

TOYOTA

AVALON

2015

LED FOG LIGHTS

Part Number: 00016-07007

Accessory Code: LD1000



Conflicts

Vehicles with factory fog lights

Kit Contents

Item #	Quantity Req'd.	Description
1	2	LED Fog Lamps
2	2	Fog Lamps' Bezels
3	1	Harness bag
4	1	User's card
5	1	Switch

Hardware Bag Contents

Item #	Quantity Req'd.	Description
1	1	Hood Wire Harness
2	1	Cabin Wire Harness
3	25	Wire ties
4	2	Black T-Taps
5	2	Phillip head screws
6	2	Relay

Additional Items Required For Installation

Item #	Quantity Req'd.	Description

Recommended Tools

Safety Tools	
Safety Glasses	
Electrical Tape	
Installation Tools	
10mm Wrench	
Phillips Screw Driver	
Panel Removal Tool	
Pliers	
Side Cutters	
Fish tool	
Torque Wrench	48"lbs
Special Chemicals	
3M Silicon Sealant	







Accessory Service Parts

Part Number	Service Part						
	LED Fog Light Housing LH	LED Fog Light Housing RH	Switch	Wire Harness	Relay	Bezel LH	Bezel RH
00016-07007-01	X						
00016-07007-02		X					
00016-32230-02			X				
00016-07007-05				X			
00016-32105-04					X		
00016-07007-03						X	
00016-07007-04							X

General Applicability

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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 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)
- Vehicle Disassembly / Reassembly (panel removal, part storage, etc)

Preparation



Remove negative battery cable

- Place the vehicle in Park with the parking brake set.

Hybrid vehicles, the battery is in the trunk

- Remove the Battery Cover (for hybrid vehicles only)

Gas vehicles, the battery is in the Engine compartment

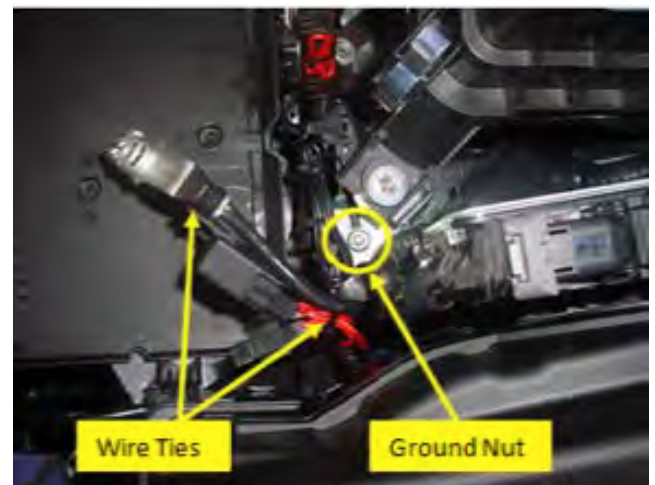
- Remove Battery from vehicle.
 - Note the Battery Cable Position as it will be re-installed in the same position
- CAUTION: do not touch the positive battery terminal



Installation

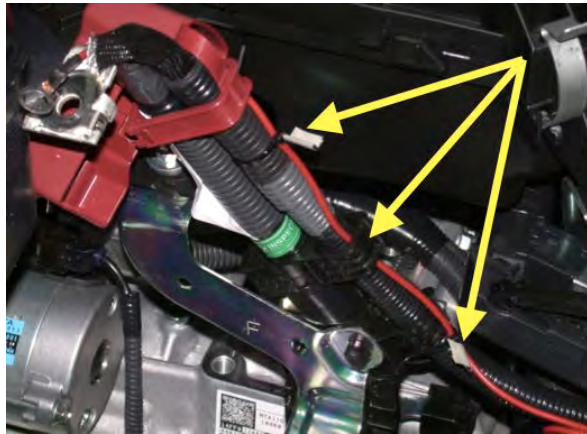
- Secure the relay and fuse to the battery negative cable with wire ties. Secure top and bottom with wire ties. See yellow marks on picture 1 for wire ties locations.

