

LT  
**SECTION**  
**LIGHTING SYSTEM**

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# PRECAUTIONS

## PRECAUTIONS

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### Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

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The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

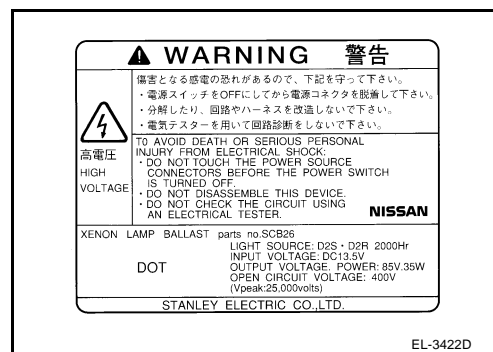
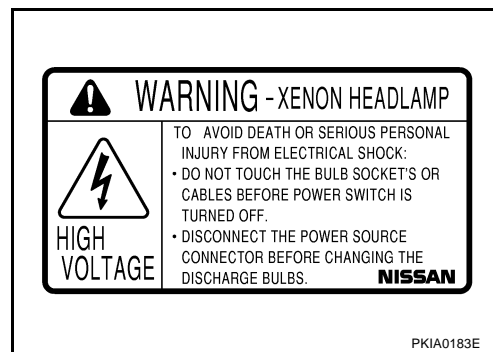
#### WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

### General Precautions for Service Operations

EKS0003N

- Never work with wet hands.
- Xenon headlamp includes high voltage generating part. Be sure to disconnect battery negative cable (negative terminal) or power fuse before removing, installing, or touching the xenon headlamp (including lamp bulb).
- Turn the lighting switch OFF before disconnecting and connecting the connector.
- When turning the xenon headlamp on and while it is illuminated, never touch the harness, bulb, and socket of the headlamp.
- When checking the headlamp on/off operation, check it on vehicle and with the power connected to the vehicle-side connector.
- Do not touch the headlamp bulb glass surface with bare hands or allow oil or grease to get on it. Do not touch the headlamp bulb just after the headlamp is turned off, because it is very hot.
- Install the xenon headlamp bulb socket correctly. If it is installed improperly, high-voltage leak or corona discharge may occur that can melt the bulb, connector, and housing. Do not illuminate the xenon headlamp bulb out of the headlamp housing. Doing so can cause fire and harm your eyes.
- When the bulb has burned out, wrap it in a thick vinyl bag and discard. Do not break the bulb.
- Leaving the bulb removed from the headlamp housing for long period of time can deteriorate performance of the lens and reflector (dirt, clouding). Always prepare a new bulb and have it on hand when replacing the bulb.
- When adjusting the headlamp aiming, turn the aiming adjustment screw only in the tightening direction. (If it is necessary to turn the screw in loosening direction, first fully loosen the screw, and then turn it in tightening direction.)
- Do not use organic solvent (paint thinner or gasoline) to clean lamps and to remove old sealant.



### Wiring Diagrams and Trouble Diagnosis

EKS0014T

When reading wiring diagrams, refer to the following:

- Refer to [GI-14, "How to Read Wiring Diagrams"](#) in GI section.
- Refer to [PG-2, "POWER SUPPLY ROUTING"](#) for power distribution circuit in PG section.

# PRECAUTIONS

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When performing trouble diagnosis, refer to the following:

- Refer to [GI-10, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"](#) in GI section.
- Refer to [GI-26, "How to Perform Efficient Diagnosis for an Electrical Incident"](#) in GI section.

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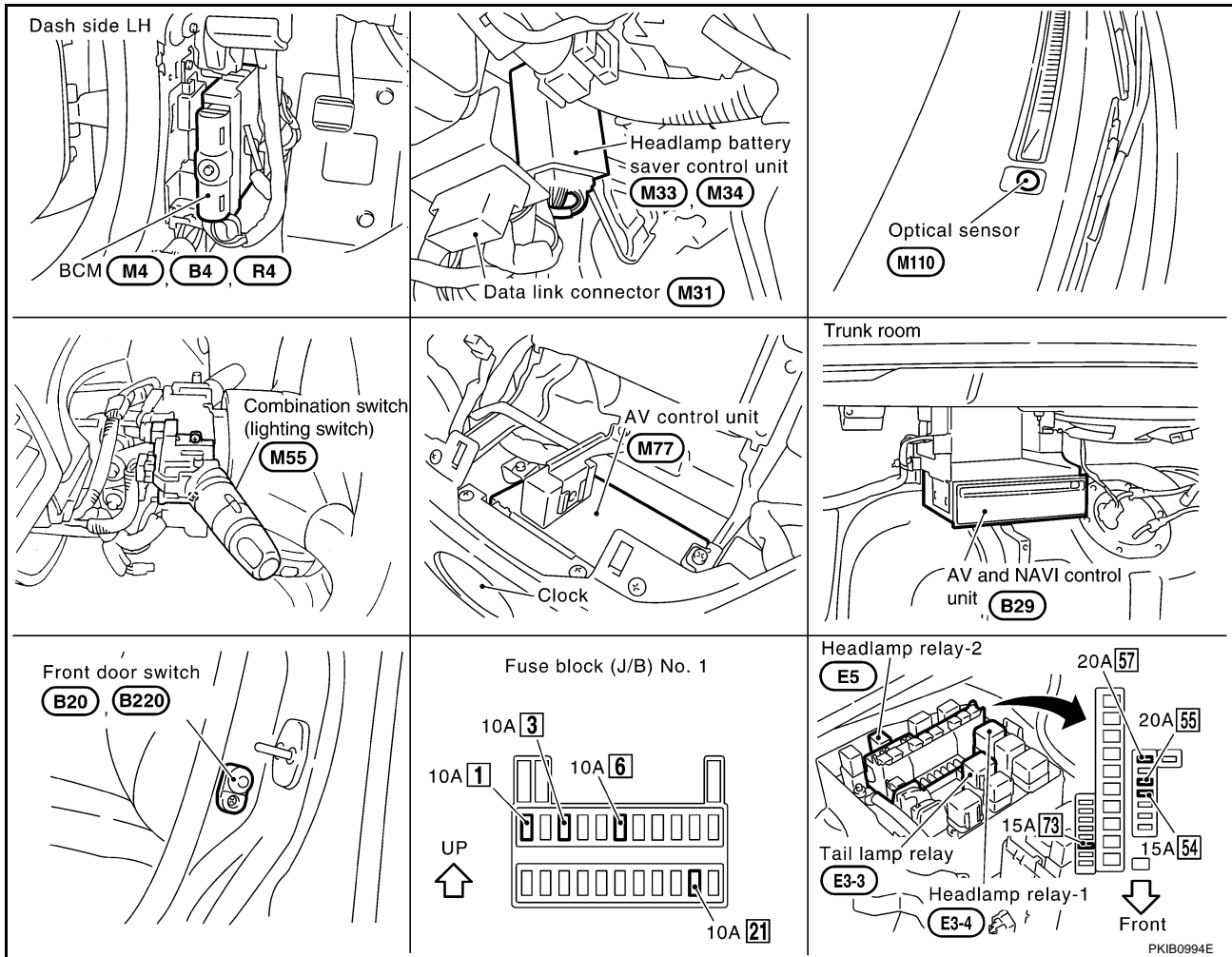
# HEADLAMP (FOR USA)

## HEADLAMP (FOR USA)

PFP:26010

### Component Parts and Harness Connector Location

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## System Description

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The headlamp operation is controlled by the combination switch (lighting switch), which is connected to the spiral cable and headlamp battery saver control unit. And the headlamp battery saver system is controlled by the headlamp battery saver control unit and BCM (body control module).

## OUTLINE

Power is supplied at all times

- headlamp relay-1 terminal 2 from battery
- to BCM (body control module) terminal 105
- through 10A fuse [No. 3, located in the fuse block (J/B) No. 1]
- to headlamp relay-1 terminal 3
- through 20A fuse [No. 57, located in the fuse, fusible link and relay block (J/B)]
- to headlamp relay-1 terminal 7
- through 20A fuse [No. 55, located in the fuse, fusible link and relay block (J/B)]
- to headlamp relay-2 terminals 2 and 5
- through 15A fuse [No. 73, located in the fuse, fusible link and relay box]
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 6, located in the fuse block (J/B) No. 1]
- to tail lamp relay terminals 2 and 6
- through 15A fuse [No. 54, located in the fuse, fusible link and relay block (J/B)].

When the ignition switch is in ON or START position, power is supplied

# HEADLAMP (FOR USA)

- to headlamp battery saver control unit terminal 1, and
- to BCM (body control module) terminal 68
- through 10A fuse [No. 1, located in the fuse block (J/B) No. 1].

When the ignition switch is in ACC or ON position, power is supplied

- to BCM (body control module) terminal 60
- through 10A fuse [No. 21, located in the fuse block (J/B) No. 1].

Ground is supplied

- to BCM (body control module) terminals 56 and 113
- through grounds M24 and M114
- to headlamp battery saver control unit terminals 4 and 11
- through grounds M25 and M115.

## Power Supply to Low Beam and High Beam

When lighting switch is in 2ND or PASS position, ground is supplied

- to headlamp relay-1 and 2 terminals 1 from headlamp battery saver control unit terminals 2 and 8
- through headlamp battery saver control unit terminals 3 and 9,
- through lighting switch terminals 12 and 8,
- through grounds M25 and M115.

Headlamp relays are energized and then power is supplied to headlamps.

## Low Beam Operation

When lighting switch is turned to 2ND position and moved to (LOW position), power is supplied

- from headlamp relay-1 terminals 5 and 6
- to each headlamp terminal 7.

Ground is supplied

- to each headlamp terminal 8
- through grounds E24, E42 and E62.

With power and ground supplied, low beam headlamps illuminate.

## High Beam Operation/Flash-to-pass Operation

When lighting switch is turned to 2ND position and moved to (HIGH position or PASS position), power is supplied

- from headlamp relay-2 terminal 3
- to each headlamp terminal 13, and
- to combination meter terminal 48 for HIGH BEAM indicator.

Ground is supplied

- to headlamp LH terminal 14
- to combination meter terminal 47 for HIGH BEAM indicator
- through lighting switch terminals 9 and 8
- through grounds M25 and M115, and
- to headlamp RH terminal 14
- through lighting switch terminals 6 and 5
- through grounds M25 and M115.

With power and ground supplied, the high beams headlamps and the HIGH BEAM indicator illuminate.

### NOTE:

**Headlamps will be forced to turn off when the driver door is opened with the ignition switch in OFF or ACC position (when except for lighting switch is in "AUTO" position).**

## BATTERY SAVER CONTROL

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from BCM terminal 135.

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# HEADLAMP (FOR USA)

After counting 45 seconds by the RAP signal from the BCM to headlamp battery saver control unit, the ground supply to terminal 1 of the headlamp relay-1 and -2 from headlamp battery saver control unit terminals 2 and 8 is terminated.

Then the headlamps are turned off.

The headlamps are turned off when driver or passenger door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated.

When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the battery saver control, ground is supplied

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and then,
- to headlamp relay-1 and -2 terminals 1 from headlamp battery saver control unit terminals 2 and 8
- through headlamp battery saver control unit terminals 3 and 9, and
- through lighting switch terminal 12.

Then headlamps illuminate again.

## AUTO LIGHT OPERATION

The auto light control system has an optical sensor inside it that detects outside brightness.

When the lighting switch is in AUTO position, it automatically turns on/off the parking (clearance) lamps and the headlamps in accordance with the outside brightness. Sensitivity can be adjusted in four steps. For details of setting, refer to [LT-18, "SETTING CHANGE FUNCTION FOR AUTO LIGHT SYSTEM"](#).

When lighting switch is in "AUTO" position, ground is supplied

- to BCM terminal 14
- from lighting switch terminal 42.

When ignition switch is turn to "ON" or "START" position and

Outside brightness is darker than predetermined level, ground is supplied

- to headlamp relay-1 and 2 terminals 1
- through headlamp battery saver control unit terminal 2, 8 and 4, 11, and
- to tail lamp relay terminal 1
- through headlamp battery saver control unit terminals 6, 14 and 4, 11.

Then headlamp relay-1, 2 and tail lamp relay are energized, headlamps (low or high) and tail lamps are illuminated according to switch position.

## Shut Off Delay

While the headlamps are lit in the auto-light operation mode, the ignition switch is turned from "ON" to "OFF" position. The BCM no longer receives a voltage signal at terminal 68. This starts the auto light shut off delay timer. The timer is set based on the resistance value at BCM terminal 6. With the timer running, the headlamps remain lit. When the timer reaches the end of its cycle, the headlamps turn off. Headlamp lighting time can be adjusted from about 0 to 3 minutes. (This function is not applicable to the tail lamps.)

Auto light shut off delay timer can be adjusted in seven steps. For the details of the setting, refer to [LT-18, "SETTING CHANGE FUNCTION FOR AUTO LIGHT SYSTEM"](#).

## VEHICLE SECURITY SYSTEM

The vehicle security system will cause the high beams to flash if the system is triggered. Refer to [BL-155, "VEHICLE SECURITY \(THEFT WARNING\) SYSTEM"](#).

## XENON HEADLAMP

Xenon type lamps are used for to the low beam headlamps. Xenon bulbs do not use a filament. Instead, they produce light when a high voltage current is passed between two tungsten electrodes through a mixture of xenon (an inert gas) and certain other metal halides. In addition to strong lighting power, electronic control of the power supply gives the headlamps stable quality and tone color.

Followings are some advantages of the xenon type headlamp.

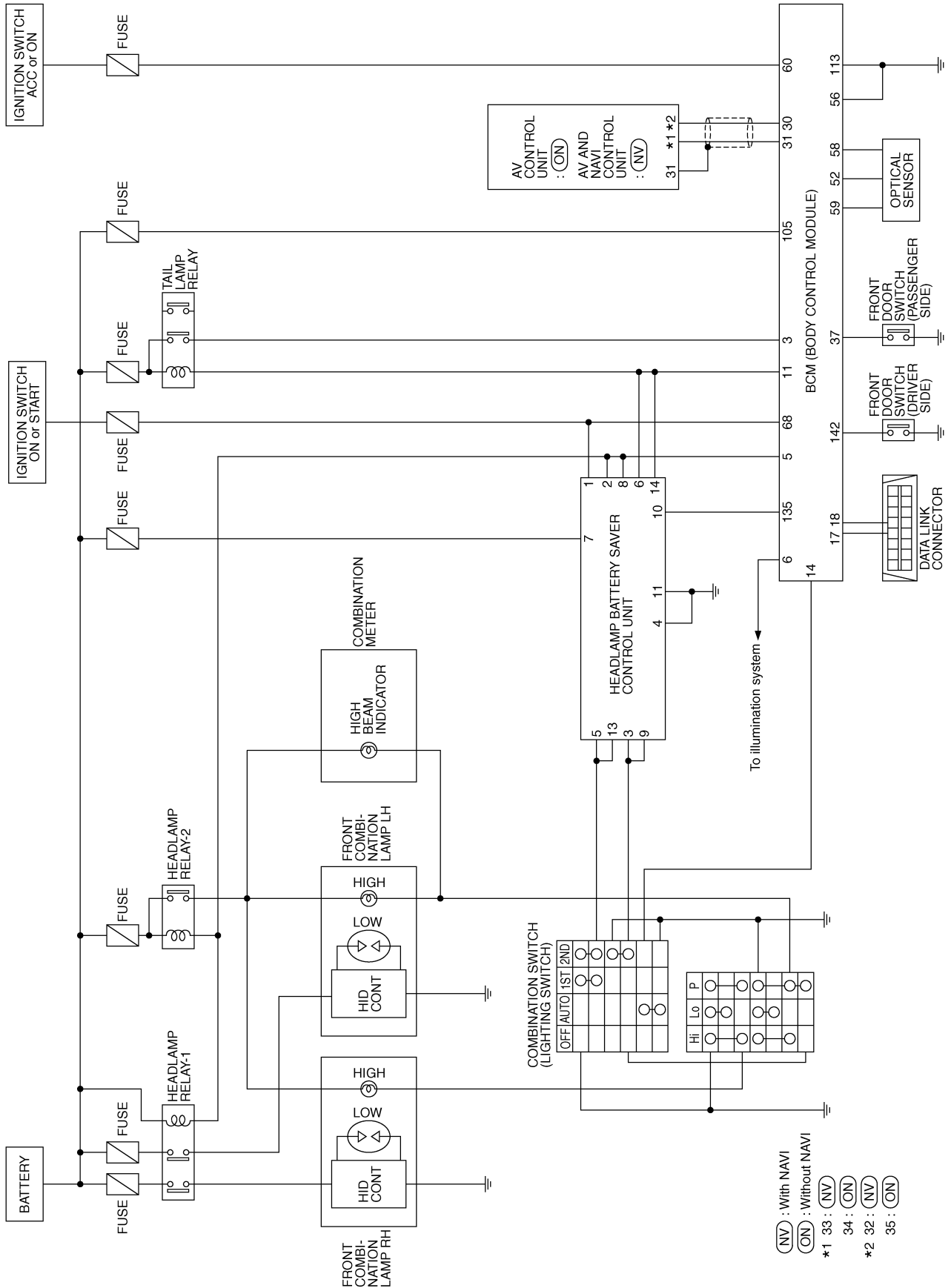
- The light produced by the headlamps is white color similar to sunlight that is easy to the eyes.
- Light output is nearly double that of halogen headlamps, affording increased area of illumination.
- Retroreflected luminance increases and the contrast enhances on the wet road in the rain. That makes visibility go up more than the increase of the light volume.
- Power consumption is approximately 25 percent less than halogen headlamps, reducing battery load.



# HEADLAMP (FOR USA)

## Schematic

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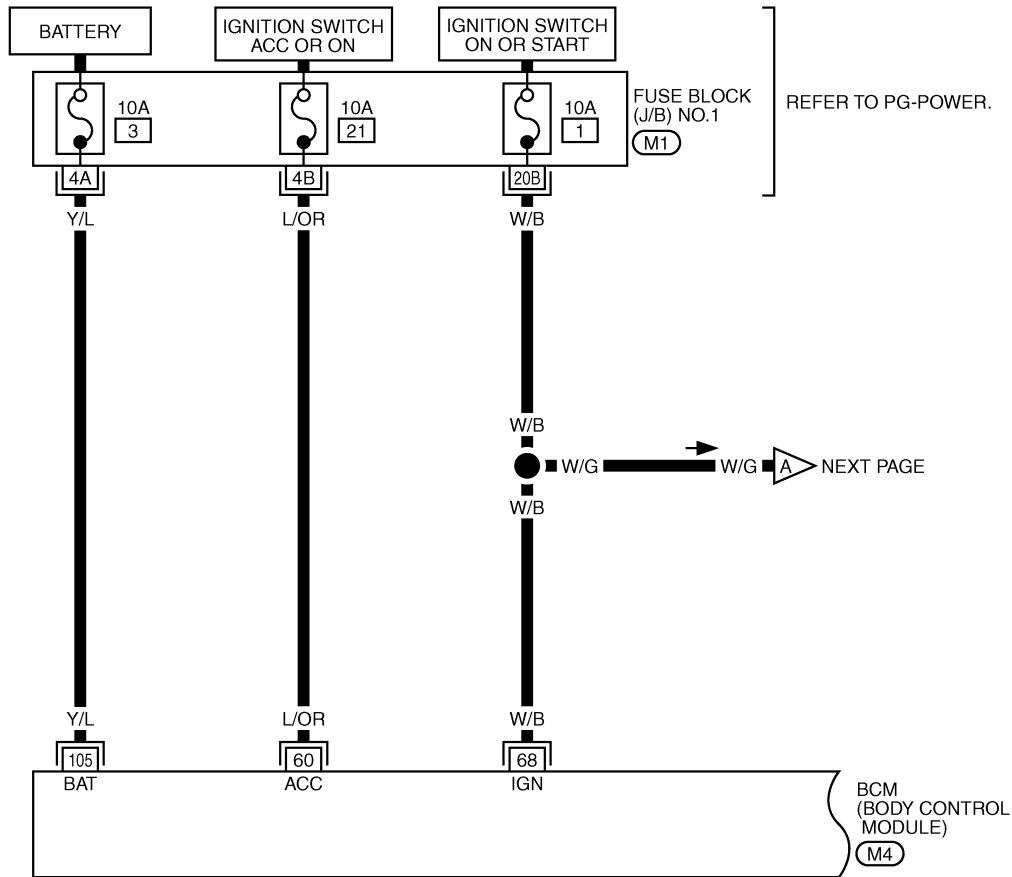
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# HEADLAMP (FOR USA)

EKS000SZ

## Wiring Diagram — H/LAMP —

LT-H/LAMP-01



REFER TO THE FOLLOWING.

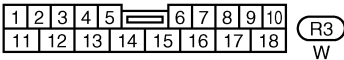
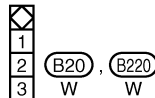
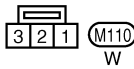
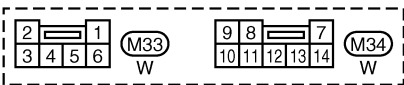
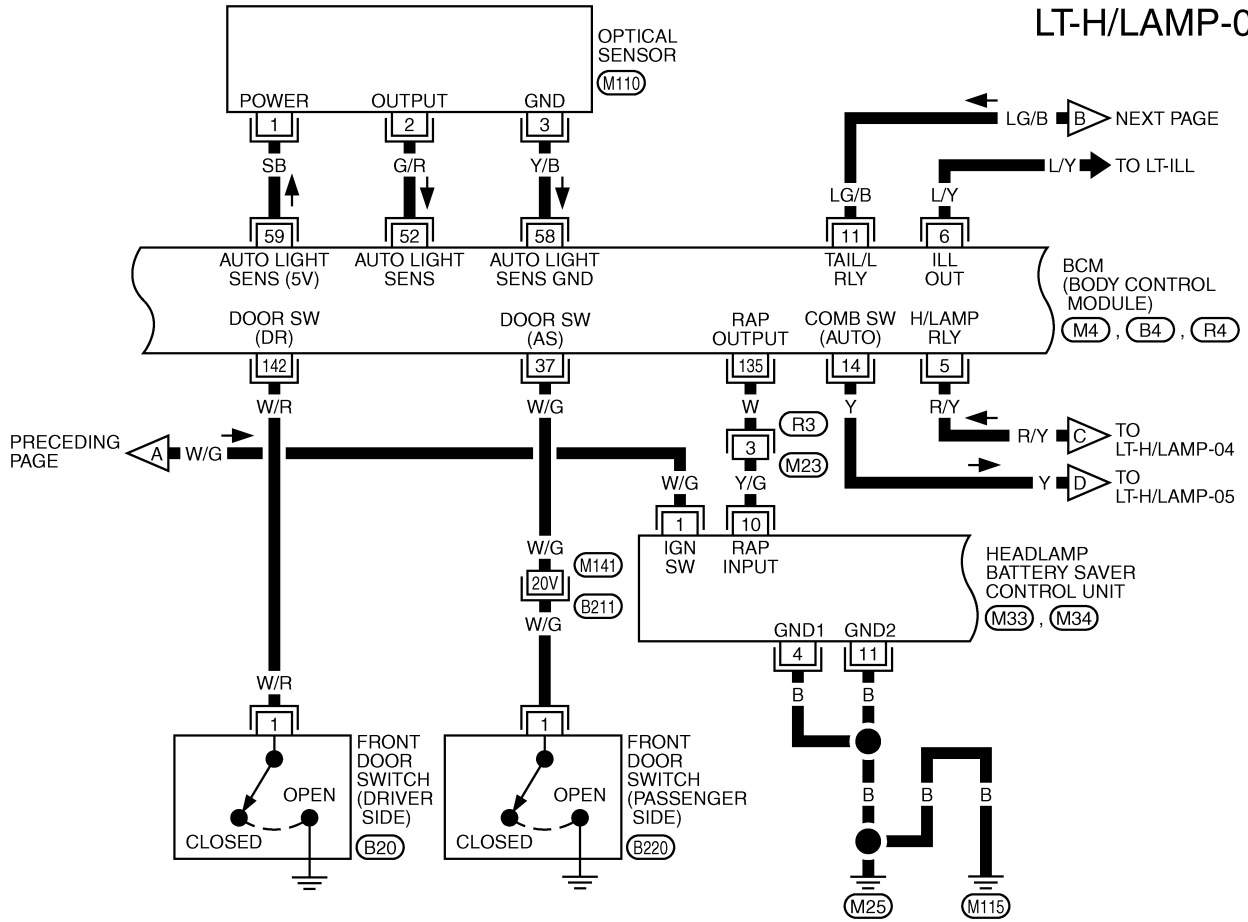
(M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

(M4) -ELECTRICAL UNITS

TKWM1465E

# HEADLAMP (FOR USA)

LT-H/LAMP-02



REFER TO THE FOLLOWING.

- (B21) -SUPER MULTIPLE JUNCTION (SMJ)
- (M4), (B4), (R4) -ELECTRICAL UNITS

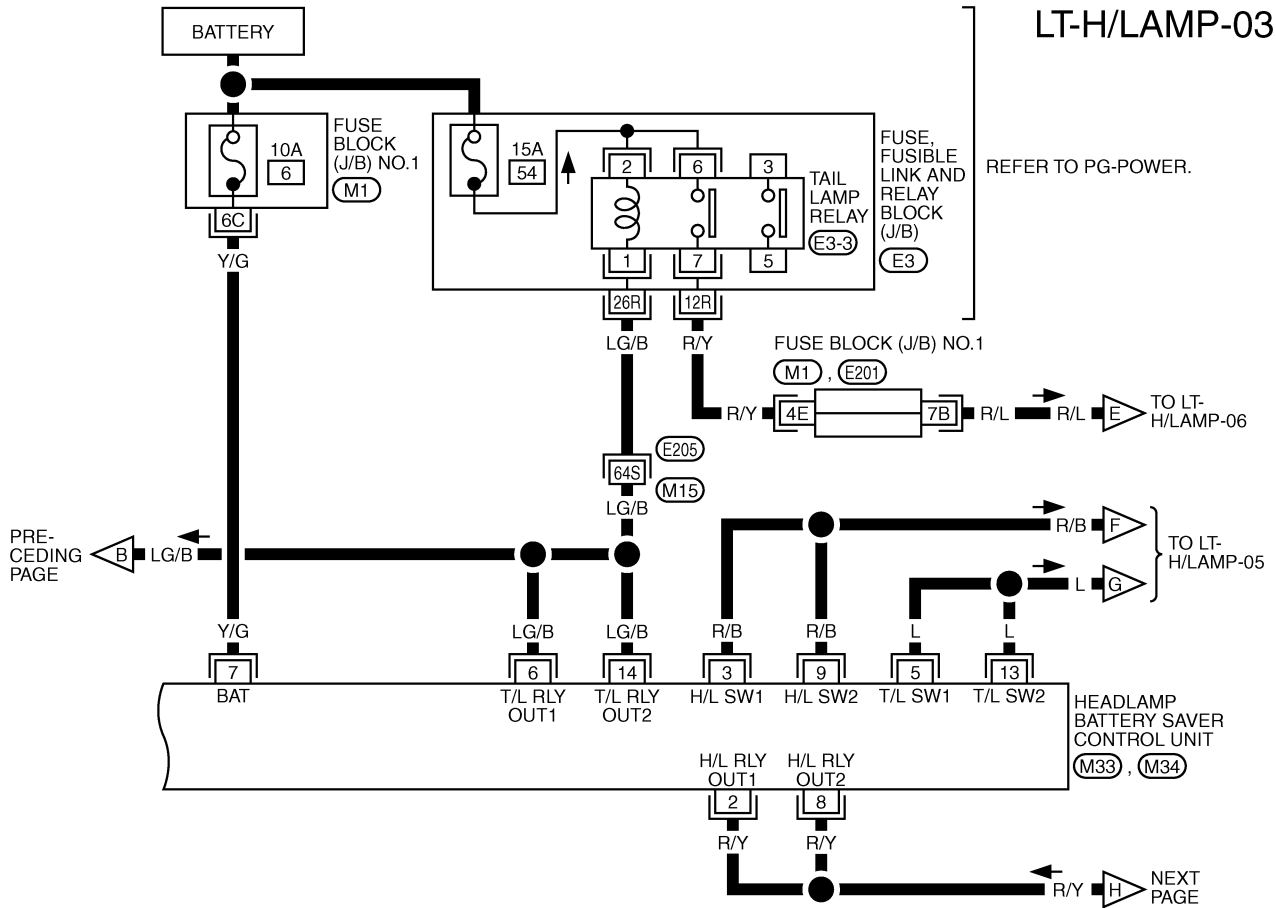
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# HEADLAMP (FOR USA)

LT-H/LAMP-03



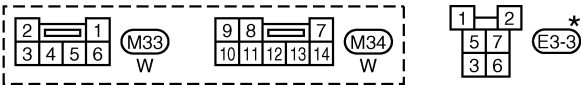
REFER TO PG-POWER.

PRE-CEDING PAGE

TO LT-H/LAMP-05

TO LT-H/LAMP-06

NEXT PAGE



\*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

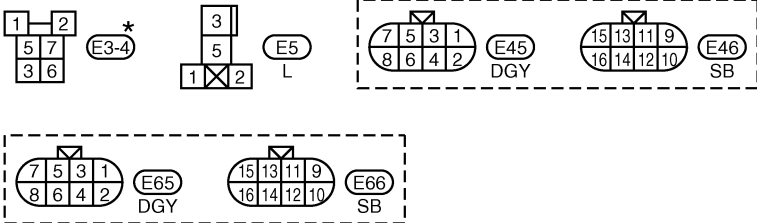
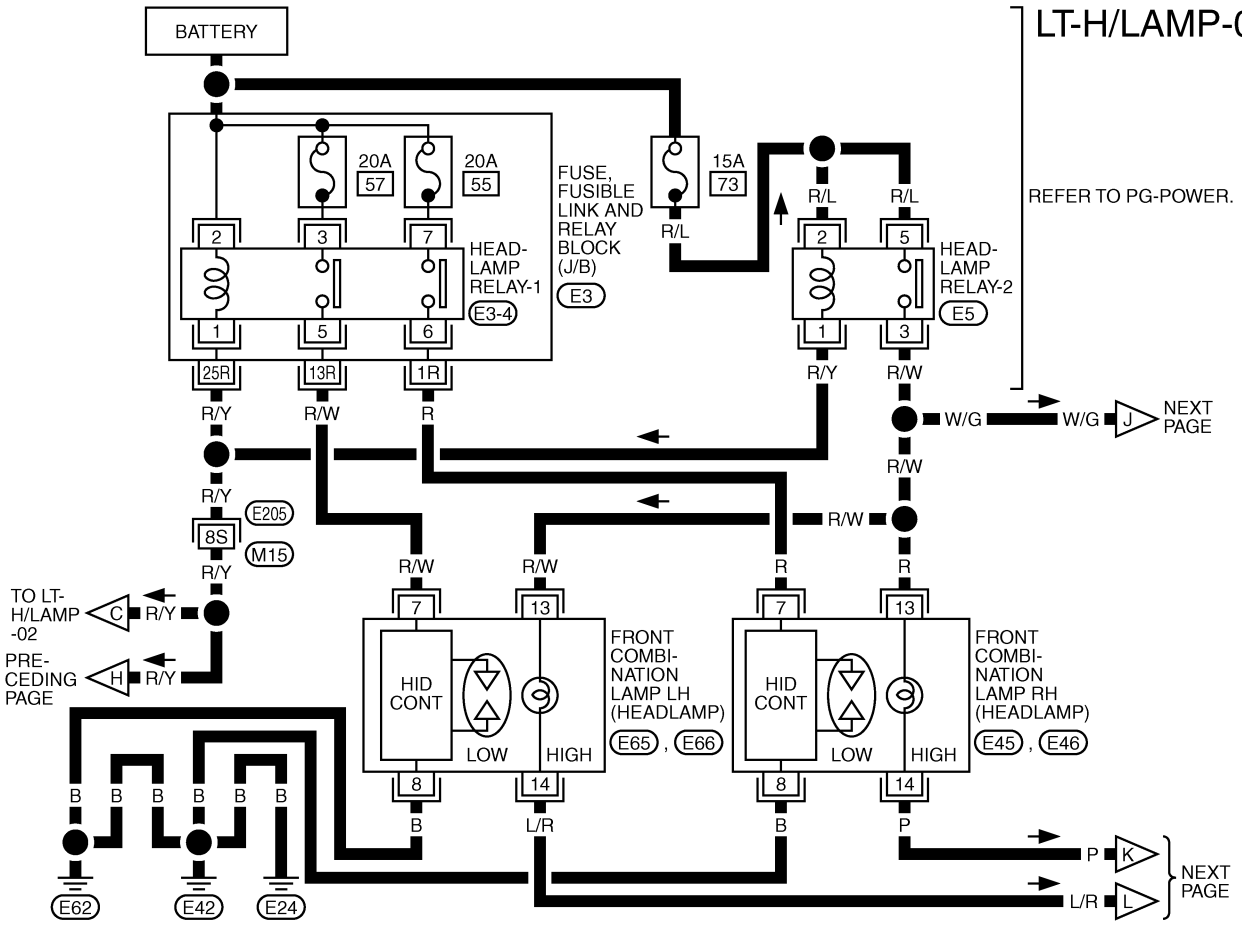
REFER TO THE FOLLOWING.

- (E205) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (E201) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1
- (E3) -FUSE, FUSIBLE LINK AND RELAY BLOCK (J/B)

TKWM1467E

# HEADLAMP (FOR USA)

LT-H/LAMP-04



\*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

REFER TO THE FOLLOWING.

- (E205) -SUPER MULTIPLE JUNCTION (SMJ)
- (E3) -FUSE, FUSIBLE LINK AND RELAY BLOCK (J/B)

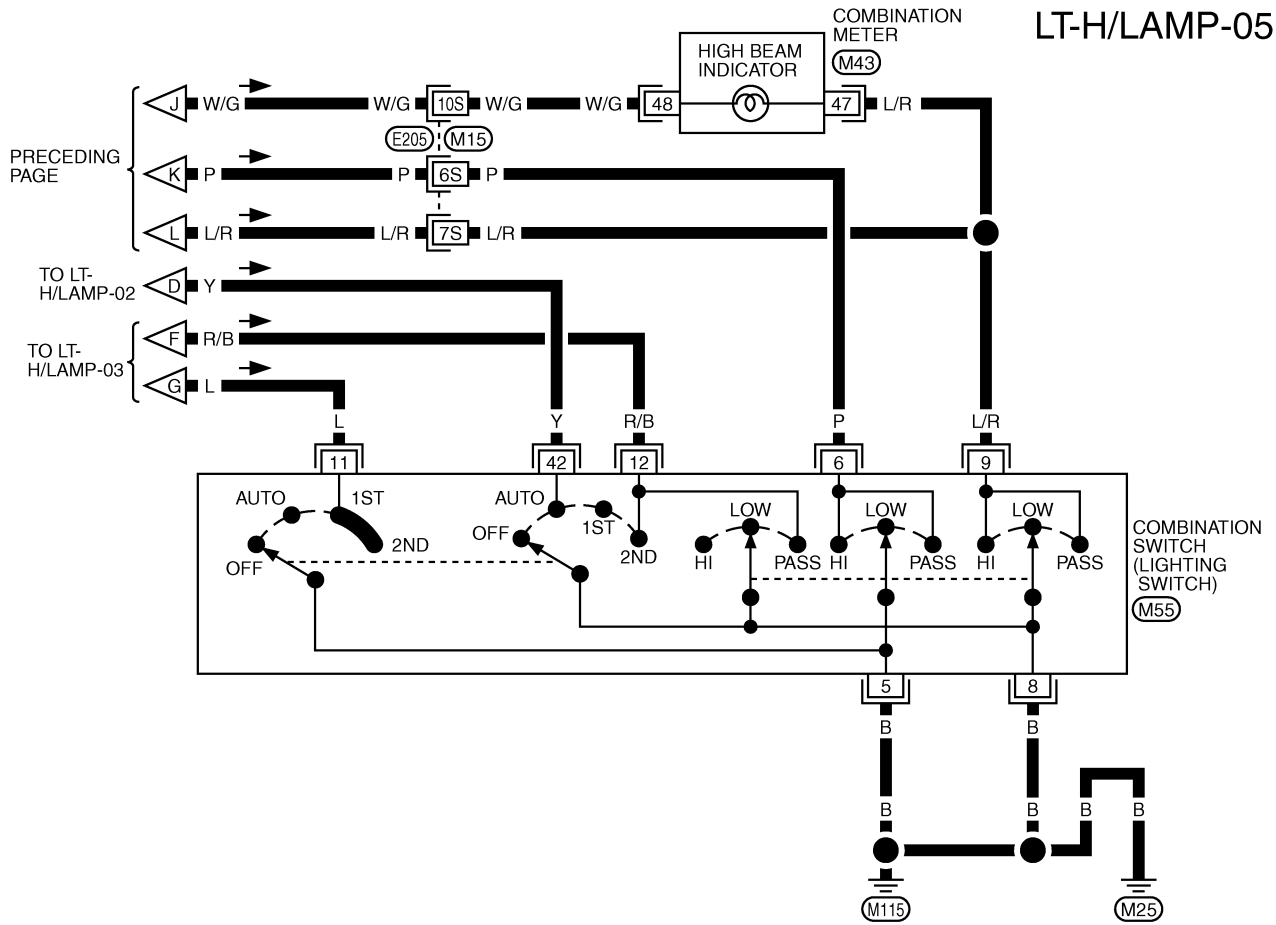
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LT

# HEADLAMP (FOR USA)

LT-H/LAMP-05



45	46	47	48	49	50	51	52	53	54	55		
56	57	58	59	60	61	62	63	64	65	66	67	68

(M43)  
W

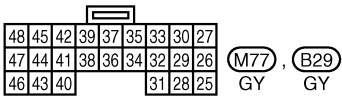
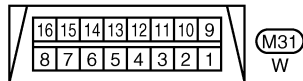
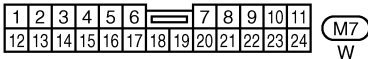
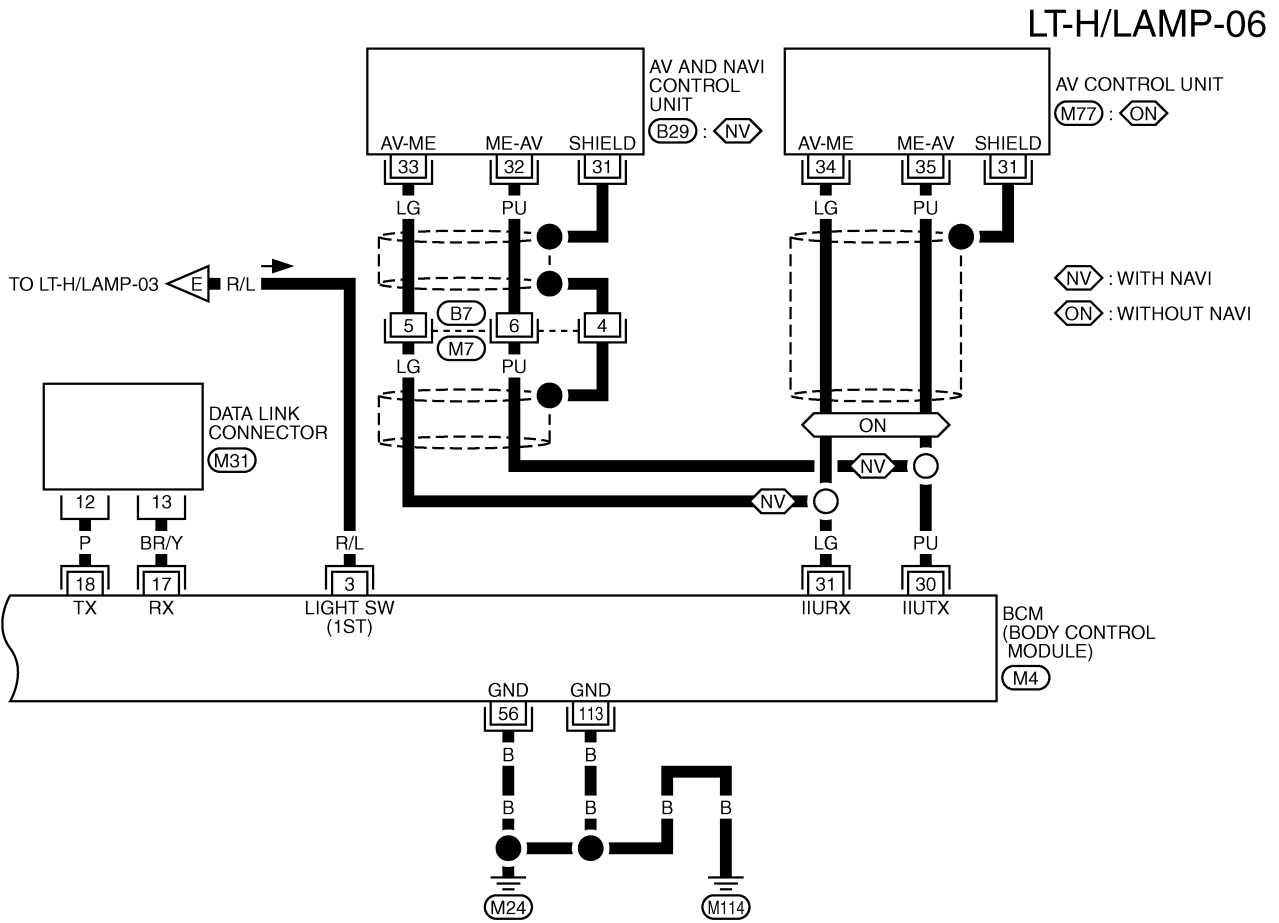
2	1	3	12	8		
7	6	5	9	10	11	42

(M55)  
W

REFER TO THE FOLLOWING.  
 (E205) -SUPER MULTIPLE  
 JUNCTION (SMJ)

TKWM1469E

# HEADLAMP (FOR USA)



REFER TO THE FOLLOWING.  
 (M4) -ELECTRICAL UNITS

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# HEADLAMP (FOR USA)

## Terminals and Reference Values for Battery Saver Control Unit

EKS000T4

Terminal No.	Wire color	Item	Condition		Reference value	
1	W/G	Ignition switch	Ignition switch	OFF or ACC	Approx. 0 V	
				ON or START	Battery voltage	
2	R/Y	Headlamp relay OUT 1	Ignition switch (with lighting switch except OFF or 1ST)	OFF or ACC	More than 45 seconds after ignition switch is turned OFF or ACC	Battery voltage
				ON or START	Within 45 seconds after ignition switch is turned OFF or ACC	Approx. 0 V
					Headlamps illuminate by auto light control.	
			Headlamps illuminate by auto light control.		Approx. 0 V	
3	R/B	Headlamp switch 1	Lighting switch	1ST	Approx. 2.4 V	
				PASS or 2ND	Approx. 0 V	
			Headlamps illuminate by auto light control.		Approx. 0 V	
4	B	Ground	—		—	
5	L	Tail lamp switch 1	lighting switch	OFF or AUTO	Battery voltage	
				1ST or 2ND	Approx. 0 V	
6	LG/B	Tail lamp relay OUT 1	Ignition switch (with lighting switch 1ST or 2ND)	OFF or ACC	More than 45 seconds after ignition switch is turned OFF or ACC	Battery voltage
				ON or START	Within 45 seconds after ignition switch is turned OFF or ACC	Approx. 0 V
					Headlamps illuminate by auto light control.	
			Headlamps illuminate by auto light control.		Approx. 0 V	
7	Y/G	Battery power supply	—		Battery voltage	
8	R/Y	Headlamp relay OUT 2	Ignition switch (with lighting switch except OFF or 1ST)	OFF or ACC	More than 45 seconds after ignition switch is turned OFF or ACC	Battery voltage
				ON or START	With 45 seconds after ignition switch is turned OFF or ACC	Approx. 0 V
					Headlamps illuminate by auto light control.	
			Headlamps illuminate by auto light control.		Approx. 0 V	
9	R/B	Headlamp switch 2	Lighting switch	1ST	Approx. 2.4 V	
				PASS or 2ND	Approx. 0 V	
			Headlamps illuminate by auto light control.		Approx. 0 V	
10	Y/G	RAP input signal	Ignition switch	OFF or ACC (After more than 45 seconds with ignition switch turned OFF or ACC)	Battery voltage	
				ON or START	Approx. 0 V	
11	B	Ground	—		—	
13	L	Tail lamp switch 2	Lighting switch	OFF	Battery voltage	
				1ST or 2ND	Approx. 0 V	
14	LG/B	Tail lamp relay OUT 2	Ignition switch (with lighting switch 1ST or 2ND)	OFF or ACC	More than 45 seconds after ignition switch is turned OFF or ACC	Battery voltage
				ON or START	Within 45 seconds after ignition switch is turned OFF or ACC	Approx. 0 V
					Headlamps illuminate by auto light control.	
			Headlamps illuminate by auto light control.		Approx. 0 V	



# HEADLAMP (FOR USA)

## Terminals and Reference Values for BCM

EKS000XP

Terminal No.	Wire color	Item	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
3	R/L	Parking (clearance) lamp signal	—	Lighting switch: 1ST	OFF	Approx. 0 V
					ON	Battery voltage
5	R/Y	Headlamp relay signal	ON	Lighting switch: AUTO	Light is applied to optical sensor.	Battery voltage
					Light is not applied to optical sensor.	Approx. 0 V
6	L/Y	Automatic brightness adjustment signal	ON	Lighting switch: ON	Light is applied to optical sensor.	Approx. 0 V
					Light is not applied to optical sensor.	Battery voltage
11	LG/B	Tail lamp relay control signal	ON	Lighting switch: AUTO	Light is applied to optical sensor.	Battery voltage
					Light is not applied to optical sensor.	Approx. 0 V
14	Y	Lighting switch AUTO signal	ON	Lighting switch	AUTO	Approx. 0 V
					OFF	Approx. 8 V
17	BR/Y	Data link RX	—	—	—	
18	P	Data link TX	—	—	—	
30	PU	Communication signal TX (BCM-AV: Transmission)	—	—	—	
31	LG	Communication signal RX (AV-BCM: Receiving)	—	—	—	
37	W/G	Front door switch (Passenger side) signal	OFF	Passenger door switch	ON (open)	Approx. 0 V
					OFF (close)	Battery voltage
52	G/R	Optical sensor signal	ON	Light is applied to optical sensor.		Approx. 3 V
				Light is not applied to optical sensor.		Approx. 0 V
56	B	Ground	ON	—	Approx. 0 V	
58	Y/B	Optical sensor ground	ON	—	Approx. 0 V	
59	SB	Optical sensor power supply	ON	—	Approx. 5 V	
60	L/OR	Ignition switch (ACC)	ACC	—	Battery voltage	
68	W/B	Ignition switch (ON)	ON	—	Battery voltage	
105	Y/L	Battery power supply	OFF	—	Battery voltage	
113	B	Ground	—	—	—	
135	W	RAP output signal	OFF	When headlamp battery saver timer is operated.		Approx. 0 V
142	W/R	Front door switch (driver side) signal	OFF	Driver door switch	ON (open)	Approx. 0 V
					OFF (close)	Battery voltage

### Work Flow

EKS0014U

1. Confirm the symptom or customer complaint.
2. Understand system description. Refer to [LT-6, "System Description"](#).
3. Perform the preliminary check. Refer to [LT-18, "Preliminary Check"](#).
4. Find the cause of trouble following the symptom chart and repair or replace as necessary. Refer to [LT-23, "Symptom Chart"](#).
5. Does the auto light system operate normally? If YES, GO TO 6. If NO, GO TO 4.
6. INSPECTION END

# HEADLAMP (FOR USA)

EKS0014V

## Preliminary Check SETTING CHANGE FUNCTION FOR AUTO LIGHT SYSTEM

- Setting for each operation can be changed using CONSULT-II and a display unit.

Setting mode change	Explanation	CONSULT-II (Work support)	Display Unit (Preset at each vehicle status)	Factory-preset data
AUTO LIGHT SENS ADJ (CONSULT-II) Sensitivity of Automatic Headlights (Display unit)	Auto light sensitivity is set at four grades.	Mode 1	Lower (Dull) ↑ ↓ Higher (Sensitive)	
		Mode 2		
		Normal		X
		Mode 3		
Automatic headlights off delay (Display unit)	Auto light time delay is set at seven grades.	-	OFF	
			20 sec.	
			45 sec.	X
			90 sec.	
			120 sec.	
			150 sec.	
			180 sec.	

Note: When setting is changed, even though the battery is removed, mode will be after setting mode.

SKIA3782E

## INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT

### 1. CHECK FUSE

Check if any of the following fuses in BCM are blown.

Unit	Power source	Fuse No.
BCM	Battery	3
	Ignition switch ACC or ON	21
	Ignition switch ON or START	1

Refer to [LT-10, "Wiring Diagram — H/LAMP —"](#) .

OK or NG

OK >> GO TO 2.

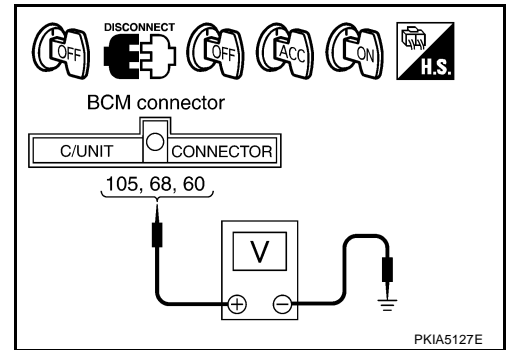
NG >> If the fuse is blown be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-2, "POWER SUPPLY ROUTING"](#) .

# HEADLAMP (FOR USA)

## 2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check voltage between BCM and ground.

Terminal		Ignition switch position			
Connector	(+)	(-)	OFF	ACC	ON
	M4	105 (Y/L)	Ground	Battery voltage	Battery voltage
68 (W/B)		0V		0V	Battery voltage
60 (L/OR)		0V		Battery voltage	Battery voltage



OK or NG

OK >> GO TO 3.

NG >> Check harness for open or short circuit between BCM and fuse.

## 3. CHECK GROUND CIRCUIT

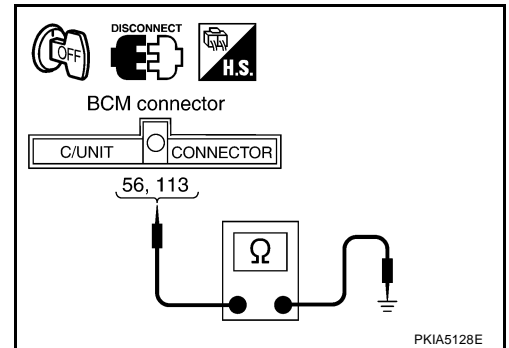
Check continuity between BCM harness connector and ground.

Terminal		Ground	Continuity
Connector	Terminal (Wire color)		
M4	56 (B)	Ground	Yes
	113 (B)		

OK or NG

OK >> INSPECTION END

NG >> Repair or replace harness.



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# HEADLAMP (FOR USA)

EKS000VO

## CONSULT-II Function (IVMS)

- CONSULT-II can display each diagnostic item using the diagnostic test mode shown following.

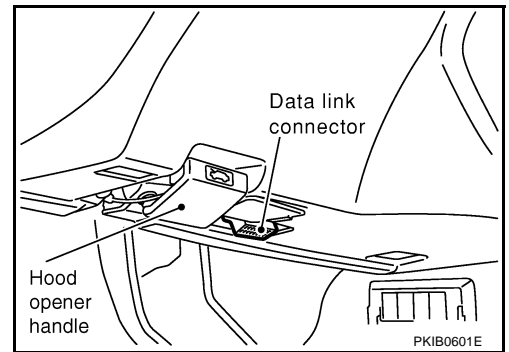
IVMS diagnosis position	Diagnosis mode	Description
AUTO LIGHT SYSTEM	WORK SUPPORT	Changes setting of each function.
	DATA MONITOR	Displays input data of the BCM and each LCU in real-time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending driving signal to them.
BCM PART NUMBER		Displays BCM part number.

## CONSULT-II BASIC OPERATION PROCEDURE

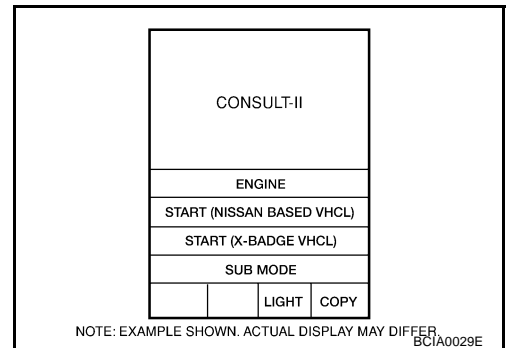
### CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which performs CAN communication.

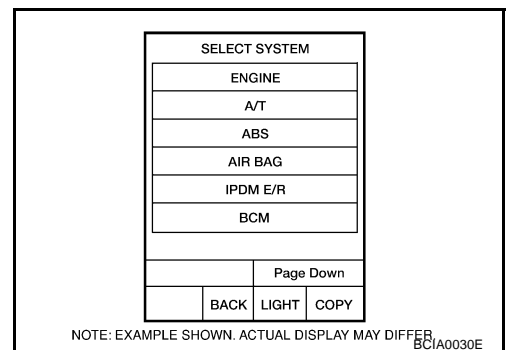
- With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, and then turn ignition switch ON.



- Touch "START (NISSAN BASED VHCL)".

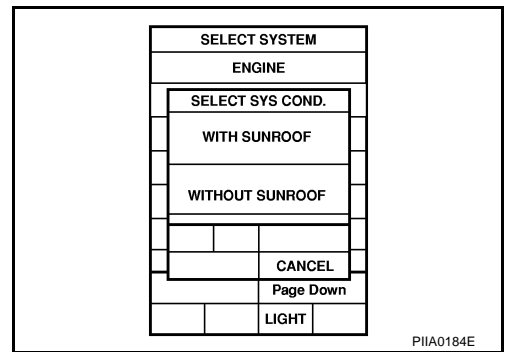


- Touch "IVMS" on "SELECT SYSTEM" screen. If "IVMS" is not indicated, refer to [GI-38, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



# HEADLAMP (FOR USA)

4. Select "WITH SUNROOF" on "SELECT SYS COND" screen.
5. Touch "OK". If the selection is wrong, touch "CANCEL".
6. Select the desired part to be diagnosed on the "SELECT TEST ITEM" screen.



## WORK SUPPORT

### Operation Procedure

1. Touch "AUTO LIGHT SYSTEM" on the "SELECT TEST ITEM" screen.
2. Touch "WORK SUPPORT" on the "SELECT DIAG MODE" screen.
3. Touch "AUTO LIGHT SENS ADJ" on the "SELECT WORK ITEM" screen.
4. Touch "START".
5. Touch "NORMAL" and "MODE 1 - 3" of which setting is to be changed.
6. Touch "CHANGE SETT".
7. Setting will be changed and "CURRENT SETTING STATUS" will be displayed.
8. Touch "END".

### Display Item List

Refer to [LT-18. "SETTING CHANGE FUNCTION FOR AUTO LIGHT SYSTEM"](#) .

## DATA MONITOR

### Operation Procedure

1. Touch "AUTO LIGHT SYSTEM" on the "SELECT TEST ITEM" screen.
2. Touch "DATA MONITOR" on the "SELECT DIAG MODE" screen.
3. Touch "ALL SIGNALS" or "SELECTION FROM MENU" on the "SELECT MONITOR ITEM" screen.

ALL SIGNALS	Monitors all items.
SELECTION FROM MENU	Selects items and monitors them.

4. Touch "START".
5. When "SELECTION FROM MENU" is selected, touch items to be monitored. When "ALL SIGNALS" is selected all items will be monitored.
6. Touch "RECORD" while monitoring to record status of the item being monitored. To stop recording, touch "STOP".

### Data Monitor Item

Monitored item ["OPERATION OR UNIT"]	Description
IGN ON SW [ON/OFF]	Displays status of the ignition switch as judged from the ignition switch signal. (ignition switch is in ON position: ON/ignition switch is in ACC or OFF position: OFF)
DOOR SW-DR [ON/OFF]	Displays status of the driver door as judged from the driver door switch signal. (Door is open: ON/Door is closed: OFF)
AUTO LIGHT SW [ON/OFF]	Displays status of the lighting switch as judged from the lighting switch signal. (AUTO position: ON/Other than AUTO position: OFF)
HD/LMP 1ST SW [ON/OFF]	Displays status of the lighting switch as judged from the lighting switch signal. (OFF or AUTO position: OFF/Other than OFF and AUTO position: ON)
OPTICAL SEN [ON/OFF]	Displays "outside brightness (close to 5V when bright/close to 0V when dark)" as judged from the optical sensor signal.

# HEADLAMP (FOR USA)

## ACTIVE TEST

### Operation Procedure

1. Touch "AUTO LIGHT SYSTEM" on the "SELECT TEST ITEM" screen.
2. Touch "ACTIVE TEST" on the "SELECT DIAG MODE" screen.
3. Touch item to be tested and check operation of selected item.
4. Touch "STOP" while testing and the operation will be stopped.

### Active Test Item

Test item	Display on CONSULT-II screen	Description
Headlamp relay output	HEAD LAMP RELAY	Headlamp relay can be operated by any on-off operation of the headlamp.
Tail lamp relay output	TAIL LAMP RELAY	Tail lamp relay can be operated by any on-off operation of the tail lamp.
Auto light adjustment output	ILL DIM SIGNAL	Night time dimming signal can be operated by any on-off operation.

## On Board Diagnosis

EKS001HB

- BCM can check communication diagnosis, switch monitor, and central locking system self diagnosis using on board diagnosis.
- Map lamps and step lamps (all seats) act as the indicators for on board diagnosis.

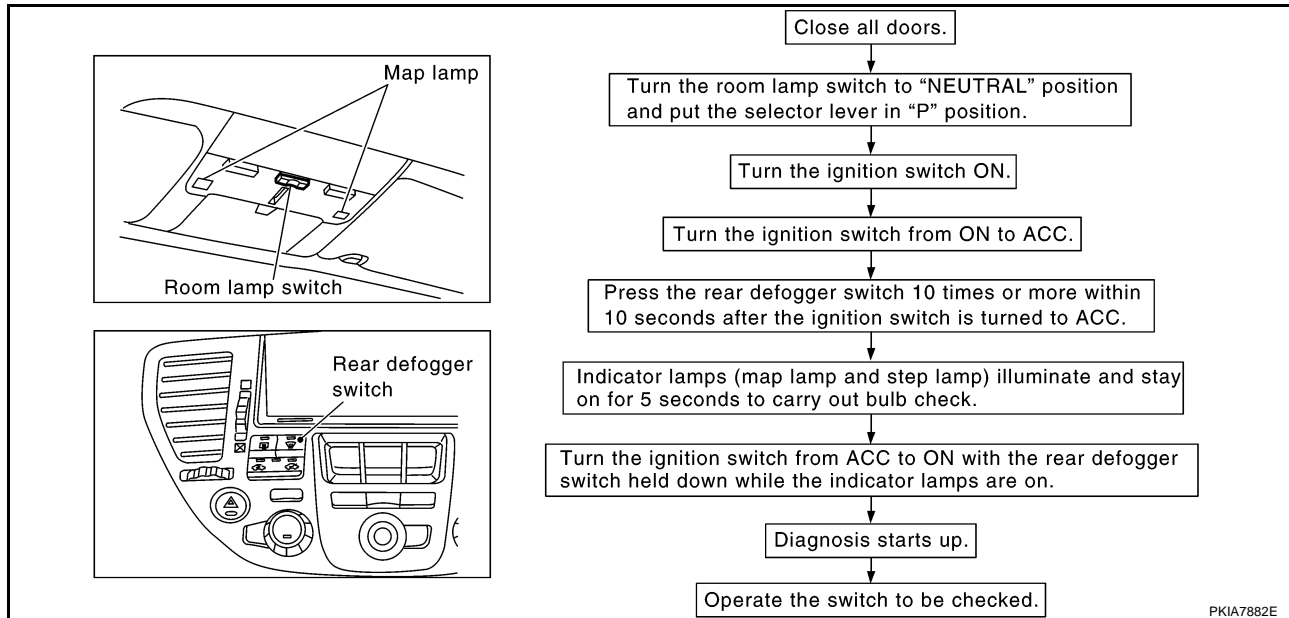
## DIAGNOSIS ITEM

Diagnosis item	Description
Switch monitor	Checks for malfunction in switch systems that input to BCM and each LCU.

## SWITCH MONITOR

- Performs diagnosis on the switch system to each control unit.

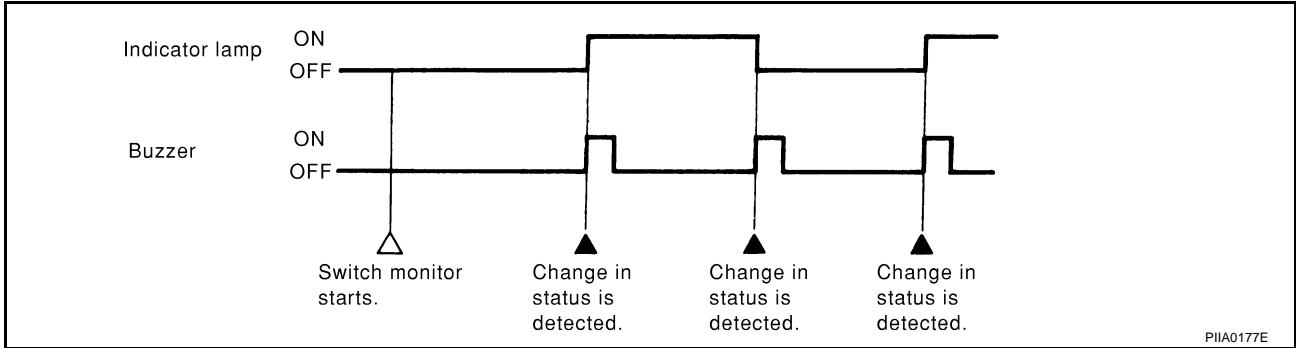
### How to Perform Switch Monitor



# HEADLAMP (FOR USA)

## Description

- Detects the status change (switch ON/OFF operation) of switch to be checked, and turns ON/OFF indicator lamps (the map lamp and step lamp). Also sounds the buzzer for 0.5 seconds.
- If a malfunction is detected, no indicator lamp and buzzer react.



## Switch Monitor Item

- The status of the switch (except the ignition switch, interior lamp illumination switch, and map lamp switch) as input to each control unit can be monitored.

Control unit	Item
BCM	Lighting switch (AUTO, 1ST position)
	Driver door switch

## Switch Monitor Cancellation

Either or both the following conditions are satisfied, the communication diagnosis is cancelled.

- Turn ignition switch OFF.
- Drive vehicle more at speed higher than 7 km/h (4 MPH).

## Symptom Chart HEADLAMP SYSTEM

EKS001HC

Symptom	Repair Procedure
Headlamp (Both side) do not operate.	<ol style="list-style-type: none"> <li>1. Check 10A fuse [No. 6, located in fuse block (J/B) No. 1]. Verify battery positive voltage is present at terminal 7 of headlamp battery saver control unit.</li> <li>2. Check lighting switch. Refer to <a href="#">LT-29, "Switch Circuit Inspection"</a>.</li> <li>3. Check headlamp battery saver control unit. Refer to <a href="#">LT-16, "Terminals and Reference Values for Battery Saver Control Unit"</a>.</li> </ol>
Low beam headlamps do not operate, but high beam headlamps operate.	<ol style="list-style-type: none"> <li>1. Check 20A fuse [No. 57, located in fuse, fusible link and relay block (J/B)]. Verify battery positive voltage is present at terminals 3 of headlamp relay-1.</li> <li>2. Check headlamp relay-1.</li> <li>3. Check harness between headlamp relay-1 and headlamp battery saver control unit.</li> <li>4. Check headlamp battery saver control unit. Refer to <a href="#">LT-16, "Terminals and Reference Values for Battery Saver Control Unit"</a>.</li> </ol>
High beam headlamps do not operate, but low beam headlamps operate.	<ol style="list-style-type: none"> <li>1. Check 15A fuse (No. 73, located in fuse, fusible link and relay box). Verify battery positive voltage is present at terminals 2 and 5 of headlamp relay-2.</li> <li>2. Check headlamp relay-2.</li> <li>3. Check harness between headlamp relay-2 and battery saver control unit.</li> <li>4. Check lighting switch. Refer to <a href="#">LT-29, "Switch Circuit Inspection"</a>.</li> <li>5. Check headlamp battery saver control unit. Refer to <a href="#">LT-16, "Terminals and Reference Values for Battery Saver Control Unit"</a>.</li> </ol>

# HEADLAMP (FOR USA)

Symptom	Repair Procedure
RH low beam headlamp does not operate, but LH low beam headlamp operates.	<ol style="list-style-type: none"> <li>1. Check 20A fuse [No. 55, located in fuse, fusible link and relay block (J/B)]. Verify battery positive voltage is present at terminal 7 of headlamp relay-1.</li> <li>2. Check headlamp relay-1.</li> <li>3. Check harness between headlamp relay-1 terminal 6 and RH headlamp for open circuit.</li> <li>4. Check RH low beam headlamp ground circuit.</li> <li>5. Replace the xenon bulb with other side bulb or new one. (If eclampsia illuminate correctly, replace the bulb.)</li> <li>6. Replace the HID control unit with other side control unit or new one. (If eclampsia illuminate correctly, replace the HID control unit.)</li> </ol>
LH low beam headlamp does not operate, but RH low beam headlamp operates.	<ol style="list-style-type: none"> <li>1. Check 20A fuse [No. 57, located in fuse, fusible link and relay block (J/B)]. Verify battery positive voltage is present at terminal 3 of headlamp relay-1.</li> <li>2. Check headlamp relay-1.</li> <li>3. Check harness between headlamp relay-1 terminal 5 and LH headlamp for open circuit.</li> <li>4. Check LH low beam headlamp ground circuit.</li> <li>5. Replace the xenon bulb with other side bulb or new one. (If eclampsia illuminate correctly, replace the bulb.)</li> <li>6. Replace the HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace the HID control unit.)</li> </ol>
RH high beam headlamp does not operate, but LH high beam headlamp operates.	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check harness between headlamp relay-2 terminal 3 and headlamp RH terminal 13.</li> <li>3. Check lighting switch. Refer to <a href="#">LT-29, "Switch Circuit Inspection"</a> .</li> <li>4. Check harness between headlamp RH terminal 14 and lighting switch.</li> <li>5. Check lighting switch ground circuit.</li> </ol>
LH high beam headlamp does not operate, but RH high beam headlamp operates.	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check harness between headlamp relay-2 terminal 3 and headlamp LH terminal 13.</li> <li>3. Check lighting switch. Refer to <a href="#">LT-29, "Switch Circuit Inspection"</a> .</li> <li>4. Check harness between headlamp LH terminal 14 and lighting switch.</li> <li>5. Check lighting switch ground circuit.</li> </ol>
High beam indicator does not work.	<ol style="list-style-type: none"> <li>1. Check bulb in combination meter.</li> <li>2. Check harness between headlamp relay-2 terminal 3 and lighting switch for open circuit.</li> </ol>
Battery saver control does not operate properly.	<ol style="list-style-type: none"> <li>1. Verify 12 positive voltage from BCM is present at terminal 10 of headlamp battery saver control unit: <ul style="list-style-type: none"> <li>- Within 45 seconds after ignition switch turned off.</li> <li>- Front door is opened or more than 45 seconds after ignition switch is turn off.</li> </ul> </li> <li>2. Check the following. <ul style="list-style-type: none"> <li>- Harness between BCM and LH or RH front door switch for open or short circuit.</li> <li>- LH or RH front door switch ground circuit.</li> <li>- LH or RH front door switch.</li> </ul> </li> <li>3. Check the following. <ul style="list-style-type: none"> <li>- Harness between headlamp battery saver control unit terminals 5 or 13 and lighting switch terminal 11 for open or short circuit.</li> <li>- Harness between lighting switch terminal 5 and ground.</li> <li>- Lighting switch. Refer to <a href="#">LT-29, "Switch Circuit Inspection"</a> .</li> </ul> </li> <li>4. Check headlamp battery saver control unit. Refer to <a href="#">LT-16, "Terminals and Reference Values for Battery Saver Control Unit"</a> .</li> <li>5. Check BCM. Refer to <a href="#">LT-17, "Terminals and Reference Values for BCM"</a> .</li> </ol>



# HEADLAMP (FOR USA)

## AUTO LIGHT SYSTEM

Symptom	Malfunctioning system and reference
<ul style="list-style-type: none"> <li>● Clearance lamps and headlamps do not illuminate when outside brightness becomes low. (Lighting switch 1st position and 2nd position operate normally.)</li> <li>● Clearance lamps and headlamp do not go out when outside brightness becomes high. (Lighting switch 1st position and 2nd position operate normally.)</li> </ul>	<ul style="list-style-type: none"> <li>● Lighting switch (AUTO) system. Refer to <a href="#">LT-25, "Lighting Switch (AUTO) System Check"</a>.</li> <li>● Optical sensor system. Refer to <a href="#">LT-27, "Optical Sensor System Check"</a>.</li> </ul> <p>If above systems are normal, replace the BCM.</p>
<p>Clearance lamps illuminate when outside brightness becomes low, but headlamp stay off. (Lighting switch 1st position and 2nd position operate normally.)</p>	<ul style="list-style-type: none"> <li>● Headlamp relay system. Refer to <a href="#">LT-28, "Headlamp Relay System Check"</a>.</li> <li>● Optical sensor system. Refer to <a href="#">LT-27, "Optical Sensor System Check"</a>.</li> </ul> <p>If above systems are normal, replace the BCM.</p>
<ul style="list-style-type: none"> <li>● Headlamps illuminate when outside brightness becomes low, but clearance lamps stay off. (Lighting switch 1st position and 2nd position operate normally.)</li> <li>● Headlamps go out when outside brightness becomes high, but clearance lamps stay on.</li> </ul>	<ul style="list-style-type: none"> <li>● Tail lamp relay system. Refer to <a href="#">LT-29, "Tail Lamp Relay System Check"</a>.</li> </ul> <p>If above system is normal, replace the BCM.</p>

## Lighting Switch (AUTO) System Check

EKS001HD

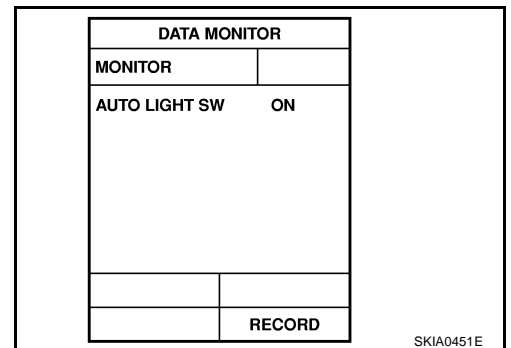
### 1. CHECK LIGHTING SWITCH AUTO SIGNAL

④ With CONSULT-II

- Operate the lighting switch via "AUTO LIGHT SW" on DATA MONITOR screen and make sure that the lamp turns on and off as commanded.

**Lighting switch AUTO : AUTO LIGHT SW ON**

**Lighting switch OFF : AUTO LIGHT SW OFF**



⊗ Without CONSULT-II

- Operate the lighting switch via "switch monitor" of self-diagnosis function make sure that the lamp turns on and off as commanded.

OK or NG

- OK >> Lighting switch (AUTO) is OK.
- NG >> GO TO 2.

# HEADLAMP (FOR USA)

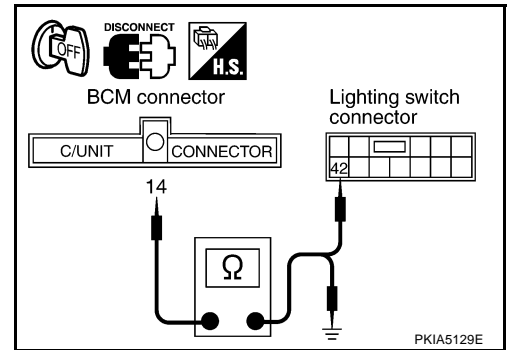
## 2. CHECK WIRE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM connector and lighting switch connector.
3. Check continuity at the harness between BCM harness connector M4 terminal 14 (Y) and the lighting switch harness connector M55 terminal 42 (Y).

