

TOYOTA

Prius

2010-11

Foglights

Part Number: 00016-47401

Accessory Code: LF1



Conflicts

Factory Fog Lights

Kit Contents

Item #	Quantity Req'd.	Description
1	2	Fog Lamps
2	2	Fog Lamp's bezels
3	1	Switch Assembly
4	1	Fog light operation guide

Hardware Bag Contents

Item #	Quantity Req'd.	Description
1	1	Wire harness
2	1	Switch harness
3	2	SPST Relays
4	15	Wire ties
5	2	Phillip head screws
6	2	T-Taps

Recommended Tools

Safety Tools	
Safety Glasses	
Electrical Tape	
Installation Tools	
10mm Wrench	
Phillips Screw Driver	
Pliers	
Side Cutters	
Torque Wrench	48in lbs
Special Chemicals	
3M Silicon Sealant	

Color Applicability/Trim Level

Part Number	Fog Light Housing LH	Fog Light Housing RH	Switch	Wire Harness	Relay	Bezel LH	Bezel RH
00016-32105-02	X						
00016-32105-01		X					
00016-32230-02			X				
00016-47401-03				X			
00016-32105-04					X		
00016-47401-02						X	
00016-47401-01							X

General Applicability

Models: 1221, 1223, 1225 & 1227

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:

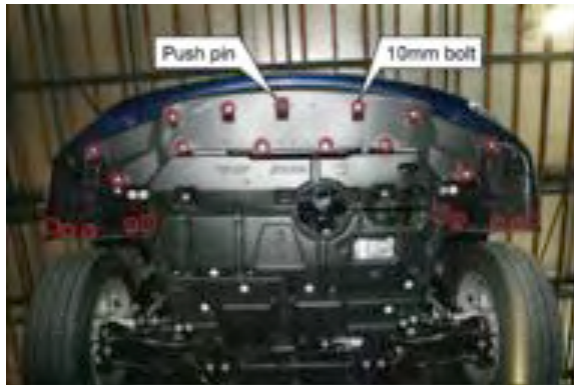
- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc)
- Safety (eye protection)
- Vehicle Disassembly / Reassembly (panel removal, part storage, etc)

Preparation



Remove negative battery cable

1. Remove left and right splash shields from the front of the car. There are 18 x10mm bolts and 5 plastic push pins (see picture 1 and 2)



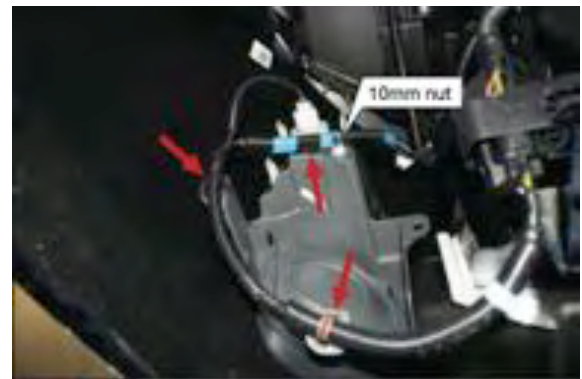
Picture 1



Picture 2

2. From inside the bumper, on the driver side of the vehicle, disconnect the wire harness

and the 10mm bolt that are attached to the plastic fog lamp cover (see picture 3)



Picture 3

3. Push tabs away from the center of the fog lamp cover (picture 4)



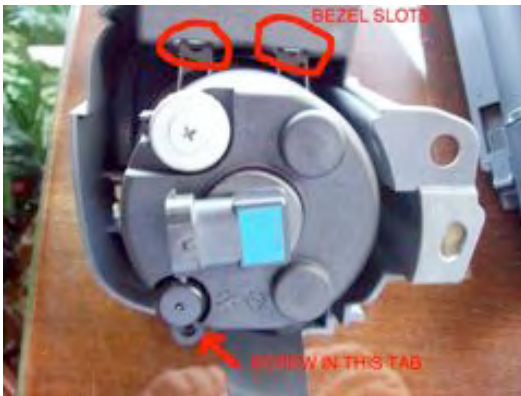
Picture 4

4. From outside the bumper, push cover towards vehicle (picture 5)



Picture 5

5. Repeat steps 2 to 4 for the passenger side of the vehicle
6. Mount fog lights into bezel by sliding fog light tabs into slots and secure other side with supplied screw (see picture 6)