- Attach the ring terminal with 2 black wires (from Fog Light harness) to the 10mm (ground) nut next to the relay (picture 1)



Picture 1

- Connect the ring terminal from the relay (from Fog Light harness; 12v red wire) routing it through positive red terminal cover. Use wire ties to secure wire harness to the positive cable from battery (picture 2).

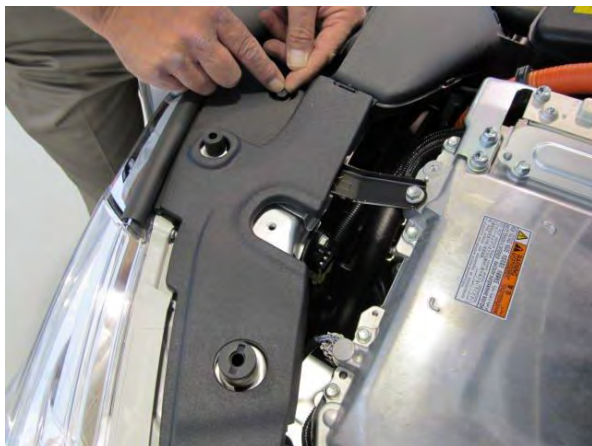


Picture 2

- 4. (**Hybrid models only steps 4~13**) In the engine compartment, remove the push pins holding the driver side plastic cowl on top of the head lamp (pictures 3 and 3A)



Pictures 3



Picture 3A

- 5. Secure the black ring terminal of the fog light harness to the 10 mm bolt on top the driver side frame (picture 4)



Picture 4

- 6. Secure the relay and fuse to the factory wire harness in front of the fuse box (pic. 5)



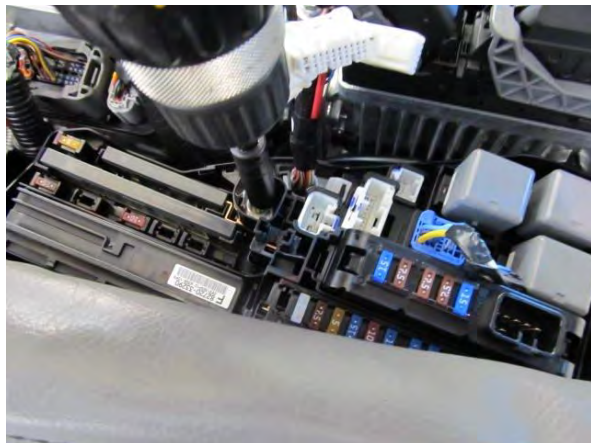
Picture 5

- 7. Disconnect the white wire harnesses in the middle of the fuse box (picture 6)



Picture 6

- 8. With a 10 mm socket, remove the positive nut in the center of the fuse block: + positive terminal (picture 7)



Picture 7

- 9. Lift up the harness assembly (picture 8)



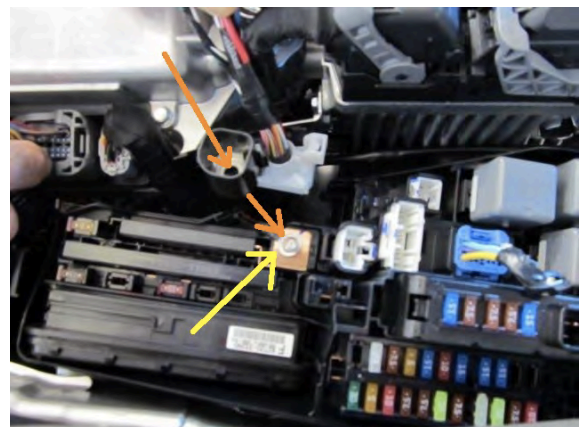
Picture 8

- 10. Run the positive ring terminal of the fog light harness through the area of fuse block (picture 9)



Picture 9

- 11. Place the red ring terminal of the fog light wire harness in the positive terminal of the fuse box (picture 10)



