SECTION LT
LIGHTING SYSTEM

CONTENTS

PRECAUTIONS

PFP:00011

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

EKS00F5G

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.

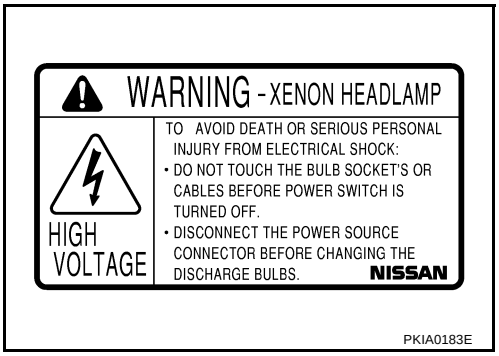
WARNING:

- **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

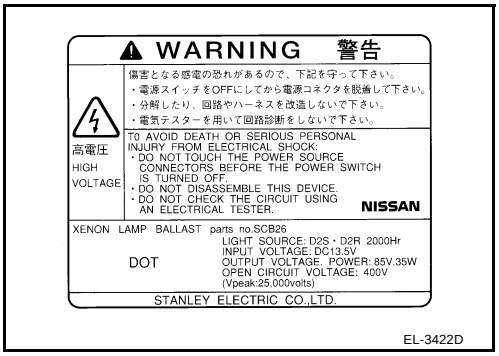
EKS000XN

- 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.



PKIA0183E

- 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.



EL-3422D

- 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 you read wiring diagrams, refer to the followings:

- 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

When you perform trouble diagnosis, refer to the followings:

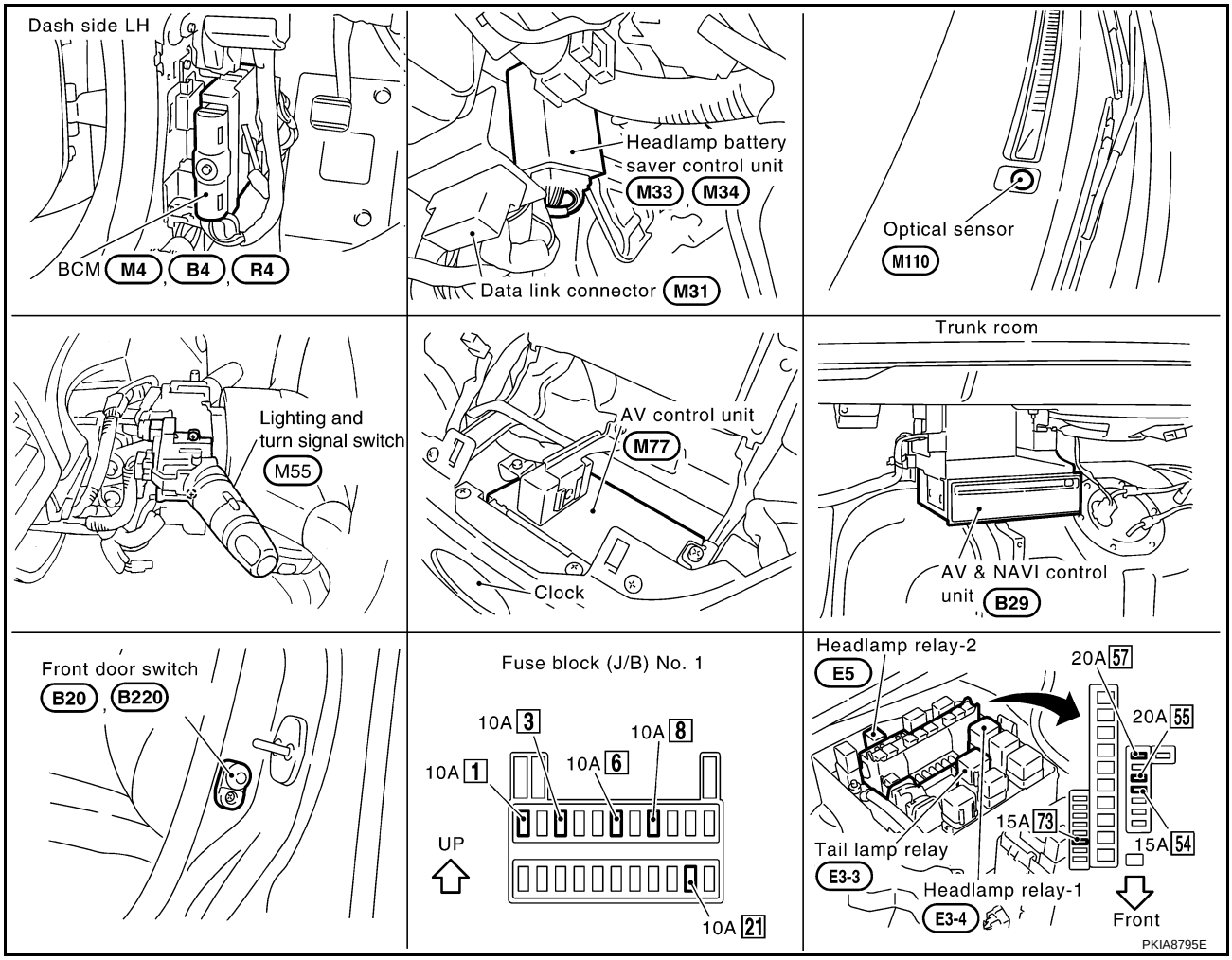
- Refer to GI-10, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES" in GI section
- Refer toGI-26, "How to Perform Efficient Diagnosis for an Electrical Incident" in GI section

HEADLAMP (FOR USA)

PFP:26010

Component Parts and Harness Connector Location

EKS000UL



System Description

EKS000SX

The headlamp operation is controlled by the lighting switch which is built into 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

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

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

- to headlamp battery saver control unit terminal 1
- 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 the 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 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 the 2ND position and placed in 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 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 the 2ND position and placed in 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 the HIGH BEAM indicator.

Ground is supplied

- to headlamp LH terminal 14
- to combination meter terminal 47 for the 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:
The lamp will be force to turn off when the driver door is opened with the ignition switch in OFF or ACC position. (when except for lighting switch is “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.
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 side 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 ambient light. Sensitivity can be adjusted in four steps. For the details of the 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 prescribed 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 illuminate 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 flash the high beams if the system is triggered. Refer to BL-155, "VEHICLE SECURITY (THEFT WARNING) SYSTEM" .

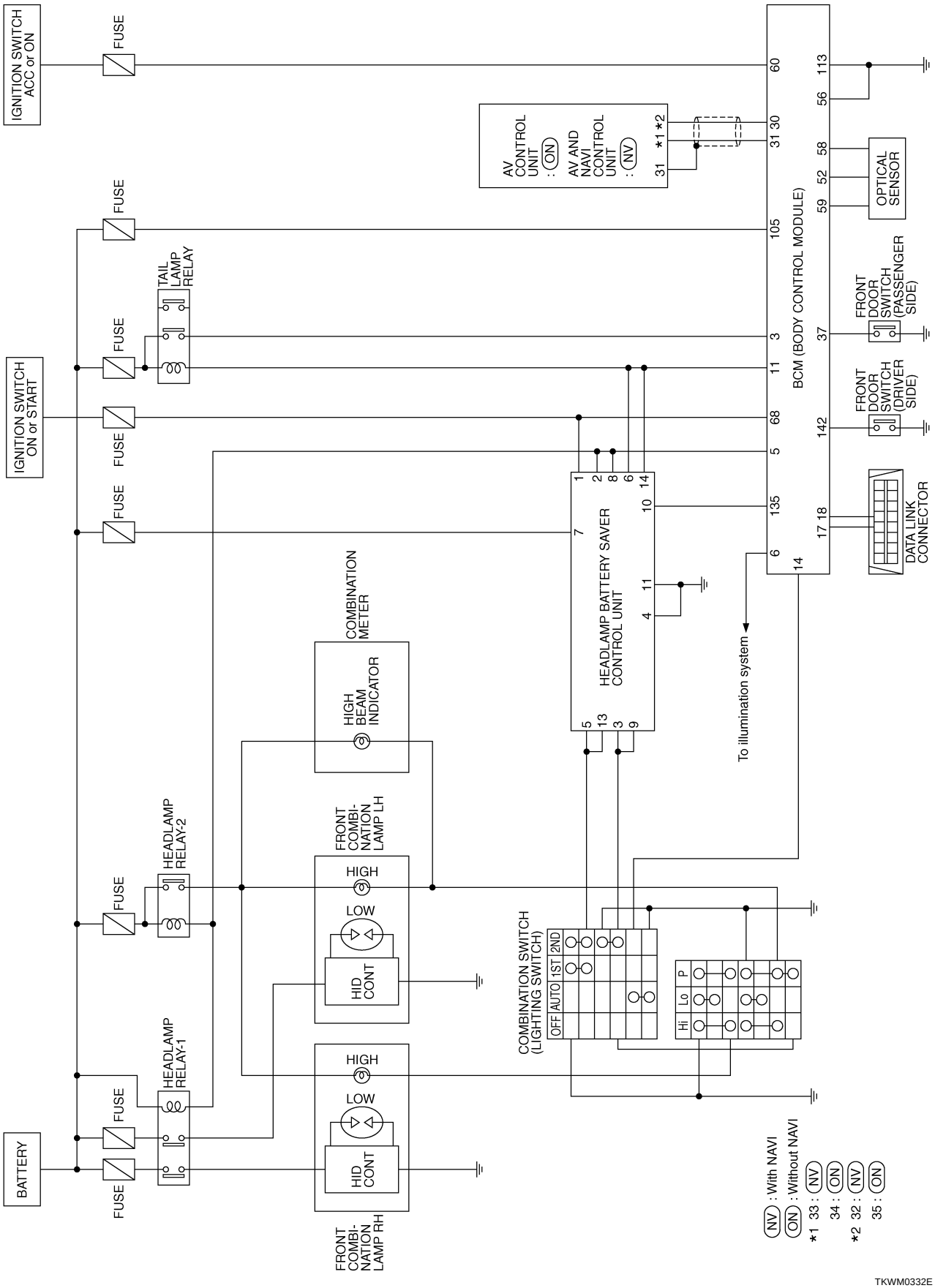
XENON HEADLAMP

Xenon type headlamp is adopted 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 added lighting power, electronic control of the power supply gives the headlamps stable quality and tone color.
Followings are some of the many advantages of the xenon type headlamp.

- The light produced by the headlamps is white color approximating to sunlight that is easy on the eyes.
- Light output is nearly double that of halogen headlamps, affording increased area of illumination.
- The light features a high relative spectral distribution at wavelengths to the human eye is most sensitive, which means that even in the rain, more light is reflected back from the road surface toward the vehicle, for added visibility.
- Power consumption is approximately 25 percent less than halogen headlamps, reducing battery load.

Schematic

EKS000SY

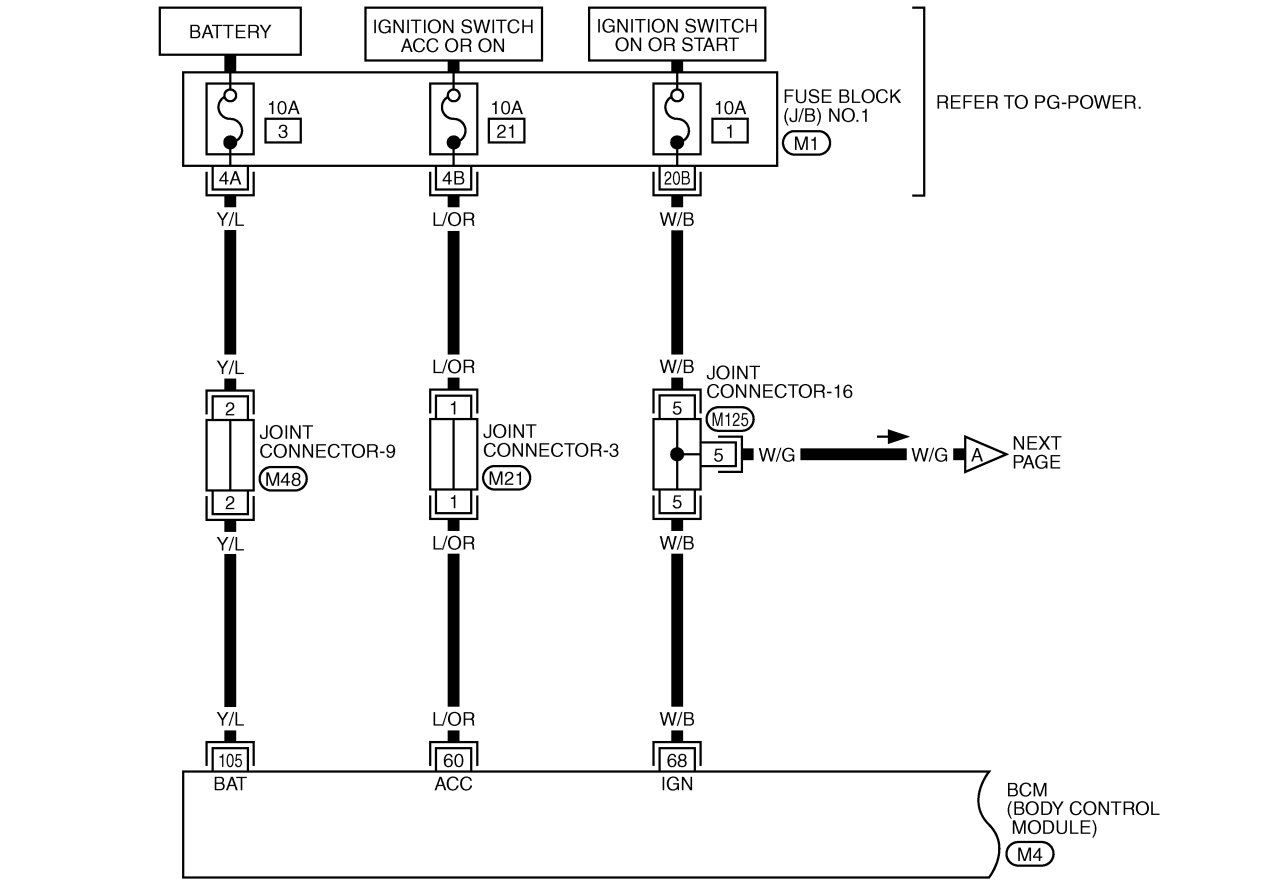


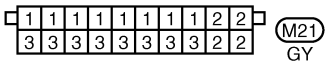
TKWM0332E

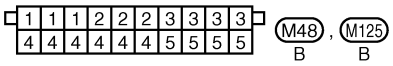
Wiring Diagram — H/LAMP —

EKS000SZ

LT-H/LAMP-01





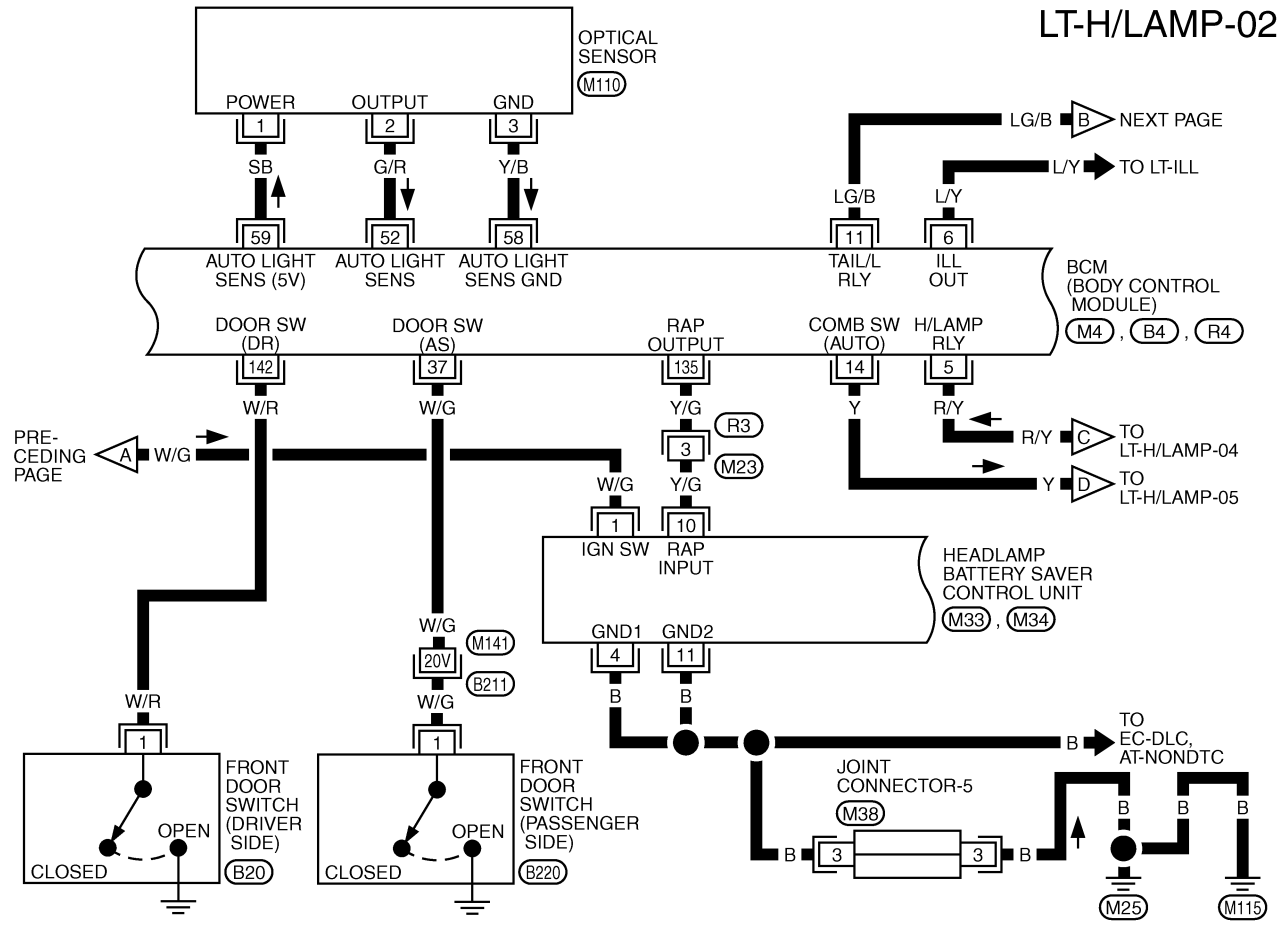


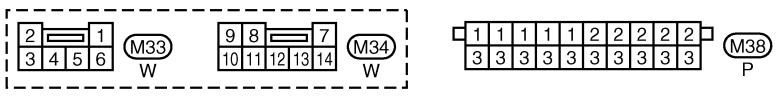
REFER TO THE FOLLOWING.

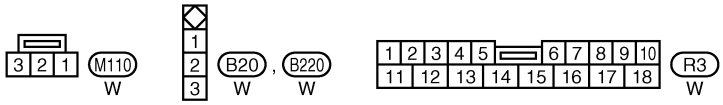
M1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

M4 -ELECTRICAL UNITS

TKWM0537E





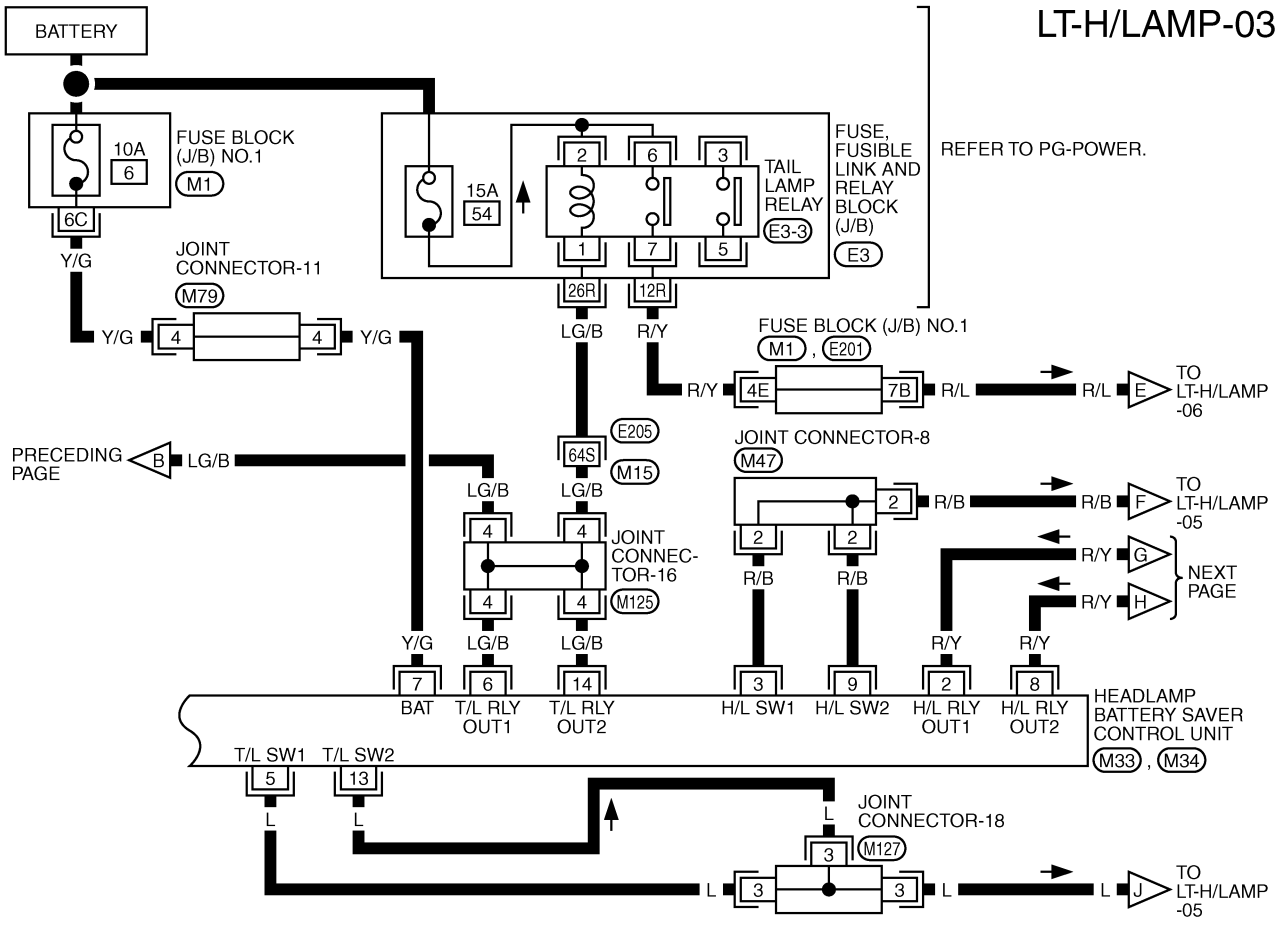


REFER TO THE FOLLOWING.

