

HID Bulb - Intermittent Operation / Flickering

Service Category Vehicle Exterior

Section Lighting (ext)

Market USA

Toyota Supports
ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2006 – 2009	Prius	

Introduction

Some 2006 – 2009 model year Prius vehicles may exhibit a High Intensity Discharge (HID) headlight flicker or intermittent operation. HID bulbs are unlike Halogen light bulbs which simply stop working at the end of their useful life. As an HID bulb nears the service end-of-life it may exhibit a condition where the bulb may flicker or intermittently be inoperable similar to a fluorescent light bulb. Follow the procedure below to replace the HID bulb.

NOTE

When replacing an HID bulb, the HID ECU does NOT need to be replaced.

Parts Information

MODEL/YEAR	CURRENT PART NUMBER	PART NAME	QTY
2004 – 2005 Prius	90981-20007	Bulb, Discharge Headlamp	1
2006 – 2009 Prius	90981-20029		

NOTE

- The HID bulb and HID ECU service parts for 2004 – 2005 model year Prius are NOT compatible with 2006 and later model year vehicles. Installing a 2004 or 2005 model year HID Bulb or HID ECU on a 2006 or later model year vehicle may cause an intermittent operation/flickering of the HID bulb.
- When replacing the HID bulb, the HID ECU does NOT need to be replaced.

Required Tools & Equipment

SPECIAL SERVICE TOOLS (SST'S)	PART NUMBER	QTY
Digital Multimeter (or Digital Volt Ohm Meter [DVOM] or Equivalent)	09082-00050	
Terminal Gauge Set*	00002-48937-01	

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Required Tools & Equipment (Continued)

* Essential SST.

NOTE

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

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
810151	R & R HID Headlight Bulb	0.5	90981-200##	8D	99

APPLICABLE WARRANTY

- This repair is covered under the Toyota Comprehensive 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.

Repair Procedure

When diagnosing an intermittent HID headlamp operation condition, if the bulb illuminates normally, it still may be nearing the end of its normal service life. Be sure to perform all of the inspection steps below in the order listed to ensure an accurate diagnosis. Following the identification of the problem component, perform the inspection steps again to confirm the repair.

1. Confirm the headlight control ECU high voltage socket and discharge headlight bulb are connected securely. Confirm there is no damage to the headlight control ECU high voltage socket or the discharge headlight bulb connector.

NOTE

If the headlight control ECU malfunctions, the headlamp may shut off completely or fail to illuminate.

2. Using a DVOM (SST P/N 09082-00050 or equivalent), perform a voltage drop test across the connector that feeds power to the HID ECU (not the HID socket).

NOTE

Confirm or reference appropriate EWD wiring for appropriate terminal.

- If reading is equal to source voltage, proceed to Step 3.
- If reading is NOT equal to source voltage, isolate and repair the trouble area in the headlight assembly power supply circuit.

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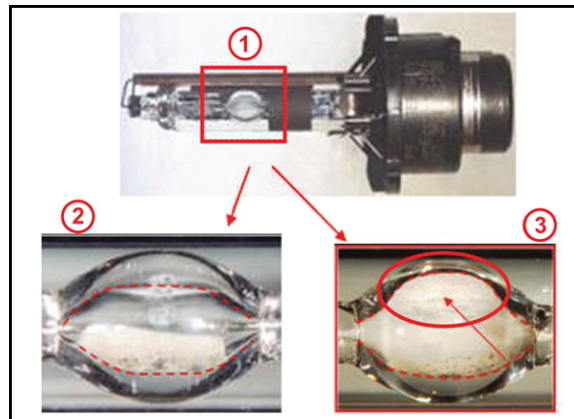
Repair Procedure (Continued)

3. Remove the HID headlight bulb and inspect for swelling and a white cloudy condition inside of the discharge bulb arc tube. If the bulb shows these signs of deterioration, the bulb should be replaced.

NOTE

In case of an aged bulb, the output and illumination may be shut off temporarily due to the “fail-safe” function of the headlight control ECU. The bulb may illuminate temporarily when turned on again.

Figure 1.



1	Bulb Arc Tube
2	Normal Condition
3	Swollen and Cloudy Condition

For removal and installation instructions, refer to the Technical Information System (TIS) Repair Manual:

[2006](#) / [2007](#) / [2008](#) / [2009](#) Prius

Vehicle Exterior — Lighting — “Headlight Assembly: Removal”

[2006](#) / [2007](#) / [2008](#) / [2009](#) Prius

Vehicle Exterior — Lighting — “Headlight Assembly: Installation”

NOTE

- In most cases, when replacing the HID bulb for an intermittent operation or flickering condition, the HID ECU does NOT need to be replaced.
- The HID bulb and HID ECU service parts for 2004 – 2005 model year Prius are NOT compatible with 2006 and later model year vehicles. Installing a 2004 or 2005 model year HID Bulb or HID ECU on a 2006 or later model year vehicle may cause an intermittent operation/flickering of the HID bulb.

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Repair Procedure (Continued)

4. If no signs of deterioration are found, switch the HID bulb between the left and right side.
 - If you move the improperly operating bulb to the opposite side and it does not operate properly, replace the bulb.
 - If the bulb operates properly for at least 3 minutes when swapped to the opposite side, continue to Step 5.

NOTE

Swapping bulbs from side to side can be misleading if there is intermittent operation. A bulb that is nearing service end-of-life may or may not work when swapped.

Follow the bulb inspection procedure prior to swapping bulbs.

5. Inspect the connector at the HID ECU:

Using the Terminal Gauge Set, check the pin fit of the 12V connector at the HID ECU.

- If pin fit is loose, repair or replace the connector and harness.
6. Confirm proper headlight operation.