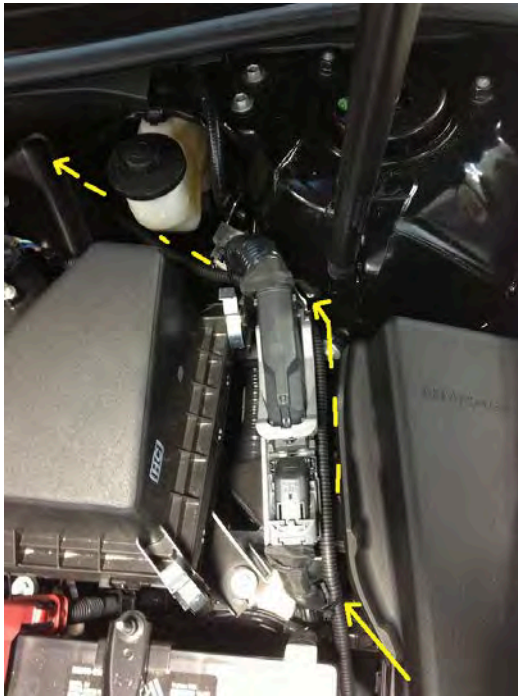
Picture 10

- 12. Reposition the harness assembly and lock into place. Tighten nut (picture 11)



Picture 11

- 13. Reconnect white wire harnesses removed in step 7
- 14. Route the fog light wire harness along the driver side from the battery (Hybrid: from left front) towards the bulkhead of the vehicle. Secure the wire harness with wire ties as needed (picture 8 & 8B: showing for regular and hybrid engine layout)



Picture 12



Picture 12BB: Hybrid Models

- 15. Optional step: Remove the air intake duct from intake manifold for gas models (picture 13)



Picture 13

- 16. Locate the large vehicle harness grommet on the driver side. If accessible, cut the auxiliary wiring access nipple off the grommet or cut 1/4" slit in grommet. Using fish tool Push the fog light wire harness through grommet. Note: Extra caution should be taken not to damage the connectors on the fog light harness or on the vehicle harness. Seal with 3M Silicone sealant (picture 14).

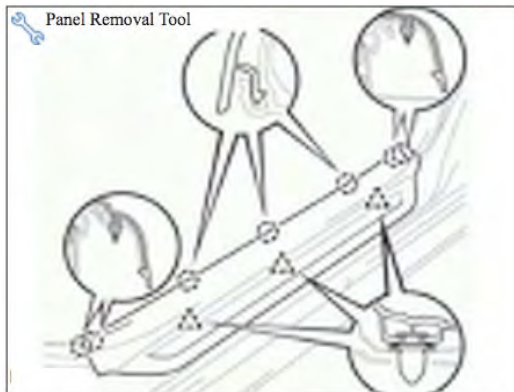


Picture 14

Vehicle Disassembly

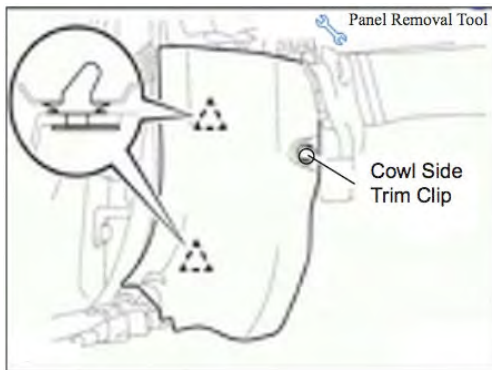
- 17. Remove driver side door scuff plate

- a. Disengage with panel tool and remove (picture 15)



Picture 15

- 18. Remove the driver side cowl side trim:
 - a. Unscrew the cowl side trim clip
 - b. Disengage two (2) clips and remove the cowl side trim (picture 16)



