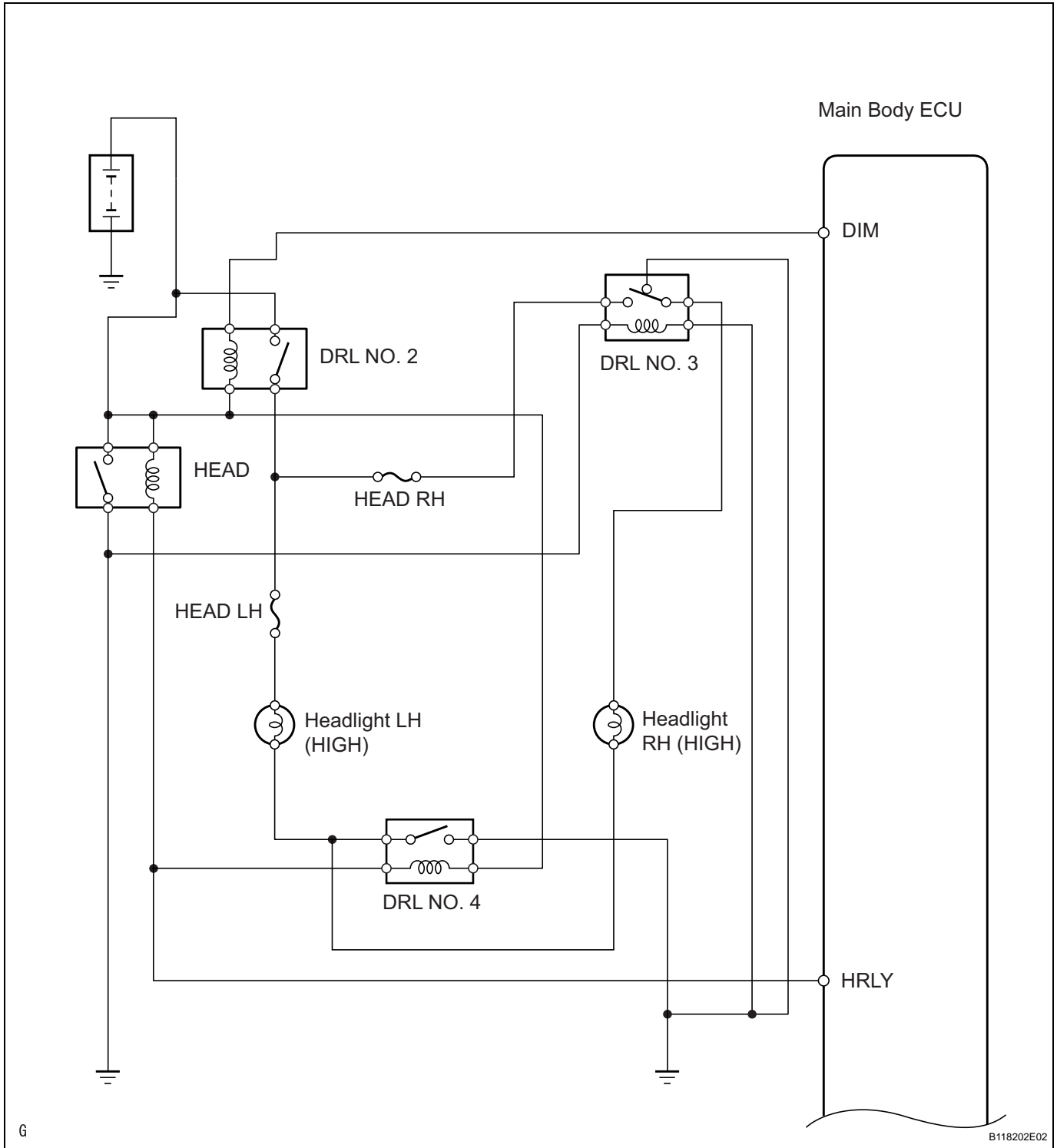


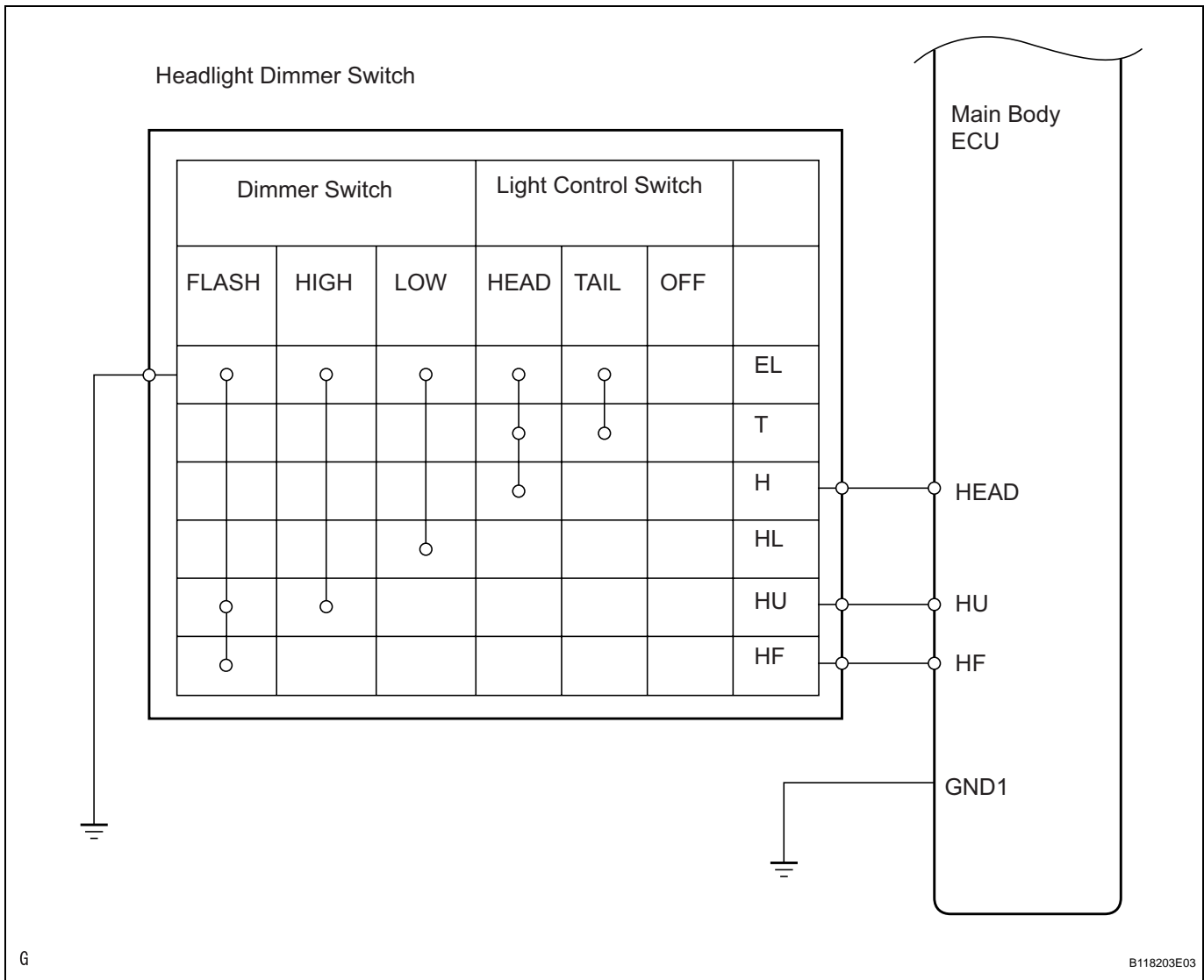
Headlight (HI-BEAM) Circuit

DESCRIPTION

The body ECU controls the headlight relay, No. 2 daytime running light relay (Marking: DRL NO. 2) and No. 4 daytime running light relay (Marking: DRL NO. 4).

