

Headlamp Durability Enhancement

Service Category Vehicle Exterior

Section Lighting (ext)

Market USA

Toyota Supports
 ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2010 – 2011	Prius	

Introduction

Some 2010 – 2011 model year Prius vehicles may exhibit a condition where a halogen low beam headlamp bulb lifetime is shorter than customer expectation. A modified wiring harness is available to address this condition.

Warranty Information

OP CODE	DESCRIPTION	TIME	OPF	T1	T2
EL1220	Install No. 4 Wire Harness with Headlamp Alignment (One Side)	1.7	90981-13075	72	71
Combo A	Other Side	1.2			

APPLICABLE WARRANTY

- This repair is covered under the Toyota Basic Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in-service date.
- Warranty application is limited to occurrence of the specified condition described in this bulletin.

Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
N/A	82114-47010	Engine Wire No. 4	1*
82999-52010	Same	Sleeve Tube	1*
82999-30010	Same	Heat Shrink Tube	1

* One per affected side.

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Required Tools & Equipment

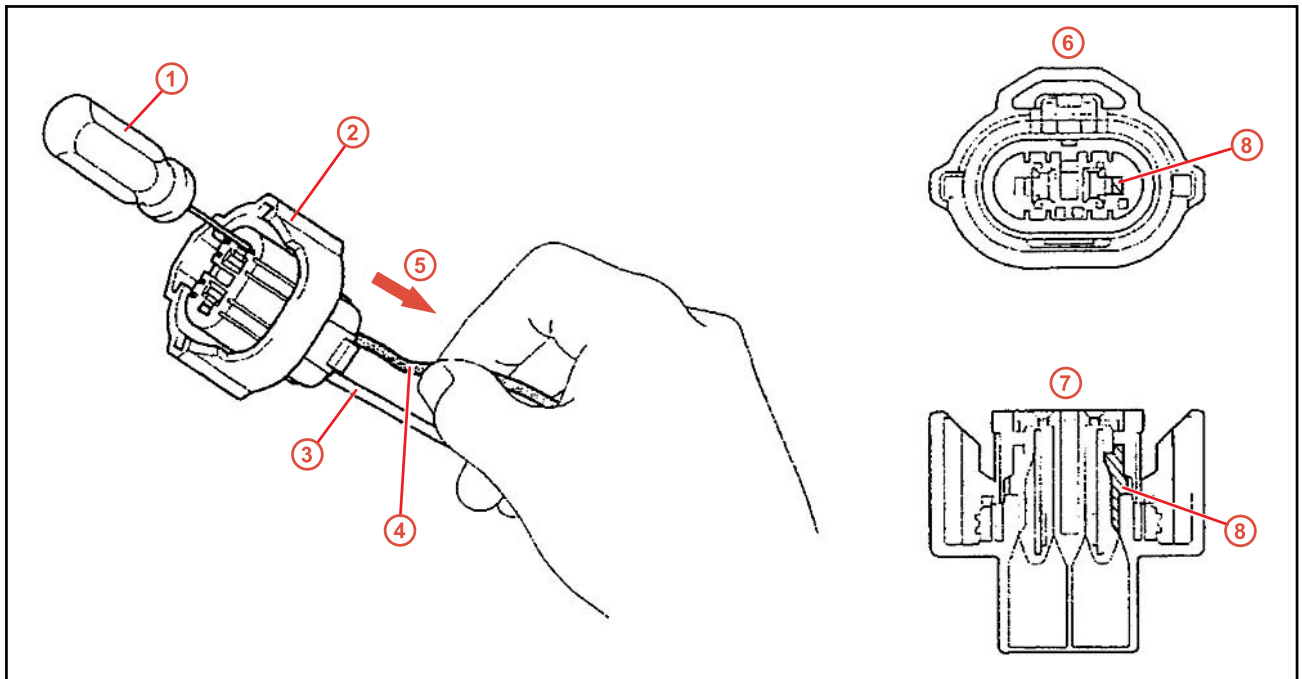
SPECIAL SERVICE TOOLS (SST)	PART NUMBER	QTY
Plastic Pry Tool Set*	00002-06000-01	1
Terminal Removing Tool "F"	09991-00510	1
Wire Crimper*	09042-2C100	1

* Essential SST.