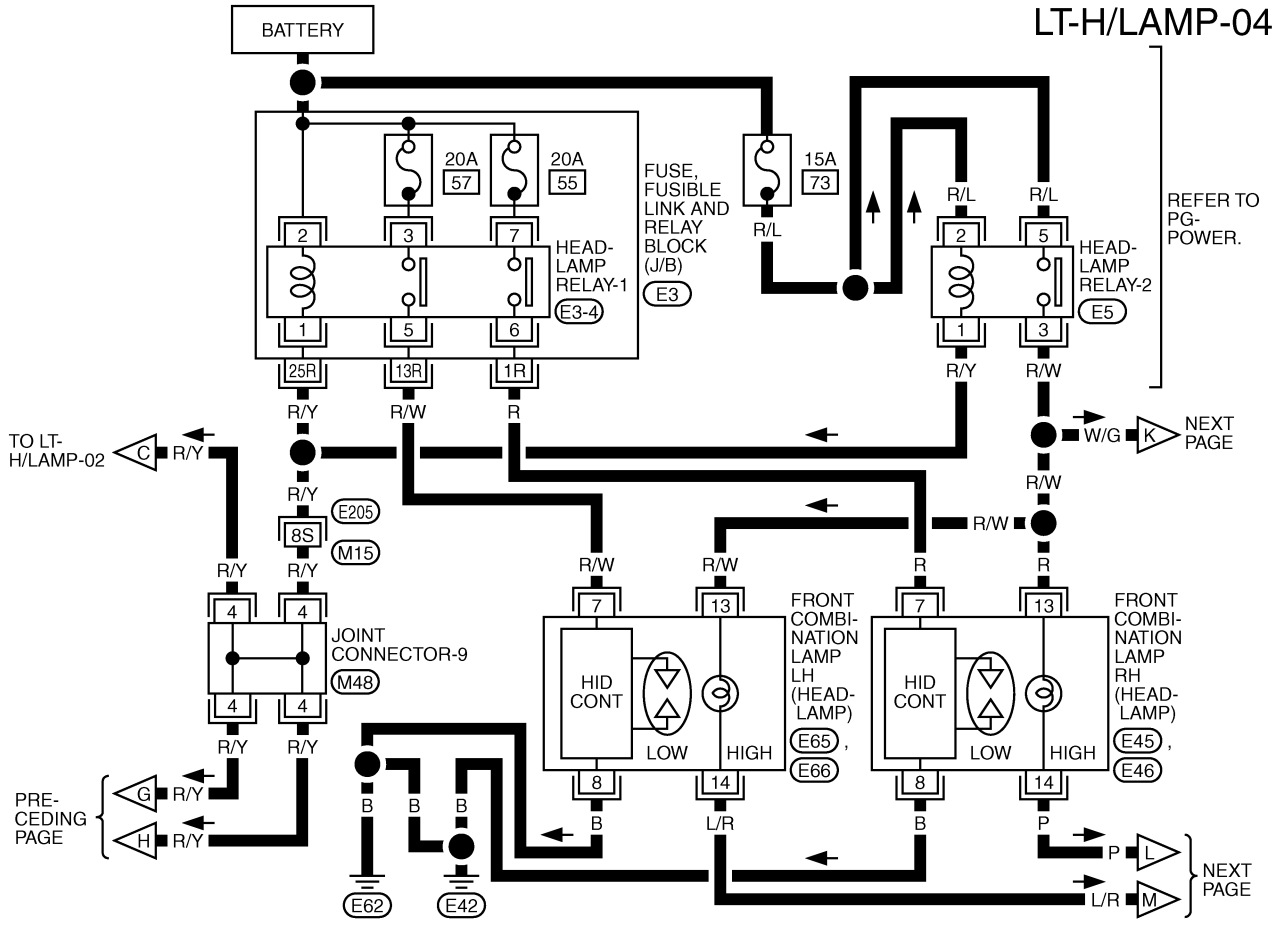
B211 -SUPER MULTIPLE JUNCTION (SMJ)

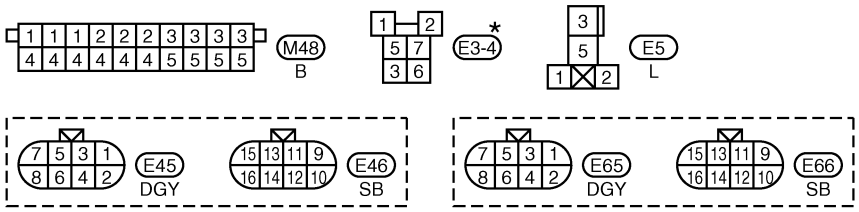
M4 , B4 , R4 -ELECTRICAL UNITS

TKWM0392E


LT-H/LAMP-03
BATTERY
10A
6
FUSE BLOCK
(J/B) NO.1
M1
6C
Y/G
JOINT
CONNECTOR-11
M79
Y/G
4
4
Y/G
15A
54
2
6
3
1
7
5
TAIL
LAMP
RELAY
E3-3
FUSE,
FUSIBLE
LINK AND
RELAY
BLOCK
(J/B)
E3
REFER TO PG-POWER.
26R
12R
LG/B
R/Y
FUSE BLOCK (J/B) NO.1
M1 , E201
R/Y
4E
7B
R/L
R/L
E
TO
LT-H/LAMP
-06
PRECEDING
PAGE
B
LG/B
E205
64S
M15
LG/B
LG/B
JOINT CONNECTOR-8
M47
2
R/B
R/B
F
TO
LT-H/LAMP
-05
4
4
JOINT
CONNEC-
TOR-16
4
4
M125
2
2
R/B
R/B
R/Y
G
R/Y
H
NEXT
PAGE
Y/G
LG/B
LG/B
R/Y
R/Y
7
6
14
3
9
2
8
BAT
T/L RLY
OUT1
T/L RLY
OUT2
H/L SW1
H/L SW2
H/L RLY
OUT1
H/L RLY
OUT2
HEADLAMP
BATTERY SAVER
CONTROL UNIT
M33 , M34
T/L SW1
T/L SW2
5
13
L
L
L
JOINT
CONNECTOR-18
3
M127
L
3
3
L
L
J
TO
LT-H/LAMP
-05
M33
W
M34
W
M47
GY
M79
G
M125
B
M127
OR
E3-3
*
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.

TKWM0007E





REFER TO THE FOLLOWING.

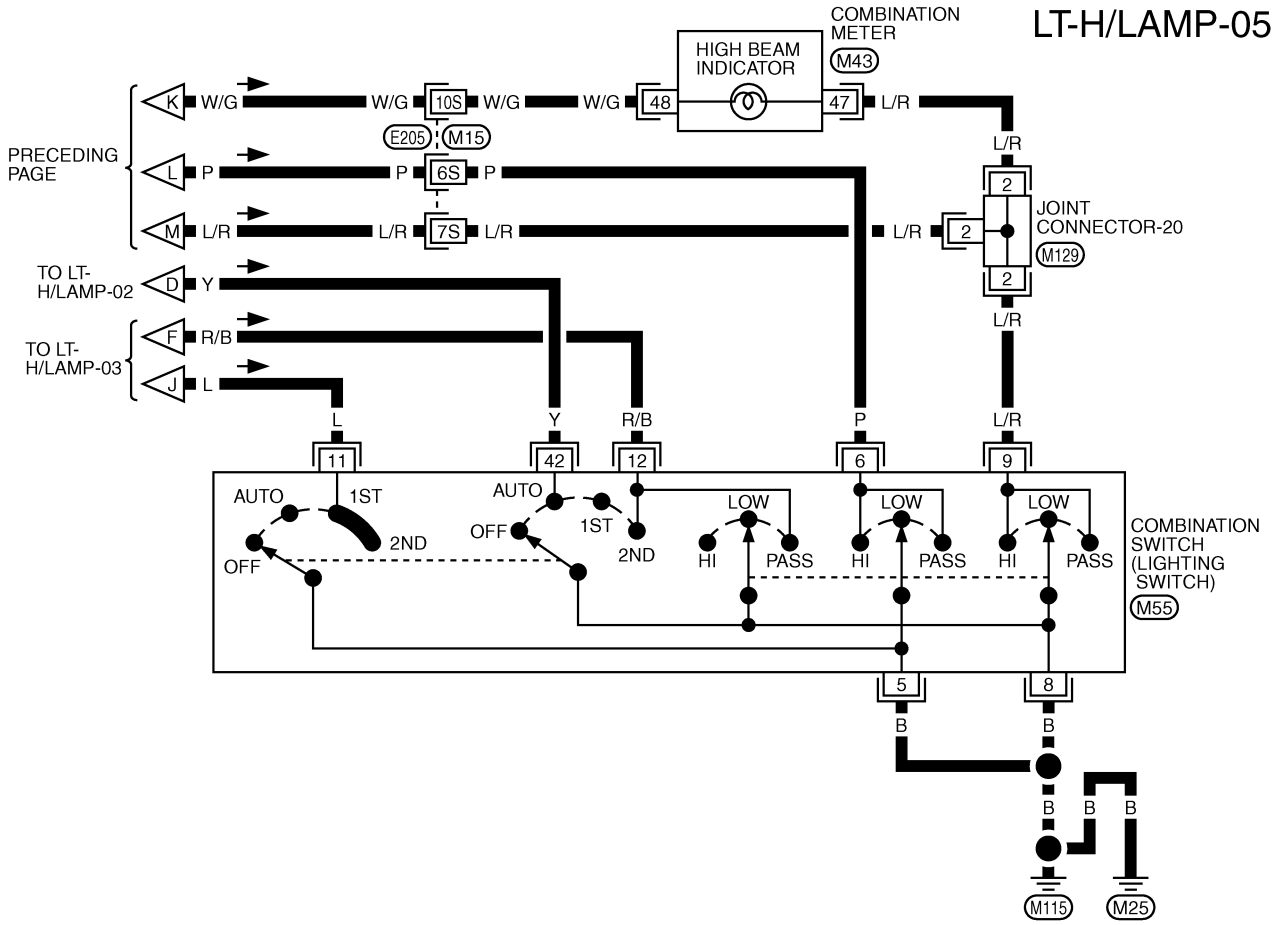
E205 -SUPER MULTIPLE JUNCTION (SMJ)

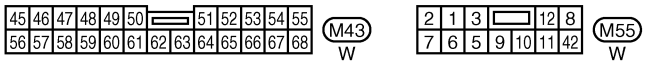
E3 -FUSE,FUSIBLE LINK AND RELAY BLOCK (J/B)

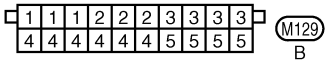
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWM0333E

LT-H/LAMP-05



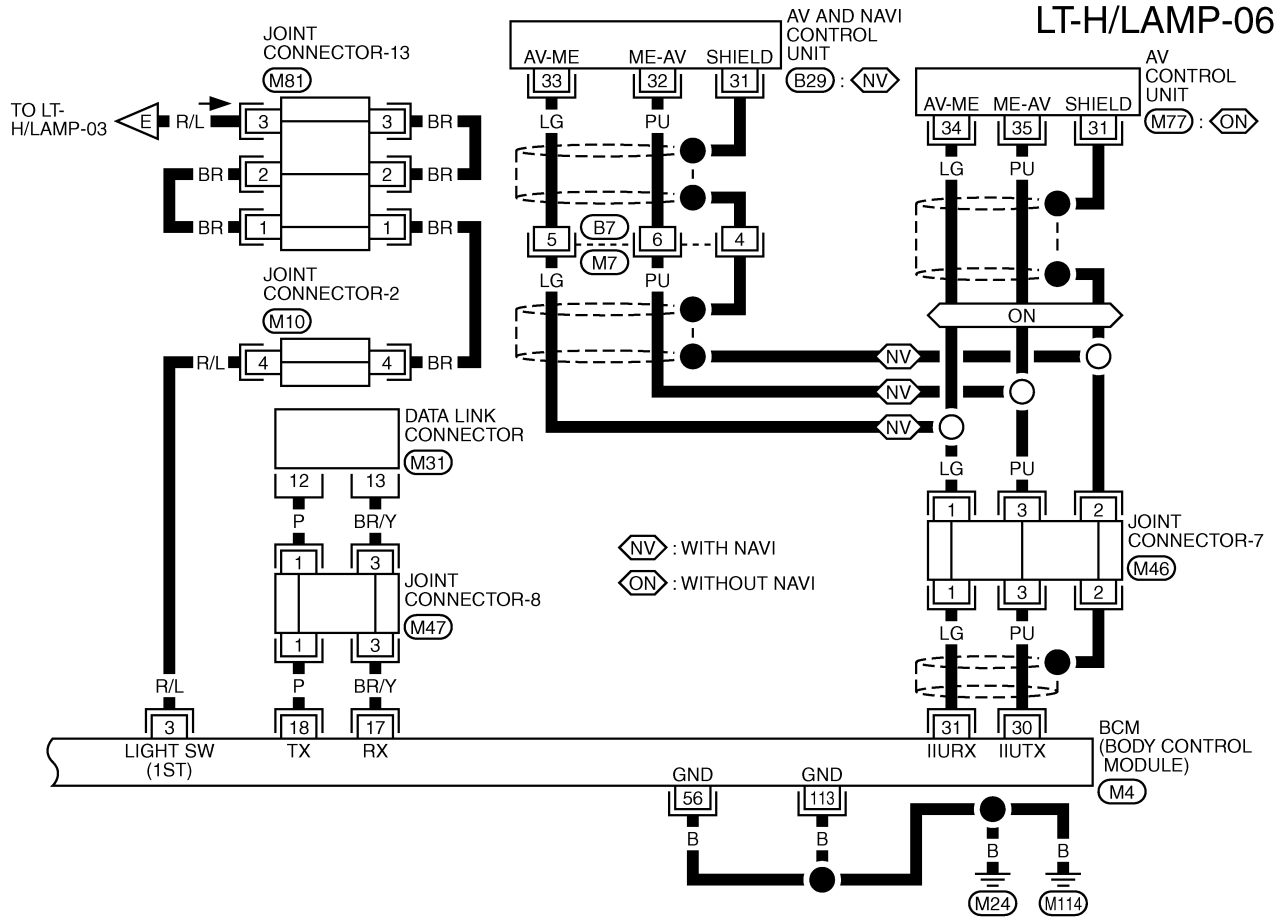


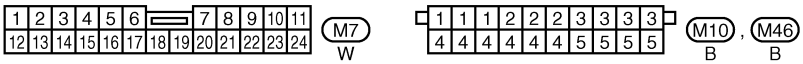


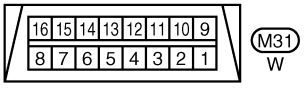
REFER TO THE FOLLOWING.

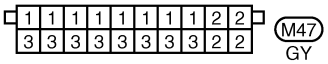
E205 -SUPER MULTIPLE JUNCTION (SMJ)

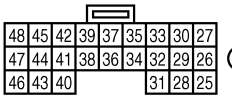
TKWM0334E

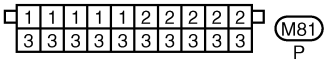












REFER TO THE FOLLOWING.
M4 -ELECTRICAL UNITS

TKWM0335E

Terminals and Reference Value for Battery Saver Control Unit

EKS000T4

Terminal No.	Wire color	Item	Condition			Reference value
1	W/G	IGN power supply	Ignition switch	OFF or ACC		Approx. 0V
				ON or START		Battery voltage
2	R/Y	Headlamp relay OUT1	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. 0V
				ON or START		Approx. 0V
			Headlamps illuminate by auto light control.			Approx. 0V
3	R/B	Headlamp switch1	Lighting switch	1ST		Approx. 2.4V
				PASS or 2ND		Approx. 0V
			Headlamps illuminate by auto light control.			Approx. 0V
4	B	Ground	—			—
5	L	Tail lamp switch1	lighting switch	OFF		Battery voltage
				1ST or 2ND		Approx. 0V
6	LG/B	Tail lamp relay OUT1	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
					Within 45 seconds after ignition switch is turned OFF or ACC	Approx. 0V
				ON or START		Approx. 0V
			Headlamps illuminate by auto light control.			Approx. 0V
7	Y/G	BAT power supply	—			Battery voltage
8	R/Y	Headlamp relay OUT2	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. 0V
				ON or START		Approx. 0V
			Headlamps illuminate by auto light control.			Approx. 0V
9	R/B	Headlamp switch2	Lighting switch	1ST		Approx. 2.4V
				PASS or 2ND		Approx. 0V
			Headlamps illuminate by auto light control.			Approx. 0V
10	Y/G	RAP signal	Ignition switch	OFF or ACC (After more than 45 seconds with ignition switch turned OFF or ACC)		Battery voltage
				ON or START		Approx. 0V
11	B	Ground	—			—
13	L	Tail lamp switch2	Lighting switch	OFF		Battery voltage
				1ST or 2ND		Approx. 0V

Terminal No.	Wire color	Item	Condition			Reference value
14	LG/B	Tail lamp relay OUT2	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
					Within 45 seconds after ignition switch is turned OFF or ACC	Approx. 0V
				ON or START		Approx. 0V
			Headlamps illuminate by auto light control.			Approx. 0V

Terminals and Reference Value 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. 0V
					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. 0V
6	L/Y	Automatic brightness adjustment signal	ON	Lighting switch: ON	Light is applied to optical sensor.	Approx. 0V
					Light is not applied to optical sensor.	Battery voltage
11	LG/B	Tail lamp relay control signal	ON	Light switch: AUTO	Light is applied to optical sensor.	Battery voltage
					Light is not applied to optical sensor.	Approx. 0V
14	Y	Lighting switch AUTO signal	ON	Lighting switch	AUTO	Approx. 0V
					OFF	Approx. 8V
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	Passenger door switch signal	OFF	Passenger door switch	ON (open)	Approx. 0V
					OFF (close)	Battery voltage
52	G/R	Optical sensor signal	ON	Light is applied to optical sensor.		Approx. 3V
				Light is not applied to optical sensor.		Approx. 0V
56	B	Ground	—	—		—
58	Y/B	Optical sensor ground	ON	—		Approx. 0V
59	SB	Optical sensor power supply	ON	—		Approx. 5V
60	L/OR	ACC power supply	ACC	—		Battery voltage
68	W/B	IGN power supply	ON	—		Battery voltage
105	Y/L	BAT power supply	OFF	—		Battery voltage
113	B	Ground	—	—		—
135	Y/G	RAP output signal	OFF	When headlamp battery saver timer is operated.		Approx. 0V

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. 0V
					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? When yes, go to step 6. When no, go to step 4.
6. INSPECTION END

Preliminary Check

EKS0014V

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		×
		Mode 3		
Automatic headlights off delay (Display unit)	Auto light time delay is set at seven grades.	–	OFF	
			20 sec.	
			45 sec.	×
			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. FUSE CHECK

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

Unit	Power source	Terminal	Fuse No.
BCM	BAT power supply	105	3
	ACC power supply	60	21
	IGN power supply	68	1

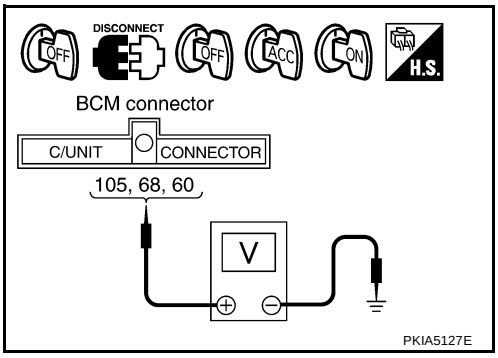
Refer to PG-2, "POWER SUPPLY ROUTING" .

