TOYOTA SIENNA 2011 - FOG LIGHT

Part Number: 00016-08401
Accessory Code: LF10

TOYOTA
Southeast Toyota Distributors, LLC

Conflicts

- Factory Fog Lights

Kit Contents

Item #	Quantity Reqd.	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 Reqd.	Description
1	1	Wire harness
2	1	Switch harness
3	2	SPST Relays
4	15	Wire ties
5	2	Phillip head screws
6	2	3M T-Taps

Additional Items Required For Installation

Item #	Quantity Reqd.	Description

Recommended Tools

Safety Tools	
Safety Glasses	
Electrical Tape	
Installation Tools	
10mm Wrench	
Phillips Screw Driver	
Pliers	
Side Cutters	
Torque Wrench	36in lbs.
Special Chemicals	
3M Silicon Sealant	

Color Applicability/Trim Level

Part Number	Service Part Fog Light Housing LH	Fog Light Housing RH	Switch	Wire Harness	Relay	Bezel LH	Bezel RH
00016-08401-03	X						
00016-08401-04		X					
00016-32230-02			X				
00016-32230-01				X			
00016-32105-04					X		
00016-08401-02						X	
00016-08401-01							X

General Applicability

Models 5312, 6314, 5328, 5336, 5338, 5366

Recommended Sequence of Application

Item #	Accessory	
1		
2		
3		

Mandatory Legend

Legend

STOP **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.

S **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

Installation

1. Secure the relay and fuse to headlamp wire harness. Secure top and bottom with wire ties (picture 1).

Picture 1

2. Attach the ring terminal with 2 black wires to the 10mm ground bolt at front left side of vehicle (picture 2)

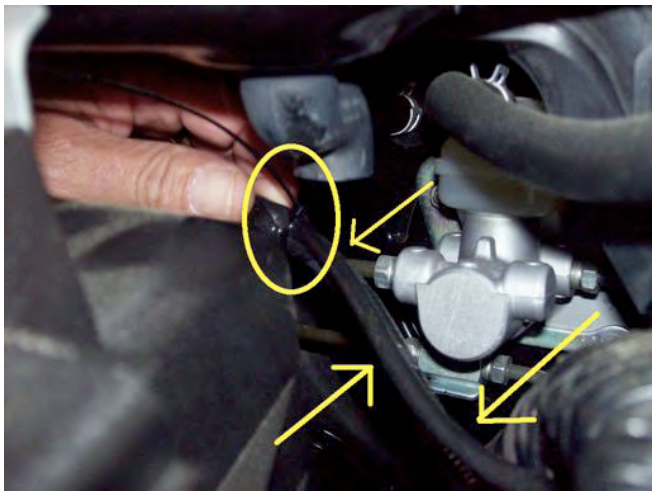
Optional Step: Remove battery if needed.