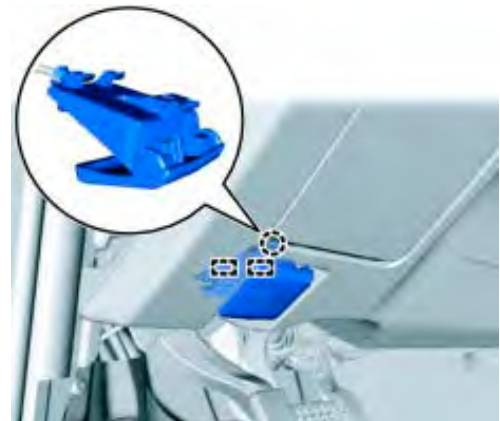
Picture 16

- 19. Remove the driver's side panel. Disengage with panel tool and remove (picture 17)



Picture 17

- 20. Disconnect the hood lock control lever, then disengage the claw and two guides (pic.18)



Picture 18

- 21. Place masking tape on the center console panel prior to remove panel. Then loosen the center panel below a/c control (pic.19).



Picture 19

- 22. Remove lower left switch panel by removing a bolt, clips and a screw, (optional step) remove 4 bolts holding the knee air-bag, if knee air bag is not removed, remove lower steering column cover (pictures 20 & 20A)



Picture 20



Picture 20A

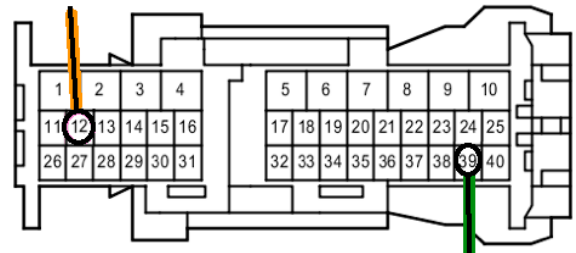
23. Locate the wires that were pushed through the grommet in step 11. It will be the grommet above the gas pedal. Route the wire harness to reach area right side of the steering wheel and tie wrap to factory harness (picture 21)



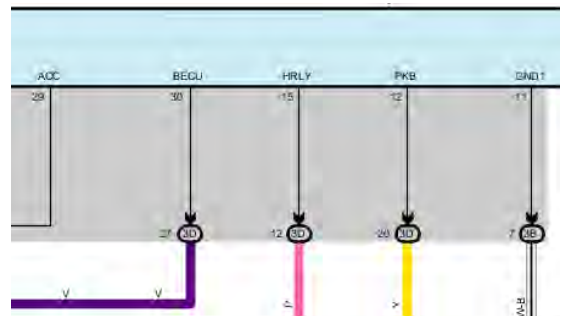
Picture 21

24. T-tap the green/black wire from fog light harness to connector 3D pin 39 using black

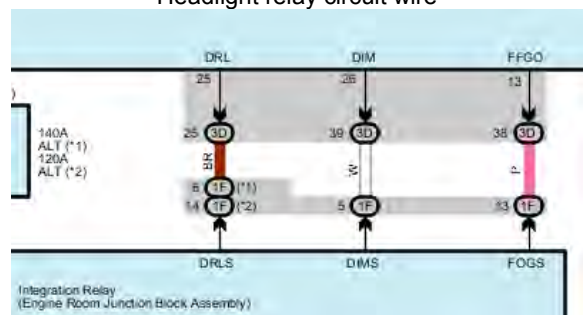
- t-tap, white wire. Connector 3D is left of steering wheel at the main junction block (pictures 22 ~ 22C)
25. T-Tap orange/black wire from fog light harness to connector 3D pin 12 using black t-tap, pink wire (pictures 22 ~ 22C)