**14 (Y) - 42 (Y) : Continuity should exist.**

4. Check continuity between BCM harness connector M4 terminal 14(Y) and ground.

**14 (Y) - Ground : Continuity should not exist.**



OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.

## 3. CHECK LIGHTING SWITCH

Check continuity of the lighting switch. Refer to [LT-29, "Switch Circuit Inspection"](#).

OK or NG

OK >> Replace BCM.

NG >> Replace the lighting switch.

# HEADLAMP (FOR USA)

EKS006ZL

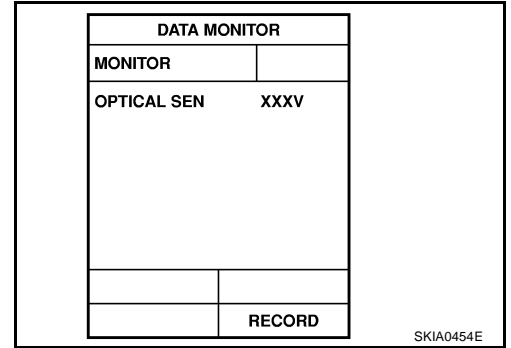
## Optical Sensor System Check

### 1. CHECK OPTICAL SENSOR OUTPUT SIGNAL

☑ With CONSULT-II

- Using "OPTICAL SEN" on DATA MONITOR screen, check difference in the voltage when light is applied to optical sensor and light is not applied to optical sensor.

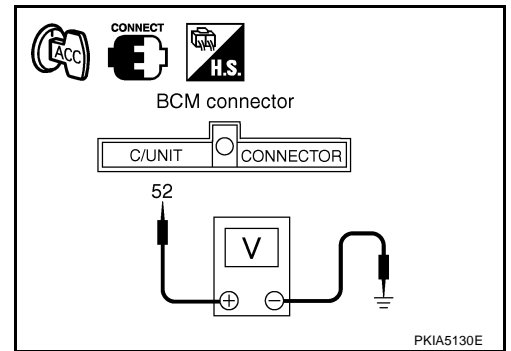
Condition	Reference value of data monitor [V]
Light is applied to optical sensor.	More than 3
Light is not applied to optical sensor.	Approx. 0.5



☒ Without CONSULT-II

- Turn ignition switch ACC.
- Check voltage between BCM harness connector and ground when light is applied to optical sensor and light is not applied to optical sensor.

Terminal		(-)	Condition	Voltage (V)
(+)	Terminal (Wire color)			
M4	52 (G/R)	Ground	Light is applied to optical sensor.	More than 3
			Light is not applied to optical sensor.	Approx. 0.5



OK or NG

OK >> INSPECTION END

NG >> GO TO 2.

### 2. CHECK OPTICAL SENSOR POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- Disconnect the BCM connector and optical sensor connector.
- Check continuity between BCM harness connector M4 terminal 59 (SB) and optical sensor harness connector M110 terminal 1 (SB).

**59 (SB) - 1 (SB) : Continuity should exist.**

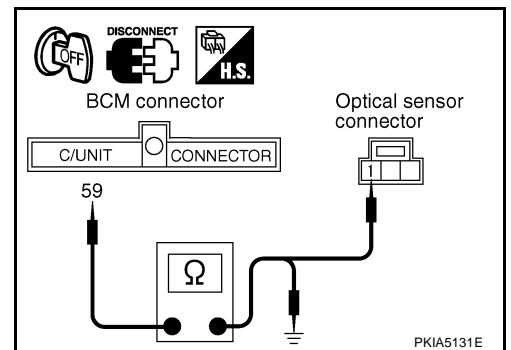
- Check continuity between BCM harness connector M4 terminal 59 (SB) and ground.

**59 (SB) - Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.



# HEADLAMP (FOR USA)

## 3. CHECK OPTICAL SENSOR SIGNAL CIRCUIT

1. Check continuity between BCM harness connector M4 terminal 52 (G/R) and optical sensor harness connector M110 terminal 2 (G/R).

**52 (G/R) - 2 (G/R) : Continuity should exist.**

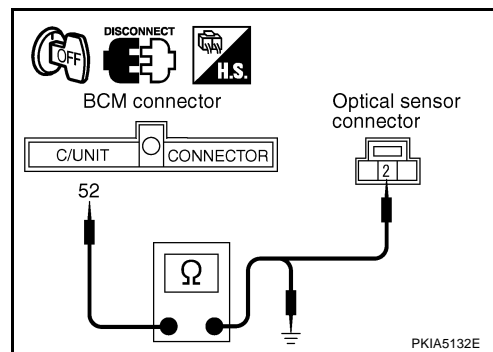
2. Check continuity between BCM harness connector M4 terminal 52 (G/R) and ground.

**52 (G/R) - Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.



## 4. CHECK OPTICAL SENSOR GROUND CIRCUIT

1. Check continuity between BCM harness connector M4 terminal 58 (Y/B) and optical sensor harness connector M110 terminal 3 (Y/B).

**58 (Y/B) - 3 (Y/B) : Continuity should exist.**

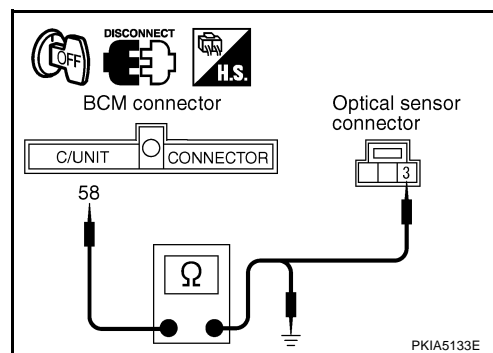
2. Check continuity between BCM harness connector M4 terminal 58 (Y/B) and ground.

**58 (Y/B) - Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.



## 5. CHECK OPTICAL SENSOR POWER SUPPLY OUTPUT SIGNAL

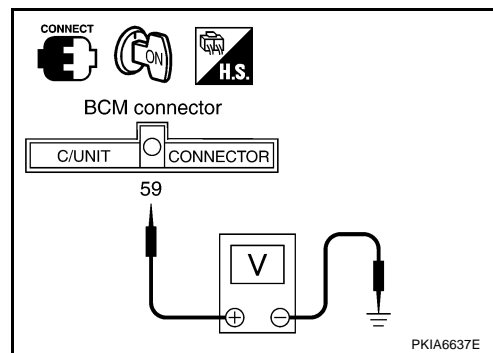
1. Connect BCM connector.
2. Turn ignition switch ON.
3. Check voltage between BCM harness connector M4 terminal 59 (SB) and ground.

**59 (SB) - Ground : Approx. 5 V**

OK or NG

OK >> Replace the optical sensor.

NG >> Replace the BCM.



## Headlamp Relay System Check

### 1. CHECK HEADLAMP RELAY CONTROL SIGNAL VOLTAGE

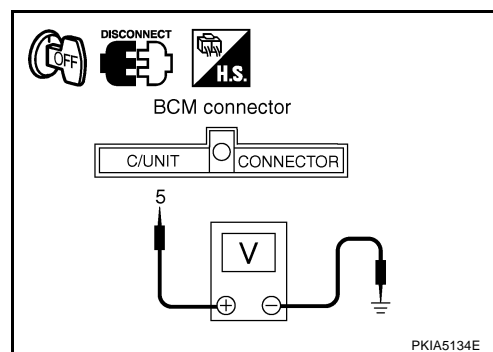
1. Turn ignition switch OFF.
2. Disconnect the BCM connector.
3. Check voltage between BCM harness connector M4 terminal 5 (R/Y) and ground while operating the lighting switch in OFF.

**Lighting switch OFF  
5 (R/Y) - Ground : Battery voltage**

OK or NG

OK >> Headlamp relay is OK.

NG >> Check harness for open or short between BCM and headlamp relay-1 and 2.



# HEADLAMP (FOR USA)

EKS001HG

## Tail Lamp Relay System Check

### 1. CHECK TAIL LAMP RELAY CONTROL SIGNAL VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect the BCM connector.
3. Check voltage between BCM harness connector M4 terminal 11 (LG/B) and ground while operating the lighting switch in OFF.

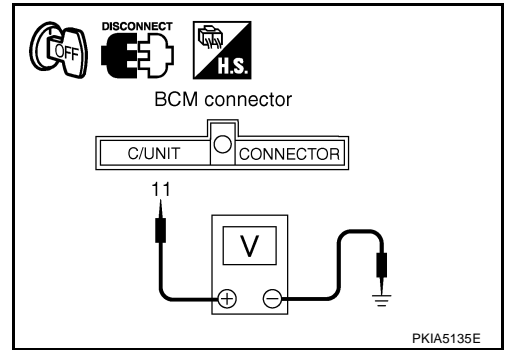
**Lighting switch OFF**

**11 (LG/B) - Ground : Battery voltage**

OK or NG

OK >> GO TO 2.

NG >> Check harness for open or short between BCM and tail lamp relay.



### 2. CHECK TAIL LAMP SIGNAL VOLTAGE

Check voltage between BCM harness connector M4 terminal 3 (R/L) and ground while operating lighting switch in 1ST position.

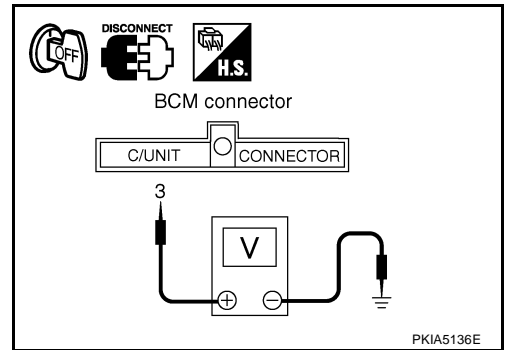
**Lighting switch in 1ST position**

**3 (R/L) - Ground : Battery voltage**

OK or NG

OK >> Tail lamp relay is OK.

NG >> GO TO 3.



### 3. CHECK TAIL LAMP RELAY

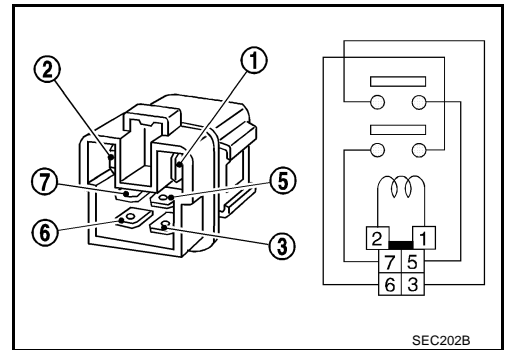
1. Remove the tail lamp relay.
2. Apply 12V between tail lamp relay terminals 2 and 1, and check continuity between terminals 6 and 7.

**6 - 7 : Continuity should exist.**

OK or NG

OK >> Check harness for open or short between BCM and tail lamp relay.

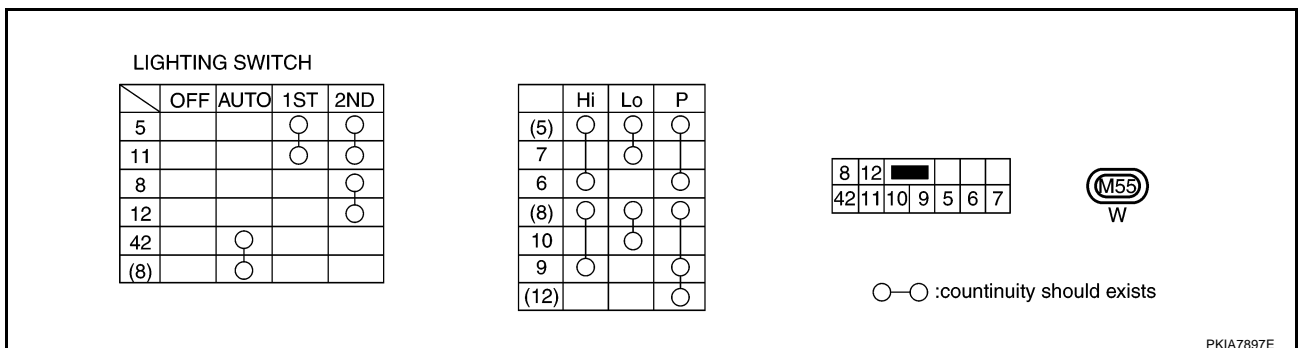
NG >> Replace the tail lamp relay.



## Switch Circuit Inspection

EKS00INJ

- Using circuit tester, check continuity between lighting switch connector terminals in each operation status of switch.



Hi: "HIGH BEAM" position, Lo: "LOW BEAM" position, P: "FLASH TO PASS" position

# HEADLAMP (FOR USA)

---

- If faulty, replace switch.

## General Information for Xenon Headlamp Trouble Diagnosis

EKS00INK

In most cases, malfunction of xenon headlamp - "does not illuminate", "flickers" or "dark" - is caused by a faulty xenon bulb. A faulty HID control unit or lamp housing, however, may be a cause. Be sure to perform trouble diagnosis following the steps described below.

### Caution:

EKS00INL

- Installation or removal of connector must be done with lighting switch OFF.
- When the lamp is illuminated (when lighting switch is ON), do not touch harness, HID control unit, inside of lamp, or lamp metal parts.
- To check illumination, temporarily install lamp in vehicle. Be sure to connect power at vehicle side connector.
- If error can be traced directly to electrical system, first check for items such as blown fuses and fusible links, broken wires or loose connectors, dislocated terminals, and improper connections.
- Do not work with wet hands.
- Using a tester for HID control unit circuit trouble diagnosis is prohibited.
- Disassembling HID control unit or harnesses (bulb socket harness, ECM harness) is prohibited.
- Immediately after illumination, light intensity and color will fluctuate, but there is nothing wrong.
- When bulb has come to end of its life, brightness will drop significantly, it will flash repeatedly, or light color will turn reddish.

## Xenon Headlamp Trouble Diagnosis

EKS00INM

### 1. CHECK 1: XENON HEADLAMP LIGHTING

---

Install normal xenon bulb to corresponding xenon bulb headlamp, and check if lamp lights up.

OK or NG

- OK >> Replace xenon bulb.
- NG >> GO TO 2.

### 2. CHECK 2: XENON HEADLAMP LIGHTING

---

Install normal HID control unit to corresponding xenon headlamp, and check if lamp lights up.

OK or NG

- OK >> Replace HID control unit.
- NG >> GO TO 3.

### 3. CHECK 3: XENON HEADLAMP LIGHTING

---

Install normal xenon lamp housing assembly to corresponding xenon headlamp, and check if lamp lights up.

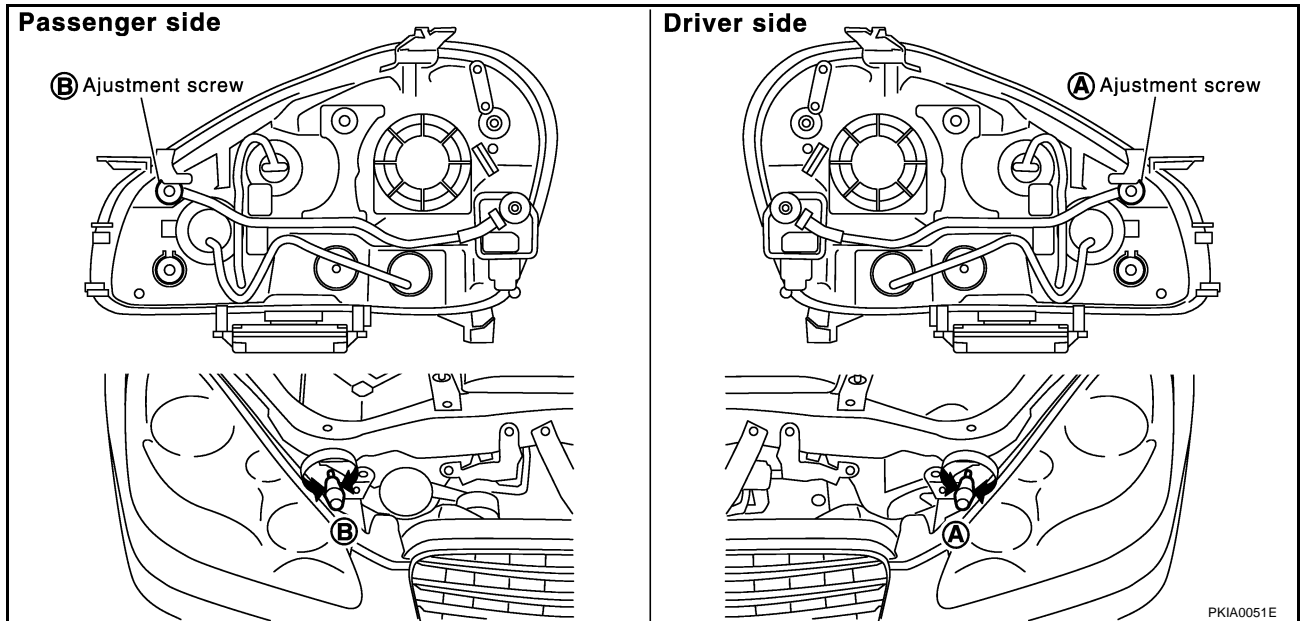
OK or NG

- OK >> Replace xenon headlamp housing assembly. [Malfunction in starter (boosting circuit) in xenon headlamp housing]
- NG >> INSPECTION END

# HEADLAMP (FOR USA)

## Aiming Adjustment

EKS001HI



**For details, refer to the regulations in your own country.**

Before performing aiming adjustment, check the following.

1. Keep all tires inflated to correct pressures.
2. Place vehicle on flat surface.
3. See that there is no load in vehicle other than driver (or equivalent weight placed in driver's seat) and that coolant and engine oil are filled up to correct levels and fuel tank is full of fuel.

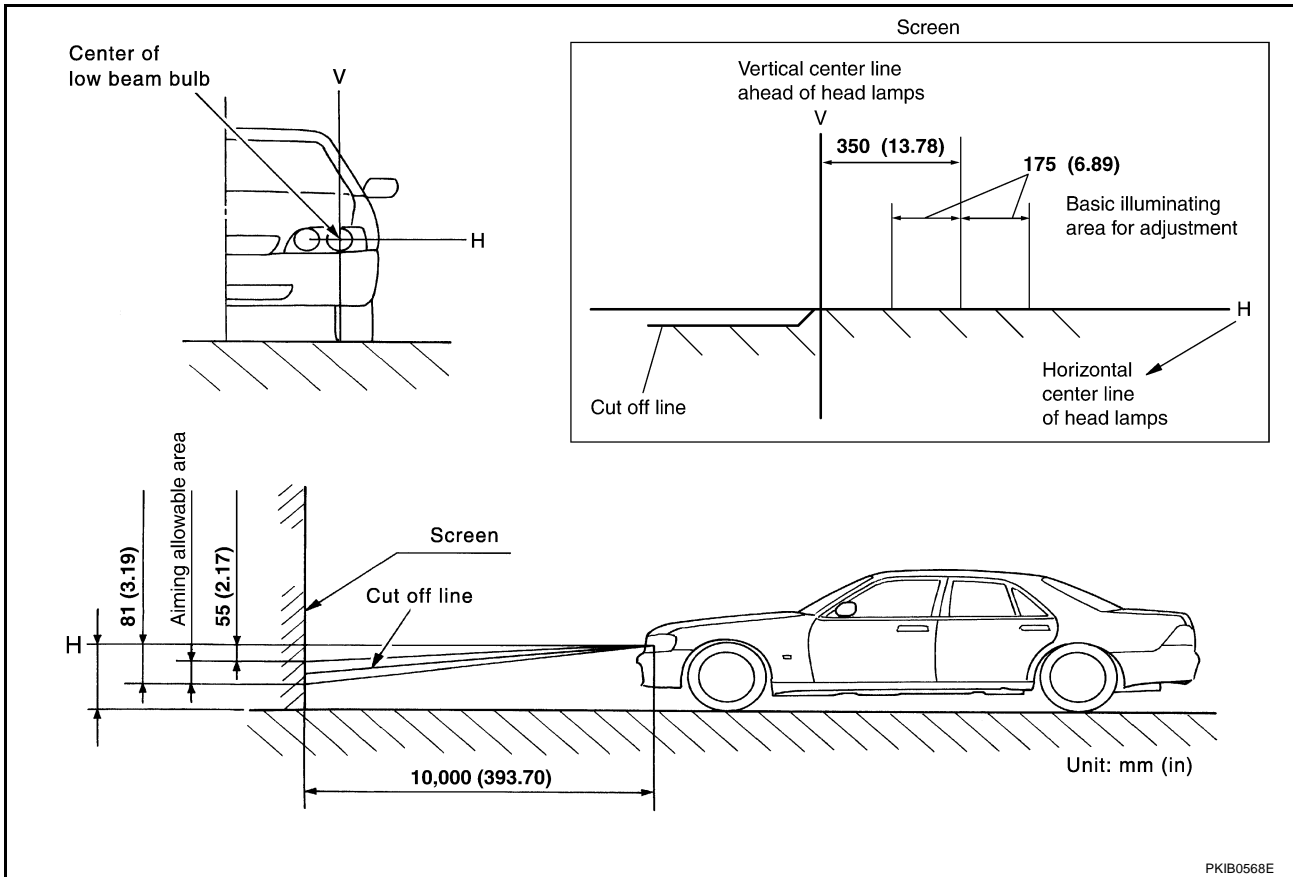
### LOW BEAM AND HIGH BEAM

1. Turn headlamp low beam on.
2. Use adjusting screws to perform aiming adjustment.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
LT  
L  
M

# HEADLAMP (FOR USA)

- First tighten the adjusting screw all the way and then make adjustment by loosening the screw.



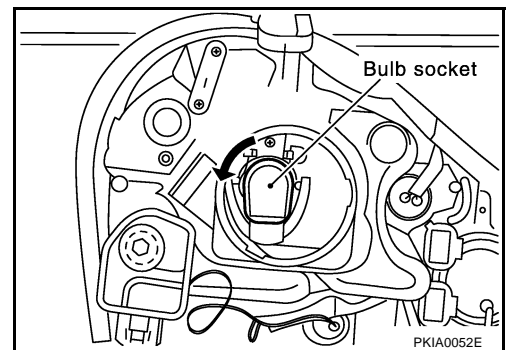
If the vehicle front body has been repaired and/or the headlamp assembly has been replaced, check aiming. Use the aiming chart shown in the figure.

- Basic illuminating area for adjustment should be within the range shown on the aiming chart. Adjust headlamps accordingly.

## Bulb Replacement HEADLAMP (OUTER SIDE), FOR LOW BEAM

EKS001HJ

1. Disconnect the battery cable from the negative terminal or remove the power fuse.
2. Remove the headlamps. Refer to [LT-33, "Removal and Installation"](#).
3. Turn the plastic cap counterclockwise and unlock it.
4. Disconnect the headlamp connector.
5. Turn the bulb socket counterclockwise and unlock it.
6. Unlock the retaining spring and remove the bulb from the headlamp.



## HEADLAMP (INNER SIDE), FOR HIGH BEAM

1. Disconnect the battery cable from the negative terminal or remove the power fuse.
2. Disconnect the headlamp connector.
3. Remove the mass airflow sensor cover and the air cleaner (when replacing LH bulb). Refer to [EM-16, "Removal and Installation"](#) in "ENGINE MECHANICAL (EM)" section.
4. Remove the battery cover and the battery (when replacing RH bulb). Refer to [SC-8, "Removal and Installation"](#) in "STARTING AND CHARGING SYSTEM (SC)" section.
5. Turn the plastic cap counterclockwise and unlock it.
6. Disconnect the terminal connected to the bulb.
7. Unlock the retaining spring and remove the bulb from the headlamp.



# HEADLAMP (FOR USA)

## PARKING LAMP (CLEARANCE LAMP)

1. Disconnect the battery cable from the negative terminal or remove the power fuse.
2. Disconnect the headlamp connector.
3. Remove the mass airflow sensor cover and the air cleaner (when replacing LH bulb). Refer to [EM-16, "Removal and Installation"](#) in "ENGINE MECHANICAL (EM)" section.
4. Remove the battery cover and the battery (when replacing RH bulb). Refer to [SC-8, "Removal and Installation"](#) in "STARTING AND CHARGING SYSTEM (SC)" section.
5. Turn the bulb socket counterclockwise and unlock it.
6. Remove the bulb from its socket.

## FRONT TURN SIGNAL LAMP

1. Disconnect the battery cable from the negative terminal or remove the power fuse.
2. Disconnect the headlamp connector.
3. Remove the mass airflow sensor cover and the air cleaner assembly (when replacing LH bulb). Refer to [EM-16, "Removal and Installation"](#) in "ENGINE MECHANICAL (EM)" section.
4. Remove the battery cover and the battery (when replacing RH bulb). Refer to [SC-8, "Removal and Installation"](#) in "STARTING AND CHARGING SYSTEM (SC)" section.
5. Turn the bulb socket counterclockwise and unlock it.
6. Remove the bulb from its socket.

## FRONT SIDE MARKER LAMP

1. Disconnect the battery cable from the negative terminal or remove the power fuse.
2. Disconnect the headlamp connector.
3. Remove the engine undercover and fender protector.
4. Remove the washer tank (when replacing LH bulb).
5. Turn the bulb socket counterclockwise and unlock it.
6. Remove the bulb from its socket.

Headlamp (outer side), for low beam	: 12V 35W (D2S)
Headlamp (inner side), for high beam	: 12V 60W (HB3)
Parking lamp (clearance lamp)	: 12V 5W
Front turn signal lamp	: 12V 21W (amber)
Front side marker lamp	: 12V 5W

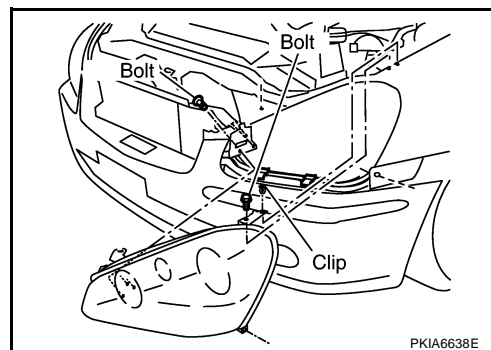
### CAUTION:

After installing the bulb, be sure to install the plastic cap and the bulb socket securely to ensure watertightness.

## Removal and Installation

### REMOVAL

1. Remove the front grille. Refer to [EI-21, "FRONT GRILLE"](#) in "EXTERIOR & INTERIOR (EI)" section.
2. Remove the filler cap on the washer tank and the front air guide.
3. Remove the front undercover and the fender protector. Refer to in "EXTERIOR & INTERIOR (EI)" section.
4. Remove mounting clip on top of the front bumper and mounting bolts on the side of the front bumper. Refer to [EI-15, "FRONT BUMPER"](#) in "EXTERIOR & INTERIOR (EI)" section.

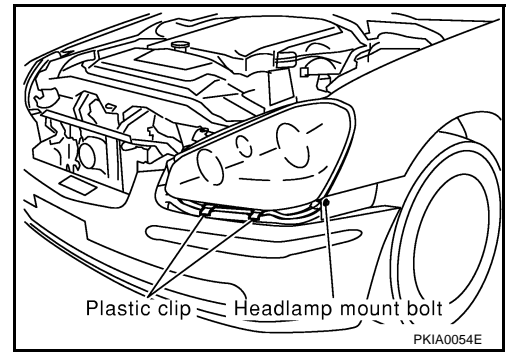


## HEADLAMP (FOR USA)

5. Pull the side of the front bumper toward the front of the vehicle and disengage it from clips on the body.
6. Remove the headlamp mounting bolts and clip.
7. Remove the headlamp mounting bolts inside the headlamp.
8. Pull the headlamp toward the front of the vehicle, disconnect the connector, and remove from the vehicle.

**CAUTION:**

**When removing the headlamp, place a rag between the headlamp and the bumper to protect the bumper.**



### INSTALLATION

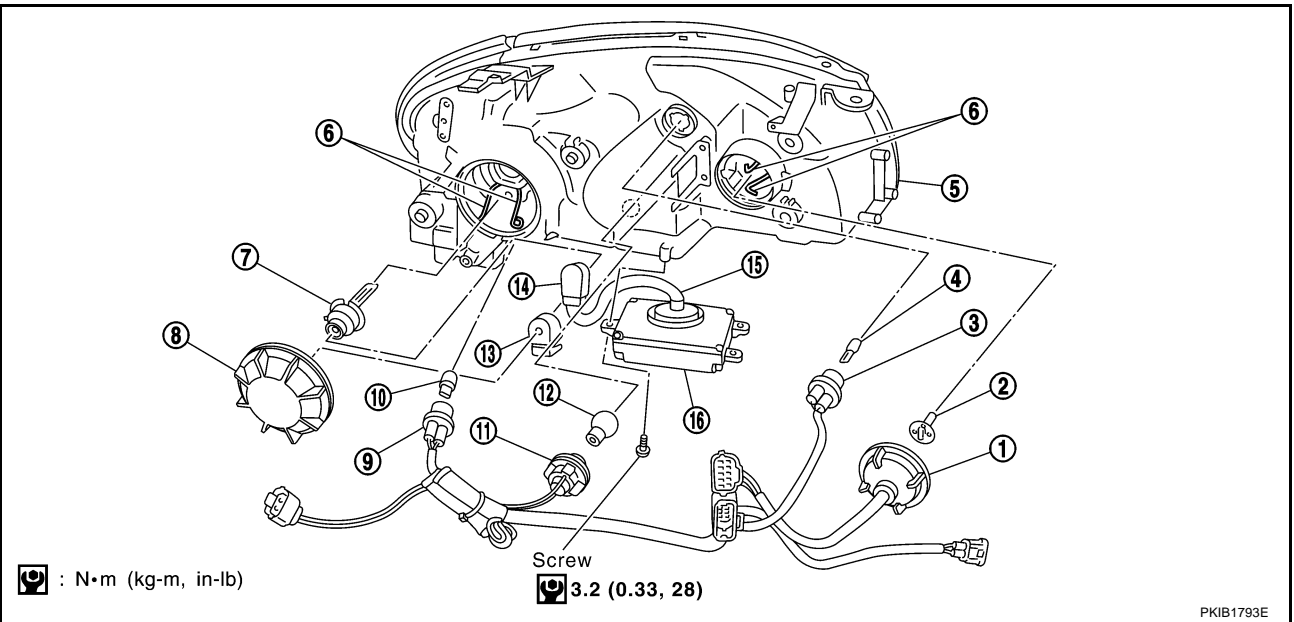
Note the following, and install in the reverse order of removal.

**Headlamp mounting bolt** : 5.5 N·m (0.56 kg·m, 49 in·lb)

# HEADLAMP (FOR USA)

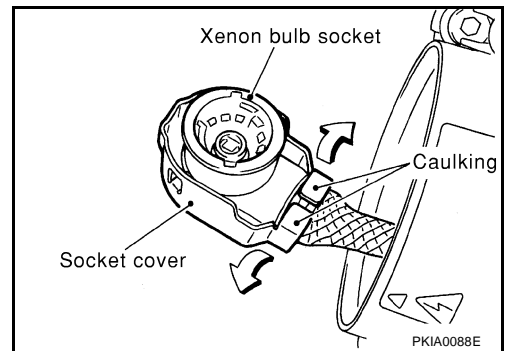
EKS001HL

## Disassembly and Assembly DISASSEMBLY

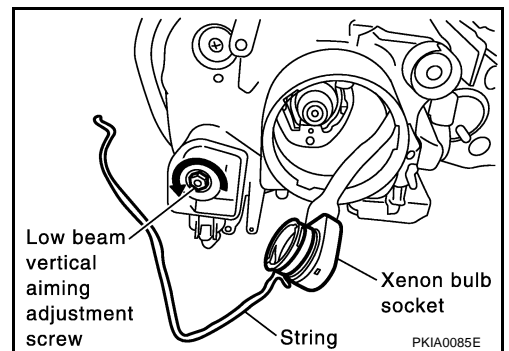


- |                                       |  |  |
|---------------------------------------|--|--|
| 1. Plastic cap (high)                 | 2. Halogen bulb                        | 3. Parking lamp (Clearance lamp) bulb socket |
| 4. Parking lamp (Clearance lamp) bulb | 5. Xenon headlamp assembly             | 6. Retaining springs                         |
| 7. Xenon bulb                         | 8. Plastic cap (low)                   | 9. Front side marker lamp bulb socket        |
| 10. Front side marker lamp bulb       | 11. Front turn signal lamp bulb socket | 12. Front turn signal lamp bulb              |
| 13. Socket cover                      | 14. Xenon bulb socket                  | 15. Mesh cord                                |
| 16. HID control unit                  |  |  |

1. Turn the plastic cap (low) counterclockwise and unlock it.
2. Turn the xenon bulb socket counterclockwise and unlock it.
3. Unlock the retaining spring and remove the xenon bulb (low).
4. Expand calking of socket cover, and then remove socket cover from the xenon valve socket.
5. Disconnect the HID control unit connector and remove the HID control unit mounting screws.

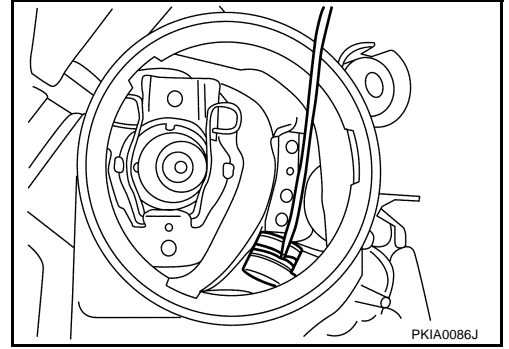


6. Turn the dipped beam vertical aiming adjusting screw counterclockwise to secure space in the headlamp for the xenon bulb socket to pass through. Tie a cord to the bulb socket to facilitate removal and insertion.

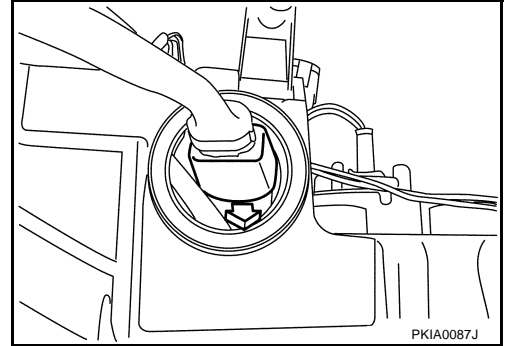


## HEADLAMP (FOR USA)

7. Face the xenon bulb socket as shown in the figure, and pull it while maintaining its direction by turning the mesh cord from the HID control unit side.



8. Face the xenon bulb socket as shown in the figure, and pull it up in the direction of arrow using the mesh cord.
9. Turn the plastic cap (high) counterclockwise and unlock it.
10. Disconnect the terminal connected to the halogen bulb.
11. Unlock the retaining spring and remove the halogen bulb (high).
12. Turn the parking lamp (clearance lamp) bulb socket counterclockwise and unlock it.
13. Remove the parking lamp (clearance lamp) bulb from its socket.
14. Turn the front side marker lamp bulb socket counterclockwise and unlock it.
15. Remove the front side marker lamp bulb from its socket.
16. Turn the front turn signal lamp bulb socket counterclockwise and unlock it.
17. Remove the front turn signal lamp bulb from its socket.



### ASSEMBLY

Note the following, and assemble is the reverse order of disassembly.

**HID control unit**



**3.2 N·m (0.33 kg-m, 28 in-lb)**

### CAUTION:

- When the HID control unit is removed, reinstall it securely and avoid any looseness.
- After installing the bulb, be sure to install the plastic cap and the bulb socket securely to ensure watertightness.

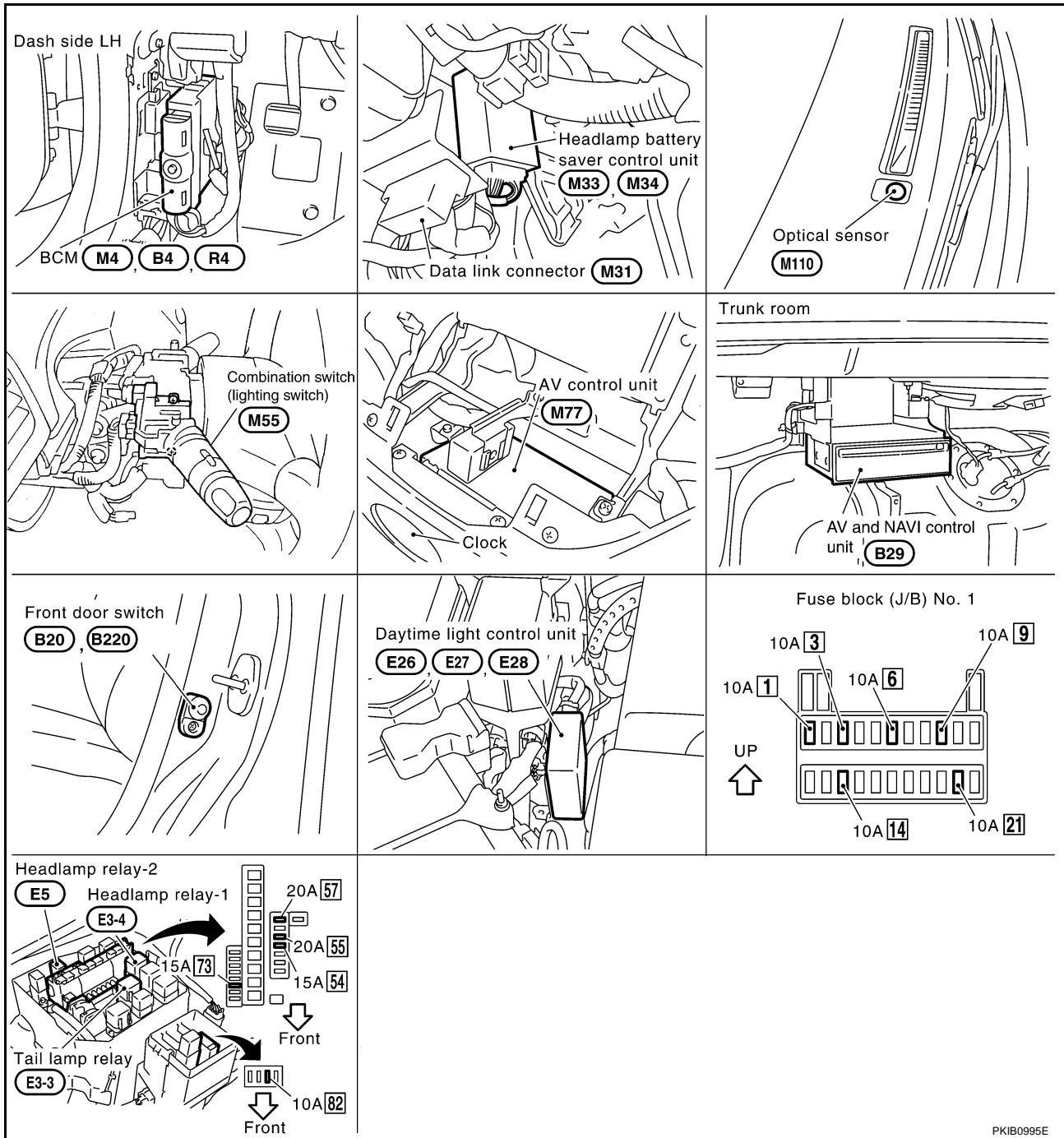
# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

## HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

PF26010

### Component Parts and Harness Connector Location

EKS000SK



PKIB0995E

### System Description

EKS000SL

The headlamp system for Canada vehicles is equipped with a daytime light control unit that activates the high beam headlamps at approximately half illumination whenever the engine is running. If the parking brake is applied before the engine is started the daytime lights will not be illuminated. The daytime lights will illuminate once the parking brake is released. Thereafter, the daytime lights will continue to operate when the parking brake is applied.

And battery saver system is controlled by the headlamp battery saver control unit and BCM (body control module).

Power is supplied at all times

- headlamp relay-1 terminal 2 from battery
- to headlamp relay-1 terminal 3

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
LT  
L  
M

# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

---

- through 20A fuse [No. 57, located in fuse, fusible link and relay block (J/B)]
- to headlamp relay-1 terminal 7
- through 20A fuse [No. 55, located in fuse, fusible link and relay block (J/B)]
- to headlamp relay-2 terminals 2 and 5
- through 15A fuse [No. 73, located in fuse, fusible link and relay box]
- to tail lamp relay terminals 2 and 6
- through 15A fuse [No. 54, located in fuse, fusible link and relay block (J/B)]
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 6, located in fuse block (J/B) No. 1]
- to BCM (body control module) terminal 105
- through 10A fuse [No. 3, located in fuse block (J/B) No. 1].

Ground is supplied

- to daytime light control unit terminal 16
- through grounds E24, E42 and E62
- to headlamp battery saver control unit terminals 4 and 11
- through grounds M25 and M115.

When the ignition switch is in ON or START position, power is also supplied

- to daytime light control unit terminal 3
- through 10A fuse [No. 82, located in fuse block]
- to headlamp battery saver control unit terminal 1, and
- to BCM (body control module) terminal 68
- through 10A fuse [No. 1, located in fuse block (J/B) No. 1].

When the ignition switch is in ACC or ON position, power is supplied

- to BCM (body control module) terminal 60
- through 10A fuse [No. 21, located in fuse block (J/B) No. 1].

When the ignition switch is in START position, power is supplied

- to daytime light control unit terminal 2
- through 10A fuse [No. 14, located in fuse block (J/B) No. 1].

## HEADLAMP OPERATION

### Power Supply to Low Beam and High Beam

When lighting switch is in 2ND or PASS position, ground is supplied

- to headlamp relay-1 and 2 terminals 1
- from headlamp battery saver control unit terminals 2 and 8
- through headlamp battery saver control unit terminals 3 and 9
- through lighting switch terminals 12 and 8
- through grounds M25 and M115.

Headlamp relays are energized and then power is supplied to headlamps.

### Low Beam Operation

When lighting switch is turned to 2ND position and moved to (LOW positions), power is supplied

- from headlamp relay-1 terminals 5 and 6
- to each headlamp terminal 7

Ground is supplied

- to each headlamp terminal 8
- through grounds E24, E42 and E62.

With power and ground supplied, the low beam headlamps illuminate.

### High Beam Operation/Flash-to-pass Operation

When lighting switch is turned to 2ND position and moved to (HIGH position or PASS position), power is supplied

# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

- through headlamp relay-2 terminal 3
- to daytime light control unit terminals 4 and 5
- to combination meter terminal 48 for the HIGH BEAM indicator.

Ground is supplied

- to each headlamp terminal 14
- through daytime light control unit terminals 9 or 10
- to daytime light control unit terminals 6 or 7
- through each headlamp terminal 13
- to daytime light control unit terminal 13
- through combination meter terminal 47 for the HIGH BEAM indicator
- to daytime light control unit terminals 13 and 14
- through lighting switch terminals 6 and 9
- to lighting switch terminals 5 and 8
- through grounds M25 and M115.

With power and ground supplied, the high beam headlamps and HIGH BEAM indicator illuminate.

## BATTERY SAVER CONTROL

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated, The RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from BCM terminal 135.

After counting 45 seconds by the RAP signal from the BCM to headlamp battery saver control unit, the ground supply to terminals 1 of headlamp relay-1 and -2 from headlamp battery saver control unit terminals 2 and 8 is terminated.

Then headlamps are turned off.

The headlamps are turned off when driver or passenger door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated.

When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the battery saver control, ground is supplied

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and then
- to headlamp relay-1 and -2 terminals 1 from headlamp battery saver control unit terminals 2 and 8
- through headlamp battery saver control unit terminals 3 and 9, and
- through lighting switch terminal 12.

Then headlamps illuminate again.

## AUTO LIGHT OPERATION

For auto light operation, refer to [LT-8, "AUTO LIGHT OPERATION"](#) in "HEADLAMP (USA)".

## DAYTIME LIGHT OPERATION

With the engine running, the lighting switch in the OFF or 1ST position and parking brake released, power is supplied

- through daytime light control unit terminal 7
- to headlamp RH terminal 13
- through headlamp RH terminal 14
- to daytime light control unit terminal 9
- through daytime light control unit terminal 6
- to headlamp LH terminal 13.
- through headlamp LH terminal 14
- to daytime light control unit terminal 10.

Ground is supplied

- to daytime light control unit terminal 16
- through grounds E24, E42 and E62.

Because the high beam headlamps are now wired in series, they operate at half illumination.

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# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

## OPERATION

After starting the engine with the lighting switch in the “OFF” or “1ST” position, the headlamp high beam automatically turns on. Lighting switch operations other than the above are the same as conventional light systems.

Engine		Engine stopped									Engine running								
Lighting switch		OFF			1ST			2ND			OFF			1ST			2ND		
		Hi	Lo	P	Hi	Lo	P	Hi	Lo	P	Hi	Lo	P	Hi	Lo	P	Hi	Lo	P
Headlamp	High beam	-	-	-	-	-	×	×	-	×	●*	●*	×	●*	●*	×	×	-	×
	Low beam	-	-	-	-	-	×	×	×	×	-	-	×	-	-	×	×	×	×
Parking (clearance), side marker and tail lamp		-	-	-	×	×	×	×	×	×	-	-	-	×	×	×	×	×	×
License and instrument illumination lamp		-	-	-	×	×	×	×	×	×	-	-	-	×	×	×	×	×	×

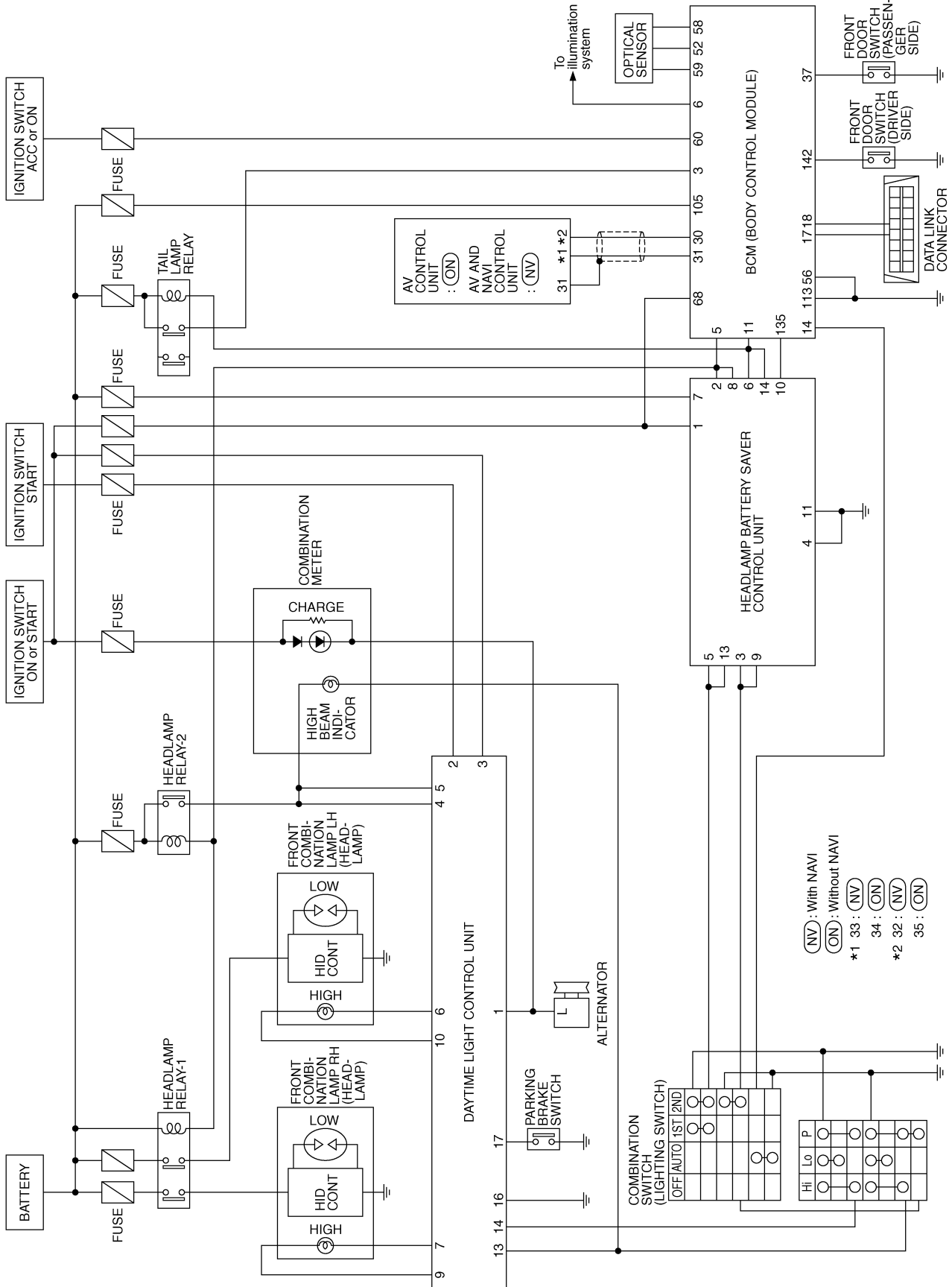
- Hi: “HIGH BEAM” position
- Lo: “LOW BEAM” position
- P: “FLASH TO PASS” position
- ×: Lamp “ON”
- -: Lamp “OFF”
- ●: Lamp dims. (Added functions)
- \*: When starting the engine with the parking brake released, the daytime light will come ON. When starting the engine with the parking brake pulled, the daytime light won't come ON.



# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

## Schematic

EKS000SM



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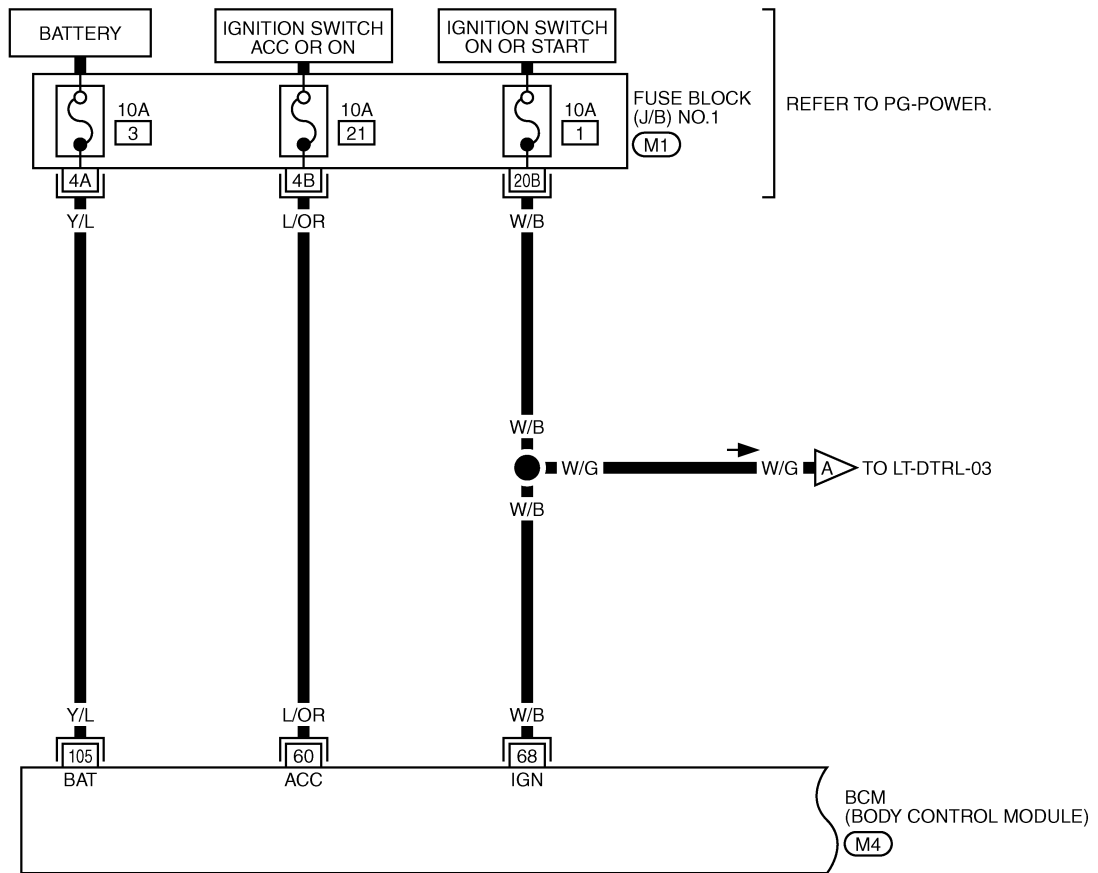
TKWM0336E

# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

EKS000SN

## Wiring Diagram — DTRL —

LT-DTRL-01



REFER TO THE FOLLOWING.

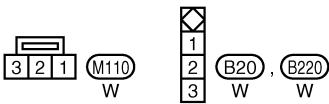
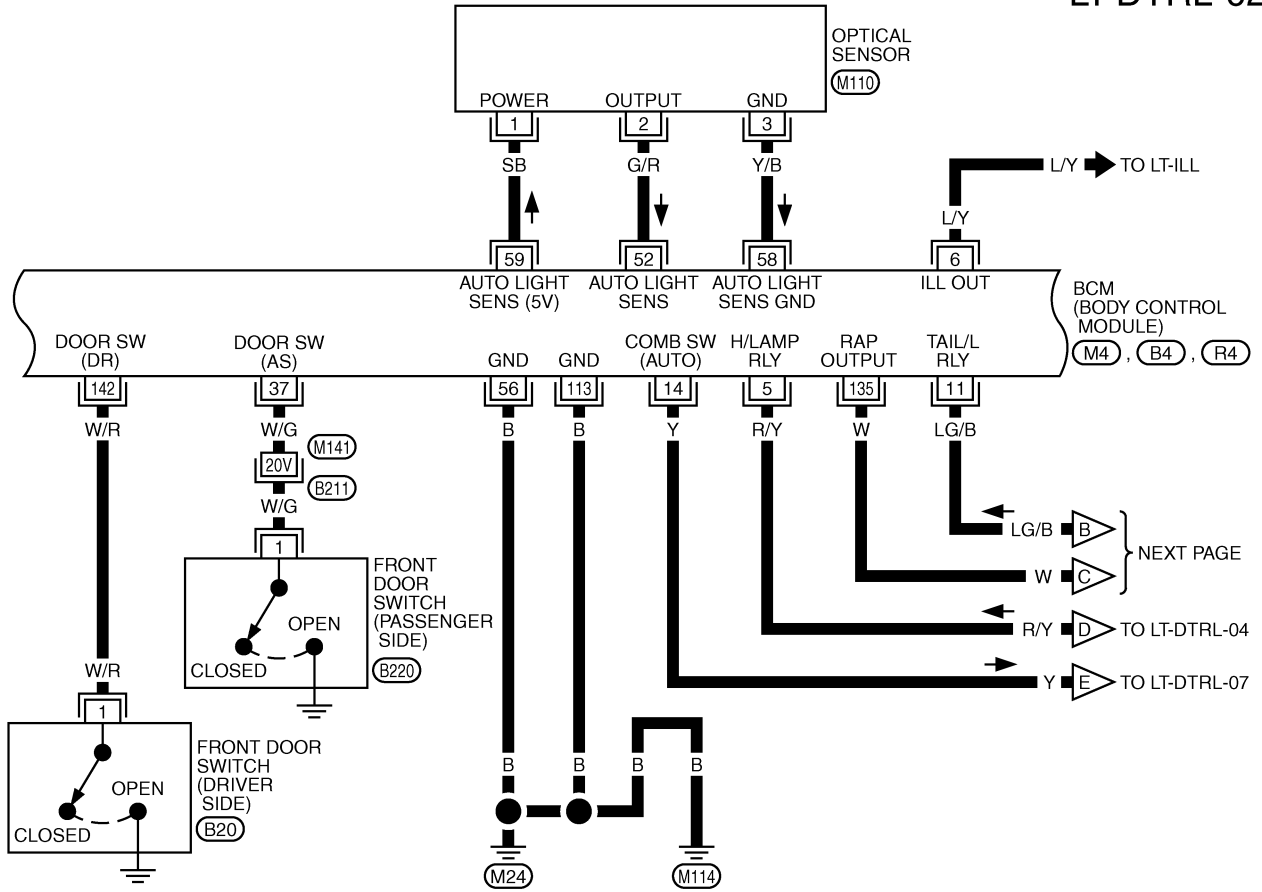
(M1) - FUSE BLOCK-JUNCTION BOX (J/B) NO.1

(M4) - ELECTRICAL UNITS

TKWM1471E

# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

LT-DTRL-02



REFER TO THE FOLLOWING.  
 (B211) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M4), (B4), (R4) -ELECTRICAL UNITS

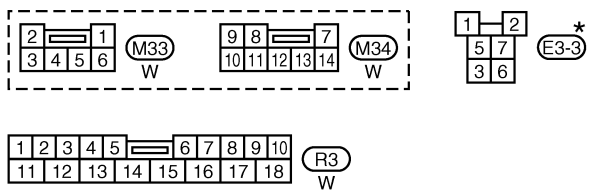
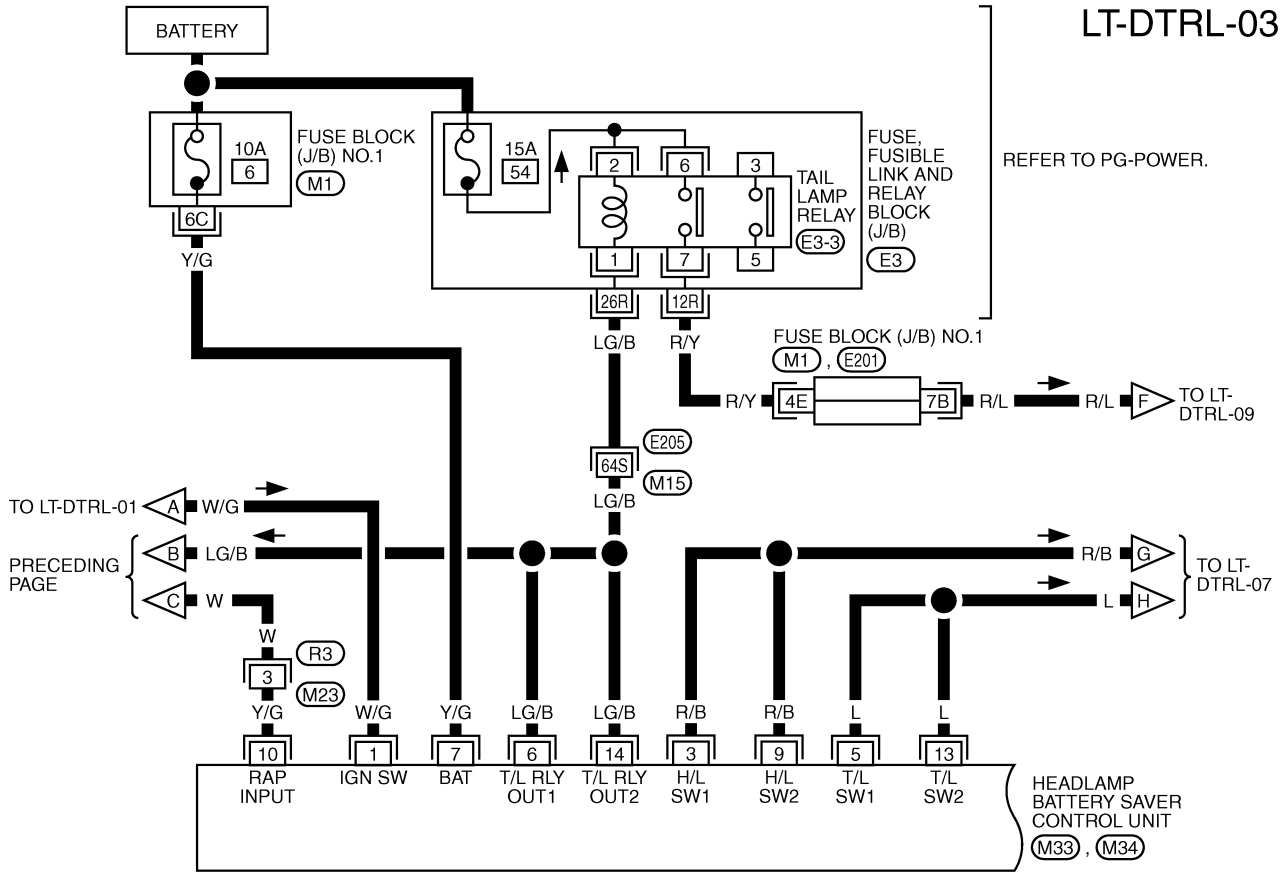
TKWM1472E

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# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

LT-DTRL-03



REFER TO THE FOLLOWING.

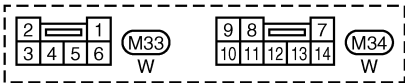
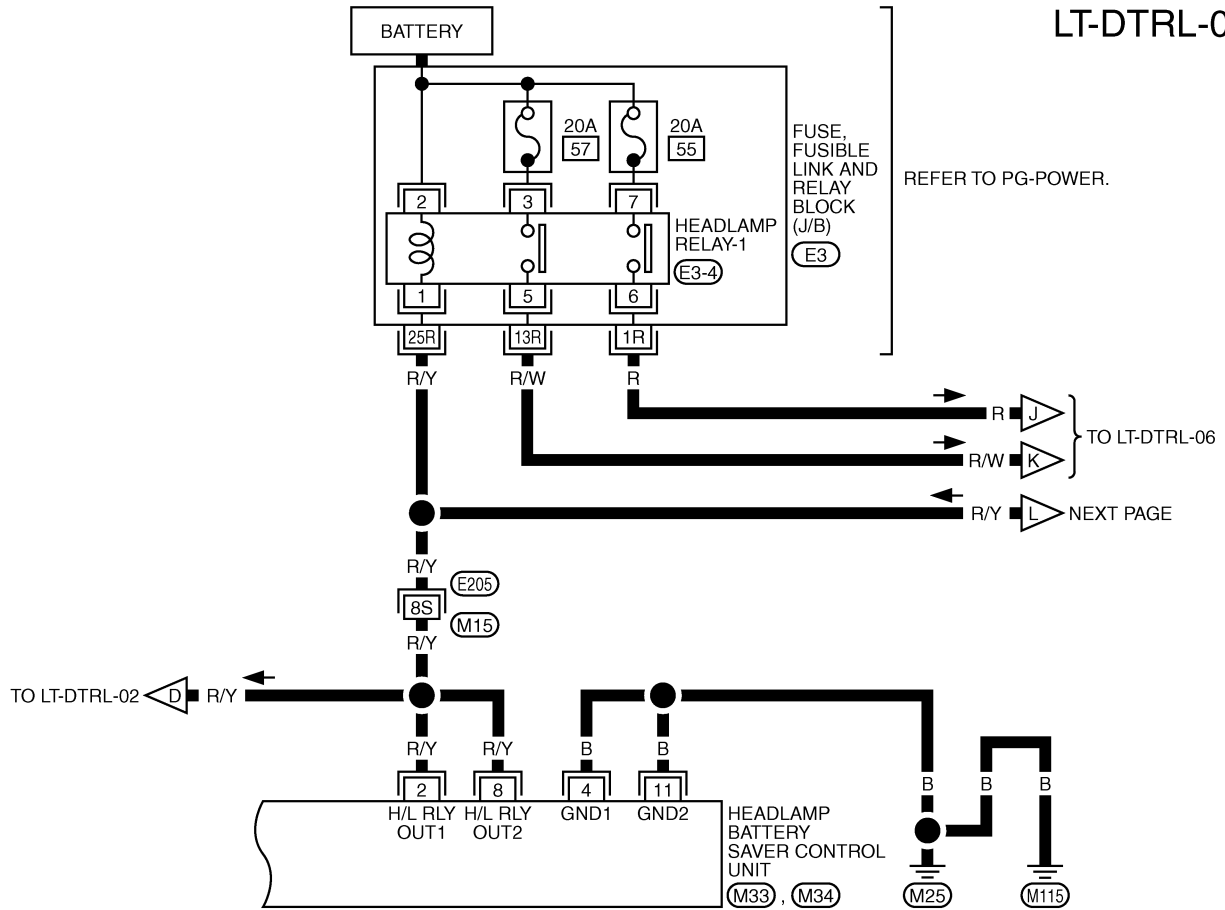
- (E205) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (E201) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1
- (E3) -FUSE, FUSIBLE LINK AND RELAY BLOCK (J/B)

\*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWM1473E

# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

LT-DTRL-04



\*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

REFER TO THE FOLLOWING.

(E205) -SUPER MULTIPLE JUNCTION (SMJ)

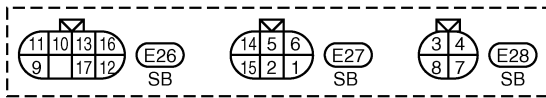
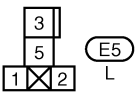
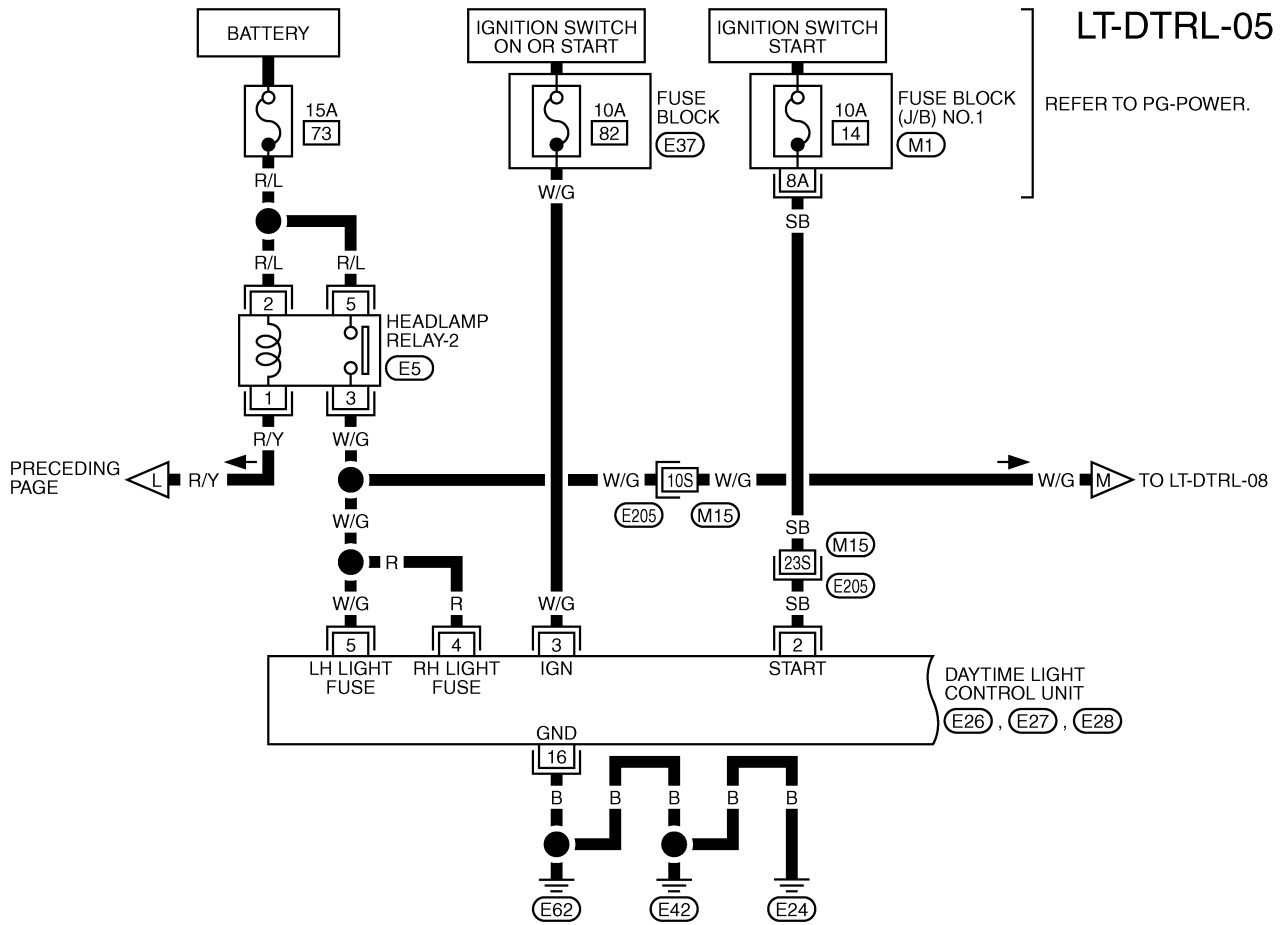
(E3) -FUSE, FUSIBLE LINK AND RELAY BLOCK (J/B)

TKWM1474E

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# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -



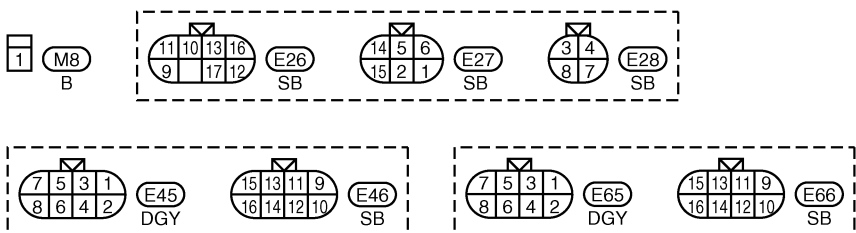
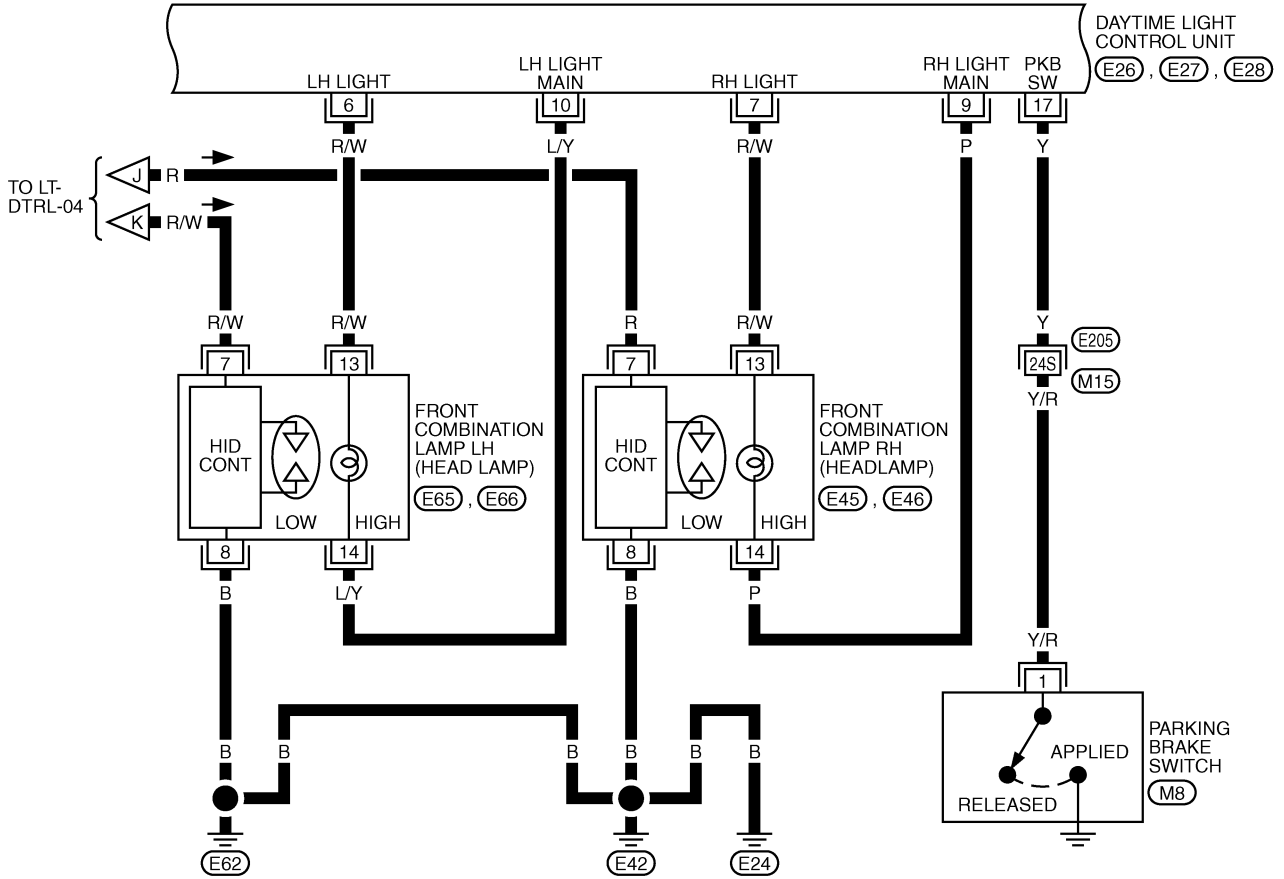
REFER TO THE FOLLOWING.