OK or NG

OK >> GO TO 2.
NG >> If the fuse is brown be sure to eliminate cause of incident before installing new fuse.

2. POWER SUPPLY CIRCUIT CHECK

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



Terminals			Ignition switch position		
(+)		(–)	OFF	ACC	ON
Connector	Terminal (wire color)				
M4	105 (Y/L)	Ground	Battery voltage	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 between BCM and fuse.

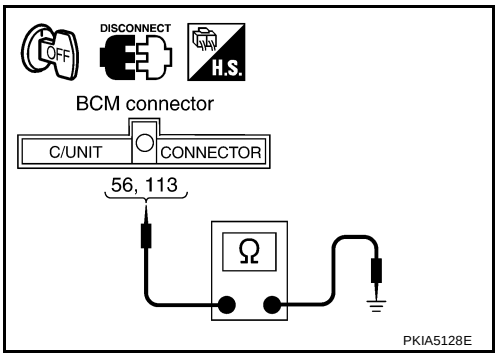
3. GROUND CIRCUIT CHECK

Check continuity between BCM harness connector and ground.

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

OK or NG

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



CONSULT-II Function for Auto Light System

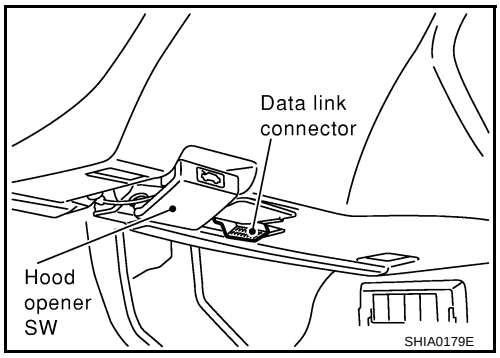
EKS000VO

- CONSULT-II performs the following functions communicating with the BCM.

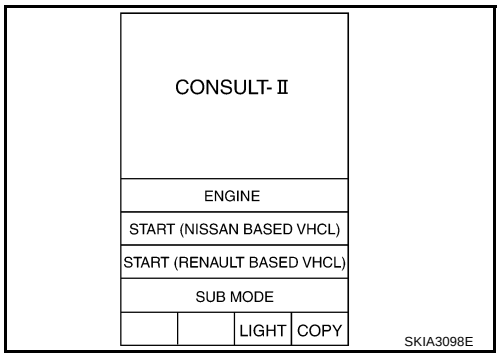
IVMS diagnosis position	Diagnosis mode	Description
auto light system	Work support	Changes setting of each function.
	Data monitor	Displays input data of the BCM and each LCU in real-time.
	Active test	Operation of electrical loads can be checked by sending driving signal to them.
BCM part number		Displays BCM part No.

CONSULT-II BASIC OPERATION PROCEDURE

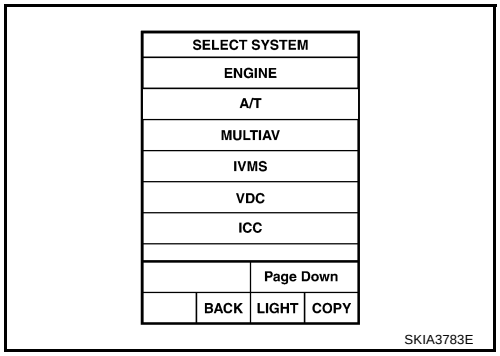
1. With the ignition switch OFF, connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector, then turn ignition switch ON.



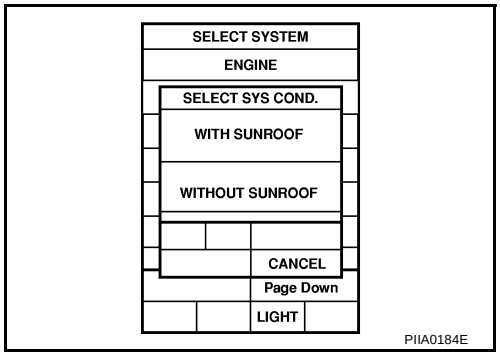
2. Touch “START(NISSAN BASED VHCL)”.



3. Touch “IVMS” on “SELECT SYSTEM” screen. If “IVMS” is not indicated, refer to GI-38, "CONSULT-II Data Link Connector (DLC) Circuit" .



4. Check the model specification, touch either “WITH SUNROOF” or “WITHOUT SUNROOF”.
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”·“MODE 1 - 3” of which setting is to be changed.
6. Touch “CHANGE SETT”.
7. The 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.

MAIN SIGNALS	Monitors the main items.
SELECTION FROM MENU	Selects and monitors the items.

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”.

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. (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)
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 “Illumination outside of the vehicle (close to 5V when light/close to 0V when dark)” as judged from the optical sensor signal.

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 the selected item.
4. Touch “STOP” while testing and the operation will be stopped.

Active Test Item

Test items	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 malfunction in each local control unit (LCU), switches, loads and communications using the self-diagnosis function.

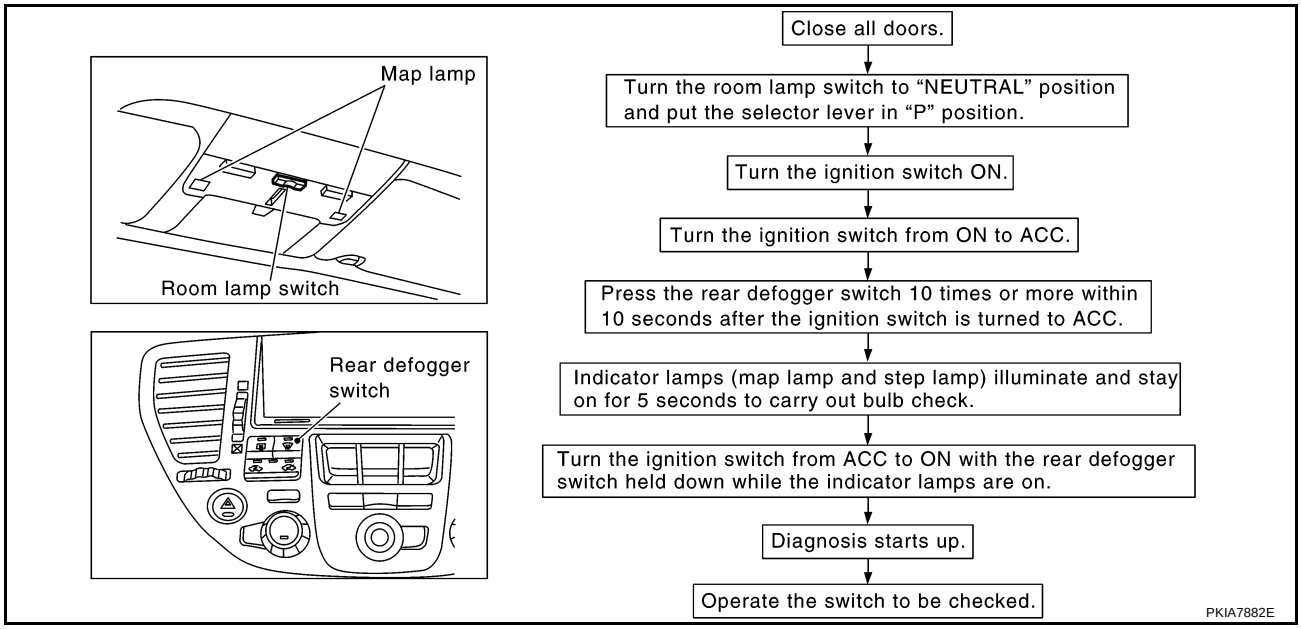
DIAGNOSIS ITEM

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

SWITCH MONITOR

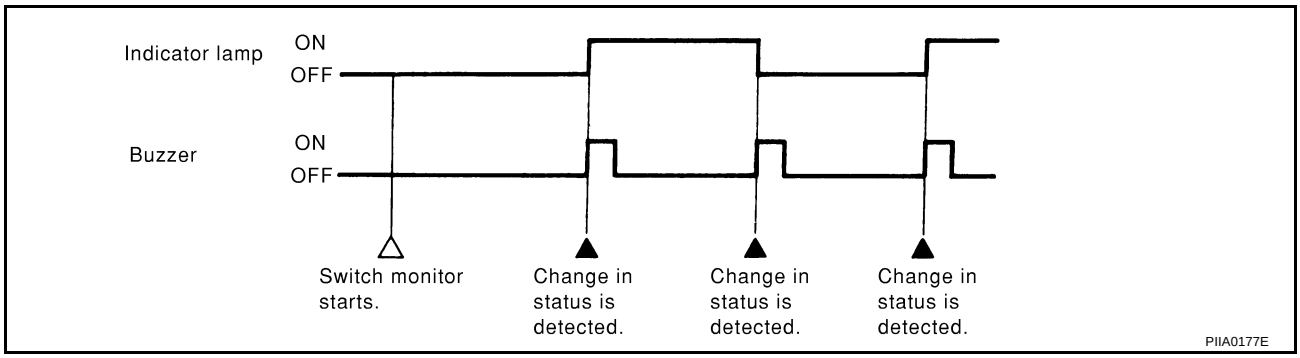
- Perform the diagnosis on the switch system to each control unit.

How to Perform Switch Monitor



Description

- In this mode, when BCM detects the input signal from a switch in IVMS as shown below, the detection is indicated by the map lamp and front step lamps with buzzer.



Switch Monitor Item

- The status of the switch (except the ignition switch, interior lamp ill 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

Cancel of Switch Monitor

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

EKS001HC

HEADLAMP SYSTEM

Symptom	Repair Procedure
Neither headlamp operates.	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. 2. Check lighting switch. Refer to LT-66, "Switch Circuit Inspection" . 3. Check headlamp battery saver control unit. Refer to LT-16, "Terminals and Reference Value for Battery Saver Control Unit" .
Headlamp (low beam) does not operate, but headlamp (high beam) does operate.	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. 2. Check headlamp relay-1. 3. Check harness between headlamp relay-1 and headlamp battery saver control unit. 4. Check headlamp battery saver control unit. Refer to LT-16, "Terminals and Reference Value for Battery Saver Control Unit" .
Headlamp (high beam) does not operate, but headlamp (low beam) does operate.	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. 2. Check headlamp relay-2. 3. Check harness between headlamp relay-2 and battery saver control unit. 4. Check lighting switch. Refer to LT-66, "Switch Circuit Inspection" . 5. Check headlamp battery saver control unit. Refer to LT-16, "Terminals and Reference Value for Battery Saver Control Unit" .
RH low beam does not operate, but LH low beam does operate.	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. 2. Check headlamp relay-1. 3. Check harness between headlamp relay-1 terminal 6 and RH headlamp for open circuit. 4. Check RH low beam ground circuit. 5. Replace the xenon bulb with other side bulb or new one. (If eclampsia illuminate correctly, replace the bulb.) 6. Replace the HID control unit with other side control unit or new one. (If eclampsia illuminate correctly, replace the HID control unit.)

Symptom	Repair Procedure
LH low beam does not operate, but RH low beam does operate.	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. 2. Check headlamp relay-1. 3. Check harness between headlamp relay-1 terminal 5 and LH headlamp for open circuit. 4. Check LH low beam ground circuit. 5. Replace the xenon bulb with other side bulb or new one. (If eclampsia illuminate correctly, replace the bulb.) 6. Replace the HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace the HID control unit.)
RH high beam does not operate, but LH high beam does operate.	1. Check bulb. 2. Check harness between headlamp relay-2 terminal 3 and headlamp RH terminal 13. 3. Check lighting switch. Refer to LT-66, "Switch Circuit Inspection" . 4. Check harness between headlamp RH terminal 14 and lighting switch. 5. Check lighting switch ground circuit.
LH high beam does not operate, but RH high beam does operate.	1. Check bulb. 2. Check harness between headlamp relay-2 terminal 3 and headlamp LH terminal 13. 3. Check lighting switch. Refer to LT-66, "Switch Circuit Inspection" . 4. Check harness between headlamp LH terminal 14 and lighting switch. 5. Check lighting switch ground circuit
High beam indicator does not work.	1. Check bulb in combination meter. 2. Check harness between headlamp relay-2 terminal 3 and lighting switch for open circuit.
Battery saver control does not operate properly.	1. Verify 12 positive voltage from BCM is present at terminal 10 of headlamp battery saver control unit: – Within 45 seconds after ignition switch turned off. – Front door is opened or more than 45 seconds after ignition switch is turn off. 2. Check the following. – Harness between BCM and LH or RH front door switch for open or short circuit. – LH or RH front door switch ground circuit. – LH or RH front door switch. 3. Check the following. – Harness between headlamp battery saver control unit terminals 5 or 13 and lighting switch terminal 11 for open or short circuit. – Harness between lighting switch terminal 5 and ground. – Lighting switch. Refer to LT-66, "Switch Circuit Inspection" . 4. Check headlamp battery saver control unit. Refer to LT-16, "Terminals and Reference Value for Battery Saver Control Unit" . 5. Check BCM. Refer to LT-17, "Terminals and Reference Value for BCM" .

AUTO LIGHT SYSTEM

Symptom	Malfunctioning system and reference
● Clearance lamps and headlamps will not illuminate when outside of the vehicle becomes dark. (Lighting switch 1st position and 2nd position operate normally.) ● Clearance lamps and headlamp will not go out when outside of the vehicle becomes light. (Lighting switch 1st position and 2nd position operate normally.)	● Lighting switch (AUTO) system. Refer to LT-25, "Lighting Switch (AUTO) System Check" . ● Optical sensor system. Refer to LT-26, "Optical Sensor System Check" . If above systems are normal, replace the BCM.
Clearance lamps illuminate when outside of the vehicle becomes dark, but headlamp stay off. (Lighting switch 1st position and 2nd position operate normally.)	● Headlamp relay system. Refer to LT-28, "Headlamp Relay System Check" . ● Optical sensor system. Refer to LT-26, "Optical Sensor System Check" . If above systems are normal, replace the BCM.
● Headlamps illuminate when outside of the vehicle becomes dark, but clearance lamps stay off. (Lighting switch 1st position and 2nd position operate normally.) ● Headlamps go out when outside of the vehicle becomes light, but clearance lamps stay on.	● Tail lamp relay system. Refer to LT-28, "Tail Lamp Relay System Check" . If above system is normal, replace the BCM.

Lighting Switch (AUTO) System Check

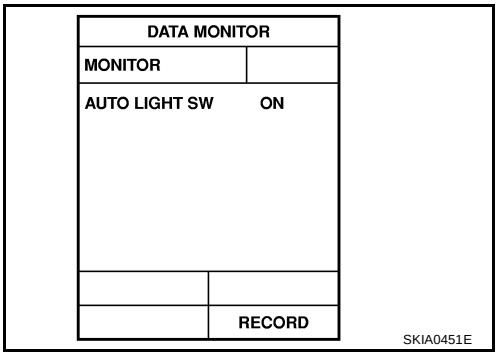
EKS001HD

1. CHECK LIGHTING SWITCH AUTO SIGNAL

With CONSULT-II

- Operate the lighting switch via “AUTO LIGHT SW” on DATA MONITOR screen and check 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 check that the lamp turns on and off as commanded.

OK or NG

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

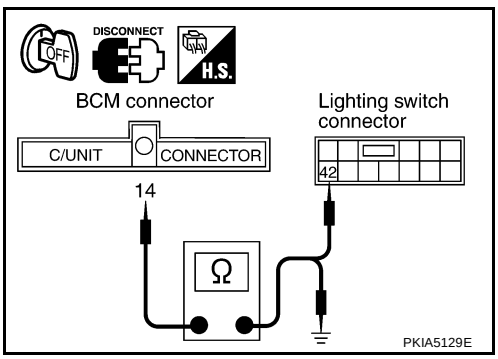
2. CHECK WIRE HARNESS CONTINUITY

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-66, "Switch Circuit Inspection" .

OK or NG

OK >> Replace BCM.
NG >> Replace the lighting switch.

Optical Sensor System Check

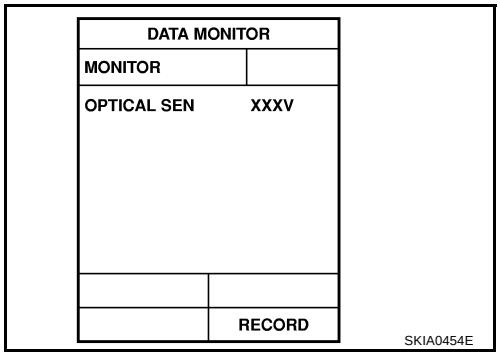
EKS006ZL

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.

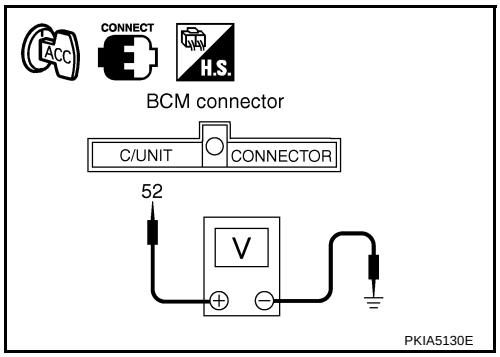
Condition	Reference value of data monitor [V]
Light is applied to optical sensor.	More than 3
Light is not applied to optical sensor.	Approx. 0.5



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.

Terminals			Condition	Voltage (V)
(+)		(–)		
Connector	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.

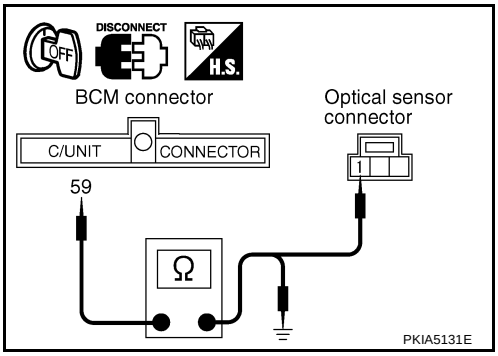
2. CHECK OPTICAL SENSOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the BCM connector and optical sensor connector.
3. 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.

4. 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.

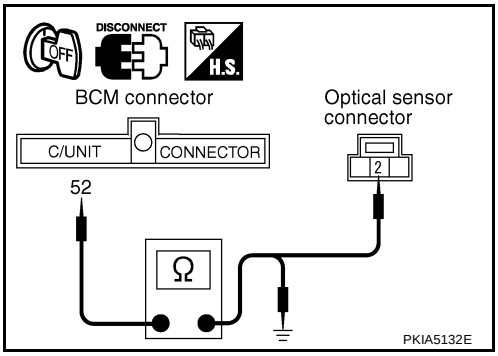
3. CHECK OPTICAL SENSOR SIGNAL CIRCUIT

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.

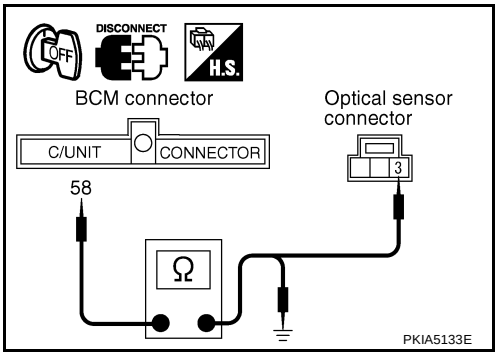
4. CHECK OPTICAL SENSOR GROUND CIRCUIT

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.

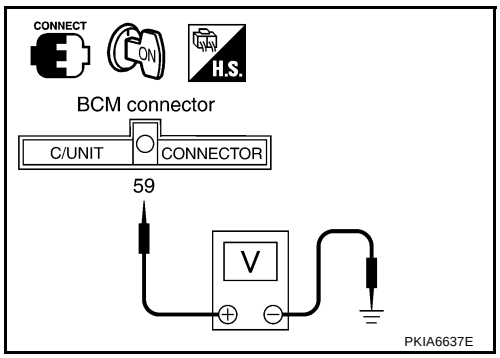
5. CHECK OPTICAL SENSOR POWER SUPPLY OUTPUT SIGNAL

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. 5V

OK or NG

OK >> Replace the optical sensor.
NG >> Replace the BCM.



Headlamp Relay System Check

EKS001HF

1. CHECK HEADLAMP RELAY CONTROL SIGNAL VOLTAGE

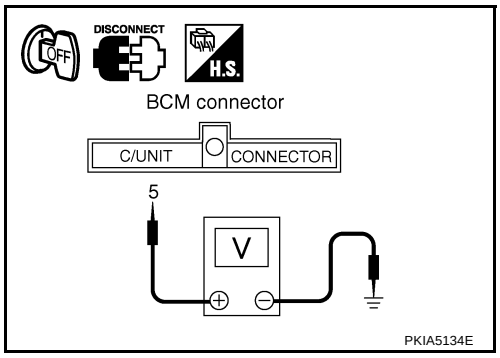
1. Turn ignition switch OFF.
2. Disconnect the BCM connector.
3. Check voltage between BCM harness connector M4 terminal 5 (R/Y) and ground while operating the lighting switch in OFF.

Lighting switch OFF

5 (R/Y) - Ground : Battery voltage should exist.