NOTE
 Additional SSTs may be ordered by calling 1-800-933-8335.

TOOLS & MATERIAL	QUANTITY
Nylon Ties	13
Measuring Tool (Metric Ruler)	1
Heat Gun	1

Figure 1.



1	Terminal Removing Tool "F"
2	Headlamp Bulb No. 2 Connector
3	Engine Room Main Wire Harness (White-Black)
4	Engine Room Main Wire Harness (Violet)

5	Remove Violet Wire Harness from Connector
6	Front View
7	Cross Section
8	Lock

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Repair Procedure

1. Replace inoperative headlamp bulbs. After confirming headlamps work, verify headlight aim seems visually correct, and there is no sign of damage or alterations to wiring or headlamps.

NOTE

If a new bulb has been installed and the bulb is still inoperative, this bulletin does NOT apply. Please diagnose per the Repair Manual.

2. Remove the front bumper cover assembly.

Refer to the Technical Information System (TIS), applicable model and model year Repair Manual:

- [2010](#) / [2011](#) Prius:
Vehicle Exterior – Exterior Panels/Trim – “Exterior Panels/Trim: Front Bumper: Removal”

NOTE

If the vehicle is equipped with headlight cleaners, be sure to drain the washer fluid system before bumper cover complete removal.

3. Remove the affected headlamp assembly.

Refer to TIS, applicable model and model year Repair Manual:

- [2010](#) / [2011](#) Prius:
Vehicle Exterior – Lighting (Ext) – “Lighting (Ext): Headlight Assembly: Removal”

4. Modify the existing Headlamp Harness and install the Engine Wire No. 4 Harness.

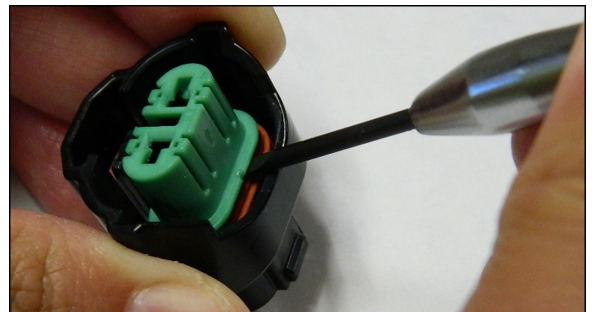
NOTE

This wiring harness extends the factory headlamp wiring harness and will be placed between the headlight socket and existing headlamp wiring harness. You will be cutting the harness and using a special crimping tool to make an adequate crimp. It is important to use the suggested crimp tool and follow the instructions below to assure a proper crimp.

- A. Remove the green “cap” from the headlamp connector.

This can be accomplished by carefully using a small screwdriver or pick to detach the cap as shown in Figure 2.

Figure 2.



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Repair Procedure (Continued)

- B. After the cap is off, remove terminal 2 (Violet wire) from the low beam headlight connector wire using the Terminal Removing Tool "F".

SST P/N: 09991-00510

- (1) After the terminal cap is removed, gently insert the Terminal Removing Tool "F" into the connector between the terminal and the terminal lock (see Figures 1 and 3), then gently push the terminal lock to the outward side of the connector. Do not overstress the lock or it will not properly hold the terminal when reassembled.

NOTICE

When inserting the Terminal Removing Tool "F", pry carefully outward just enough to remove the terminal from the wire side. Excessive pressure may damage the lock, or bend the tool.

- (2) As the lock is held outward, gently tug on the Violet wire from the back of the connector to remove it.