- (E205) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1
- (E37) -FUSE BLOCK

TKWM1475E

# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

LT-DTRL-06



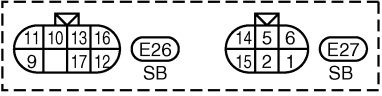
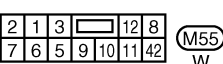
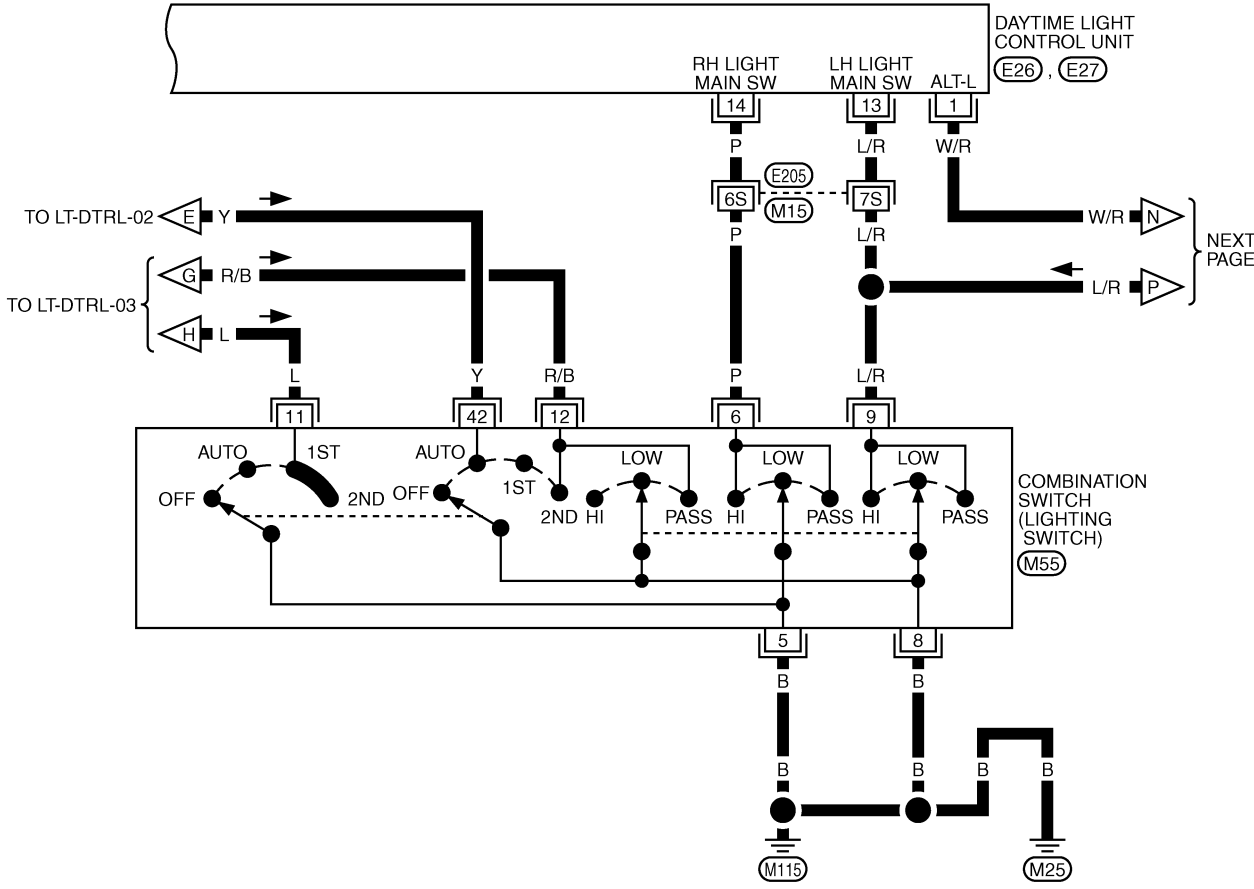
REFER TO THE FOLLOWING.  
 E205 -SUPER MULTIPLE JUNCTION (SMJ)

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TKWM1476E

# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

LT-DTRL-07



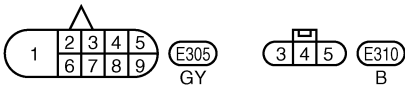
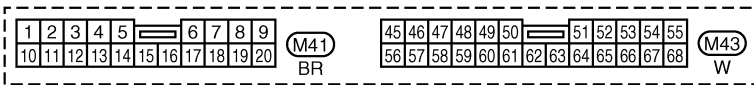
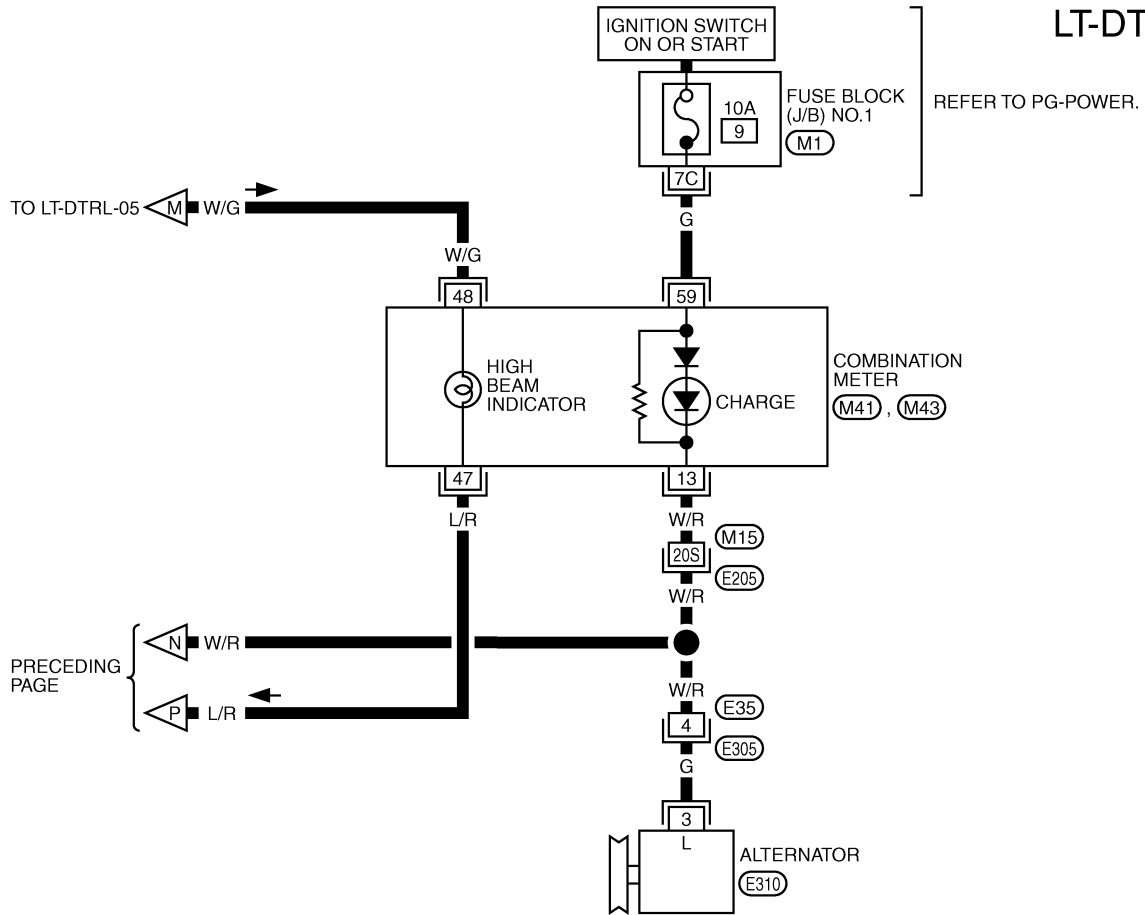
REFER TO THE FOLLOWING.  
 (E205) -SUPER MULTIPLE JUNCTION (SM.J)

TKWM1477E



# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

LT-DTRL-08



REFER TO THE FOLLOWING.

(E205) -SUPER MULTIPLE JUNCTION (SMJ)

(M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM1478E

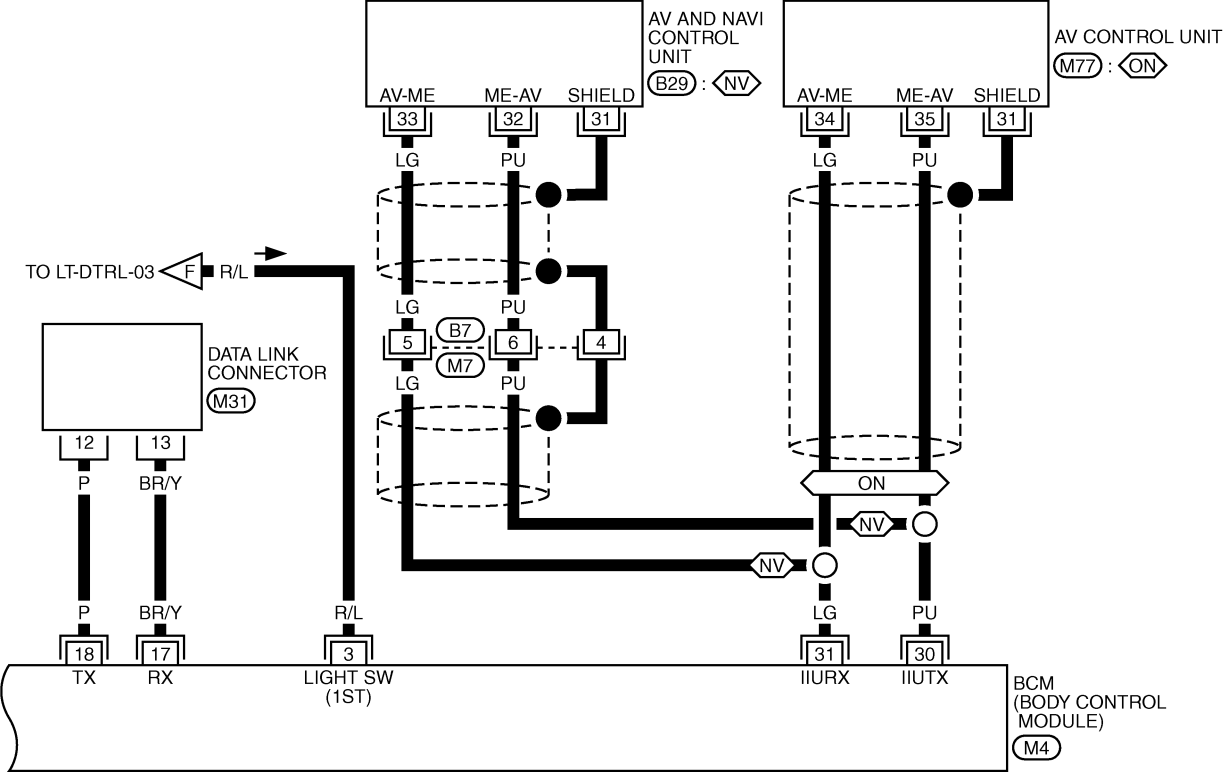
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# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

## LT-DTRL-09

NV : WITH NAVI  
ON : WITHOUT NAVI



1	2	3	4	5	6	7	8	9	10	11		
12	13	14	15	16	17	18	19	20	21	22	23	24

M7  
W

16	15	14	13	12	11	10	9
8	7	6	5	4	3	2	1

M31  
W

48	45	42	39	37	35	33	30	27
47	44	41	38	36	34	32	29	26
46	43	40				31	28	25

M77 , B29  
GY GY

REFER TO THE FOLLOWING.  
M4 -ELECTRICAL UNITS

TKWM1479E

# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

## Terminals and Reference Value for Daytime Light Control Unit

EKS001BH

Terminal No.	Wire color	Item	Condition	Reference value
1	W/R	Alternator	When turning ignition switch to "ON"	Approx. 0 V
			When engine is running	Battery voltage
			When turning ignition switch to "OFF"	Approx. 0 V
2	SB	Start signal	When turning ignition switch to "START"	Battery voltage
			When turning ignition switch to "ON" from "START"	Approx. 0 V
			When turning ignition switch to "ACC" or "OFF"	Approx. 0 V
3	W/G	Power source	When turning ignition switch to "ON"	Battery voltage
			When turning ignition switch to "START"	Battery voltage
			When turning ignition switch to "ACC" or "OFF"	Approx. 0 V
4	R	RH light fuse	When lighting switch is turned to the 2ND position with "HI BEAM" or "FLASH TO PASS" position	Battery voltage
			When lighting switch is turned to "FLASH TO PASS" position with ignition switch "ON" position	Battery voltage
5	W/G	LH light fuse	When lighting switch is turned to the 2ND position with "HI BEAM" or "FLASH TO PASS" position	Battery voltage
			When lighting switch is turned to "FLASH TO PASS" position with ignition switch "ON" position	Battery voltage
6	R/W	LH hi beam	When lighting switch is turned to the 2ND position with "HI BEAM" or "FLASH TO PASS" position	Battery voltage
			When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) <b>CAUTION:</b> <b>Block wheels and ensure selector lever is in N or P position.</b>	Half battery voltage
7	R/W	RH hi beam	When lighting switch is turned to the 2ND position with "HI BEAM" or "FLASH TO PASS" position	Battery voltage
			When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) <b>CAUTION:</b> <b>Block wheels and ensure selector lever is in N or P position.</b>	Battery voltage
9	P	RH hi beam (ground)	When turning lighting switch to the 2ND position with "HI BEAM" or "FLASH TO PASS" position	Approx. 0 V
			When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) <b>CAUTION:</b> <b>Block wheels and ensure selector lever is in N or P position.</b>	Half battery voltage
10	L/Y	LH hi beam (ground)	When turning lighting switch to the 2ND position with "HI BEAM" or "FLASH TO PASS" position	Approx. 0 V
			When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) <b>CAUTION:</b> <b>Block wheels and ensure selector lever is in N or P position.</b>	Approx. 0 V
13	L/R	LH lighting switch (Hi beam)	When turning lighting switch to the 2ND position with "HI BEAM" or "FLASH TO PASS" position	Approx. 0 V
14	P	RH lighting switch (Hi beam)	When turning lighting switch to the 2ND position with "HI BEAM" or "FLASH TO PASS" position	Approx. 0 V
16	B	Ground	—	Approx. 0 V
17	Y	Parking brake switch	When parking brake is released	Battery voltage
			When parking brake is pulled	Approx. 0 V

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# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

## Terminals and Reference Value for BCM

EKS00J0P

Refer to [LT-17, "Terminals and Reference Values for BCM"](#) in HEADLAMP (FOR USA).

## Terminals and Reference Value for Battery saver Control Unit

EKS00J0Q

Refer to [LT-16, "Terminals and Reference Values for Battery Saver Control Unit"](#) in HEADLAMP (FOR USA).

## Symptom Chart

EKS000SO

Symptom	Repair Procedure
Headlamps (both side) do not operate.	<ol style="list-style-type: none"> <li>1. Check 10A fuse [No. 6, located in fuse block (J/B) No. 1]. Verify battery positive voltage is present at terminal 7 of headlamp battery saver control unit.</li> <li>2. Check lighting switch. Refer to <a href="#">LT-99, "Switch Circuit Inspection"</a>.</li> <li>3. Check headlamp battery saver control unit. Refer to <a href="#">LT-16, "Terminals and Reference Values for Battery Saver Control Unit"</a>.</li> </ol>
Low beam headlamps do not operate, but high beam headlamps operate.	<ol style="list-style-type: none"> <li>1. Check 20A fuse [No. 57, located in fuse, fusible link and relay block (J/B)]. Verify battery positive voltage is present at terminals 3 of headlamp relay-1.</li> <li>2. Check headlamp relay-1.</li> <li>3. Check harness between headlamp relay-1 and headlamp battery saver control unit.</li> <li>4. Check headlamp battery saver control unit. Refer to <a href="#">LT-16, "Terminals and Reference Values for Battery Saver Control Unit"</a>.</li> </ol>
High beam headlamps do not operate, but low beam headlamps operate.	<ol style="list-style-type: none"> <li>1. Check 15A fuse [No. 73, located in fuse, fusible link and relay box]. Verify battery positive voltage is present at terminals 2 and 5 of headlamp relay-2.</li> <li>2. Check headlamp relay-2.</li> <li>3. Check harness between headlamp relay-2 and headlamp battery saver control unit.</li> <li>4. Check headlamp battery saver control unit. Refer to <a href="#">LT-16, "Terminals and Reference Values for Battery Saver Control Unit"</a>.</li> </ol>
RH low beam headlamp does not operate, but LH low beam headlamp operates.	<ol style="list-style-type: none"> <li>1. Check 20A fuse [No. 55, located in fuse, fusible link and relay block (J/B)]. Verify battery positive voltage is present at terminal 7 of headlamp relay-1.</li> <li>2. Check headlamp relay-1.</li> <li>3. Check harness between headlamp relay-1 terminal 6 and RH headlamp for open circuit.</li> <li>4. Check RH low beam headlamp ground circuit.</li> <li>5. Replace the xenon bulb with other side bulb or new one. (If headlamps illuminate correctly, replace the bulb.)</li> <li>6. Replace the HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace the HID control unit.)</li> </ol>
LH low beam headlamp does not operate, but RH low beam headlamp operates.	<ol style="list-style-type: none"> <li>1. Check 20A fuse [No. 57, located in fuse, fusible link and relay block (J/B)]. Verify battery positive voltage is present at terminal 3 of headlamp relay-1.</li> <li>2. Check headlamp relay-1.</li> <li>3. Check harness between headlamp relay-1 terminal 5 and LH headlamp for open circuit.</li> <li>4. Check LH low beam headlamp ground circuit.</li> <li>5. Replace the xenon bulb with other side bulb or new one. (If headlamps illuminate correctly, replace the bulb.)</li> <li>6. Replace the HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace the HID control unit.)</li> </ol>

# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

Symptom	Repair Procedure
RH high beam headlamp does not operate, but LH high beam headlamp operates.	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check the following. <ul style="list-style-type: none"> <li>– Check harness between headlamp relay-2 terminal 3 and daytime light control unit terminal 4.</li> <li>– Check harness between daytime light control unit and headlamp RH.</li> </ul> </li> <li>3. Check lighting switch. Refer to <a href="#">LT-99, "Switch Circuit Inspection"</a>.</li> <li>4. Check harness between daytime light control unit and lighting switch.</li> <li>5. Check daytime light control unit. Refer to <a href="#">LT-51, "Terminals and Reference Value for Daytime Light Control Unit"</a>.</li> </ol>
LH high beam headlamp does not operate, but RH high beam headlamp operates.	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check the following. <ul style="list-style-type: none"> <li>– Check harness between headlamp relay-2 terminal 3 and daytime light control unit terminal 5.</li> <li>– Check harness between daytime light control unit and headlamp LH.</li> </ul> </li> <li>3. Check lighting switch. Refer to <a href="#">LT-99, "Switch Circuit Inspection"</a>.</li> <li>4. Check harness between daytime light control unit and lighting switch.</li> <li>5. Check daytime light control unit. Refer to <a href="#">LT-51, "Terminals and Reference Value for Daytime Light Control Unit"</a>.</li> </ol>
High beam indicator does not work.	<ol style="list-style-type: none"> <li>1. Check bulb in combination meter.</li> <li>2. Check harness between headlamp relay-2 terminal 3 and combination meter for open circuit.</li> </ol>
Battery saver control does not operate properly.	<ol style="list-style-type: none"> <li>1. Verify 12 positive voltage from BCM is present at terminal 10 of headlamp battery saver control unit: <ul style="list-style-type: none"> <li>– Within 45 seconds after ignition switch turned off.</li> <li>– Front door is opened or more than 45 seconds after ignition switch is turned off.</li> </ul> </li> <li>2. Check the following. <ul style="list-style-type: none"> <li>– Harness between BCM and LH or RH front door switch for open or short circuit.</li> <li>– LH or RH front door switch ground circuit.</li> <li>– LH or RH front door switch.</li> </ul> </li> <li>3. Check the following. <ul style="list-style-type: none"> <li>– Harness between headlamp battery saver control unit terminals 5 or 13 and lighting switch terminal 11 for open or short circuit.</li> <li>– Harness between lighting switch terminal 5 and ground.</li> <li>– Lighting switch. Refer to <a href="#">LT-99, "Switch Circuit Inspection"</a>.</li> </ul> </li> <li>4. Check headlamp battery saver control unit.</li> <li>5. Check BCM. Refer to <a href="#">LT-17, "Terminals and Reference Values for BCM"</a>.</li> </ol>
Daytime light control does not operate properly.	<ol style="list-style-type: none"> <li>1. Check 10A fuse [No. 82, located in fuse block]. Verify battery positive voltage is present at terminal 3 of daytime light control unit.</li> <li>2. Check parking brake switch.</li> <li>3. Check harness between parking brake switch and daytime light control unit.</li> <li>4. Check harness between alternator and daytime light control unit.</li> <li>5. Check daytime light control unit. Refer to <a href="#">LT-51, "Terminals and Reference Value for Daytime Light Control Unit"</a>.</li> </ol>

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## Aiming Adjustment

EKS000SQ

Refer to [LT-31, "Aiming Adjustment"](#) in "HEADLAMP (FOR USA)".

## Bulb Replacement

EKS000SP

Refer to [LT-32, "Bulb Replacement"](#) in "HEADLAMP (FOR USA)".

## Removal and Installation

EKS000T5

Refer to [LT-33, "Removal and Installation"](#) in "HEADLAMP (FOR USA)".

# HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

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## Disassembly and Assembly

EKS000UN

Refer to [LT-35, "Disassembly and Assembly"](#) in "HEADLAMP (FOR USA)".

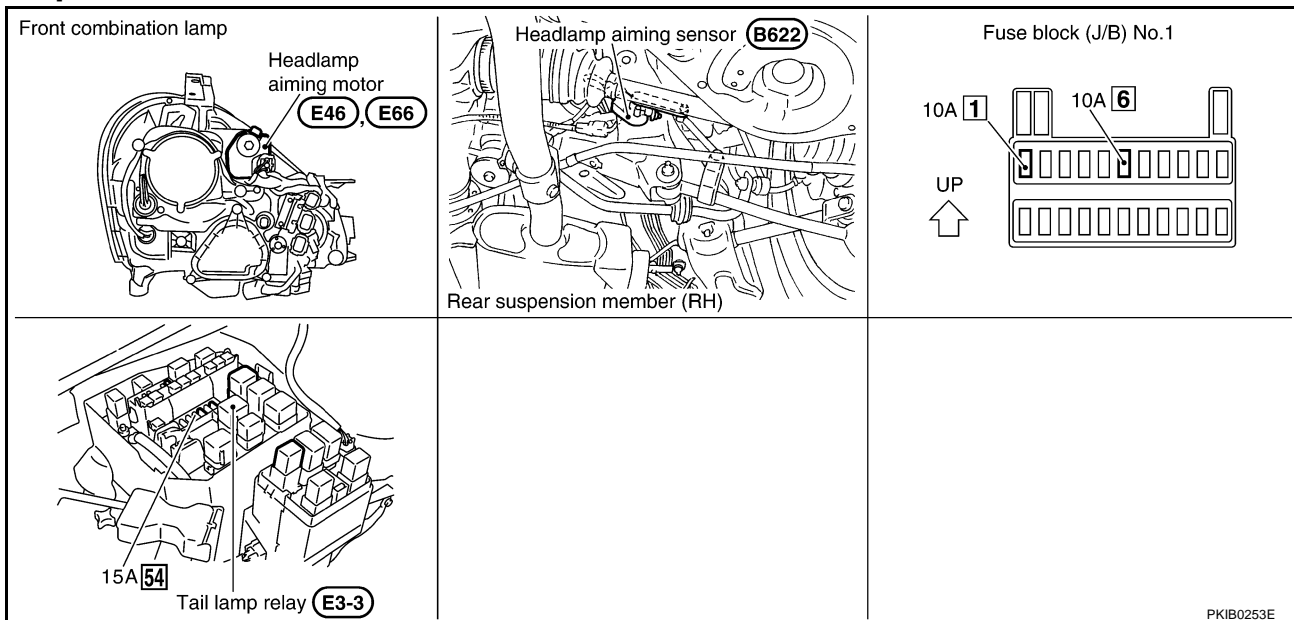
# HEADLAMP AIMING CONTROL (AUTO)

## HEADLAMP AIMING CONTROL (AUTO)

PFP:53821

### Component Parts and Harness Connector Location

EKS00HDS



### System Description

EKS00HDT

With the lighting switch in the first or second position, the headlamp aiming sensor detects change in the vehicle height and transmits a corresponding signal to the headlamp aiming motors. The signal drives the headlamp aiming motors, which adjusts the low beam reflector of each headlamp to an angle appropriate for the vehicle height.

When the vehicle is stationary, the motors move the reflectors if the vehicle height changes to a certain height and the height is maintained for a predetermined period. When the vehicle is running (excluded when accelerating/decelerating), the reflector angle is adjusted at predetermined intervals.

### OUTLINE

Power is supplied all items

- to tail lamp relay terminal 2 and
- to tail lamp relay terminal 6
- through 15A fuse [No. 54 located in fuse, fusible link and relay block (J/B)]
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 6 located in fuse block (J/B) No.1].

When the ignition switch is ON or START position, power is supplied

- to headlamp battery saver control unit terminal 1
- to headlamp aiming sensor terminal 2
- to front combination lamp RH terminal 12 and
- to front combination lamp LH terminal 12
- through 10A fuse [No.1 located in fuse block (J/B) No.1].

Ground is supplied

- to headlamp battery saver control unit terminals 4 and 11
- through grounds M25 and M115
- to headlamp aiming sensor terminal 1
- through grounds B17 and B57
- to front combination lamp RH terminal 10 and
- to front combination lamp LH terminal 10
- through grounds E24, E42 and E62.

When lighting switch is in 1st or 2nd position, ground is supplied

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## HEADLAMP AIMING CONTROL (AUTO)

- to headlamp battery saver control unit terminals 5 and 13
- through grounds M25 and M115.

### HEADLAMP AIMING CONTROL OPERATION

- The headlamp aiming sensor is located on the right side of the rear suspension member and detects vehicle height change by sensing the displacement of the suspension arm.

When the ignition switch is turned to the ON position, power is supplied

- to headlamp aiming sensor terminal 2 and
- to each headlamp aiming motor terminal 12
- through 10A fuse [No. 1 located in fuse block (J/B) No.1].

At the same time, the vehicle height signal (voltage signal that corresponds to the vehicle height) is applied

- to each headlamp aiming motor terminal 9
- through headlamp aiming sensor terminal 7.

Ground is supplied

- to each front combination lamp (headlamp aiming motor) connector terminal 10
- through grounds E24, E42 and E62
- to headlamp aiming sensor terminal 1
- through grounds B17 and B57

and the voltage level of this signal is maintained.

When the lighting switch is placed in the 1st or 2nd position, power is supplied

- to headlamp aiming sensor terminal 6
- through tail lamp relay terminal 7.

Ground is supplied

- to headlamp aiming sensor terminal 1
- through grounds B17 and B57

to trigger the aiming control of the sensor.

When the stopped vehicle changes the height and keeps it for more than 15 seconds, the headlamp aiming sensor outputs a headlamp aiming motor drive signal. And headlamp aiming sensor keeps supplying voltage to headlamp aiming motor. (Voltage depends on the vehicle height.)

Upon reception of the headlamp aiming motor drive signal, both headlamp aiming motors cause the low beam reflectors to move to the position commanded by the signal.

When the vehicle is running (excluded when accelerating/decelerating), the headlamp aiming sensor transmits headlamp aiming motor drive signal to headlamp aiming motors at the predetermined intervals. The voltage level of every signal input is maintained unchanged until the next signal is input.

Upon reception of the headlamp aiming motor drive signal, both headlamp aiming motors cause the low beam reflectors to move to the position commanded by the signal.

When the vehicle is accelerating or decelerating, the headlamp aiming sensor keeps the same headlamp aiming motor drive signal voltage level rather than changing it, so that the low beam reflectors of both headlamps do not operate.

When the lighting switch is turned OFF, the headlamp aiming sensor retains the headlamp aiming motor drive signal level at that moment and stops transmitting the signal.

### Headlamp Aiming Sensor Control Operation

	Vehicle is stopped *1	Headlamp aiming motor starts after vehicle is stopped for approx. 15 seconds.					
Headlamp aiming sensor operating control interval	Vehicle is running *2	Up to 31 seconds, and every 10 seconds after starting running with a constant speed	About 41 seconds	About 82 seconds	About 161 seconds	About 323 seconds	After 323 seconds or more, every 323 seconds

\*1 Excluded when running less than or equal to 4 km/h (2.84 MPH) and when accelerating/decelerating.

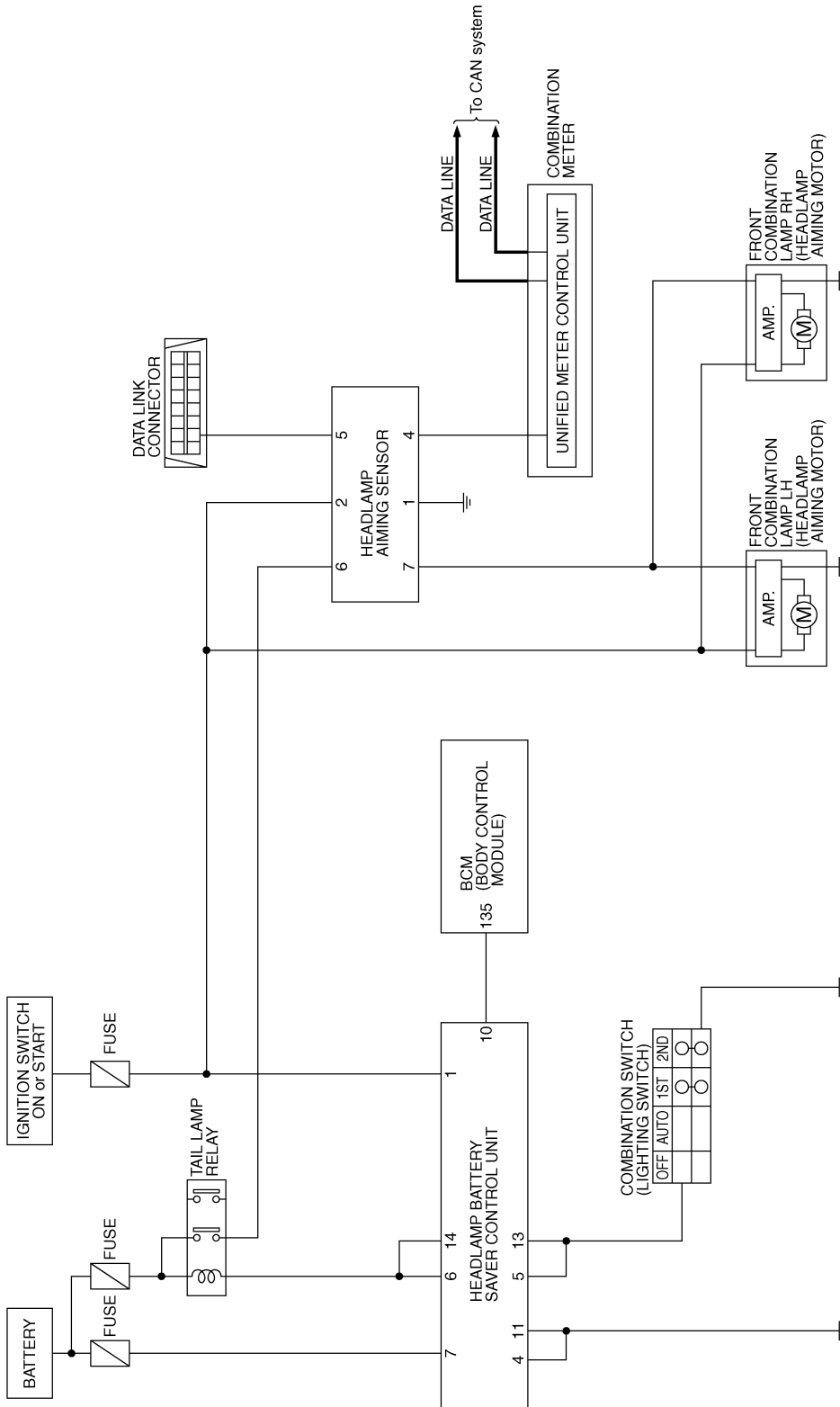
\*2 Excluded when running not less than 4 km/h (2.84 MPH) and when accelerating/decelerating.



# HEADLAMP AIMING CONTROL (AUTO)

## Schematic

EKS00HDU



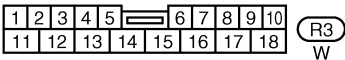
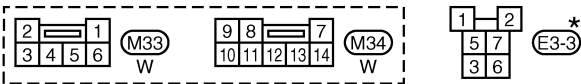
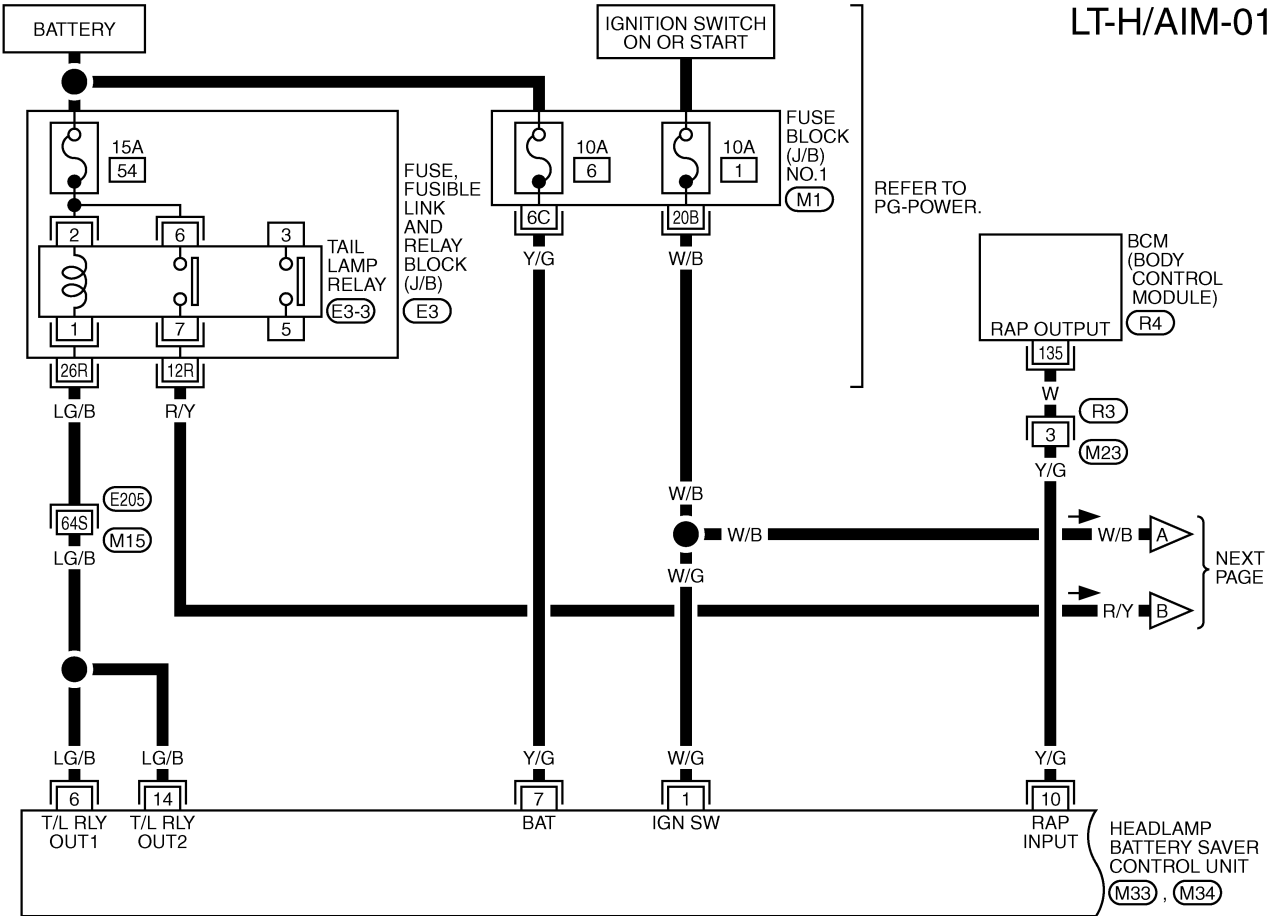
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TKWM1484E

# HEADLAMP AIMING CONTROL (AUTO)

EKS00HDV

## Wiring Diagram —LT-H/AIM—



\*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

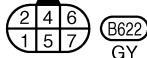
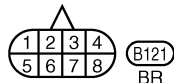
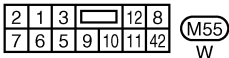
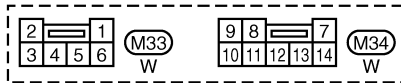
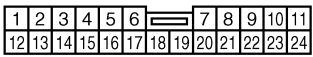
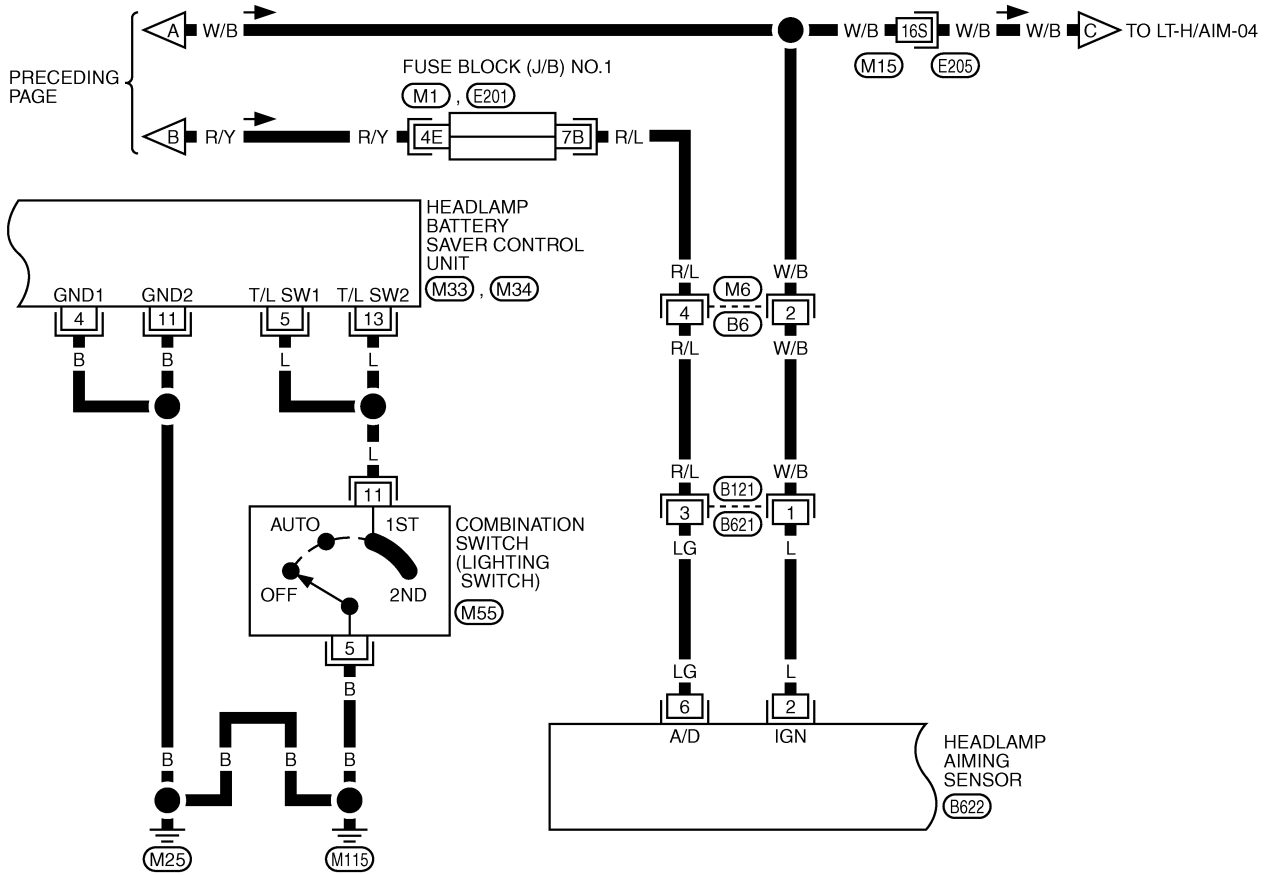
REFER TO THE FOLLOWING.

- (E205) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1
- (E3) -FUSE, FUSIBLE LINK AND RELAY BLOCK (J/B)
- (R4) -ELECTRICAL UNITS

TKWM1485E

# HEADLAMP AIMING CONTROL (AUTO)

LT-H/AIM-02



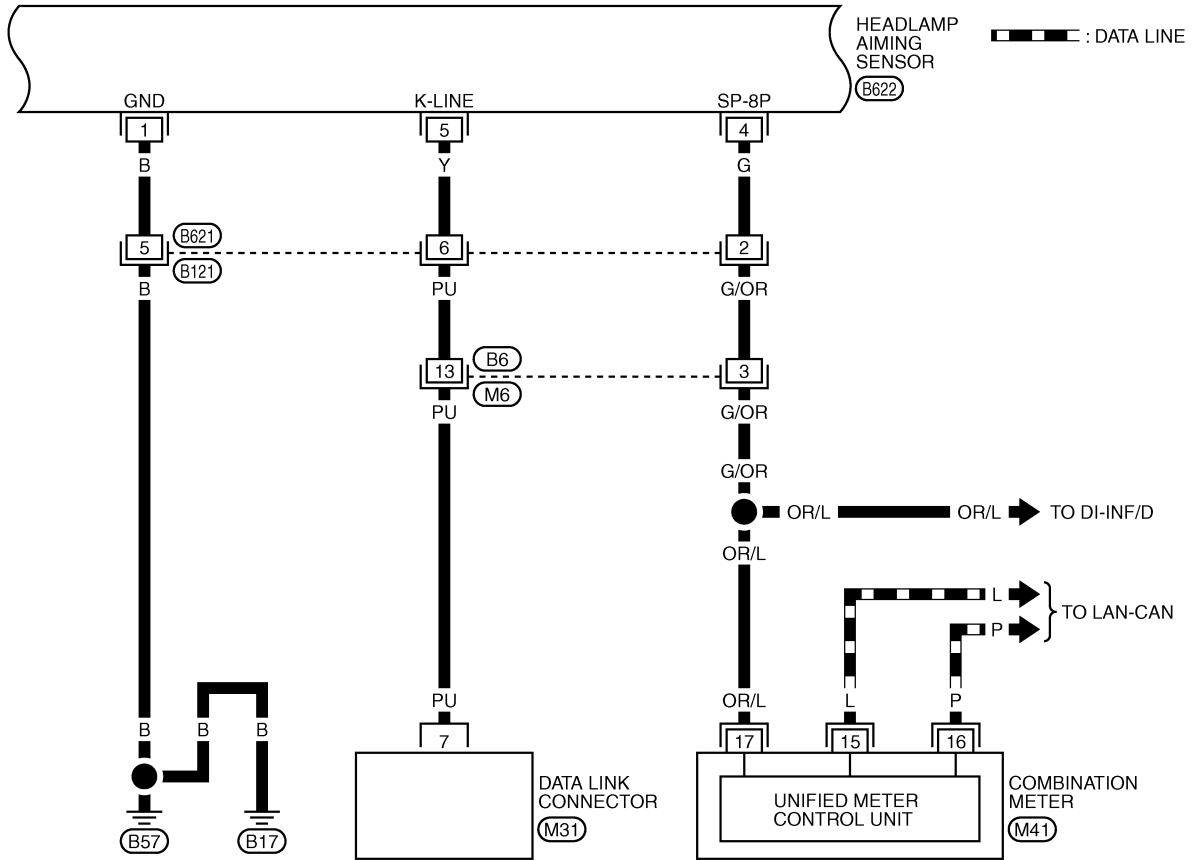
REFER TO THE FOLLOWING.  
 (E205) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M1), (E201) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

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TKWM1486E

# HEADLAMP AIMING CONTROL (AUTO)

LT-H/AIM-03



1	2	3	4	5	6	7	8	9	10	11		
12	13	14	15	16	17	18	19	20	21	22	23	24

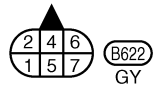
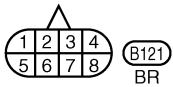
(M6) GY

16	15	14	13	12	11	10	9
8	7	6	5	4	3	2	1

(M31) W

1	2	3	4	5	6	7	8	9		
10	11	12	13	14	15	16	17	18	19	20

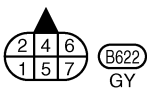
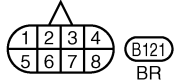
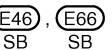
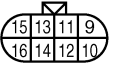
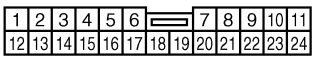
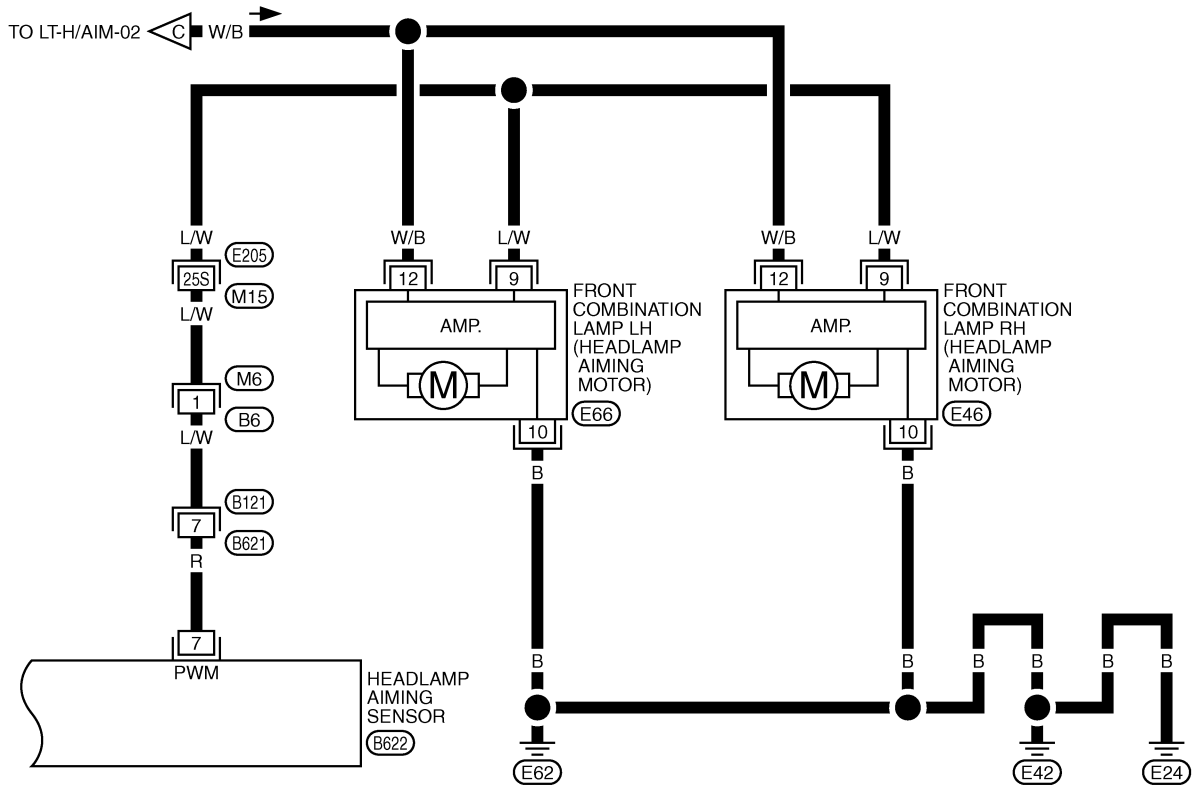
(M41) BR



TKWM1487E

# HEADLAMP AIMING CONTROL (AUTO)

LT-H/AIM-04



REFER TO THE FOLLOWING.  
 (E205) -SUPER MULTIPLE JUNCTION (SMJ)

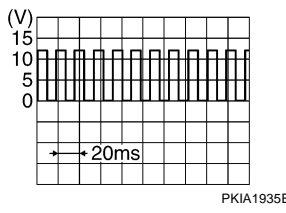
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# HEADLAMP AIMING CONTROL (AUTO)

## Terminals and Reference Values for Headlamp Aiming Sensor

EKS00HEB

Terminal No.	Wire color	Signal	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
1	P	Ground	ON	—	Approx. 0	
2	L	Ignition switch (ON)	ON	—	Battery voltage	
4	G	Vehicle speed signal	ON	Approx. 40 km/h (25 MPH)		
5	Y	K-line	—	—	—	
6	LG	Tail lamp relay signal	—	Combination switch	OFF	Approx. 0 - 2 V
					1ST	Approx. 12 V
7	R	Headlamp aiming motor drive signal	ON	Combination switch 1ST vehicle speed 0 km/h (0 MPH)	Approx. 2.5 - 7.8 V	

### How to Proceed With Trouble Diagnosis

EKS00HEC

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to [LT-55, "System Description"](#).
3. Perform the preliminary check. Refer to [LT-62, "Preliminary Check"](#).
4. Perform self-diagnosis by CONSULT-II. Refer to [LT-65, "SELF-DIAG RESULTS"](#).
5. Check symptom and repair or replace the cause of malfunction.
6. Does the headlamp aiming control operate normally? If YES: GO TO 6. If NO: GO TO 4.
7. INSPECTION END

### Preliminary Check

EKS00I7A

#### 1. CHECK FUSE

Check fuses for blown-out.

Unit	Power source	Fuse No.
Headlamp aiming sensor, headlamp aiming motor	Ignition switch ON or START	1
Headlamp aiming sensor	Battery	54
Headlamp battery saver control unit		6

Refer to [LT-58, "Wiring Diagram —LT-H/AIM—"](#).

OK or NG

OK >> GO TO 2.

NG >> If the fuse is brown be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-2, "POWER SUPPLY ROUTING"](#).

# HEADLAMP AIMING CONTROL (AUTO)

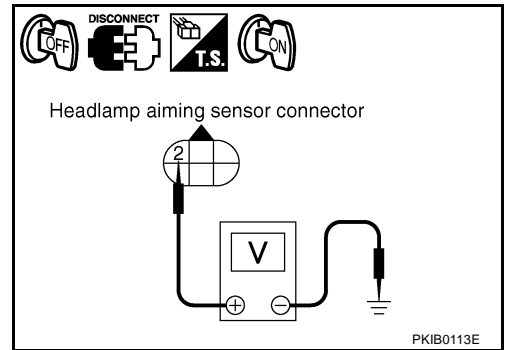
## 2. CHECK HEADLAMP AIMING SENSOR VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect headlamp aiming sensor connector.
3. Turn ignition switch ON.
4. Check voltage between headlamp aiming sensor harness connector B622 terminal 2 (L) and ground.

**2 (L) - Ground : Battery voltage**

OK or NG

- YES >> GO TO 3.  
NO >> Repair harness and connector.



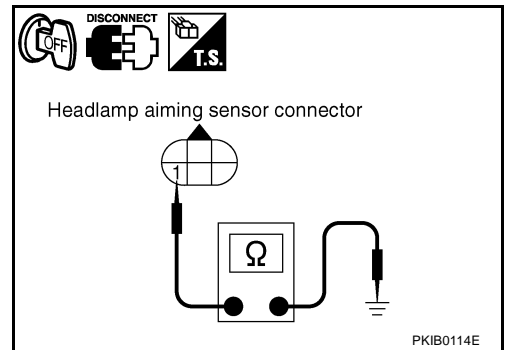
## 3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between headlamp aiming sensor harness connector B622 terminal 1 (P) and ground.

**1 (P) - Ground : Continuity should exist.**

OK or NG

- OK >> Replace headlamp aiming sensor.  
NG >> Repair harness or connector.



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# HEADLAMP AIMING CONTROL (AUTO)

EKS00HDW

## CONSULT-II Function (HEAD LAMP LEVELIZER)

CONSULT-II can display each diagnostic item using diagnostic test modes shown following.

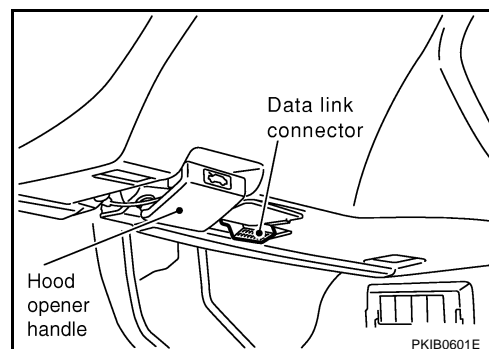
System part	Check item, diagnosis mode	Description
HEAD LAMP LEVELIZER	WORK SUPPORT	Headlamp aiming sensor can be initialized.
	SELF-DIAG RESULTS	The result of self-diagnosis for headlamp aiming sensor can be displayed and erased.
	ACTIVE TEST	Operation of headlamp aiming motor can be confirmed with "UP", "MID" or "DOWN" touched.
	ECU PART NUMBER	Headlamp aiming sensor part number can be read.

## CONSULT-II BASIC OPERATION PROCEDURE

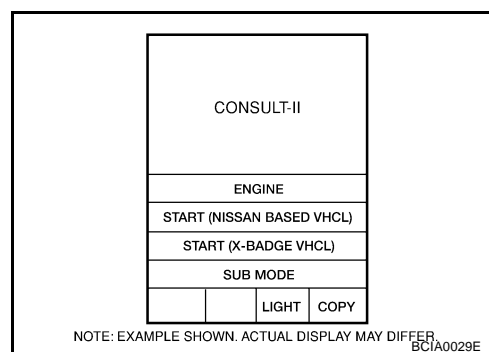
### CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which performs CAN communication.

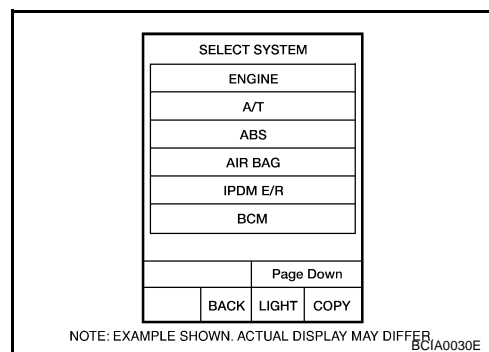
1. With the ignition switch OFF, connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector, and then turn ignition switch ON.



2. Touch "START (NISSAN BASED VHCL)".



3. Touch "HEAD LAMP LEVELIZER" on "SELECT SYSTEM" screen. If "HEAD LAMP LEVELIZER" is not indicated, refer to [GI-38. "CONSULT-II Data Link Connector \(DLC\) Circuit"](#) in "GI section".



## WORK SUPPORT

### Work Support Item List

Item	Description
SENSOR INITIALIZE	Make it memorize headlamp aiming sensor stroke of unloaded vehicle condition. Perform when replacing headlamp aiming sensor.



# HEADLAMP AIMING CONTROL (AUTO)

## Operation Procedure

Headlamp aiming sensor initialize

1. Set the vehicle in unload condition. (Removal all loads in passenger and trunk rooms.)
2. Touch "HEAD LAMP LEVELIZER" on "SELECT SYSTEM" screen.
3. Touch "WORK SUPPORT" on "SELECT DIAG MODE" screen.
4. Touch "SENSOR INITIALIZE".
5. Touch "WRITE".
6. "INITIALIZE COMPLETE" will be displayed.
7. Touch "END".

## Instruction of initialized results

Item (CONSULT-II screen terms)	Description of indications
INITIALIZE COMPLETE	Initialization completed.
INCORRECT CONDITION	Improper condition. (Wrong connection of headlamp aiming sensor connector or CONSULT-II connector.)
NO CAR TYPE SELECT	Program error of the headlamp aiming sensor.
INITIALIZE NOT DONE	Initialization uncompleted.

## ACTIVE TEST

### Operation Procedure

1. Touch "HEAD LAMP LEVELIZER" on the "SELECT SYSTEM" screen.
2. Touch "ACTIVE TEST" on the "SELECT DIAG MODE" screen.
3. Touch "LAMP TEST", then "UP", "MID" or "DOWN" to change aiming line.
4. Touch "END" after the test.

### Display Item List

Item (CONSULT-II screen terms)	Test item	Description
LAMP TEST	Aiming direction change	Operation of headlamp aiming motor can be confirmed with "UP", "MID" or "DOWN" touched.

## SELF-DIAG RESULTS

### Operation Procedure

1. Touch "SELF-DIAG RESULTS" on the "SELECT DIAG MODE" screen.
2. Check display content in self-diagnostic results.

### Description of DTC and Solutions after Detection

CONSULT-II can detect DTC (Diagnosis trouble code). The descriptions and solutions of DTC are listed below.

Details of error indication detected by CONSULT-II	Conditions of error detection	Code storage	Fail-safe		Reference
			Within 5 seconds after starting vehicle, or vehicle speed less than or equal to 4 km/h (2.84 MPH).	5 seconds and more after starting vehicle, or vehicle speed more than or equal to 4 km/h (2.84 MPH).	
[B2080] [ECU TROUBLE]	ECU error of the headlamp aiming sensor.	YES	<ul style="list-style-type: none"> <li>● Fix headlamp aiming motor drive signal around 0 V.</li> <li>● Maintain a current position of light axis.</li> </ul>	Replace headlamp aiming sensor, and initialize it. Refer to <a href="#">LT-75. "Removal and Installation"</a> .	

## HEADLAMP AIMING CONTROL (AUTO)

Details of error indication detected by CONSULT-II	Conditions of error detection	Code storage	Fail-safe		Reference		
			Within 5 seconds after starting vehicle, or vehicle speed less than or equal to 4 km/h (2.84 MPH).	5 seconds and more after starting vehicle, or vehicle speed more than or equal to 4 km/h (2.84 MPH).			
[B2081] [INITIAL NOT DONE]	Initialization has not completed.	NO	Set and maintain light axis downward.		Refer to <a href="#">LT-71, "DTC B2081 [INITIAL NOT DONE]"</a> .		
[B2082] [SENSOR OUT OF RANGE]	Vehicle height detected by headlamp aiming sensor is unusual.				Refer to <a href="#">LT-72, "DTC B2082 [SENSOR OUT OF RANGE], DTC B2083 [SEN SIG NOT PLAUSIBLE]"</a> .		
[B2083] [SEN SIG NOT PLAUSIBLE]	Vehicle height detected by headlamp aiming sensor while running does not change more than 60-second stretch.	YES	Maintain a current position of light axis.		Refer to <a href="#">LT-72, "DTC B2082 [SENSOR OUT OF RANGE], DTC B2083 [SEN SIG NOT PLAUSIBLE]"</a> .		
[B2084] [VOLTAGE UNDER LIMIT]	Voltage of headlamp aiming sensor terminal 2 kept having less than or equal to 9 V for 1.5 seconds and over.				Refer to <a href="#">LT-72, "DTC B2084 [VOLTAGE UNDER LIMIT]"</a> .		
[B2085] [LOW BEAM SIG OPEN LINE]	Headlamp aiming sensor terminal 6 had less than 6 V at lighting switch 1st, or had more than 2V for 1.5 seconds or more at lighting switch OFF.				Set and maintain light axis downward.	Maintain a current position of light axis.	Refer to <a href="#">LT-72, "DTC B2085 [LOW BEAM SIG OPEN LINE]"</a> .
[B2086] [FRQ. OVER LIMIT]	Vehicle speed signal kept showing over 255 km/h (158 MPH) for more than 1.5 seconds.						Refer to <a href="#">LT-73, "DTC B2086 [FRQ. OVER LIMIT]"</a> .
[B2087] [SHORT TO GROUND]	Headlamp aiming sensor terminal 7 had short-circuit with a ground more than 1.5 seconds.						Refer to <a href="#">LT-73, "DTC B2087 [SHORT TO GROUND]"</a> .
[B2088] [SHORT TO BATTERY]	Headlamp aiming sensor terminal 7 had short-circuit with a power supply line more than 1.5 seconds.						Refer to <a href="#">LT-74, "DTC B2088 [SHORT TO BATTERY]"</a> .
[B2089] [NO CAR TYPE SELECTED]	Program error of the headlamp aiming sensor.						Replace headlamp aiming sensor, and initialize it. Refer to <a href="#">LT-75, "Removal and Installation"</a> .

**CAUTION:**

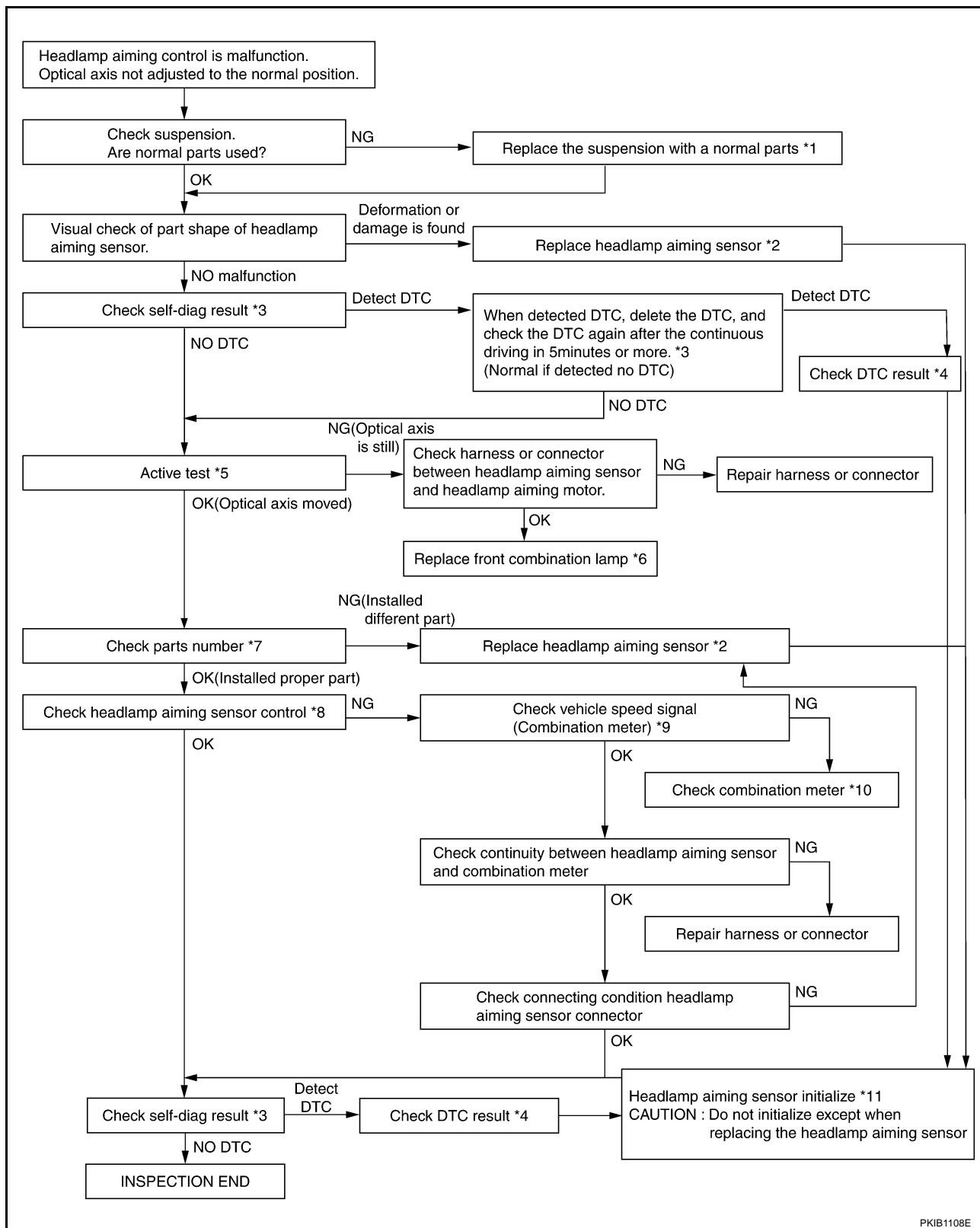
- As for [B2083], codes are erased after detecting a change of vehicle height.
- As for [B2084] to [B2086], fail-safe is performed in accordance with running condition when code is detected, and maintains the condition until ignition switch is turned off.  
When ignition switch is turned on, fail-safe is set to “within 5 seconds after starting vehicle” or “vehicle speed less than or equal to 4 km/h (2.84 MPH)”. Perform fail-safe only when having a current abnormality.
- As for [B2084] to [B2088], perform fail-safe only when having a current abnormality.

# HEADLAMP AIMING CONTROL (AUTO)

## Check Aiming Control System

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PKIB1108E

\*1 Refer to FSU-5, "FRONT SUSPENSION ASSEMBLY" in "FSU section" and RSU-5, "REAR SUSPENSION ASSEMBLY" in "RSU section".

\*2 Refer to LT-75, "Removal and Installation".

\*3 Refer to LT-65, "SELF-DIAG RESULTS".

\*4 Refer to LT-65, "Description of DTC and Solutions after Detection".

\*5 Refer to LT-65, "ACTIVE TEST".

\*6 Refer to LT-33, "Removal and Installation" in "HEADLAMP (FOR USA)".

# HEADLAMP AIMING CONTROL (AUTO)

\*7 Refer to [LT-64, "CONSULT-II Function \(HEAD LAMP LEVELIZER\)"](#) .

\*8 Refer to [LT-56, "Headlamp Aiming Sensor Control Operation"](#) .

\*9 Refer to [DI-15, "Terminals and Reference Value for Combination Meter"](#) in "DI section".

\*10 Refer to [DI-19, "Vehicle Speed Signal Inspection"](#) in "DI section".

\*11 Refer to [LT-64, "WORK SUPPORT"](#) .

## CAUTION:

If the vehicle height is outside the proper height, aiming control may not be performed normally even when the headlamp aiming control system is normal.

## Symptom Chart

EKS00HX4

Symptom	Reference
Headlamp aiming motor does not operate (Both sides)	Refer to <a href="#">LT-68, "Headlamp Aiming Motor Does Not Operate (Both Sides)"</a> .
Headlamp aiming motor does not operate (One side)	Refer to <a href="#">LT-70, "Headlamp Aiming Motor Does Not Operate (One Side)"</a> .

## Headlamp Aiming Motor Does Not Operate (Both Sides)

EKS00HDX

### 1. CHECK DIAGNOSIS RESULT

Ⓜ WITH CONSULT-II

- Turn ignition switch ON.
- Select "HEADLAMP LEVELIZER" on CONSULT-II, and select "SELF-DIAG RESULT" on "SELECT DIAG MODE" screen.

Is DTC detected?

YES >> Refer to [LT-65, "Description of DTC and Solutions after Detection"](#) .

NO >> GO TO 2.

SELF-DIAG RESULTS			
DTC RESULTS			
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.			
ERASE		PRINT	
MODE	BACK	LIGHT	COPY

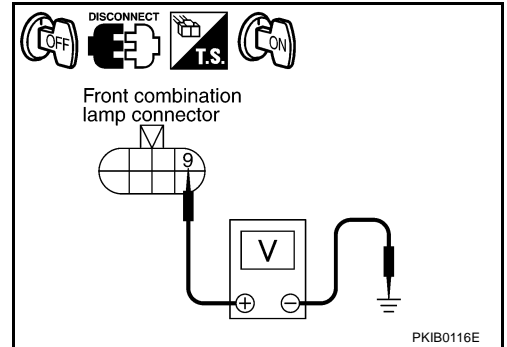
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# HEADLAMP AIMING CONTROL (AUTO)

## 2. CHECK HEADLAMP AIMING MOTOR DRIVE SIGNAL

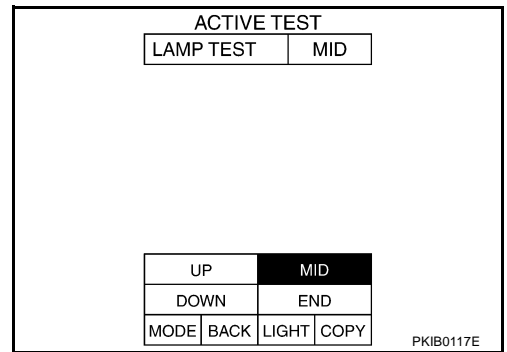
WITH CONSULT II

1. Disconnect front combination lamp connector (LH and RH).
2. Turn ignition switch ON.
3. Select "HEAD LAMP LEVELIZER" on CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
4. Touch "LAMP TEST".



5. Check voltage between front combination lamp harness connector terminal 9 (L/W) and ground for each of UP, MID, and DOWN active test positions.

Terminal (+)		Terminal (-)	Condition	Voltage (V)
Connector	Terminal (Wire color)			
E46, E66	9 (L/W)	Ground	UP	approx. 2.5
			MID	approx. 6
			DOWN	approx. 7.8



OK or NG

OK >> GO TO 3.

NG >> ● If voltage is detected but does not vary according to positions, replace and initialize headlamp aiming sensor. Refer to [LT-64, "WORK SUPPORT"](#).

- If voltage is 0 V and stays unchanged, GO TO 7.

## 3. CHECK VOLTAGE HEADLAMP AIMING MOTOR

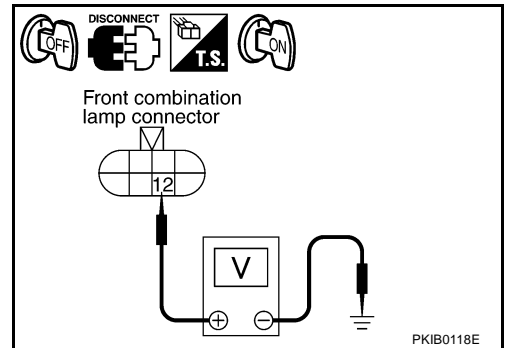
Check voltage between front combination lamp harness connector (E46 and E66) terminal 12 (W/B) and ground.

**12 (W/B) - Ground : Battery voltage**

OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.



# HEADLAMP AIMING CONTROL (AUTO)

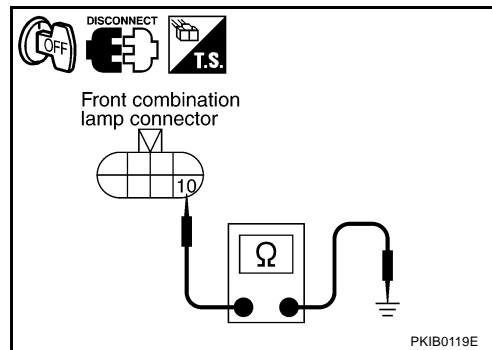
## 4. CHECK HEADLAMP AIMING MOTOR GROUND

Check continuity between front combination lamp connector (E46 and E66) terminal 10 (B) and ground.