OK or NG

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



Tail Lamp Relay System Check

EKS001HG

1. CHECK TAIL LAMP RELAY CONTROL SIGNAL VOLTAGE

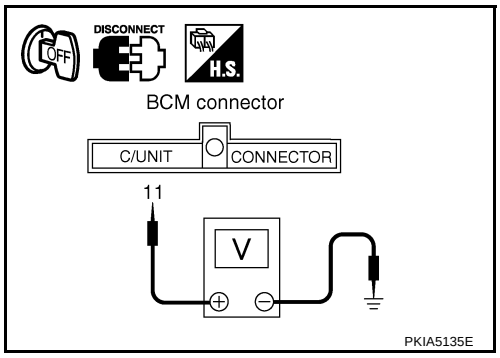
1. Turn ignition switch OFF.
2. Disconnect the BCM connector.
3. Check voltage between BCM harness connector M4 terminal 11 (LG/B) and ground while operating the lighting switch in OFF.

Lighting switch OFF

11 (LG/B) - Ground : Battery voltage should exist.

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

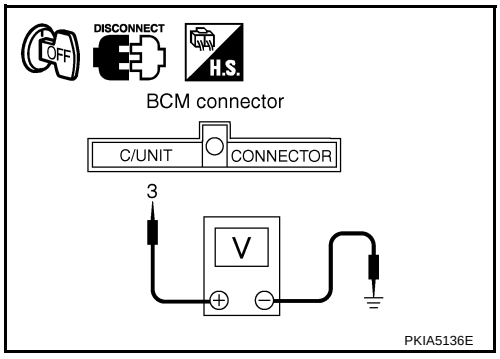
Check voltage between BCM harness connector M4 terminal 3 (R/L) and ground while operating lighting switch in 1ST position.

Lighting switch in 1ST position

3 (R/L) - Ground : Battery voltage should exist.

OK or NG

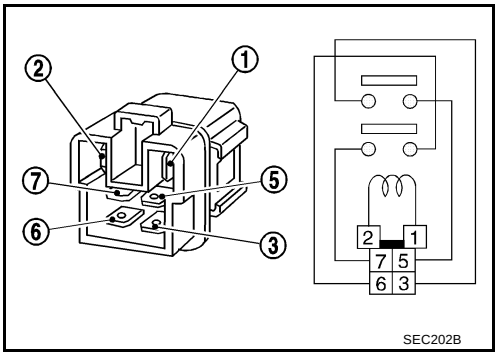
OK >> Tail lamp relay is OK.
NG >> GO TO 3.



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.



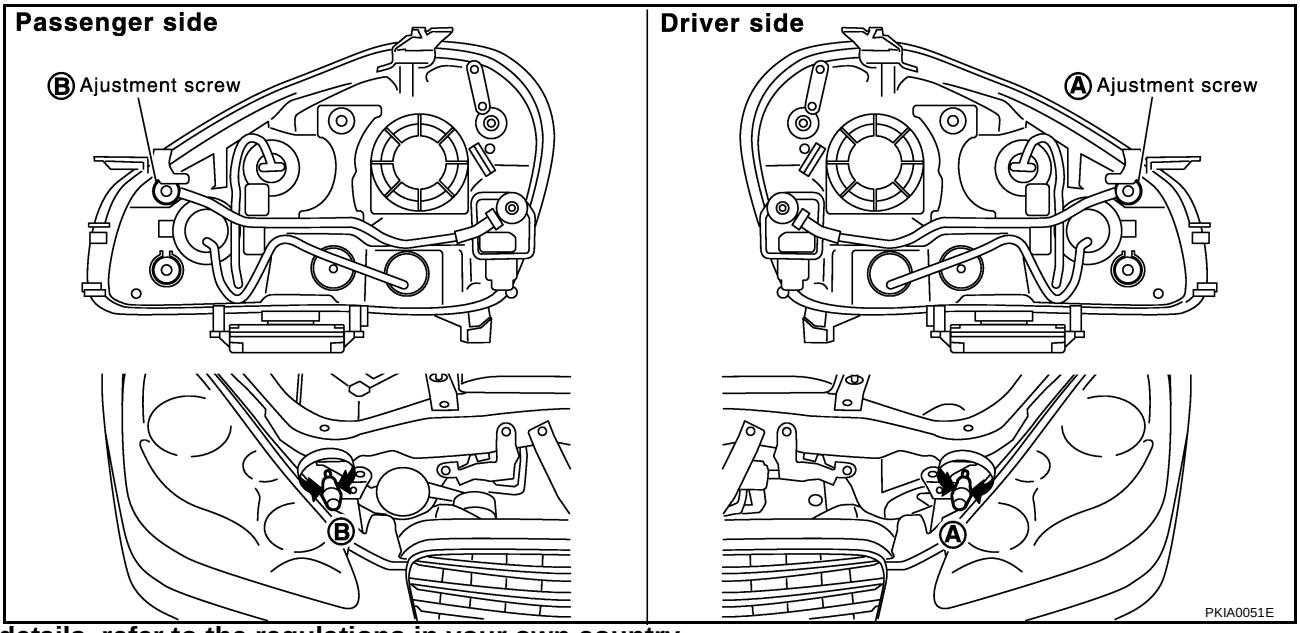
OK or NG

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

NG >> Replace the tail lamp relay.

Aiming Adjustment

EKS001HI



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

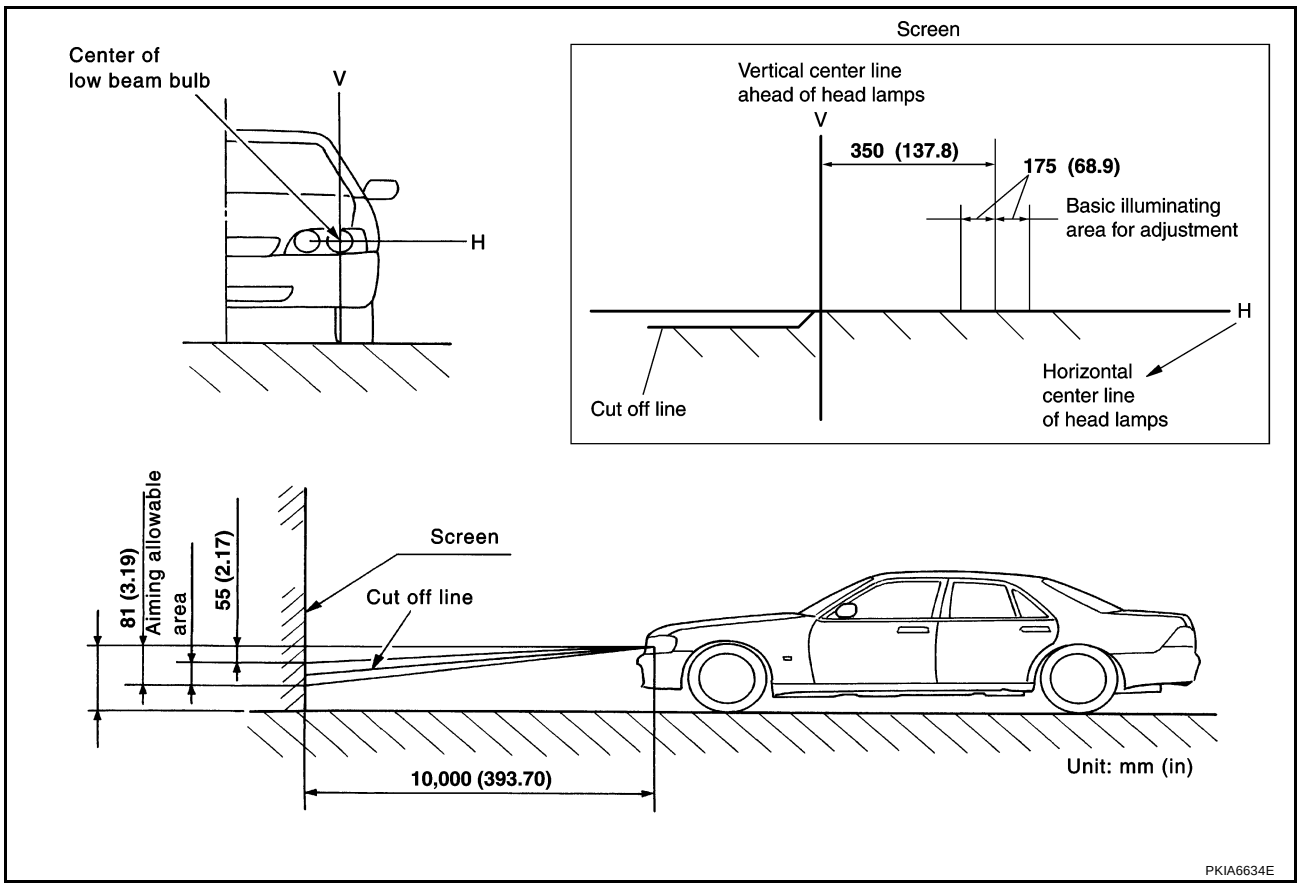
Before performing aiming adjustment, check the following.

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 the driver (or equivalent weight placed in driver's position). Coolant, engine oil filled up to correct level and full fuel tank.

LOW BEAM AND HIGH BEAM

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

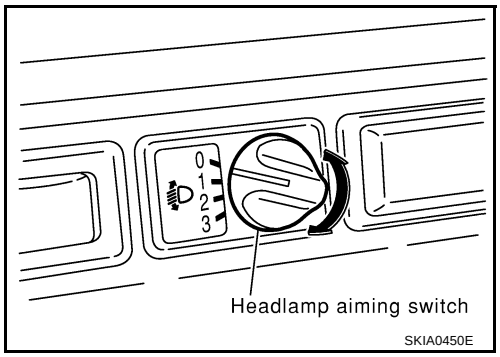
- **First tighten the adjusting screw all the way and then make adjustment by loosening the screw.**



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.**

  CAUTION:
  Be sure aiming switch is set to “0” when performing aiming adjustment.

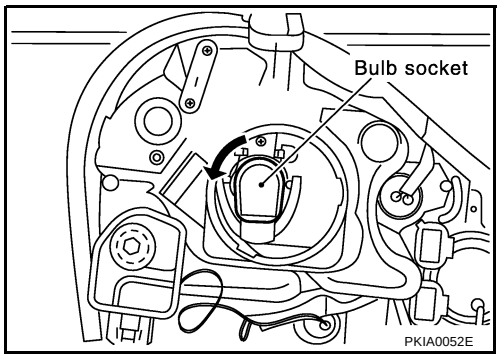


Bulb Replacement

EKS001HJ

HEADLAMP (OUTER SIDE), FOR LOW BEAM

1. Disconnect the negative battery cable or remove the power fuse.
2. Remove the headlamps. Refer to LT-32, "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 negative battery cable 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-15, "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.

PARKING LAMP (CLEARANCE LAMP)

1. Disconnect the negative battery cable 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-15, "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 negative battery cable 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-15, "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 negative battery cable 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 55W (H1)**
Parking lamp (clearance lamp)	**: 12V 5W**
Front turn signal lamp	**: 12V 21W (amber)**
Front side marker lamp	**: 12V 5W**

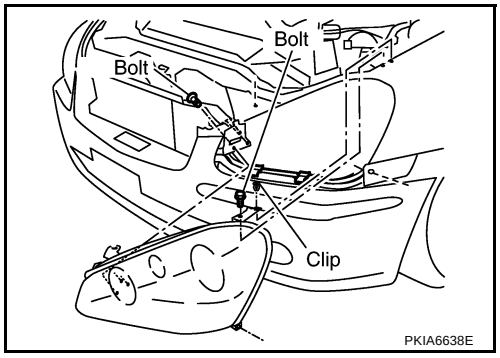
CAUTION:
After installing the bulb, be sure to install the plastic cap and the bulb socket securely to ensure watertightness.

Removal and Installation

EKS001HK

REMOVAL

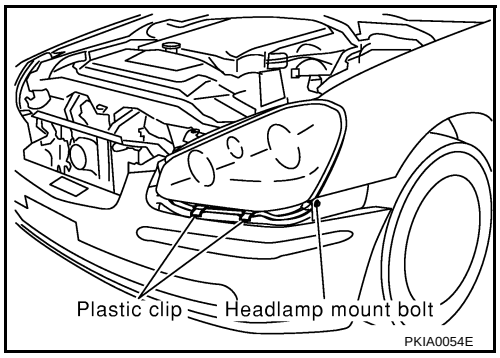
1. Remove the front grille. Refer to EI-19, "FRONT GRILLE" in “EXTERIOR & INTERIOR (EI)” section.
2. Remove the filler cap on the washer tank and the front air guide.
3. Remove the front undercover and the fender protector. Refer to in “EXTERIOR & INTERIOR (EI)” section.
4. Remove mounting clip on top 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.



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

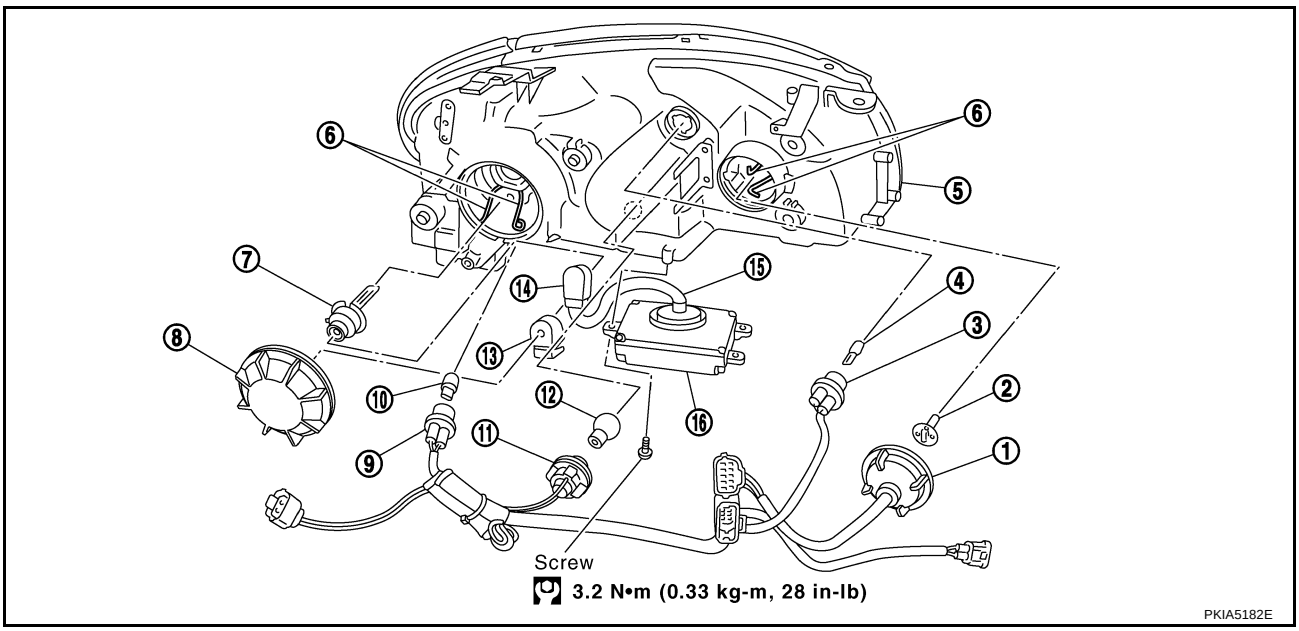
Install in the reverse order of removal, taking care of the following points.

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

Disassembly and Assembly

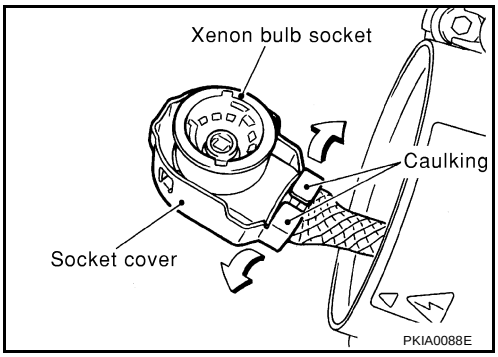
EKS001HL

DISASSEMBLY

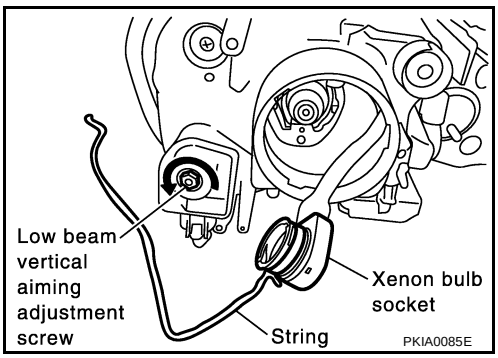


1. Plastic cap (high)
2. Halogen bulb
3. Parking lamp (Clearance lamp) bulb socket
4. Parking lamp (Clearance lamp) bulb
5. Xenon headlamp assembly
6. Retaining springs
7. Xenon bulb
8. Plastic cap (low)
9. Front side marker lamp bulb socket
10. Front side marker lamp bulb
11. Front turn signal lamp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

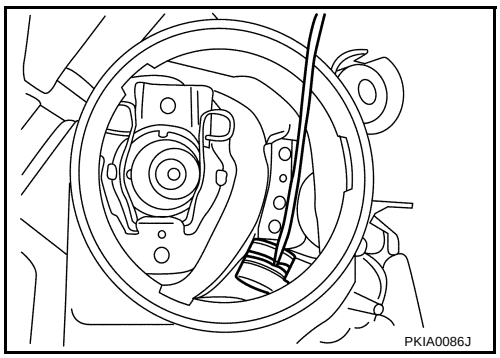
1. Turn the plastic cap (low) counterclockwise and unlock it.
2. Turn the xenon bulb socket counterclockwise and unlock it.
3. Unlock the retaining spring and remove the xenon bulb (low).
4. Expand calking of socket cover, and then remove socket cover from the xenon valve socket.
5. Disconnect the H.I.D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



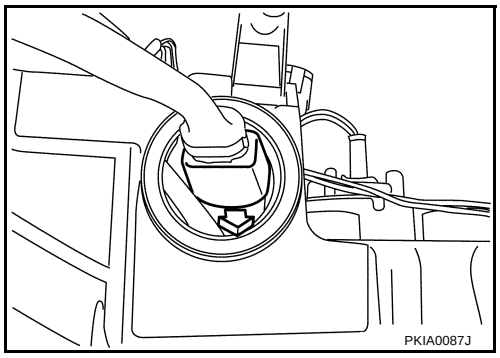
6. Turn the dipped beam vertical aiming adjustment screw counterclockwise to secure space in the headlamp for the xenon bulb socket to pass through. Tie a cord to the bulb socket to facilitate removal and insertion.



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 H.I.D 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

Assemble in the reverse order of disassembly, taking care of the following points.

H.I.D control unit: **: 3.2 N·m (0.33 kg-m, 28 in-lb)**

CAUTION:

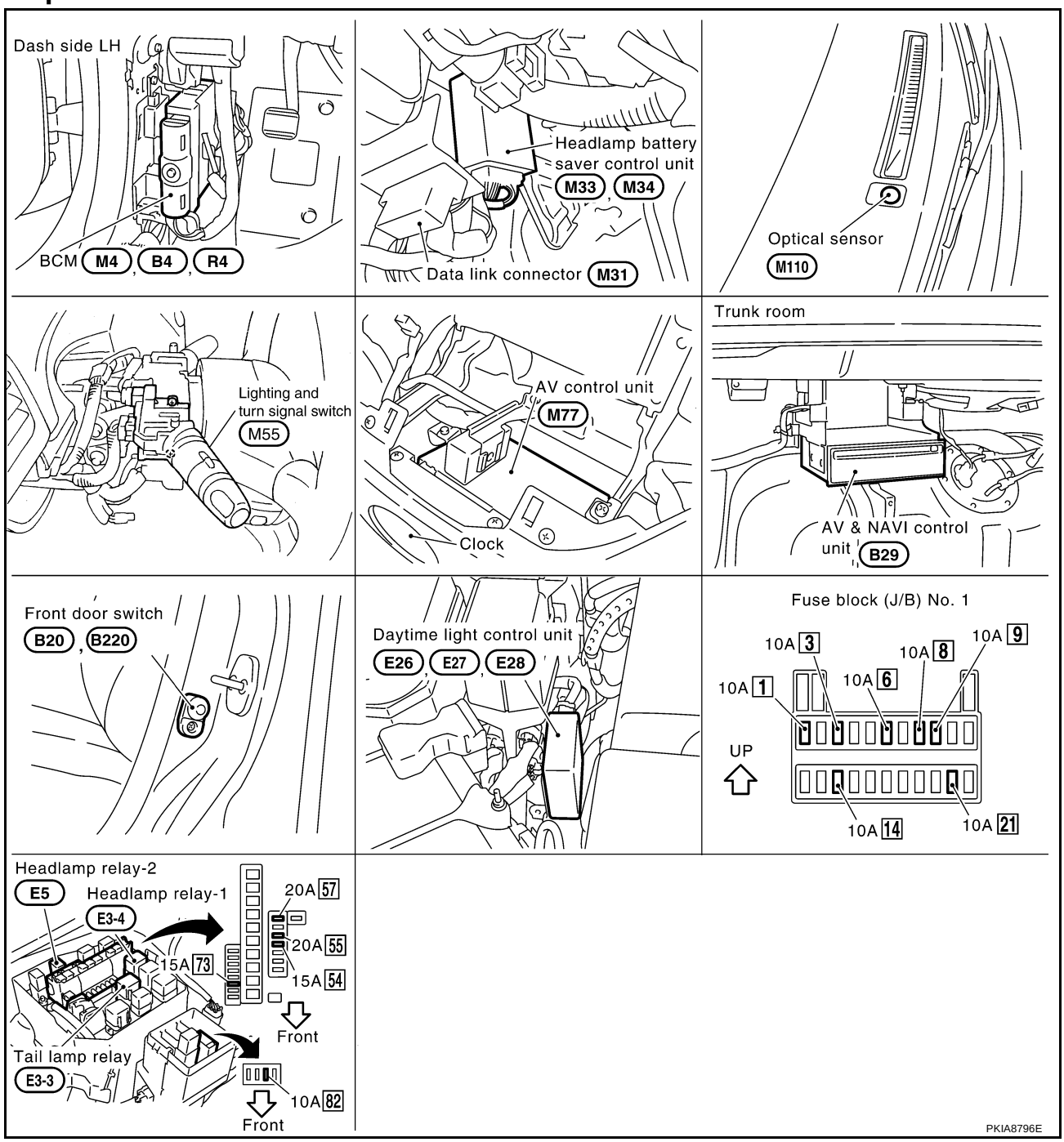
- **When the H.I.D control unit is removed, reinstall it securely and avoid any looseness.**
- **After installing the bulb, be sure to install the plastic cap and the bulb socket securely to ensure watertightness.**

HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

PFP:26010

Component Parts and Harness Connector Location

EKS000SK



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

- 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 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 E62 and E42
- to headlamp battery saver control unit terminals 4 and 11
- through grounds M25 and M115.