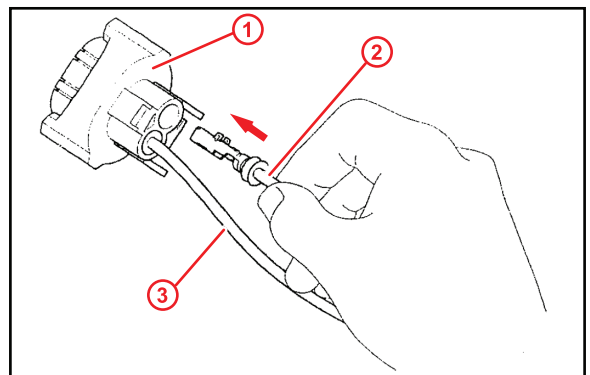
Figure 3.



1	Terminal Lock
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- C. Insert the terminal of Engine Wire No. 4 (White-Black) in headlamp bulb No. 2 connector.

Figure 4.



1	Headlamp Bulb No. 2 Connector (Low Beam)
2	Insert Engine Wire No. 4 in Terminal (White-Black)
3	Engine Room Main Wire Harness (White-Black)

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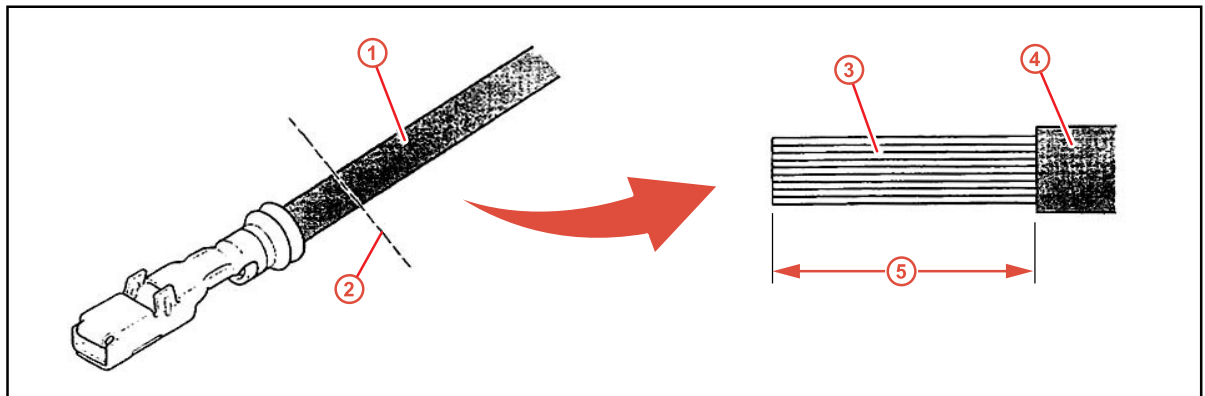
Repair Procedure (Continued)

- D. Cut the Violet wire previously removed from the headlamp bulb No. 2 connector near the terminal.
- E. Remove the wire outer coat insulation 10 mm from the edge.

NOTE

Measure the length of the wire carefully to assure the wire fits properly.

Figure 5.

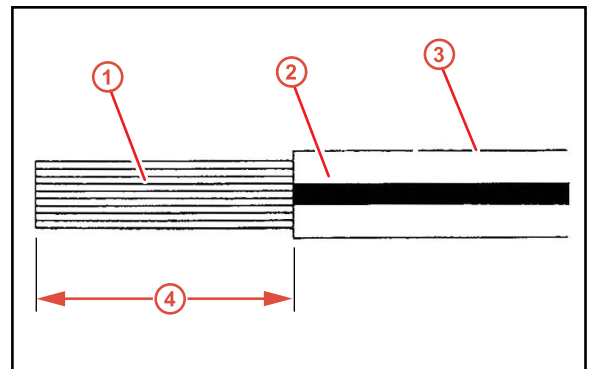


1	Engine Room Main Wire Harness (Violet)
2	Cut Here
3	Strip Off 10 mm of Insulation

4	Wire Insulation Coat
5	10 mm

- F. Remove 10 mm of the wire outer coat insulation from Engine Wire No. 4 (White-Black wire).

Figure 6.