Picture 6

7. Install both fog light bezels
8. Install fog lamps into vehicle, by securing the 10mm bolt, reattach wire harness, and snap into place (picture 7)



Picture 7

9. Locate the ECU mounting bracket on the top left corner of the fuse block, right of the brake fluid reservoir (picture 8)



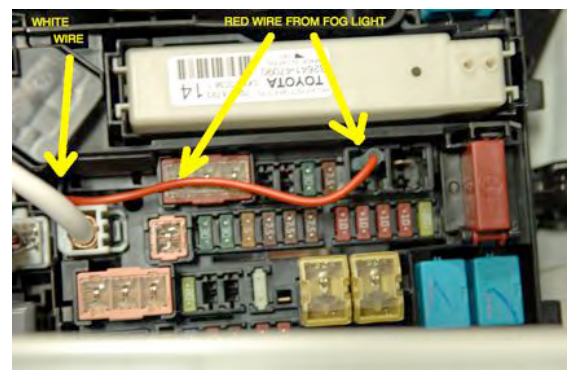
Picture 8

10. Attach the ring terminal with 2 black wires to the 10mm bolt off the ECU bracket (see picture 9)



Picture 9

11. In the hood area, locate the red 12v wire from fog light harness to inside the fuse block. Follow the path of the big white wire. 12v red wire will be connected **at the end of the installation** (picture 10)



Picture 10

- 12. Wire tie relay and fuse holder to harness (picture 11)



Picture 11

- 13. Route wire along factory harness and secure with wire ties (picture 12)



Picture 12

- 14. Locate the large vehicle harness grommet on the left side. If accessible, cut the auxiliary wiring access nipple off the grommet or cut 1/4" slit in grommet and push the orange/black and green/black wires through firewall. Note: Extra caution should be taken not to damage the connectors. Seal with 3M Silicone sealant (picture 13)



Picture 13

- 15. Route right fog light wire harness along top of engine compartment and secure with wire ties as detailed below (picture 14)



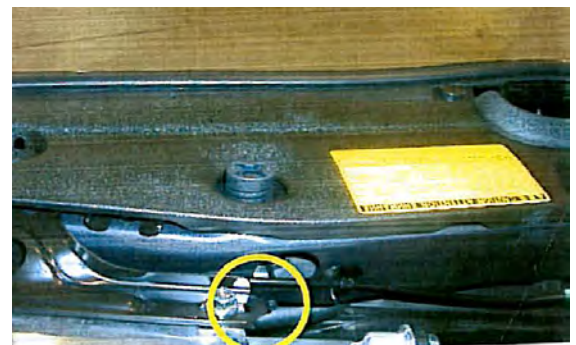
Picture 14

- 16. Zip tie the wire harness to the far left side through the factory hole just below the hood bumper. Pic. 14A



Picture 14A

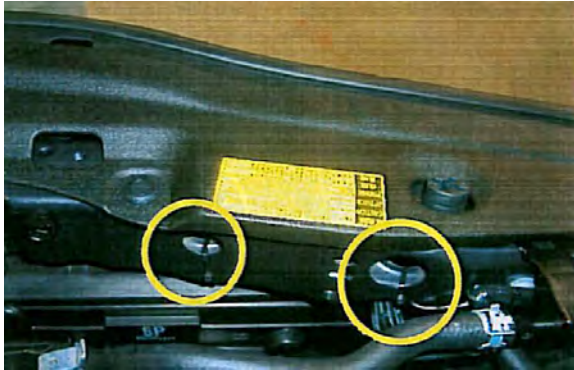
- 17. Zip tie the wire harness to the left side through the factory hole just below the hood bumper. Pic. 14B



Picture 14B

- 18. Zip tie the wire harness to the right side through the factory holes, use two wire ties. Pic 14C

C)



Picture 14C

- 19. Zip tie the wire harness to the right side using one zip tie to the hood switch wire. 14D.