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

- to daytime light control unit terminal 3
- through 10A fuse (No. 82, located in fuse, fusible link and relay box)
- 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 the 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 the 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 the lighting switch is turned to 2ND position and placed in 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 E42 (RH) and E62 (LH).

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

High Beam Operation/Flash-to-pass Operation

When the lighting switch is turned to 2ND position and placed in HIGH position or PASS position, power is supplied

- 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 side 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 E42 and E62.

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

OPERATION

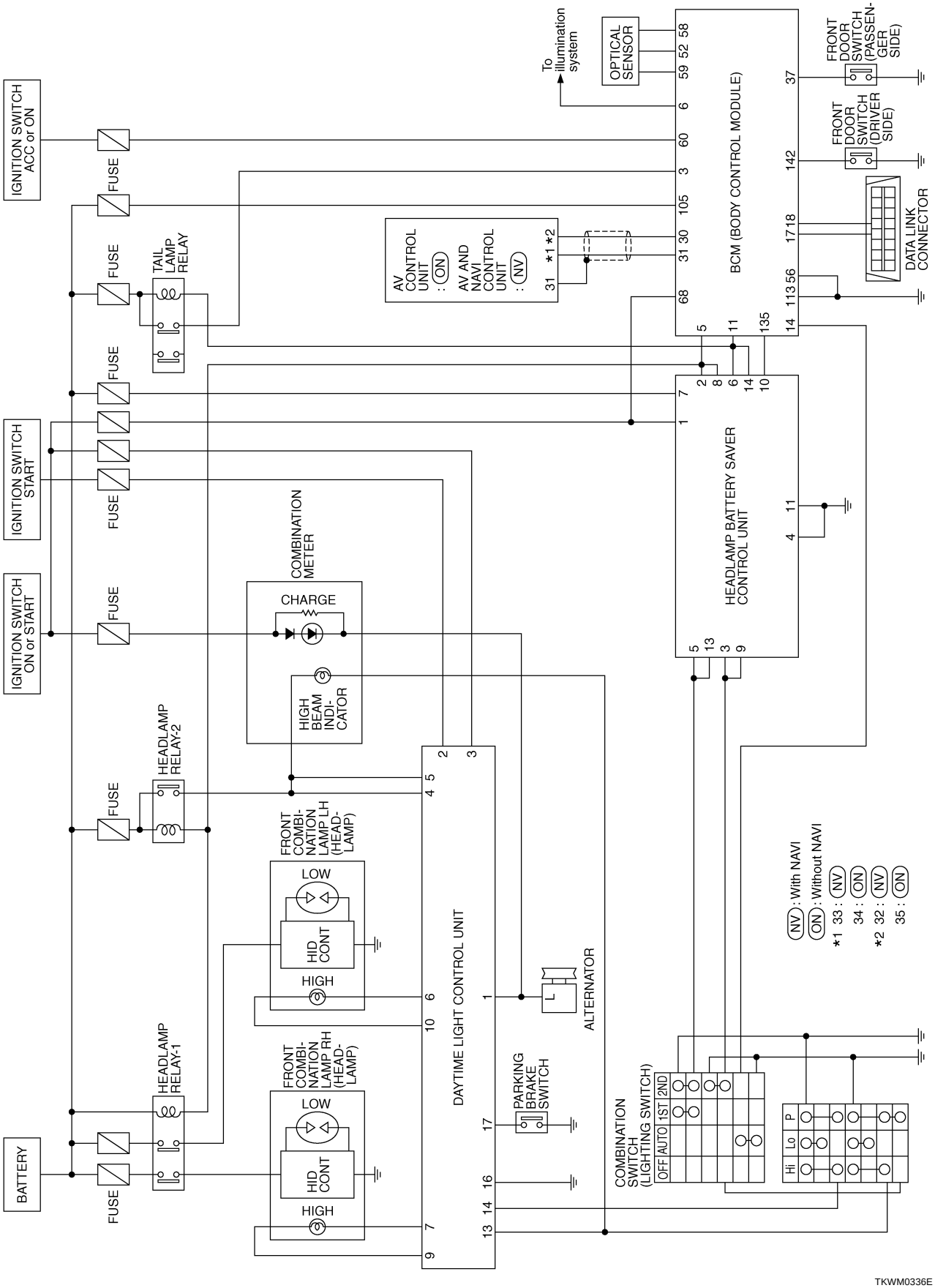
After starting the engine with the lighting switch in the “OFF” or “1ST” position, the headlamp high beam automatically turns on. Lighting switch operations other than the above are the same as conventional light systems.

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.

Schematic

EKS000SM

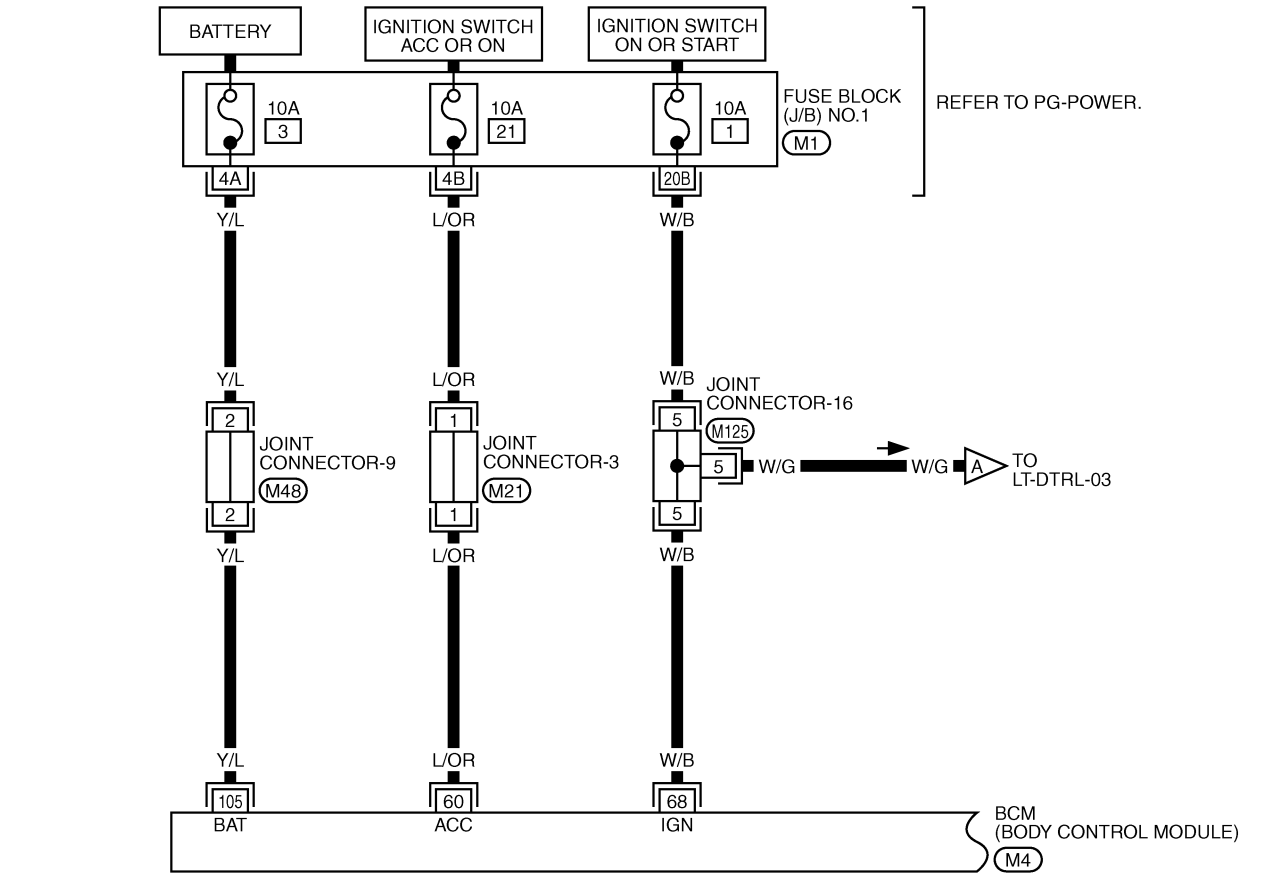


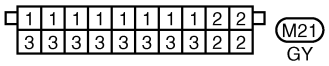
TKWM0336E

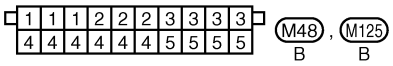
Wiring Diagram — DTRL —

EKS000SN

LT-DTRL-01







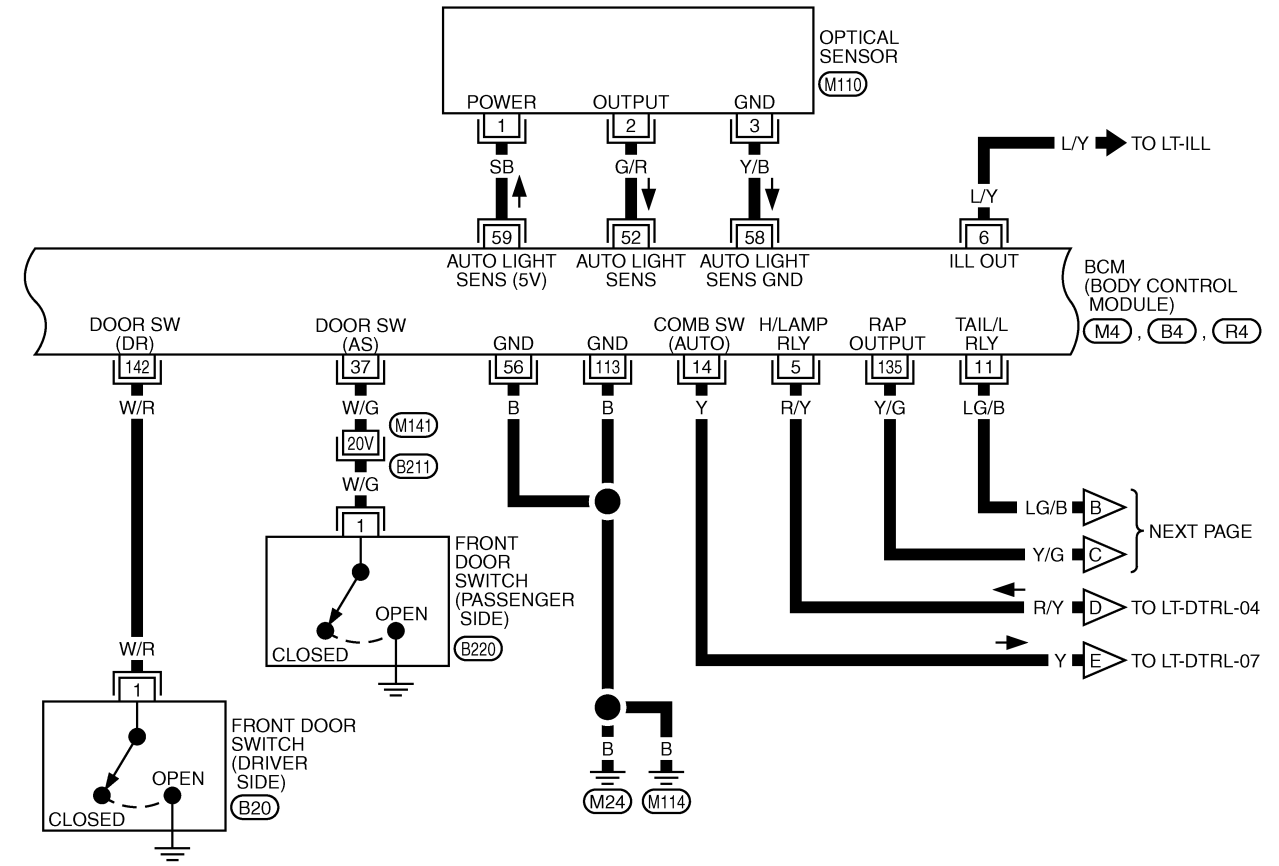
REFER TO THE FOLLOWING.

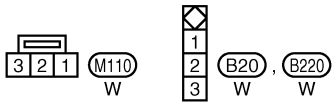
M1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

M4 -ELECTRICAL UNITS

TKWM0538E

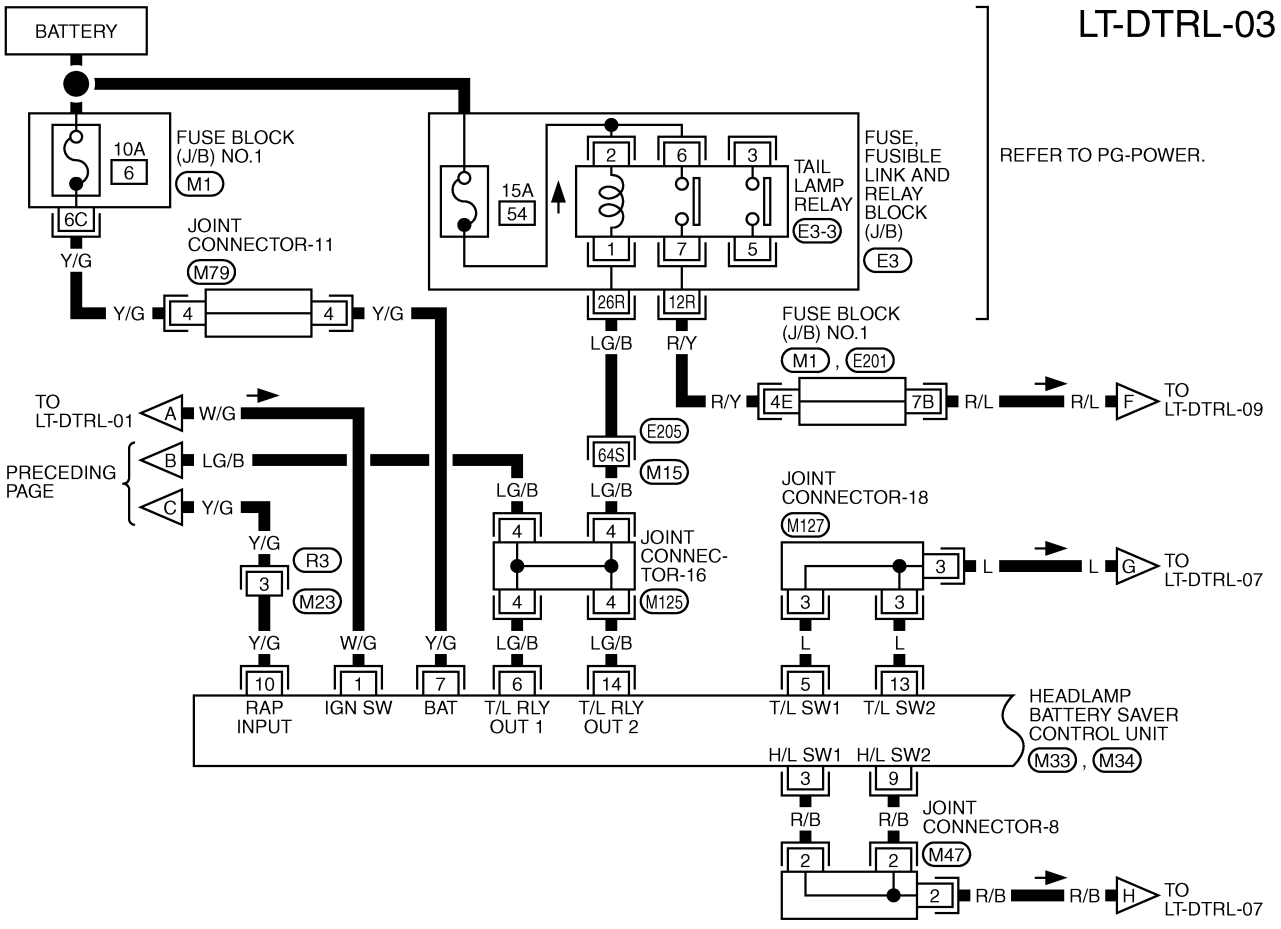
LT-DTRL-02

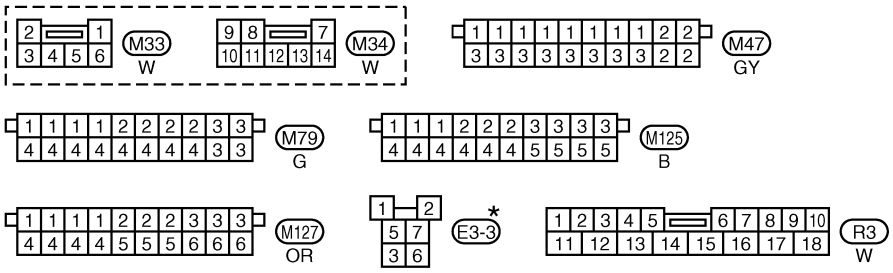




REFER TO THE FOLLOWING.
B211 -SUPER MULTIPLE JUNCTION (SMJ)
M4 , B4 , R4 -ELECTRICAL UNITS

TKWM0393E





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

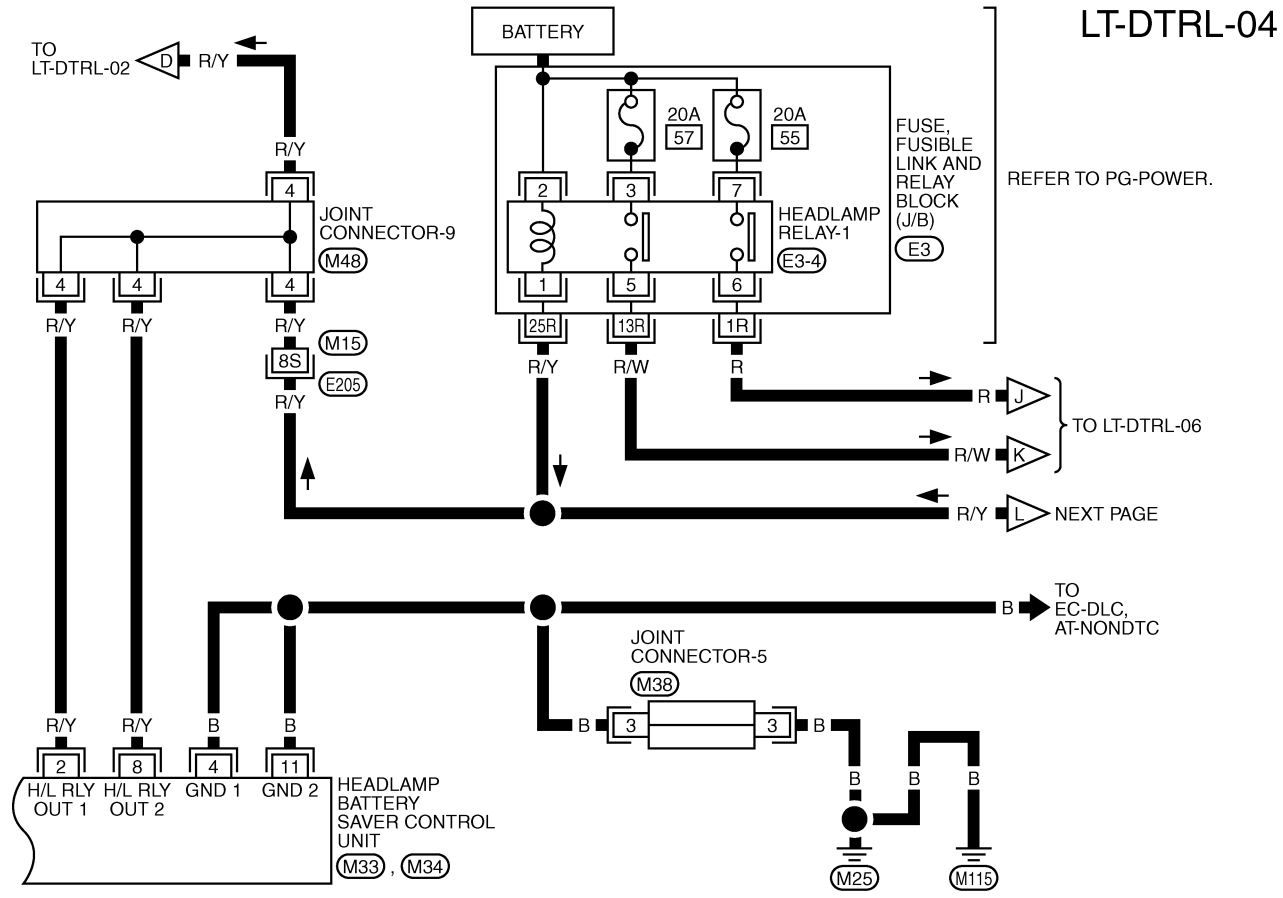
REFER TO THE FOLLOWING.