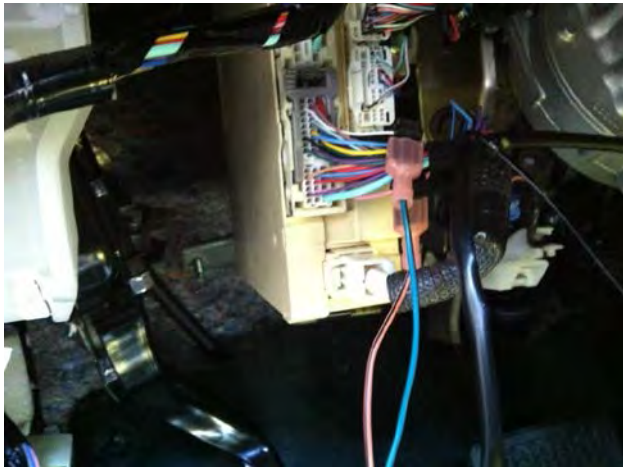
Picture 22



Picture 22A: Connector 3D, pin 12
Orange-Black to Pin 12, Pink wire
Headlight relay circuit wire

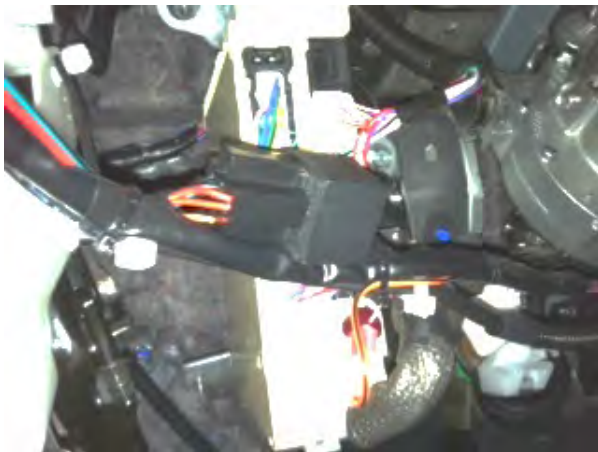


Picture 22B: Connector 3D, pin 39, white wire
Head light dim circuit



Picture 22C

- 26. Secure any excess wire from t-taps, fuse and relay to main wire harness (picture 23 and 23A). Make sure to leave enough lead on the green-switch connector to reach the switch.



Picture 23



Picture 23A

- 27. Reinstall knee airbag, if removed and torque the 4 bolts to 7 ft-lbs.
- 28. Remove dash switch plug from switch panel and install fog light switch into dash (pic. 24)



Picture 24

- 29. Reinstall all panels & connectors inside car, including foglight switch connector.

ENGINE COMPARTMENT

- 30. Drop wire harness behind headlight, towards the driver side fog lamp area . Fig 25



Fig. 25

If the vehicle calls for Strip LED Lights PT#: 00016-07260 & the front bumper is already removed, it is suggested that the harnesses be routed together.

- 31. From under the car, remove lower splash shield 6 screws on the bottom of bumper. Fig. 26



Fig. 26

Picture 26

- 32. Remove lower splash shield by removing the remaining push pins at the bottom of splash shields (pictures 26 and 26B)

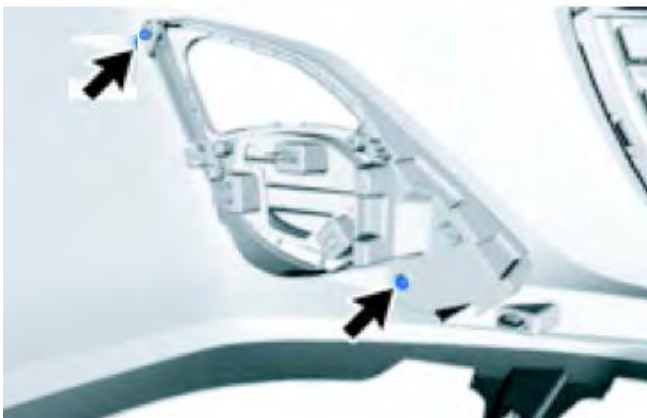


Picture 26



Picture 26B

- 33. Remove factory fog light covers. Remove 2 screws, then disengage the 3 claws (picture 27 and 27B)



Picture 27



Picture 27B

- 34. Locate the fog light wire harness on the driver side. (picture. 28)