WIRING DIAGRAM





INSPECTION PROCEDURE

1 PERFORM ACTIVE TEST BY INTELLIGENT TESTER



- (a) Connect the intelligent tester (with CAN VIM) to the DLC3.
- (b) Turn the ignition switch to the ON position and press the intelligent tester main switch ON.
- (c) Select the item below in the ACTIVE TEST and then check the relay operation.

Main body ECU

Item	Test Details	Diagnostic Note
HEADLIGHT HI	Turn headlight dimmer relay (Headlight dimmer switch HI position): ON / OFF	-

OK:
Headlight (HIGH) comes on.



Go to step 10

NG

2 CHECK HEADLIGHT (LOW)

- (a) Check that the headlight (LOW) comes on when the light control switch is on (HEAD).

OK:

Headlight (LOW) comes on.

NG

GO TO HEADLIGHT RELAY CIRCUIT

OK

3 INSPECT FUSE (HEAD LH, HEAD RH)

- (a) Remove the HEAD LH fuse and HEAD RH fuse from the engine room No. 2 relay block.
- (b) Measure the resistance of the fuses.

Standard resistance:

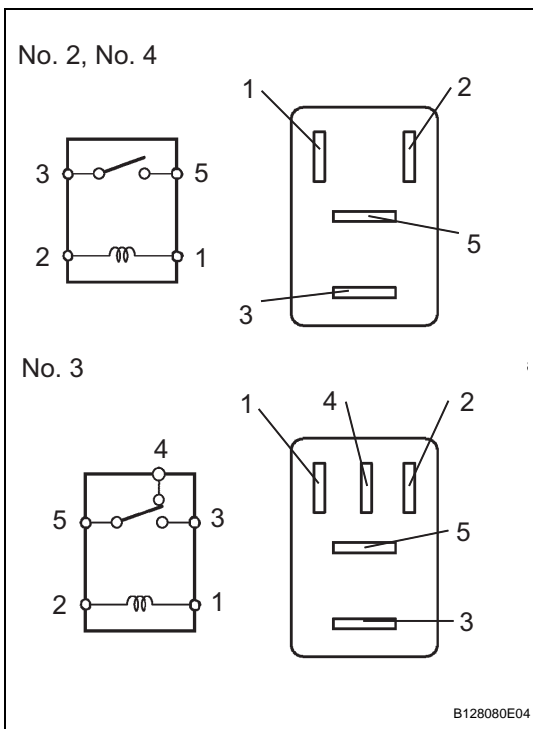
Below 1 Ω

NG

REPLACE FUSE

OK

4 INSPECT DAYTIME RUNNING LIGHT RELAY (Marking: DRL NO. 2, DRL NO. 3, DRL NO. 4)



- (a) Remove the No. 2 relay, No. 3 relay and No. 4 relay from the engine room No. 2 relay block.

- (b) Measure the resistance of the relays.

Standard resistance:

No. 2, No. 4

Tester Connection	Specified Condition
3 - 5	10 kΩ or higher
3 - 5	Below 1 Ω (Battery voltage applied to terminals 1 and 2)

No. 3

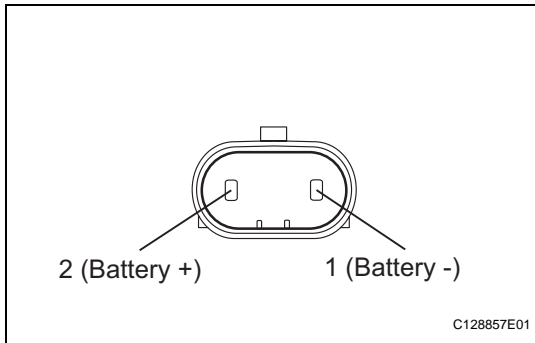
Tester Connection	Specified Condition
4 - 5	Below 1 Ω
4 - 5	10 kΩ or higher (Battery voltage applied to terminals 1 and 2)
3 - 5	10 kΩ or higher
3 - 5	Below 1 Ω (Battery voltage applied to terminals 1 and 2)