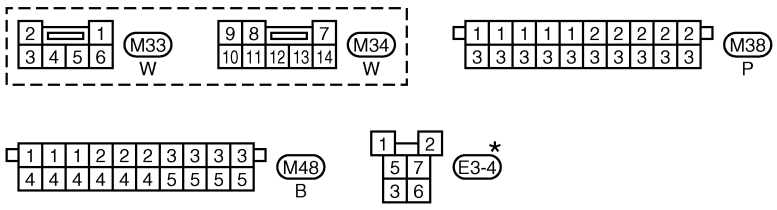
E205 -SUPER MULTIPLE JUNCTION (SMJ)

M1 , E201 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

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

TKWM0014E





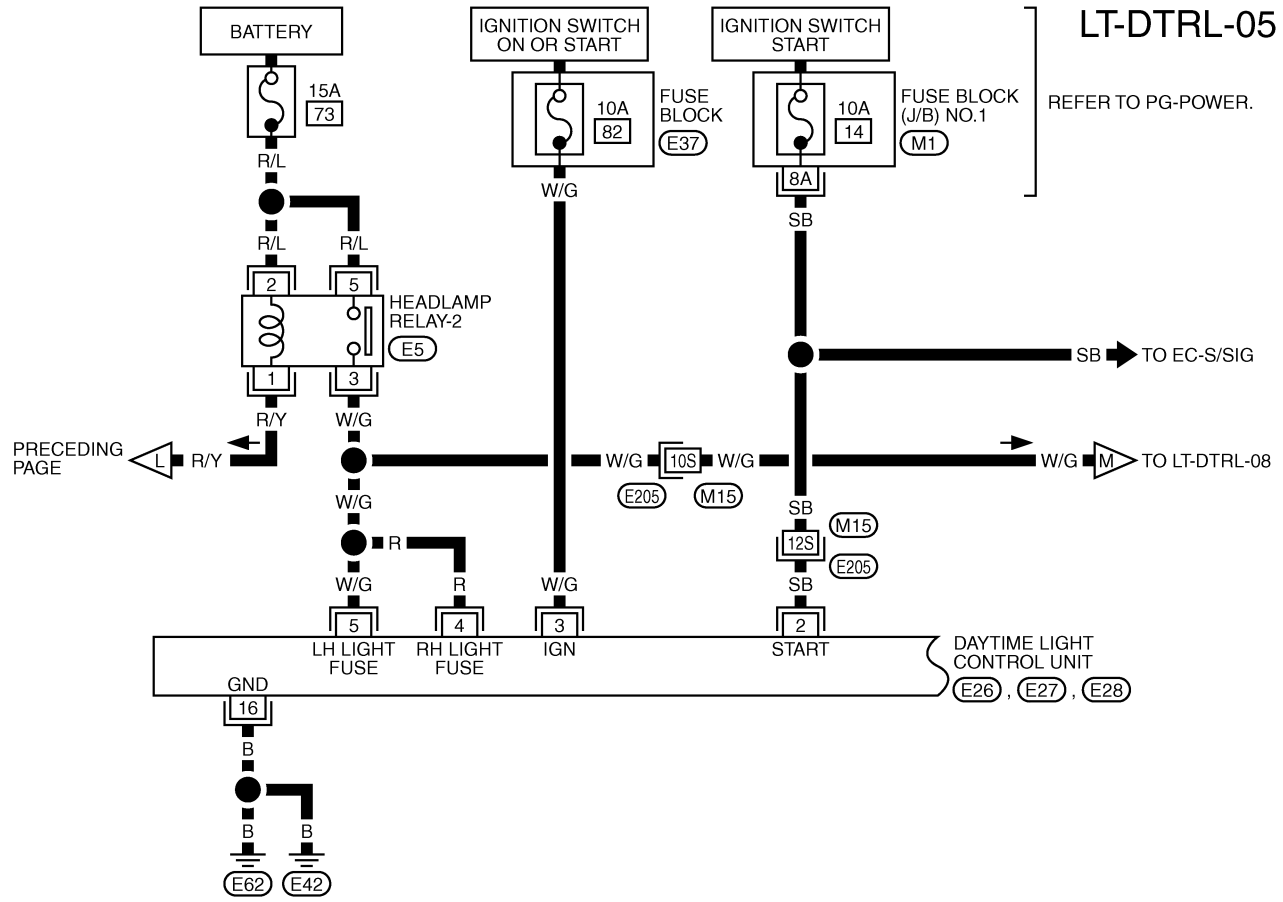
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

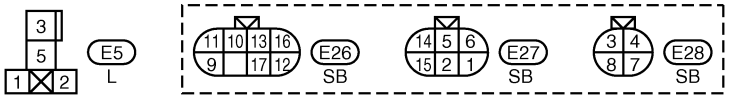
REFER TO THE FOLLOWING.

E205 -SUPER MULTIPLE JUNCTION (SMJ)

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

TKWM0394E





REFER TO THE FOLLOWING.

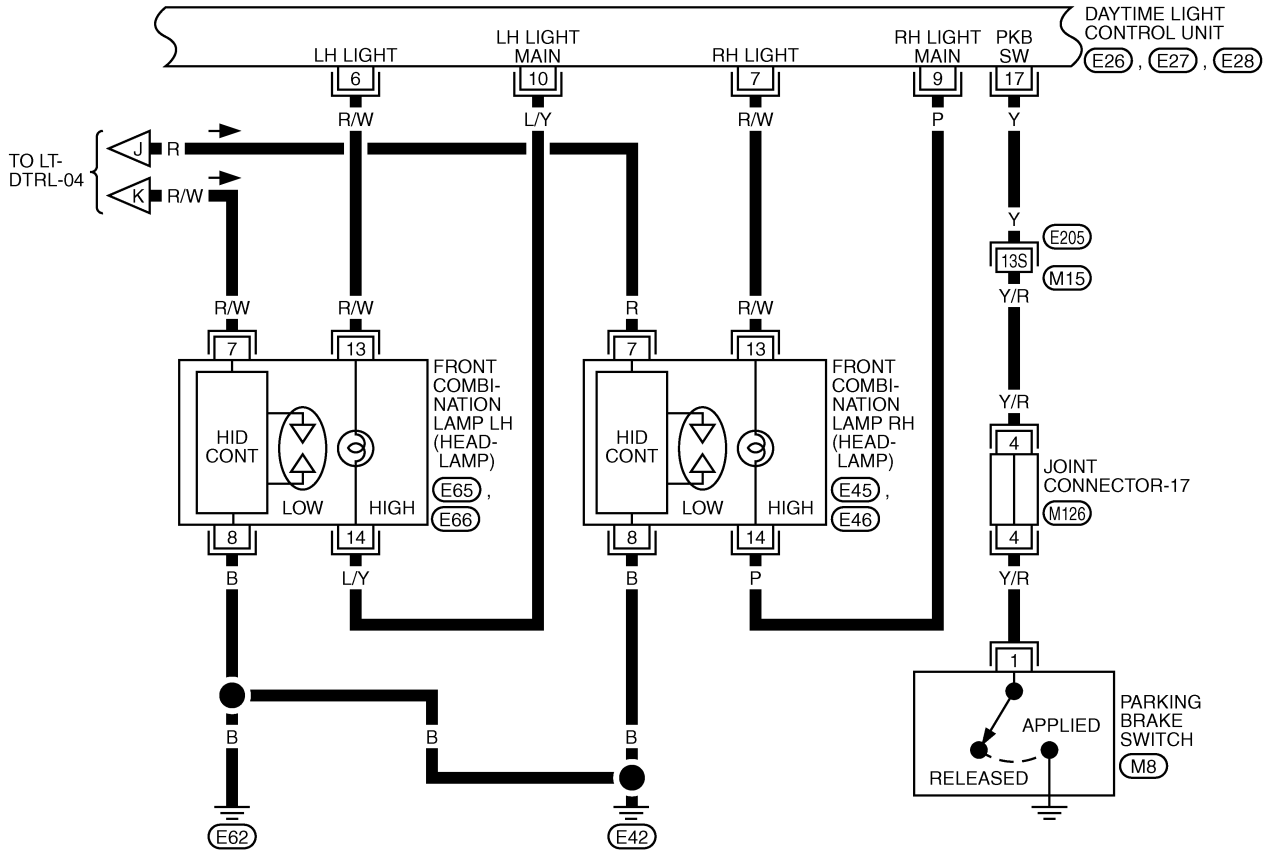
E205 -SUPER MULTIPLE JUNCTION (SMJ)

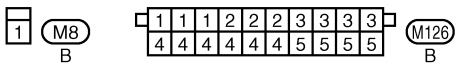
M1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

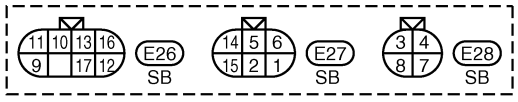
E37 -FUSE BLOCK

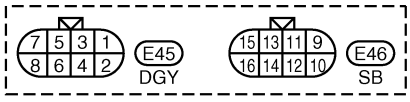
TKWM0395E

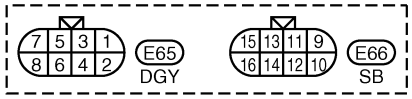
LT-DTRL-06







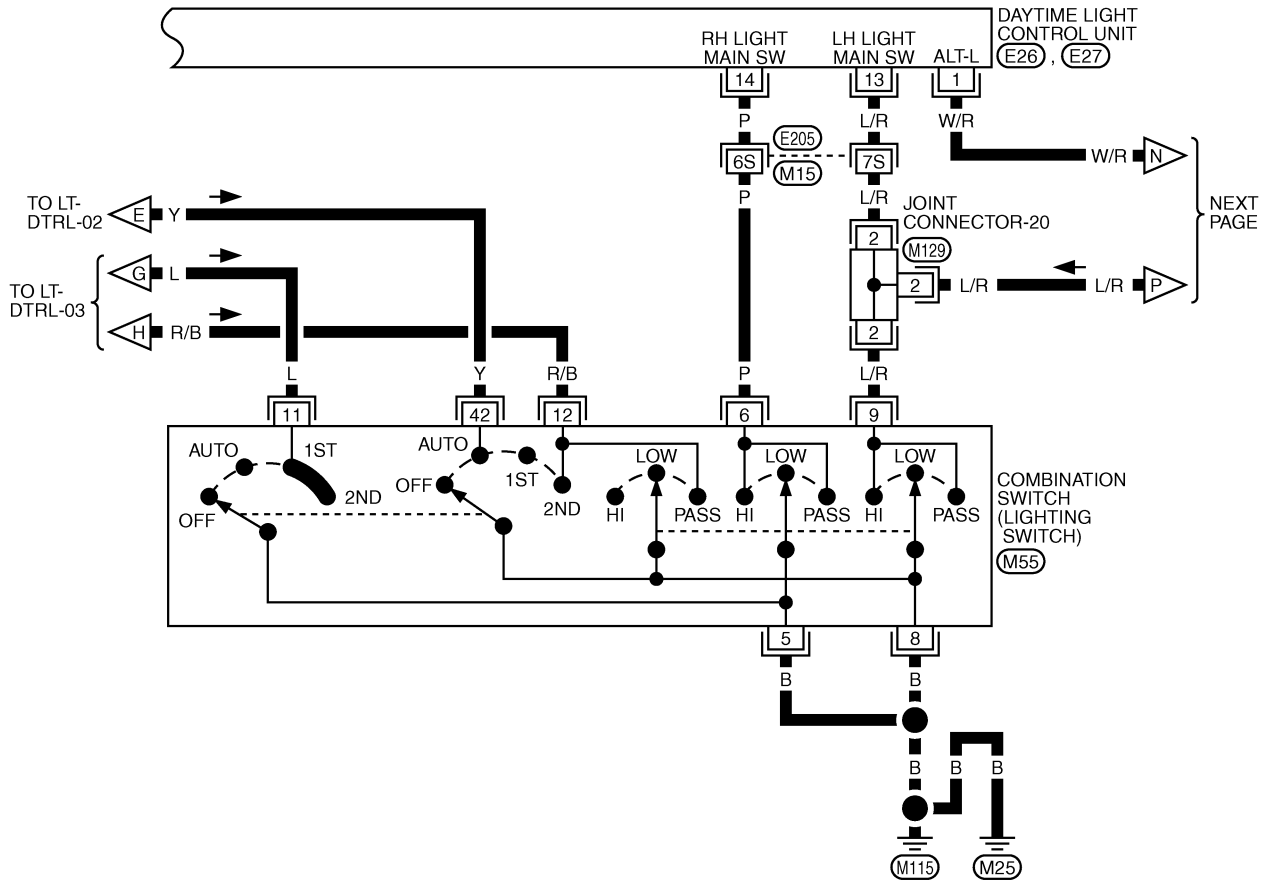


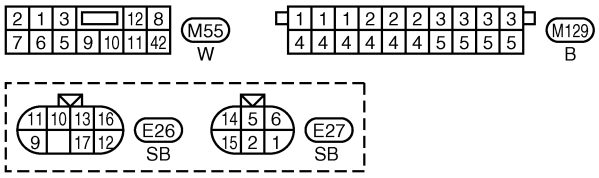


REFER TO THE FOLLOWING.
E205 -SUPER MULTIPLE JUNCTION (SMJ)

TKWM0396E

LT-DTRL-07



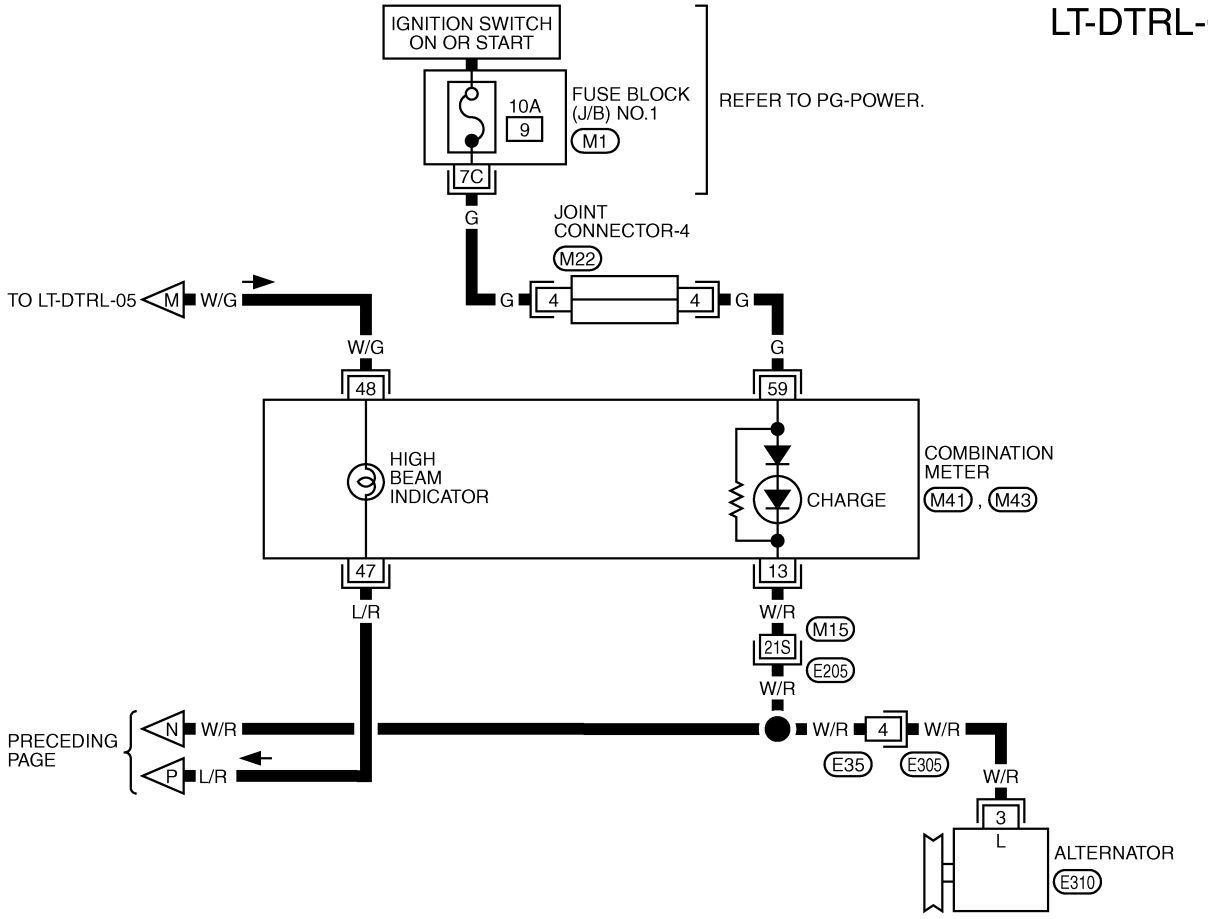


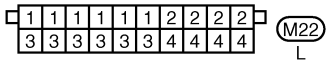
REFER TO THE FOLLOWING.

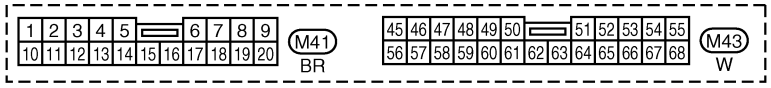
E205 -SUPER MULTIPLE JUNCTION (SMJ)

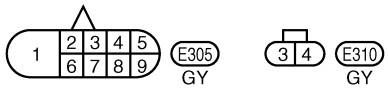
TKWM0018E

LT-DTRL-08









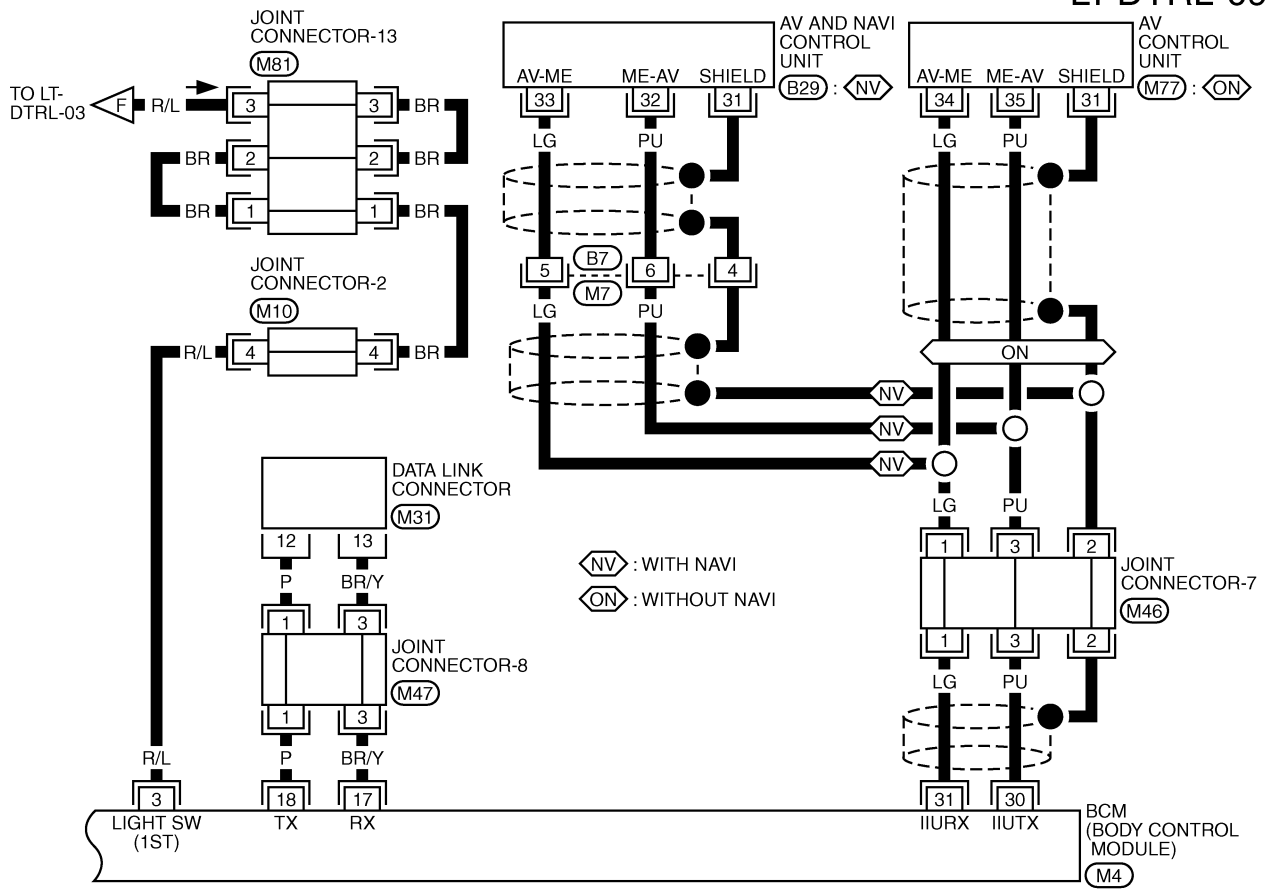
REFER TO THE FOLLOWING.