Picture 14D

- 20. Zip tie the wire harness to the right side using one zip tie securing the fog light harness to the hood switch harness. 14E



Picture 14E

- 21. Route the fog light harness down to the right side fog light & plug it into the fog light. Avoid the metal A/C line as you enter the fog light cavity.

- 22. Route left side of wire harness down to left fog light and plug connector into fog light
- 23. Reattach the lower splash shields

Vehicle disassembly

- 24. Remove the 16mm plastic bolt from the side-kick panel (picture 15) and pull panel away.



Picture15

- 25. Remove screw from the bottom left dash panel (picture 16)



Picture 16

- 26. Disconnect the hood release cable from latch, by pulling down the black cable and releasing it from its location (picture 17)



Picture 17

- 27. Pull the left top side of the panel away from dashboard and unplug connectors. Extra caution should be taking not to pull to hard and damage connectors (picture 18)



Picture 18

- 28. Remove 2 screws and push back on tabs to release lower panel (picture 19)



Picture 19

- 29. Unplug wire harness and remove panel by pulling it towards the seat (picture 20)



Picture 20

- 30. Remove lower steering wheel cover (picture 21)



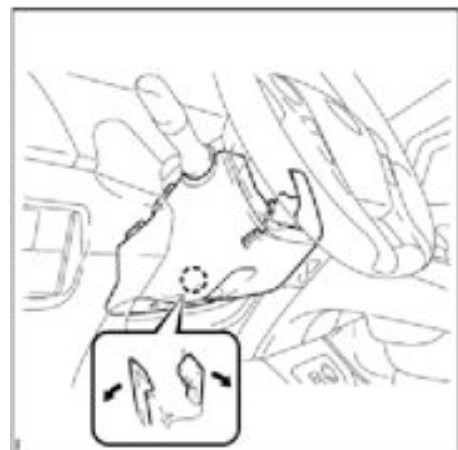
Picture 21

- 31. Push the right and left sides of lower steering column cover to disengage the 4 claws (picture 22)



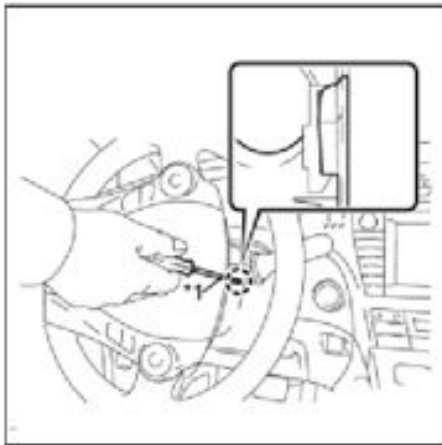
Picture 22

- 32. Insert fingers into the opening of the tilt leveler of the lower steering column cover to disengage the claw (picture 23)



Picture 23

- 33. Turn the steering wheel assembly (picture 24)



Picture 24

- 34. Remove plastic cap from switch knockout of dash (picture 25)



Picture 25

- 35. Install switch in empty knockout of dash (picture 26)



Picture 26

- 36. From inside the cabin, locate the wires that were pushed through in step 14 and plug them to the switch wire harness. It will be the grommet above the gas pedal (picture 27)