**10 (B) - Ground : Continuity should exist.**

OK or NG

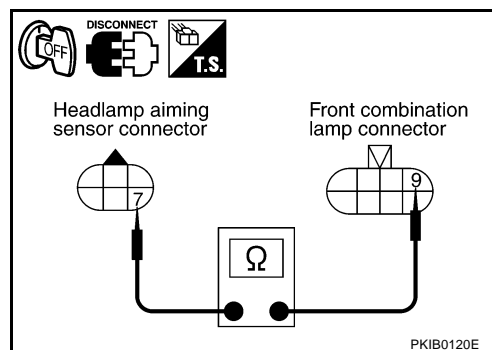
- OK >> Replace front combination lamp assembly. Refer to [LT-33, "Removal and Installation"](#).
- NG >> Repair harness or connector.



## 5. CHECK CONTINUITY BETWEEN HEADLAMP AIMING SENSOR AND FRONT COMBINATION LAMP

1. Turn ignition switch OFF.
2. Disconnect headlamp aiming sensor connector.
3. Check continuity between headlamp aiming sensor harness connector B622 terminal 7 (R) and front combination lamp harness connector (E46 and E66) terminal 9 (L/W).

		Terminal		Continuity
		(+)	(-)	
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
RH	E46	B622	7 (R)	Yes
LH	E66			



OK or NG

- OK >> Replace headlamp aiming sensor, and initialize it. Refer to [LT-75, "Removal and Installation"](#), [LT-64, "WORK SUPPORT"](#).
- NG >> Repair harness or connector.

## Headlamp Aiming Motor Does Not Operate (One Side)

EKS00HDY

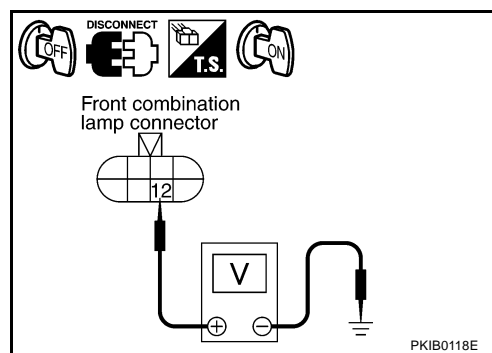
### 1. CHECK VOLTAGE HEADLAMP AIMING MOTOR

1. Turn ignition switch OFF.
2. Disconnect front combination lamp connector (LH and RH).
3. Turn ignition switch ON.
4. Check voltage between front combination lamp harness connector (E46 or E66) terminal 12 (W/B) and ground.

**12 (W/B) - Ground : Battery voltage**

OK or NG

- OK >> GO TO 2.
- NG >> Repair harness or connector.

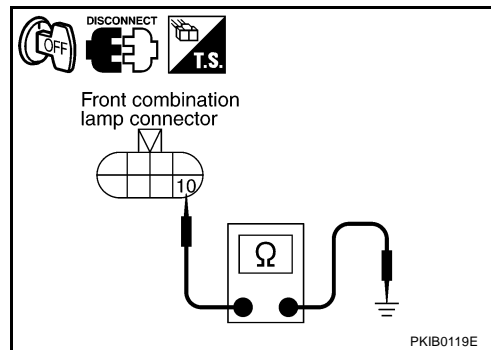


# HEADLAMP AIMING CONTROL (AUTO)

## 2. CHECK HEADLAMP AIMING MOTOR GROUND

1. Turn ignition switch OFF.
2. Check continuity between front combination lamp harness connector (E46 or E66) terminal 10 (B) and ground.

**10 (B) - Ground : Continuity should exist.**

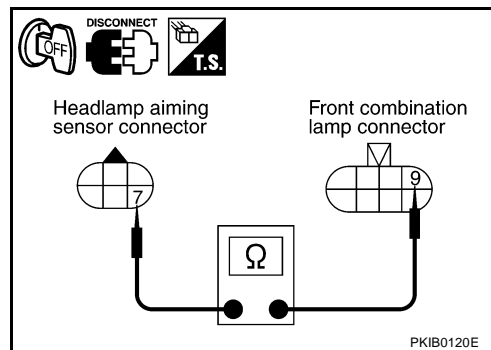


OK or NG

- OK >> GO TO 3.  
 NG >> Repair harness or connector.

## 3. CHECK CONTINUITY BETWEEN HEADLAMP AIMING SENSOR AND FRONT COMBINATION LAMP

1. Disconnect headlamp aiming sensor connector.
2. Check continuity between headlamp aiming sensor harness connector B622 terminal 7 (R) and front combination lamp harness connector (E46 or E66) terminal 9 (L/W).



		Terminal		Continuity	
		(+)	(-)		
Connector		Terminal (Wire color)	Connector	Terminal (Wire color)	
RH	E46	9 (L/W)	B622	7 (R)	Yes
LH	E66				

OK or NG

- OK >> Replace front combination lamp assembly. Refer to [LT-33, "Removal and Installation"](#) in "HEADLAMP (FOR USA)".  
 NG >> Repair harness or connector.

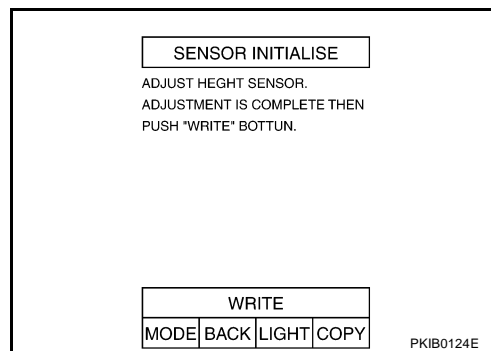
## DTC B2081 [INITIAL NOT DONE]

EKS00HE0

### 1. INITIALIZE HEADLAMP AIMING SENSOR

LT

1. Turn ignition switch OFF.
2. Set the vehicle in unload condition. (Removal all loads in passenger and trunk rooms.)
3. Select "HEAD LAMP LEVELIZER" on CONSULT-II, and select "WORK SUPPORT" on "SELECT DIAG MODE" screen.
4. Select "SENSOR INITIALISE" on "SELECT WORK ITEM" screen.
5. Touch "WRITE".
6. When "INITIALISE COMPLETE" is indicated, touch "END".
7. Check if headlamp aiming motor operates.



OK or NG

- OK >> INSPECTION END  
 NG >> ● When "INCORRECT CONDITION" is displayed, check connect CONSULT-II and headlamp aiming sensor connector, and then initialize again. Refer to [LT-64, "WORK SUPPORT"](#) .  
 ● When "NO CAR TYPE SELECT" is displayed, replace headlamp aiming sensor and initialize it. Refer to [LT-75, "Removal and Installation"](#) , [LT-64, "WORK SUPPORT"](#) .  
 ● When "INITIALISE NOT DONE" is displayed, initialize again. If "INITIALISE NOT DONE" is displayed again, replace headlamp aiming sensor and initialize it. Refer to [LT-75, "Removal and Installation"](#) , [LT-64, "WORK SUPPORT"](#) .

L

M

# HEADLAMP AIMING CONTROL (AUTO)

## DTC B2082 [SENSOR OUT OF RANGE], DTC B2083 [SEN SIG NOT PLAUSIBLE]

EKS00HE2

### 1. CHECK THE HEADLAMP AIMING SENSOR

Check the installation condition of the headlamp aiming sensor.

OK or NG

OK >> Replace headlamp aiming sensor, and initialize it. Refer to [LT-75, "Removal and Installation"](#) , [LT-64, "WORK SUPPORT"](#) .

NG >> Adjust the headlamp aiming sensor, and erase self-diagnosis result.

## DTC B2084 [VOLTAGE UNDER LIMIT]

EKS00HE3

### 1. CHECK HEADLAMP AIMING SENSOR VOLTAGE

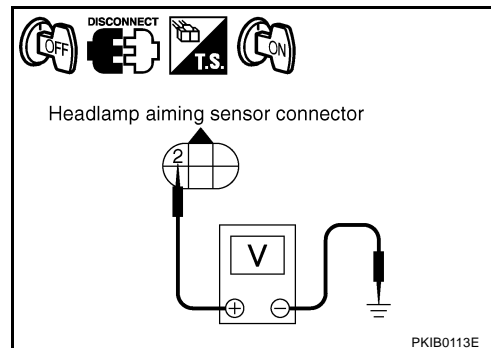
1. Turn ignition switch OFF.
2. Disconnect headlamp aiming sensor connector.
3. Turn ignition switch ON.
4. Check voltage between headlamp aiming sensor harness connector B622 terminal 2 (L) and ground.

**2 (L) - Ground : Battery voltage**

OK or NG

OK >> If the self-diagnosis result code [B2084] reappears when performing the self-diagnosis again after erasing the self-diagnosis result, replace and initialize the headlamp aiming sensor. Refer to [LT-75, "Removal and Installation"](#) , [LT-64, "WORK SUPPORT"](#) .

NG >> Repair harness or connector.



## DTC B2085 [LOW BEAM SIG OPEN LINE]

EKS00HE4

### 1. CHECK TAIL LAMP RELAY SIGNAL

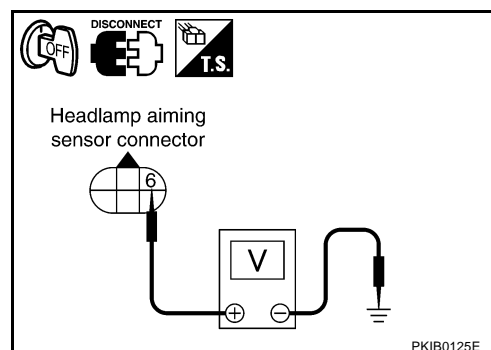
1. Turn ignition switch OFF.
2. Disconnect headlamp aiming sensor connector.
3. Turn ignition switch ON.
4. Turn lighting switch 1st position.
5. Check voltage between headlamp aiming sensor harness connector B622 terminal 6 (LG) and ground.

**6 (LG) - Ground : Battery voltage**

OK or NG

OK >> If the self-diagnosis result code [B2085] reappears when performing the self-diagnosis again after erasing the self-diagnosis result, replace and initialize the headlamp aiming sensor. Refer to [LT-75, "Removal and Installation"](#) , [LT-64, "WORK SUPPORT"](#) .

NG >> Repair harness or connector.





# HEADLAMP AIMING CONTROL (AUTO)

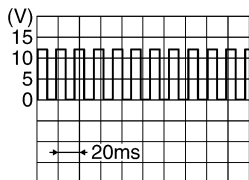
## DTC B2086 [FRQ. OVER LIMIT]

EKS00HE5

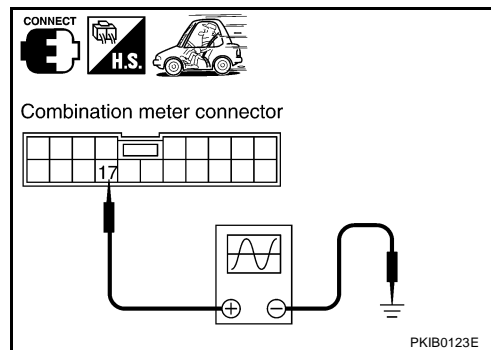
### 1. CHECK VEHICLE SPEED

1. Start engine and place vehicle in a driving condition.
2. Check the waveform of voltage between combination meter harness connector terminal 17 (OR/L) and body ground when the vehicle is in driving condition at a speed of about 40 km/h (25 MPH).

**17 (OR/L) - Ground** :



PKIA1935E



### OK or NG

- OK >> If the self-diagnosis result code [B2086] reappears when performing the test drive after erasing the self-diagnosis result, replace and initialize the headlamp aiming sensor. Refer to [LT-75, "Removal and Installation"](#) , [LT-64, "WORK SUPPORT"](#) .
- NG >> Refer to [DI-19, "Vehicle Speed Signal Inspection"](#) in "DI section".

## DTC B2087 [SHORT TO GROUND]

EKS00HE6

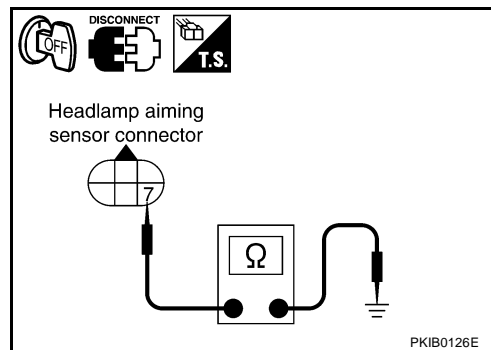
### 1. CHECK SHORT CIRCUIT (1)

1. Turn ignition switch OFF.
2. Disconnect headlamp aiming sensor connector and front combination lamp connector LH and RH.
3. Check continuity between headlamp aiming sensor harness connector B622 terminal 7 (R) and ground.

**7 (R) - Ground** : **Continuity should not exist.**

### OK or NG

- OK >> GO TO 2.
- NG >> Repair harness or connector.



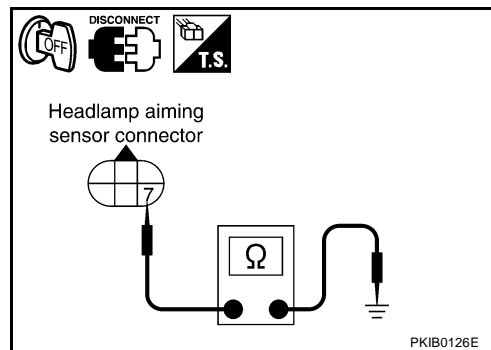
### 2. CHECK SHORT CIRCUIT (2)

1. Connect front combination lamp connector RH only.
2. Check continuity between headlamp aiming sensor harness connector B622 terminal 7 (R) and ground.

**7 (R) - Ground** : **Continuity should not exist.**

### OK or NG

- OK >> GO TO 3.
- NG >> Replace front combination lamp assembly RH. Refer to [LT-33, "Removal and Installation"](#) in "HEADLAMP (FOR USA)".



# HEADLAMP AIMING CONTROL (AUTO)

## 3. CHECK SHORT CIRCUIT (3)

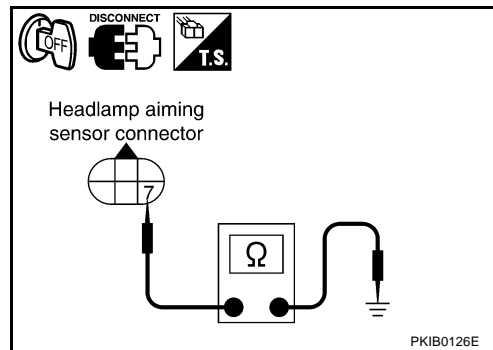
1. Disconnect front combination lamp connector RH.
2. Connect front combination lamp connector LH.
3. Check continuity between headlamp aiming sensor harness connector B622 terminal 7 (R) and ground.

**7 (R) - Ground : Continuity should not exist.**

### OK or NG

OK >> If the self-diagnosis result code [B2087] reappears when performing the self-diagnosis again after erasing the self-diagnosis result, replace and initialize the headlamp aiming sensor. Refer to [LT-75, "Removal and Installation"](#), [LT-64, "WORK SUPPORT"](#).

NG >> Replace front combination lamp assembly LH. Refer to [LT-33, "Removal and Installation"](#) in "HEADLAMP (FOR USA)".



## DTC B2088 [SHORT TO BATTERY]

EKS00HE7

### 1. CHECK SHORT CIRCUIT (1)

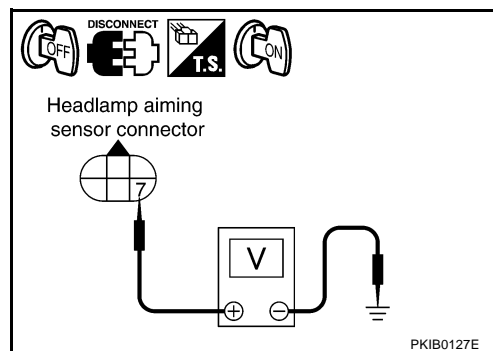
1. Turn ignition switch OFF.
2. Disconnect headlamp aiming sensor connector and front combination lamp connector LH and RH.
3. Turn ignition switch ON.
4. Check voltage between headlamp aiming sensor harness connector B622 terminal 7 (R) and ground.

**7 (R) - Ground : Approx. 0 V**

### OK or NG

OK >> GO TO 2.

NG >> Repair harness or connector.



### 2. CHECK SHORT CIRCUIT (2)

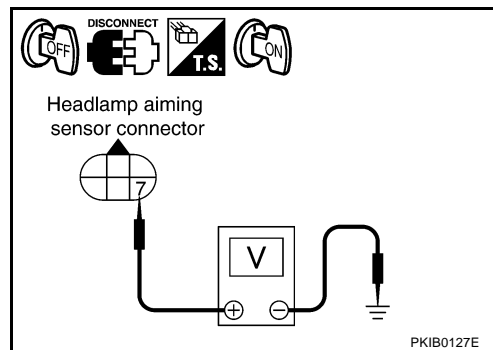
1. Turn ignition switch OFF.
2. Connect front combination lamp connector RH only.
3. Turn ignition switch ON.
4. Check voltage between headlamp aiming sensor harness connector B622 terminal 7 (R) and ground.

**7 (R) - Ground : Approx. 0 V**

### OK or NG

OK >> GO TO 3.

NG >> Replace front combination lamp assembly RH. Refer to [LT-33, "Removal and Installation"](#) in "HEADLAMP (FOR USA)".



# HEADLAMP AIMING CONTROL (AUTO)

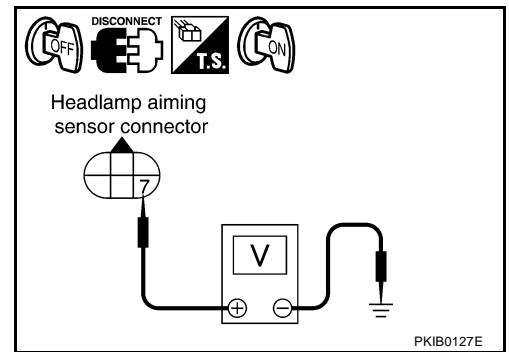
## 3. CHECK SHORT CIRCUIT (3)

1. Turn ignition switch OFF.
2. Disconnect front combination lamp connector RH.
3. Connect front combination lamp connector LH.
4. Turn ignition switch ON.
5. Check continuity between headlamp aiming sensor harness connector terminal 7 (R) and ground.

**7 (R) - Ground : Approx. 0 V**

### OK or NG

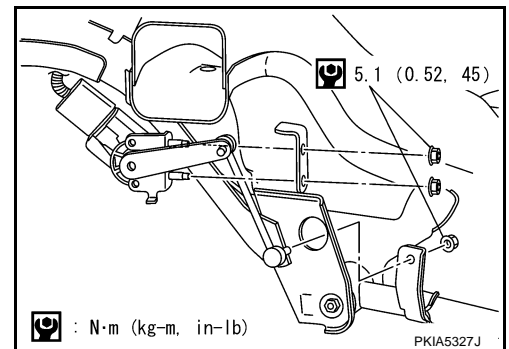
- OK >> If the self-diagnosis result code [B2088] reappears when performing the self-diagnosis again after erasing the self-diagnosis result, replace and initialize the headlamp aiming sensor. Refer to [LT-75, "Removal and Installation"](#) , [LT-64, "WORK SUPPORT"](#) .
- NG >> Replace front combination lamp assembly LH. Refer to [LT-33, "Removal and Installation"](#) in "HEADLAMP (FOR USA)".



## Removal and Installation

### REMOVAL

1. Turn ignition switch OFF.
2. Lift up the vehicle.
3. Disconnect headlamp aiming sensor connector.
4. Remove nut of linkage rod on headlamp aiming sensor.
5. Remove nuts headlamp aiming sensor.
6. Remove headlamp aiming sensor from the bracket.



### INSTALLATION

Installation is the reverse order of removal.

### NOTE:

Initialize whenever replacing the headlamp aiming sensor. Refer to [LT-64, "WORK SUPPORT"](#) .

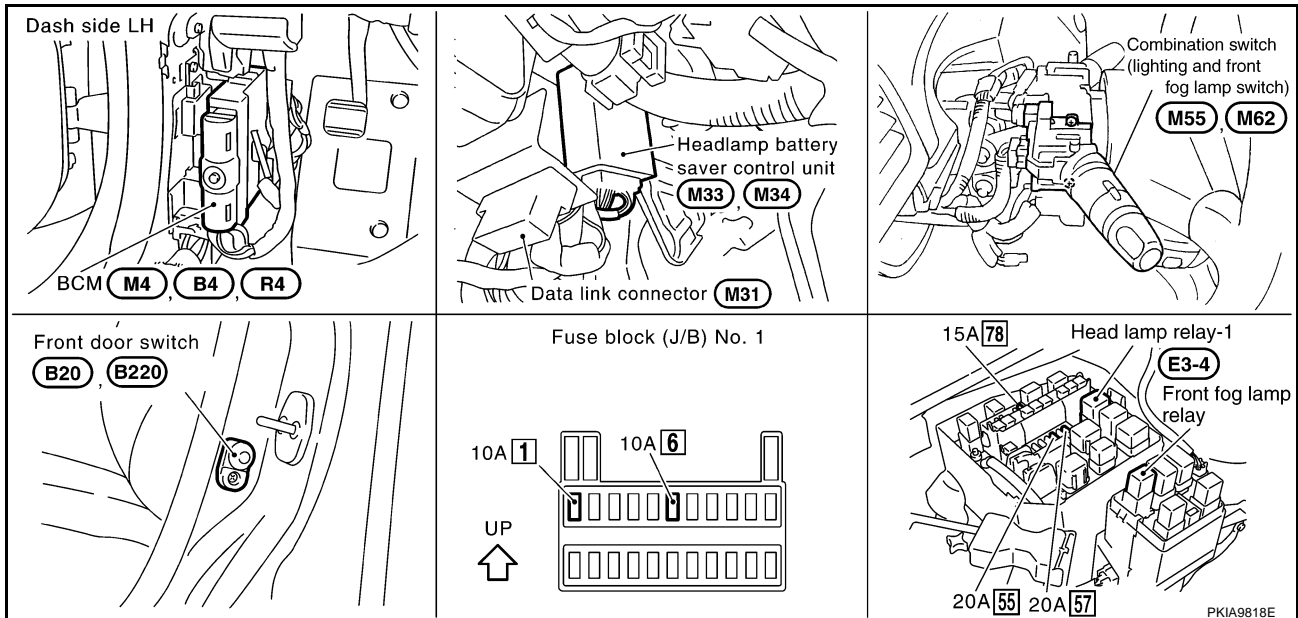
# FRONT FOG LAMP

PFP:26150

## FRONT FOG LAMP

### Component Parts and Harness Connector Location

EKS00GZ7



### System Description OUTLINE

EKS00GZ8

Power is supplied at all times

- headlamp relay-1 terminal 2 from battery
- to headlamp relay-1 terminal 3
- through 20A fuse [No. 57, located in fuse, fusible link and relay block (J/B)]
- to headlamp relay-1 terminal 7
- through 20A fuse [No. 55, located in fuse, fusible link and relay block (J/B)]
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 6, located in fuse block (J/B) No. 1]
- to front fog lamp relay terminal 5
- through 15A fuse [No. 78, located in fuse, fusible link and relay box].

When the ignition switch is in ON or START position, power is supplied

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 1, located in fuse block (J/B) No. 1].

Ground is supplied

- to headlamp battery saver control unit terminals 4 and 11
- through grounds M25 and M115.

When lighting switch is in 2ND position, ground is supplied

- to headlamp relay-1 terminal 1 from headlamp battery saver control unit terminals 2 and 8
- through headlamp battery saver control unit terminals 3 and 9
- through lighting switch terminals 8 and 12
- through grounds M25 and M115.

### Fog Lamp Operation

The fog lamp switch is built in the combination switch. The lighting switch must be in the 2ND position and low position, and the fog lamp switch must be ON for fog lamp operation.

With the fog lamp switch in the ON position, ground is supplied

- to front fog lamp relay terminal 1

## FRONT FOG LAMP

- through front fog lamp switch, lighting switch and grounds M25 and M115.

The front fog lamp relay is energized and power is supplied

- from front fog lamp relay terminal 3
- to front fog lamp LH and RH terminals 1.

Ground is supplied

- to front fog lamp LH and RH terminals 2
- through grounds E24, E42 and E62.

With power and ground supplied, the front fog lamps illuminate.

### BATTERY SAVER CONTROL

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while front fog lamps are illuminated, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from BCM terminal 135.

After counting 45 seconds by the RAP signal from the BCM to headlamp battery saver control unit, the ground supply to headlamp relay-1 terminal 1 from headlamp battery saver control unit terminals 2 and 8 is terminated.

Then the front fog lamps are turned off.

The front fog lamps are turned off when driver or passenger door is opened even if 45 seconds have not passed after ignition switch is turned from ON (or START) to OFF (or ACC) positions while front fog lamp are illuminated.

When the lighting switch is turned from OFF to 2ND after front fog lamps are turned to off by the battery saver control, ground is supplied

- to headlamp relay-1 terminal 1 from headlamp battery saver control unit terminals 2 and 8
- through headlamp battery saver control unit terminals 3 and 9 from lighting switch terminal 12.

Then front fog lamps illuminate again.

A

B

C

D

E

F

G

H

I

J

LT

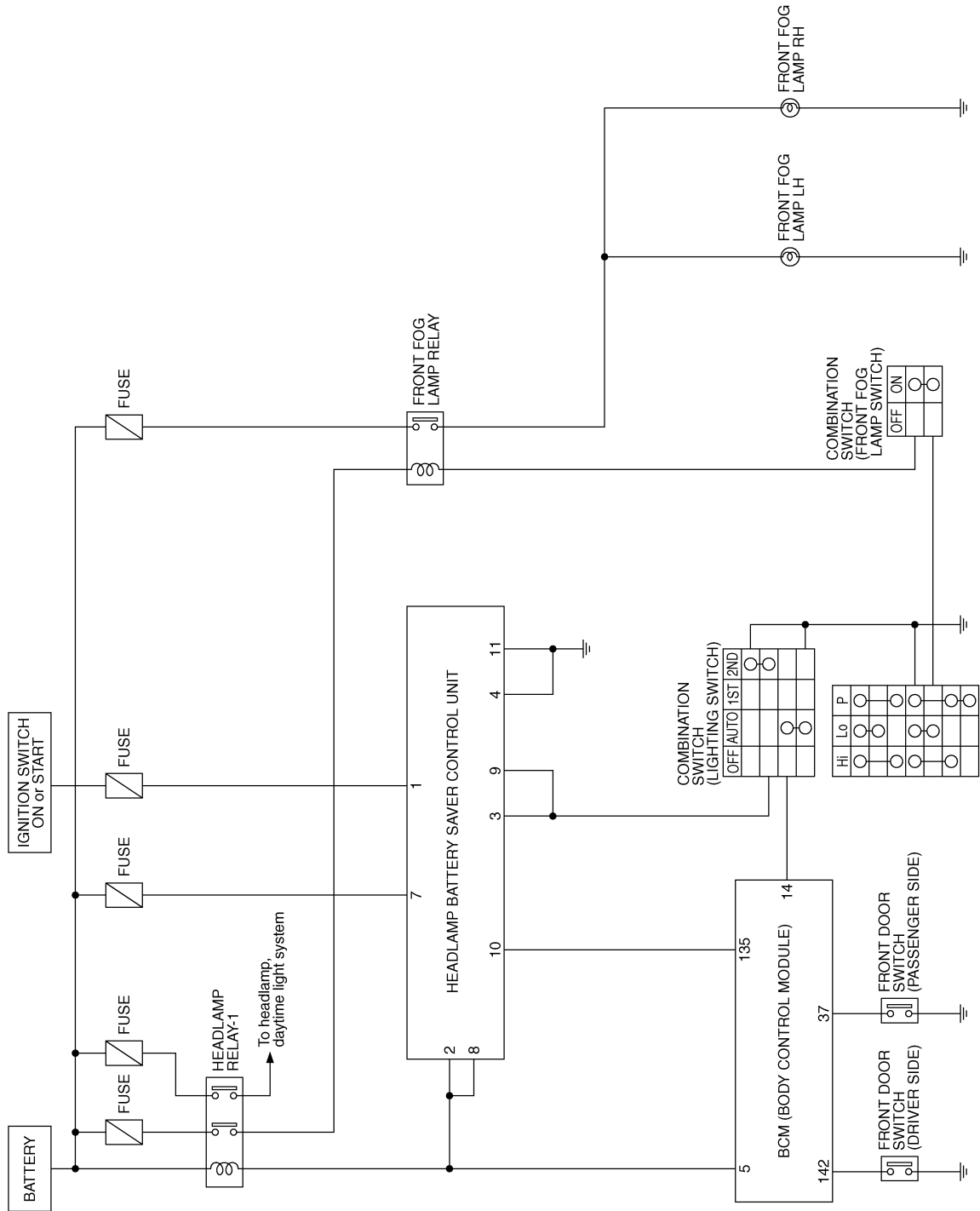
L

M

# FRONT FOG LAMP

## Schematic

EKS00GZ9



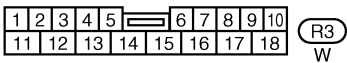
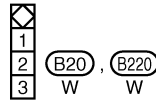
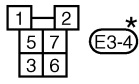
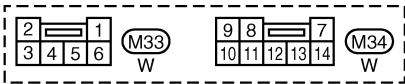
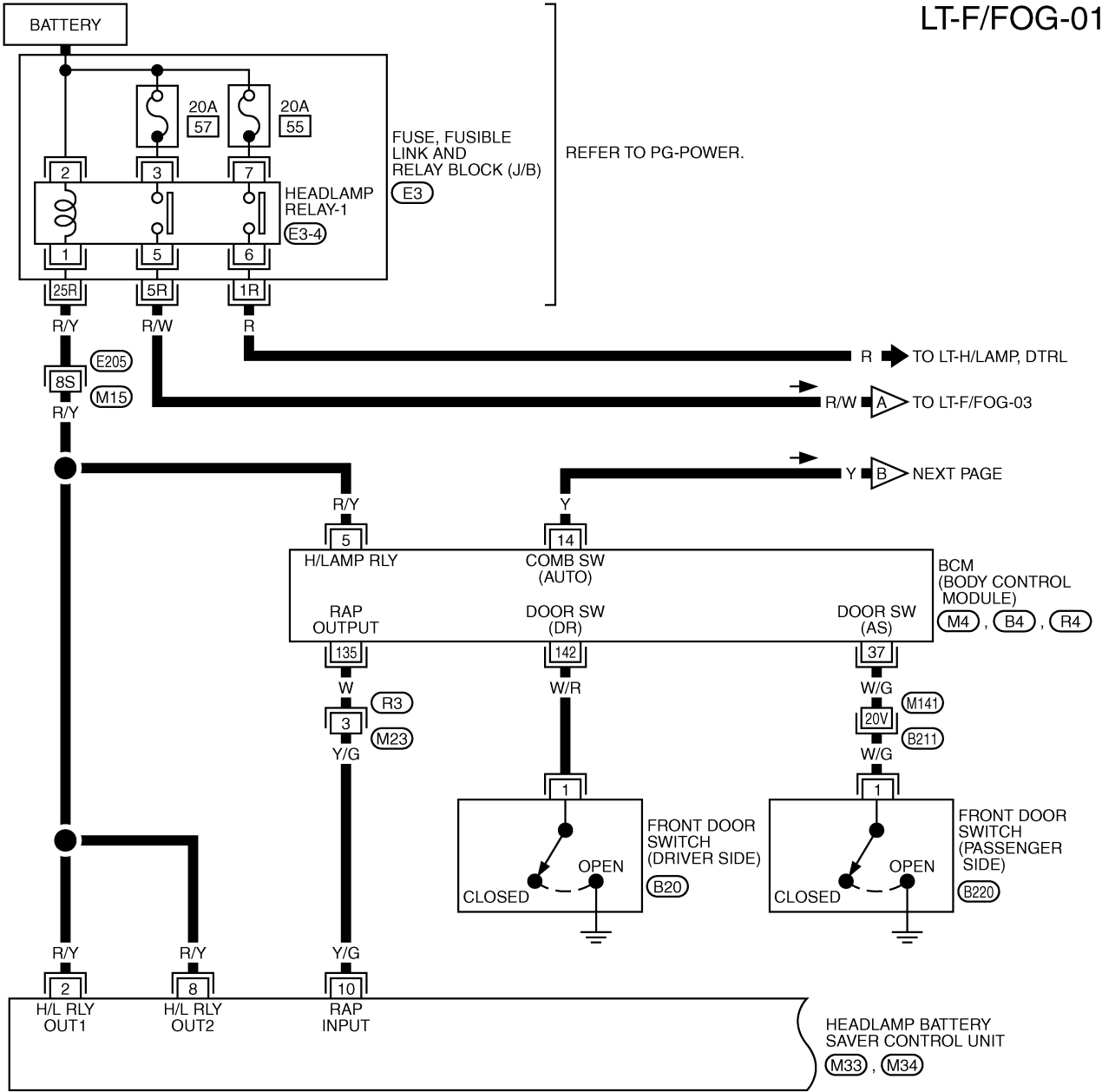
TKWM1528E

# FRONT FOG LAMP

## Wiring Diagram — F/FOG —

EKS00GZA

LT-F/FOG-01



REFER TO THE FOLLOWING.

(E205), (B211) -SUPER MULTIPLE JUNCTION (SMJ)

(E3) -FUSE, FUSIBLE LINK AND RELAY BLOCK (J/B)

(M4), (B4), (R4)

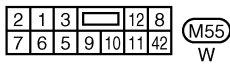
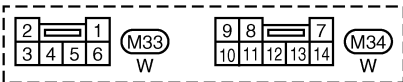
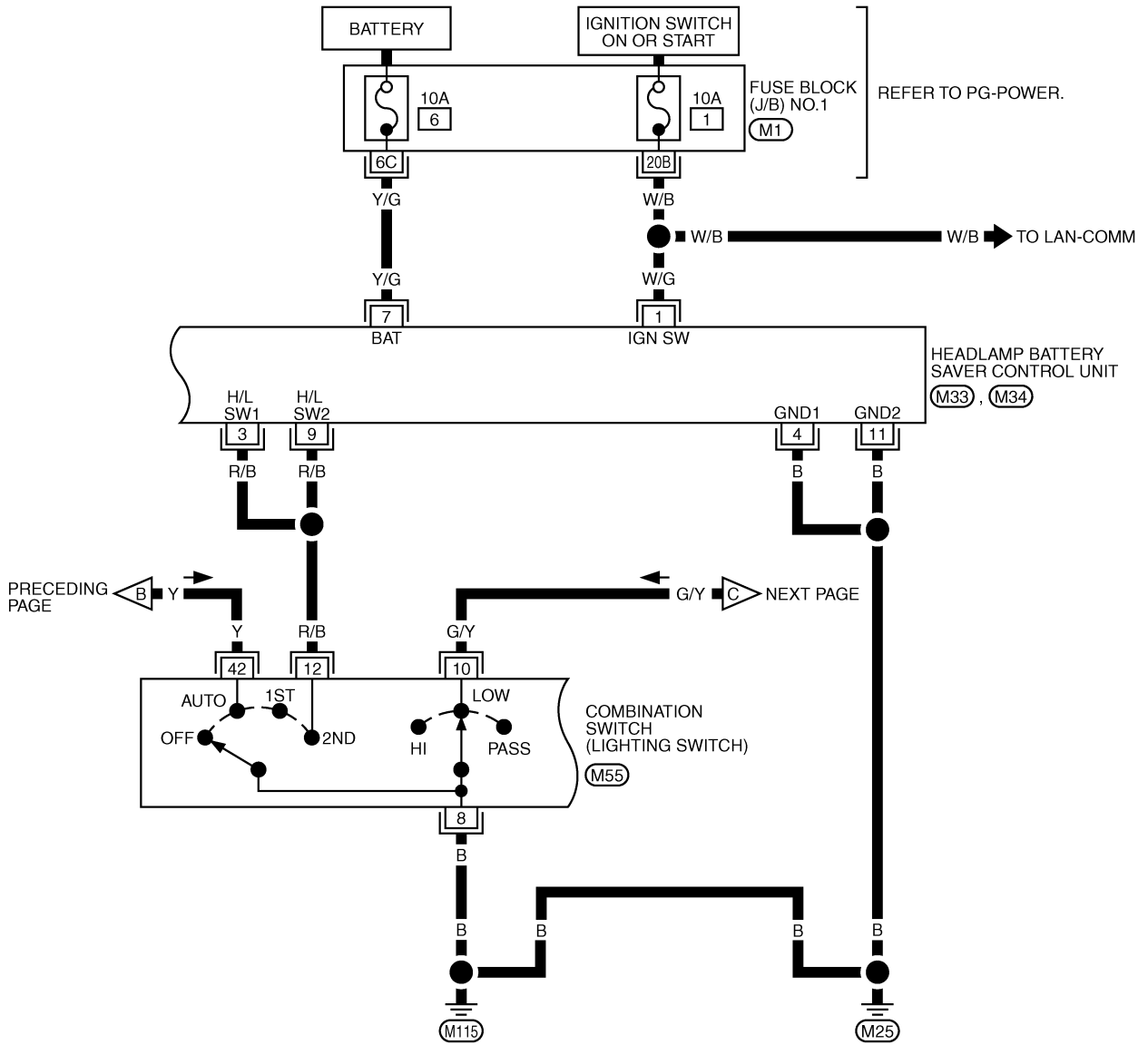
-ELECTRICAL UNITS

\*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWM1529E

# FRONT FOG LAMP

LT-F/FOG-02



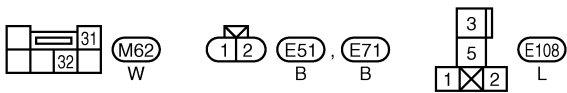
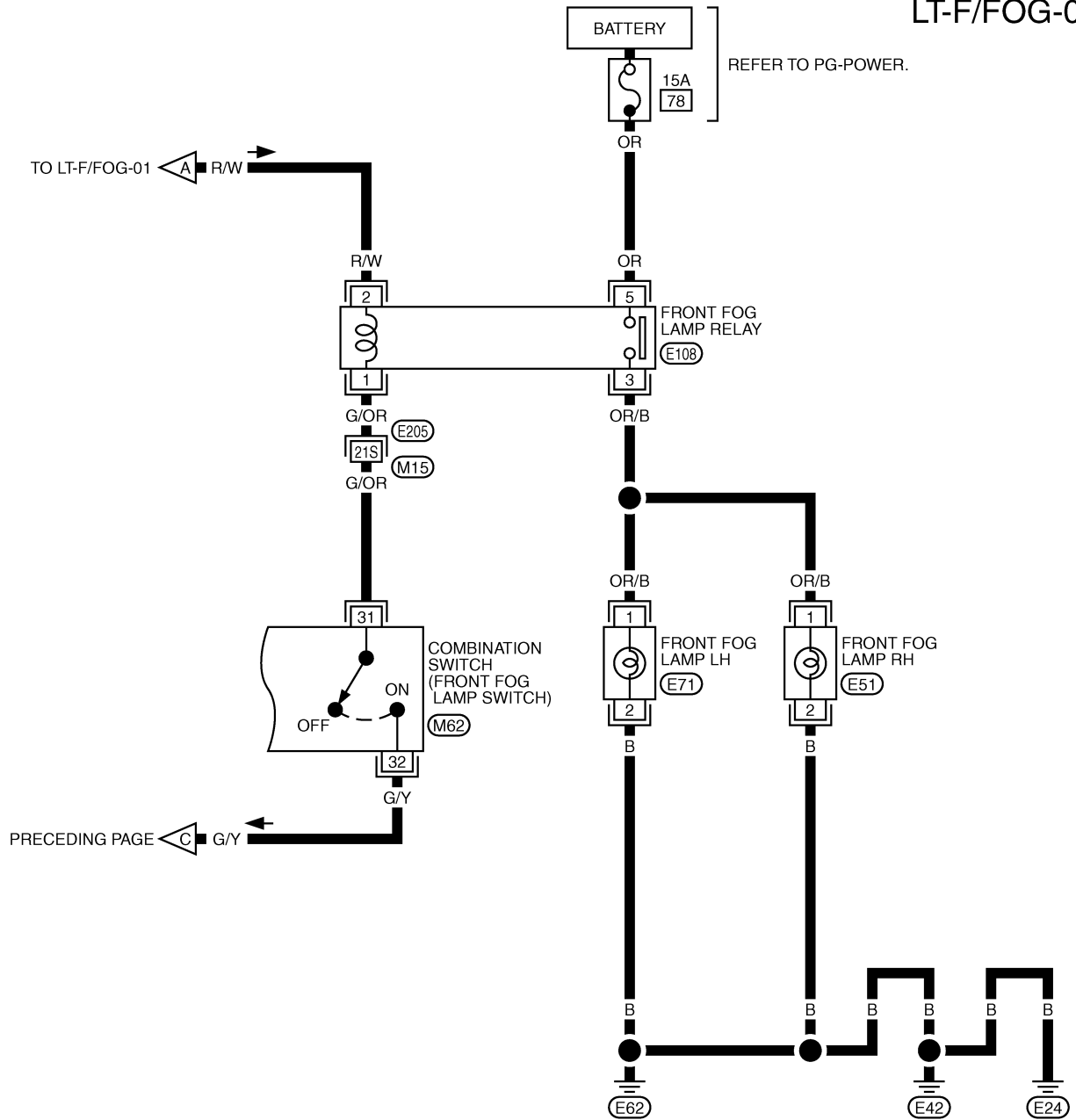
REFER TO THE FOLLOWING.  
 (M1) - FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM1530E



# FRONT FOG LAMP

LT-F/FOG-03



REFER TO THE FOLLOWING.  
 (E205) -SUPER MULTIPLE JUNCTION (SMJ)

TKWM1531E

# FRONT FOG LAMP

## Terminals and Reference Values for Headlamp Battery Saver Control Unit

EKS00GZB

Terminal No.	Wire color	Item	Operation or condition		Reference value	
1	W/G	Ignition switch	Ignition switch	OFF or ACC	Approx. 0 V	
				ON or START	Battery voltage	
2	R/Y	Headlamp relay OUT 1	Ignition switch (with lighting switch except OFF or 1ST)	OFF or ACC	More than 45 seconds after ignition switch is turned OFF or ACC	Battery voltage
					Within 45 seconds after ignition switch is turned OFF or ACC	Approx. 0 V
				ON or START	Approx. 0 V	
			Headlamps illuminate by auto light control.			Approx. 0 V
3	R/B	Headlamp switch 1	Lighting switch	1ST	Approx. 2.4 V	
				PASS or 2ND	Approx. 0 V	
			Headlamps illuminate by auto light control.			Approx. 0 V
4	B	Ground	—		Approx. 0 V	
7	Y/G	Battery power supply	—		Battery voltage	
8	R/Y	Headlamp relay OUT 2	Ignition switch (with lighting switch except OFF or 1ST)	OFF or ACC	More than 45 seconds after ignition switch is turned OFF or ACC	Battery voltage
					With 45 seconds after ignition switch is turned OFF or ACC	Approx. 0 V
				ON or START	Approx. 0 V	
			Headlamps illuminate by auto light control.			Approx. 0 V
9	R/B	Headlamp switch 2	Lighting switch	1ST	Approx. 2.4 V	
				PASS or 2ND	Approx. 0 V	
			Headlamps illuminate by auto light control.			Approx. 0 V
10	Y/G	RAP input signal	Ignition switch	OFF or ACC (After more than 45 seconds with ignition switch turned OFF or ACC)	Battery voltage	
				ON or START	Approx. 0 V	
11	B	Ground	—		Approx. 0 V	

## Terminals and Reference Values for BCM

EKS00GZC

Terminal No.	Wire color	Item	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
5	R/Y	Headlamp relay signal	ON	Lighting switch: AUTO	Light is applied to optical sensor.	Battery voltage
					Light is not applied to optical sensor.	Approx. 0 V
14	Y	Lighting switch AUTO signal	ON	Lighting switch	AUTO	Approx. 0 V
					OFF	Approx. 8 V
37	W/G	Front door switch (Passenger side) signal	OFF	Front door switch (Passenger side)	ON (open)	Approx. 0 V
					OFF (close)	Battery voltage
135	W	RAP output signal	OFF	When headlamp battery saver timer is operated		Approx. 0 V
142	W/R	Front door switch (Driver side) signal	OFF	Front door switch (Driver side) signal	ON (open)	Approx. 0 V
					OFF (close)	Battery voltage

# FRONT FOG LAMP

EKS00J0N

## Work Flow

1. Confirm the symptom or customer complaint.
2. Understand system description. Refer to [LT-76, "System Description"](#) .
3. Perform the preliminary check. Refer to [LT-83, "Preliminary Check"](#) .
4. Check symptom and repair or replace the cause of malfunction.
5. Does front fog lamp operate normally? If YES, GO TO 6. If NO, GO TO 4.
6. INSPECTION END

## Preliminary Check

EKS00J0O

### INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT

#### 1. CHECK FUSE

Check fuse for blown-out.

Unit	Power source	Fuse No.
Headlamp battery saver control unit	Ignition switch ACC or ON	1
	Battery	6
Front fog lamp relay	Battery	78

Refer to [LT-79, "Wiring Diagram — F/FOG —"](#) .

OK or NG

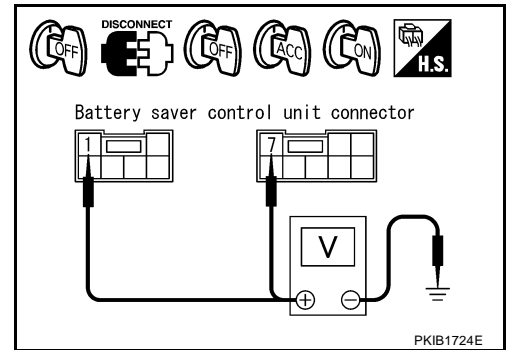
OK >> GO TO 2.

NG >> If the fuse is blown be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-2, "POWER SUPPLY ROUTING"](#) .

#### 2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect battery saver control unit connector.
3. Check voltage between battery saver control unit and ground.

Terminal (+)		Terminal (-)	Ignition switch position		
Connector	Terminal (Wire color)		OFF	ACC	ON
M33	1 (W/G)	Ground	0V	0V	Battery voltage
M34	7 (Y/G)		Battery voltage	Battery voltage	Battery voltage



OK or NG

OK >> GO TO 3.

NG >> Check harness for open or short circuit between battery saver control unit and fuse.

#### 3. CHECK GROUND CIRCUIT

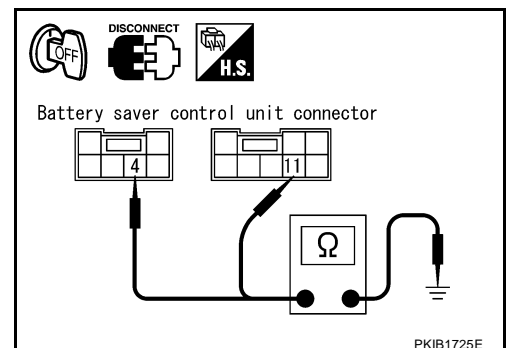
Check continuity between battery saver control unit harness connector and ground.

Terminal		Ground	Continuity
Connector	Terminal (Wire color)		Yes
M33	4 (B)	Ground	Yes
M34	11 (B)		

OK or NG

OK >> INSPECTION END

NG >> Repair or replace harness.



# FRONT FOG LAMP

EKS00GZD

## Front Fog Lamps Do Not Illuminate (Both Sides)

### 1. CHECK FRONT FOG LAMP RELAY POWER SUPPLY CIRCUIT (1)

1. Turn ignition switch OFF.
2. Remove front fog lamp relay.
3. Check voltage between front fog lamp relay harness connector E108 terminal 5 (OR) and ground.

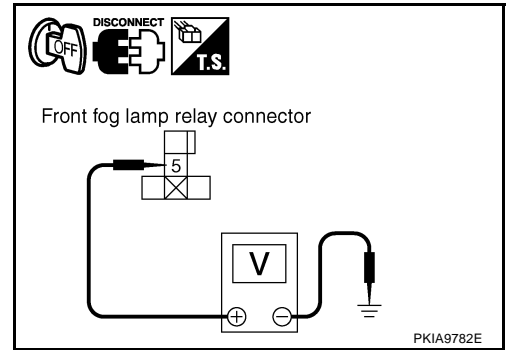
**5 (OR) - Ground : Battery voltage**

OK or NG

OK >> GO TO 2.

NG >> Check the following.

- 15A fuse [No. 78, located in fuse, fusible link and relay box]
- Harness for open or short between front fog lamp relay and fuse



### 2. CHECK FRONT FOG LAMP RELAY POWER SUPPLY CIRCUIT (2)

1. Turn ignition switch ON.
2. Turn combination switch (lighting switch) to 2nd position and "LOW" position.
3. Check voltage between front fog lamp relay harness connector E108 terminal 2 (R/W) and ground.

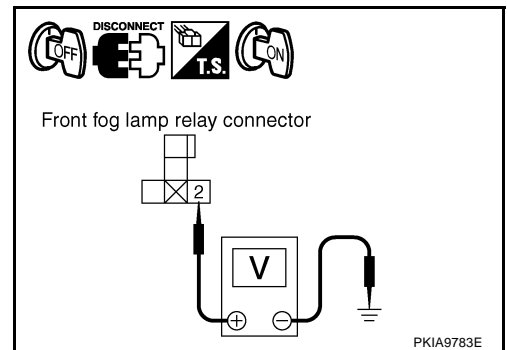
**Combination switch (lighting switch) 2nd position and "LOW" position**

**2 (R/W) - Ground : Battery voltage**

OK or NG

OK >> GO TO 3.

NG >> GO TO 7.



### 3. CHECK FRONT FOG LAMP RELAY

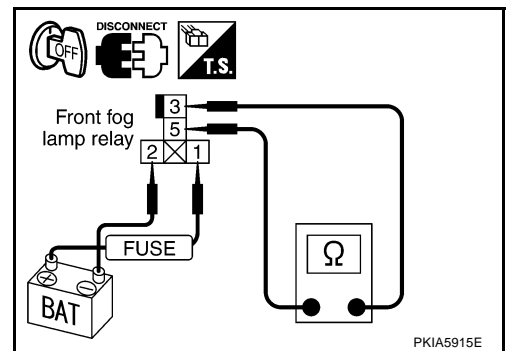
Apply 12V between front fog lamp relay terminals 1 and 2, and check continuity between terminals 3 and 5.

**3 - 5 : Continuity should exist.**

OK or NG

OK >> GO TO 4.

NG >> Replace front fog lamp relay.



# FRONT FOG LAMP

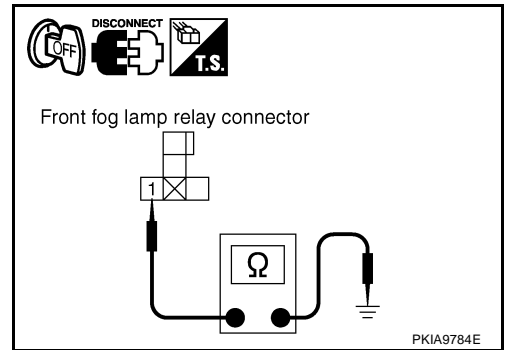
## 4. CHECK FRONT FOG LAMP SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Turn combination switch (lighting switch) to 2nd position and "LOW" position.
3. Check continuity between front fog lamp relay harness connector E108 terminal 1 (G/OR) and ground.

Terminal		Fog lamp switch condition	Continuity
Connector	Terminal (Wire color)		
E108	1 (G/OR)	ON	Yes
		OFF	No

OK or NG

- OK >> Check harness for open or short between front fog lamp relay and front fog lamps.  
 NG >> GO TO 5.



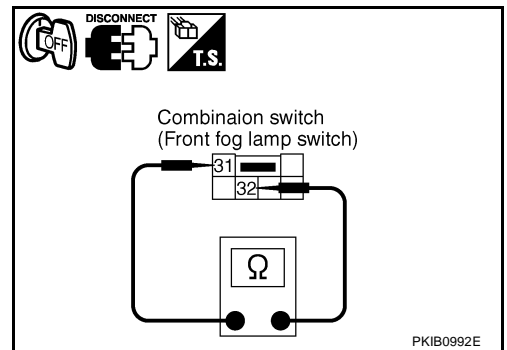
## 5. CHECK FRONT FOG LAMP SWITCH

1. Disconnect front fog lamp switch.
2. Check continuity between front fog lamp switch terminals 31 and 32 while operating front fog lamp switch.

Terminal		Fog lamp switch condition	Continuity
31	32	ON	Yes
		OFF	No

OK or NG

- OK >> GO TO 6.  
 NG >> Replace combination switch.



## 6. CHECK LIGHTING SWITCH CIRCUIT

1. Disconnect lighting switch.
2. Check continuity between front fog lamp switch harness connector M62 terminal 32 (G/Y) and lighting switch harness connector M55 terminal 10 (G/Y).

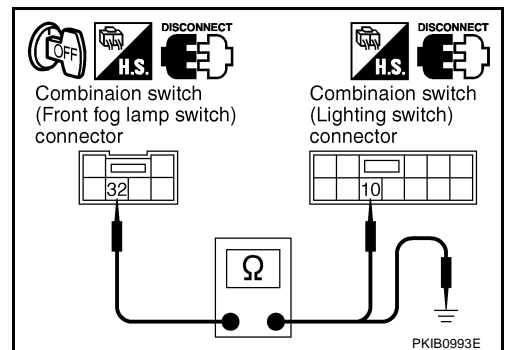
**32 (G/Y) - 10 (G/Y) : Continuity should exist.**

3. Check continuity between front fog lamp switch harness connector M62 terminal 32 (G/Y) and ground.

**32 (G/Y) - Ground : Continuity should not exist.**

OK or NG

- OK >> Check combination switch (lighting switch and front fog lamp switch). Refer to [LT-99, "Switch Circuit Inspection"](#) .  
 NG >> Replace harness or connector.



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# FRONT FOG LAMP

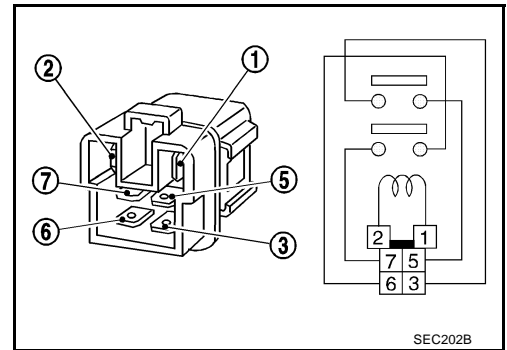
## 7. CHECK HEADLAMP RELAY-1

1. Remove headlamp relay-1.
2. Apply 12V between headlamp relay-1 terminals 2 and 1, and check continuity between terminals 3 and 5.

**3 - 5 : Continuity should exist.**

OK or NG

- OK >> Check harness for open or short between front fog lamp relay and headlamp relay-1.  
NG >> Replace headlamp relay-1.



EKS00GZE

## Front Fog Lamp Does Not Illuminate (One Side)

### 1. BULB INSPECTION

1. Replace bulb with other side bulb or new one.
2. Check if front fog lamp illuminates correctly.

OK or NG

- OK >> Replace front fog lamp bulb.  
NG >> GO TO 2.

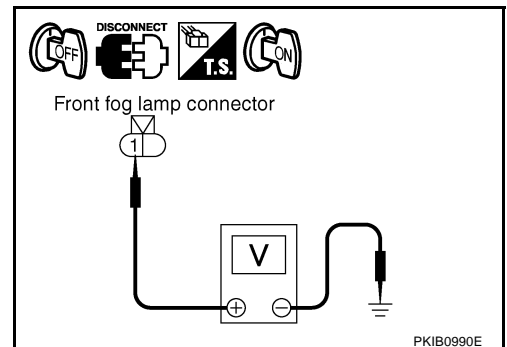
### 2. CHECK FRONT FOG LAMP POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front fog lamp connector.
3. Turn ignition switch ON.
4. Turn combination switch (lighting switch) to 2nd position and "LOW" position. Also turn front fog lamp switch ON.
5. Check voltage between front fog lamp connector terminal 1 (OR/B) and ground.

**1 (OR/B) - Ground : Battery voltage**

OK or NG

- OK >> GO TO 3.  
NG >> Check harness for open or short between front fog lamp relay and front fog lamp.



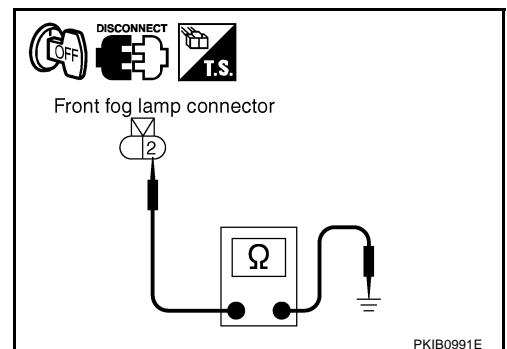
### 3. CHECK FRONT FOG LAMP GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between front fog lamp harness connector terminal 2 (B) and ground.

**2 (B) - Ground : Continuity should exist.**

OK or NG

- OK >> Check front fog lamp harness and connector.  
NG >> Repair harness and connector.



EKS00GZF

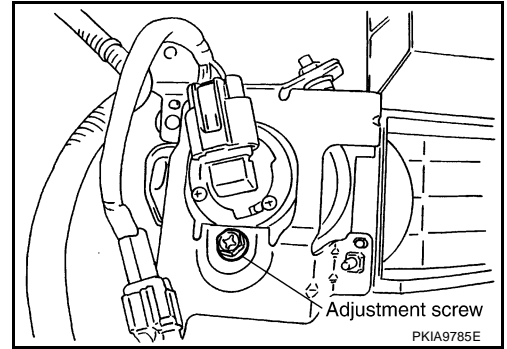
## Aiming Adjustment

The fog lamp is a semi-sealed beam type which uses a replaceable halogen bulb. Before performing aiming adjustment, make sure of the following.

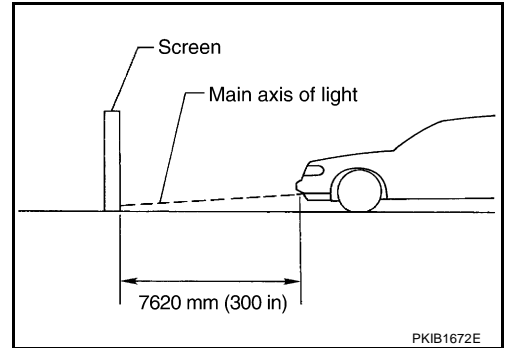
- Keep all tires inflated to correct pressure.
- Place vehicle on level ground.

# FRONT FOG LAMP

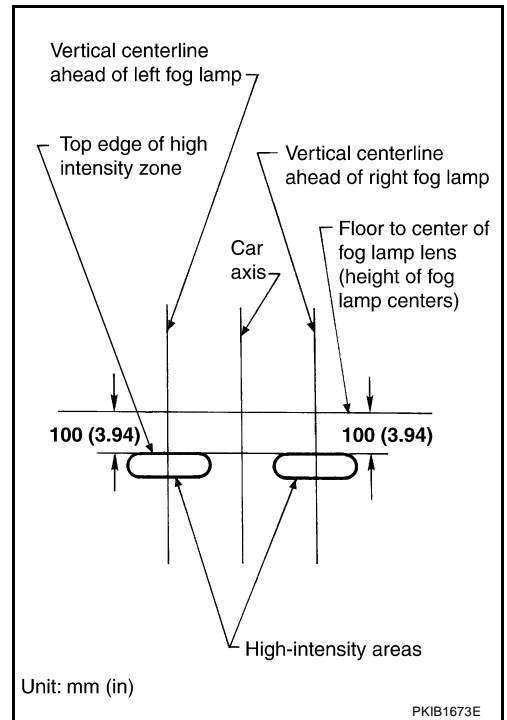
- See that vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in driver seat. Adjust aiming in the vertical direction by turning the adjusting screw.



1. Set the distance between the screen and the center of fog lamp lens as shown.
2. Turn front fog lamps ON.



3. Adjust front fog lamps using adjusting screw so that the top edge of the high intensity zone is 100 mm (3.94 in) below the height of the fog lamp centers as shown.
  - When performing adjustment, if necessary, cover headlamps and opposite fog lamp.



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# FRONT FOG LAMP

EKS00GZG

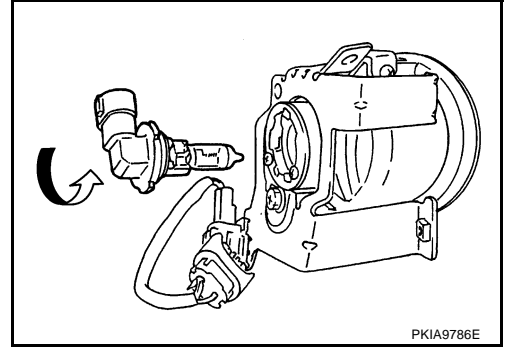
## Bulb Replacement

1. Remove fender protector. Refer to [EI-24, "FENDER PROTECTOR"](#) in "EI" section.
2. Disconnect front fog lamp connector.
3. Turn bulb socket counterclockwise and unlock it.

**Front fog lamp** : 12V – 51W (HB4 halogen)

### CAUTION:


- Do not touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.
- Do not leave bulb out of fog lamp reflector for a long time because dust, moisture smoke, etc. May affect the performance of fog lamp. When replacing bulb, be sure to replace it with new one.

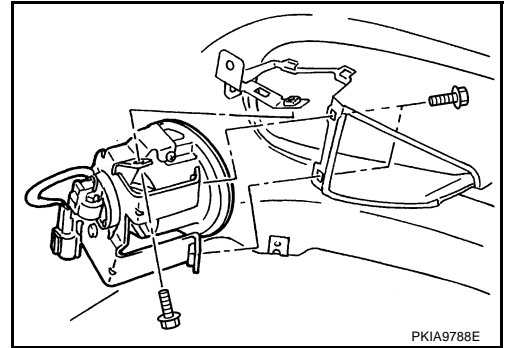


## Removal and Installation

### REMOVAL

1. Remove fender protector. Refer to [EI-24, "FENDER PROTECTOR"](#) in "EI" section.
2. Remove bumper grille. Refer to [EI-15, "FRONT BUMPER"](#) in "EI" section.
3. Disconnect front fog lamp connector.
4. Remove fog lamp mounting bolt from fog lamp bracket.
5. Pull the lamp unit toward the rear of the vehicle and remove it.

**Fog lamp mounting bolt**  : 5.5 N·m (0.56 kg-m, 49 in-lb)



### INSTALLATION

Installation is the reverse order of removal.



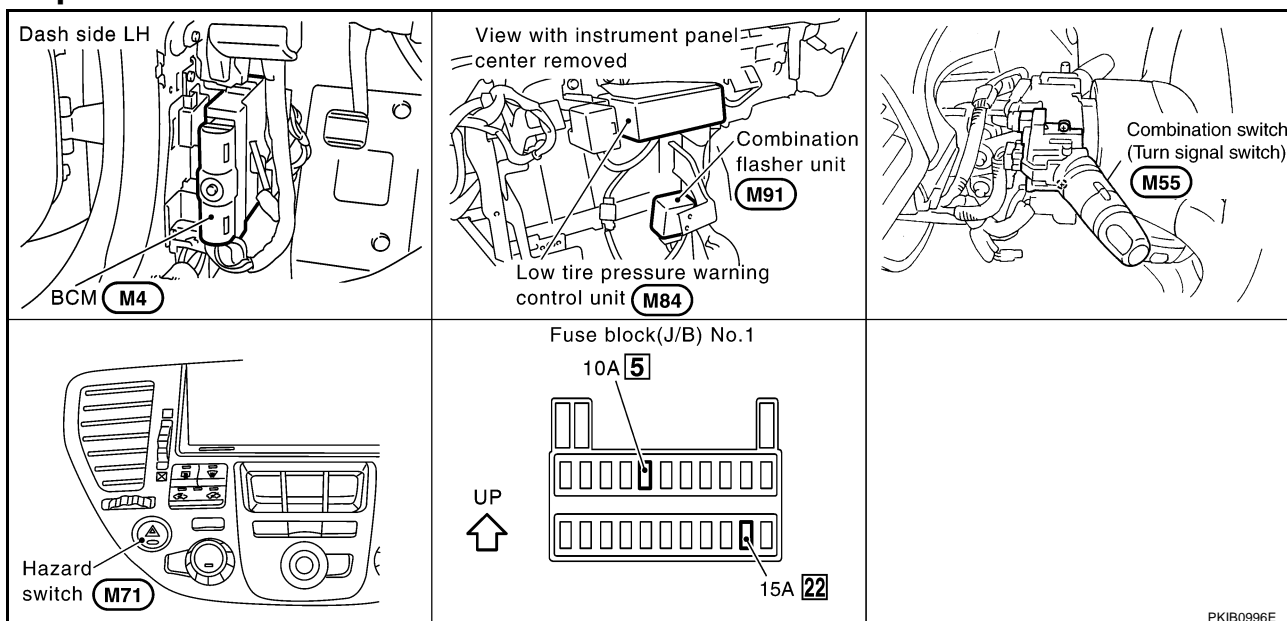
# TURN SIGNAL AND HAZARD WARNING LAMPS

## TURN SIGNAL AND HAZARD WARNING LAMPS

PPF:26120

### Component Parts and Harness Connector Location

EKS00F4C



### System Description OUTLINE

EKS00078

When the ignition switch in ON or START position, power is supplied

- through 10A fuse [No. 5, located in the fuse block (J/B) No.1]
- to combination flasher unit terminal 1
- through combination flasher unit terminal 2
- to combination switch terminal 1.

Ground is supplied to combination flasher unit terminal 7 through grounds M24 and M114.

### LH Turn Signal Lamps Operation

When the turn signal switch is moved to the left turn position, power is supplied from turn signal switch terminal 3

- to front combination lamp LH (turn signal) terminal 1
- to rear combination lamp LH (turn signal) terminal 5
- to door mirror (driver side) terminal 7
- to combination meter terminal 45.

Ground is supplied

- to front turn signal lamp LH terminal 2 through grounds E24, E42 and E62
- to rear turn signal lamp LH terminal 6 through grounds B17 and B57
- to door mirror (driver side) terminal 5 through grounds M24 and M114
- to combination meter terminals 60 and 62 through grounds M24 and M114.

With power and ground supplied, the combination flasher unit controls the flashing of the LH turn signal lamps.

### RH Turn Signal Lamps Operation

When the turn signal switch is moved to the right turn position, power is supplied from turn signal switch terminal 2

- to front turn signal lamp RH terminal 1
- to rear turn signal lamp RH terminal 5
- to door mirror (passenger side) terminal 7
- to combination meter terminal 46.

Ground is supplied

- to front turn signal lamp RH terminal 2 through grounds E24, E42 and E62

# TURN SIGNAL AND HAZARD WARNING LAMPS

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- to rear turn signal lamp RH terminal 6 through grounds B17 and B57
- to door mirror (passenger side) terminal 5 through grounds M24 and M114
- to combination meter terminals 60 and 62 through grounds M24 and M114

With power and ground supplied, the combination flasher unit controls the flashing of the RH turn signal lamps.

## Hazard Warning Lamps Operation

Power is supplied at all times to hazard switch terminal 1

- through 15A fuse [No. 22, located in the fuse block (J/B) No.1]
- to combination flasher unit terminal 4
- through combination flasher unit terminal 6
- to hazard switch terminal 1.

With the hazard switch in ON position, power is supplied

Ground is supplied to hazard switch terminal 2 through grounds M24 and M114.

Power is supplied through combination flasher unit terminal 8

- to front combination lamp LH terminal 1
- to rear combination lamp LH terminal 5
- to door mirror (driver side) terminal 7
- to combination meter terminal 45.

Power is supplied through combination flasher unit terminal 3

- to front turn signal lamp RH terminal 1
- to rear turn signal lamp RH terminal 5
- to door mirror (passenger side) terminal 7
- to combination meter terminal 46.

Ground is supplied

- to each front turn signal lamp terminal 2 through grounds E24, E42 and E62
- to each rear turn signal lamp terminal 6 through grounds B17 and B57
- to each door mirror terminal 5 through grounds M24 and M114
- to combination meter terminals 60 and 62 through grounds M24 and M114.

With power and ground supplied, the combination flasher unit controls the flashing of the hazard warning lamps.

## MULTI-REMOTE CONTROL SYSTEM OPERATION

Power is supplied at all times

- through 15A fuse [No. 22, located in fuse block (J/B) No.1]
- to combination flasher unit terminal 4.

Ground is supplied to combination flasher unit terminal 6, when the multi-remote control system is triggered through the BCM.

Refer to [BL-53, "REMOTE KEYLESS ENTRY SYSTEM"](#) in "BODY, LOCK & SECURITY SYSTEM (BL)" section.

The BCM is energized.

Power is supplied through combination flasher unit terminal 8

- to front turn signal lamp LH terminal 1
- to rear turn signal lamp LH terminal 5
- to door mirror (driver side) terminal 7
- to combination meter terminal 45.

Power is supplied through combination flasher unit terminal 3

- to front turn signal lamp RH terminal 1
- to rear turn signal lamp RH terminal 5
- to door mirror (passenger side) terminal 7
- to combination meter terminal 46.

Ground is supplied

## TURN SIGNAL AND HAZARD WARNING LAMPS

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- to each front turn signal lamp terminal 2 through grounds E24, E42 and E62
- to each rear turn signal lamp terminal 6 through grounds B17 and B57
- to each door mirror terminal 5 through grounds M24 and M114
- to combination meter terminals 60 and 62 through grounds M24 and M114.

With power and ground supplied, the BCM controls the flashing of the hazard warning lamps.

### LOW TIRE PRESSURE WARNING CONTROL SYSTEM

When ID is normally registered to each transmitter in the LOW TIRE PRESSURE WARNING CONTROL UNIT, the hazard warning lamp flashes twice. Refer to [WT-13. "ID Registration Procedure"](#) in "ROAD WHEELS & TIRES (WT)" section.