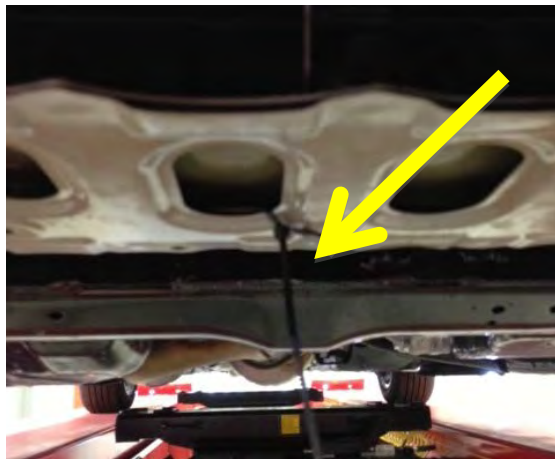
Picture 28

- 35. Using a fish tool, pull the wire harness through the bumper, from the driver's toward the passenger side

* if not continue with step 31.



Picture 29



Picture 29A



Picture 29B

36. Insert one side of the fog light into the plastic sleeve and secure other side with

supplied Phillip screw (picture 30). Follow this step for both left and right fog lamps.



Picture 30



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

38. Plug in left and right side fog light into harness plug and secure with wire ties



Picture 31

39. Snap and screw on both fog light bezels (picture 32)

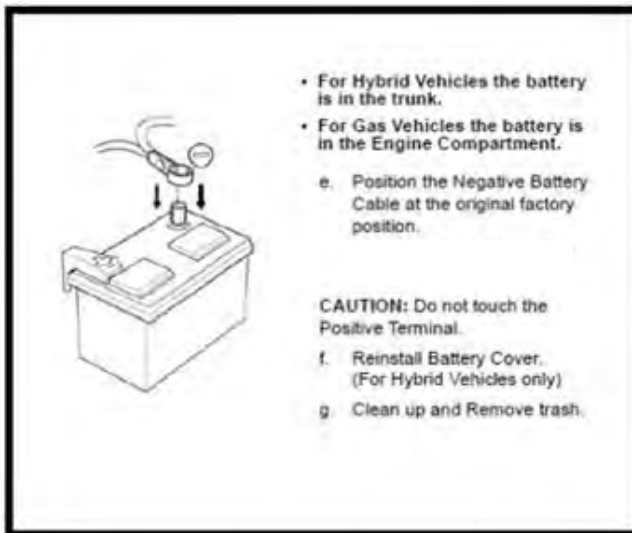


Picture 32

40. Reattach the lower splash shields.



41. Reinstall battery if removed, or reconnect negative battery terminal. Torque to 48 in/lbs.



Checklist – these points MUST be checked to ensure quality installation**Check System for Operation**

Reconnect battery terminals

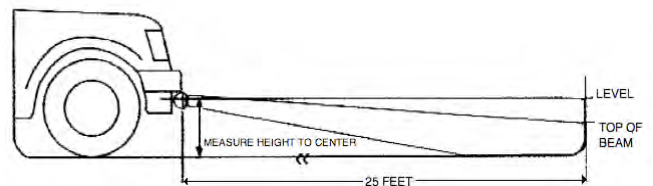
1. Turn on headlamp low beams, then press fog light switch to “ON” position. Fog lights should be working. Fog lights will only work when the low beam headlamps are “ON”. Fog lights will NOT work when the high beam headlamps are “ON”

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 33)



Picture 33

Check

Accessory Functions Checks

- 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 straight forward
 - Re-torque battery terminal. 48 in-lb.

 - Place fog light operation guide inside glove box.

VEHICLE FUNCTION CHECK

AFTER ALL PANELS, COVERS AND COMPONENTS THAT WERE REMOVED HAVE BEEN REINSTALLED, TEST THOROUGHLY ALL MECHANICAL AND ELECTRICAL COMPONENTS DISCONNECTED AND/OR REMOVED FROM THE VEHICLE DURING THE INSTALLATION OF THIS ACCESSORY