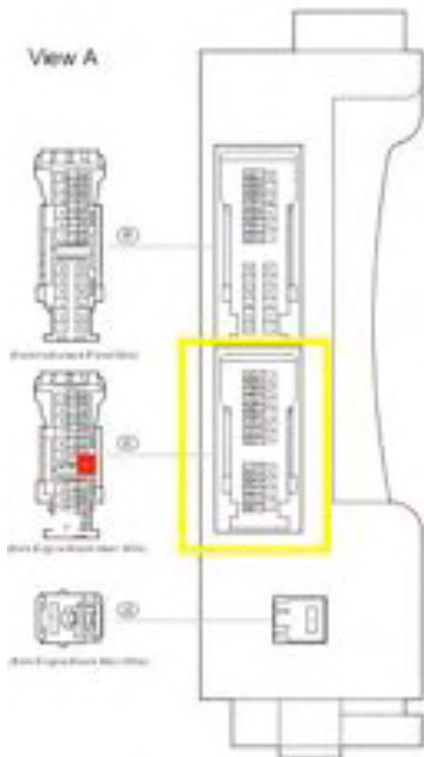


Picture 27

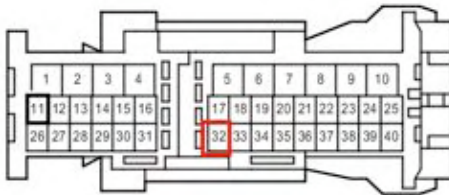
- 37. With a scissor, cut back the black sleeve over the orange/black and green/black wires to route wires as needed
- 38. T-tap orange/black wire from fog light harness to connector 2C pin 32 green wire. Pin 32 is on the left side of the connector 7th pin up from bottom of the connector. Connector 2C located left of the steering column above big white wire (picture 28, 28A and 28B)



Picture 28



Picture 28A

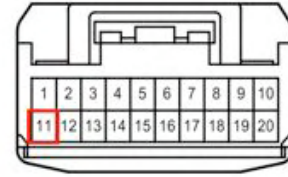


Picture 28B: Pin side view

39. T-Tap green/black wire from fog light harness to connector L47 pin 11, pink wire (it is the last pin to the left). Connector L47 is on the steering column and plugs into the headlight control arm (picture 29 and 29A).

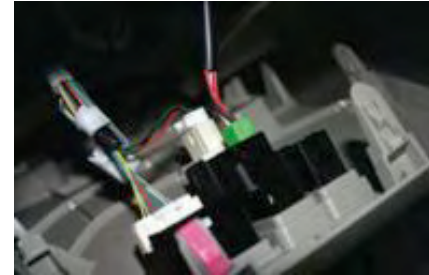


Picture 29



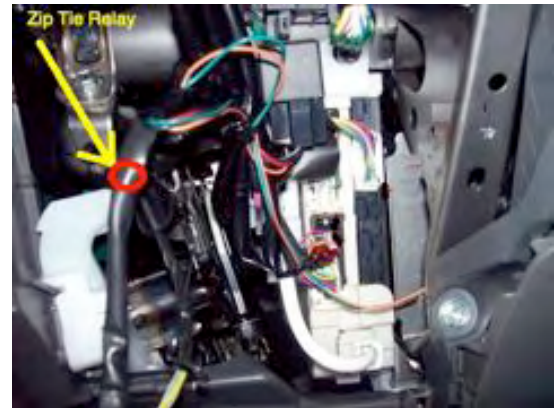
Picture 29A

40. Install switch harness into switch (picture 30)



Picture 30

41. Secure fog light wire harness and relay with wire ties (picture 31)



Picture 31

- 42. Reinstall all removed panels
- 43. Attach fog light 12v red wire to open spade inside the fuse block. Open spade is located right above white wire (picture 10)
- 44. Reconnect negative battery terminal

Check System for Operation

1. Reconnect battery negative terminal
2. 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"

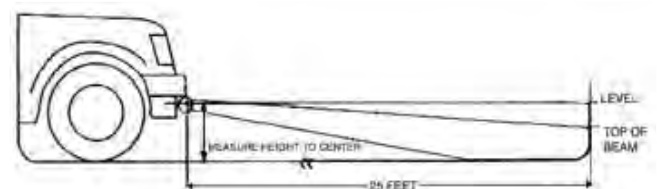
Note: Use only hand tools to adjust the fog light aiming screw. DO NOT use automatic tools, as they will damage the fog light.