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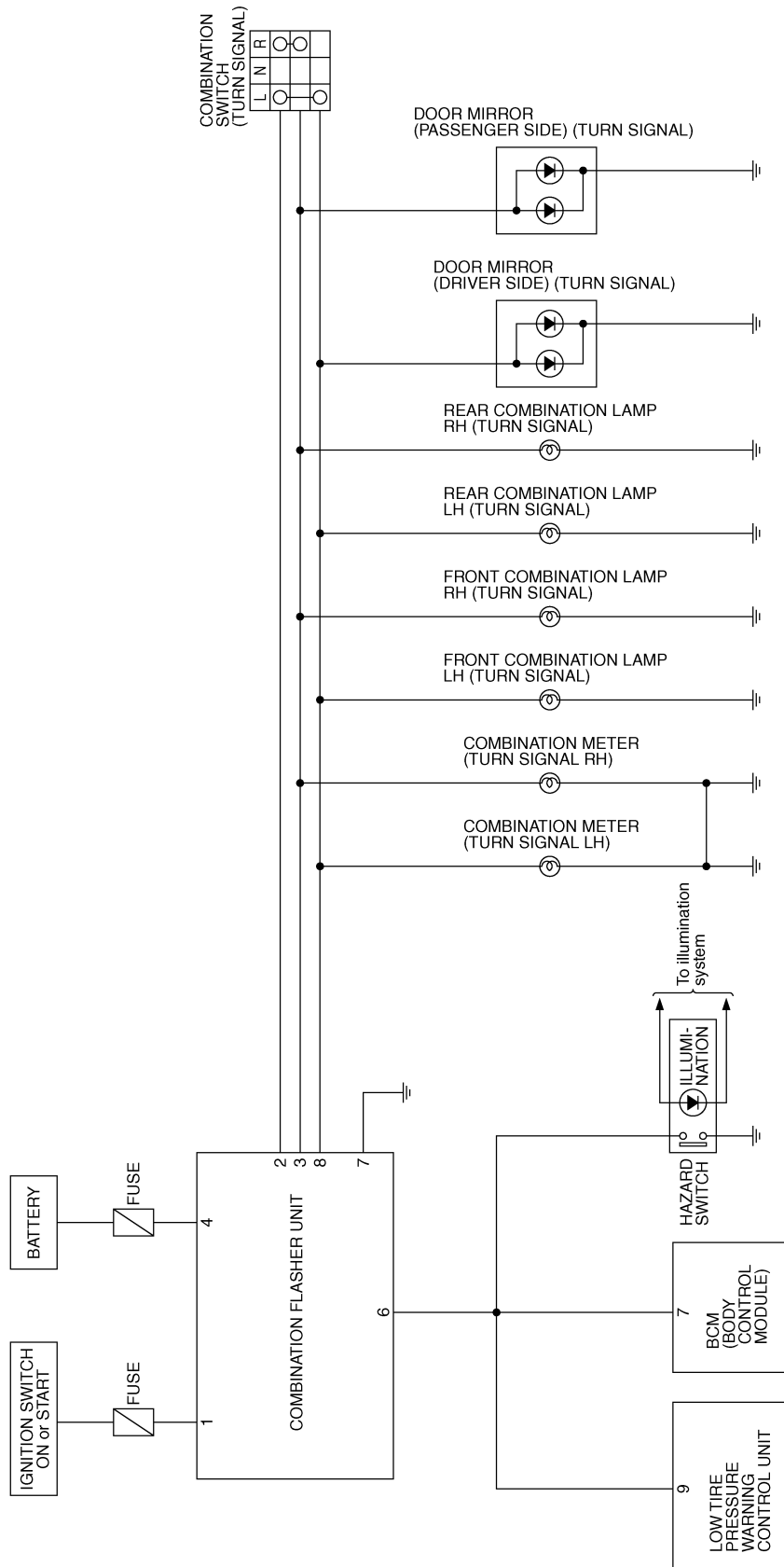
L

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# TURN SIGNAL AND HAZARD WARNING LAMPS

## Schematic

EKS000VD



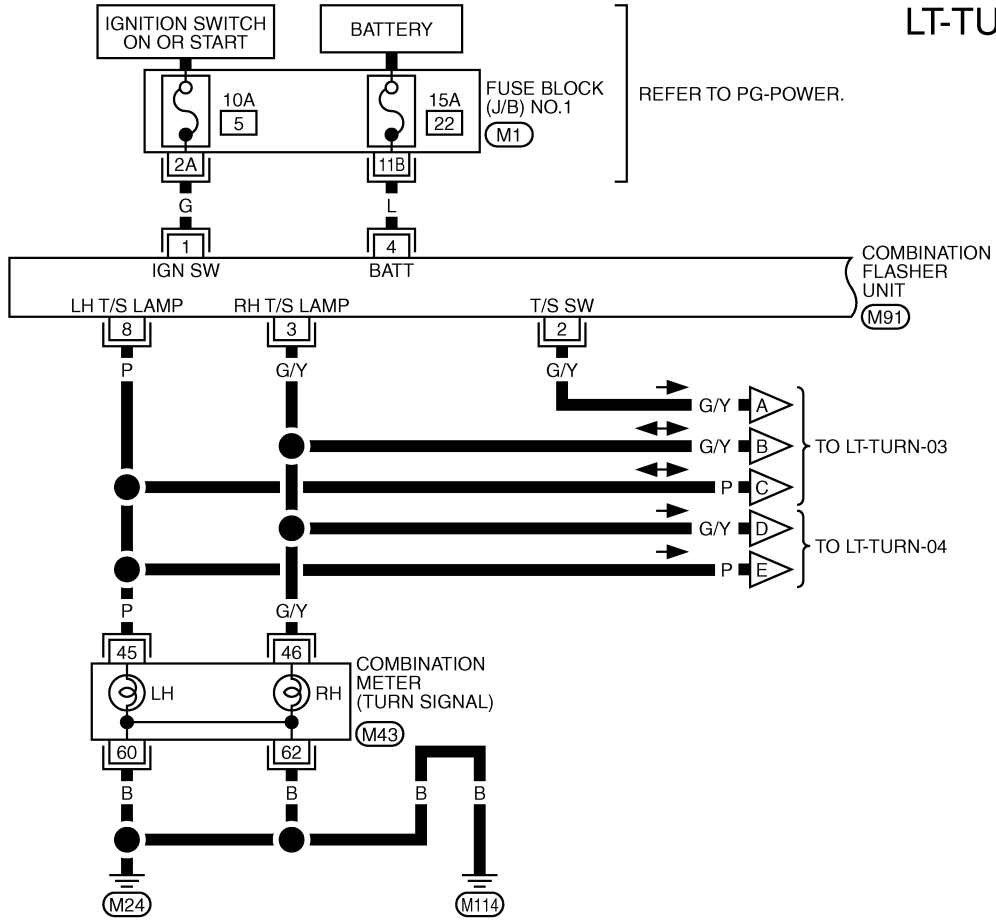
TKWM1590E

# TURN SIGNAL AND HAZARD WARNING LAMPS

## Wiring Diagram — TURN —

EKS00079

LT-TURN-01



45	46	47	48	49	50	51	52	53	54	55		
56	57	58	59	60	61	62	63	64	65	66	67	68

(M43)  
W

3	2	1		
8	7	6	5	4

(M91)  
W

REFER TO THE FOLLOWING.  
(M1) - FUSE BLOCK-JUNCTION BOX (J/B) NO.1

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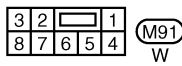
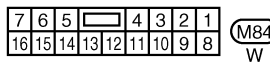
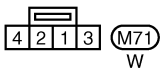
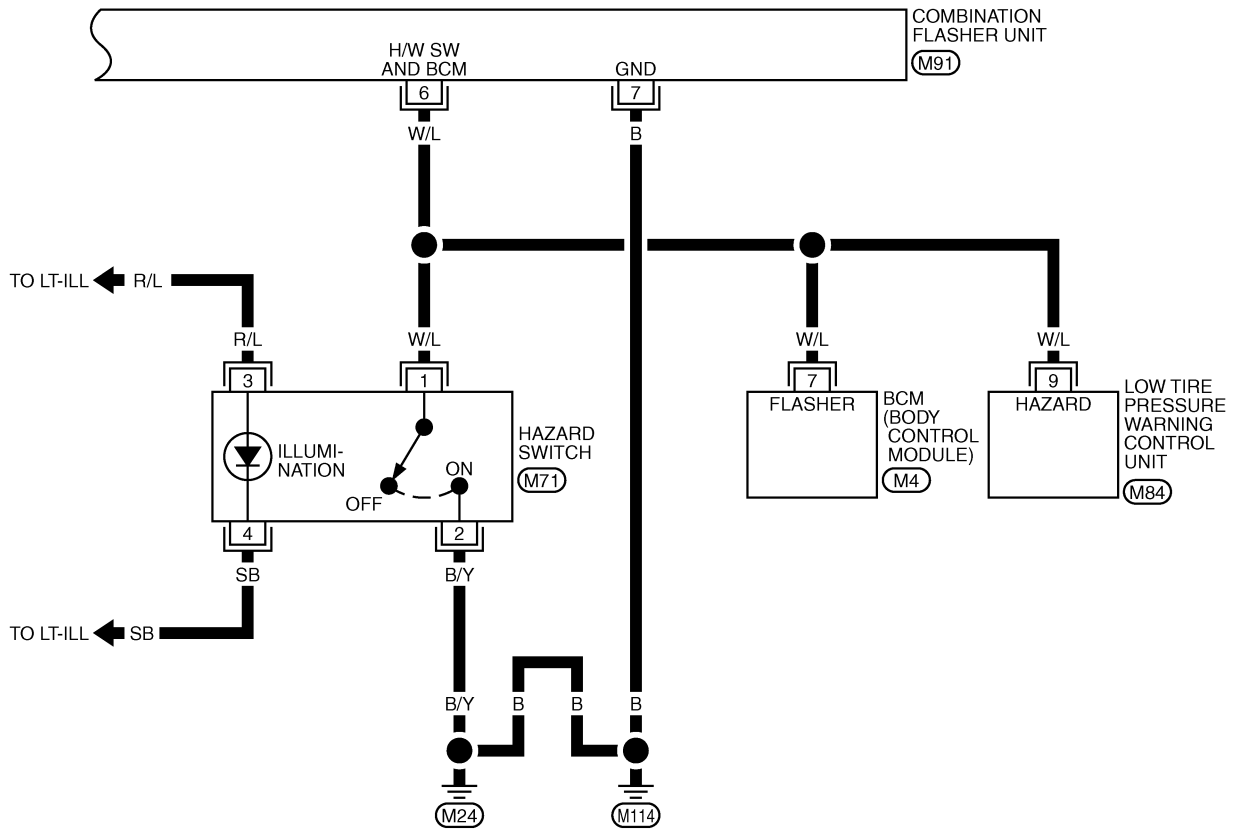
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TKWM1497E

# TURN SIGNAL AND HAZARD WARNING LAMPS

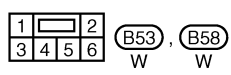
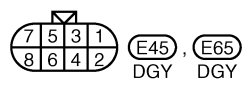
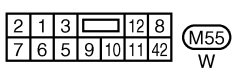
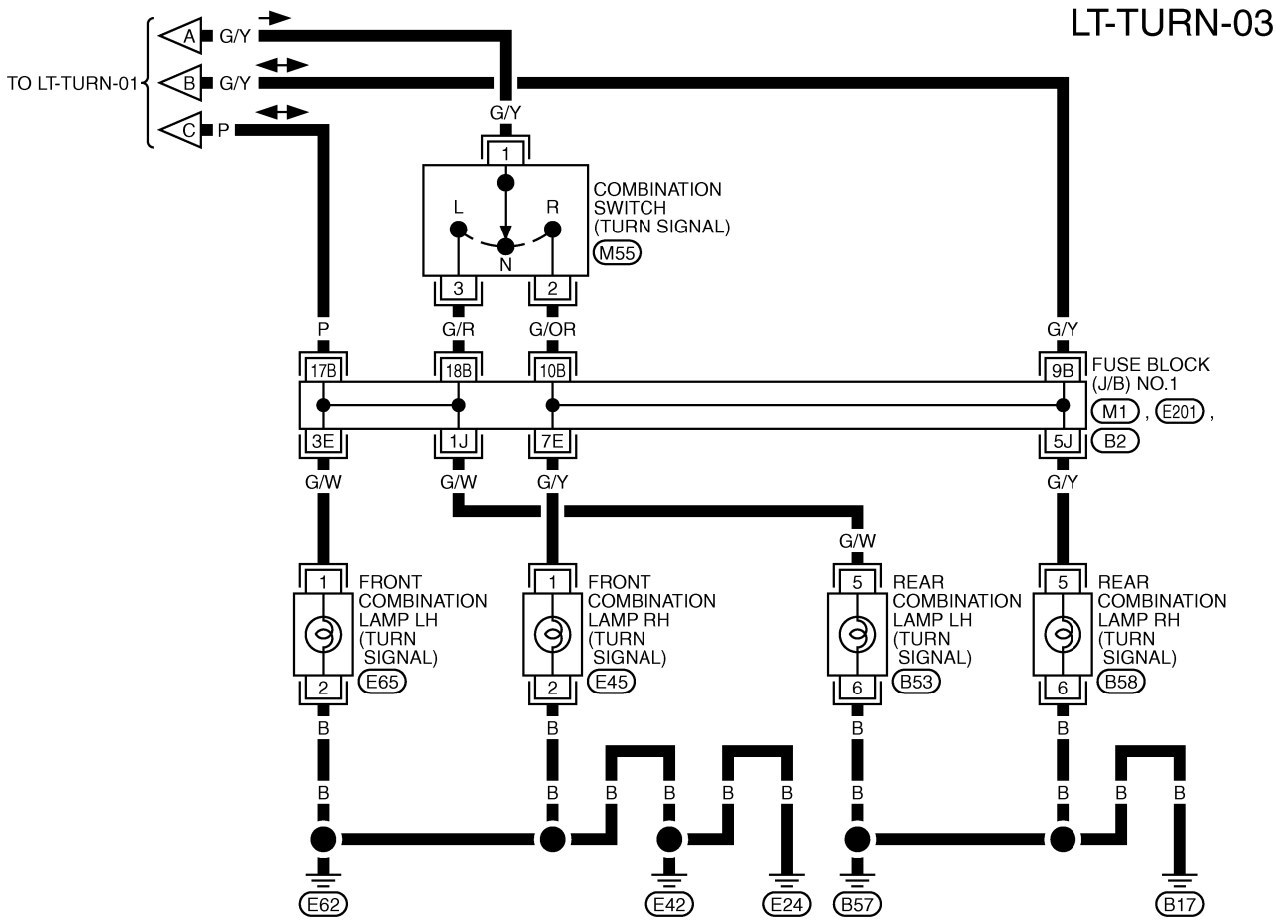
LT-TURN-02



REFER TO THE FOLLOWING.  
 (M4) -ELECTRICAL UNITS

TKWM1498E

# TURN SIGNAL AND HAZARD WARNING LAMPS



REFER TO THE FOLLOWING.  
 (M1), (E201), (B2) -FUSE  
 BLOCK-JUNCTION BOX (J/B) NO.1

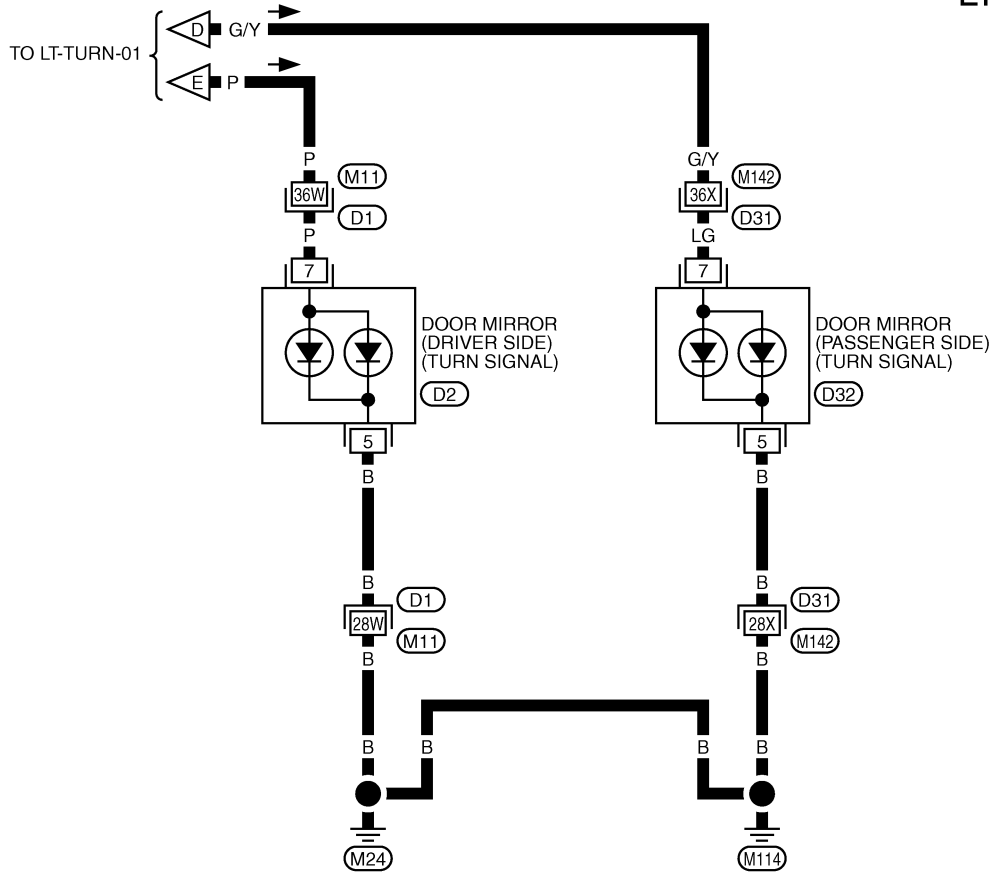
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TKWM1499E

# TURN SIGNAL AND HAZARD WARNING LAMPS

LT-TURN-04



16	14	12	10	8	6	4	2
15	13	11	9	7	5	3	1

(D2) (D32)  
 BR BR

REFER TO THE FOLLOWING.  
 (D1) , (D31) -SUPER MULTIPLE  
 JUNCTION (SMJ)

TKWM1500E



# TURN SIGNAL AND HAZARD WARNING LAMPS

## Symptom Chart

EKS0007A

Symptom	Possible cause	Repair Procedure
Turn signal and hazard warning lamps do not operate.	<ol style="list-style-type: none"> <li>1. Combination flasher unit</li> <li>2. Open in combination flasher unit circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check combination flasher unit. Refer to <a href="#">LT-98, "Electrical Components Inspection"</a>.</li> <li>2. Check wiring to combination flasher unit for open circuit.</li> </ol>
Turn signal lamps do not operate but hazard warning lamps operate.	<ol style="list-style-type: none"> <li>1. 10A fuse</li> <li>2. Combination flasher unit</li> <li>3. Turn signal switch</li> <li>4. Open in turn signal switch circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check 10A fuse [No. 5, located in fuse block (J/B) No.1]. Turn ignition switch ON and verify battery positive voltage is present at terminal 1 of combination flasher unit.</li> <li>2. Check combination flasher unit. Refer to <a href="#">LT-98, "Electrical Components Inspection"</a>.</li> <li>3. Check turn signal switch. Refer to <a href="#">LT-99, "Switch Circuit Inspection"</a>.</li> <li>4. Check harness between combination flasher unit terminal 2 and turn signal switch terminal 1 for open circuit.</li> </ol>
Hazard warning lamps do not operate but turn signal lamps operate.	<ol style="list-style-type: none"> <li>1. 15A fuse</li> <li>2. Combination flasher unit</li> <li>3. Hazard switch</li> <li>4. Open in hazard switch circuit</li> <li>5. Grounds M24 and M114</li> </ol>	<ol style="list-style-type: none"> <li>1. Check 15A fuse [No. 22, located in fuse block (J/B) No.1]. Verify battery positive voltage is present at terminal 4 of combination flasher unit.</li> <li>2. Check combination flasher unit. Refer to <a href="#">LT-98, "Electrical Components Inspection"</a>.</li> <li>3. Check hazard switch.</li> <li>4. Check harness between combination flasher unit terminal 6 and hazard switch terminal 1 for open circuit.</li> <li>5. Check grounds M24 and M114.</li> </ol>
Front turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> <li>1. Bulb</li> <li>2. Grounds E24, E42 and E62</li> <li>3. Open in front turn signal lamp circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check grounds E24, E42 and E62.</li> <li>3. Check harness between combination switch and front turn signal lamp for open circuit.</li> </ol>
Rear turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> <li>1. Bulb</li> <li>2. Grounds B17 and B57</li> <li>3. Open in rear turn signal lamp circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb.</li> <li>2. Check grounds B17 and B57.</li> <li>3. Check harness between combination switch and rear turn signal lamp for open circuit.</li> </ol>
LH and RH turn indicators do not operate.	<ol style="list-style-type: none"> <li>1. Grounds M24 and M114</li> </ol>	<ol style="list-style-type: none"> <li>1. Check grounds M24 and M114.</li> </ol>
LH or RH turn indicator does not operate.	<ol style="list-style-type: none"> <li>1. Bulb</li> <li>2. Open in turn indicator circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check bulb in combination meter.</li> <li>2. Check harness between combination flasher unit and combination meter (turn indicator) for open circuit.</li> </ol>

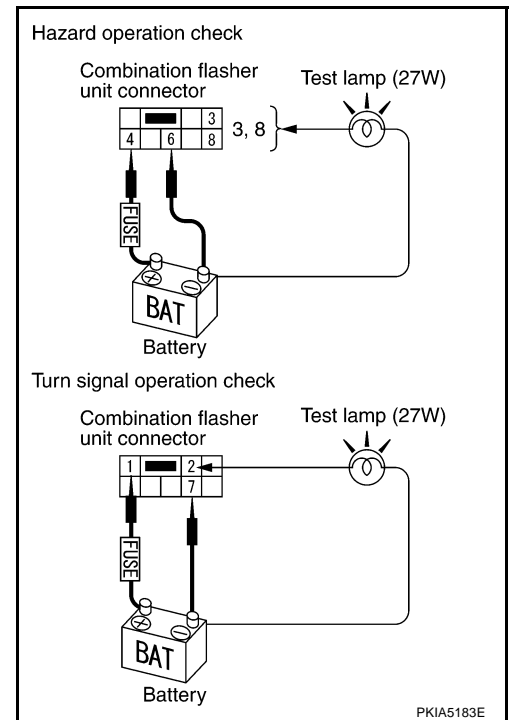
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# TURN SIGNAL AND HAZARD WARNING LAMPS

EKS0007B

## Electrical Components Inspection COMBINATION FLASHER UNIT CHECK

- Before checking, ensure that bulbs meet specifications.
- Connect a battery and test lamp to the combination flasher unit, as shown. Combination flasher unit is properly functioning if it flashes when power is supplied to the circuit.



## Bulb Replacement FRONT TURN SIGNAL LAMP

Refer to [LT-32, "Bulb Replacement"](#) in "HEADLAMP (USA)".

## REAR TURN SIGNAL LAMP

Refer to [LT-113, "REAR COMBINATION LAMP"](#) in "PARKING, LICENSE PLATE AND TAIL LAMPS".

## Removal and Installation FRONT TURN SIGNAL LAMP

Refer to [LT-33, "Removal and Installation"](#) in "HEADLAMP (USA)".

## SIDE TURN SIGNAL LAMP

Refer to [GW-118, "Disassembly and Assembly"](#) in "GLASSES, WINDOW SYSTEM & MIRRORS (GW)" section.

## REAR TURN SIGNAL LAMP

Refer to [LT-114, "REAR COMBINATION LAMP"](#) in "PARKING, LICENSE PLATE AND TAIL LAMPS".

EKS001AS

EKS000W3

# LIGHTING AND TURN SIGNAL SWITCH

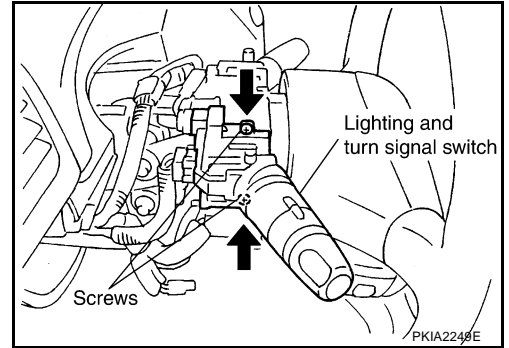
## LIGHTING AND TURN SIGNAL SWITCH

PFP:25540

### Removal and Installation

EKS00GCH

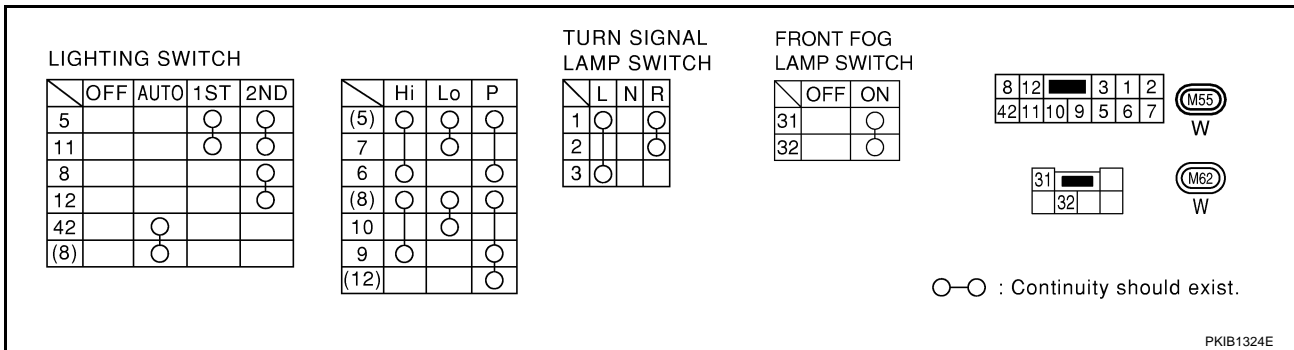
1. Remove steering column cover. Refer to [IP-10, "INSTRUMENT PANEL ASSEMBLY \(IP\)"](#) section.
2. Remove lighting and turn signal switch mounting screws and remove lighting and turn signal switch from harness.
3. Disconnect lighting and turn signal switch connector.



### Switch Circuit Inspection

EKS000TH

Using circuit tester, check continuity between the lighting and turn signal switch connector terminals in each position of the switch.



Hi: "HIGH BEAM" position, Lo: "LOW BEAM" position, P: "FLASH TO PASS" position

A  
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I  
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LT  
L  
M

# HAZARD SWITCH

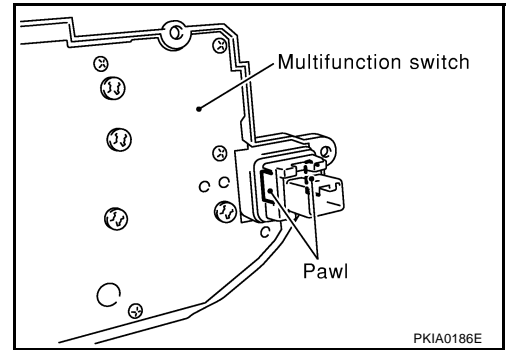
## HAZARD SWITCH

PFP:25290

### Removal and Installation

EKS00071

Refer to [DI-126. "Disassembly and Assembly for Multifunction Switch"](#) , [DI-152. "Disassembly and Assembly for Multifunction Switch"](#) in "DRIVER INFORMATION SYSTEM (DI)" section.



# STOP LAMP

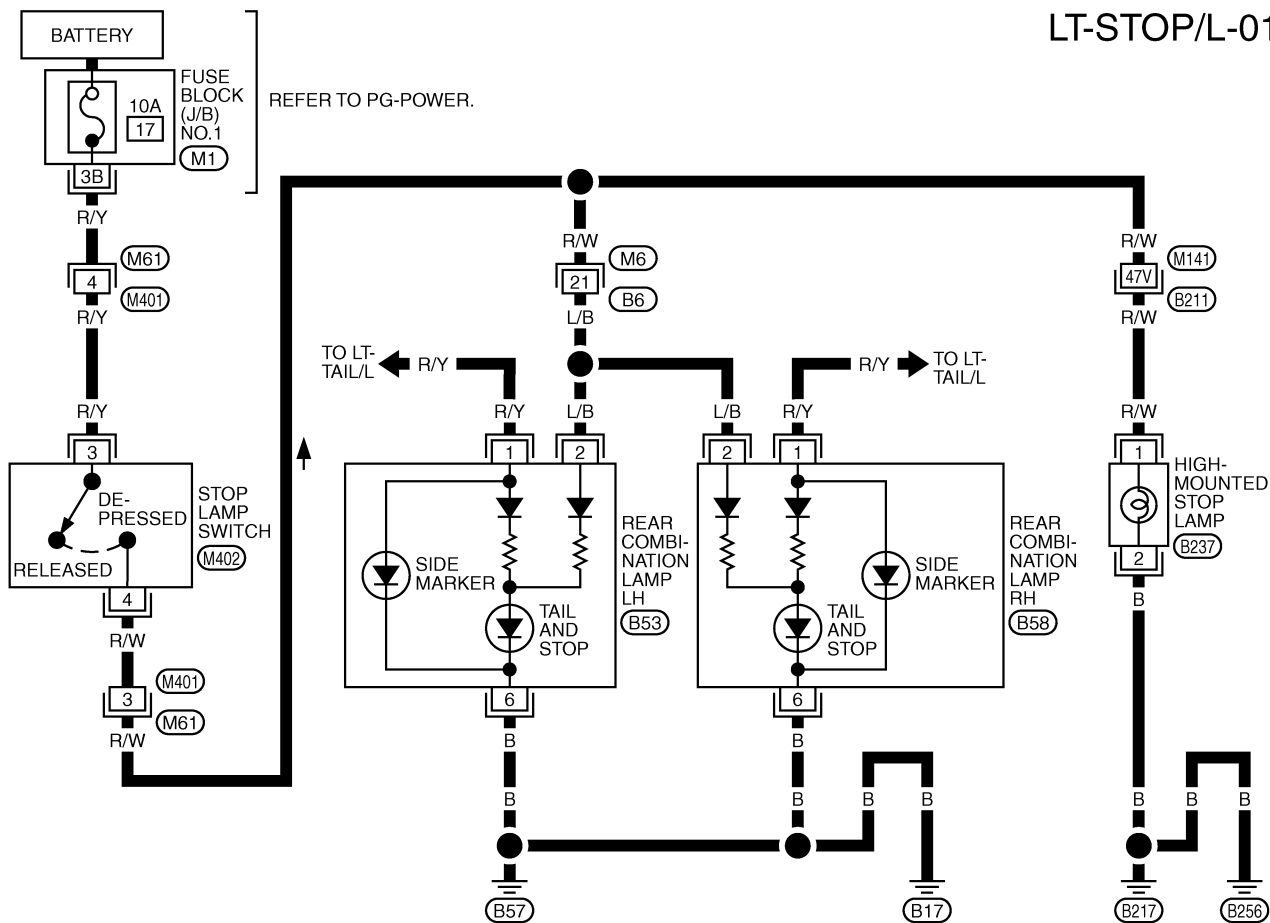
PFP:26550

EKS000V1

## STOP LAMP

### Wiring Diagram — STOP/L —

### LT-STOP/L-01



1	2	3	4	5	6	7	8	9	10	11		
12	13	14	15	16	17	18	19	20	21	22	23	24

(M6)  
GY

1	2	3	4		
5	6	7	8	9	10

(M61)  
W

4	3
2	1

(M402)  
W

1	2		
3	4	5	6

(B53) (B58)  
W W

1	2
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(B237)  
W

REFER TO THE FOLLOWING.

(B211) -SUPER MULTIPLE JUNCTION (SMJ)

(M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

LT

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TKWM1495E

# STOP LAMP

EKS0014S

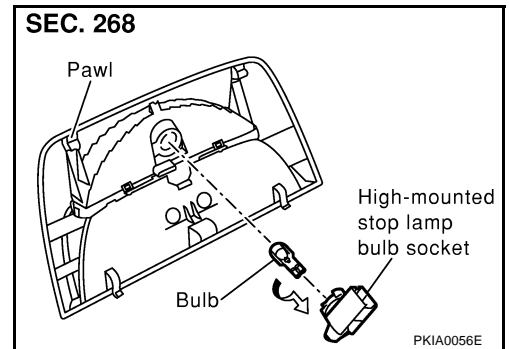
## Bulb Replacement STOP LAMP

Refer to [LT-113, "REAR COMBINATION LAMP"](#) in "PARKING, LICENSE PLATE AND TAIL LAMPS".

### HIGH-MOUNTED STOP LAMP

1. Remove the high-mounted stop lamp. Refer to [LT-102, "HIGH-MOUNTED STOP LAMP"](#) in "Removal and Installation".
2. Turn the high-mounted stop lamp bulb socket counterclockwise and unlock it.
3. Remove the bulb.

**High-mounted stop lamp : 12V 18W**

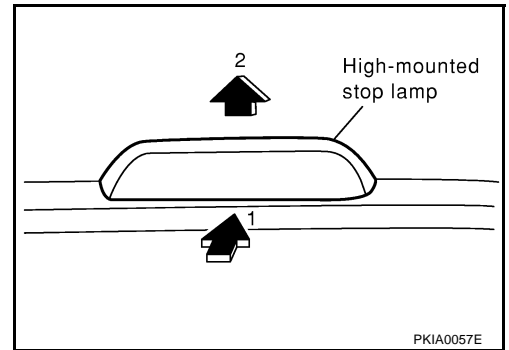


## Removal and Installation STOP LAMP

Refer to [LT-114, "REAR COMBINATION LAMP"](#) in "PARKING, LICENSE PLATE AND TAIL LAMPS".

### HIGH-MOUNTED STOP LAMP

1. Pull up the high-mounted stop lamp while pressing it toward rear of the vehicle and remove from the vehicle.
2. Disconnect the high-mounted stop lamp connector.



# BACK-UP LAMP

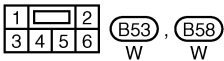
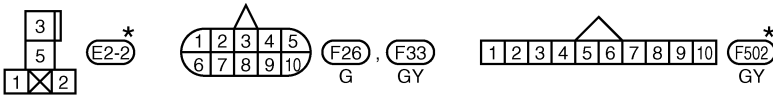
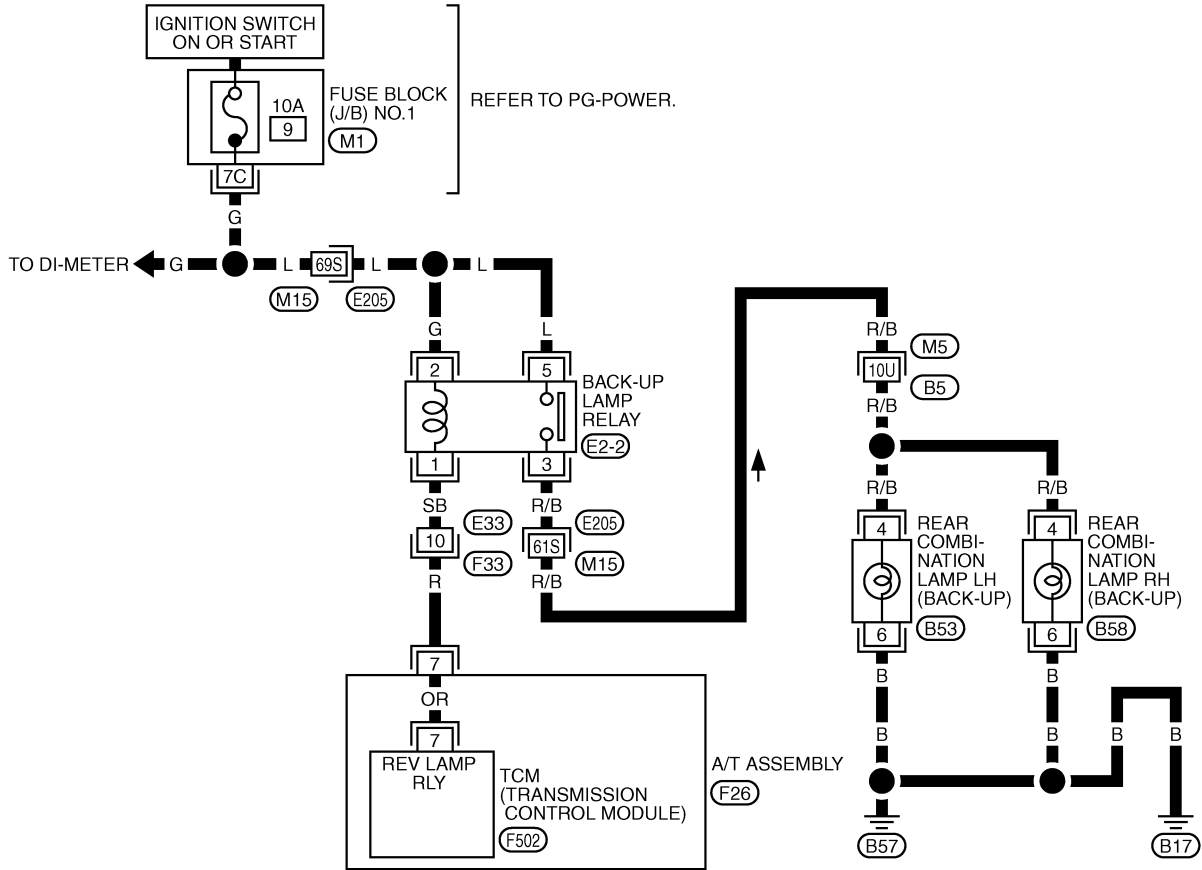
PPF:26550

## BACK-UP LAMP

### Wiring Diagram — BACK/L —

EKS000V6

## LT-BACK/L-01



\*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

REFER TO THE FOLLOWING.

- (M5), (E205) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM1496E

## Bulb Replacement

Refer to [LT-113, "REAR COMBINATION LAMP"](#) in "PARKING, LICENSE PLATE AND TAIL LAMPS".

## Removal and Installation

Refer to [LT-114, "REAR COMBINATION LAMP"](#) in "PARKING, LICENSE PLATE AND TAIL LAMPS".

EKS000V7

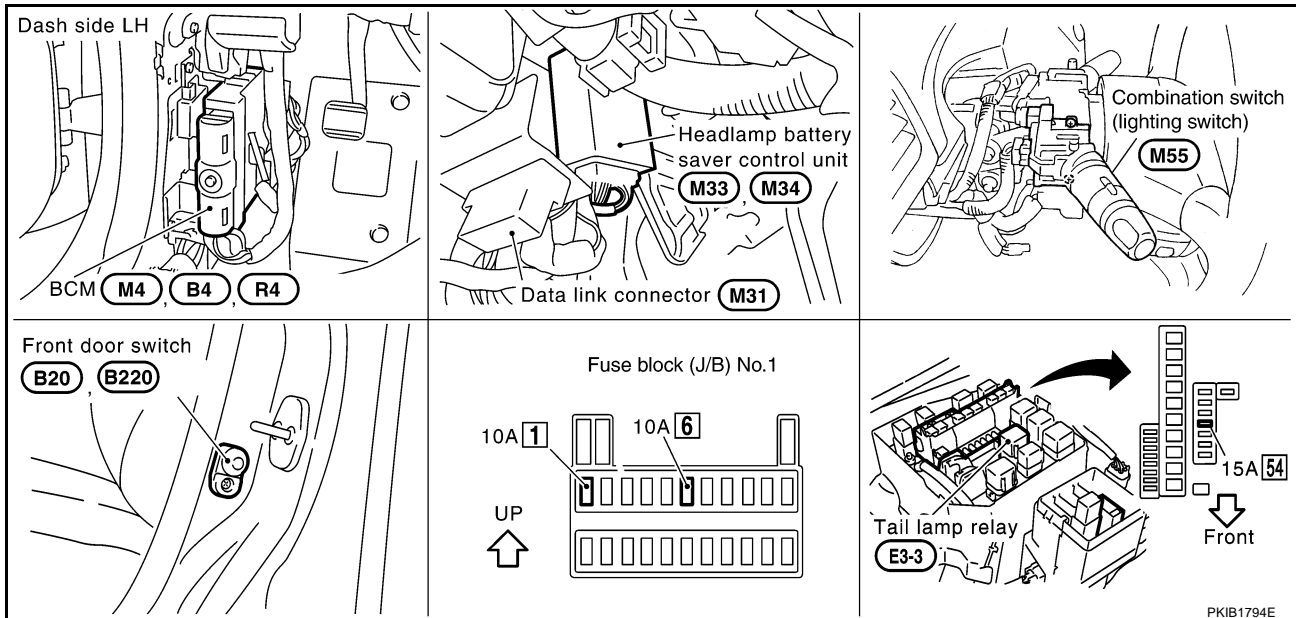
EKS000V8

## PARKING, LICENSE PLATE AND TAIL LAMPS

PFP:26550

### Component Parts and Harness Connector Location

EKS00F4D



### System Description

EKS000TK

The parking, license plate and tail lamp operations are controlled by combination switch (lighting switch) which is connected to the spiral cable and BCM. The battery saver system is controlled by the headlamp battery saver control unit and BCM.

### OUTLINE

Power is supplied at all times

- to tail lamp relay terminals 2 and 6
- through 15A fuse [No. 54, located in fuse, fusible link and relay block (J/B)], and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 6, located in fuse block (J/B) No.1].

When ignition switch is in ON or START position, power is supplied

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 1, located in fuse block (J/B) No.1].

Ground is supplied

- to headlamp battery saver control unit terminals 4 and 11
- through grounds M25 and M115.

### LIGHTING OPERATION BY LIGHTING SWITCH

When lighting switch is in 1ST (or 2ND) position, ground is supplied

- to tail lamp relay terminal 1 from headlamp battery saver control unit terminals 6 and 14
- through headlamp battery saver control unit terminals 5 and 13, and
- through lighting switch and grounds M25 and M115.

Tail lamp relay is then energized and the parking, license, side marker and tail lamps illuminate.

### BATTERY SAVER CONTROL

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while parking, license, side marker and tail lamps are illuminated, the RAP signal is supplied to terminal 10 of headlamp battery saver control unit terminal from BCM terminal 135.

After counting 45 seconds by the RAP signal from the BCM to headlamp battery saver control unit, the ground supply to terminal 1 of the tail lamp relay from headlamp battery saver control unit terminals 6 and 14 is terminated.

Then the parking, license, side marker and tail lamps are turned off.



## PARKING, LICENSE PLATE AND TAIL LAMPS

The parking, license, side marker and tail lamps are turned off when driver or passenger door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while the parking, license, side marker and tail lamps are illuminated.

When the lighting switch is turned from OFF to 1ST (or 2ND) after the parking, license, side marker and tail lamps are turned off by the headlamp battery saver control, ground is supplied.

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
- to tail lamp relay terminal 1 from headlamp battery saver control unit terminals 6 and 14.

Then the parking, license, side marker and tail lamps illuminate again.

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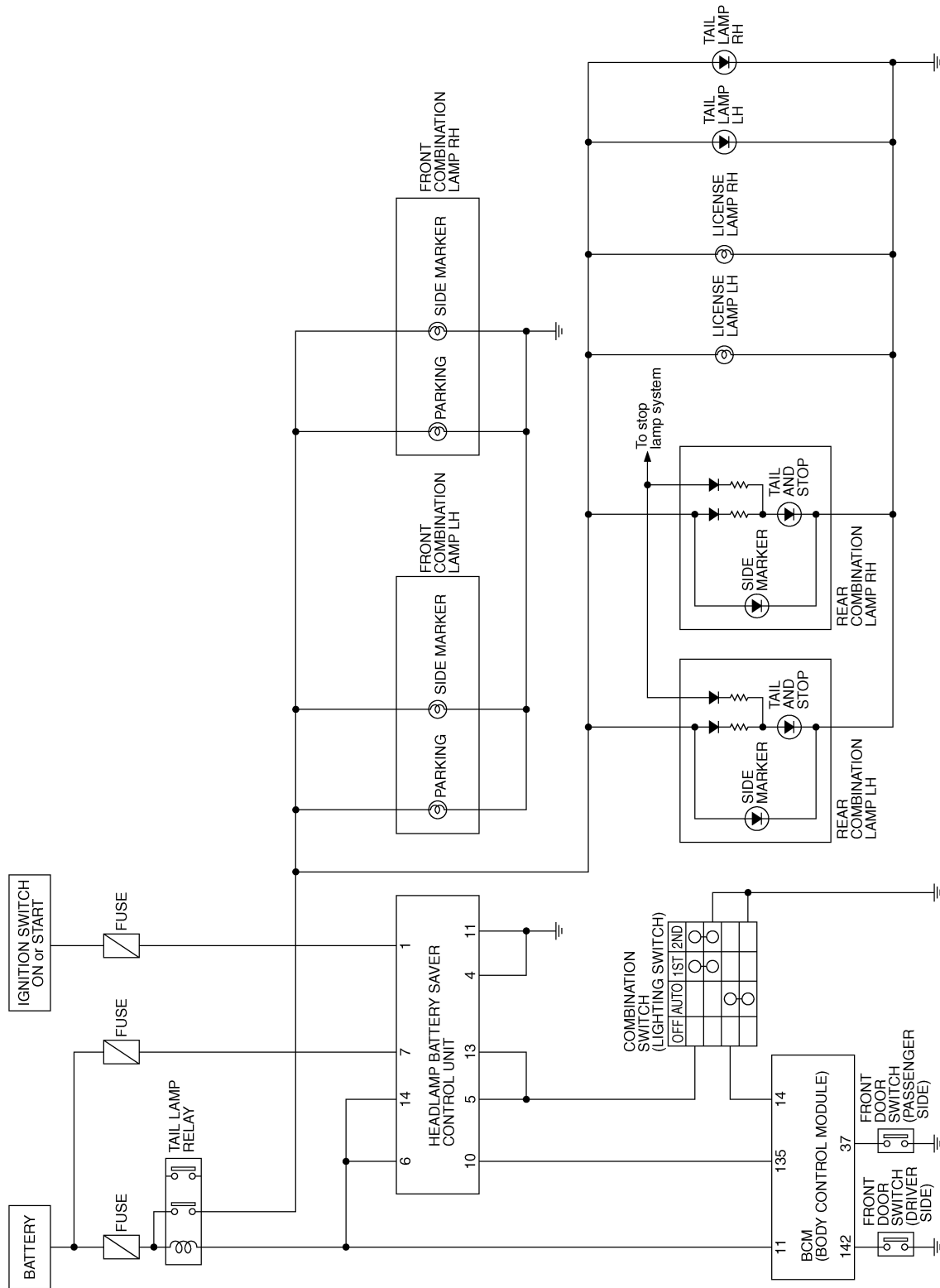
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# PARKING, LICENSE PLATE AND TAIL LAMPS

## Schematic

EKS000TL



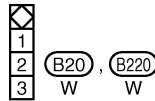
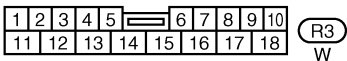
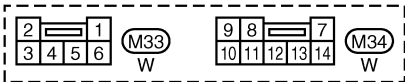
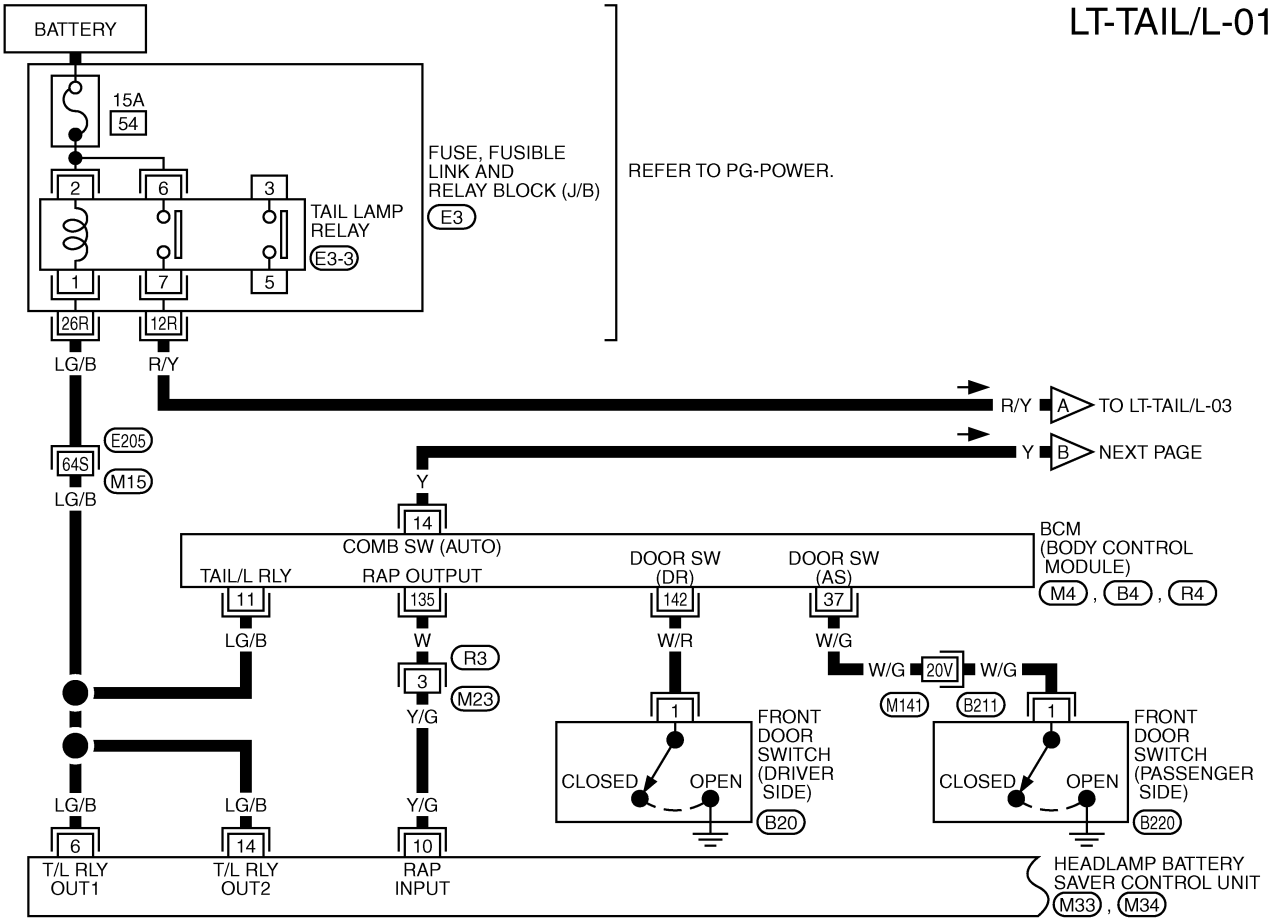
TKWM1489E

# PARKING, LICENSE PLATE AND TAIL LAMPS

## Wiring Diagram — TAIL/L —

EKS000TM

LT-TAIL/L-01



REFER TO THE FOLLOWING.

- (E205), (B211) -SUPER MULTIPLE JUNCTION (SMJ)
- (E3) -FUSE, FUSIBLE LINK AND RELAY BLOCK (J/B)
- (M4), (B4), (R4) -ELECTRICAL UNITS

\*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

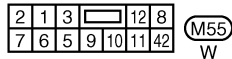
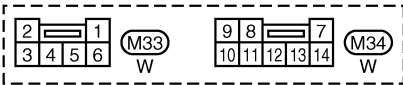
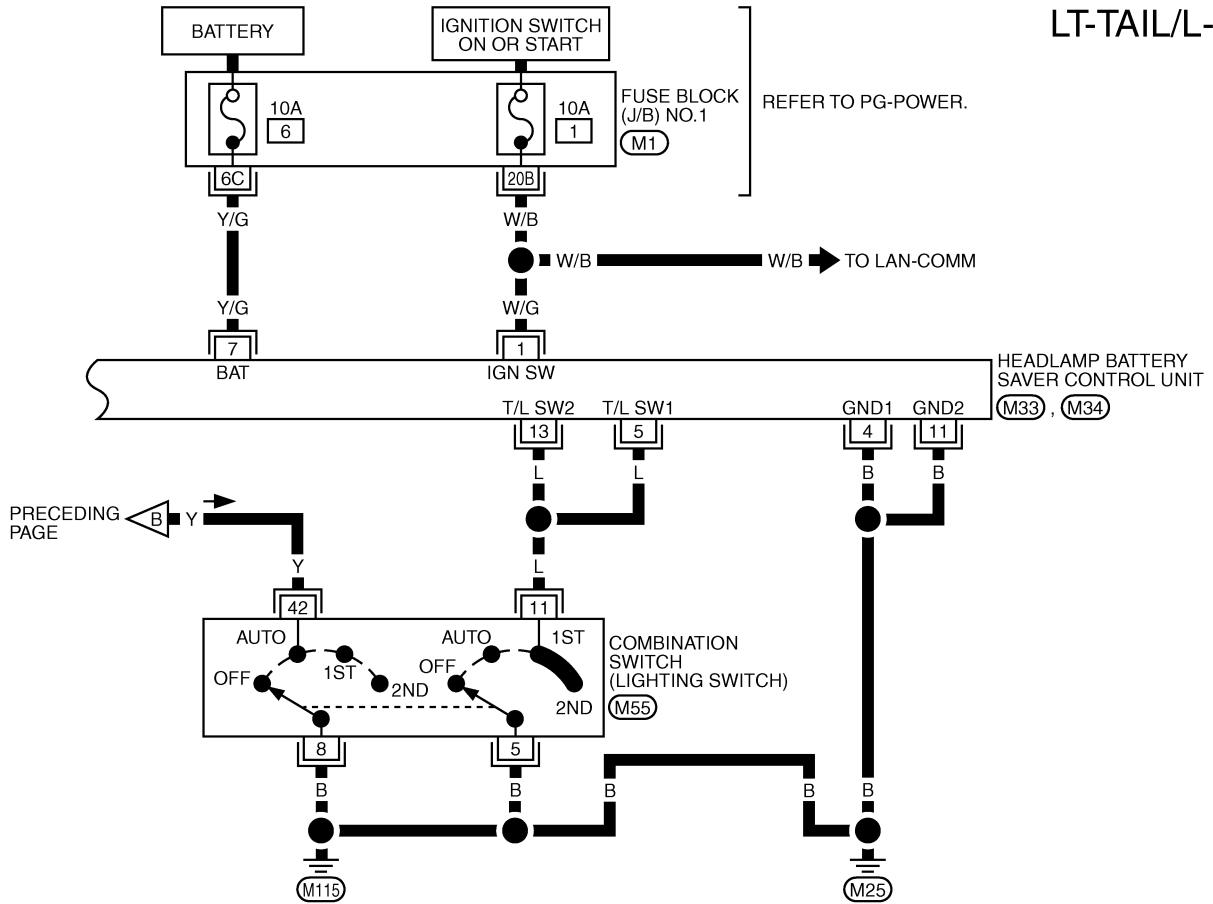
TKWM1490E

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# PARKING, LICENSE PLATE AND TAIL LAMPS

LT-TAIL/L-02

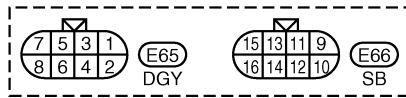
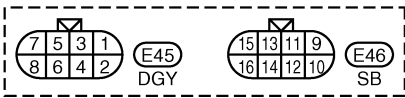
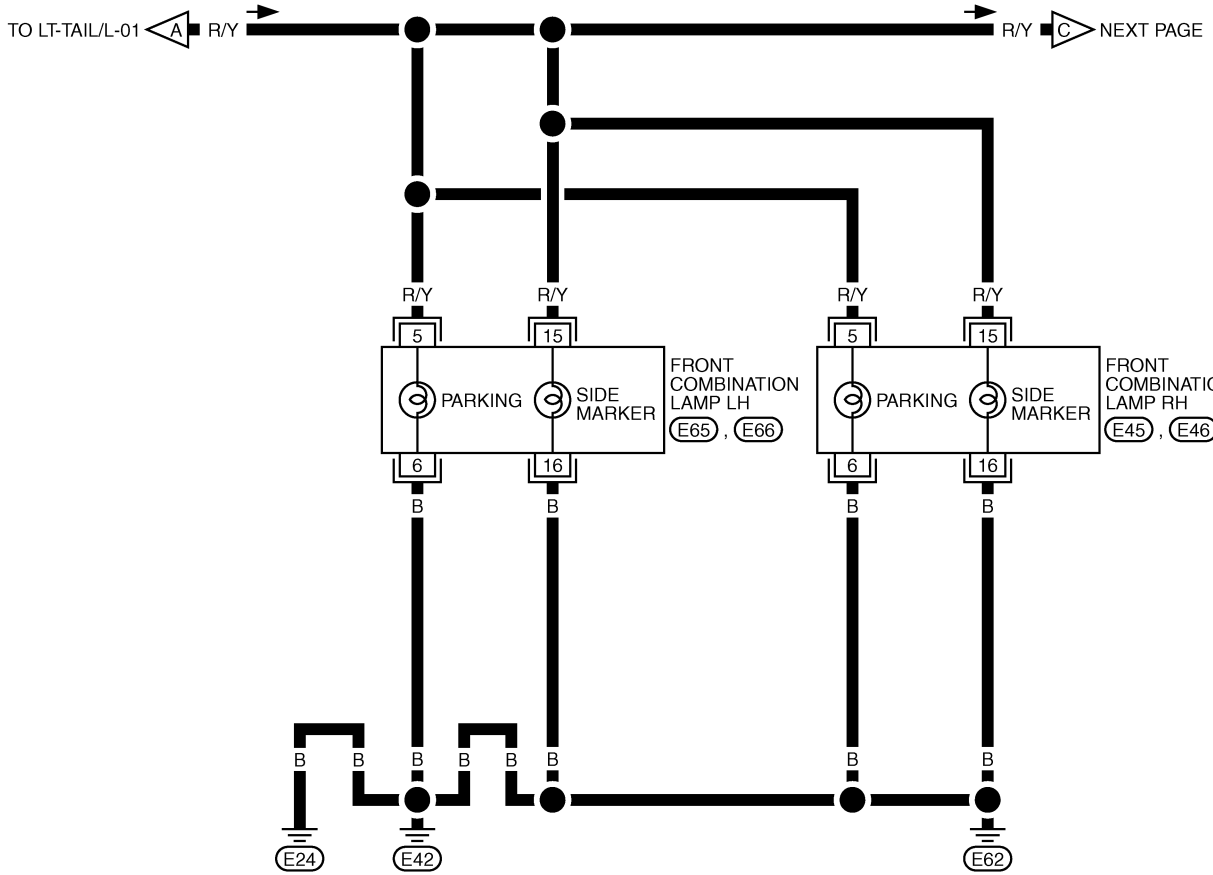


REFER TO THE FOLLOWING.  
 (M1) - FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM1491E

# PARKING, LICENSE PLATE AND TAIL LAMPS

LT-TAIL/L-03

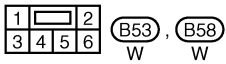
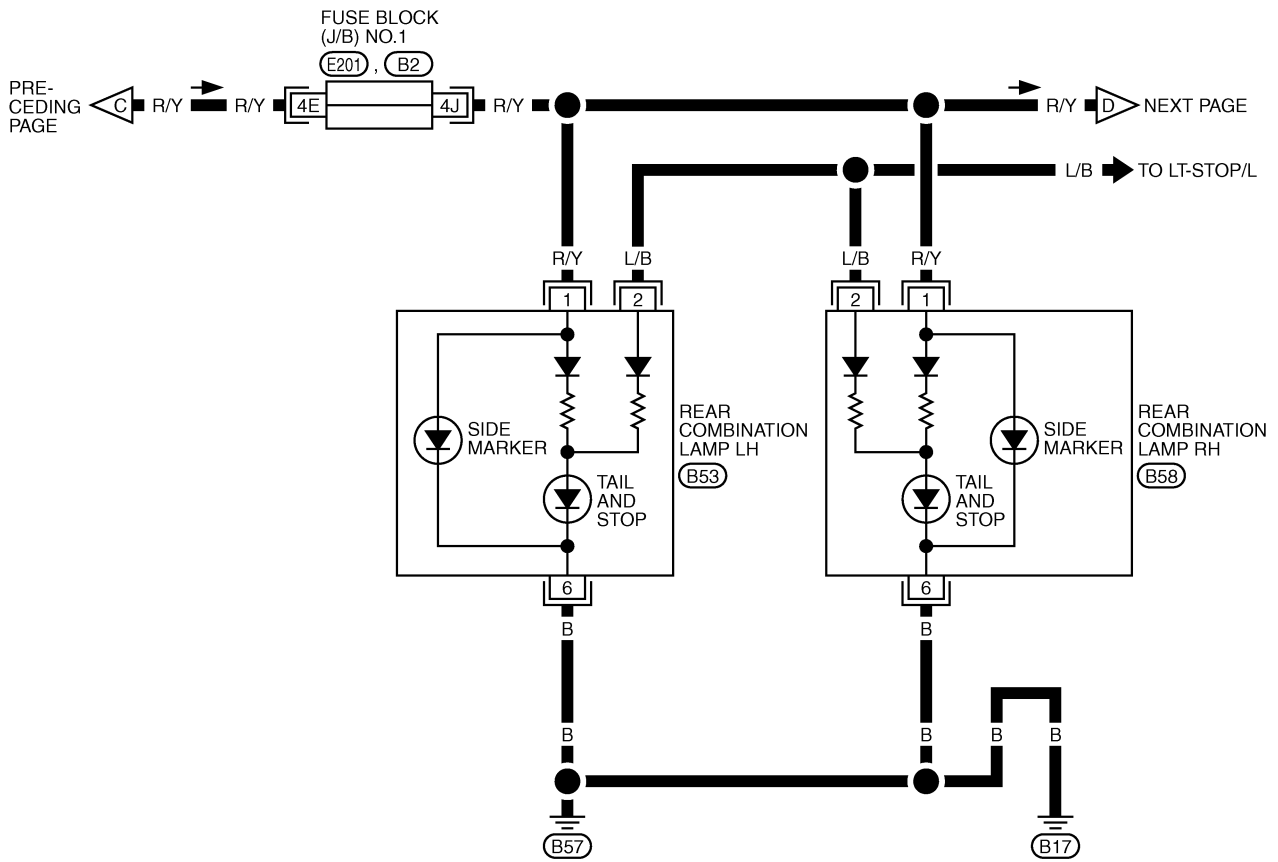


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TKWM1492E

# PARKING, LICENSE PLATE AND TAIL LAMPS

LT-TAIL/L-04

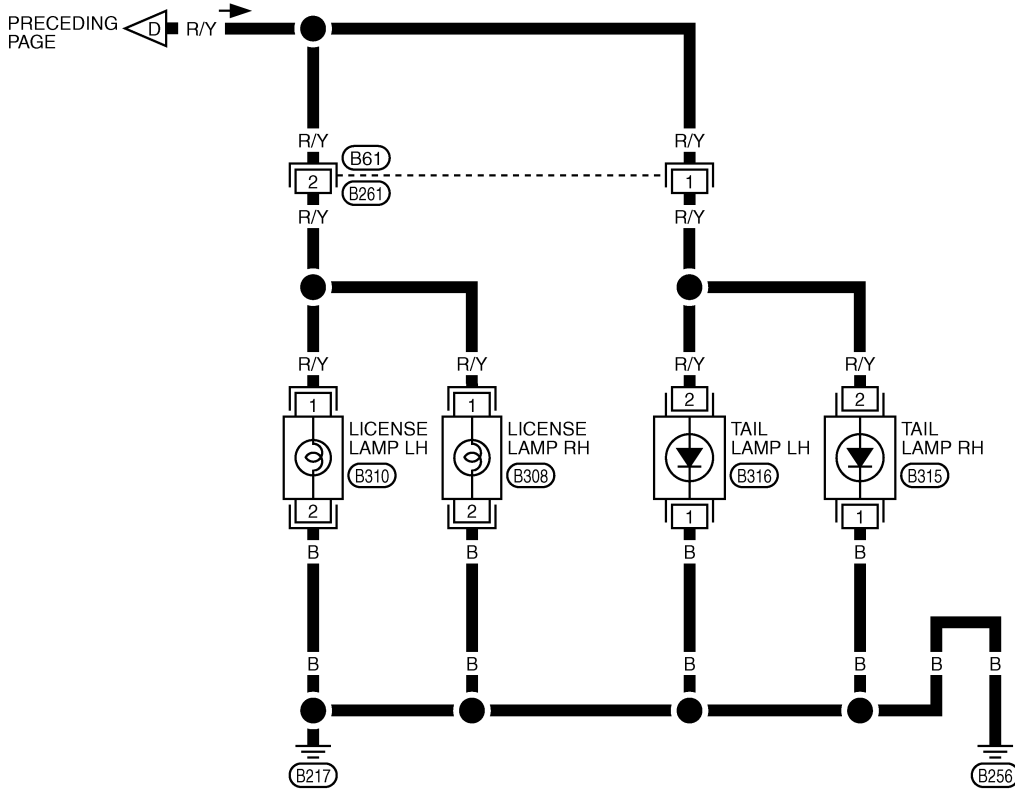


REFER TO THE FOLLOWING.  
(E201), (B2) - FUSE BLOCK-  
JUNCTION BOX (J/B) NO.1

TKWM1493E

# PARKING, LICENSE PLATE AND TAIL LAMPS

LT-TAIL/L-05



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TKWM1494E

# PARKING, LICENSE PLATE AND TAIL LAMPS

## Trouble Diagnoses

EKS000TN

Symptom	Repair Procedure
No lamps operate (including headlamps).	<ol style="list-style-type: none"> <li>1. Check 10A fuse [No. 6, located in fuse block (J/B) No.1]. Verify battery positive voltage is present at terminal 7 of headlamp battery saver control unit.</li> <li>2. Check lighting switch. Refer to <a href="#">LT-99, "Switch Circuit Inspection"</a> .</li> <li>3. Check headlamp battery saver control unit. Refer to <a href="#">LT-16, "Terminals and Reference Values for Battery Saver Control Unit"</a> .</li> </ol>
Parking, side marker, license plate and tail lamps do not operate, but headlamps operate.	<ol style="list-style-type: none"> <li>1. Check 15A fuse [No. 54, located in fuse, fusible link and relay block (J/B)]. Verify battery positive voltage is present at terminals 6 and 2 of tail lamp relay.</li> <li>2. Check tail lamp relay.</li> <li>3. Check harness between headlamp battery saver control unit terminals 6 and 14 and tail lamp relay terminal 1. Check harness between tail lamp relay terminal 7 and terminals of each combination lamp.</li> <li>4. Check lighting switch. Refer to <a href="#">LT-99, "Switch Circuit Inspection"</a> .</li> <li>5. Check harness between lighting switch terminal 11 and headlamp battery saver control unit terminals 5 and 13. Check harness between lighting switch terminal 5 and ground.</li> <li>6. Check headlamp battery saver control unit. Refer to <a href="#">LT-16, "Terminals and Reference Values for Battery Saver Control Unit"</a> .</li> </ol>
Battery saver control does not operate properly.	<ol style="list-style-type: none"> <li>1. Check RAP signal. Verify 12 positive voltage from BCM is present at terminal 10 of headlamp battery saver control unit: <ul style="list-style-type: none"> <li>- Within 45 seconds after ignition switch turned off.</li> <li>- Front door is opened or more than 45 seconds after ignition switch is turned off.</li> </ul> </li> <li>2. Check the following. <ul style="list-style-type: none"> <li>- Harness between BCM and front door switch (driver side) or front door switch (passenger side) for open or short circuit.</li> <li>- Front door switch (driver side) or front door switch (passenger side) ground circuit.</li> <li>- Front door switch (driver side) or front door switch (passenger side).</li> </ul> </li> <li>3. Check the following. <ul style="list-style-type: none"> <li>- Harness between headlamp battery saver control unit terminals 5 or 13 and lighting switch terminal 11 for open or short circuit.</li> <li>- Harness between lighting switch terminal 5 and ground.</li> <li>- Lighting switch. Refer to <a href="#">LT-99, "Switch Circuit Inspection"</a> .</li> </ul> </li> <li>4. Check headlamp battery saver control unit. Refer to <a href="#">LT-16, "Terminals and Reference Values for Battery Saver Control Unit"</a> .</li> <li>5. Check BCM. Refer to <a href="#">LT-17, "Terminals and Reference Values for BCM"</a> .</li> </ol>

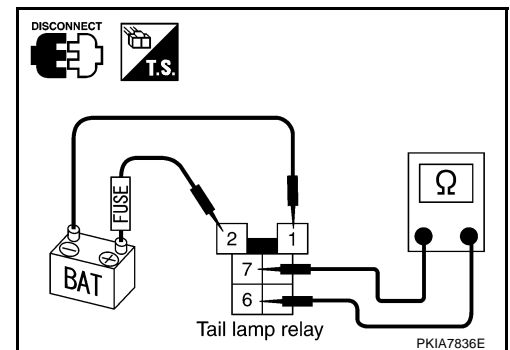
## Tail Lamp Relay Inspection

EKS00INN

1. Remove tail lamp relay.
2. Apply battery voltage between tail lamp relay terminals 2 and 1, and check continuity between terminals 6 and 7.

**6 - 7 : Continuity should exist.**

3. If there is a malfunction, replace tail lamp relay.





# PARKING, LICENSE PLATE AND TAIL LAMPS

## Bulb Replacement LICENSE PLATE LAMP

EKS000WE

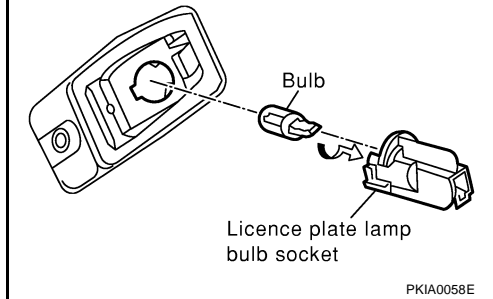
1. Remove the license plate lamp. Refer to [LT-113, "Removal and Installation"](#) .
2. Turn the bulb socket counterclockwise and unlock it.
3. Remove the bulb from its socket.

**License plate lamp : 12V 5W**

**License plate lamp mounting screw**

: **2.4 N·m (0.24 kg·m, 21 in-lb)**

SEC. 266



## FRONT COMBINATION LAMP

Refer to [LT-32, "Bulb Replacement"](#) in "HEADLAMP (FOR USA)".

## REAR COMBINATION LAMP

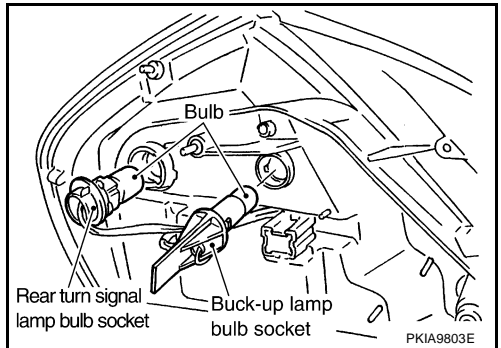
1. Open the trunk and remove the trunk side finisher. Refer to [EI-60, "TRUNK ROOM TRIM & TRUNK LID FINISHER"](#) in "EXTERIOR & INTERIOR (EI)" section.
2. Turn the bulb socket counterclockwise and unlock it.
3. Remove the bulb.

**Stop/tail lamp : LED (Replace as the rear combination lamp assembly.)**

**Rear turn signal lamp : 12V 21W (amber)**

**Buck-up lamp : 12V 18W**

**Rear side marker lamp : LED (Replace as the rear combination lamp assembly.)**



## TAIL LAMP

Refer to [LT-114, "TAIL LAMP \(TRUNK LID\)"](#) .

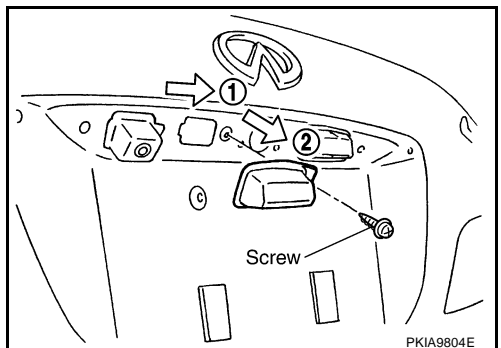
**Tail lamp : LED (Replace as the tail lamp assembly.)**

## Removal and Installation LICENSE PLATE LAMP

EKS000WI

### Removal

1. Remove the trunk lid finisher. Refer to [EI-33, "TRUNK LID FINISHER"](#) in "EXTERIOR & INTERIOR (EI)" section.
2. Remove license plate lamp mount screw.
3. Slide the license plate lamp to the right and then remove it.
4. Disconnect the license plate lamp connector.



### Installation

Note the following, and install in the reverse order of removal.

**License plate lamp mounting screw** : **2.4 N·m (0.24 kg·m, 21 in-lb)**

# PARKING, LICENSE PLATE AND TAIL LAMPS

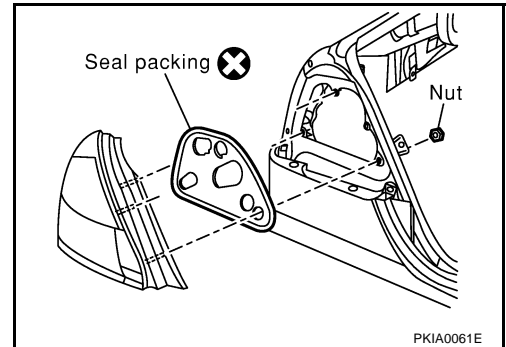
## FRONT COMBINATION LAMP

Refer to [LT-33, "Removal and Installation"](#) in "HEADLAMP (FOR USA)".