NG

REPLACE DAYTIME RUNNING LIGHT RELAY

OK

5 INSPECT HEADLIGHT BULB (HIGH)

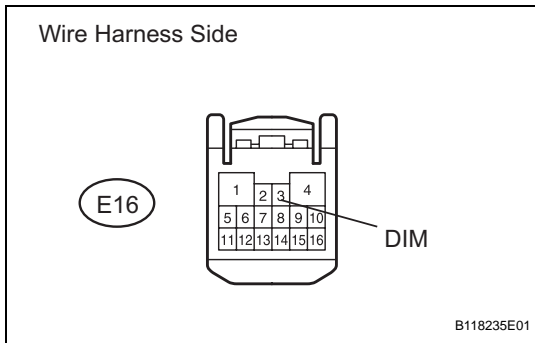


- (a) Remove the headlight bulb (HIGH).
- (b) Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, then check that the bulb illuminates.

NG → **REPLACE HEADLIGHT BULB (HIGH)**

OK

6 CHECK WIRE HARNESS (MAIN BODY ECU - BATTERY)



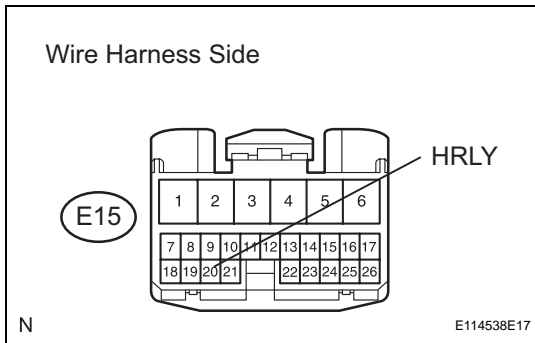
- (a) Disconnect the E16 main body ECU connector.
 - (b) Measure the voltage of the wire harness side connector.
- Standard voltage**

Tester Connection	Specified Condition
E16-3 (DIM) - Body ground	10 to 14 V

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

7 CHECK WIRE HARNESS (MAIN BODY ECU)



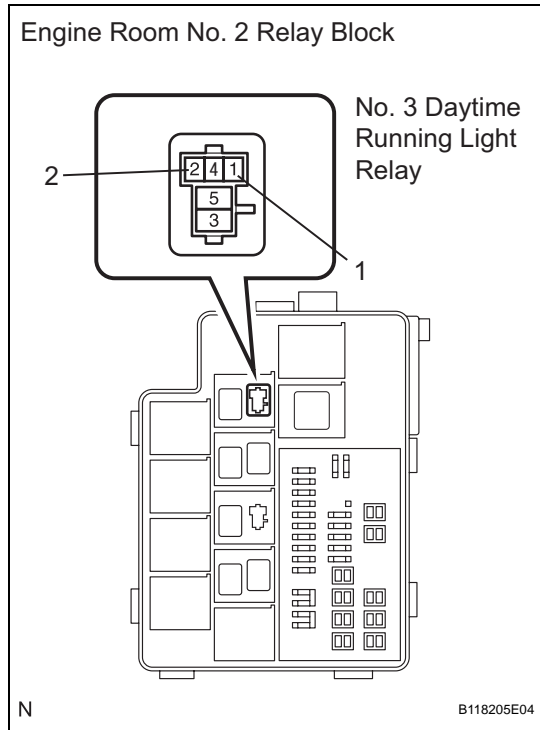
- (a) Remove the headlight relay from the engine room No. 2 relay block.
 - (b) Disconnect the E15 main body ECU connector.
 - (c) Measure the voltage of the wire harness side connector.
- Standard voltage**

Tester Connection	Specified Condition
E15-20 (HRLY) - Body ground	10 to 14 V

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

8 CHECK WIRE HARNESS (HEADLIGHT RELAY - NO. 3 DAYTIME RUNNING LIGHT RELAY AND BODY GROUND)



- (a) Remove the No. 3 daytime running light relay from the engine room No. 2 relay block.
- (b) Measure the voltage and resistance of the relay block.