Picture 2

3. Connect the ring terminal from the relay (12v red wire) routing it through positive red terminal cover (picture 3)

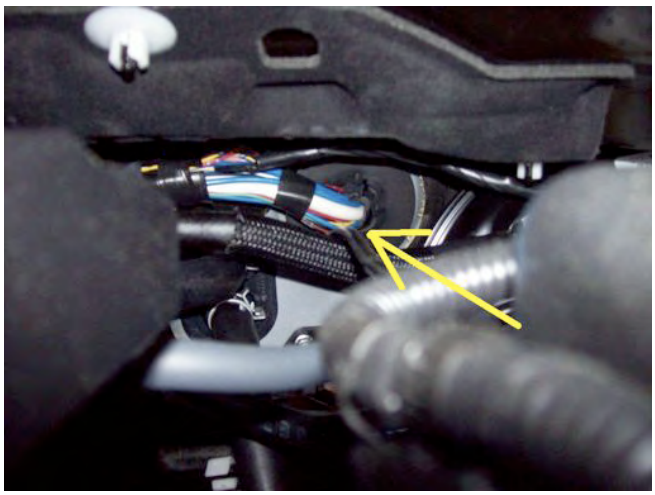
Picture 3

4. Route wire to large vehicle grommet and secure with wire 3 wire ties (picture 4)



Picture 4

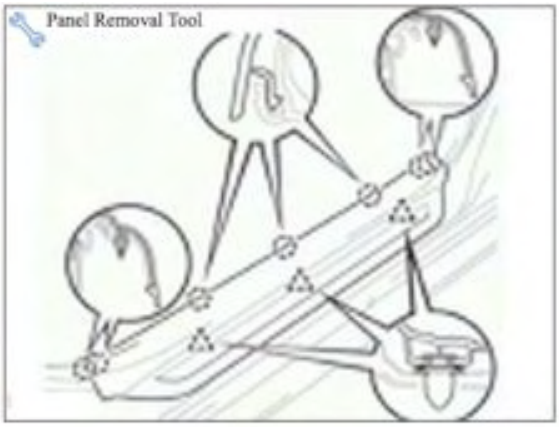
5. Locate the large vehicle harness grommet on the left side. If accessible, cut the auxiliary wiring access nipple off the grommet or cut ¼" slit in grommet. Secure excess wires with wire ties to fuse block wire harness. Push the red and gray/white wires through firewall. Note: Extra caution should be taken not to damage the bullet connectors. Seal with 3M Silicone sealant (picture 5)



Picture 5

Vehicle Disassembly

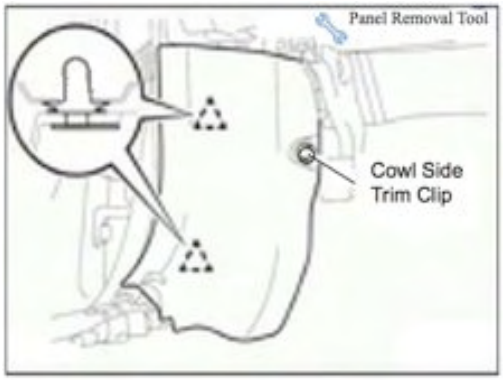
6. Remove driver side door scuff plate. Disengage with panel tool and remove (picture 6 and 6A)



Picture 6

Picture 6A

a. Remove the driver side cowl side trim (picture 6). Unscrew the cowl side trim clip. Disengage two (2) clips and remove the cowl side trim (picture 7)



Picture 7

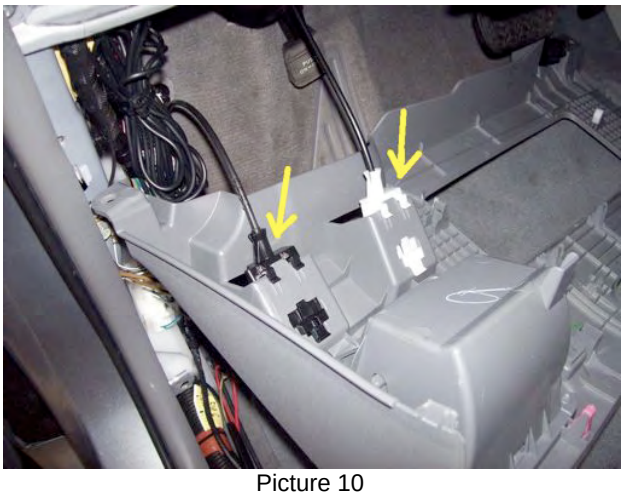
7. Remove the finish panel covering the knee airbag (picture 8)

Picture 8

8. Remove the lower finish panel (picture 9)

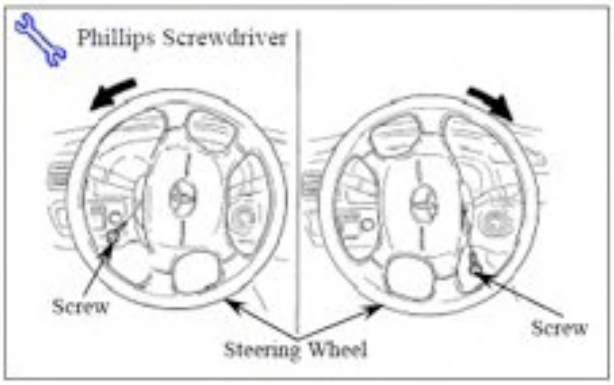
Picture 9

9. Remove hood latch and gas door cables (see picture 10)



Picture 10

10. Remove lower steering column cover: remove the screws located behind the wheel. Insert key into ignition switch and turn to ON. Turn the steering wheel left and right to remove screws (picture 11 and 11A)