## REAR COMBINATION LAMP

### Removal

1. Open the trunk and remove the trunk side finisher. Refer to [EI-60, "TRUNK ROOM TRIM & TRUNK LID FINISHER"](#) in "EXTERIOR & INTERIOR (EI)" section.
2. Disconnect the rear combination lamp connector.
3. Remove the rear combination lamp mounting nuts.
4. Pull rear combination lamp toward rear of vehicle to remove it from the vehicle.
5. Remove the seal packing from vehicle.



### Installation

Note the following, and install in the reverse order of removal.

- Install a new seal packing to the rear combination lamp.

#### **CAUTION:**

**Seal packing cannot be reused.**

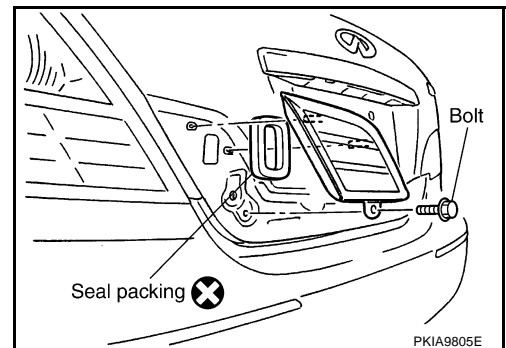
**Rear combination lamp mounting nut**

: 3.2 N·m (0.33 kg·m, 28 in·lb)

## TAIL LAMP (TRUNK LID)

### Removal

1. Open the trunk and remove the trunk lid finisher lower. Refer to [EI-33, "TRUNK LID FINISHER"](#) in "EXTERIOR & INTERIOR (EI)" section.
2. Disconnect the tail lamp connector.
3. Remove the trunk lid finisher lower. Refer to [EI-33, "TRUNK LID FINISHER"](#) in "EXTERIOR & INTERIOR (EI)" section.
4. Remove the tail lamp mounting bolt.
5. Pull tail lamp toward rear of vehicle to remove it from the vehicle.



### Installation

Note the following, and install in the reverse order of removal.

- Install a new seal packing to the tail lamp.

#### **CAUTION:**

**Seal packing cannot be reused.**

**Rear combination lamp mounting bolt**

: 5.5 N·m (0.56 kg·m, 49 in·lb)

# INTERIOR ROOM LAMP

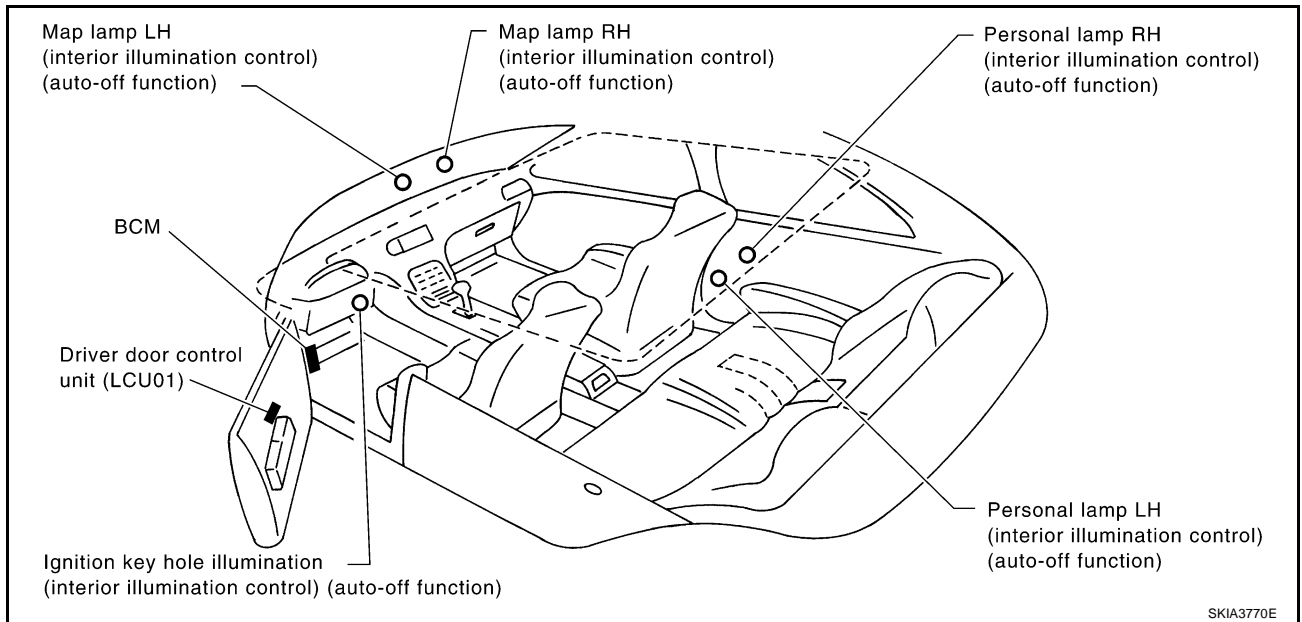
## INTERIOR ROOM LAMP

PFP:26410

### System Description OUTLINE

EKS0017P

Controls on/off and afterglow time of the map lamp (front personal light), personal lamp (rear personal light), and ignition key hole illumination.



### TIMER FUNCTION

Controls the illumination duration of the lamps and illuminations according to the signals from the door unlock sensor, front door switch (driver side), ignition switch, and key switch.

- The timer operates for approx. 30 seconds.
- The timer will be actuated or cancelled by the signals from the following switches.

Components	Operation
Front door lock actuator (driver side) (Door unlock sensor)	<ul style="list-style-type: none"> <li>● Timer will be actuated by input of the switch ON (door unlocked) signal when the driver door switch is OFF (door closed) and the key-in detection switch is OFF (key withdrawn).</li> <li>● Timer will be cancelled by input of the switch OFF (door locked) signal.</li> </ul>
Front door switch (driver side)	<ul style="list-style-type: none"> <li>● Timer will be cancelled by input of the switch ON (door open) signal.</li> <li>● Timer will be actuated by input of the switch ON→OFF (door open→closed) signal when the key-in detection switch is OFF.</li> </ul>
Ignition switch	<ul style="list-style-type: none"> <li>● Timer will be cancelled by input of the switch ACC or ON signal.</li> </ul>
Key switch and key lock solenoid (Key switch)	<ul style="list-style-type: none"> <li>● Timer will be actuated by input of the switch ON→OFF (key inserted→withdrawn) signal when the driver door switch is OFF (door closed).</li> </ul>

- If a new timer actuation signal is input while the timer is operating, the later input will have priority.
- If any lamp switch is operated and a separate actuation signal is input while the timer is operating, the lamp operation will be prioritized. However, the timer operation will not be renewed or cancelled.

# INTERIOR ROOM LAMP

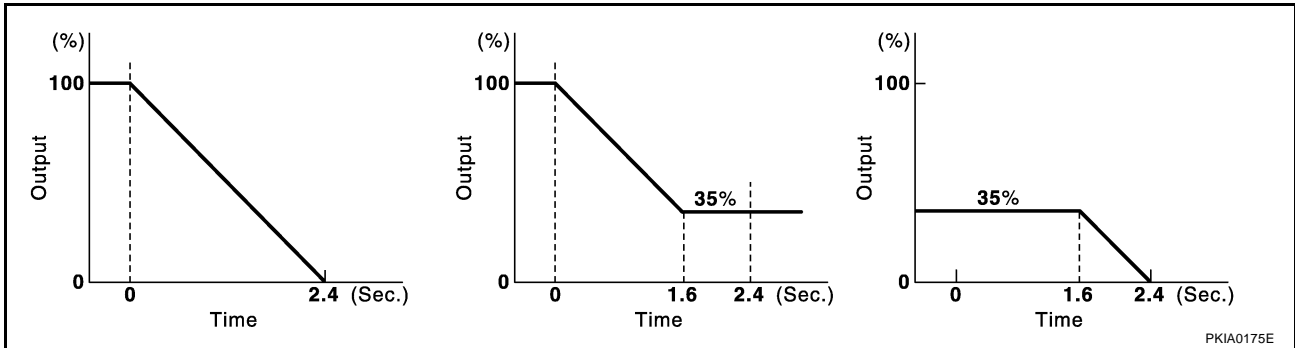
## LAMP OUTPUT CONTROL FUNCTION

This function controls output of lamps except for the ignition key hole illumination.

- Full illumination → off, from full illumination → half illumination, and from half illumination → off

### NOTE:

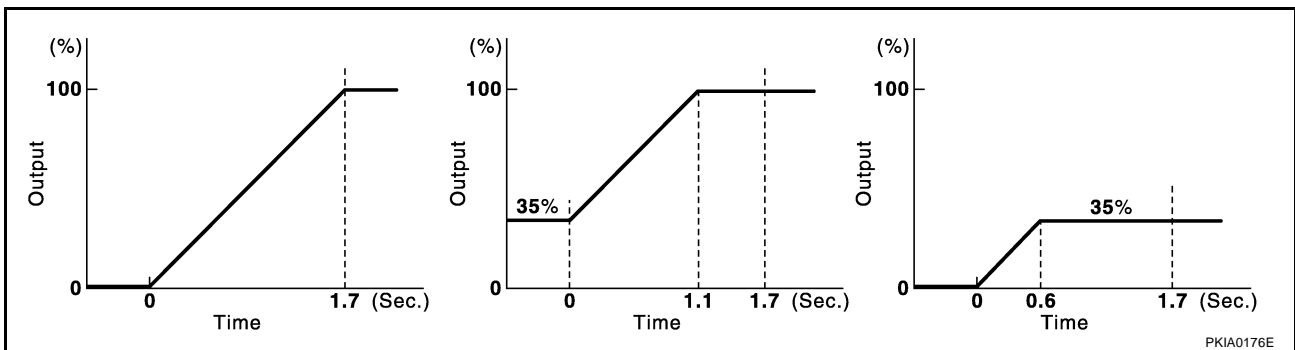
In full illumination, brightness of the lamps is 100%. In half illumination, it is 35% (25% for the personal lamp).



- Off → full illumination, half illumination → full illumination, off → half illumination

### NOTE:

In full illumination, brightness of the lamps is 100%. In half illumination, it is 35% (25% for the personal lamp).



## AUTO OFF FUNCTION

When ignition switch is in OFF, and following condition is continued for approximately 30 minutes without the change, then interior room lamps are automatically turned OFF.

- Interior lamp illumination switch and personal lamps switch are "AUTO" position, and then door switch of either is opened.
- Interior lamp illumination switch is "ON" position.
- Personal lamp switch is "FULL" position.

The auto off function is turned OFF when the one of following change is operated, and executes a usual operation control thereafter.

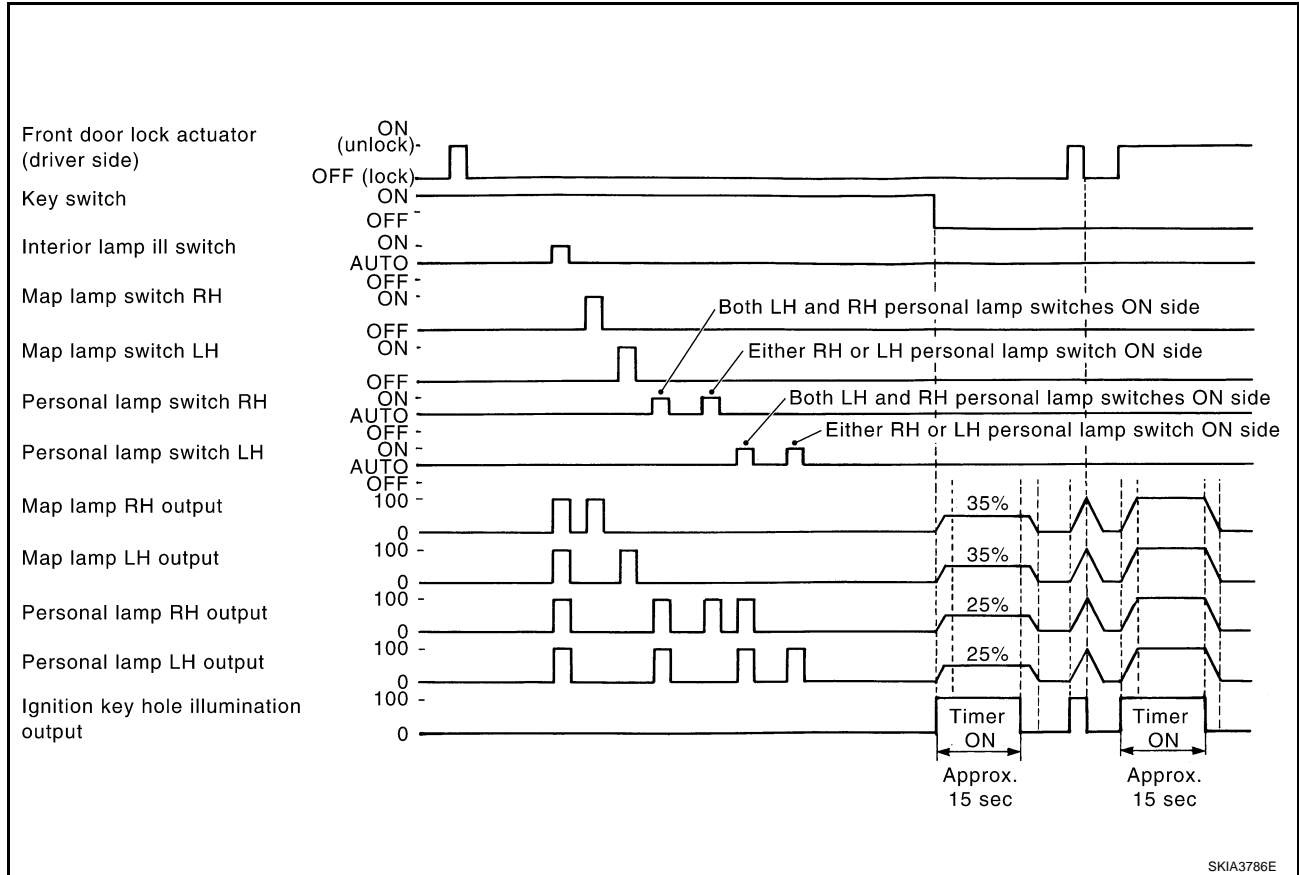
- Ignition switch is turned from OFF to ON.
- Each door switch is switched from OFF to ON. (Door closed → open)
- Interior lamp illumination switch is switched from OFF to ON.
- Personal lamp switch is switched from AUTO to ON.

# INTERIOR ROOM LAMP

## LIGHTS ON/OFF MODES

Separate signal from each switch and signals of higher output have priority over these modes.

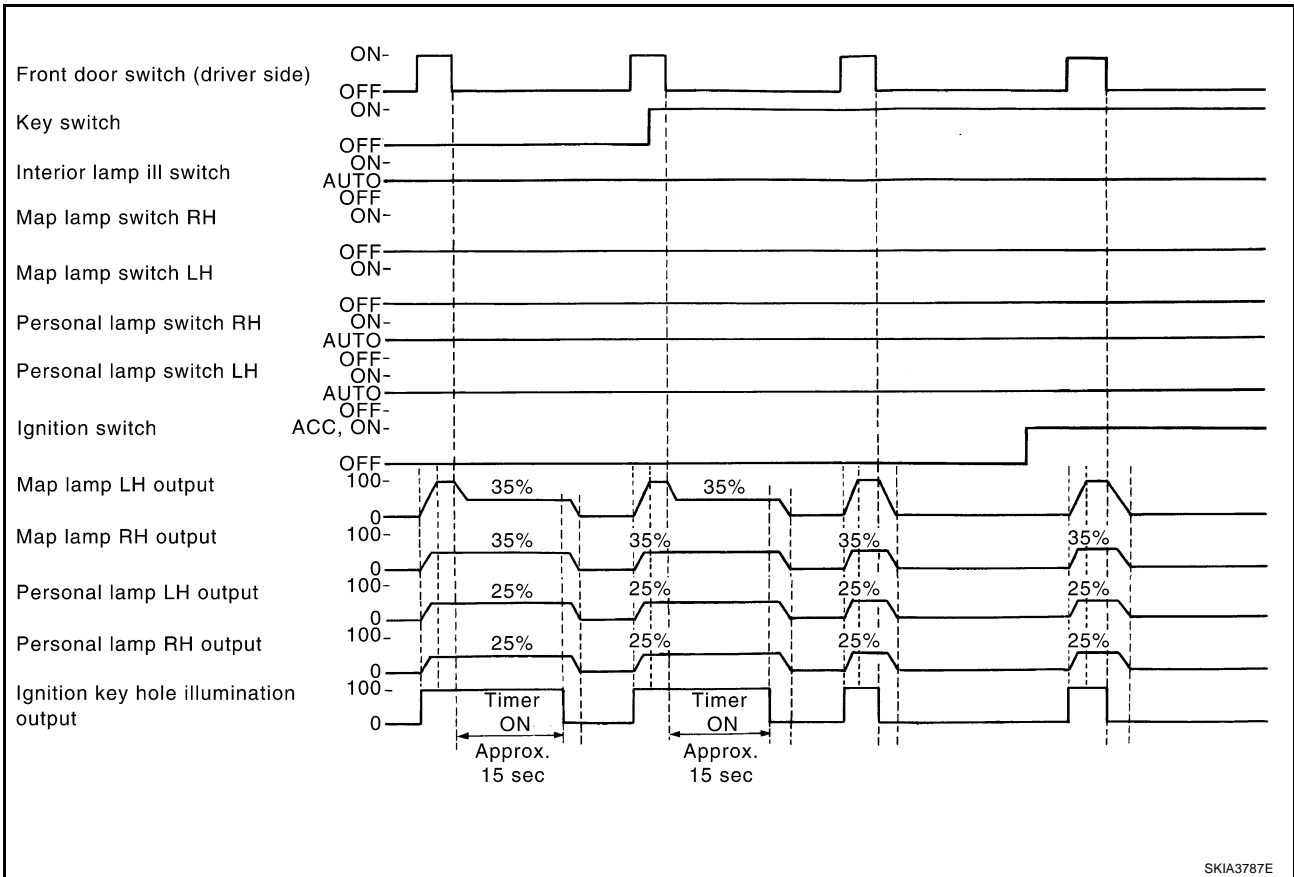
1. Lights on-off modes when each lamp switch is operated.



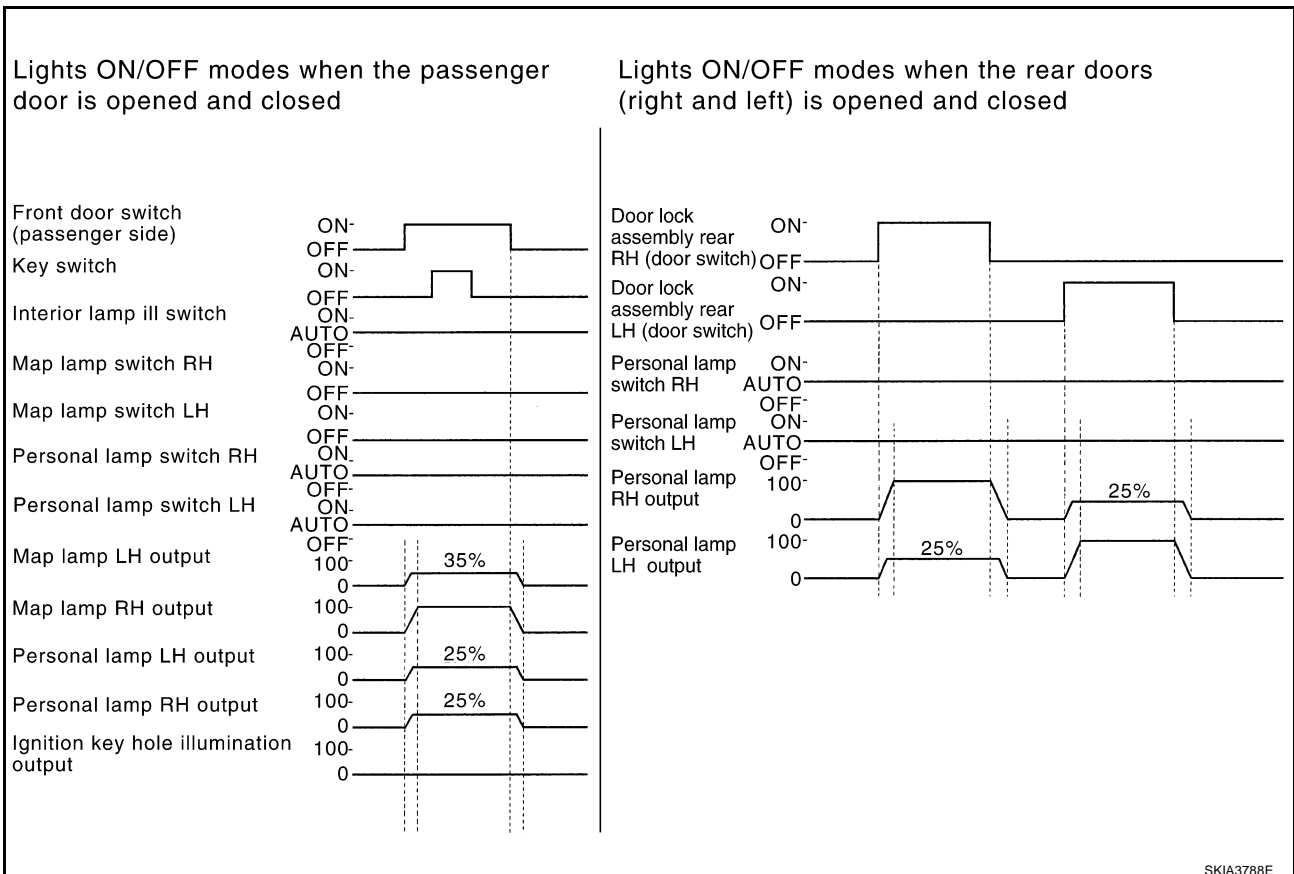
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# INTERIOR ROOM LAMP

## 2. Lights on-off modes when the driver door is opened and closed.



## 3. Lights on-off modes when the passenger door is opened and closed, lights on-off modes when rear doors (LH, RH) are opened and closed.



# INTERIOR ROOM LAMP

## Major Components and the Functions

EKS0017R

Component	Function
BCM	Controls on/off and afterglow time of the interior lamps and illuminations according to signals from ignition switch, key switch, lighting switch, each door switch, door unlock sensor, and each lamp switch. <b>CAUTION:</b> <b>On/off control varies with signal input from each switch. Refer to <a href="#">LT-117. "LIGHTS ON/OFF MODES"</a></b> .
Door unlock sensor	Detects driver door lock (switch OFF)/unlock (switch ON) status and inputs it to the BCM via the driver door LCU.
Driver door switch	Detects driver door open (switch ON)/closed (switch OFF) status and inputs it to the BCM.
Ignition switch	Detects ignition switch OFF (OFF), ACC-IGN (ON) status and inputs it to the BCM.
Key-in detection switch	Detects ignition key inserted (ON)/withdrawn (OFF) status and inputs it to the BCM.

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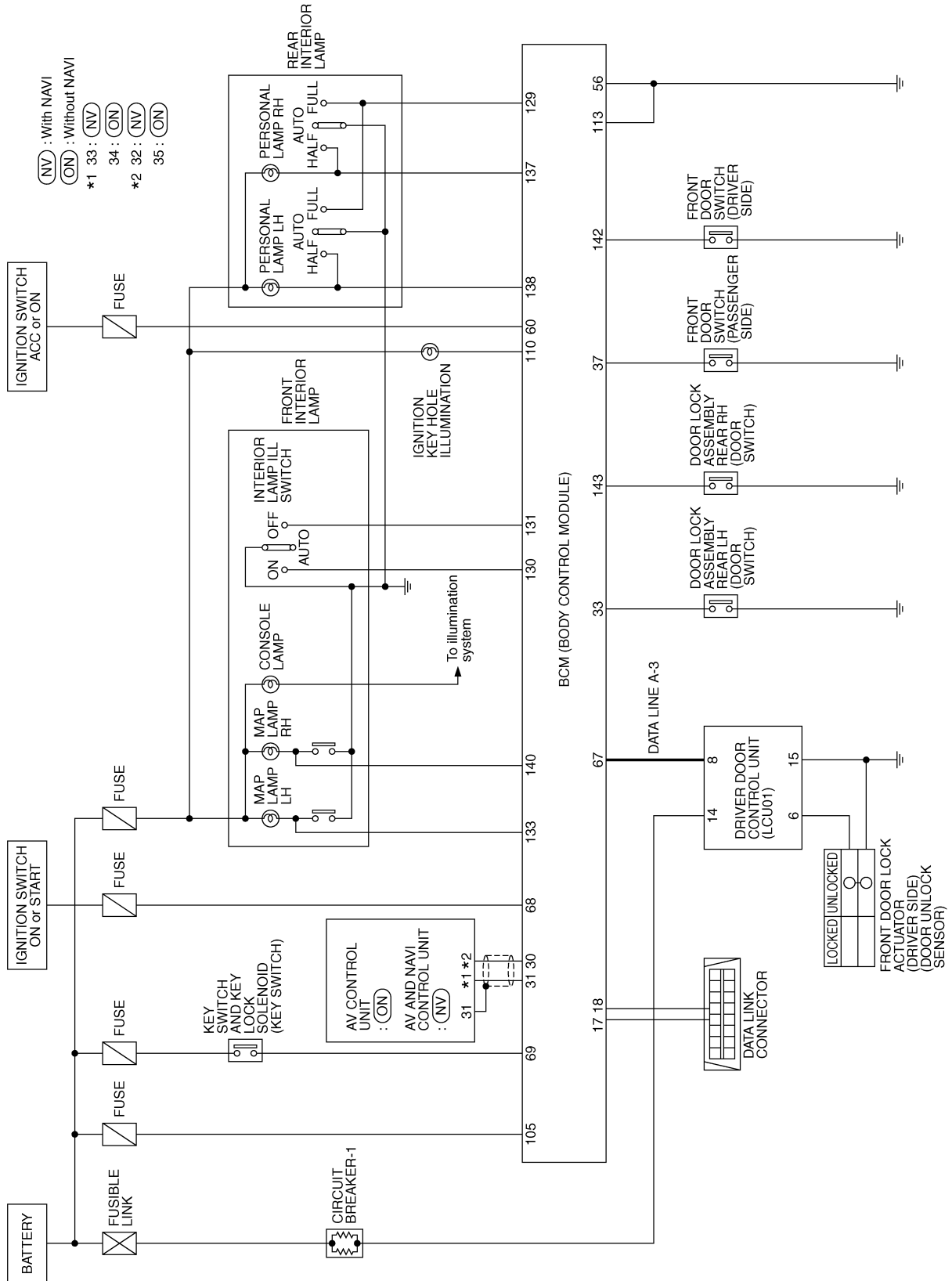
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# INTERIOR ROOM LAMP

## Schematic

EKS000TZ



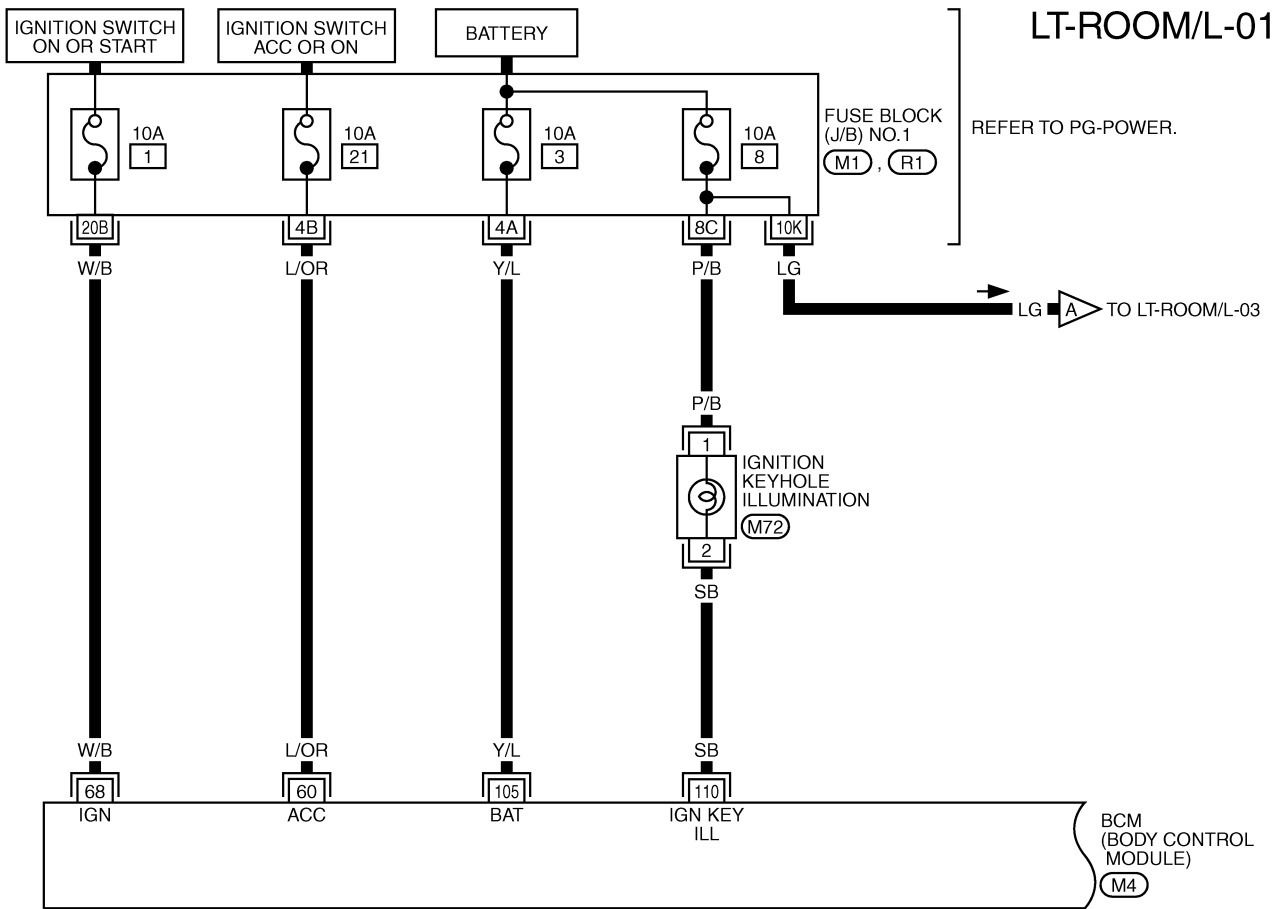
TKWM1040E



# INTERIOR ROOM LAMP

## Wiring Diagram — INT/L —

EKS000U0



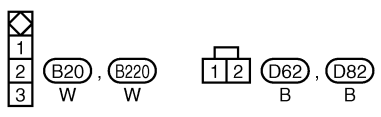
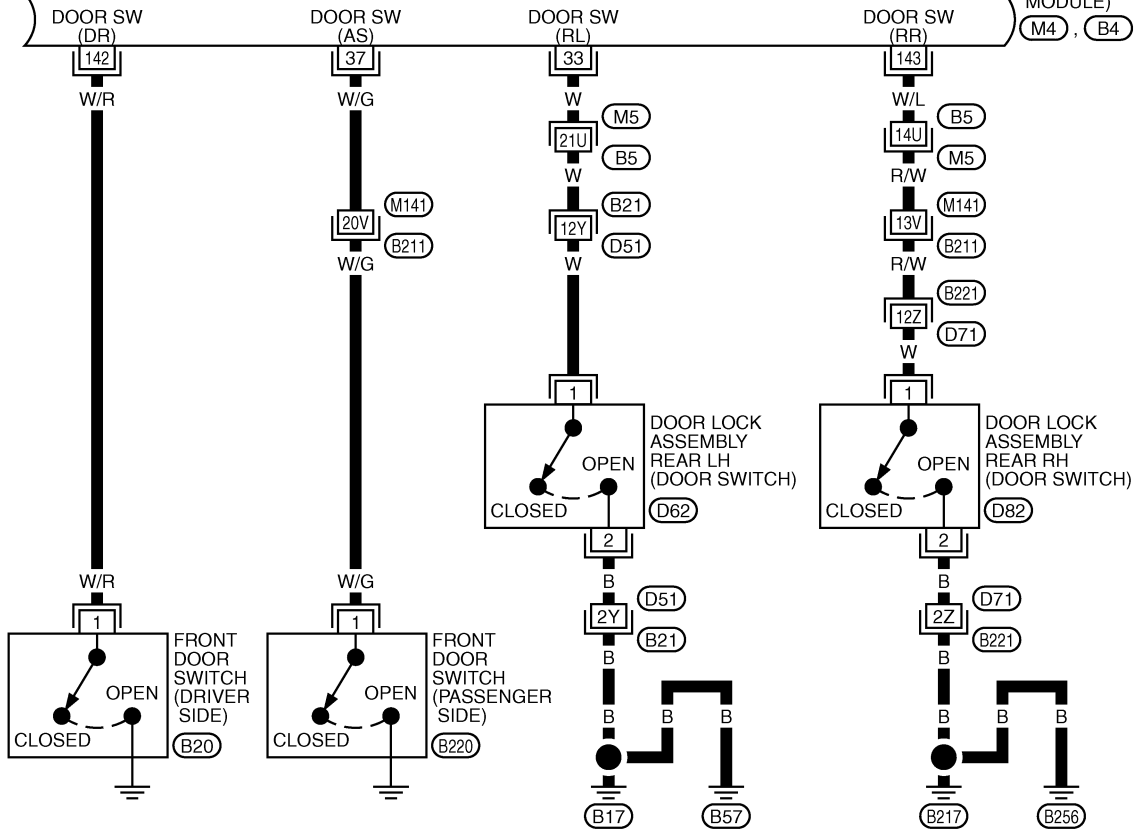
REFER TO THE FOLLOWING.  
 (M1), (R1) - FUSE BLOCK-  
 JUNCTION BOX (J/B) NO.1  
 (M4) - ELECTRICAL UNITS

TKWM1515E

# INTERIOR ROOM LAMP

## LT-ROOM/L-02

BCM  
(BODY CONTROL  
MODULE)  
(M4 , B4)

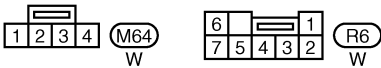
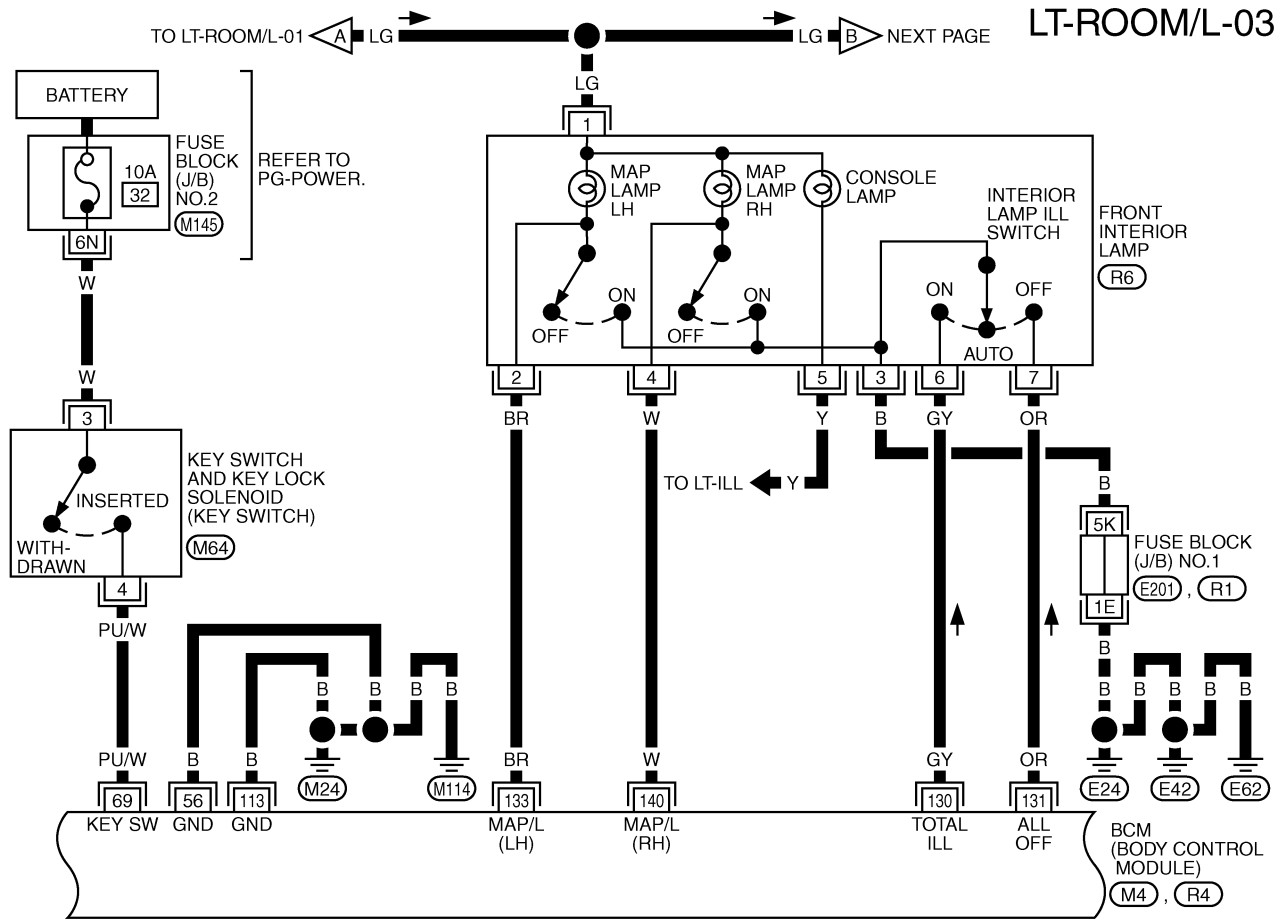


REFER TO THE FOLLOWING.  
 (M5) , (B21) , (B211) , (B221)  
 -SUPER MULTIPLE JUNCTION  
 (SMJ)  
 (M4) , (B4) -ELECTRICAL  
 UNITS

TKWM1516E

# INTERIOR ROOM LAMP

LT-ROOM/L-03



REFER TO THE FOLLOWING.

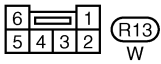
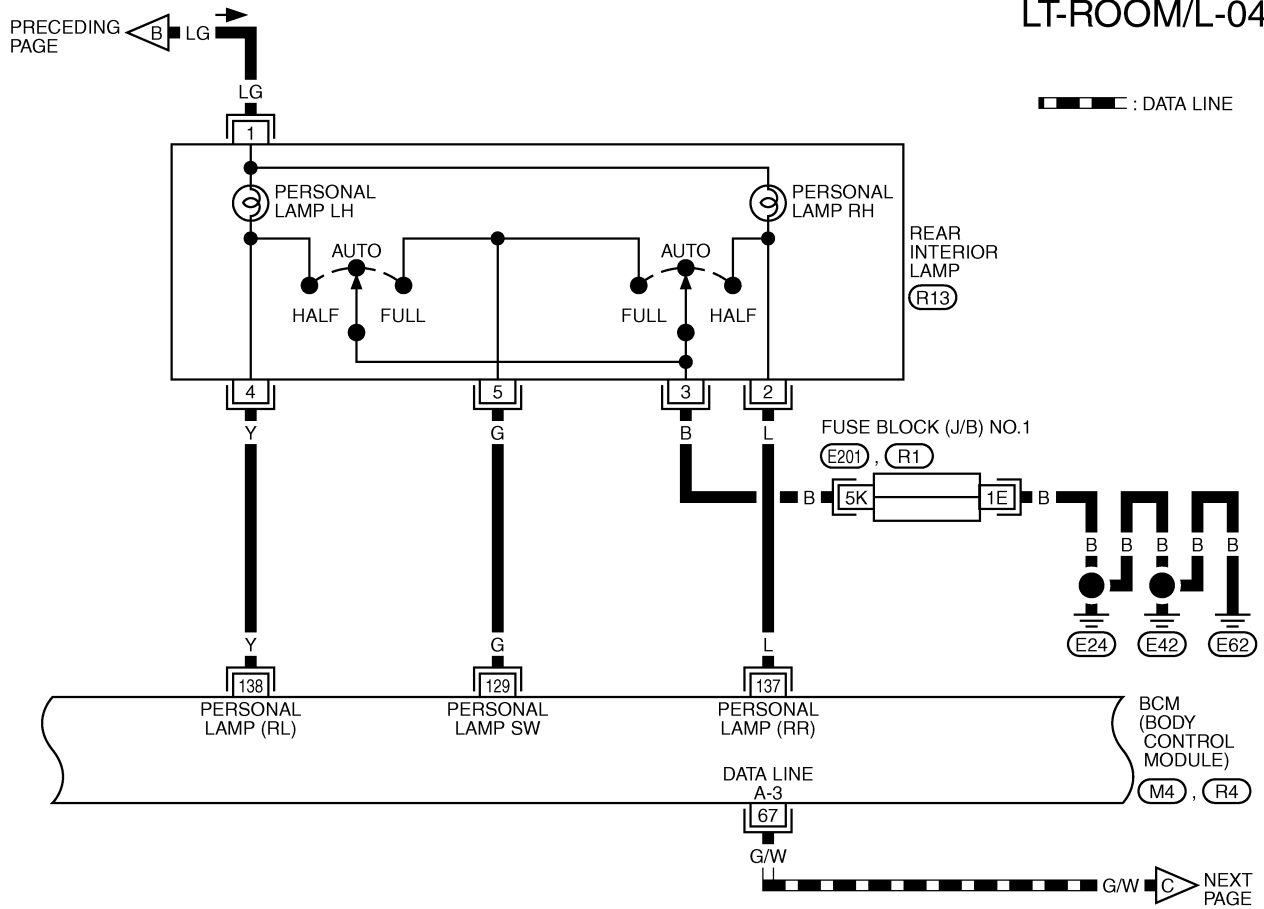
- (E201), (R1) - FUSE BLOCK-JUNCTION BOX (J/B) NO.1
- (M145) - FUSE BLOCK-JUNCTION BOX (J/B) NO.2
- (M4), (R4) - ELECTRICAL UNITS

TKWM1517E

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
LT  
L  
M

# INTERIOR ROOM LAMP

LT-ROOM/L-04



REFER TO THE FOLLOWING.

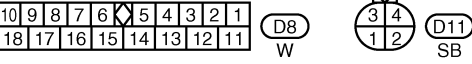
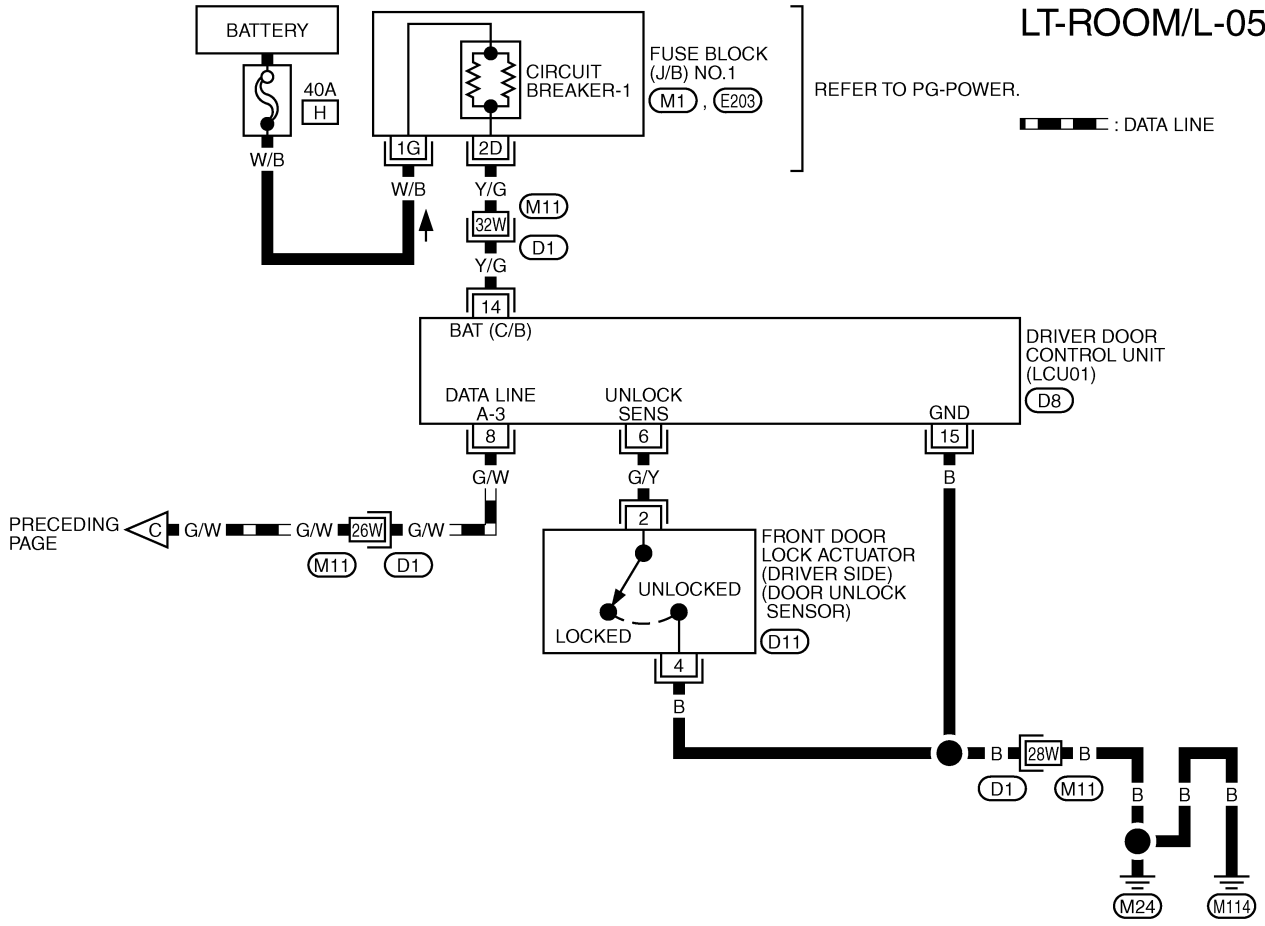
(E201), (R1) -FUUSE BLOCK-JUNCTION BOX (J/B) NO.1

(M4), (R4) -ELECTRICAL UNITS

TKWM1518E

# INTERIOR ROOM LAMP

LT-ROOM/L-05



REFER TO THE FOLLOWING.  
 (D1) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M1), (E203) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM1519E

A  
B  
C  
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E  
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G  
H  
I  
J  
L  
M

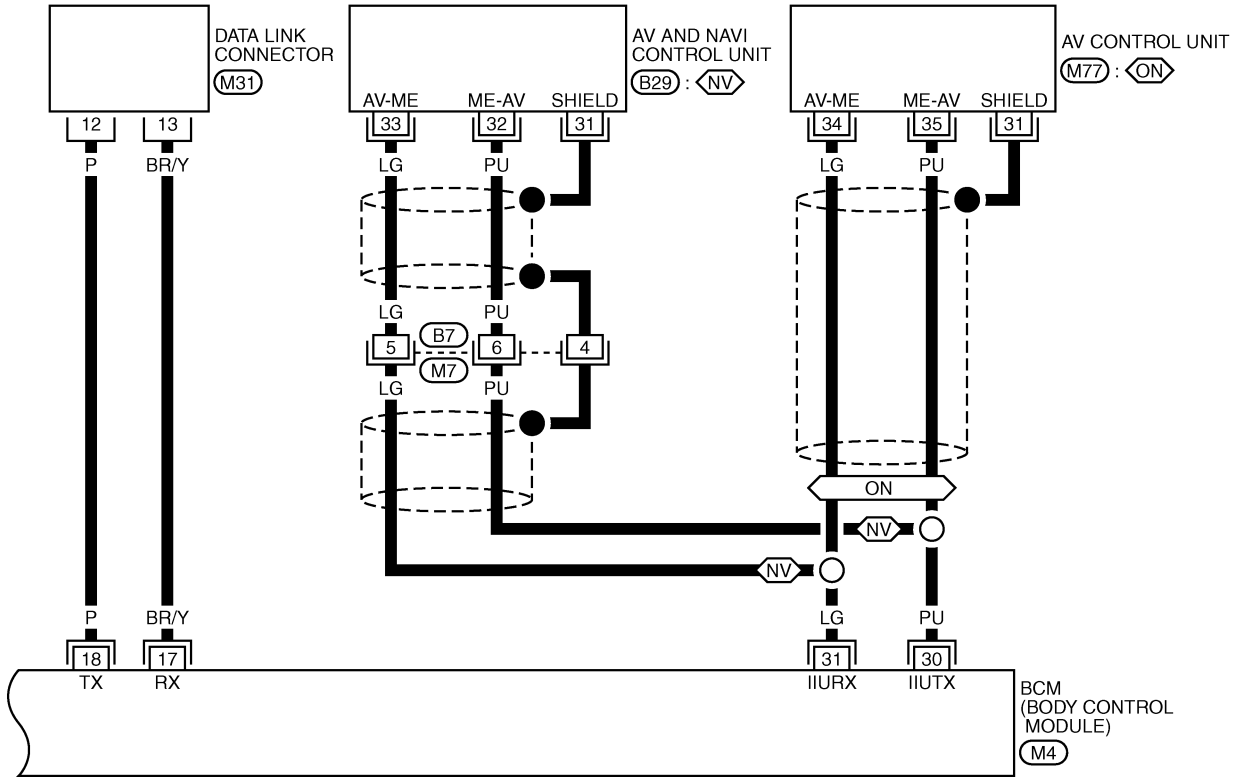
LT

# INTERIOR ROOM LAMP

## LT-ROOM/L-06

◊NV◊ : WITH NAVI

◊ON◊ : WITHOUT NAVI



1	2	3	4	5	6	7	8	9	10	11		
12	13	14	15	16	17	18	19	20	21	22	23	24

(M7) W

16	15	14	13	12	11	10	9
8	7	6	5	4	3	2	1

(M31) W

48	45	42	39	37	35	33	30	27
47	44	41	38	36	34	32	29	26
46	43	40				31	28	25

(M77) (B29)  
GY GY

REFER TO THE FOLLOWING.

(M4) -ELECTRICAL UNITS

TKWM1520E

# INTERIOR ROOM LAMP

## Terminals and Reference Values for BCM

EKS00174

Terminal No.	Wire color	Item	Measuring condition			Reference value
			Ignition switch	Operation or condition		
17	BR/Y	Data link RX	—	—		—
18	P	Data link TX	—	—		—
30	PU	Communication signal TX (BCM-AV: Transmission)	—	—		—
31	LG	Communication signal RX (AV-BCM: Receiving)	—	—		—
33	W	Rear LH door switch signal	OFF	Rear LH door switch	ON (open)	Approx. 0 V
					OFF (closed)	Battery voltage
37	W/G	Front door switch (passenger side) signal	OFF	Front door switch (passenger side) signal	ON (open)	Approx. 0 V
					OFF (closed)	Battery voltage
56	B	Ground	—	—		—
60	L/OR	Ignition switch (ACC)	ACC	—		Battery voltage
67	G/W	Data line A-3	—	—		—
68	W/B	Ignition switch	ON	—		Battery voltage
69	PU/W	Key switch and key lock solenoid signal	OFF	Key withdrawn (OFF)		Approx. 0 V
				Key inserted (ON)		Battery voltage
105	Y/L	Battery power supply	OFF	—		Battery voltage
110	SB	Ignition switch illumination signal	OFF	Turned OFF		Battery voltage
				Turned ON		Approx. 0 V
113	B	Ground	—	—		—
129	G	Personal lamp switch signal	OFF	Personal lamp switch	One switch ON	Approx. 5 V
					AUTO	Approx. 5 V
					Both switch ON	Approx. 0 V
130	GY	Interior lamp illumination switch ON signal	OFF	Interior lamp illumination switch	ON	Approx. 0 V
					AUTO	Approx. 5 V
					OFF	Approx. 5 V
131	OR	Interior lamp illumination switch OFF signal	OFF	Interior lamp illumination switch	ON	Approx. 5 V
					AUTO	Approx. 5 V
					OFF	Approx. 0 V
133	BR	Map lamp LH signal	OFF	Turned OFF		Battery voltage
				Dimming		Approx. 8 V
				Turned ON		Approx. 0 V
137	L	Personal lamp RH signal	OFF	Turned OFF		Battery voltage
				Dimming		Approx. 8 V
				Turned ON		Approx. 0 V
138	Y	Personal lamp LH signal	OFF	Turned OFF		Battery voltage
				Dimming		Approx. 8 V
				Turned ON		Approx. 0 V
140	W	Map lamp RH signal	OFF	Turned OFF		Battery voltage
				Dimming		Approx. 8 V
				Turned ON		Approx. 0 V

# INTERIOR ROOM LAMP

Terminal No.	Wire color	Item	Measuring condition			Reference value
			Ignition switch	Operation or condition		
142	W/R	Driver door switch signal	OFF	Driver door switch	ON (open)	Approx. 0 V
					OFF (closed)	Battery voltage
143	W/L	Rear RH door switch signal	OFF	Rear RH door switch	ON (open)	Approx. 0 V
					OFF (closed)	Battery voltage

## Terminals and Reference Values for Driver Door Control Unit (LCU01)

EKS000X0

Terminal No.	Wire color	Item	Measuring condition		Reference value
			Ignition switch	Operation or condition	
6	G/Y	Door unlock sensor	OFF	ON (unlocked)	0 V
				OFF (locked)	5 V
8	G/W	Data line A-3	—	—	—
14	Y/G	Power source (circuit breaker)	OFF	—	Battery voltage
15	B	Ground	ON	—	Approx. 0 V

## Work Flow

EKS000X1

1. Confirm the symptom or customer complaint.
2. Understand system description. Refer to [LT-115, "System Description"](#) .
3. Perform the preliminary check. Refer to [LT-128, "Preliminary Check"](#) .
4. Does the door lock system operate normally? If YES, GO TO 5. If NO, GO TO Power door lock system [BL-44, "Symptom Chart"](#) in "BODY LOCK & SECURITY SYSTEM (BL)" section.
5. Find the cause of trouble following the trouble diagnosis chart by symptom and repair or replace as necessary. Refer to [LT-135, "Symptom Chart"](#) .
6. Does the total coordinated interior illumination operate normally? If YES, GO TO 7. If NO, GO TO 5.
7. INSPECTION END

## Preliminary Check

EKS000X2

### SETTING CHANGE FUNCTION

- Setting for each operation can be changed using CONSULT-II and a display unit.

Item	Description	CONSULT-II (Work support)	Display unit (Setting of various vehicle conditions)	Factory setting
SET I/L LGC-D- UNLCK (CONSULT-II) Illuminate Interior When Unlocking Vehicle (display unit)	Selects ON-OFF of the interior lamp illumination at the time the driver door is unlocked.	ON	ON: Indicator ON	×
		OFF	OFF: indicator OFF	—
SET INT- L LOGIC-TIM (CONSULT-II) Interior Lights Off Delay (display unit)	Selects interior lamp timer set time in four steps.	Mode 1 (off)	OFF: Display OFF	—
		Mode 2 (15 seconds)	15 seconds: Display 15 sec.	—
		Normal (30 seconds)	30 seconds: Display 30 sec.	×
		Mode 3 (45 seconds)	45 seconds: Display 45 sec.	—

### CAUTION:

**After the setting is changed, the new setting will be maintained even if the battery is disconnected.**



# INTERIOR ROOM LAMP

## INSPECTION FOR POWER AND GROUND CIRCUIT

### 1. CHECK FUSE

Check if any of the following fuses in BCM are blown.

Unit	Power source	Fuse No.
BCM	Battery	3
	Ignition switch ACC or ON	21
	Ignition switch ON or START	1

Refer to [LT-121, "Wiring Diagram — INT/L —"](#).

OK or NG

OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-2, "POWER SUPPLY ROUTING"](#).

### 2. CHECK POWER SUPPLY CIRCUIT

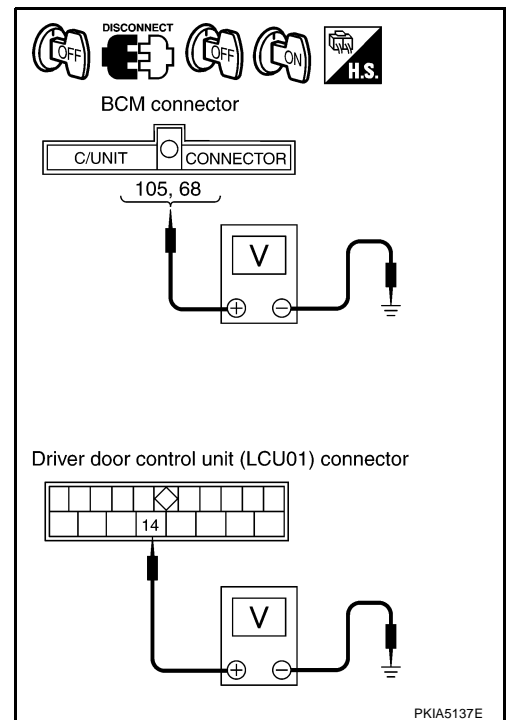
1. Turn ignition switch OFF.
2. Disconnect BCM connector and driver door LCU connector.
3. Check voltage between following harness connector terminals and ground.

Terminal (+)		Terminal (-)	Ignition switch position	
Connector	Terminal (Wire color)		OFF	ON
BCM (M4)	105 (Y/L)	Ground	Battery voltage	Battery voltage
	68 (W/B)		0 V	Battery voltage
Driver door LCU (D8)	14 (Y/G)		Battery voltage	Battery voltage

OK or NG

OK >> GO TO 3.

NG >> Check harness for open or short between BCM or driver door LCU and fuse.



# INTERIOR ROOM LAMP

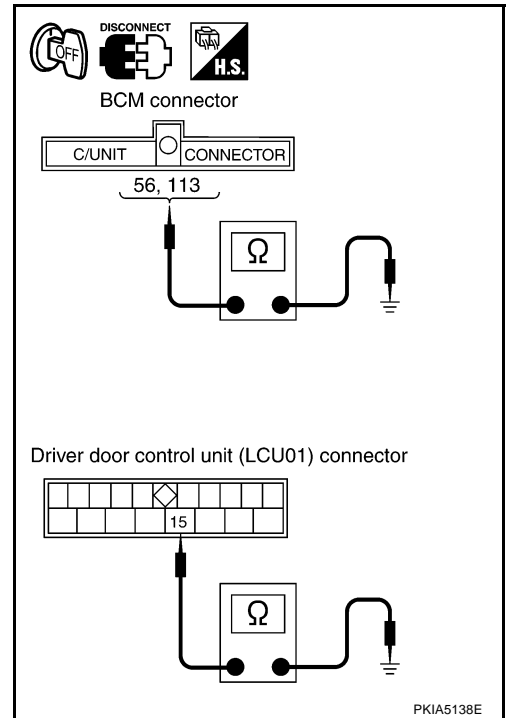
## 3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and driver door LCU harness connector and ground.

Connector	Terminal		Continuity
	Terminal (Wire color)		
BCM (M4)	56 (B)	Ground	Yes
	113 (B)		
Driver door LCU (D8)	15 (B)		

OK or NG

- OK >> INSPECTION END
- NG >> Repair or replace harness.



# INTERIOR ROOM LAMP

## CONSULT-II Function (IVMS)

EKS000X3

- CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

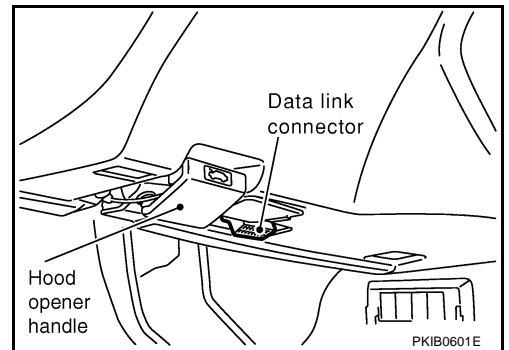
IVMS diagnosis position	Diagnosis mode	Description
INTERIOR ILLUMINATION	WORK SUPPORT	Changes setting of each function.
	DATA MONITOR	Displays input data of the BCM and each LCU in real-time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending driving signal to them.
BCM PART NUMBER		Displays BCM part number.

## CONSULT-II BASIC OPERATION PROCEDURE

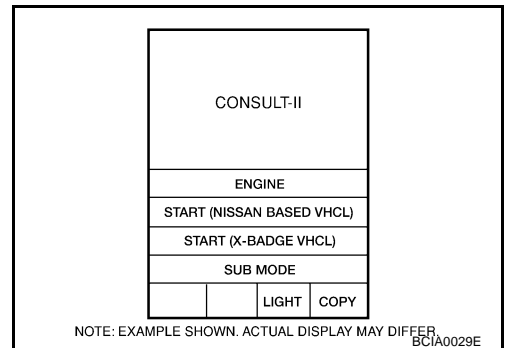
### CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which performs CAN communication.

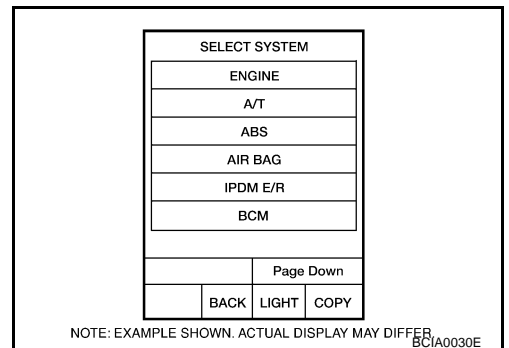
- With the ignition switch OFF, connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector, and then turn ignition switch ON.



- Touch "START (NISSAN BASED VHCL)".

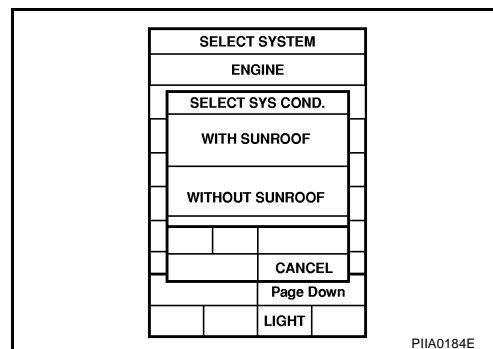


- Touch "IVMS" on "SELECT SYSTEM" screen. If "IVMS" is not indicated, refer to [GI-38, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



# INTERIOR ROOM LAMP

4. Select "WITH SUNROOF" on "SELECT SYS COND" screen.
5. Touch "OK". If the selection is wrong, touch "CANCEL".
6. Select the desired part to be diagnosed on the "SELECT TEST ITEM" screen.



## WORK SUPPORT

### Operation Procedure

1. Touch "INTERIOR ILLUMINATION" on the "SELECT TEST ITEM" screen.
2. Touch "WORK SUPPORT" on the "SELECT DIAG MODE" screen.
3. Touch "SET INT-L LOGIC-TIM" or "SET I/L LGC-D-UNLCK" on the "SELECT WORK ITEM" screen.
4. Touch "START".
5. Touch "NORMAL"/"MODE 1 - 3" of which setting is to be changed (for the interior lamp logic timer setting only).
6. Touch "CHANGE SET".
7. The setting will be changed and the current setting status will be displayed.
8. Touch "END".

### Display Item List

Refer to [LT-128, "SETTING CHANGE FUNCTION"](#).

## DATA MONITOR

### Operation Procedure

1. Touch "INTERIOR ILLUMINATION" on the "SELECT TEST ITEM" screen.
2. Touch "DATA MONITOR" on the "SELECT DIAG MODE" screen.
3. Touch "ALL SIGNALS" or "SELECTION FROM MENU" on the "SELECT MONITOR ITEM" screen.

ALL SIGNALS	Monitors all items.
SELECTION FROM MENU	Selects items and monitors them.

4. Touch "START".
5. When selected "SELECTION FROM MENU", touch items to be monitored. When "ALL SIGNALS" is selected all items will be monitored.
6. Touch "RECORD" while monitoring and status of the item being monitored can be recorded. To stop recording, touch "STOP".

### Display Item List

Monitored item ["OPERATION OR UNIT"]	Description
IGN ON SW [ON/OFF]	Displays status of the ignition switch as judged from the ignition switch signal. (Key is in ON position: ON/Key is in ACC or OFF position: OFF)
DOOR SW-DR [ON/OFF]	Displays status of the driver door as judged from the driver door switch signal. (Door is open: ON/Door is closed: OFF)
DOOR SW-AS [ON/OFF]	Displays "Door open (ON)/door closed (OFF)" status judged from the door switch AS signal.
DOOR SW-RR [ON/OFF]	Displays "Door open (ON)/door closed (OFF)" status judged from the door switch RR signal.
DOOR SW-RL [ON/OFF]	Displays "Door open (ON)/door closed (OFF)" status judged from the door switch RL signal.
HD/LMP 1ST SW [ON/OFF]	Displays status of the lighting switch as judged from the lighting switch signal. (OFF or AUTO position: OFF/Other than OFF and AUTO position: ON)
IGN KEY SW [ON/OFF]	Displays "Key inserted (ON)/key withdrawn (OFF)" status judged from the key remainder detection switch signal.

# INTERIOR ROOM LAMP

Monitored item ["OPERATION OR UNIT"]	Description
IGN ACC SW [ON/OFF]	Displays "Ignition ON or ACC (ON)/ignition OFF (OFF)" status judged from the ignition switch signal.
LOCK SIG-DR [LOCK/UNLK]	Displays "Door locked (LOCK)/door unlocked (UNLK)" status judged from the locking detection switch DR signal.

## ACTIVE TEST

### Operation Procedure

1. Touch "INTERIOR ILLUMINATION" on the "SELECT TEST ITEM" screen.
2. Touch "ACTIVE TEST" on the "SELECT DIAG MODE" screen.
3. Touch item to be tested and check operation of the selected item.
4. During the operation check, touching "BACK" deactivates the operation.

### Display Item List

Test items	Display on CONSULT-II screen	Description
Map lamp output	FR PERSONAL LAMP	Map lamp can be operated by any ON-OFF operation of lights.
Personal lamp output	RR PERSONAL LAMP	Personal lamp can be operated by any ON-OFF operation of lights.
Ignition key hole illumination output	KEY RING ILLUM	Ignition key hole illumination can be operated by any ON-OFF operation of lights.

### CAUTION:

Active test should be performed with the lamp switch in AUTO position.

## On Board Diagnosis

EKS000X4

- BCM can check communication diagnosis, switch monitor, and central locking system self diagnosis using on board diagnosis.
- Map lamps and step lamps (all seats) act as the indicators for on board diagnosis.

## DIAGNOSIS ITEM

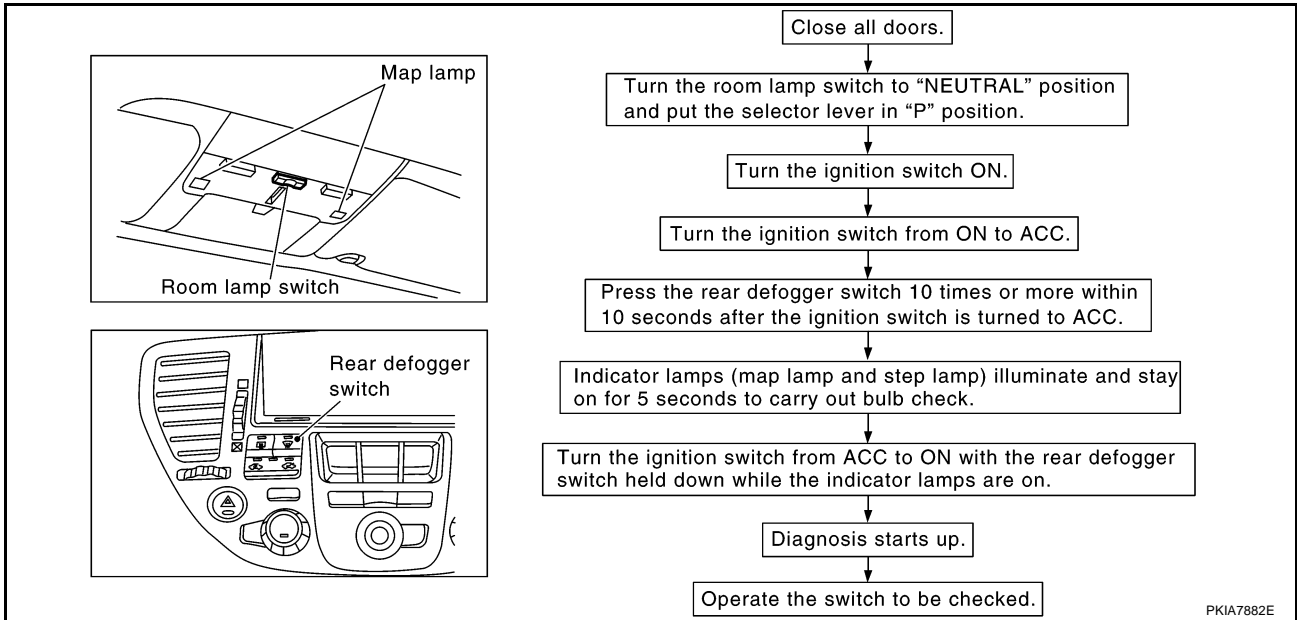
Diagnosis item	Description
Switch monitor	Checks for malfunction in switch systems that input to BCM and each LCU.

# INTERIOR ROOM LAMP

## SWITCH MONITOR

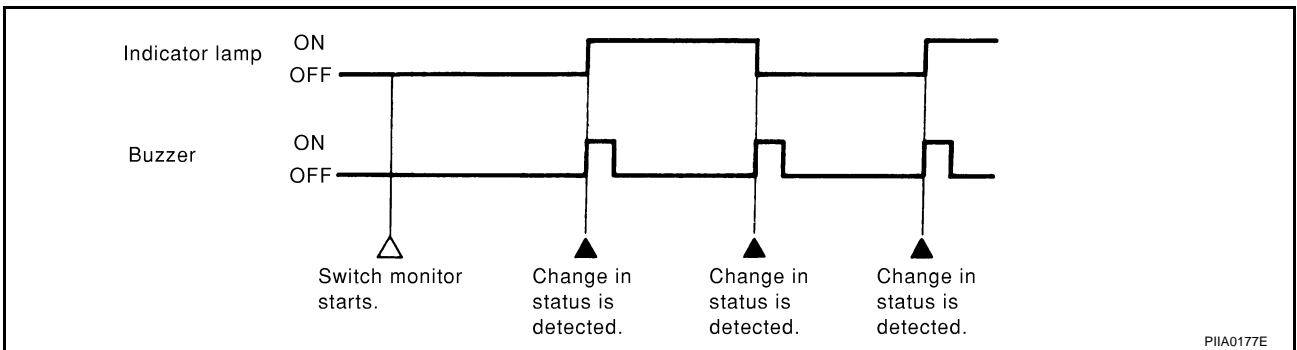
- Perform diagnosis on the switch system connected to each control unit.

### How to Perform Switch Monitor



### Description

- Detects the status change (switch ON/OFF operation) of switch to be checked, and turns ON/OFF indicator lamps (the map lamp and step lamp). Also sounds the buzzer for 0.5 seconds.
- If a malfunction is detected, no indicator lamp and buzzer react.



### Switch Monitor Item

- The status of the switch (except the ignition switch, interior lamp illumination switch, and map lamp switch) as input to each control unit can be monitored.

Control unit	Item
BCM	Lighting switch (AUTO, 1ST position)
	Each door switch
Driver door LCU	Door locking detection switch

### Switch Monitor Cancellation

If the following conditions are satisfied, the communication diagnosis is cancelled.

- Turn ignition switch OFF.
- Drive the vehicle more than 7 km/h (4 MPH).