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 21)



Picture 21

Checklist – these points MUST be checked to ensure quality installation

Check

Accessory Functions Checks

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

Vehicle Function checks

- Check functions all switch functions

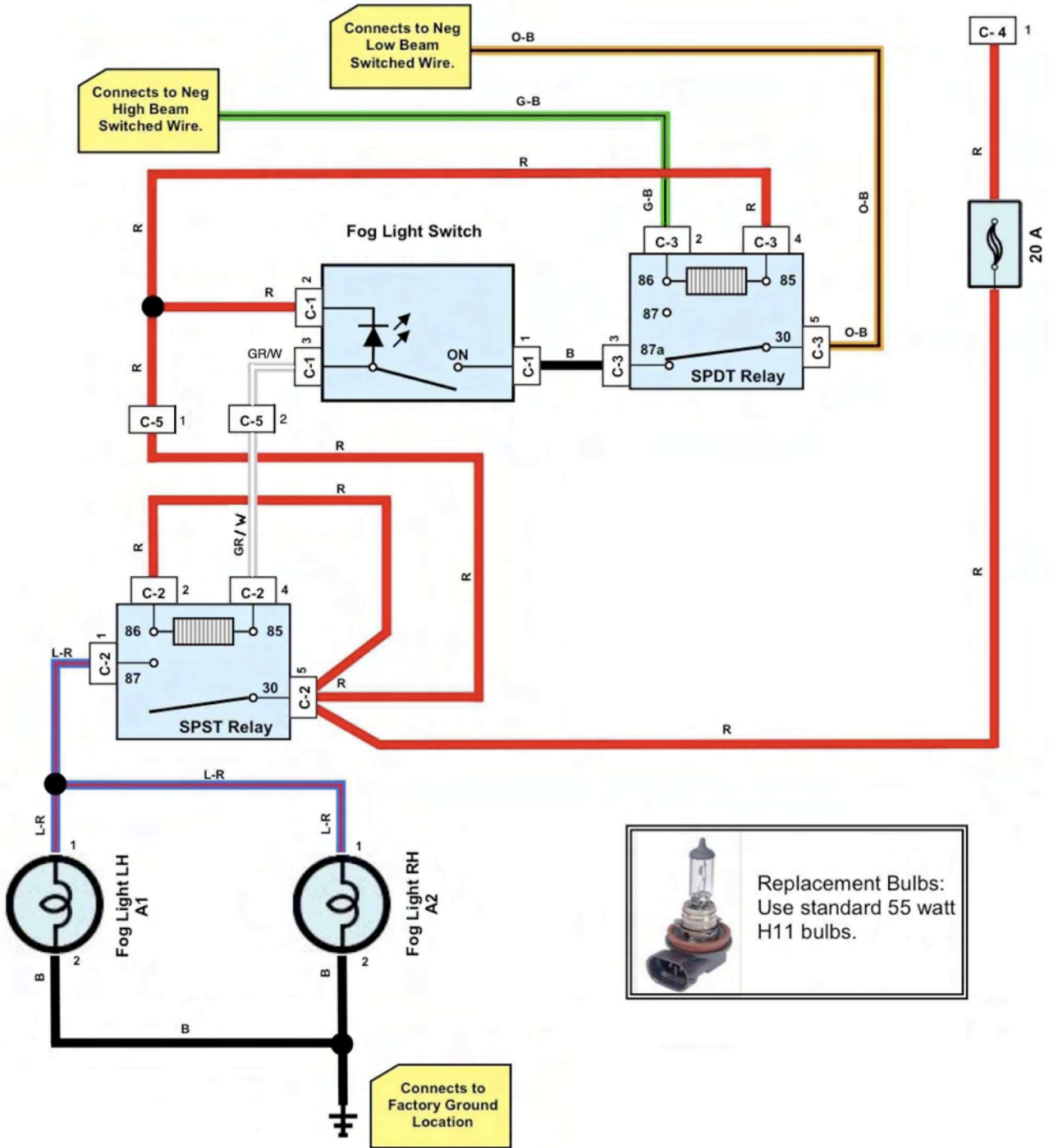
Look For:

- Loose panels and switches
- Visually confirm lights are straight forward
- Re-torque negative battery terminal to 48 in-lb
- Place fog light operation guide inside glove box.