Picture 11

Picture 11A

11. Remove switch panel left of steering wheel (picture 12)

Picture 12

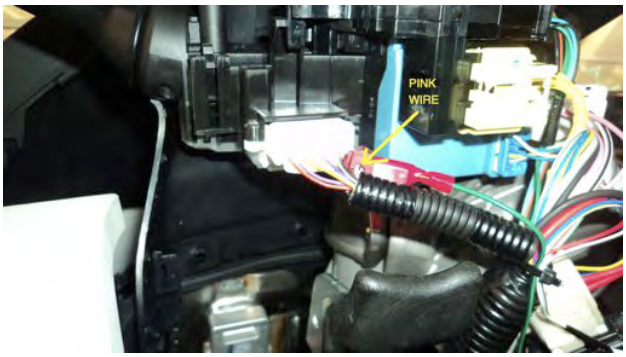
12. Remove far right dash panel switch plug
13. Install switch into switch knockout (picture 13)

Picture 13

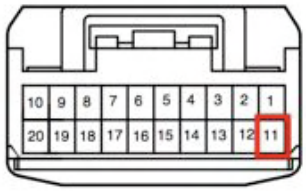
14. From inside the cabin, locate the wires that were pushed through in step 5. It will be the grommet above the gas pedal (picture 14)

Picture 14

15. T-tap green/black wire from fog light harness to connector D19 pin 11, pink wire (first pin on right). Connector D9 is located left side of steering column (picture 15,15A)

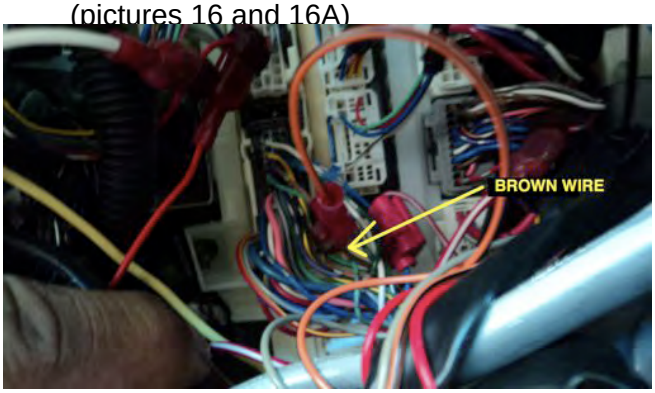


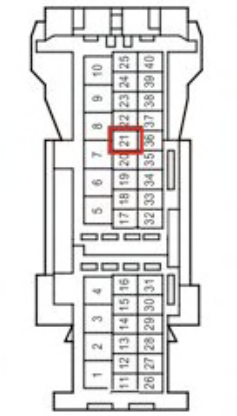
Picture 15



Picture 15A

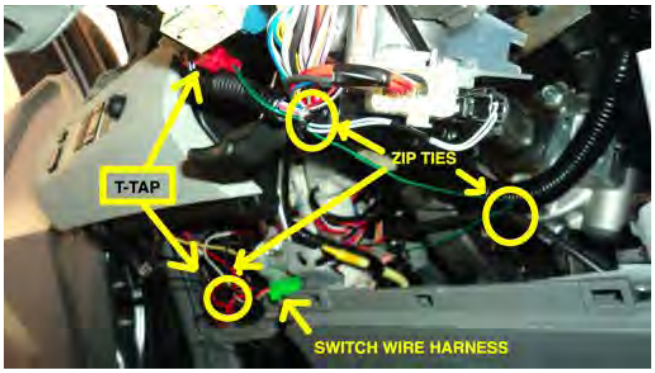
16. T-tap orange/black wire from fog light harness to connector 2F pin 21, brown wire (pictures 16 and 16A)



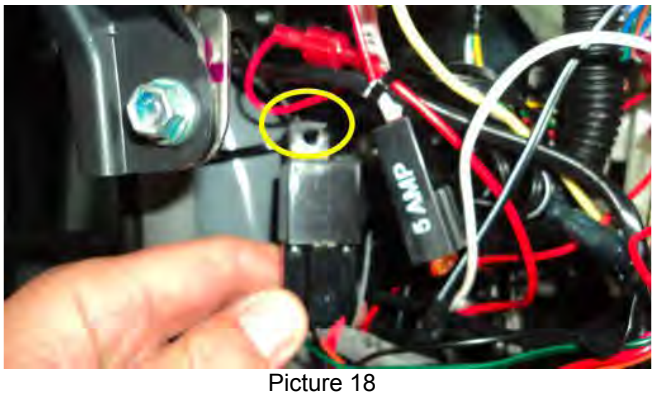


Picture 16A

17. Secure fog light wire and relay with wire ties. Run wire to switch location on finish panel and secure any excess wire with wire ties (picture 17 and 18)



