEGATIVE BATTERY CABLE AND TORQUE TO 48 IN/LBS.

CHECKLIST - THESE POINTS MUST BE CHECKED TO ENSURE A QUALITY INSTALLATION

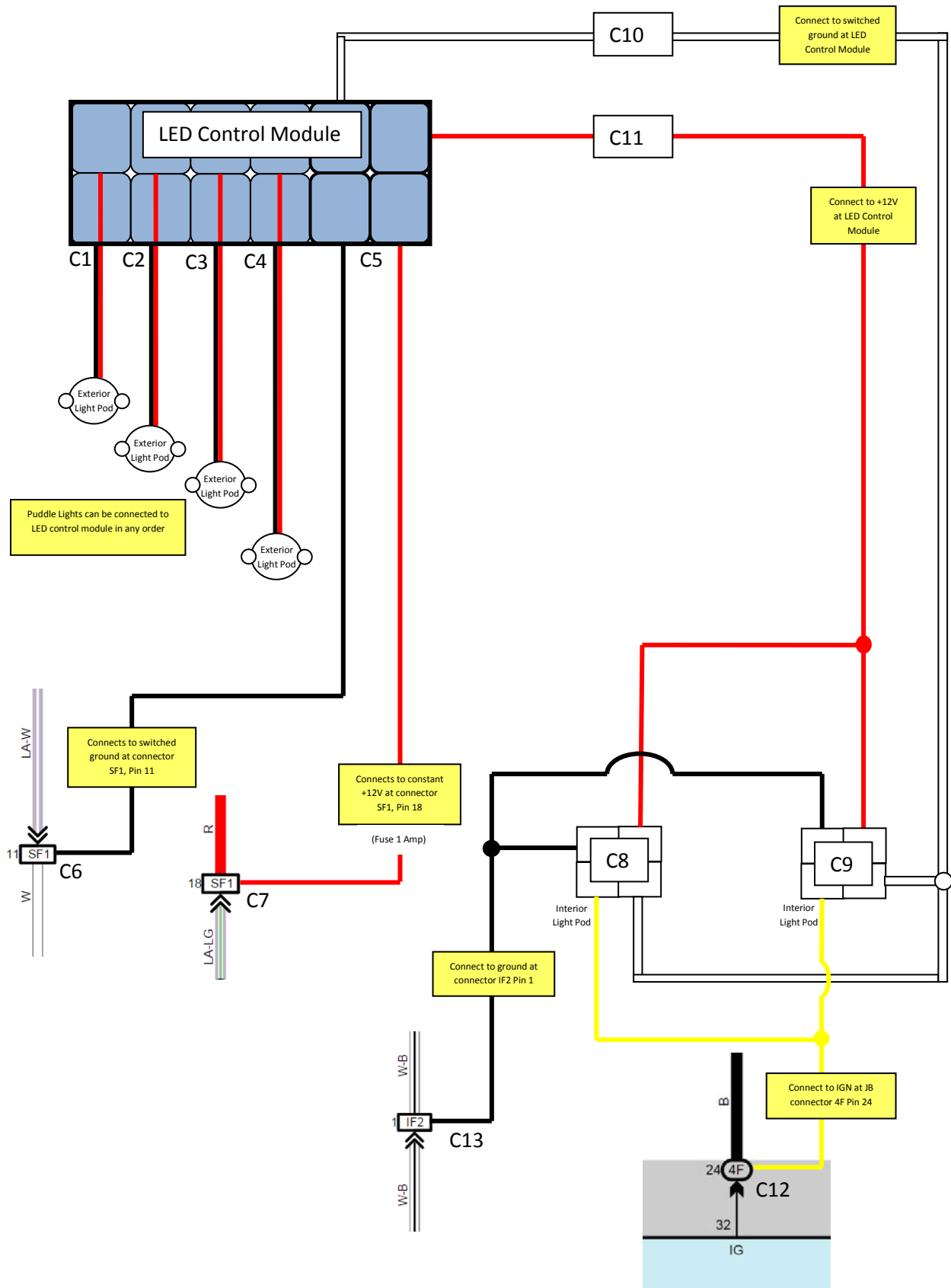
ACCESSORY FUNCTION CHECK

	CHECK:		LOOK FOR:
	Test for Full Light condition		Close all doors and lock vehicle, do foot-well and puddle lights go out? Unlock vehicle, do foot-well lights come on full brightness? Do puddle lights come on?
	Test for Low Light condition		Start vehicle, do puddle lights go out? Do the foot-well lights dim to low level?

VEHICLE FUNCTION CHECK

	VEHICLE FUNCTION:		VEHICLE FUNCTION DETAIL:
	IGNITION		VERIFY THAT THE VEHICLE WILL CRANK.
	SRS WARNING LIGHT		CONFIRM SRS WARNING LIGHT ILLUMINATES FOR APPROXIMATELY 6 SECONDS WITH THE IGNITION ON, AND THEN GOES OUT.

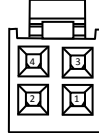
Block Diagram Highlander Lighting Package





Connector C-1 thru C-4

Pin	Wire Color	Test Reference	Proper Orientation
1	Black	Pin 1 to Ground	Exterior LEDs (-)
2	Red	Pin 2 to Ground	Exterior LED (+)



Connector C5

Pin	Wire Color	Test Reference	Proper Operation
1	Black	Pin 1 to Ground	Approximately 0 VDC
2	Red	Pin 2 to Ground	Approximately 0 VDC when Dome Light is ON +12 VDC when Dome Light is OFF
3	White	Pin 3 to Ground	Approximately 0 VDC (when disconnected from control module)
4	Red	Pin 4 to Ground	Approximately 0 VDC (when disconnected from control module)

Connector C6



Pin	Wire Color	Test Reference	Proper Operation
1		Pin 1 to Ground	Approximately 0 VDC when Dome Light is ON +12 VDC when Dome Light is OFF

Connector C7



Pin	Wire Color	Test Reference	Proper Operation
1			+12 VDC

Connector C8 & C9



Pin	Wire Color	Test Reference	Proper Operation
1	Red	Pin 1 to Ground	+12 VDC
2	Black	Pin 2 to Ground	Approximately 0 VDC
3	White	Pin 3 to Ground	Approximately 0 VDC when Dome Light is ON +12 VDC when Dome Light is OFF
4	Yellow	Pin 4 to Ground	Approximately 0 VDC ignition switch OFF +12 VDC when ignition ON

Connector C10



Pin	Wire Color	Test Reference	Proper Operation
1	White	Pin 1 to Ground	Approximately 0 VDC when Dome Light is ON +12 VDC when Dome Light is OFF

Connector C11



Pin	Wire Color	Test Reference	Proper Operation
1	Red	Pin 1 to Ground	+12 VDC

Connector C12



Pin	Wire Color	Test Reference	Proper Operation
1	Yellow	Pin 1 to Ground	Approximately 0 VDC ignition switch OFF +12 VDC when ignition ON

Connector C13



Pin	Wire Color	Test Reference	Proper Operation
1	Black	Pin 1 to Ground	Approximately 0 VDC