# INTERIOR ROOM LAMP

## Symptom Chart

EKS000X5

Symptom	Malfunctioning system and reference
<ul style="list-style-type: none"> <li>Map lamp and personal lamp will not illuminate when the interior lamp illumination switch is turned ON with the personal lamp switch in AUTO position.</li> <li>Map lamp and personal lamp will not go out when the interior lamp illumination switch is turned OFF with the personal lamp switch in AUTO position.</li> </ul>	<ul style="list-style-type: none"> <li>Interior lamp illumination switch system. Refer to <a href="#">LT-135, "Interior Lamp Illumination Switch System Check"</a>.</li> </ul> <p>If above system is normal, replace the BCM.</p>
<ul style="list-style-type: none"> <li>Personal lamp will not illuminate when RH personal lamp switch is turned ON with LH personal lamp switch in AUTO position.</li> <li>Personal lamp will not illuminate when LH personal lamp switch is turned ON with RH personal lamp switch in AUTO position.</li> <li>Personal lamp switch will not go out when both RH and LH personal lamp switches are turned to AUTO position.</li> </ul>	<ul style="list-style-type: none"> <li>Personal lamp switch system. Refer to <a href="#">LT-136, "Personal Lamp Switch System Check"</a>.</li> </ul> <p>If above system is normal, replace the BCM.</p>
<ul style="list-style-type: none"> <li>All lamps (except step lamp) will not illuminate in the lamp illumination conditions with the interior lamp illumination switch and RH and LH personal lamp switches in AUTO position.</li> <li>All lamps (except step lamp) will not go out in the lamp off conditions with the interior lamp switch and RH and LH personal lamp switches in AUTO position.</li> </ul>	<ul style="list-style-type: none"> <li>Interior lamp illumination switch system. Refer to <a href="#">LT-135, "Interior Lamp Illumination Switch System Check"</a>.</li> <li>Door switch system. Refer to <a href="#">LT-137, "Door Switch System Check"</a>.</li> <li>Key-in detection switch system. Refer to <a href="#">LT-139, "Key Switch and Key Lock Solenoid System Check"</a>.</li> </ul> <p>If above system is normal, replace the BCM.</p>
<ul style="list-style-type: none"> <li>Lamps illuminate fully in half illumination conditions.</li> <li>Dimming function will not operate when turning the lamp off.</li> </ul>	<p>Replace the BCM.*1</p>

\*1: When BCM input/output signal are normal .

## Interior Lamp Illumination Switch System Check

EKS000X6

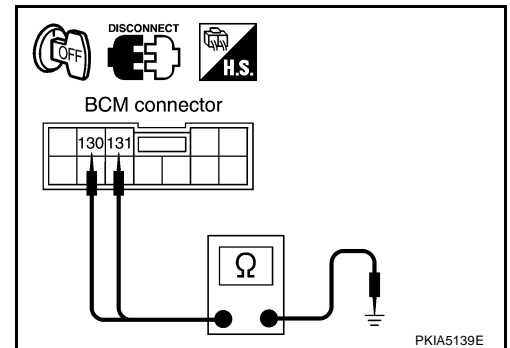
### 1. CHECK INTERIOR LAMP ILLUMINATION SWITCH SIGNAL

- Turn ignition switch OFF.
- Disconnect the BCM connector.
- Check continuity between BCM harness connector and ground while operating interior lamp illumination switch.

Terminal		Condition	Continuity
Connector	Terminal (Wire color)		
R4	130 (GY)	Interior lamp switch ON	Yes
		Interior lamp switch OFF and AUTO	No
	131 (OR)	Interior lamp switch OFF	Yes
		Interior lamp switch OFF and AUTO	No

OK or NG

- OK >> Interior lamp illumination switch is OK.  
 NG >> GO TO 2.



A  
B  
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J  
L  
M

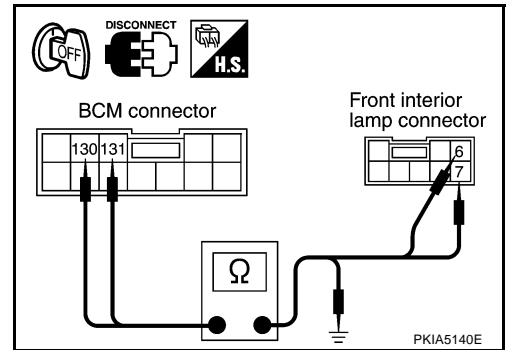
LT

# INTERIOR ROOM LAMP

## 2. CHECK WIRE HARNESS CONTINUITY

1. Disconnect front interior lamp connector.
2. Check continuity between BCM harness connector and front interior lamp harness connector.
3. Check continuity between BCM harness connector and ground.

Terminal				Continuity
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
R4	130 (GY)	R6	6 (GY)	Yes
	131 (OR)		7 (OR)	
	130 (GY)	Ground		No
	131 (OR)			



OK or NG

- OK >> GO TO 3.  
 NG >> Repair or replace harness.

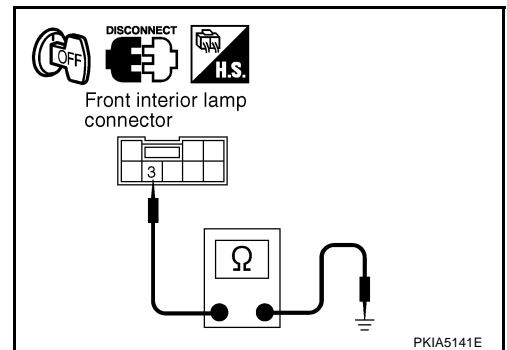
## 3. CHECK GROUND CIRCUIT

Check continuity between front interior lamp harness connector R6 terminal 3 (B) and ground.

**3 (B) - Ground : Continuity should exist.**

OK or NG

- OK >> Check interior lamp illumination switch.  
 NG >> Repair or replace harness.



## Personal Lamp Switch System Check

### 1. CHECK PERSONAL LAMP SWITCH SIGNAL

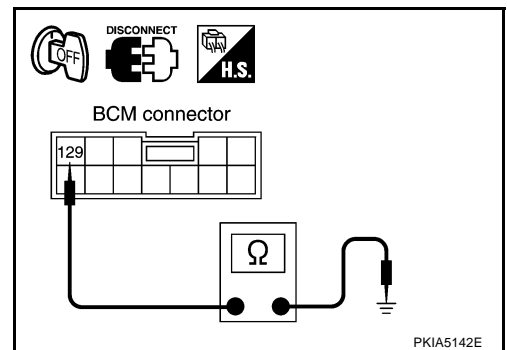
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector R4 terminal 129 (G) and ground while operating personal lamp switch.

**RH and LH personal lamp switches in HALF or AUTO position : Continuity should not exist.**

**RH or LH personal lamp switch in FULL position : Continuity should exist.**

OK or NG

- OK >> Personal lamp switch is OK.  
 NG >> GO TO 2.





# INTERIOR ROOM LAMP

## 2. CHECK WIRE HARNESS CONTINUITY

1. Disconnect rear interior lamp connector.
2. Check continuity between BCM harness connector R4 terminal 129 (G) and rear interior lamp harness connector R13 terminal 5 (G) while operating personal lamp switch.

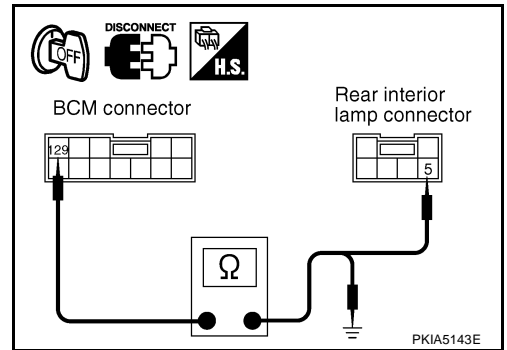
**129 (G) - 5 (G) : Continuity should exist.**

3. Check continuity between BCM harness connector R4 terminal 129 (G) and ground.

**129 (G) - Ground : Continuity should not exist.**

OK or NG

- OK >> GO TO 3.
- NG >> Repair or replace harness.



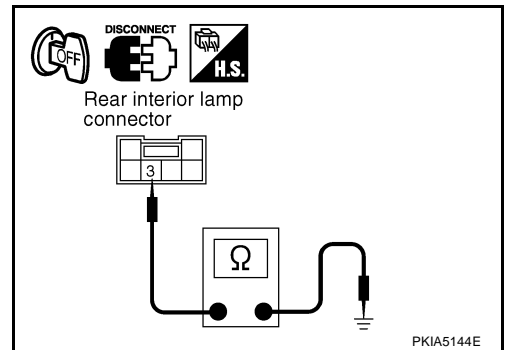
## 3. CHECK GROUND CIRCUIT

Check continuity between rear interior lamp harness connector R13 terminal 3 (B) and ground.

**3 (B) - Ground : Continuity should exist.**

OK or NG

- OK >> Replace personal lamp switch.
- NG >> Repair or replace harness.



## Door Switch System Check

### 1. CHECK DOOR SWITCH SIGNAL

Ⓜ With CONSULT-II

- Operate each door via "DOOR SW" on DATA MONITOR screen and make sure that switch turns on and off as commanded.

DATA MONITOR	
MONITOR	
DOOR SW-DR	OFF
DOOR SW-AS	OFF
DOOR SW-RR	OFF
DOOR SW-RL	OFF
	RECORD

SKIA0441E

ⓧ Without CONSULT-II

- Operate each door and via "switch monitor" of self-diagnosis function and make sure that the switch turns on and off as commanded.

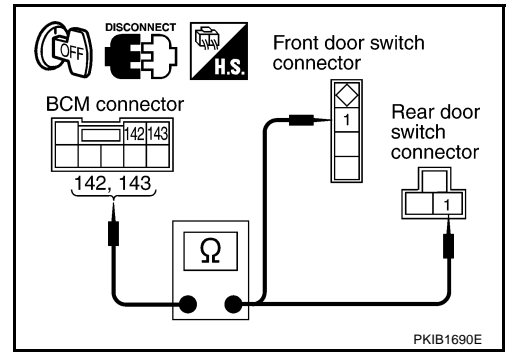
OK or NG

- OK >> Door switch is OK.
- NG >> GO TO 2.

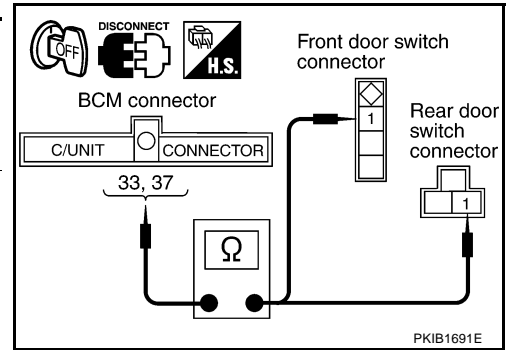
# INTERIOR ROOM LAMP

## 2. CHECK DOOR SWITCH HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect each door switch harness connector and BCM harness connector.
3. Check continuity between each door switch terminal and BCM terminal.



		Terminal			Continuity
BCM		Door switch			
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
B4	142 (W/R)	B20	Front door switch (driver side)	1 (W/R)	Yes
	143 (W/L)	D82	Door lock assembly rear RH (door switch)	1 (W)	
M4	33 (W)	D62	Door lock assembly rear LH (door switch)	1 (W)	
	37 (W/G)	B220	Front door switch (passenger side)	1 (W/G)	



### OK or NG

- OK >> ● Check door switch ground condition.  
 ● Replace door switch.
- NG >> Repair or replace harness.

# INTERIOR ROOM LAMP

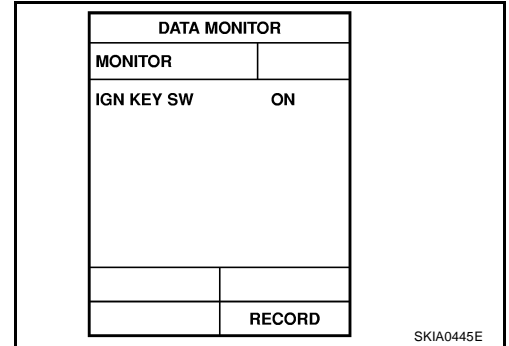
## Key Switch and Key Lock Solenoid System Check

EKS000X9

### 1. CHECK KEY SWITCH AND KEY LOCK SOLENOID SIGNAL

① With CONSULT-II

- Insert and withdrawn the key via "IGN KEY SW" on DATA MONITOR screen and make sure that switch turns on and off accordingly.



② Without CONSULT-II

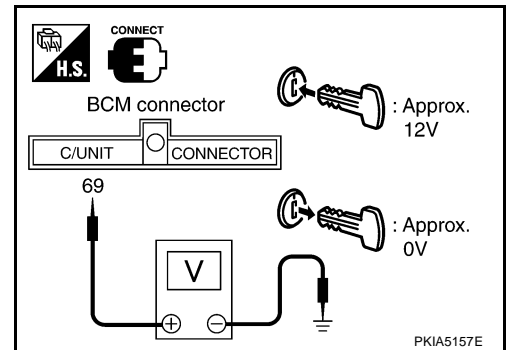
- Check voltage between BCM connector M4 terminal 69(PU/W) and ground while inserting and withdrawn the key.

**Key withdrawn (switch OFF) : Approx. 0 V**

**Key inserted (switch ON) : Approx. 12 V**

OK or NG

- OK >> Key switch and key lock solenoid is OK.  
NG >> GO TO 2.



### 2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM connector and key switch connector.
3. Check continuity between BCM harness connector M4 terminal 69 (PU/W) and key switch and key lock solenoid harness connector M64 terminal 4 (PU/W).

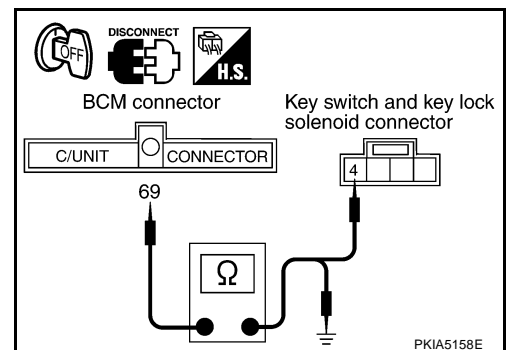
**69 (PU/W) - 4 (PU/W) : Continuity should exist.**

4. Check continuity between BCM harness connector M4 terminal 69 (PU/W) and ground.

**69 (PU/W) - Ground : Continuity should not exist.**

OK or NG

- OK >> GO TO 3.  
NG >> Repair or replace harness.



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# INTERIOR ROOM LAMP

## 3. CHECK KEY SWITCH AND KEY LOCK SOLENOID

Check continuity between key switch and key lock solenoid connector terminals 3 and 4 while inserting and withdrawing the ignition key.

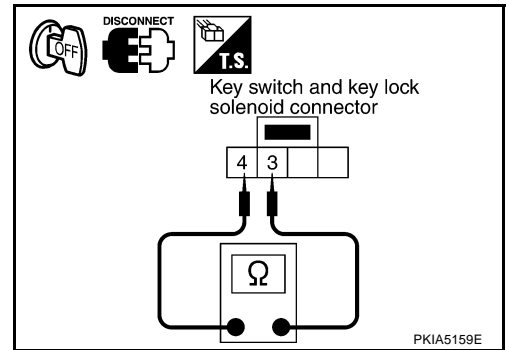
**Key withdrawn (switch OFF) : Continuity should not exist.**

**Key inserted (switch ON) : Continuity should exist.**

OK or NG

OK >> GO TO 4.

NG >> Replace key switch and key lock solenoid.



## 4. CHECK POWER SUPPLY CIRCUIT

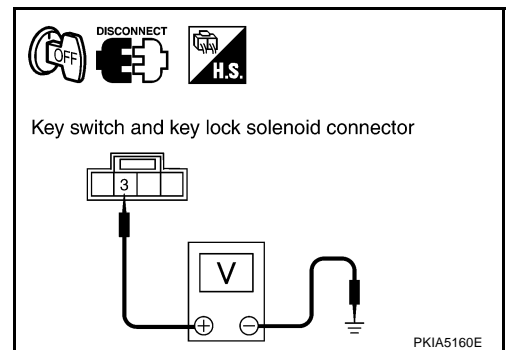
Check voltage between key switch and key lock solenoid harness connector M64 terminal 3 (W) and ground.

**3 (W) - Ground : Battery voltage**

OK or NG

OK >> Key switch and key lock solenoid is OK.

NG >> Check harness for open and short between key switch and key lock solenoid and fuse.



# INTERIOR ROOM LAMP

## Bulb Replacement

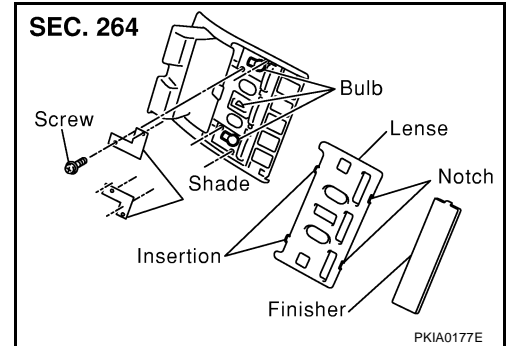
### MAP LAMP (FRONT PERSONAL LIGHT) AND CONSOLE LAMP (CONSOLE LIGHT)

EKS000WN

#### Map Lamp

1. Remove the finisher using a clip driver or a suitable tool.
2. Insert a thin screwdriver in the notch and remove the lens.
3. Remove the screw and remove the shade.
4. Remove the bulb.

**Map lamp (Front personal light) : 12V 8W**



#### Console Lamp

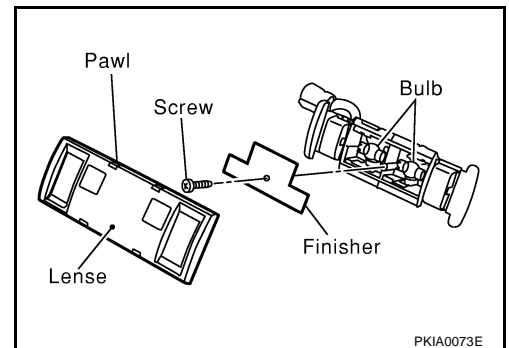
1. Remove the front interior lamp. Refer to [LT-141, "FRONT INTERIOR LAMP"](#).
2. Turn the console lamp bulb socket counterclockwise and unlock it.

**Console lamp (Console light) : 12V 1.4W**

#### PERSONAL LAMP (REAR PERSONAL LIGHT)

1. Remove the rear interior lamp. Refer to [LT-141, "REAR INTERIOR LAMP"](#) in "Removal and Installation".
2. Unfold the tabs and remove the lens.
3. Remove the shade mounting screw and remove the shade from the personal lamp.
4. Remove the bulb.

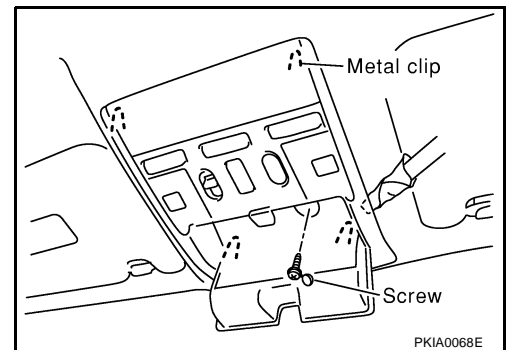
**Personal lamp (Rear personal light) : 12V 8W**



## Removal and Installation

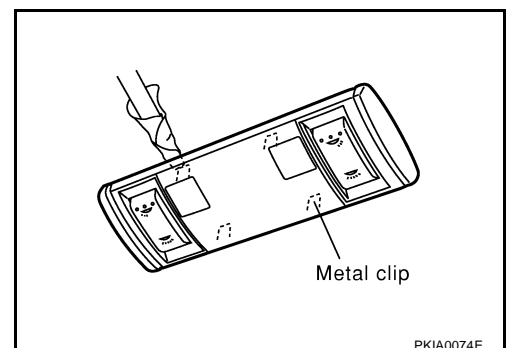
### FRONT INTERIOR LAMP

1. Open the front interior lamp box and remove the screw.
2. Insert a clip driver or a suitable tool and disengage the metal clip fittings of the front interior lamp.
3. Disconnect the connector and remove the front interior lamp.



### REAR INTERIOR LAMP

1. Using a clip driver or a suitable tool, press and remove the metal clip of the rear interior lamp.
2. Disconnect the rear interior lamp connector.

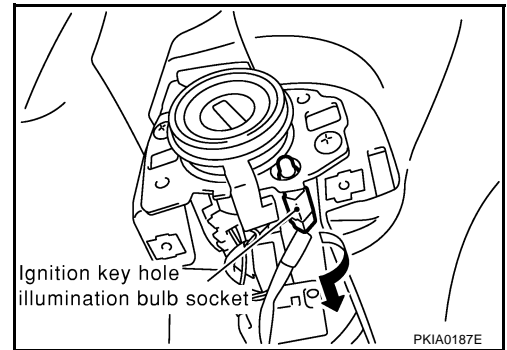


# INTERIOR ROOM LAMP

## IGNITION KEY HOLE ILLUMINATION

1. Remove the lower instrument panel (driver side). Refer to [IP-10. "Removal and Installation"](#) in "INSTRUMENT PANEL (IP)" section.
2. Turn the bulb socket counterclockwise and unlock it.

**Ignition key hole illumination : 12V 1.4W**



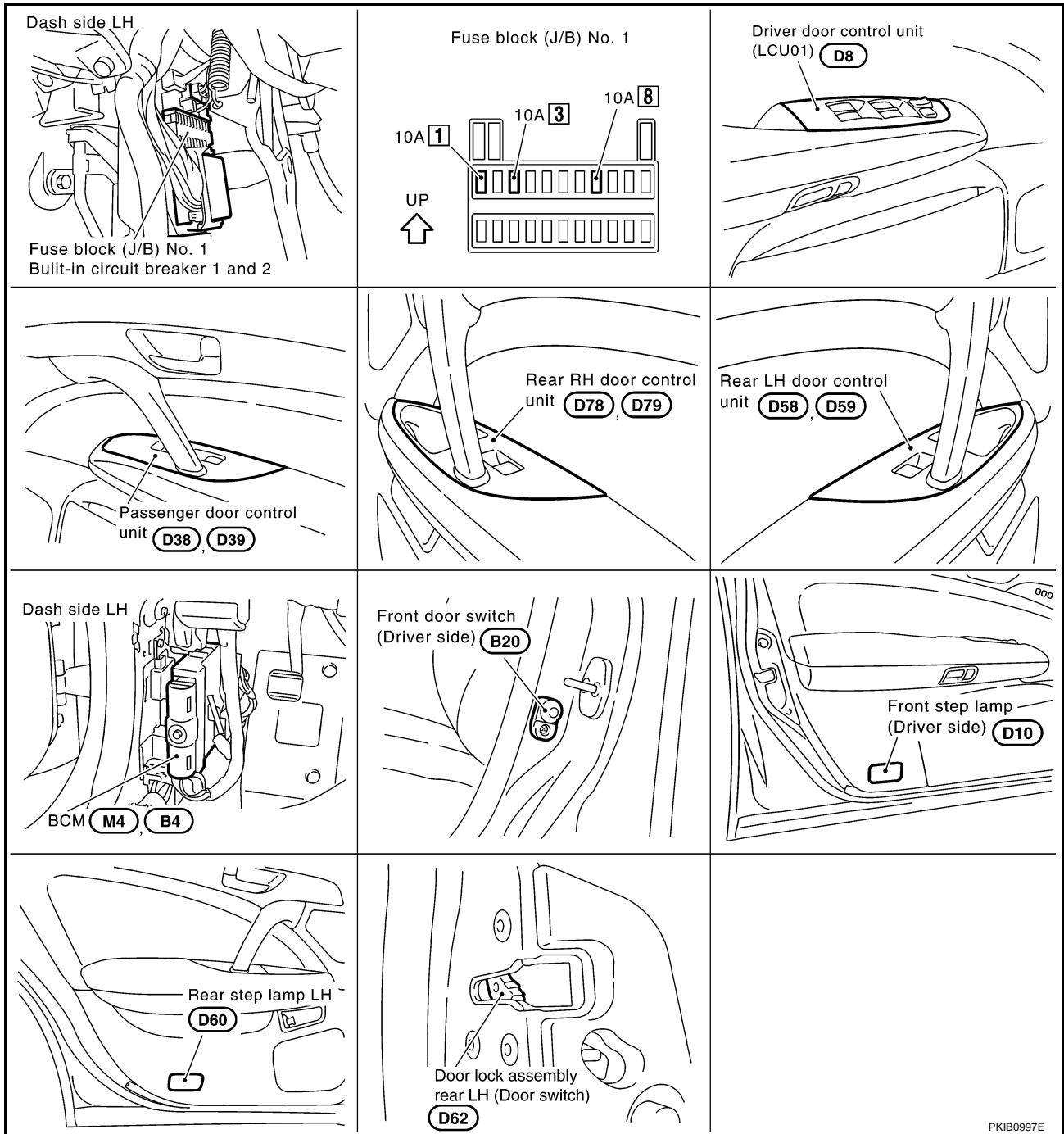
# STEP LAMP

PFP:26420

## STEP LAMP

### Component Parts and Harness Connector Location

EKS000ZR



PKIB0997E

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# STEP LAMP

EKS0017S

## System Description

### POWER SUPPLY AND GROUND

Power is supplied at all times

- to driver door control unit (LCU 01) terminal 14, and
- to rear LH door control unit terminal 6
- through circuit breaker-1, located in the fuse block (J/B) No. 1
- to BCM (body control module) terminal 105
- through 10A fuse [No. 3, located in the fuse block (J/B) No. 1]
- to all step lamps terminal 1
- through 10A fuse [No. 8, located in the fuse block (J/B) No. 1]
- to passenger door control unit terminal 6, and
- to rear RH door control unit terminal 6
- through circuit breaker-2, located in the fuse block (J/B) No. 1.

Ground is supplied

- to driver door control unit terminal 15 through grounds M24 and M114
- to passenger door control unit terminal 7 through grounds M24 and M114
- to rear LH door control unit and rear RH door control unit terminal 7 through grounds B17 and B57 or B217 and B256
- to BCM (body control module) terminal 56 and 113 through grounds M24 and M114.

### OPERATING PROCEDURE

BCM is connected to driver door control unit as DATA LINE A-3.

Then driver door control unit is connected to each door control unit.

When any door switch is in OPEN position, ground is supplied

- to BCM terminals 33, 37, 142, or 143
- through driver side, passenger side, rear LH or RH door switch.

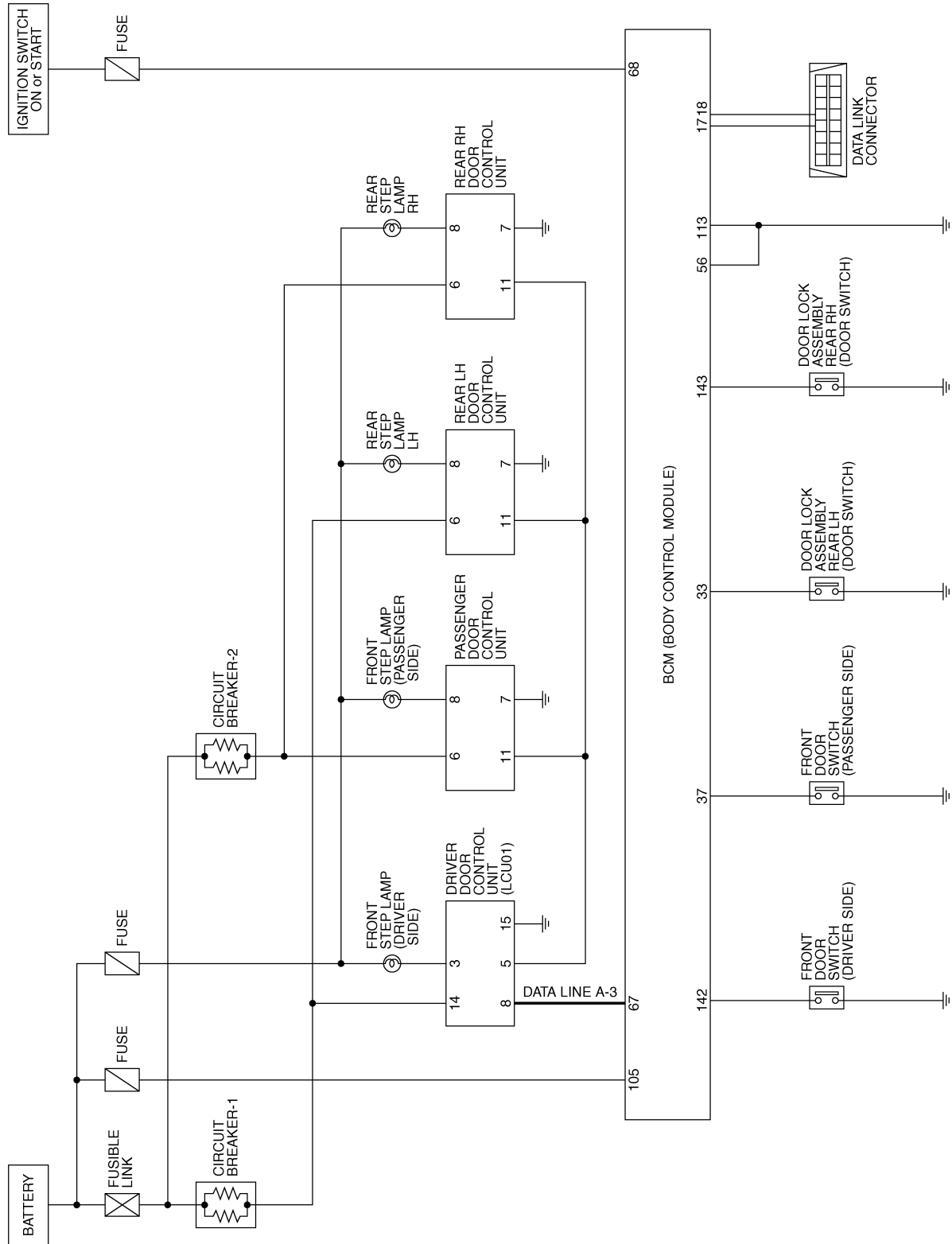
Then BCM sends a signal to the driver door control unit (LCU 01) to turn on step lamp. With ground supplied, step lamp turns on.



# STEP LAMP

## Schematic

EKS000V9



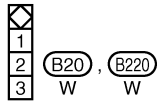
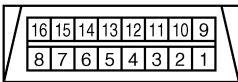
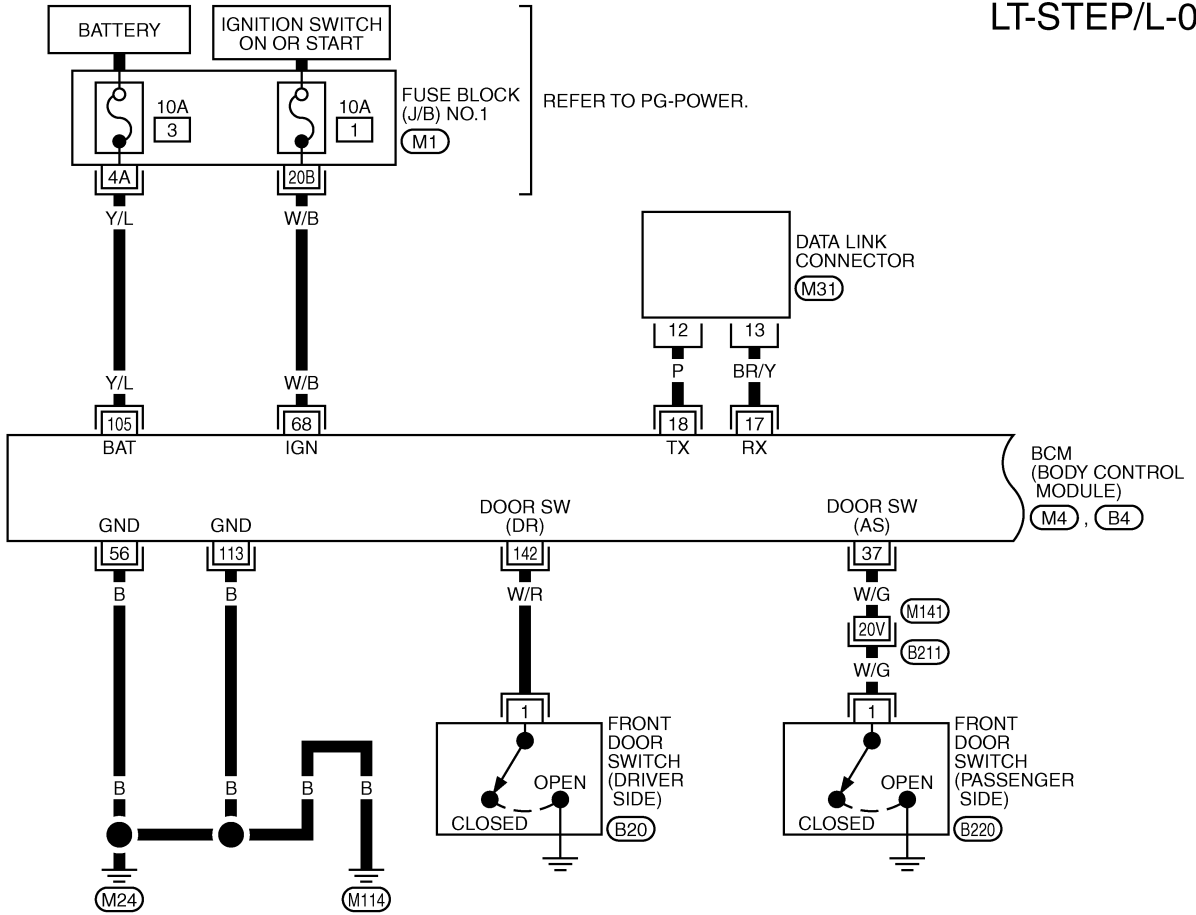
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# STEP LAMP

EKS000VA

## LT-STEP/L-01

### Wiring Diagram — STEP/L —



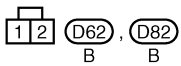
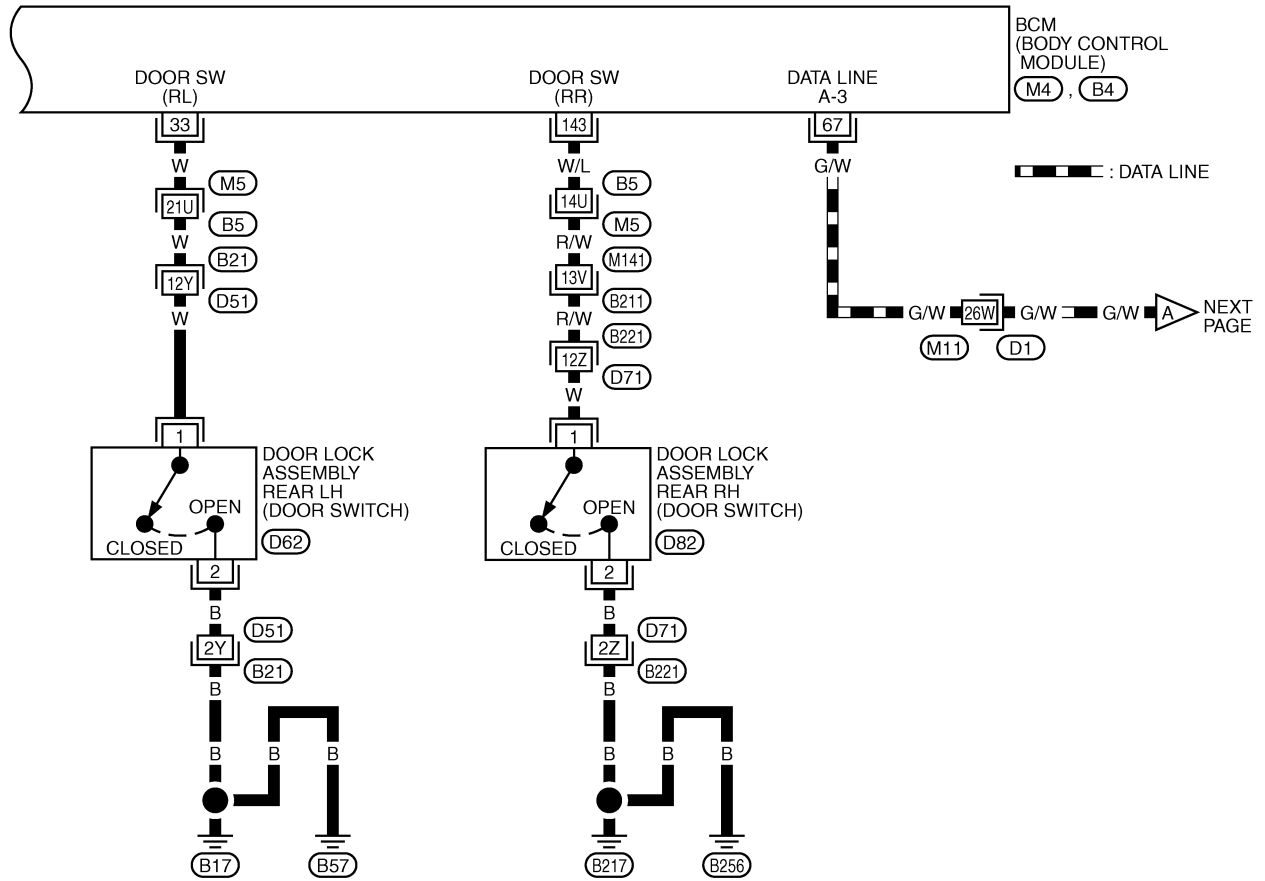
REFER TO THE FOLLOWING.

- (B211) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1
- (M4), (B4) -ELECTRICAL UNITS

TKWM1521E

# STEP LAMP

LT-STEP/L-02



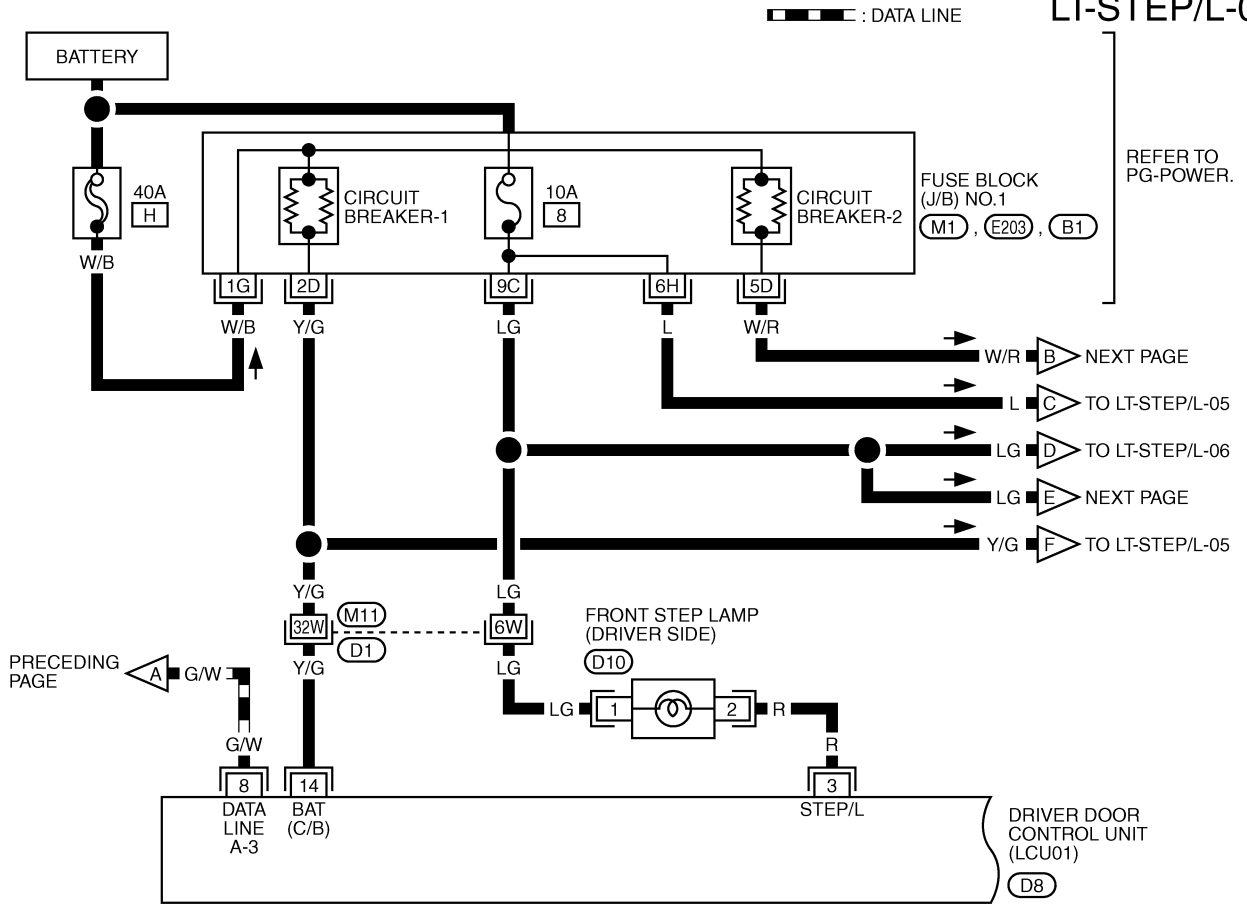
REFER TO THE FOLLOWING.  
 (M5), (B21), (B211), (B221),  
 (D1) -SUPER MULTIPLE  
 JUNCTION (SMJ)  
 (M4), (B4) -ELECTRICAL  
 UNITS

TKWM1522E

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# STEP LAMP

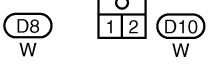
LT-STEP/L-03



REFER TO PG-POWER.

DRIVER DOOR CONTROL UNIT (LCU01)  
(D8)

10	9	8	7	6	5	4	3	2	1
18	17	16	15	14	13	12	11		



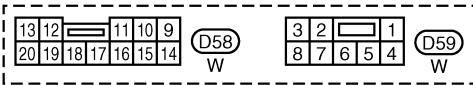
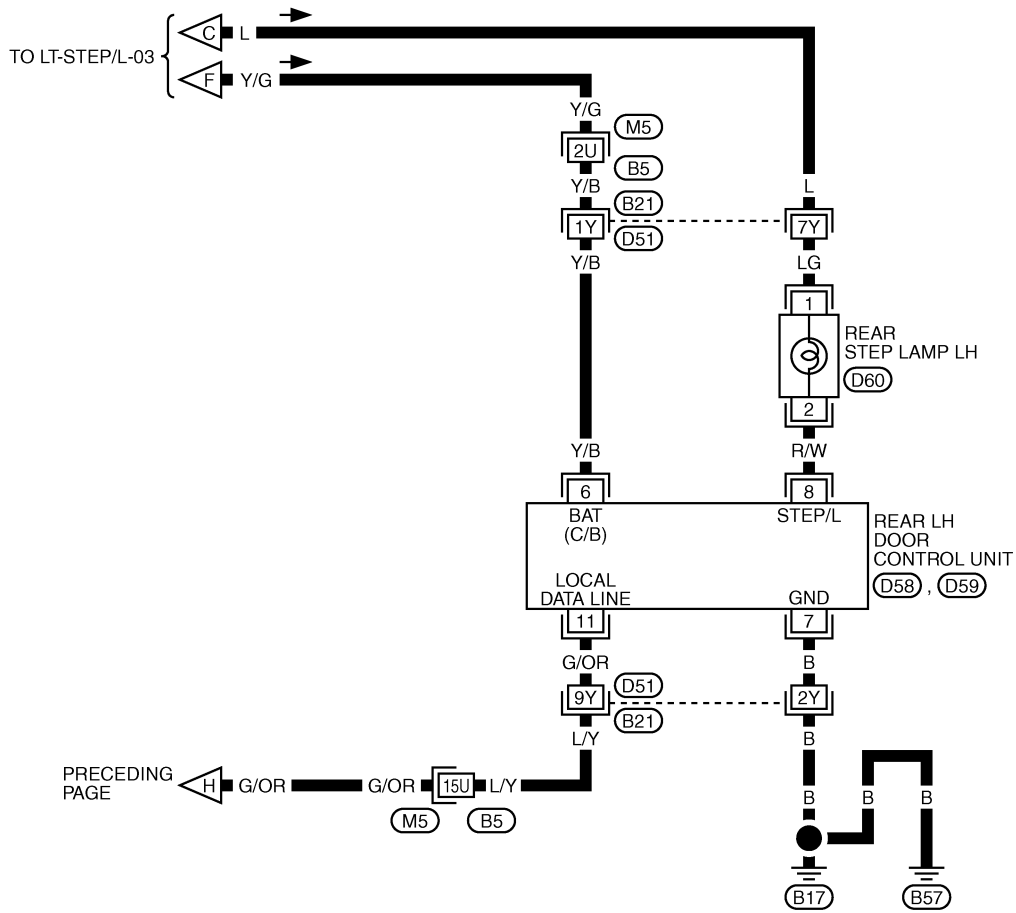
REFER TO THE FOLLOWING.  
 (D1) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M1), (E203), (B1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM1523E



# STEP LAMP

LT-STEP/L-05

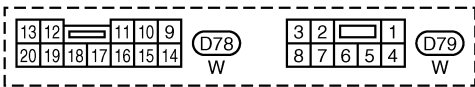
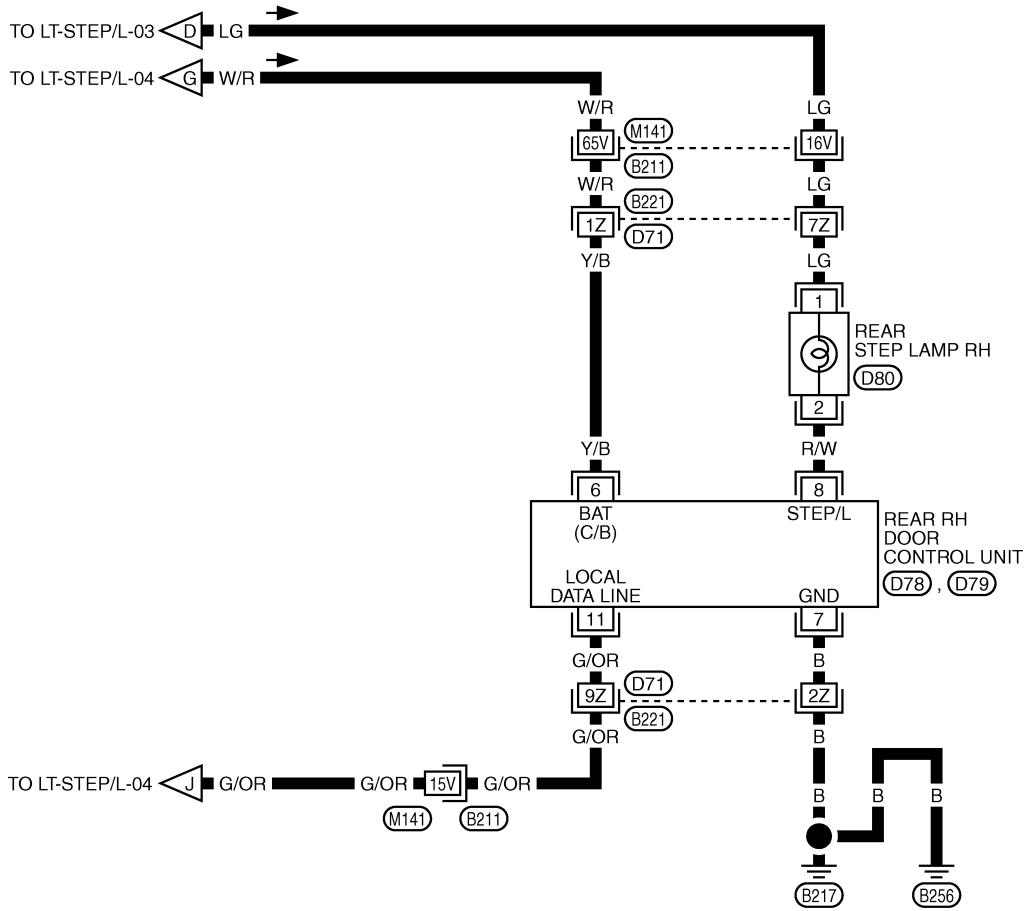


REFER TO THE FOLLOWING.  
 (M5), (B21) -SUPER MULTIPLE  
 JUNCTION (SMJ)

TKWM1525E

# STEP LAMP

LT-STEP/L-06



REFER TO THE FOLLOWING.  
 (B211), (B221) -SUPER MULTIPLE  
 JUNCTION (SMJ)

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TKWM1526E

# STEP LAMP

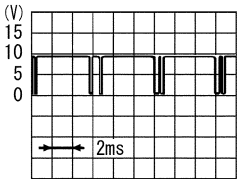
## Terminals and Reference Values for BCM

EKS0017T

Terminal No.	Wire color	Item	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
17	BR/Y	Data link RX	—	—	—	
18	P	Data link TX	—	—	—	
33	W	Door lock assembly rear LH (door switch) signal	OFF	Rear LH door switch	ON (open)	Approx. 0 V
					OFF (closed)	Battery voltage
37	W/G	Front door switch (passenger side) signal	OFF	Passenger door switch	ON (open)	Approx. 0 V
					OFF (closed)	Battery voltage
56	B	Ground	—	—	—	
67	G/W	Data line A-3	—	—	—	
68	W/B	IGN power supply	ON	—	Battery voltage	
105	Y/L	Battery power supply	OFF	—	Battery voltage	
113	B	Ground	—	—	—	
142	W/R	Front door switch (driver side) signal	OFF	Driver door switch	ON (open)	Approx. 0 V
					OFF (closed)	Battery voltage
143	W/L	Door lock assembly rear RH (door switch) signal	OFF	Rear RH door switch	ON (open)	Approx. 0 V
					OFF (closed)	Battery voltage

## Terminals and Reference Values for Driver Door Control Unit (LCU01)

EKS0017U

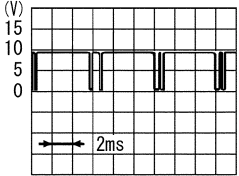
Terminal No.	Wire color	Item	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
3	R	Step lamp	OFF	Each door switch	ON (open)	Approx. 0 V
					OFF (closed)	Battery voltage
5	G/OR	Local data line	—	—	 <p style="text-align: right; font-size: small;">SIIA0591J</p>	
8	G/W	Data line A-3	—	—	—	
14	Y/G	Power source (circuit breaker)	OFF	—	Battery voltage	
15	B	Ground	ON	—	Approx. 0 V	



# STEP LAMP

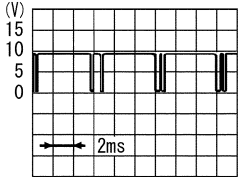
## Terminals and Reference Values for Passenger Door Control Unit

EKS001G7

Terminal No.	Wire color	Item	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
6	W/R	Power source (circuit breaker)	OFF	—	Battery voltage	
7	B	Ground	ON	—	Approx. 0 V	
8	R	Step lamp	OFF	Each door switch	ON (open)	Approx. 0 V
					OFF (closed)	Battery voltage
11	G/OR	Local data line	—	—	 <p style="text-align: right;">SIIA0591J</p>	

## Terminals and Reference Values for Rear LH, RH Door Control Unit

EKS006PN

Terminal No.	Wire color	Item	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
6	Y/B	Power source (circuit breaker)	OFF	—	Battery voltage	
7	B	Ground	ON	—	Approx. 0 V	
8	R/W	Step lamp	OFF	Each door switch	ON (open)	Approx. 0 V
					OFF (closed)	Battery voltage
11	G/OR	Local data line	—	—	 <p style="text-align: right;">SIIA0591J</p>	

## Work Flow

EKS0017V

1. Confirm the symptom or customer complaint.
2. Understand system description. Refer to [LT-144, "System Description"](#).
3. Perform preliminary check. Refer to [LT-154, "Preliminary Check"](#).
4. Does the door lock system operate normally? If YES, GO TO 5. If NO, GO TO Power door lock system [BL-44, "Symptom Chart"](#) in "BODY LOCK & SECURITY SYSTEM (BL)" section.
5. Find the cause of trouble following the trouble diagnosis chart by symptom and repair or replace as necessary. Refer to [LT-159, "Symptom Chart"](#).
6. Does the total coordinated interior illumination operate normally? If YES, GO TO 7. If NO, GO TO 5.
7. INSPECTION END

# STEP LAMP

EKS0017W

## Preliminary Check INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT

### 1. CHECK FUSE

Check if any of the following fuses in BCM are blown.

Unit	Power source	Fuse No.
BCM	Battery	3
	Ignition switch ON or START	1

Refer to [LT-146, "Wiring Diagram — STEP/L —"](#) .

OK or NG

OK >> GO TO 2.

NG >> If fuse is blown, be sure eliminate cause of malfunction before installing new fuse. Refer to [PG-2, "POWER SUPPLY ROUTING"](#) .

### 2. CHECK POWER SUPPLY CIRCUIT

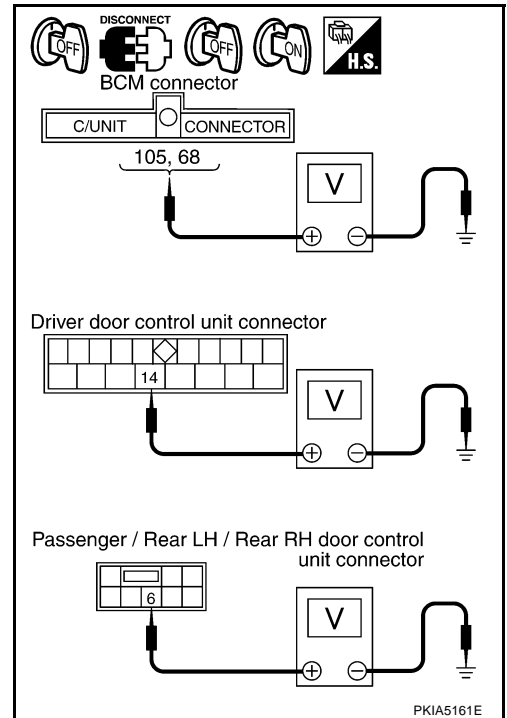
- Disconnect the BCM, driver door control unit and passenger/rear LH/rear RH door control unit connectors.
- Check voltage between the following harness connector and ground.

Terminal (+)		Terminal (-)	Ignition switch position	
Connector	Terminal (Wire color)		OFF	ON
BCM (M4)	105 (Y/L)	Ground	Battery voltage	Battery voltage
	68 (W/B)		0 V	
Driver door control unit (D8)	14 (Y/G)		Battery voltage	
Passenger door control unit (D39)	6 (W/R)		Battery voltage	
Rear LH door control unit (D59)	6 (Y/B)		Battery voltage	
Rear RH door control unit (D79)	6 (Y/B)		Battery voltage	

OK or NG

OK >> GO TO 3.

NG >> Check harness for open or short between BCM, driver door control unit, passenger/rear LH/rear RH door control units and fuse.



# STEP LAMP

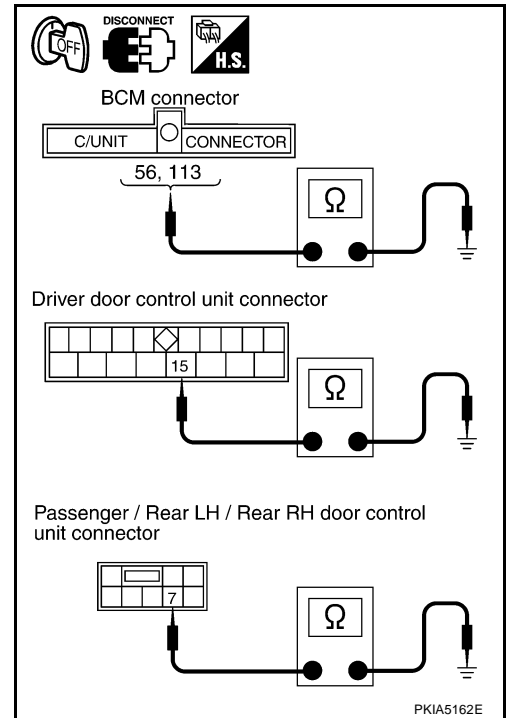
## 3. CHECK GROUND CIRCUIT

Check continuity between the following harness connector terminal of the BCM and driver door, passenger/rear LH/rear RH door control units and ground.

Terminal		Continuity
Connector	Terminal (wire color)	
BCM (M4)	56 (B)	Ground Yes
	113 (B)	
Driver door control unit (D8)	15 (B)	
Passenger door control unit (D39)	7 (B)	
Rear LH door control unit (D59)		
Rear RH door control unit (D79)		

OK or NG

- OK >> INSPECTION END
- NG >> Repair or replace harness.



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# STEP LAMP

EKS0017Z

## CONSULT-II Function (IVMS)

- CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

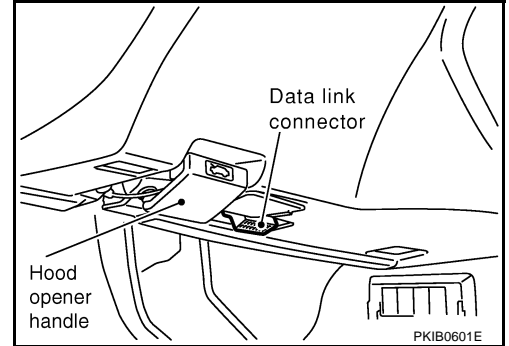
IVMS diagnosis position	Diagnosis mode	Description
STEP LAMP	DATA MONITOR	Displays input data of the BCM and each LCU in real-time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending driving signal to them.
BCM PART NUMBER		Displays BCM part number.

## CONSULT-II BASIC OPERATION PROCEDURE

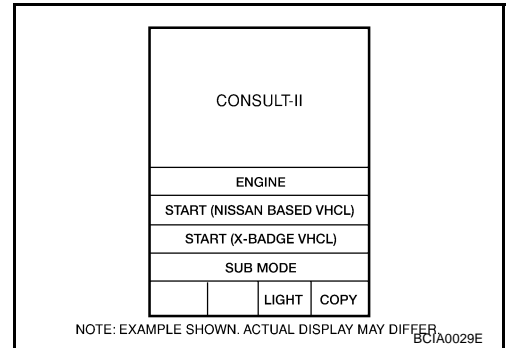
### CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which performs CAN communication.

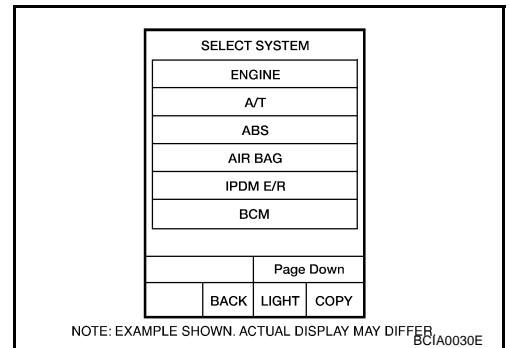
- With the ignition switch OFF, connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector, and then turn ignition switch ON.



- Touch "START (NISSAN BASED VHCL)".

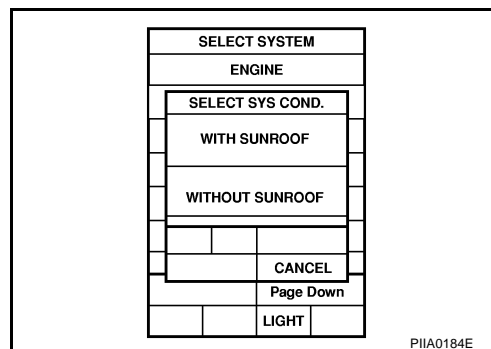


- Touch "IVMS" on "SELECT SYSTEM" screen. If "IVMS" is not indicated, refer to [GI-38, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



## STEP LAMP

4. Select "WITH SUNROOF" on "SELECT SYS COND" screen.
5. Touch "OK". If the selection is wrong, touch "CANCEL".
6. Select the desired part to be diagnosed on the "SELECT TEST ITEM" screen.



A  
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## DATA MONITOR

### Operation Procedure

1. Touch "STEP LAMP" on the "SELECT TEST ITEM" screen.
2. Touch "DATA MONITOR" on the "SELECT DIAG MODE" screen.
3. Touch "ALL SIGNALS" or "SELECTION FROM MENU" on the "SELECT MONITOR ITEM" screen.

ALL SIGNALS	Monitors all items.
SELECTION FROM MENU	Selects items and monitors them.

F  
G

4. Touch "START".
5. When selected "SELECTION FROM MENU", touch items to be monitored. When "ALL SIGNALS" is selected all items will be monitored.
6. Touch "RECORD" while monitoring and status of the item being monitored can be recorded. To stop recording, touch "STOP".

H

### Data Monitor Item

Monitored item ["OPERATION OR UNIT"]	Description
DOOR SW-DR [ON/OFF]	Displays status of the driver door as judged from the driver door switch signal. (Door is open: ON/ Door is closed: OFF)
DOOR SW-AS [ON/OFF]	Displays "Door open (ON)/door closed (OFF)" status judged from the passenger door switch signal.
DOOR SW-RR [ON/OFF]	Displays "Door open (ON)/door closed (OFF)" status judged from the Rear RH door switch signal.
DOOR SW-RL [ON/OFF]	Displays "Door open (ON)/door closed (OFF)" status judged from the Rear LH door switch signal.

LT

## ACTIVE TEST

### Operation Procedure

1. Touch "STEP LAMP" on the "SELECT TEST ITEM" screen.
2. Touch "ACTIVE TEST" on the "SELECT DIAG MODE" screen.
3. Touch item to be tested and check operation of the selected item.
4. Touch "STOP" while testing and the operation will be stopped.

L

M

### Active Test Item

Test item	Display on CONSULT-II screen	Description
Driver door step lamp output	STEP LAMP-DR	Driver door step lamp can be operated by any ON-OFF operation of lights.
Passenger door step lamp output	STEP LAMP-AS	Passenger door step lamp can be operated by any ON-OFF operation of lights.
Rear RH door step lamp output	STEP LAMP-RR/RH	Rear RH door step lamp can be operated by any ON-OFF operation of lights.
Rear LH door step lamp output	STEP LAMP-RR/LH	Rear LH door step lamp can be operated by any ON-OFF operation of lights.

# STEP LAMP

EKS00180

## On Board Diagnosis

- BCM can check communication diagnosis, switch monitor, and central locking system self diagnosis using on board diagnosis.
- Map lamps and step lamps (all seats) act as the indicators for on board diagnosis.

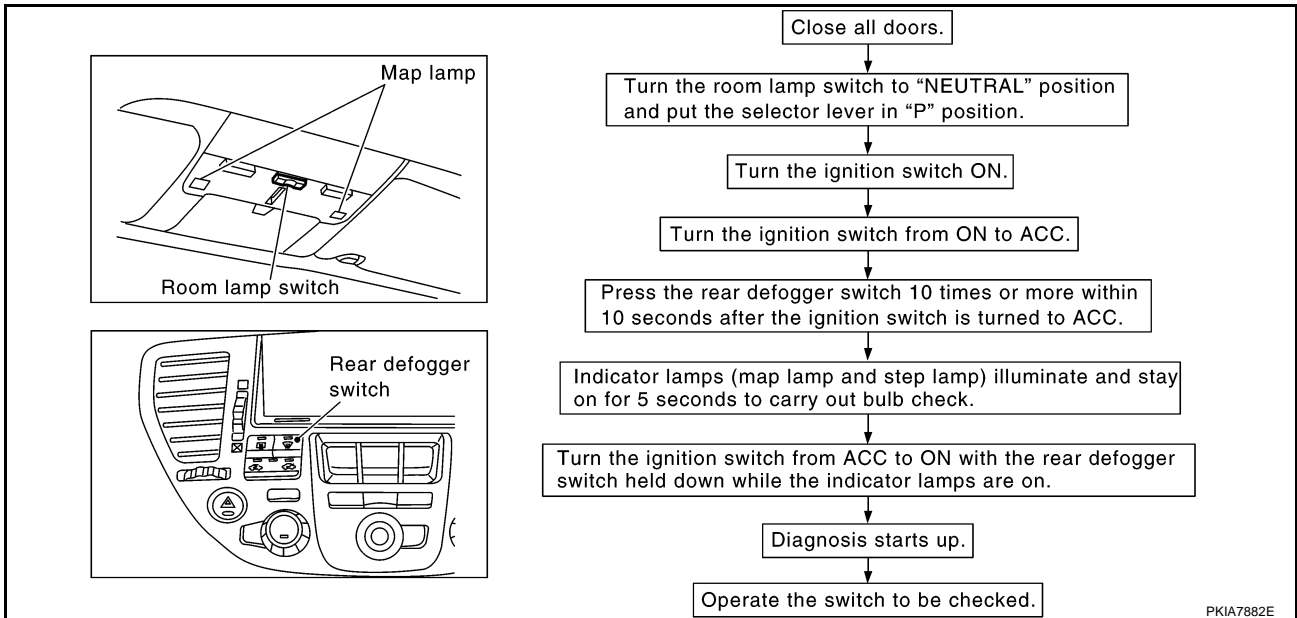
## DIAGNOSIS ITEM

Diagnosis item	Description
Switch monitor	Checks for malfunction in switch systems that input to BCM and each LCU.

## SWITCH MONITOR

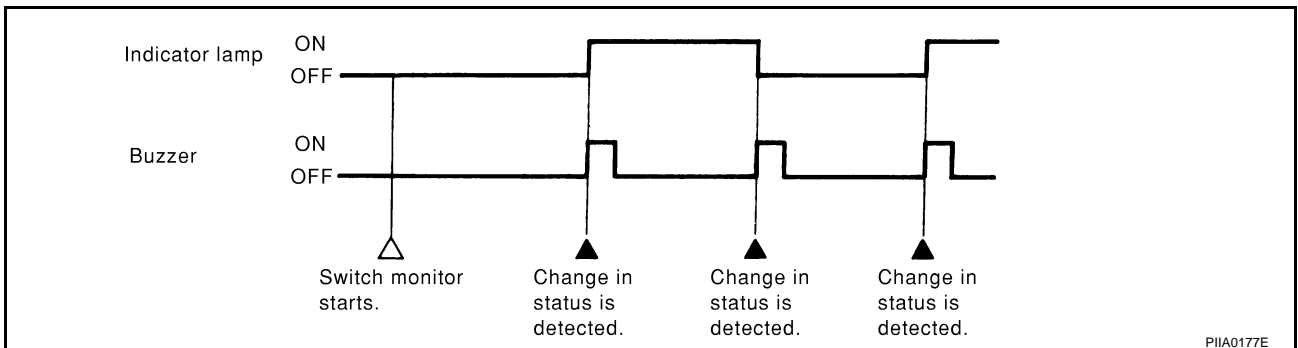
- Perform diagnosis on the switch system connected to each control unit.

### How to Perform Switch Monitor



### Description

- Detects the status change (switch ON/OFF operation) of switch to be checked, and turns ON/OFF indicator lamps (the map lamp and step lamp). Also sounds the buzzer for 0.5 seconds.
- If a malfunction is detected, no indicator lamp and buzzer react.



### Switch Monitor Item

- The status of the switch (except the ignition switch, interior lamp illumination switch, and map lamp switch) as input to each control unit can be monitored.

Control unit	Item
BCM	Each door switch

# STEP LAMP

## Switch Monitor Cancellation

If the following conditions are satisfied, the communication diagnosis is cancelled.

- Turn ignition switch OFF.
- Drive the vehicle more than 7 km/h (4 MPH).

## Symptom Chart

### DIAGNOSTIC PROCEDURE

EKS00181

**SYMPTOM: Step Lamp Does Not Illuminate/Dose Not Go Off When Door Is Opened/Closed**

### 1. CHECK DOOR SWITCH SIGNAL

④ With CONSULT-II

- Operate each door via "DOOR SW" on DATA MONITOR screen and make sure that switch turns on and off as commanded.

DATA MONITOR	
MONITOR	
DOOR SW-DR	OFF
DOOR SW-AS	OFF
DOOR SW-RR	OFF
DOOR SW-RL	OFF
	RECORD

SKIA0441E

⊗ Without CONSULT-II

- Operate each door and via "switch monitor" of self-diagnosis function and make sure that switch turns on and off as commanded.

OK or NG

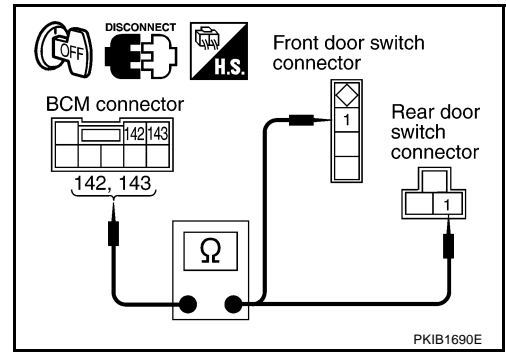
OK >> GO TO 3.

NG >> GO TO 2.

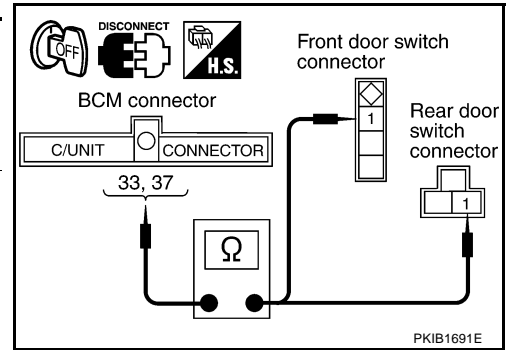
# STEP LAMP

## 2. CHECK DOOR SWITCH HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect each door switch harness connector and BCM harness connector.
3. Check continuity between each door switch terminal and BCM terminal.



BCM		Door switch		Continuity
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
B4	142 (W/R)	B20	Front door switch (driver side)	Yes
	143 (W/L)	D82	Door lock assembly rear RH (door switch)	
M4	33 (W)	D62	Door lock assembly rear LH (door switch)	
	37 (W/G)	B220	Front door switch (passenger side)	



OK or NG

- OK >> ● Check door switch ground condition.  
 ● Replace door switch.
- NG >> Repair or replace harness.

## 3. CHECK BULB

Check step lamp bulb.

OK or NG

- OK >> GO TO 4.
- NG >> Replace bulb.

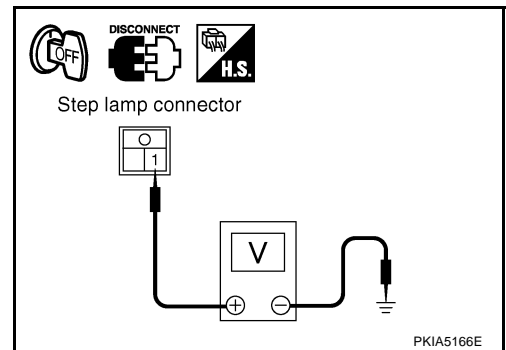
## 4. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect step lamp connector.
3. Check voltage between step lamp connector D10, D40, D60, D80 terminal 1 (LG) and ground.

**1 (LG) - Ground : Battery voltage**

OK or NG

- OK >> Check harness for open or short between step lamp and door control unit.
- NG >> **Check the following.**
- 10A fuse [No. 8, located in fuse block (J/B) No. 1]
  - Harness for open or short between fuse and step lamp





# STEP LAMP

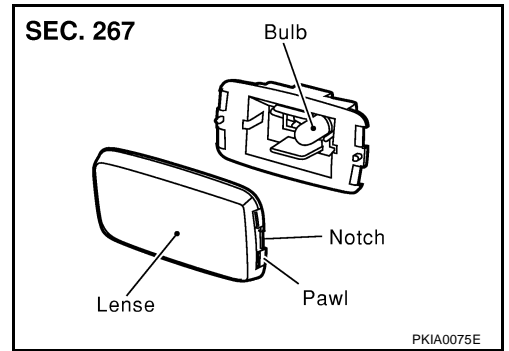
## Bulb Replacement

EKS00182

1. Remove the step lamp. Refer to [LT-161, "Removal and Installation"](#) in "Step Lamp".
2. Insert a screwdriver in the notch and remove the lens.
3. Remove the bulb.