Picture 17



Picture 18

18. Connect switch harness to switch
19. Reinstall dash panels and reconnect cables

ENGINE COMPARTMENT

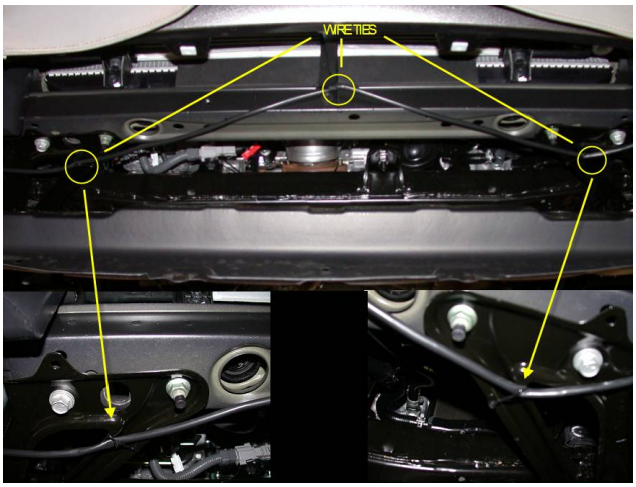
20. Drop fog light harness down on left side of vehicle
21. Loosen part of lower splash shield with 6x10mm bolts and 4 push pins and remove fog light cover plates (picture 19)


Picture 19

22. Insert one side of the fog light into the plastic sleeve and secure other side with supplied Phillip screws (see picture 20). Repeat this step for left and right fog lamps

Picture 20

23. Plug in left side fog light into harness plug and secure with wire ties
24. Run harness to right fog light and secure with 3 wire ties (picture 21)



Picture 21

25. Plug in right fog light harness into fog light
26. Snap on both fog light bezels
27. Reinstall lower splash shield
28. Reconnect negative battery cable and torque to 36 in-lbs

Check System for Operation

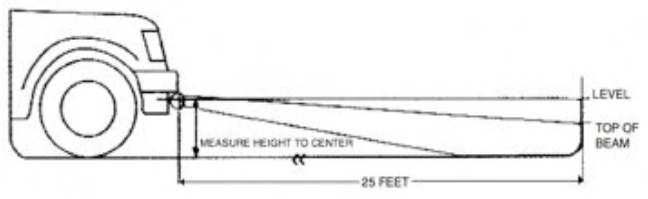
1. Reconnect battery terminals
2. Turn on headlamp low beams, then press fog light switch to “ON” position. Fog lights should be working. Fog lights will only work when the low beam headlamps are “ON”. Fog lights will NOT work when the high beam headlamps are “ON”

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 23)