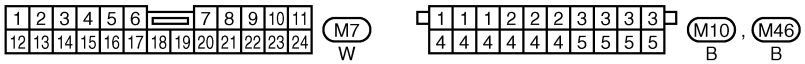
E205 -SUPER MULTIPLE JUNCTION (SMJ)

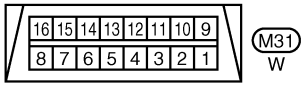
M1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

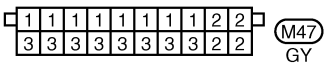
TKWM0397E

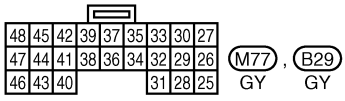
LT-DTRL-09

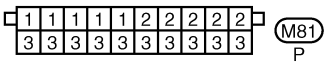












REFER TO THE FOLLOWING.
M4 -ELECTRICAL UNITS

TKWM0337E

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. 0V
			When engine is running	Battery voltage
			When turning ignition switch to “OFF”	Approx. 0V
2	SB	Start signal	When turning ignition switch to “START”	Battery voltage
			When turning ignition switch to “ON” from “START”	Approx. 0V
			When turning ignition switch to “ACC” or “OFF”	Approx. 0V
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. 0V
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) **CAUTION:** **Block wheels and ensure selector lever is in N or P position.**	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) **CAUTION:** **Block wheels and ensure selector lever is in N or P position.**	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. 0V
			When releasing parking brake with engine running and turning lighting switch to “OFF” (daytime light operation) **CAUTION:** **Block wheels and ensure selector lever is in N or P position.**	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. 0V
			When releasing parking brake with engine running and turning lighting switch to “OFF” (daytime light operation) **CAUTION:** **Block wheels and ensure selector lever is in N or P position.**	Approx. 0V
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. 0V
14	P	RH lighting switch (Hi beam)	When turning lighting switch to the 2ND position with “HI BEAM” or “FLASH TO PASS” position	Approx. 0V
16	B	Ground	—	Approx. 0V

Terminal No.	Wire color	Item	Condition	Reference value
17	Y	Parking brake switch	When parking brake is released	Battery voltage
			When parking brake is pulled	Approx. 0V

Symptom Chart

EKS000SO

Symptom	Repair Procedure
Neither headlamp operates.	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. 2. Check lighting switch. Refer to LT-66, "Switch Circuit Inspection" . 3. Check headlamp battery saver control unit. Refer to LT-16, "Terminals and Reference Value for Battery Saver Control Unit" .
Headlamp (low beam) does not operate, but headlamp (high beam) does operate.	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. 2. Check headlamp relay-1. 3. Check harness between headlamp relay-1 and headlamp battery saver control unit. 4. Check headlamp battery saver control unit. Refer to LT-16, "Terminals and Reference Value for Battery Saver Control Unit" .
Headlamp (high beam) does not operate, but headlamp (low beam) does operate.	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. 2. Check headlamp relay-2. 3. Check harness between headlamp relay-2 and headlamp battery saver control unit. 4. Check headlamp battery saver control unit. Refer toLT-16, "Terminals and Reference Value for Battery Saver Control Unit" .
RH low beam does not operate, but LH low beam does operate.	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. 2. Check headlamp relay-1. 3. Check harness between headlamp relay-1 terminal 6 and RH headlamp for open circuit. 4. Check RH low beam ground circuit. 5. Replace the xenon bulb with other side bulb or new one. (If headlamps illuminate correctly, replace the bulb.) 6. Replace the HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace the HID control unit.)

Symptom	Repair Procedure
LH low beam does not operate, but RH low beam does operate.	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. 2. Check headlamp relay-1. 3. Check harness between headlamp relay-1 terminal 5 and LH headlamp for open circuit. 4. Check LH low beam ground circuit. 5. Replace the xenon bulb with other side bulb or new one. (If headlamps illuminate correctly, replace the bulb.) 6. Replace the HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace the HID control unit.)
RH high beam does not operate, but LH high beam does operate.	1. Check bulb. 2. Check the following. – Check harness between headlamp relay-2 terminal 3 and daytime light control unit terminal 4. – Check harness between daytime light control unit and headlamp RH. 3. Check lighting switch. Refer to LT-66, "Switch Circuit Inspection" . 4. Check harness between daytime light control unit and lighting switch. 5. Check daytime light control unit. Refer to LT-49, "Terminals and Reference Value for Daytime Light Control Unit" .
LH high beam does not operate, but RH high beam does operate.	1. Check bulb. 2. Check the following. – Check harness between headlamp relay-2 terminal 3 and daytime light control unit terminal 5. – Check harness between daytime light control unit and headlamp LH. 3. Check lighting switch. Refer to LT-66, "Switch Circuit Inspection" . 4. Check harness between daytime light control unit and lighting switch. 5. Check daytime light control unit. Refer to LT-49, "Terminals and Reference Value for Daytime Light Control Unit" .
High beam indicator does not work.	1. Check bulb in combination meter. 2. Check harness between headlamp relay-2 terminal 3 and combination meter for open circuit.

Symptom	Repair Procedure
Battery saver control does not operate properly.	1. Verify 12 positive voltage from BCM is present at terminal 10 of headlamp battery saver control unit: – Within 45 seconds after ignition switch turned off. – Front door is opened or more than 45 seconds after ignition switch is turned off. 2. Check the following. – Harness between BCM and LH or RH front door switch for open or short circuit. – LH or RH front door switch ground circuit. – LH or RH front door switch. 3. Check the following. – Harness between headlamp battery saver control unit terminals 5 or 13 and lighting switch terminal 11 for open or short circuit. – Harness between lighting switch terminal 5 and ground. – Lighting switch. Refer to LT-66, "Switch Circuit Inspection" . 4. Check headlamp battery saver control unit. 5. Check BCM. Refer to LT-17, "Terminals and Reference Value for BCM" .
Daytime light control does not operate properly.	1. Check 10A fuse [No. 82, located in fuse, fusible link and relay box]. Verify battery positive voltage is present at terminal 3 of daytime light control unit. 2. Check parking brake switch. 3. Check harness between parking brake switch and daytime light control unit. 4. Check harness between alternator and daytime light control unit. 5. Check daytime light control unit. Refer to LT-49, "Terminals and Reference Value for Daytime Light Control Unit" .

Aiming Adjustment

EKS000SQ

Refer to LT-29, "Aiming Adjustment" in “HEADLAMP (FOR USA)”.

Bulb Replacement

EKS000SP

Refer to LT-30, "Bulb Replacement" in “HEADLAMP (FOR USA)”.

Removal and Installation

EKS000T5

Refer to LT-32, "Removal and Installation" in “HEADLAMP (FOR USA)”.

Disassembly and Assembly

EKS000UN

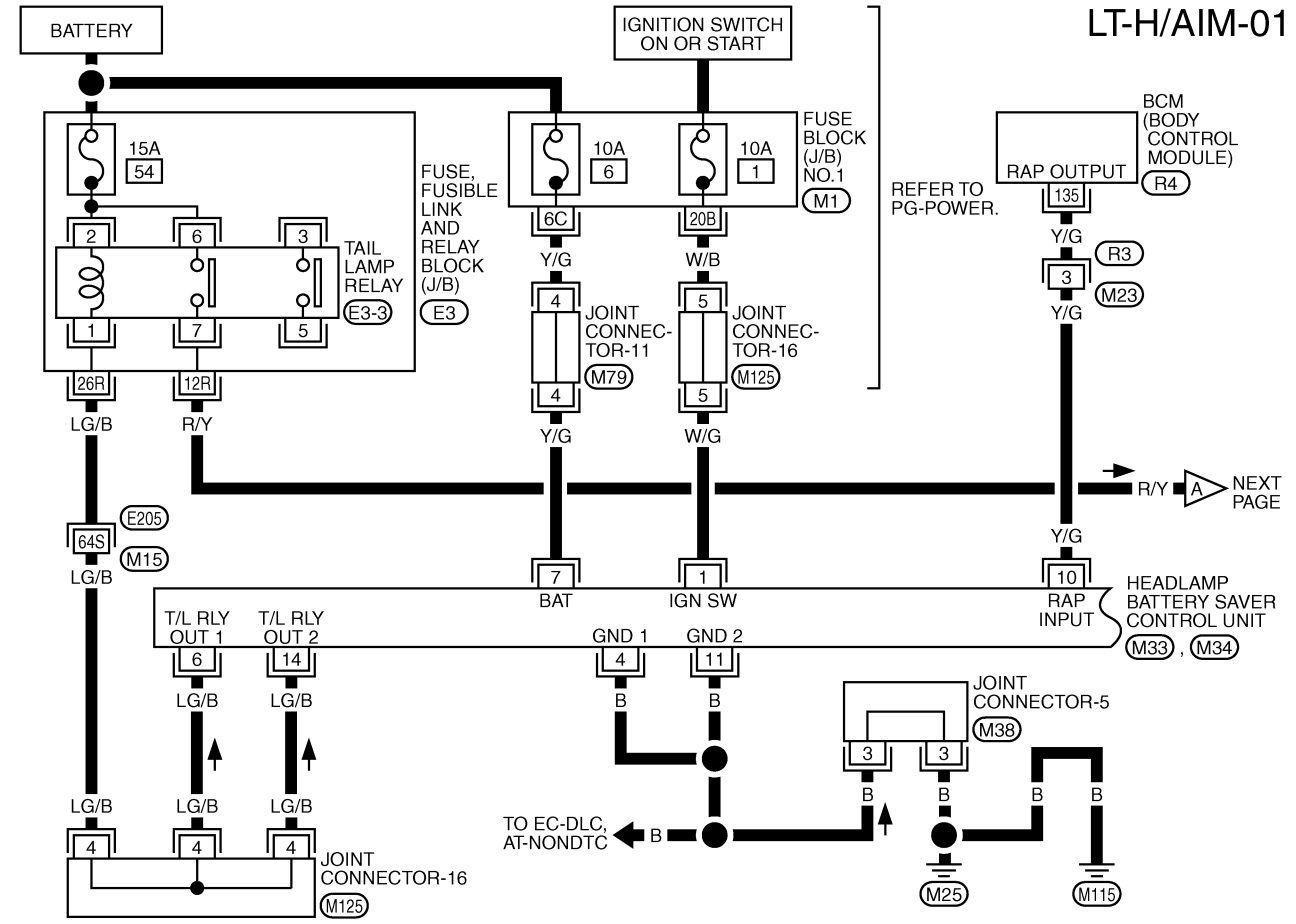
Refer to LT-33, "Disassembly and Assembly" in “HEADLAMP (FOR USA)”.

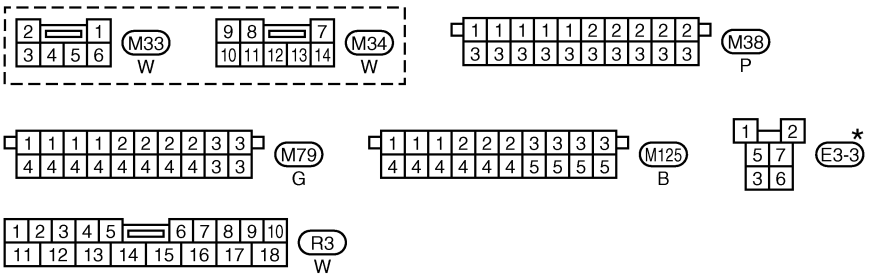
HEADLAMP AIMING CONTROL

PFP:26010

Wiring Diagram — H/AIM —

EKS000T7





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

REFER TO THE FOLLOWING.

E205 -SUPER MULTIPLE JUNCTION (SMJ)

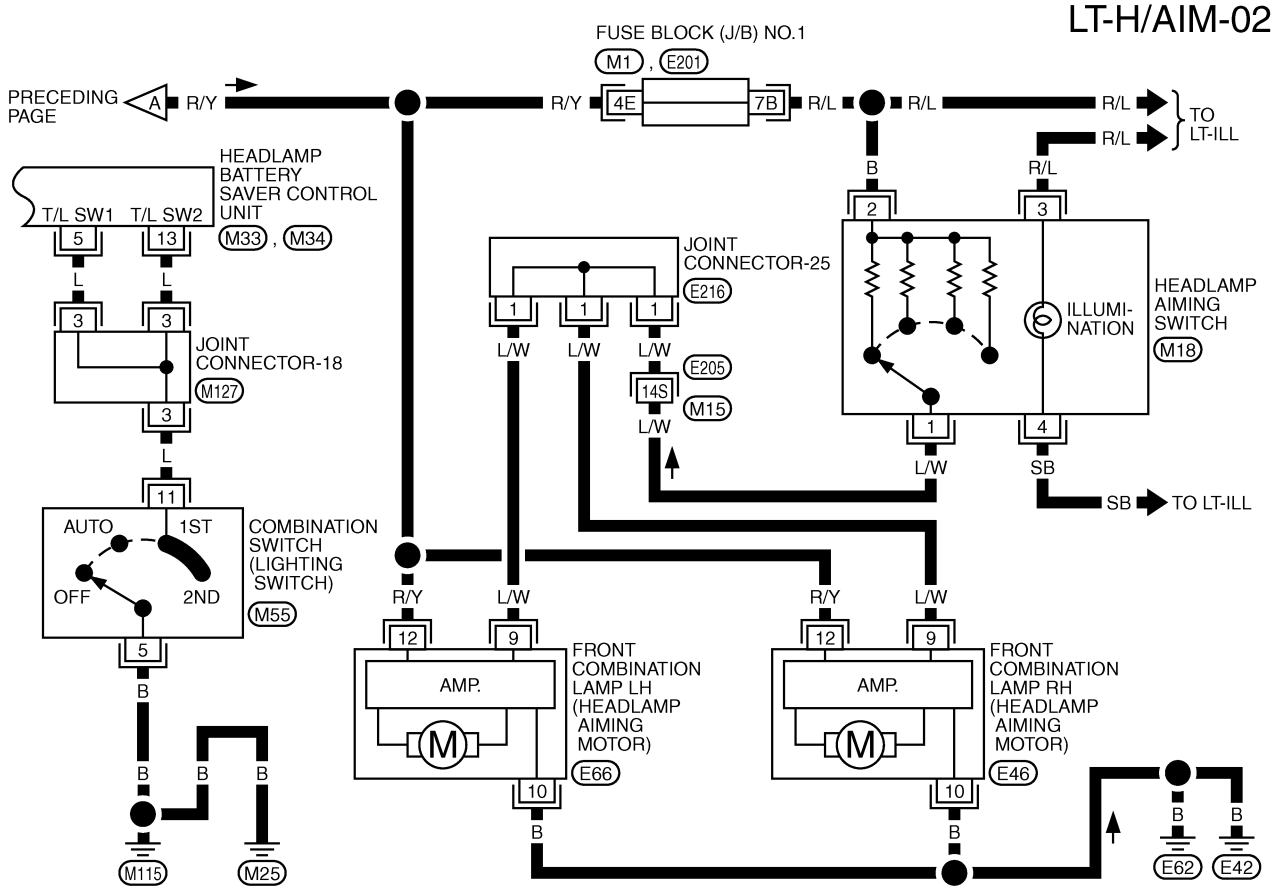
M1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

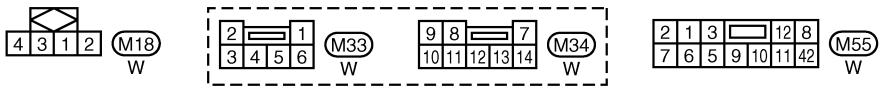
E3 -FUSE,FUSIBLE LINK AND RELAY BLOCK (J/B)

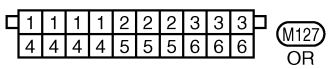
R4 -ELECTRICAL UNITS

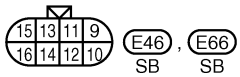
TKWM0398E

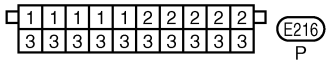
LT-H/AIM-02











REFER TO THE FOLLOWING.

E205 -SUPER MULTIPLE JUNCTION (SMJ)

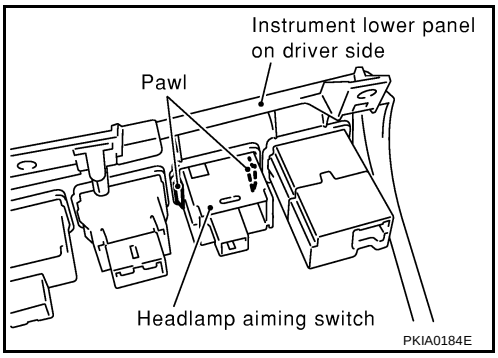
M1 , E201 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM0399E

Removal and Installation

EKS000VX

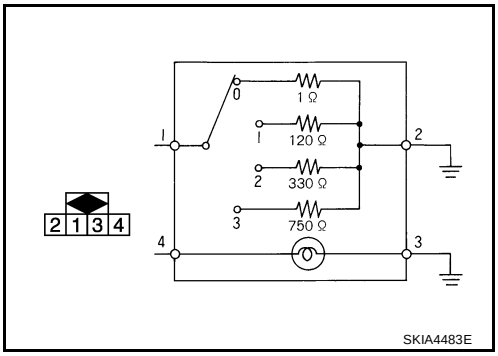
1. Remove the lower instrument panel (driver side). Refer to IP-10, "Removal and Installation" in “INSTRUMENT PANEL (IP)” section.
2. Press the headlamp aiming switch fixing tabs and remove the unit from the instrument lower panel (driver side).



Switch Circuit Inspection

EKS000VY

Using a circuit tester, check continuity between the headlamp aiming switch connector terminals in each operation status of the aiming switch.

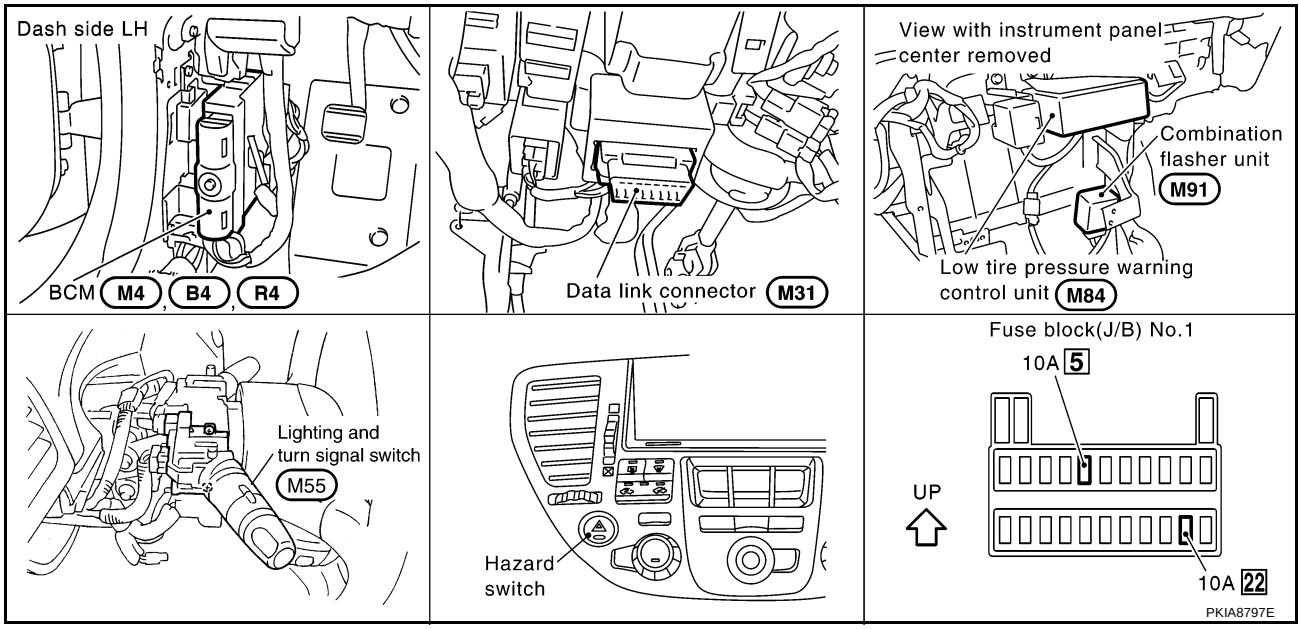


TURN SIGNAL AND HAZARD WARNING LAMPS

PFP:26120

Component Parts and Harness Connector Location

EKS00F4C



System Description

EKS000T8

TURN SIGNAL OPERATION

When the ignition switch in the 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 body grounds M24 and M114.