VEHICLE FUNCTION CHECK

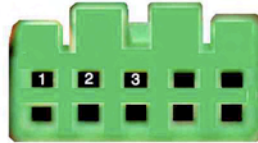
AFTER ALL PANELS, COVERS AND COMPONENTS THAT WERE REMOVED HAVE BEEN REINSTALLED, TEST THOROUGHLY ALL MECHANICAL AND ELECTRICAL COMPONENTS DISCONNECTED AND/OR REMOVED FROM THE VEHICLE DURING THE INSTALLATION OF THIS ACCESSORY

Block Diagram Fog Lights Prius



Checking the Harness Pinouts:

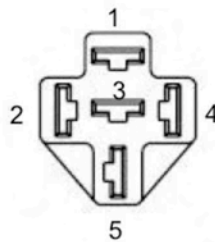
Connector C-1 :



**** Unplug connector from switch prior to testing pin outs.**

Pin	Wire Color	Test Reference	Proper Operation
1	Black	Pin 1 to Ground	Approximately 0 VDC Headlights OFF or HIGH Position. Approximately +11 VDC Headlights ON LOW Position.
2	Red	Pin 2 to Ground	Always +12 VDC
3	Gray / White	Pin 3 to Ground	Always +12 VDC

Connector C-2 :



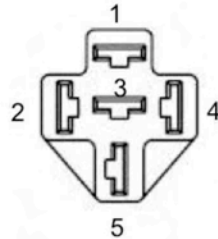
FEMALE TERMINALS
TERMINAL VIEW

**** Leave Relay connected while testing pin outs.**

Pin	Wire Color	Test Reference	Proper Operation
1	Blue / Red	Pin 1 to Ground	0 VDC when Fog Light switch is OFF. 0 VDC when Fog Light switch is ON AND high beam headlights are On. + 12 VDC when Fog Light switch is ON AND low beam headlights are On.
2	Red	Pin 2 to Ground	Always +12 VDC
4	Gray / White	Pin 4 to Ground	Approximately 0 VDC with Fog Light Switch ON and Low Beam Headlights ON. +12 VDC All Other Times.
5	Red	Pin 5 to Ground	Always + 12 VDC.

Checking the Harness Pinouts:

Connector C-3:



FEMALE TERMINALS
TERMINAL VIEW

**** Leave Relay connected while testing pin outs.**

Pin	Wire Color	Test Reference	Proper Operation
2	Green / Black	Pin 2 to Ground	Approximately 0 VDC with High Beams ON. Approximately 11 VDC all other times.
3	Black	Pin 3 to Ground	Approximately 11 VDC with low beam headlight switch off. 12 VDC with high beam headlight switch on. Approximately 0 VDC with low beam headlight switch on.
4	Red	Pin 4 to Ground	Always +12 VDC.
5	Orange / Black	Pin 5 to Ground	Approximately 11 VDC with headlights switch off. Approximately 0 VDC with low beam headlight switch on.

Connector C-4:



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

Checking the Harness Pinouts:

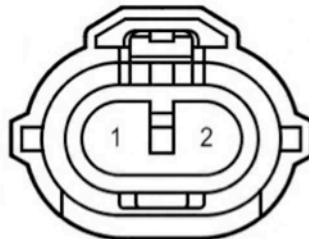
Connector C-5:



** Leave connectors connected while testing pin outs.

Pin	Wire Color	Test Reference	Proper Operation
1	Red	Pin 1 to Ground	Always + 12 VDC.
2	Gray / White	Pin 2 to Ground	Approximately 0 VDC with Fog Light Switch ON and Low Beam Headlights ON. +12 VDC All Other Times.

Connectors A-1, A-2: Fog Lamp Connectors at Bulb



FEMALE TERMINALS
TERMINAL VIEW
HARNES SIDE

Pin	Wire Color	Test Reference	Proper Operation
1	Blue / Red	Pin 1 to Ground	12 VDC while low beam headlights are on AND the Fog Light switch is ON. 0 VDC while high beam headlights are on AND the Fog Light switch is ON. 0 VDC while headlights are off AND the Fog Light switch is ON. 0 VDC while Fog Light switch is OFF.
2	Black	Pin 2 to Ground	Always Continuity