Picture 23

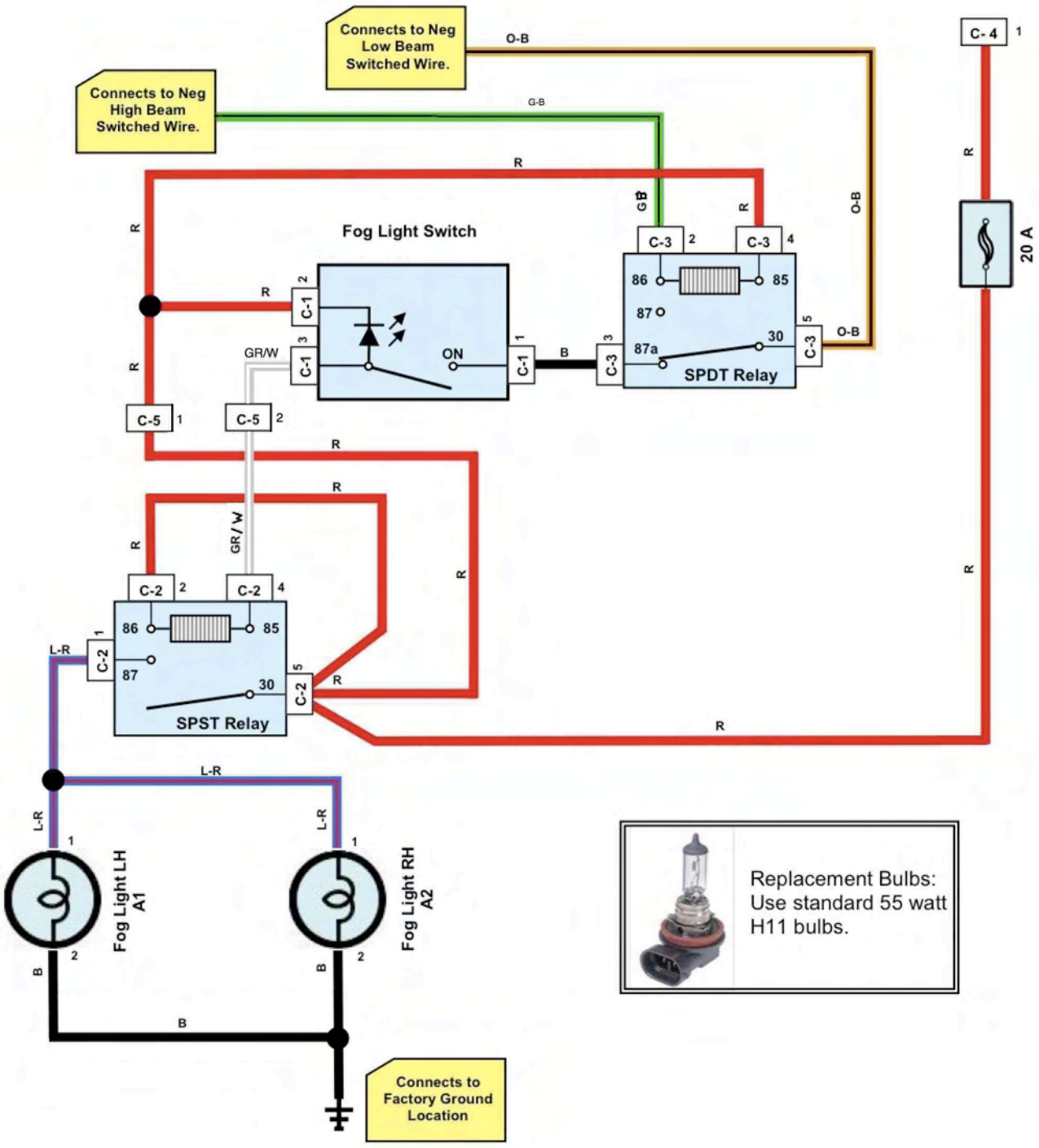
Checklist – these points MUST be checked to ensure quality installation

Check	**Look For:**
Accessory Functions Checks	
☐ Fog Lights function……..	
☐ All Panels snapped into place……	Loose panels and switches
☐ Fog Lights……	Visually confirm lights are straight forward
☐ Battery Terminal……	Re-torque battery terminals to 36 in-lb
	Place fog light operation guide inside glove box.
Vehicle Function checks	
☐ Check functions all switch functions	

VEHICLE FUNCTION CHECK

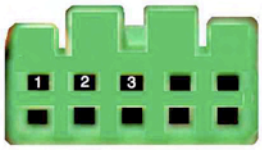
AFTER ALL PANELS, COVERS AND COMPONENTS THAT WERE REMOVED HAVE BEEN REINSTALLED, TEST THROUGHLY ALL MECHANICAL AND ELECTRICAL COMPONENTS DISCONNECTED AND/OR REMOVED FROM THE VEHICLE DURING THE INSTALLATION OF THIS ACCESSORY

Block Diagram
Fog Lights



Checking the Harness Pinouts:

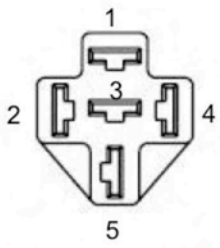
Connector C-1 :



**** 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 :



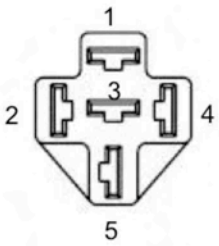
FEMALE TERMINALS
TERMINAL VIEW

**** 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.

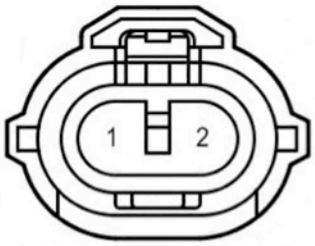
Checking the Harness Pinouts:

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
HARNESS 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