Standard voltage

Tester Connection	Condition	Specified Condition
Relay block No. 3 daytime running light relay terminal 1 - Body ground	Light control switch ON (HEAD) Dimmer switch position LOW	10 to 14 V

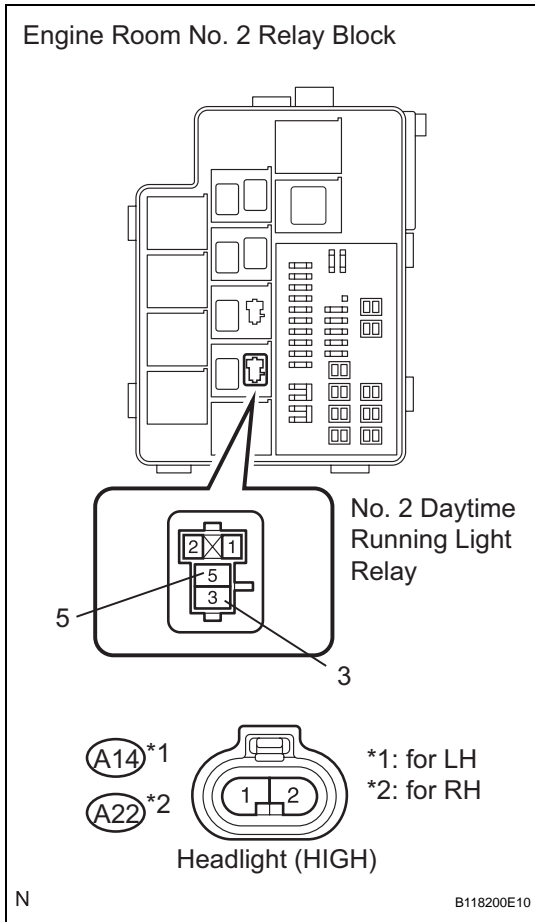
Standard resistance

Tester Connection	Specified Condition
Relay block No. 3 daytime running light relay terminal 2 - Body ground	Below 1 Ω

NG **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

9 CHECK WIRE HARNESS (BATTERY - NO. 2 DAYTIME RUNNING LIGHT RELAY, BULB AND BODY GROUND)



- (a) Remove the No. 2 daytime running light relay from the engine room No. 2 relay block.
 - (b) Remove the A14 and A22 headlight bulb connectors.
 - (c) Measure the voltage and resistance of the relay block.
- Standard voltage**

Tester Connection	Specified Condition
Relay block No. 2 daytime running light relay terminal 5 - Body ground	10 to 14 V

Standard resistance

Tester Connection	Condition	Specified Condition
Relay block No. 2 daytime running light relay terminal 3 - A14-2	Always	Below 1 Ω
Relay block No. 2 daytime running light relay terminal 3 - Body ground	Always	10 kΩ or higher
A14-1 - A22-1	Always	Below 1 Ω
A14-1 or A22-1 - Body ground	Always	10 kΩ or higher
A22-2 - Body ground	Always	Below 1 Ω
Relay block No. 2 daytime running light relay terminal 3 - A22-2	Light control switch ON (HEAD) Dimmer switch position LOW	Below 1 Ω
Relay block No. 2 daytime running light relay terminal 3 - Body ground	Light control switch ON (HEAD) Dimmer switch position LOW	10 kΩ or higher
A22-1 - Body ground	Light control switch ON (HEAD) Dimmer switch position LOW	Below 1 Ω

