

Last Modified: 7-13-2007		1.6 J
Service Category: Vehicle Exterior	Section: Lighting (ext)	
Model Year: 2008	Model: ES350	Doc ID: RM000001A7L00RX
Title: LIGHTING: LIGHTING SYSTEM: Headlight (HI-BEAM) Circuit (2008 ES350)		

[Headlight \(HI-BEAM\) Circuit](#)

DESCRIPTION

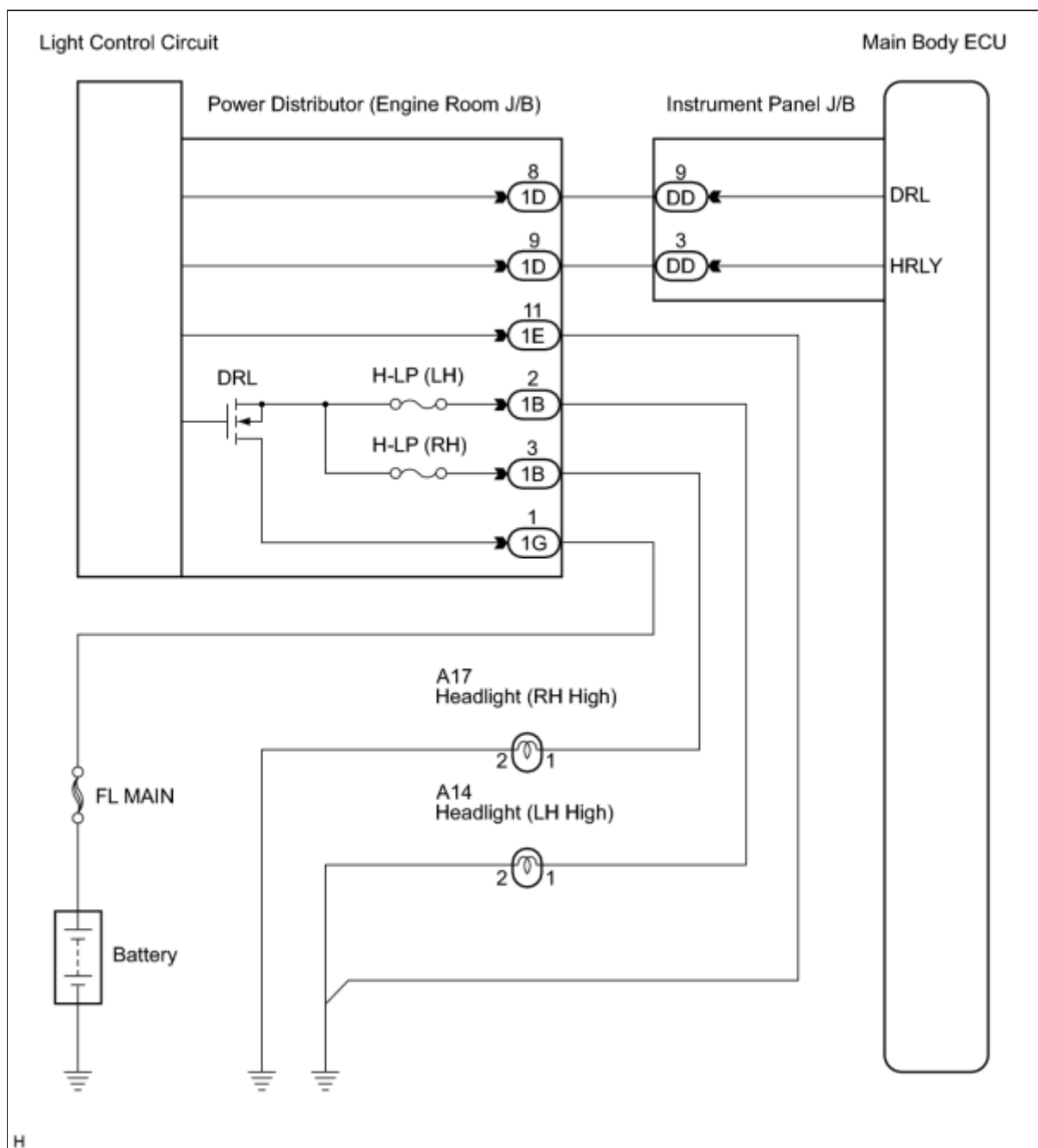
When either of the following conditions is met, the high beam headlights come on.

- Dimmer switch in HIGH position and light control switch in HEAD position.
- Dimmer switch in HIGH position, light control switch in AUTO position, and low beam headlights are on.