1	Strip Off 10 mm of Insulation
2	Wire Insulation Coat
3	Engine Room Wire No. 4
4	10 mm

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Repair Procedure (Continued)

- G. Insert a section of heat shrink tubing (P/N 82999-30010) over the Engine Wire No. 4.
- H. Insert stripped bare wires into sleeve tube (crimp connector) P/N 82999-52010, assuring the wires overlap in the center of the crimp.
- I. Using the Wire Crimper SST, apply a 5.5 crimp to the center of the sleeve tube.

SST P/N 09042-2C100

Figure 7.



1	5.5 Crimp
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NOTE

The Wire Crimper tool handles must be fully depressed for it to release, so verify alignment is proper prior to applying pressure to crimper handles.

- J. Apply additional crimps slightly beyond the crimp in the center. The end result should look similar to that shown in Figure 8.

Figure 8.

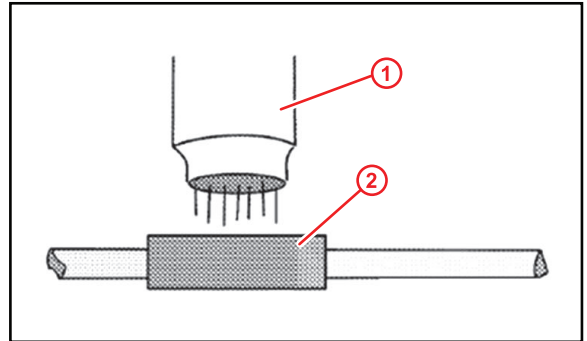


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Repair Procedure (Continued)

- K. Slide the heat shrink tubing over the crimp and apply sufficient heat with a heat gun to close the heat shrink around the wire insulation.

Figure 9.



1	Heat Gun
2	Shrink Tube

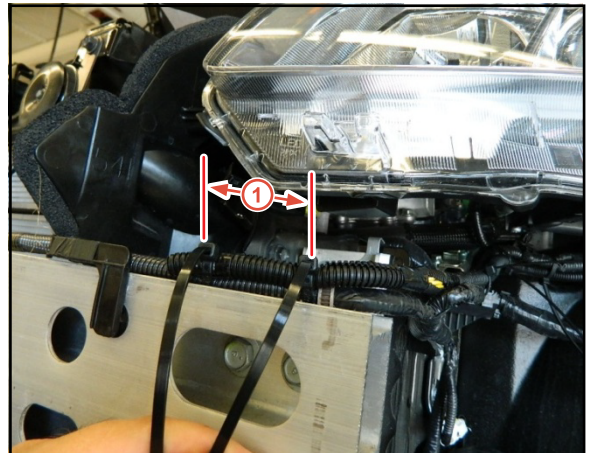
- L. Insert the headlamp connector back into the headlamp socket.
 - M. Test for normal high and low beam headlamp operation with headlamp temporarily connected to the wiring harness.
5. Reinstall the headlamp assembly.

Refer to TIS, applicable model and model year Repair Manual:

- [2010](#) / [2011](#) Prius:
Vehicle Exterior – Lighting (Ext) – “Lighting (Ext): Headlight Assembly: Installation”

- 6. Install the Engine Wire No. 4 wire harness on the left or right side. Be sure to attach nylon ties less than 100 mm apart.

Figure 10.



1	Distance Between Nylon Ties Less Than 100 mm
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NOTE

- Each tie should be located be no more than 100 mm from the next one.
- There should be no free play between the factory harness and the Engine Wire No. 4 wire harness loom.
- The ties should face outside the vehicle.
- Be sure to trim the ties after application.