NG **REPAIR OR REPLACE HARNESS AND CONNECTOR**

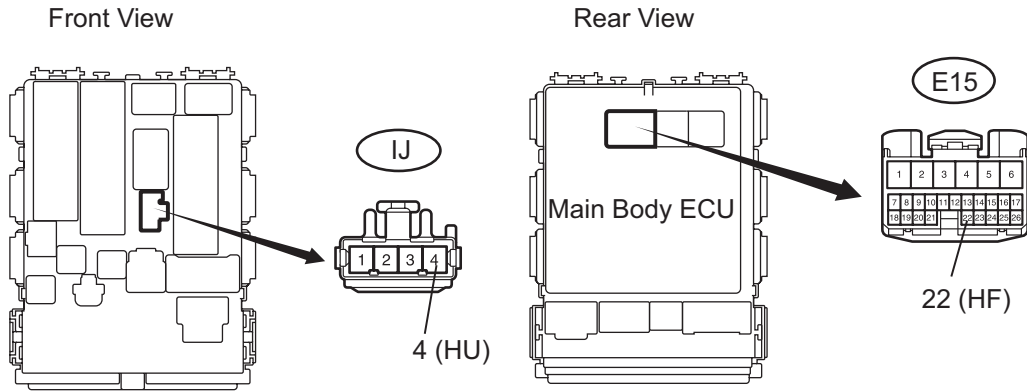
OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK (MAIN BODY ECU)

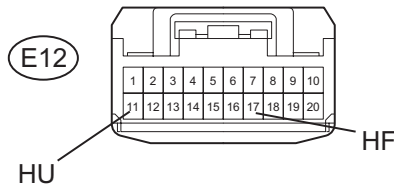
10 CHECK WIRE HARNESS (MAIN BODY ECU - DIMMER SWITCH)

Wire Harness Side

Instrument Panel Junction Block



Headlight Dimmer Switch



B118220E01

- (a) Disconnect the E15 main body ECU connector.
- (b) Disconnect the E12 headlight dimmer switch connector.
- (c) Disconnect the IJ instrument panel junction block connector.
- (d) Measure the resistance of the wire harness side connectors.

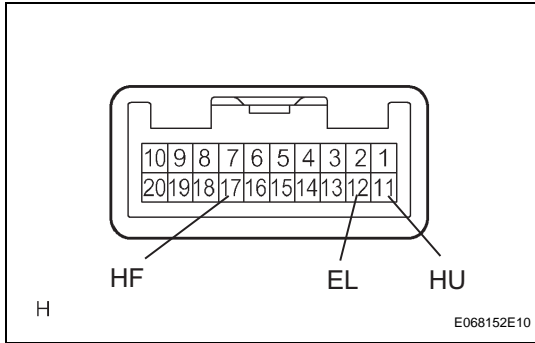
Standard resistance

Tester Connection	Specified Condition
E15-22 (HF) - E12-17 (HF)	Below 1 Ω
E15-22 (HF) or E12-17 (HF) - Body ground	10 kΩ or higher
IJ-4 (HU) - E12-11 (HU)	Below 1 Ω
IJ-4 (HU) or E12-11 (HU) - Body ground	10 kΩ or higher

NG REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

11 INSPECT HEADLIGHT DIMMER SWITCH



- (a) Remove the headlight dimmer switch.
- (b) Measure the resistance of the switch.

Standard resistance

Tester Connection	Condition	Specified Condition
11 (HU) - 12 (EL)	Dimmer switch HIGH	Below 1 Ω
17 (HF) - 12 (EL)	Dimmer switch FLASH	Below 1 Ω

NG → **REPLACE HEADLIGHT DIMMER SWITCH ASSEMBLY**

OK

REPAIR OR REPLACE HARNESS AND CONNECTOR (HEADLIGHT DIMMER SWITCH - BODY GROUND)