**Step lamp**

**: 12V 2.7W**

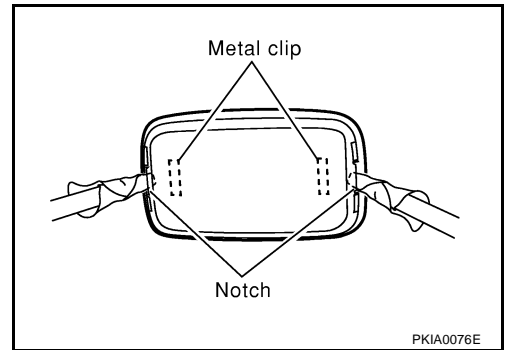


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## Removal and Installation

EKS00183

1. Using a clip driver or a suitable tool, press and remove the metal clip of the step lamp.
2. Disconnect the step lamp connector.



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# DOOR MIRROR LAMP

---

## DOOR MIRROR LAMP

PFP:96301

### System Description

EKS00GZS

The door mirror foot well lamp for approx. 15 seconds when door unlocking operation is commanded with remote controller.

It goes off when the driver door is opened during illumination after the door unlocking operation with remote controller.

Power is supplied at all times

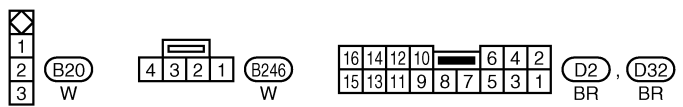
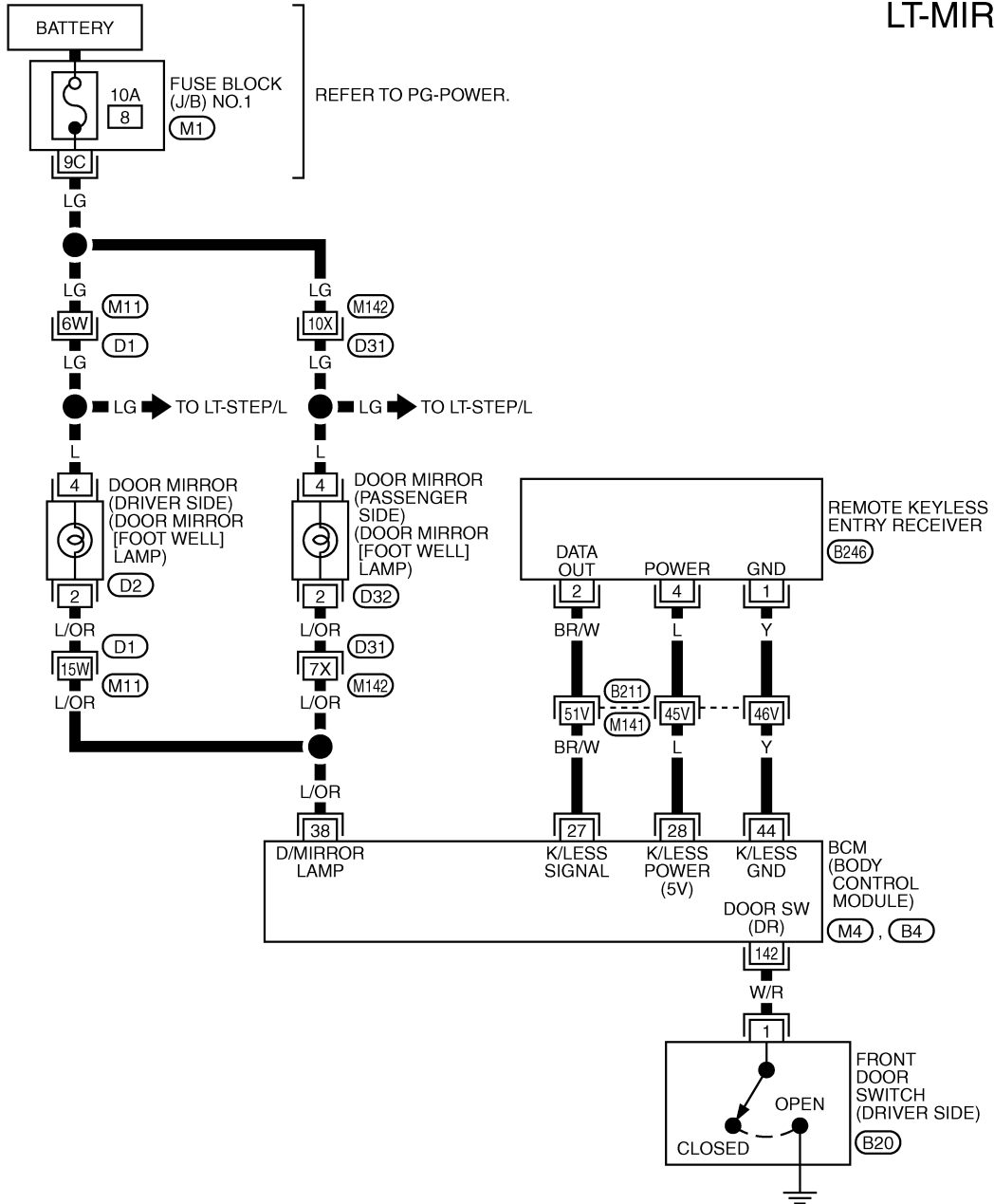
- to door mirror lamp terminal 4
- through 10A fuse [No. 8, located in fuse block (J/B) No.1].

# DOOR MIRROR LAMP

## Wiring Diagram — MIRR/L —

EKS006RV

LT-MIRR/L-01



REFER TO THE FOLLOWING.  
 (B211), (D1), (D31) -SUPER  
 MULTIPLE JUNCTION (SMJ)  
 (M1) -FUSE BLOCK-JUNCTION  
 BOX (J/B) NO.1  
 (M4), (B4) -ELECTRICAL  
 UNITS

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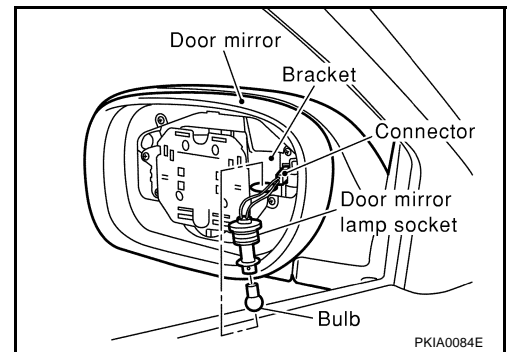
# DOOR MIRROR LAMP

EKS006RW

## Bulb Replacement DOOR MIRROR LAMP

1. Remove the mirror from door mirror. Refer to [GW-117, "DOOR MIRROR"](#) in "GW" section.
2. Remove lamp socket.
3. Remove the bulb from lamp socket.

**Door mirror lamp : 12V 8W**



## ILLUMINATION

PFP:27545

### System Description

EKS000U6

The illumination lamp operation is controlled by the lighting switch which is built into the spiral cable and headlamp battery saver control unit. The battery saver system is controlled by headlamp battery saver control unit and BCM (body control module).

Power is supplied at all times

- to tail lamp relay terminals 2 and 6
- through 15A fuse [No. 54, located in fuse, fusible link and relay block (J/B)], and
- to headlamp battery saver control unit terminal 7
- through 10A fuse [No. 6, located in fuse block (J/B) No. 1].

When ignition switch is in ON or START position, power is supplied

- to headlamp battery saver control unit terminal 1
- through 10A fuse [No. 1, located in fuse block (J/B) No. 1].

Ground is supplied

- to headlamp battery saver control unit terminals 4 and 11
- through grounds M25 and M115.

### LIGHTING OPERATION BY LIGHTING SWITCH

When lighting switch is 1ST (or 2ND) position, ground is supplied

- to tail lamp relay terminal 1 from headlamp battery saver control unit terminals 6 and 14
- through headlamp battery saver control unit terminals 5 and 13, and
- through lighting switch and grounds M25 and M115.

Tail lamp relay is then energized and illumination lamps illuminate.

The lighting switch must be in the 1ST or 2ND position for illumination.

The illumination control switch that controls the amount of current to the illumination system. As the amount of current increases, the illumination becomes brighter.

The ground for all of the components except for grove box lamp, cigarette lighter socket, ashtray, auto return cancel switch, rear control switch, rear sunshade rear switch, rear power seat switch and console box lamp are controlled through terminals 2 and 3 of the illumination control switch and body grounds M25 and M115.

### BATTERY SAVER CONTROL

When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while illumination lamps are illuminated, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from BCM terminal 135.

After counting 45 seconds by the RAP signal from the BCM to headlamp battery saver control unit, the ground supply to terminal 1 of the tail lamp relay from headlamp battery saver control unit terminals 6 and 14 is terminated.

Then illumination lamps are turned off.

Illumination lamps are turned off when driver or passenger door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while illumination lamps are illuminated.

When the lighting switch is turned from OFF to 1ST (or 2ND) after illumination lamps are turned off by the battery saver control, ground is supplied

- to headlamp battery saver control unit terminals 5 and 13 from lighting switch terminal 11, and
- to tail lamp relay terminal 1 from headlamp battery saver control unit terminals 6 and 14.

Then illumination lamps illuminate again.

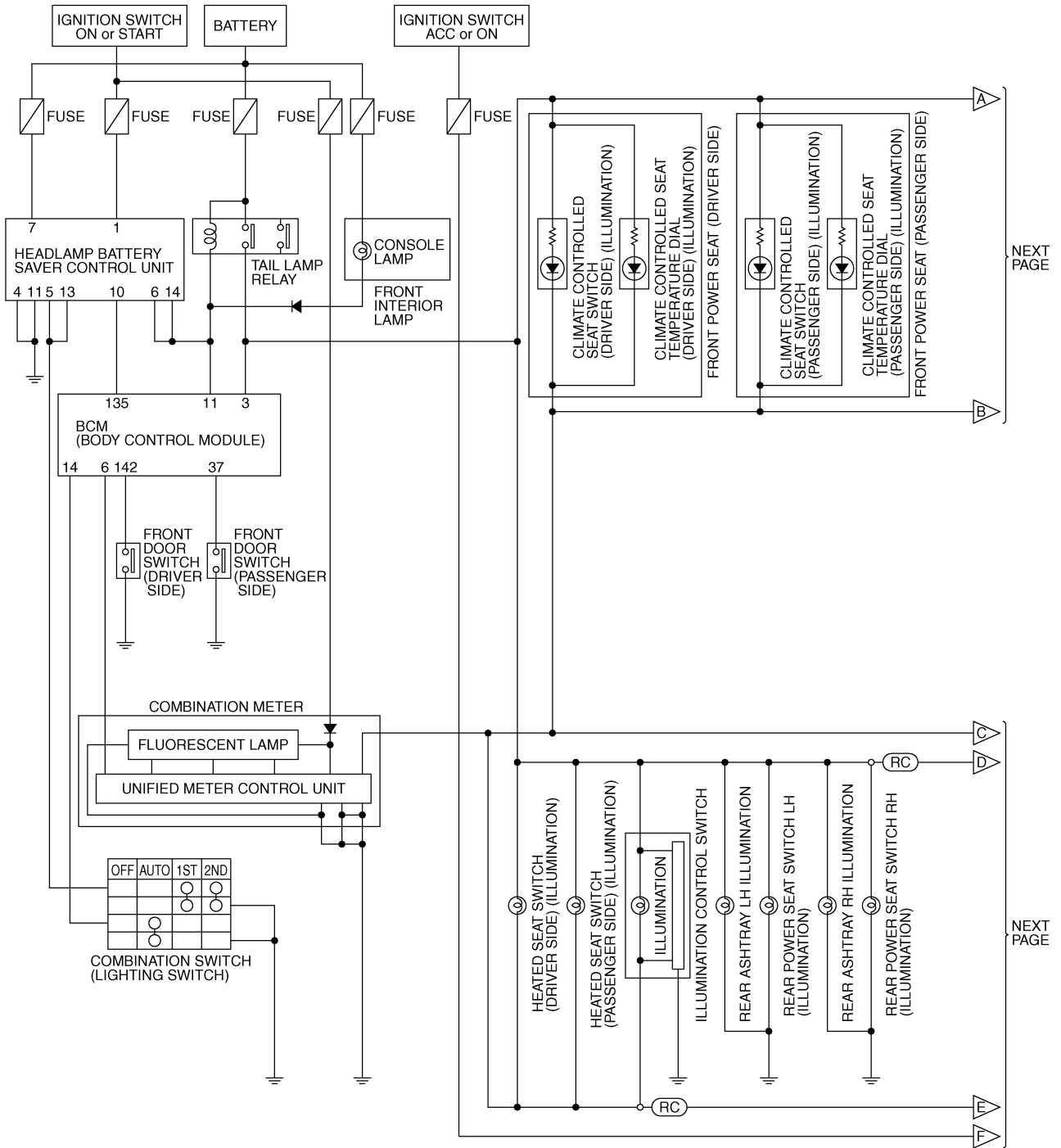
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# ILLUMINATION

## Schematic

EKS000U7

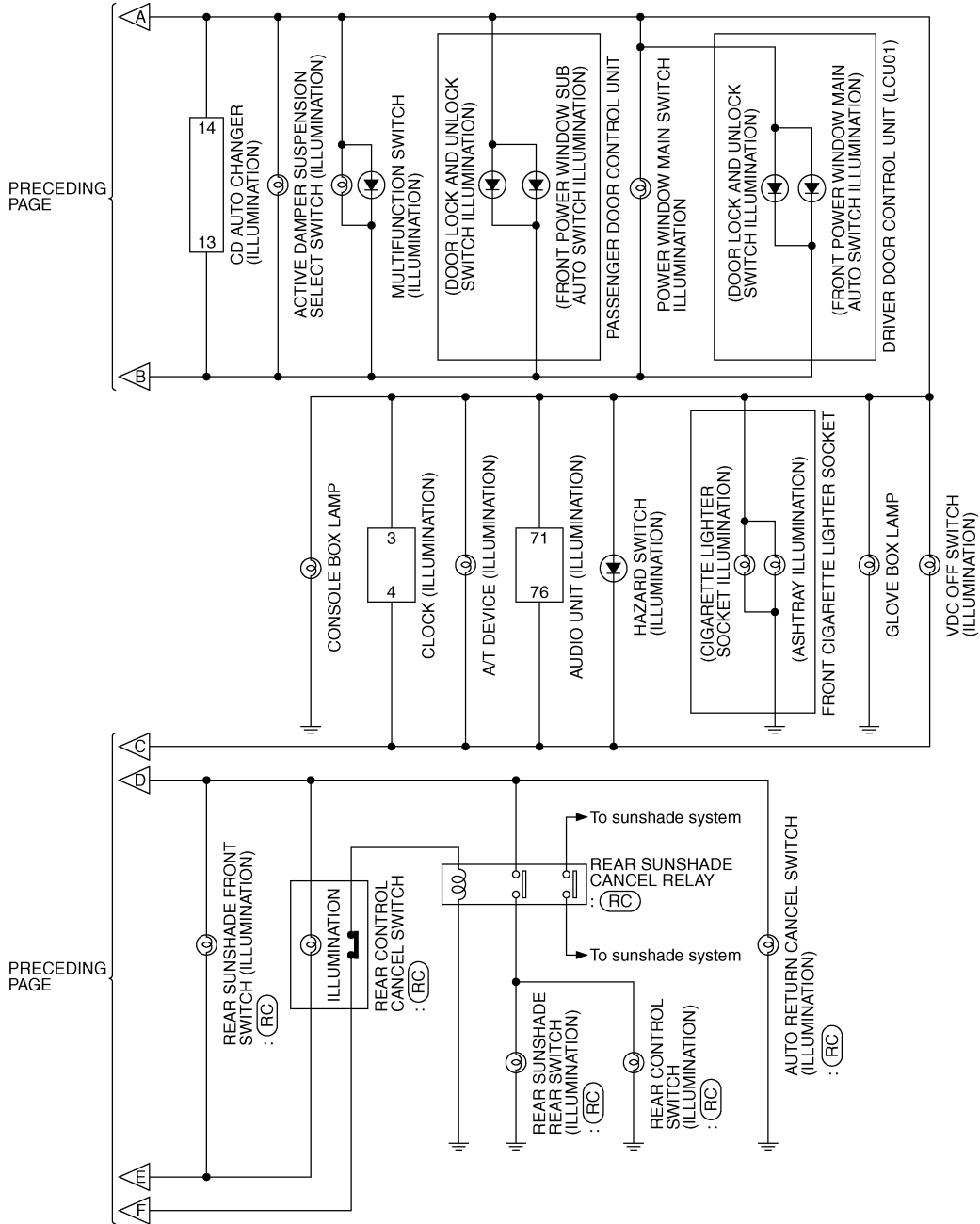
(RC) : With rear control switch



TKWM1501E

# ILLUMINATION

(RC) : With rear control switch



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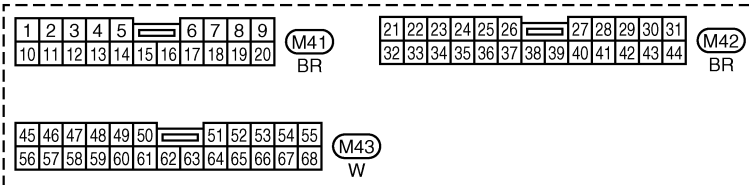
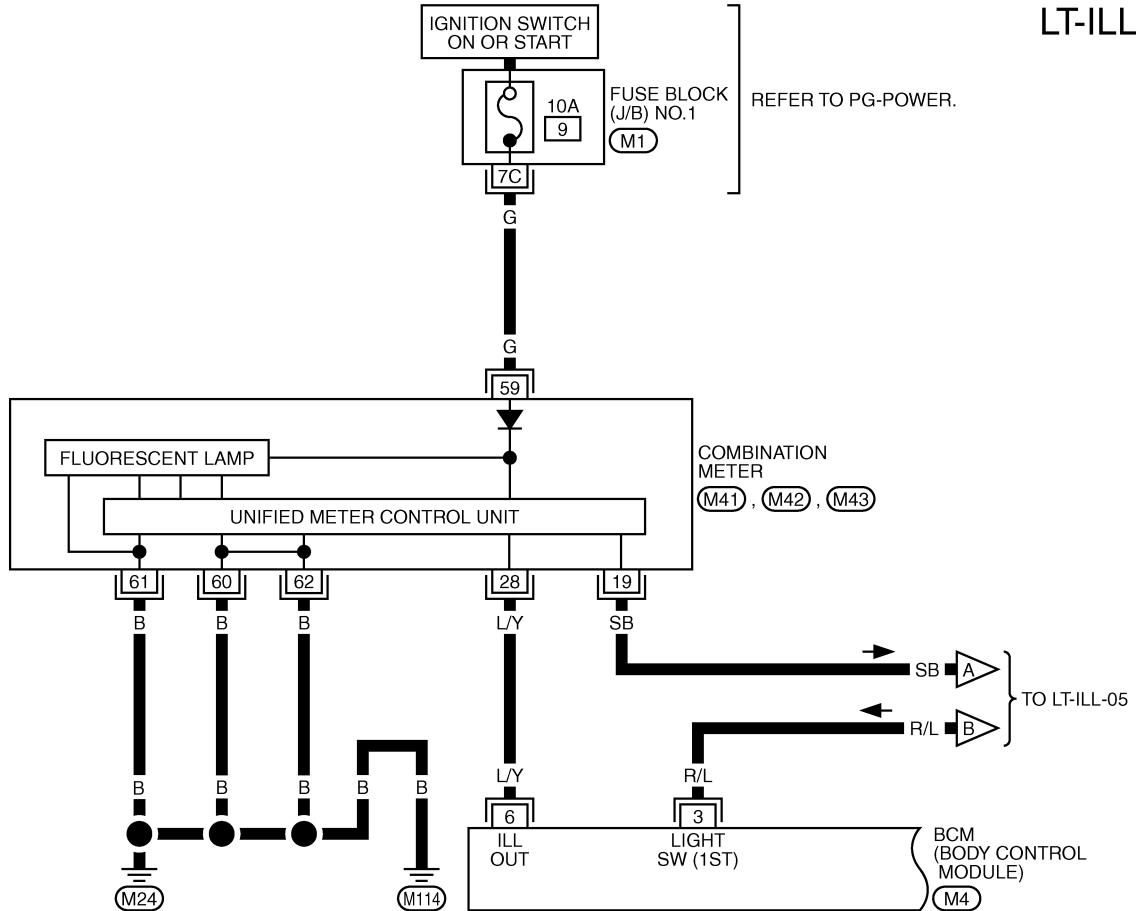
TKWM1502E

# ILLUMINATION

## Wiring Diagram — ILL —

EKS000U8

LT-ILL-01



REFER TO THE FOLLOWING.

M1 - FUSE BLOCK-JUNCTION BOX (J/B) NO.1

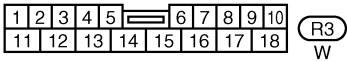
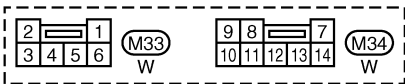
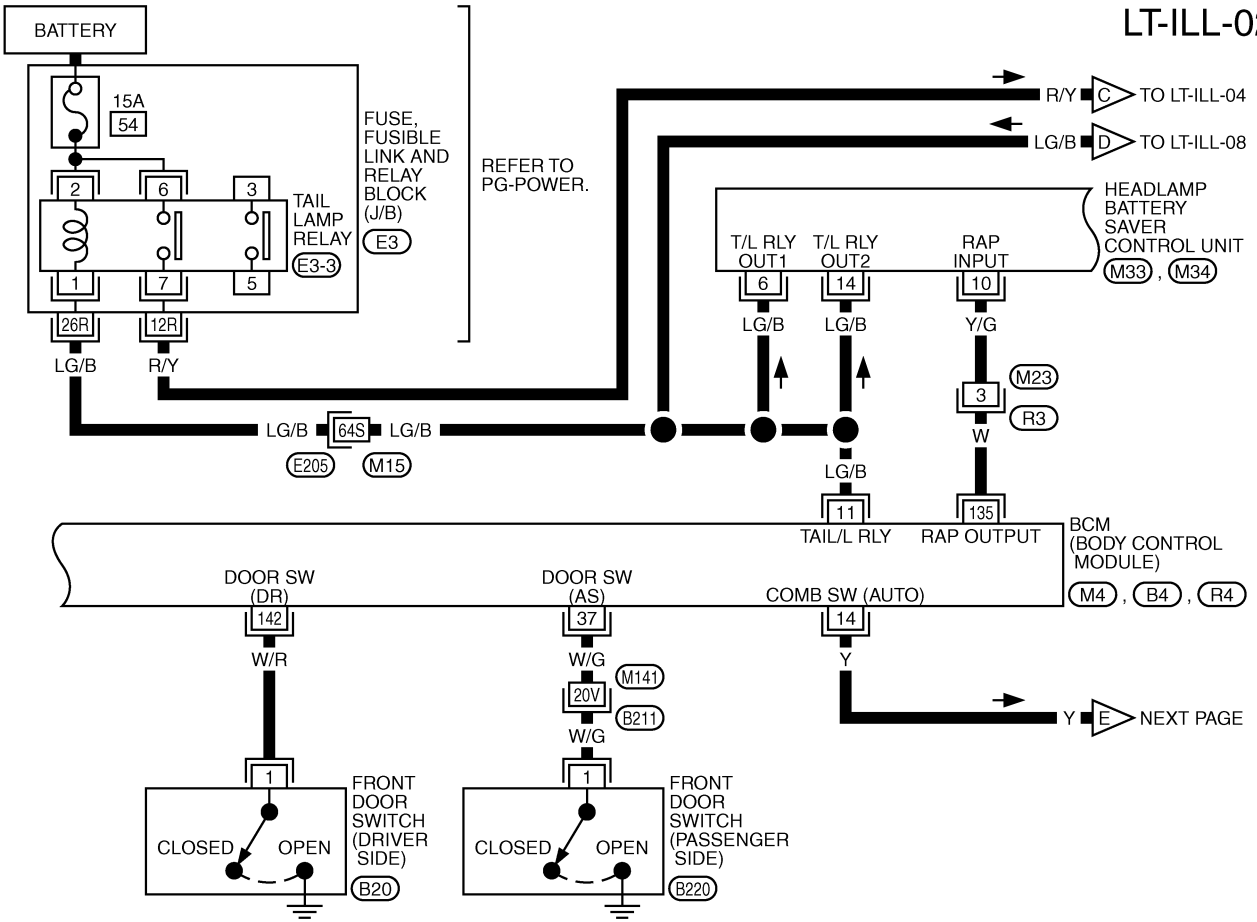
M4 - ELECTRICAL UNITS

TKWM1503E



# ILLUMINATION

LT-ILL-02



\*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

REFER TO THE FOLLOWING.

(E205), (B211) -SUPER MULTIPLE JUNCTION (SMJ)

(E3) -FUSE, FUSIBLE LINK AND RELAY BLOCK (J/B)

(M4), (B4), (R4) -ELECTRICAL UNITS

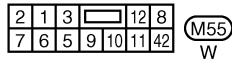
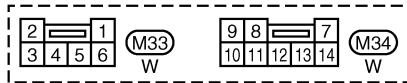
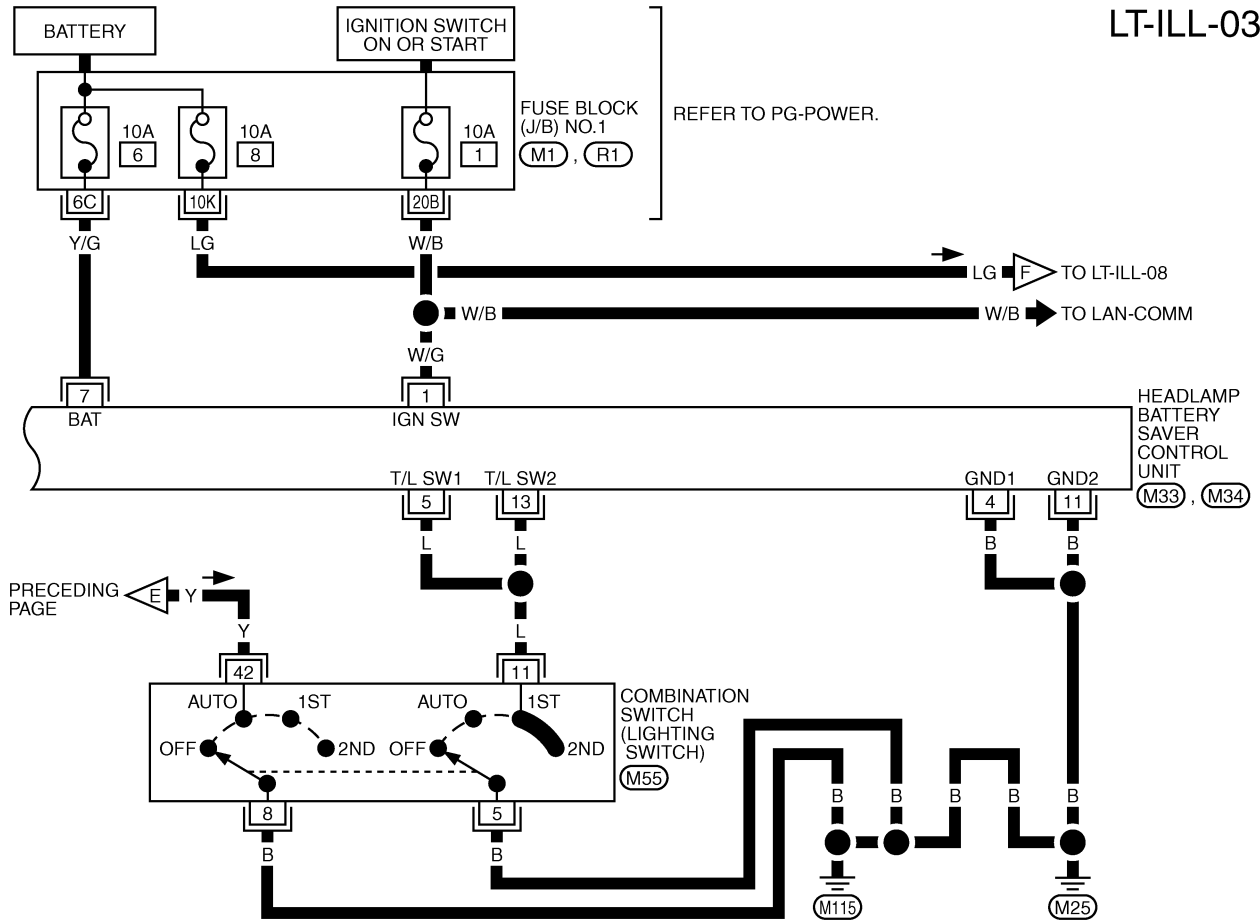
TKWM1504E

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# ILLUMINATION

LT-ILL-03



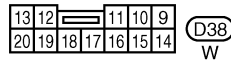
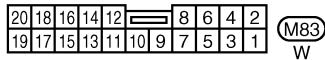
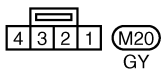
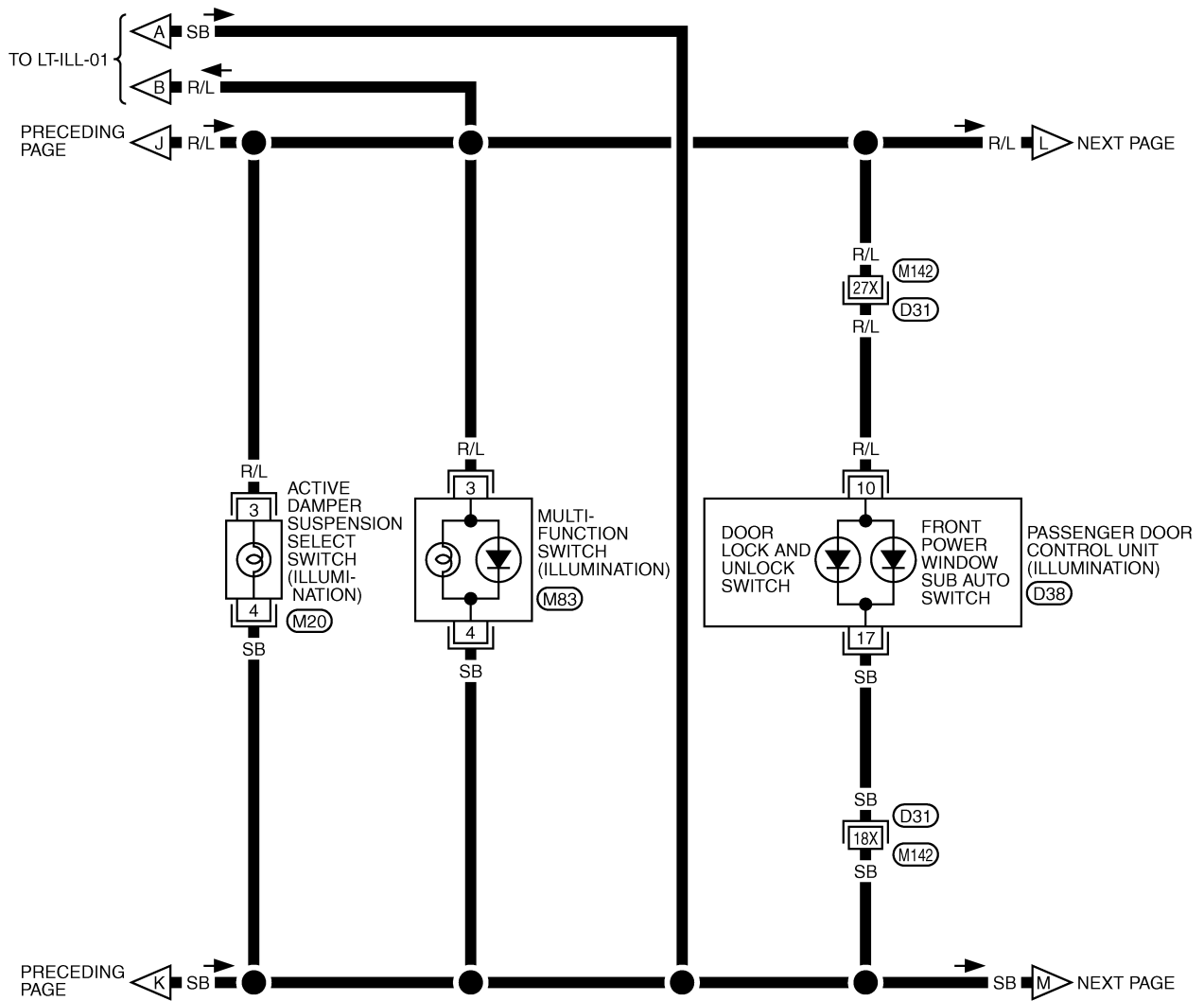
REFER TO THE FOLLOWING.  
 (M1), (R1) - FUSE BLOCK-  
 JUNCTION BOX (J/B) NO.1

TKWM1505E



# ILLUMINATION

LT-ILL-05



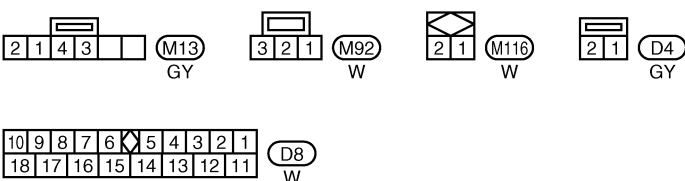
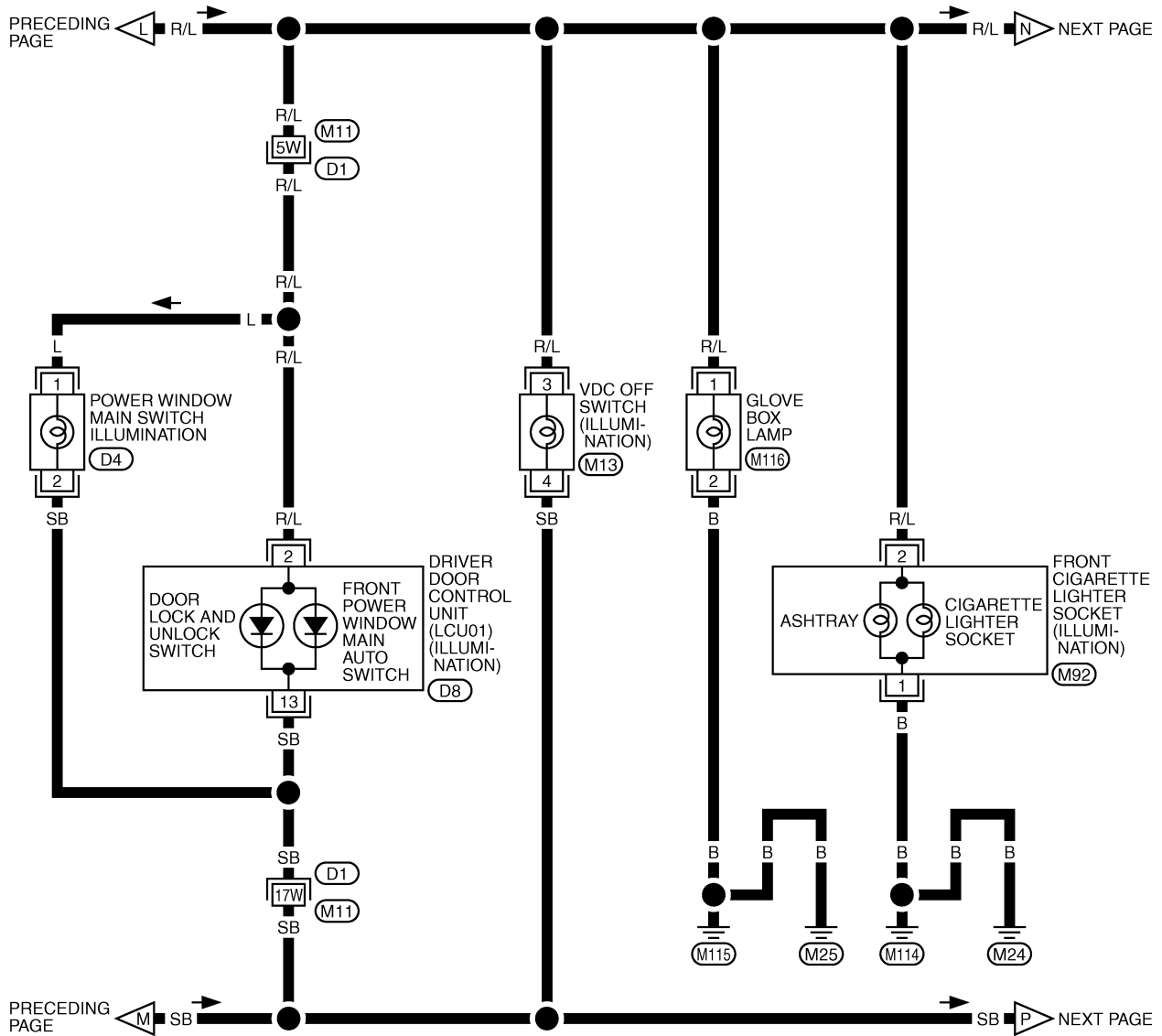
REFER TO THE FOLLOWING.  
 (D31) -SUPER MULTIPLE JUNCTION (SMJ)

TKWM1507E

# ILLUMINATION

LT-ILL-06

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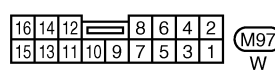
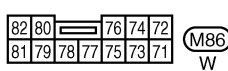
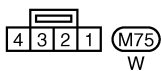
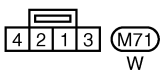
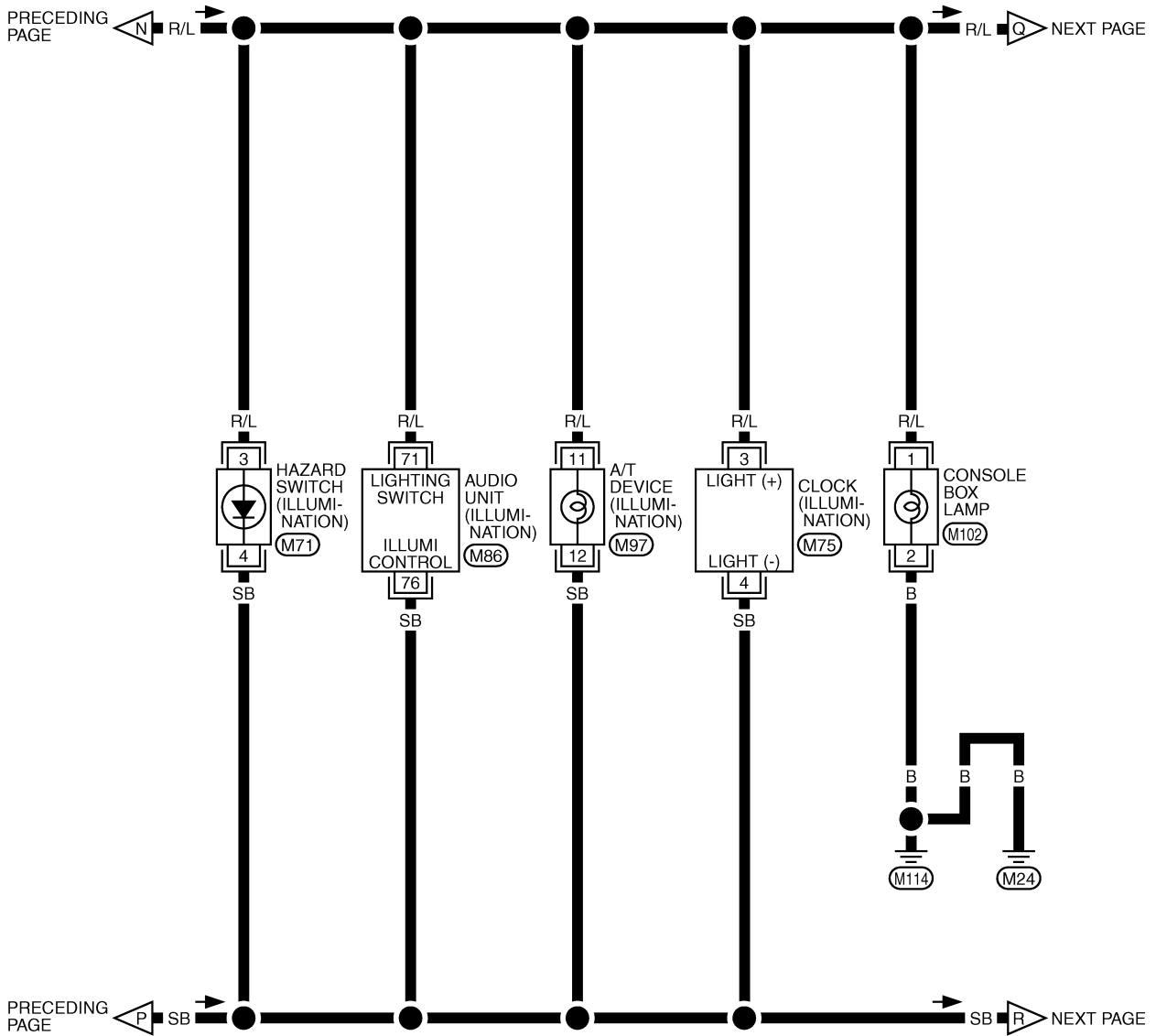


REFER TO THE FOLLOWING.  
 (D1) -SUPER MULTIPLE JUNCTION (SMJ)

TKWM1508E

# ILLUMINATION

LT-ILL-07

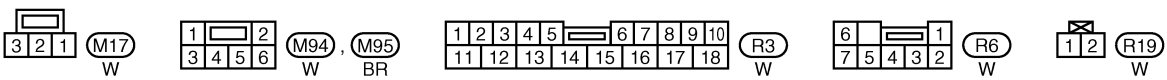
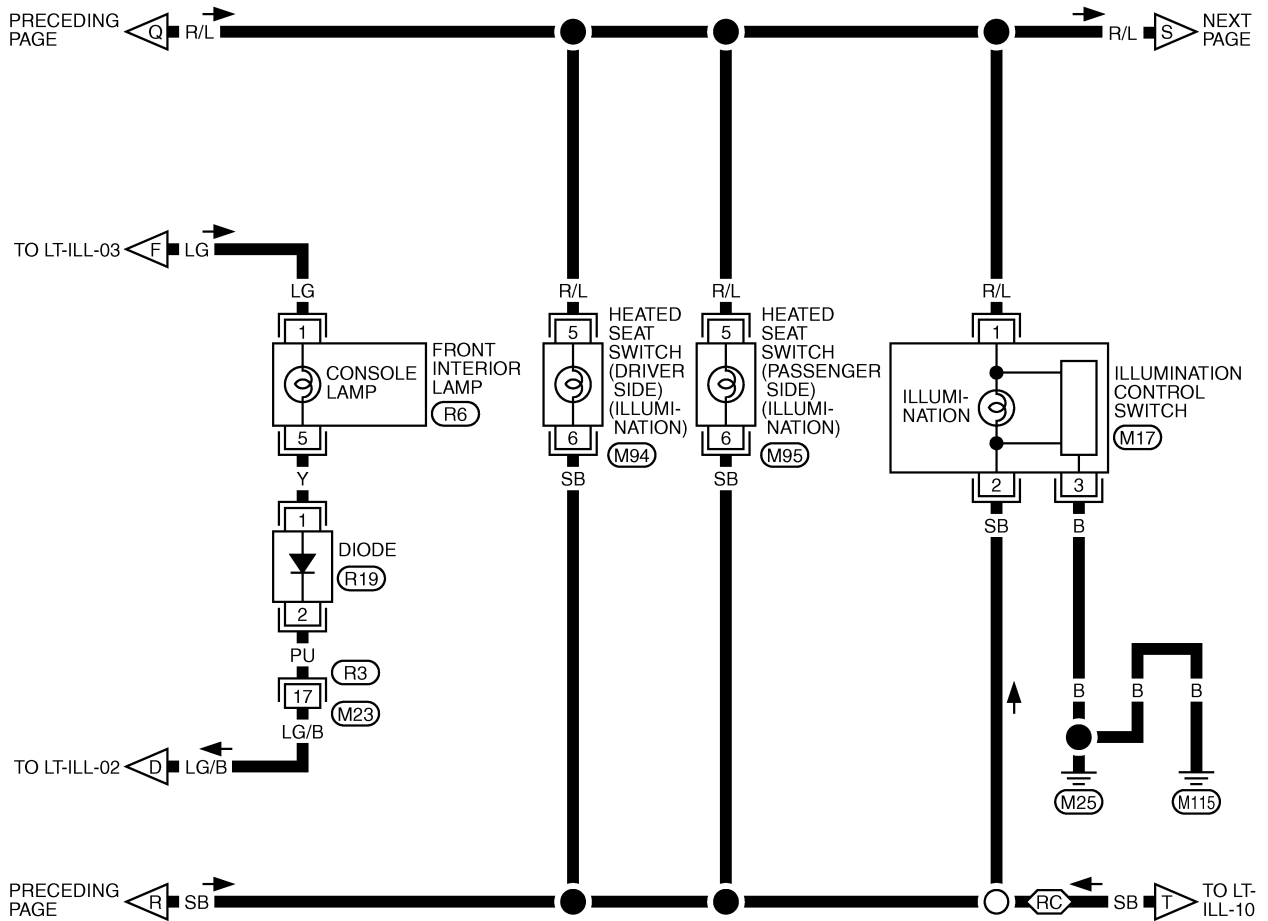


TKWM1509E

# ILLUMINATION

LT-ILL-08

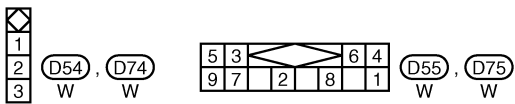
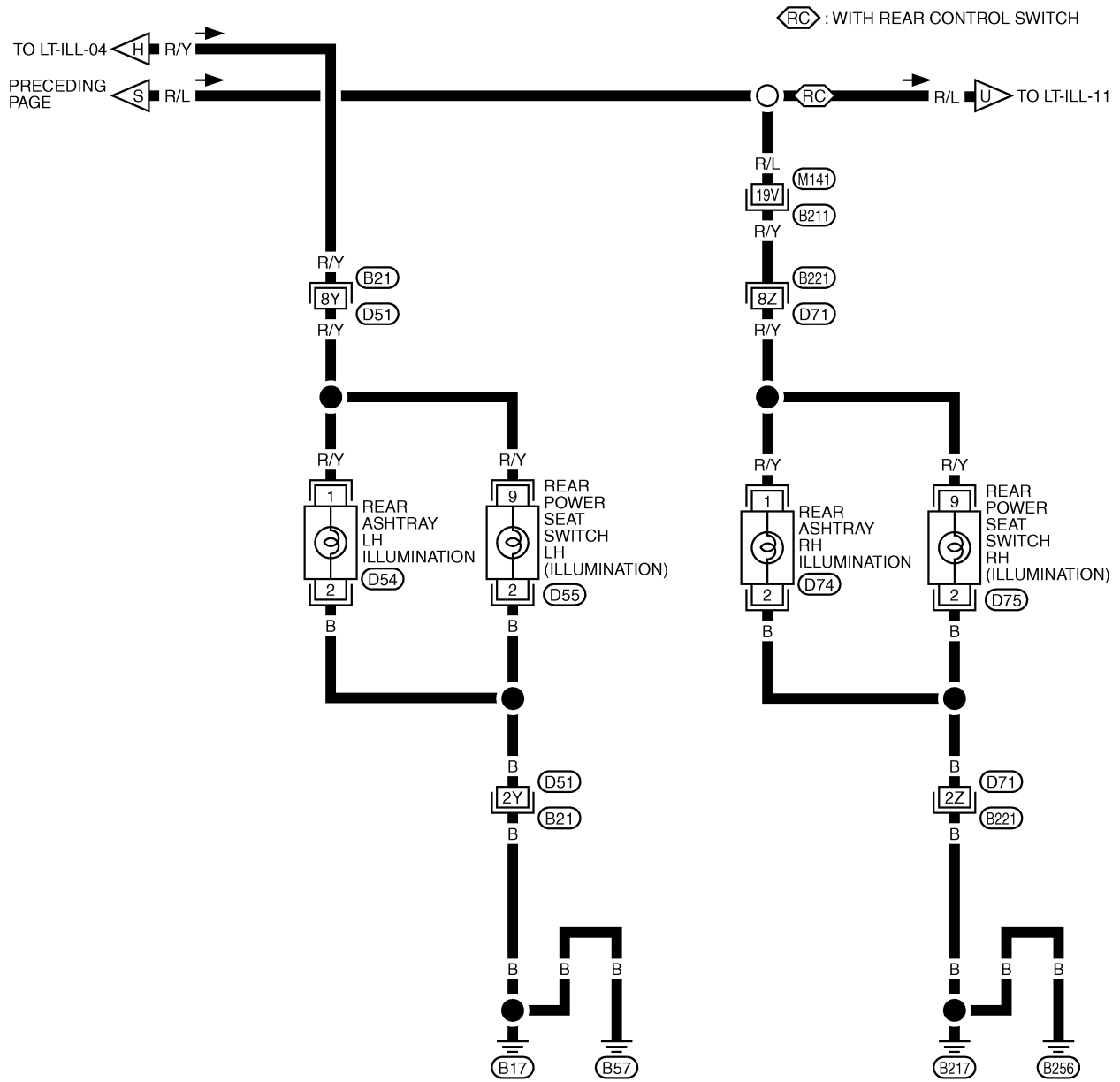
RC : WITH REAR CONTROL SWITCH



TKWM1510E

# ILLUMINATION

LT-ILL-09



REFER TO THE FOLLOWING.  
(B21), (B211), (B221) -SUPER  
MULTIPLE JUNCTION (SMJ)

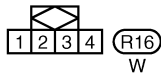
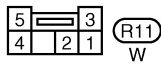
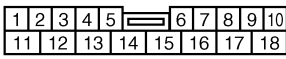
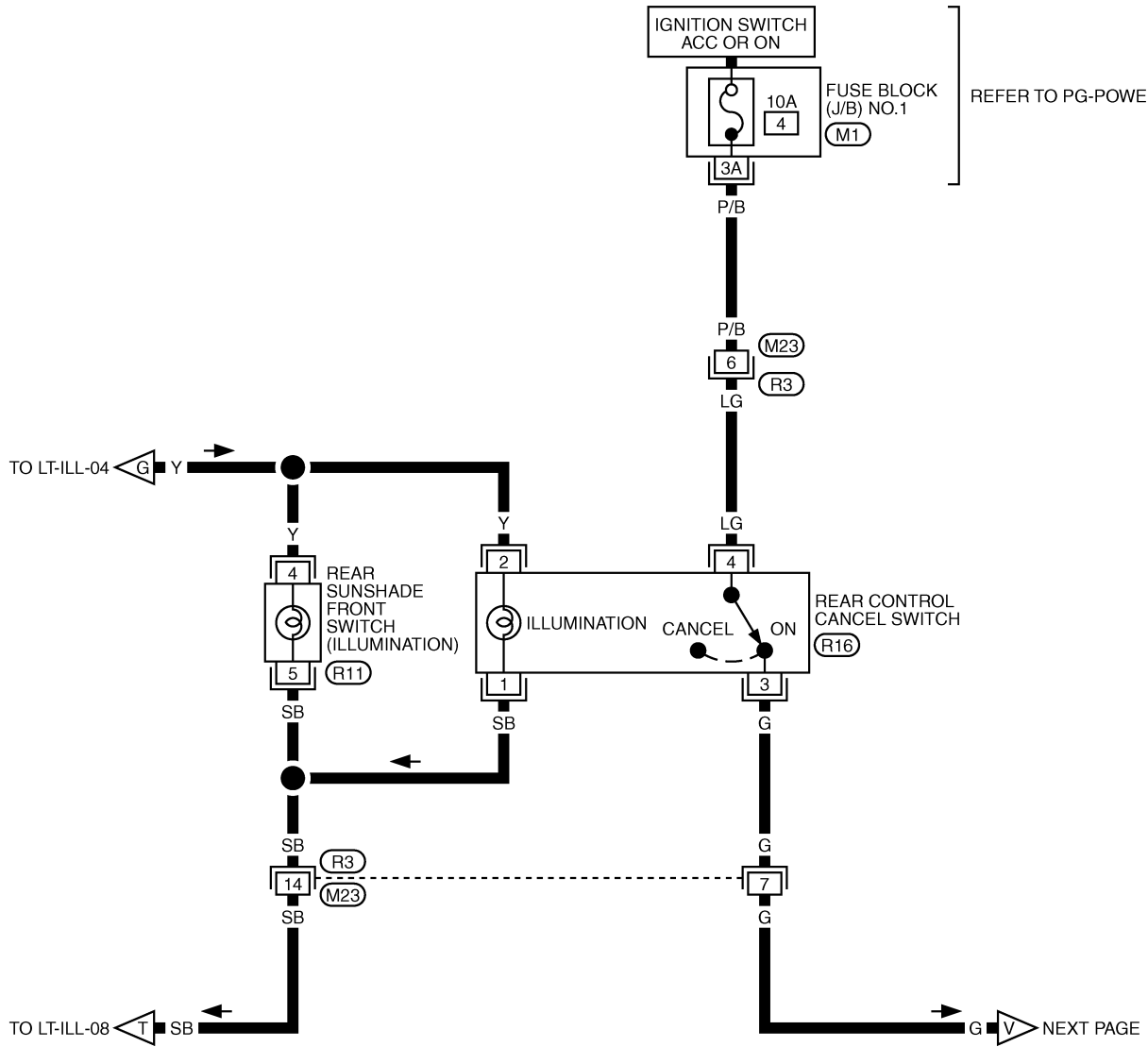
TKWM1511E



# ILLUMINATION

LT-ILL-10

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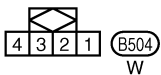
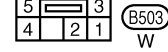
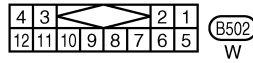
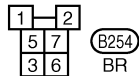
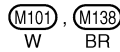
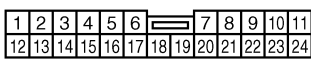
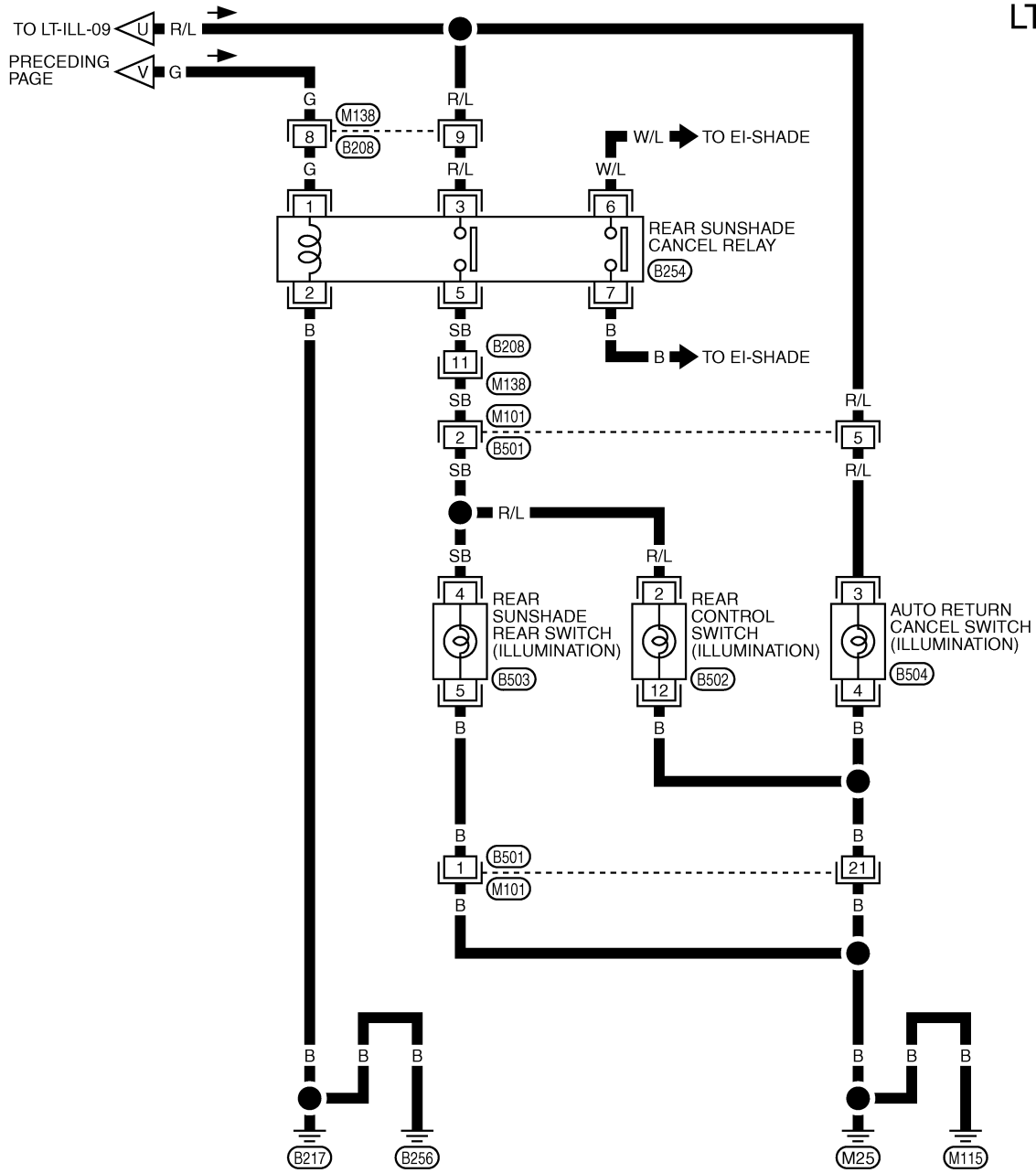


REFER TO THE FOLLOWING.  
(M1) - FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM1512E

# ILLUMINATION

LT-ILL-11



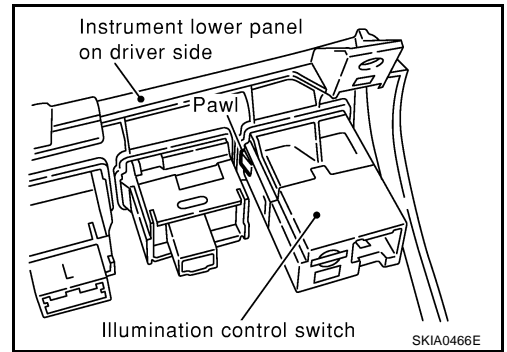
TKWM1513E

# ILLUMINATION

## Removal and Installation ILLUMINATION CONTROL SWITCH

EKS00J25

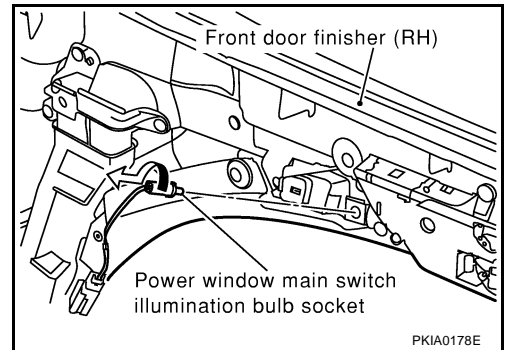
1. Remove the lower instrument panel (driver side). Refer to [IP-10, "Removal and Installation"](#) in "INSTRUMENT PANEL (IP)" section.
2. Press the illumination control switch fixing tabs and remove unit from the lower instrument panel (driver side).



## POWER WINDOW MAIN SWITCH ILLUMINATION

1. Remove the front door finisher (RH). Refer to [EI-35, "FRONT DOOR FINISHER"](#) in "EXTERIOR & INTERIOR (EI)" section.
2. Turn the bulb socket counterclockwise and unlock it.

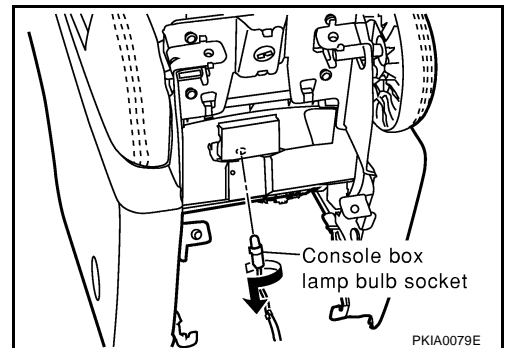
**Power window main switch illumination** : 12V 1.4W



## CONSOLE BOX LAMP

1. Remove the center console box assembly. Refer to [IP-10, "Removal and Installation"](#) in "INSTRUMENT PANEL (IP)" section.
2. Remove the console box finisher. Refer to [IP-17, "Disassembly and Assembly"](#) in "INSTRUMENT PANEL (IP)" section.
3. Turn the bulb socket and unlock it.

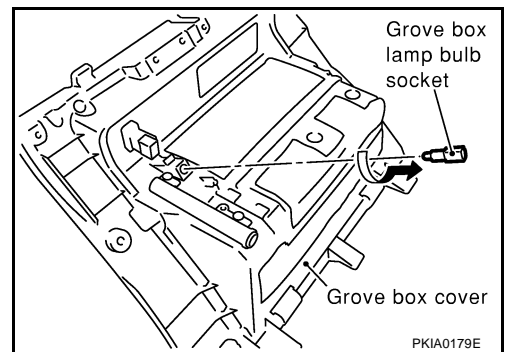
**Console box lamp** : 12V 2W



## GLOVE BOX LAMP

1. Remove the glove box cover. Refer to [IP-10, "Removal and Installation"](#) in "INSTRUMENT PANEL (IP)" section.
2. Turn the bulb socket counterclockwise and unlock it.

**Glove box lamp** : 12V 1.4W



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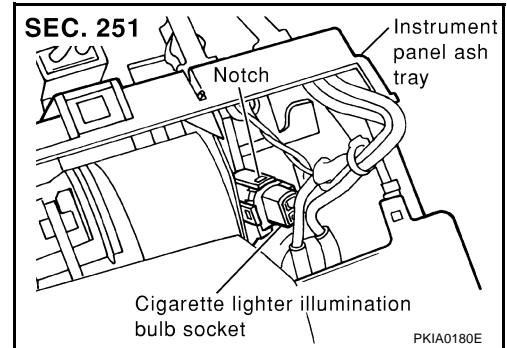
# ILLUMINATION

## FRONT CIGARETTE LIGHTER ILLUMINATION

### Cigarette Lighter Socket Illumination

1. Remove instrument panel ashtray. Refer to [IP-10, "Removal and Installation"](#) in "INSTRUMENT PANEL (IP)" section.
2. Unfold 3 notches and remove bulb socket.

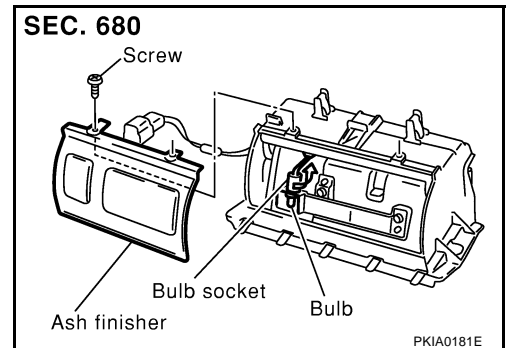
**Cigarette lighter illumination : 12V 1.4W**



### Ashtray Illumination

1. Remove instrument panel ashtray. Refer to [IP-10, "Removal and Installation"](#) in "INSTRUMENT PANEL (IP)" section.
2. Remove ashtray finisher mounting screws and remove ashtray finisher.
3. Turn bulb socket counterclockwise and unlock it.

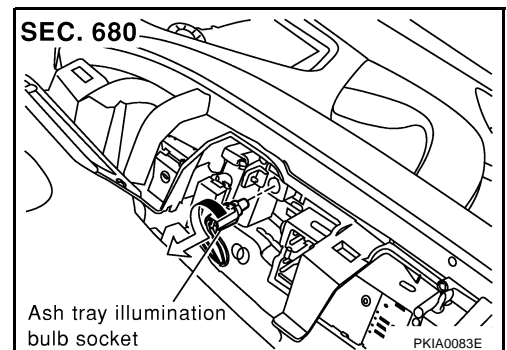
**Ashtray illumination : 12V 1.4W**



## REAR ASHTRAY ILLUMINATION

1. Remove rear door armrest finisher. Refer to [EI-36, "REAR DOOR FINISHER"](#) in "EXTERIOR & INTERIOR (EI)" section.
2. Turn bulb socket counterclockwise and unlock it.
3. Disconnect ashtray illumination connector.

**Ashtray illumination : 12V 1.4W**



# VANITY MIRROR AND TRUNK ROOM LAMPS

PFP:26470

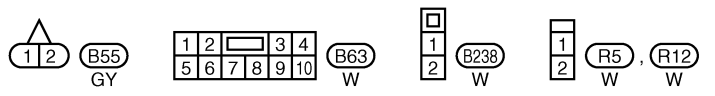
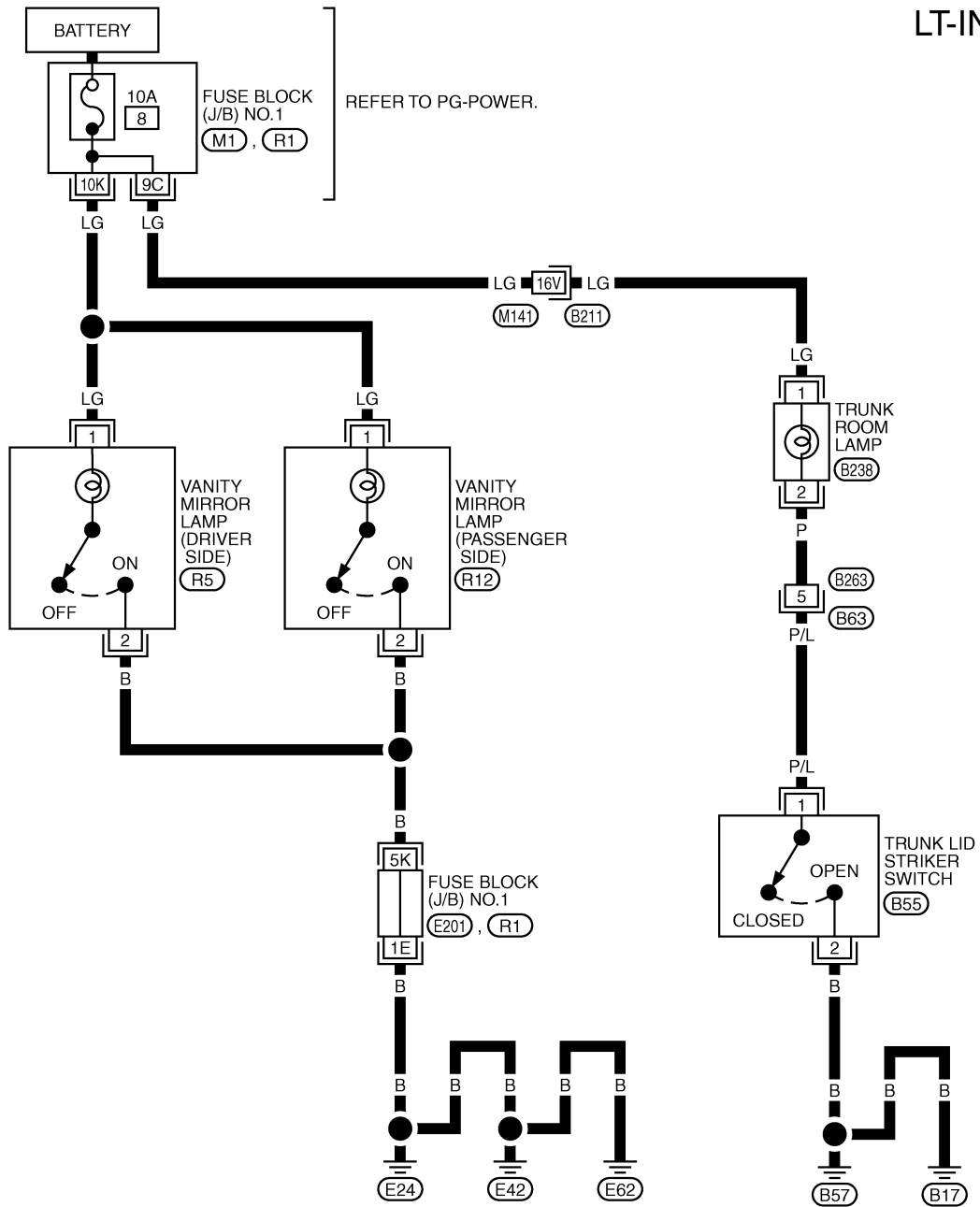
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## VANITY MIRROR AND TRUNK ROOM LAMPS

### Wiring Diagram — INT/L —

EKS000UC

LT-INT/L-01



REFER TO THE FOLLOWING.  
 (B211) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M1), (E201), (R1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM1514E

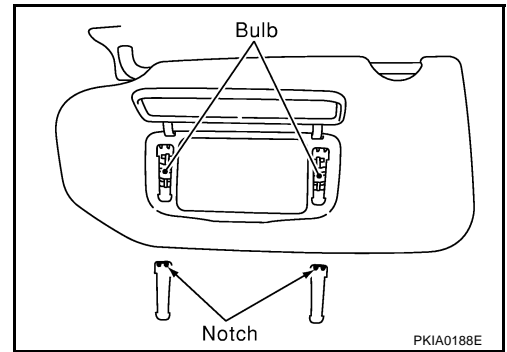
# VANITY MIRROR AND TRUNK ROOM LAMPS

EKS000UD

## Bulb Replacement VANITY MIRROR LAMP

1. Insert a thin blade in notch and remove lens.
2. Remove bulb.

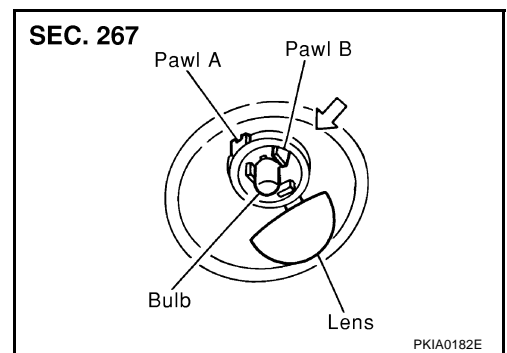
**Vanity mirror lamp : 12V 1.4W**



## TRUNK ROOM LAMP

1. Unfold pawl A and remove lens.
2. Remove bulb.
3. Remove trunk room lamp while pressing pawl B in the direction of arrow.
4. Disconnect trunk room lamp connector.

**Trunk room lamp : 12V 3.4W**



# BULB SPECIFICATIONS

## BULB SPECIFICATIONS

PFP:26297

### Headlamp

EKS0018Q

Item	Wattage (W)
Low	35 (D2S)
High	60 (HB3)

### Exterior Lamp

EKS0018R

Item	Wattage (W)	
Front fog lamp	51 (HB4)	
Front combination lamp	Turn signal lamp	21 (amber)
	Parking lamp (Clearance lamp)	5
	Side marker lamp	5
Rear combination lamp	Stop/Tail lamp	LED
	Turn signal lamp	21 (amber)
	Back-up lamp	18
	Side marker lamp	LED
Tail lamp	LED	
Door mirror lamp	8	
License plate lamp	5	
High-mounted stop lamp	18	

### Interior Lamp/Illumination

EKS0018S

Item	Wattage (W)
Map lamp (Front personal light)	8
Console lamp (Console light)	2
Personal lamp (Rear personal light)	8
Step lamp	2.7
Vanity mirror lamp	1.4
Trunk room lamp	3.4
Ignition key hole illumination	1.4
Power window switch illumination	1.4
Glove box lamp	1.4
Cigarette lighter socket illumination	1.4
Ashtray illumination	1.4
Rear ashtray illumination	1.4

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# BULB SPECIFICATIONS

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