HINT:

- The power distributor has a fail-safe function control. If a short circuit occurs between the power distributor and high beam headlight bulb, the power distributor stops the DRL relay operation.
- The DRL relay is built into the power distributor, so unlike conventional relays, it cannot be removed for inspection.
- If only a high beam headlight on one side does not illuminate, inspect the fuse, bulb, or wire harness that is related to the bulb.
- If both right and left high beam headlights do not illuminate, read the dimmer switch HIGH signal value in the data list, and perform the DRL relay active test to determine if the malfunction exists on either the switch side or the relay side.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1. PERFORM ACTIVE TEST BY TECHSTREAM

- (a) Connect Techstream to the DLC3.
- (b) Turn the engine switch on (IG).
- (c) Turn Techstream on.
- (d) Select the following menu items: Body Electrical / Main Body / Active Test.
- (e) Check that the relay operates.

Main Body:

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Head Light (Hi)	HI-beam headlight relay	ON / OFF	-

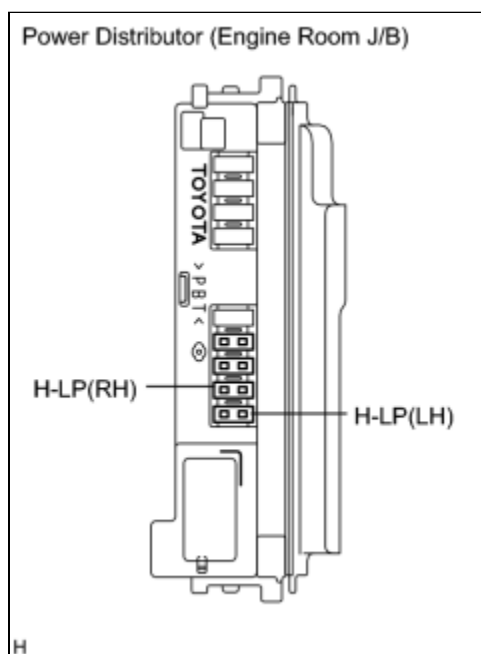
OK:

Relay operates. (HI-beam headlights illuminate.)

OK ▶ PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

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2.	CHECK HARNESS AND CONNECTOR (SHORT IN RELAY-DRIVEN CIRCUIT)
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(a) Remove the H-LP (RH) fuse from the engine room junction block assembly.

(b) Turn the light control switch to the HEAD position and turn the dimmer switch to the HIGH position.

(c) Check if the high beam headlight LH illuminates.

(d) Turn the dimmer switch to the LOW position.

(e) Install the H-LP (RH) fuse and remove the H-LP (LH) fuse.

(f) Turn the dimmer switch to the HIGH position.

(g) Check if the high beam headlight RH illuminates.

OK:

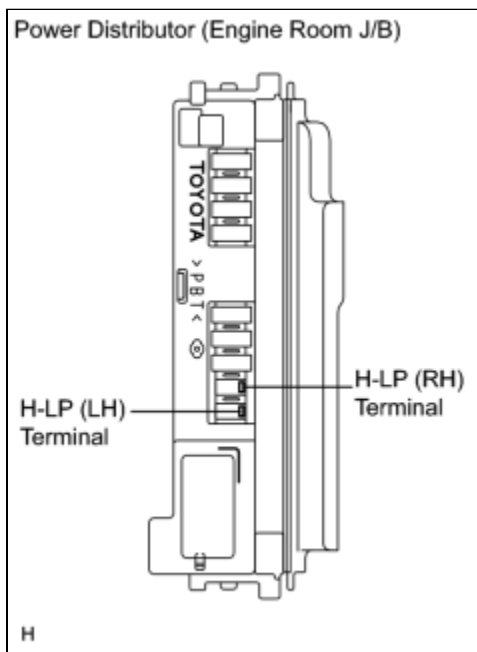
Either high beam headlight LH or RH illuminates.

OK ▶ REPAIR OR REPLACE HARNESS OR CONNECTOR (SHORT CIRCUIT BETWEEN FUSE AND BULB)

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3.	INSPECT ENGINE ROOM JUNCTION BLOCK ASSEMBLY
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(a) Remove the H-LP (RH) fuse and H-LP (LH) fuse from the engine room junction block assembly.

(b) Measure the voltage between the loading slot of each fuse and body ground.