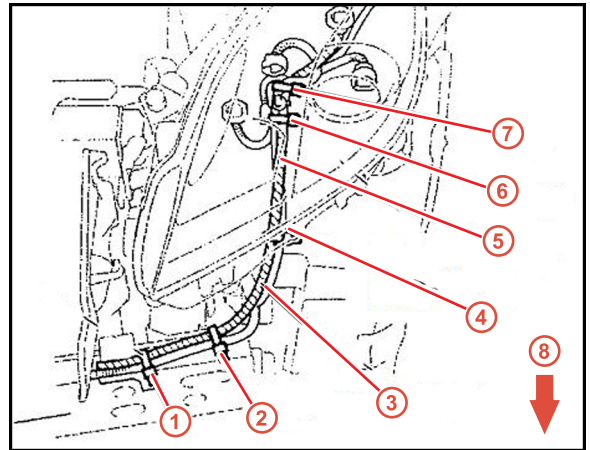
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Repair Procedure (Continued)

7. Left Side:

- A. Install connector from Engine Wire No. 4 harness connector into the headlamp assembly.
- B. Route No. 4 harness starting at inner bumper reinforcement area following contours of factory harness. (Test fit routing as necessary to ensure fit.)

Figure 11.



1-7	Nylon Ties
8	Front of Vehicle

- C. Apply nylon ties less than 100 mm from each other, facing outward.

NOTE

Seven (7) tie wraps are needed for the left side. Ties number 6 and 7 are located closer together than other ties, exact distance depends upon routing.

- D. Trim ties after installation.

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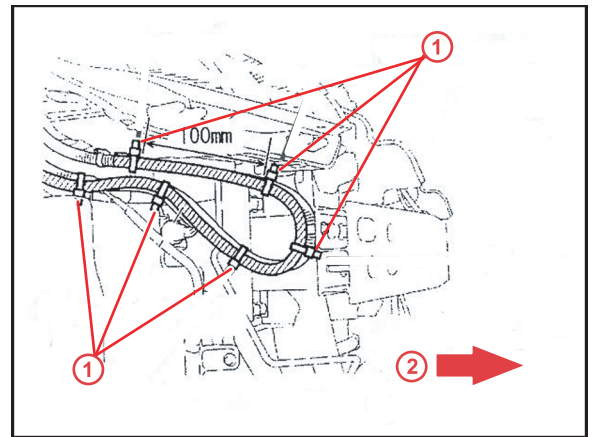
Repair Procedure (Continued)

8. Right Side:

A. Plug Engine Wire No. 4 harness connector into the headlamp assembly.

B. Test fit routing No. 4 harness by following the contours, starting at the upper part of the factory wire harness area.

Figure 12.



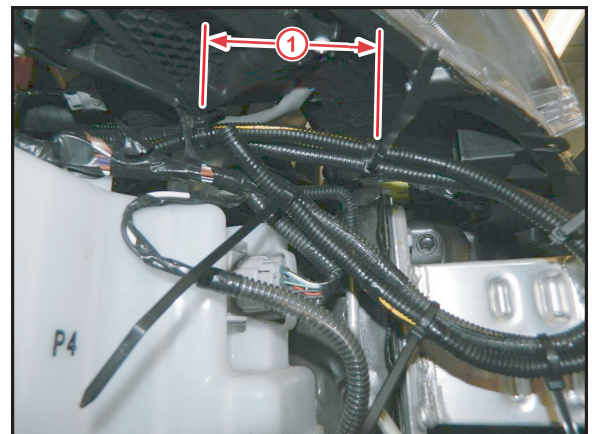
1	Nylon Ties
2	Front of Vehicle

C. Apply nylon ties less than 100 mm from each other, facing outward.

NOTE
Six (6) tie wraps are needed for the right side.

D. Trim ties after installation.

Figure 13.



1	Distance Between Nylon Ties Less Than 100 mm
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Repair Procedure (Continued)

9. Reinstall the bumper cover.

Refer to TIS, applicable model and model year Repair Manual:

- [2010](#) / [2011](#) Prius:
Vehicle Exterior – Exterior Panels/Trim – “Exterior Panels/Trim: Front Bumper: Installation”

10. Adjust headlamps.

Refer to TIS, applicable model and model year Repair Manual:

- [2010](#) / [2011](#) Prius:
Vehicle Exterior – Lighting (Ext) – “Lighting (Ext): Headlight Assembly: Adjustment”

11. Verify normal operation of all affected systems.