Standard voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
H-LP (RH) terminal - Body ground	Light control switch in HEAD and dimmer switch in HIGH	10 to 14 V
H-LP (LH) terminal - Body ground	Light control switch in HEAD and dimmer switch in HIGH	10 to 14 V

OK **REPAIR OR REPLACE HARNESS OR CONNECTOR (OPEN CIRCUIT BETWEEN FUSE AND BODY GROUND)**

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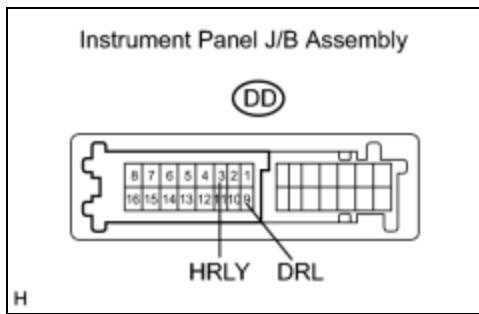


4.	INSPECT INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY
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(a) Measure the voltage according to the value(s) in the table below.

Standard voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
DD-3 (HRLY) - Body ground	Light control switch OFF → HEAD	10 to 14 V → Below 1 V



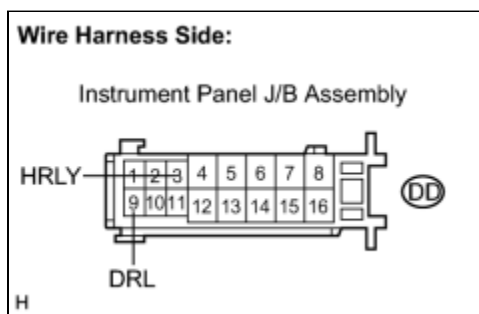
DD-9 (DRL) - Body ground	Light control switch in HEAD, dimmer switch LOW → HIGH	10 to 14 V → Below 1 V
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OK ▶ REPLACE ENGINE ROOM JUNCTION BLOCK ASSEMBLY

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5. INSPECT INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY



(a) Disconnect the DD instrument panel junction block connector.

(b) Measure the voltage according to the value(s) in the table below.

Standard voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
DD-3 (HRLY) - Body ground	Always	10 to 14 V
DD-9 (DRL) - Body ground	Always	10 to 14 V

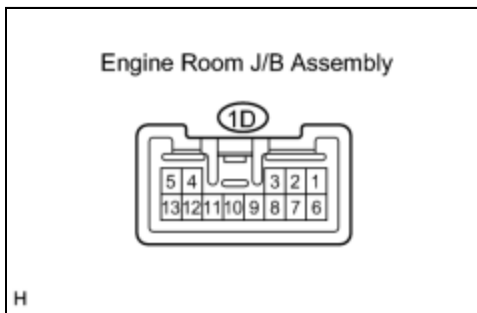
OK ▶ REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY

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6. INSPECT ENGINE ROOM JUNCTION BLOCK ASSEMBLY

(a) Disconnect the 1D engine room junction block assembly connector.



(b) Measure the voltage according to the value(s) in the table below.

Standard voltage:

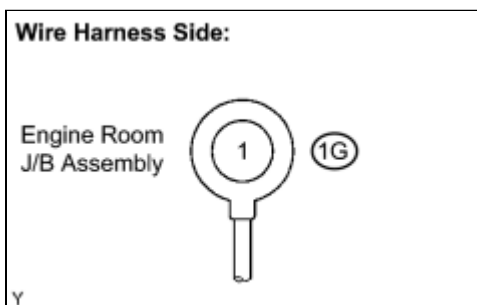
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1D-8 - Body ground	Always	10 to 14 V
1D-9 - Body ground	Always	10 to 14 V

OK **REPAIR OR REPLACE HARNESS OR CONNECTOR (ENGINE ROOM J/B ASSEMBLY - INSTRUMENT PANEL J/B ASSEMBLY)**

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7.	CHECK HARNESS AND CONNECTOR (ENGINE ROOM J/B ASSEMBLY - BATTERY AND BODY GROUND)
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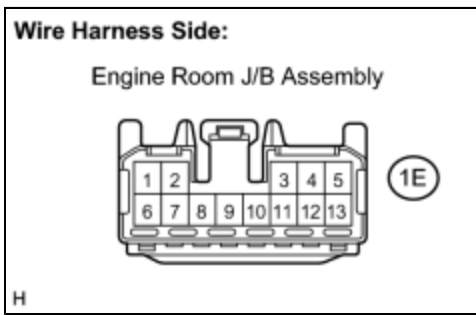
(a) Disconnect the 1G engine room junction block assembly connector.

(b) Measure the voltage according to the value(s) in the table below.

Standard voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1G-1 - Body ground	Always	10 to 14 V

(c) Disconnect the 1E engine room J/B assembly connector.



(d) Measure the resistance according to the value(s) in the table below.

Standard resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1E-11 - Body ground	Always	Below 1 Ω

OK ► REPLACE ENGINE ROOM JUNCTION BLOCK ASSEMBLY

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