LH Turn

When the turn signal switch is moved to the L 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 E42 and E62
- to rear turn signal lamp LH terminal 6 through grounds B17and B57
- to door mirror (driver side) terminal 5 through grounds M24 and M114
- to combination meter terminal 62 through grounds M24and M114.

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

RH Turn

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

- to front turn signal lamp RH terminal 1
- to ear 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 E42 and E62
- to rear turn signal lamp RH terminal 6 through grounds B17and B57

- to door mirror (passenger side) terminal 5 through grounds M24 and M114
- to combination meter terminal 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 LAMP 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 the ON position, power is supplied
Ground is supplied to hazard switch terminal 2 through body grounds M24 and M114.
Power is supplied through terminal 8 of the combination flasher unit

- 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 E42 and E62
- to each rear turn signal lamp terminal 6 through grounds B17and B57
- to each door mirror terminal 5 through grounds M24 and M114
- to combination meter terminal 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

- to each front turn signal lamp terminal 2 through grounds E42 and E62

- to each rear turn signal lamp terminal 6 through grounds B17and B57
- to each door mirror terminal 5 through grounds M24 and M114
- to combination meter terminal 62 through grounds M24 and M114.

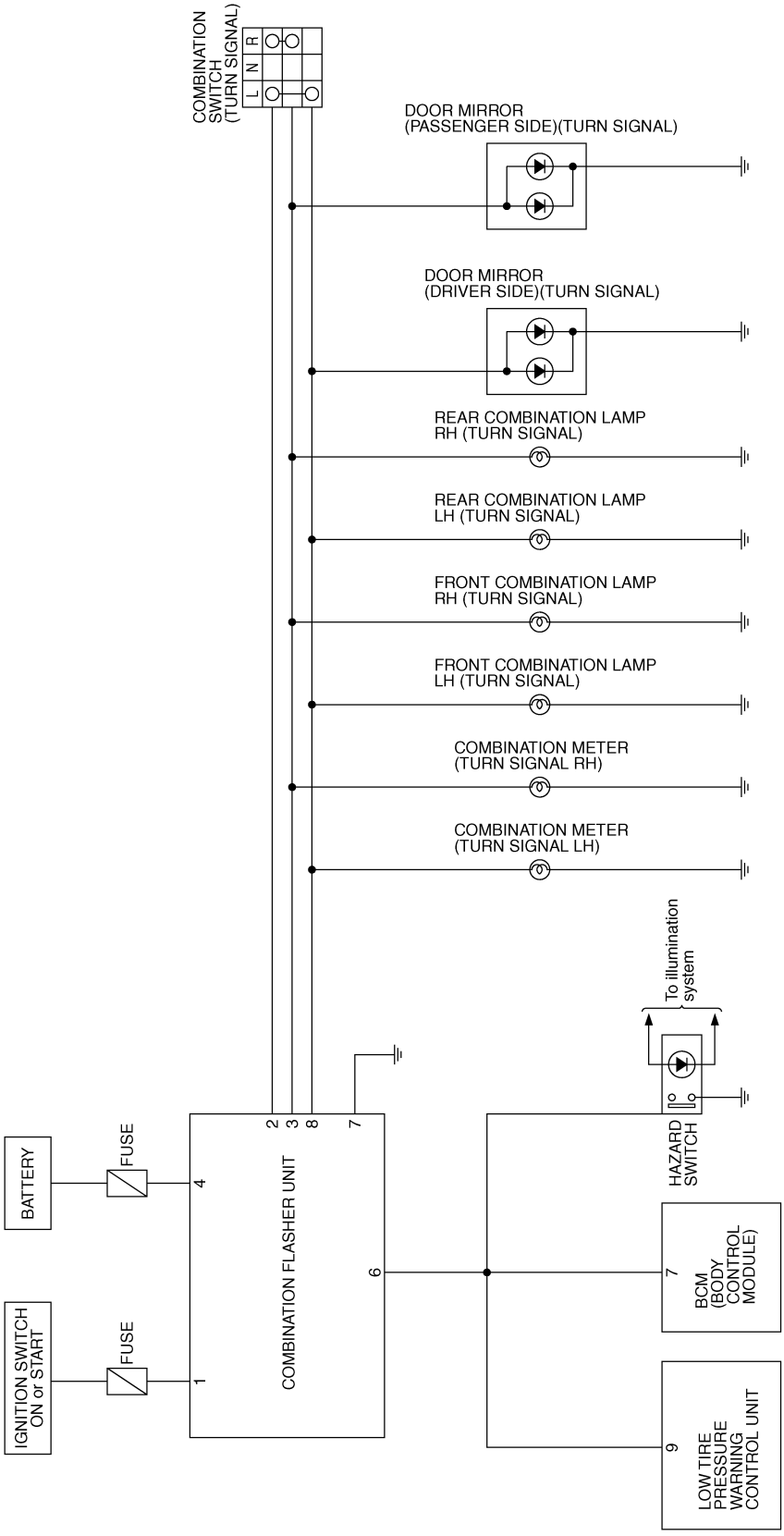
With power and ground supplied, the BCM controls the flashing of the hazard warning lamps.

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.

Schematic

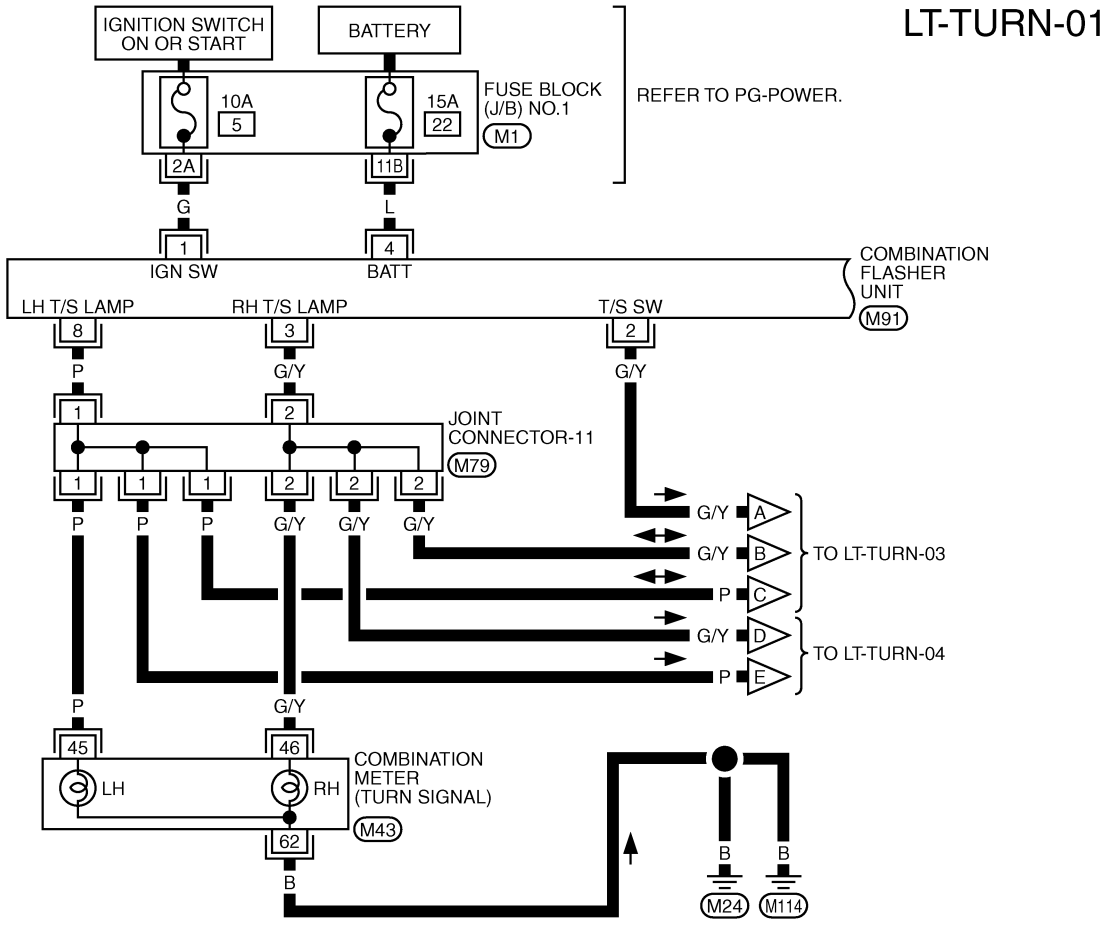
EKS000VD

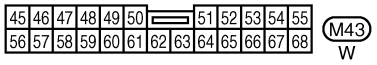


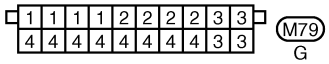
TKWM0029E

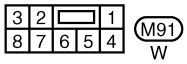
Wiring Diagram — TURN —

EKS000T9







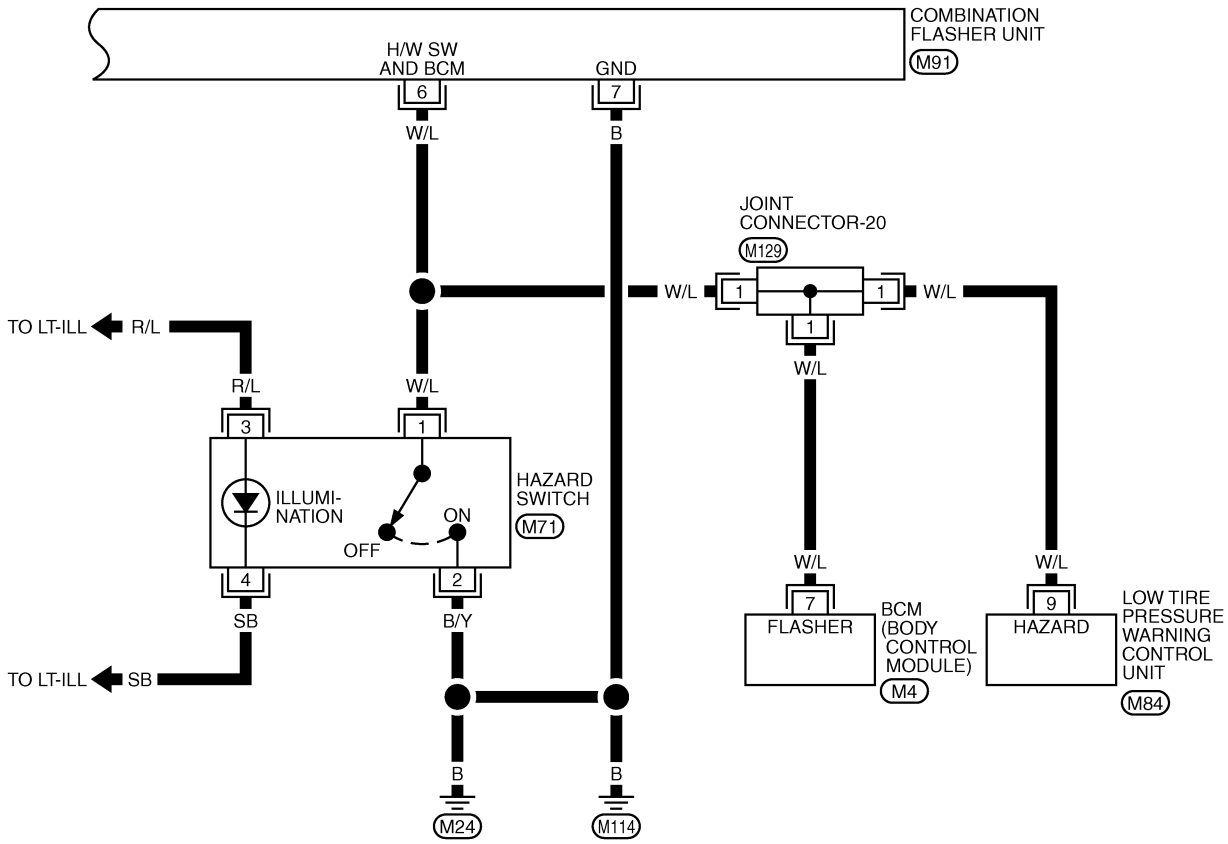


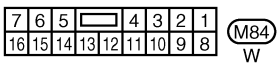
REFER TO THE FOLLOWING.

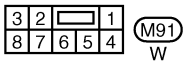
M1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

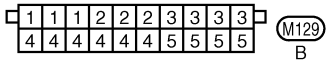
TKWM0406E

LT-TURN-02





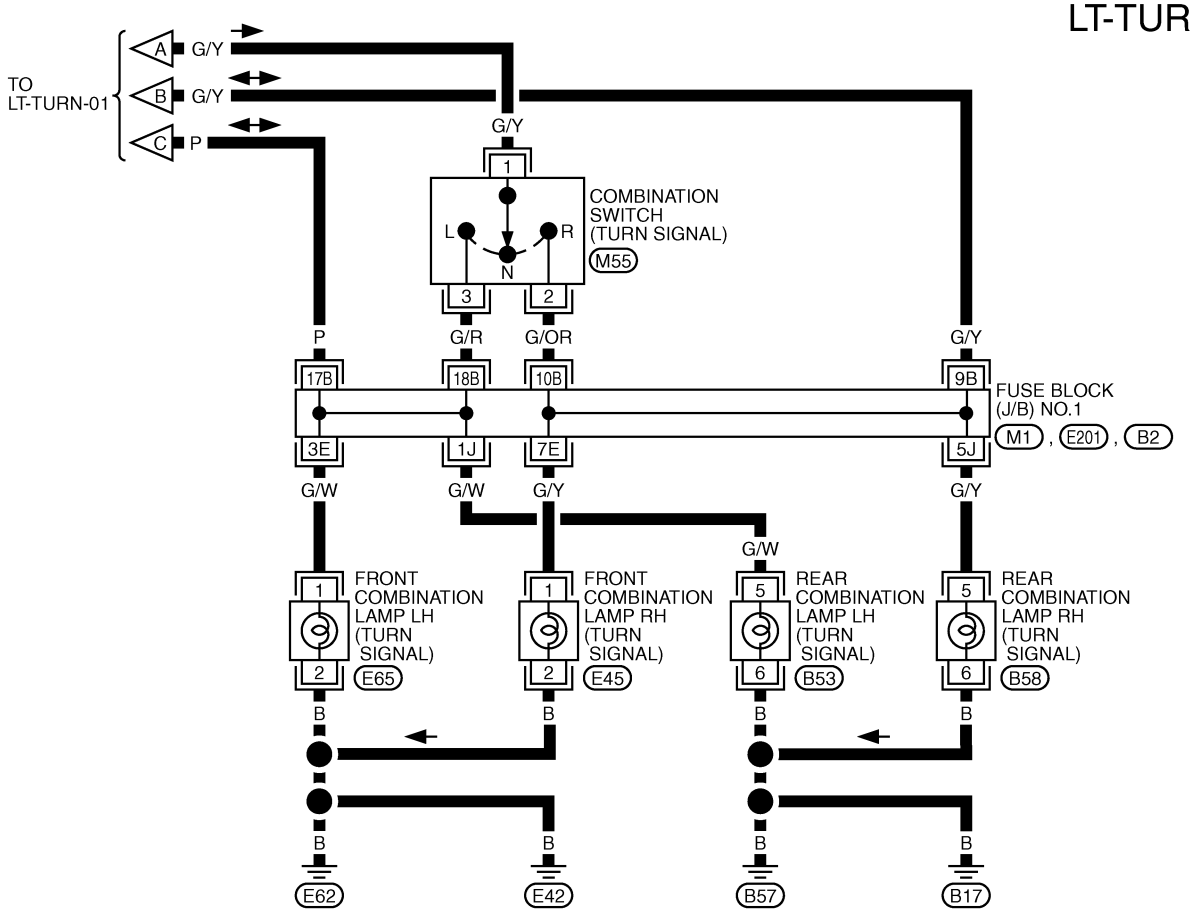




REFER TO THE FOLLOWING.
M4 -ELECTRICAL UNITS

TKWM0407E

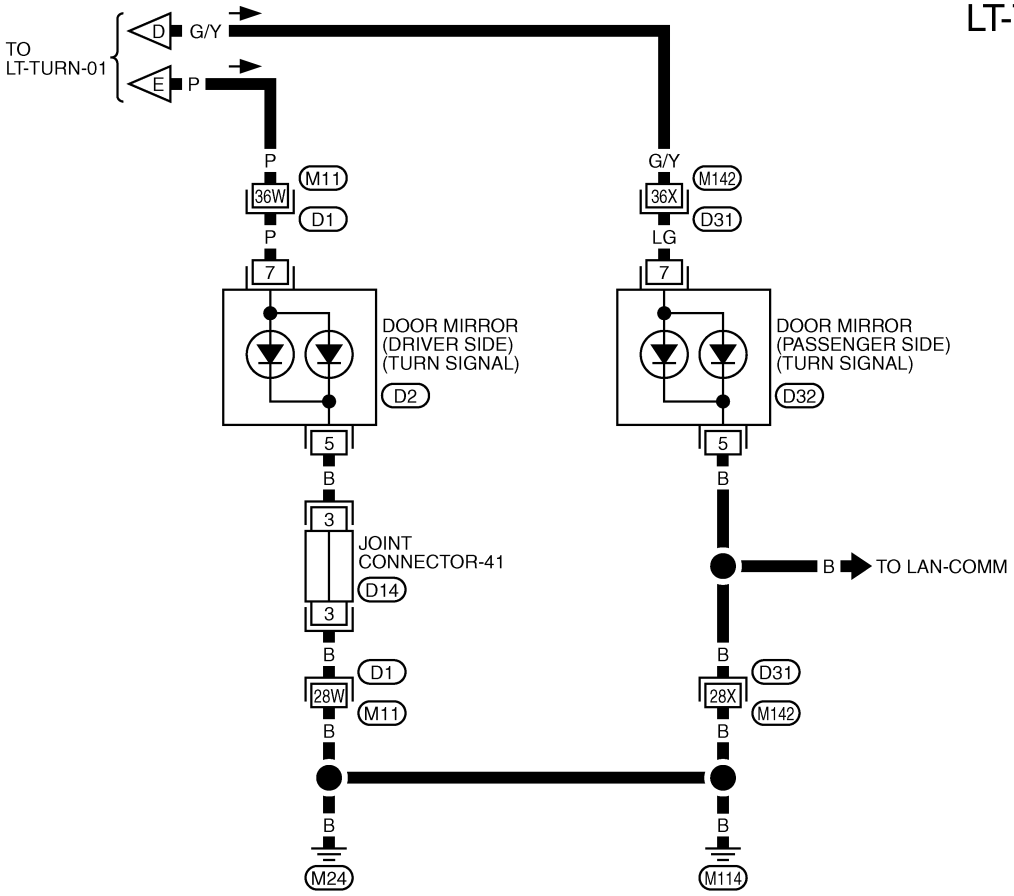
LT-TURN-03

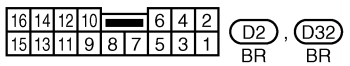


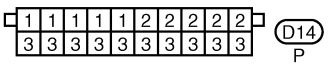
REFER TO THE FOLLOWING.
M1 , E201 , B2 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM0408E

LT-TURN-04







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

TKWM0409E

Symptom Chart

EKS000TA

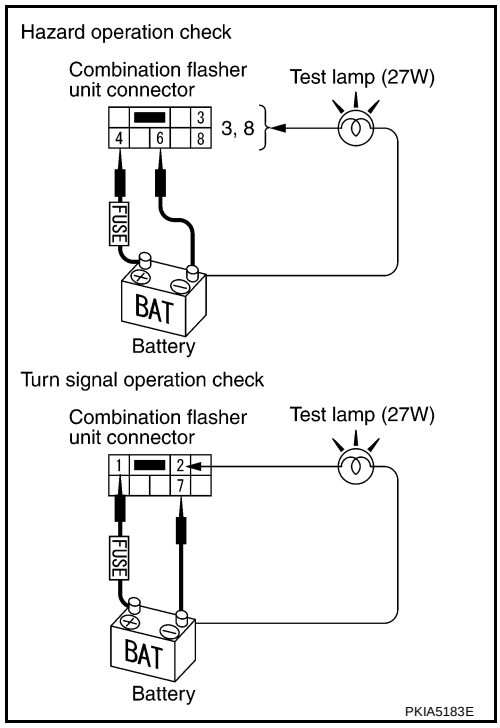
Symptom	Possible cause	Repair Procedure
Turn signal and hazard warning lamps do not operate.	1. Combination flasher unit 2. Open in combination flasher unit circuit	1. Check combination flasher unit. Refer to LT-65, "Electrical Components Inspection" . 2. Check wiring to combination flasher unit for open circuit.
Turn signal lamps do not operate but hazard warning lamps operate.	1. 10A fuse 2. Combination flasher unit 3. Turn signal switch 4. Open in turn signal switch circuit	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. 2. Check combination flasher unit. Refer to LT-65, "Electrical Components Inspection" . 3. Check turn signal switch. Refer to LT-66, "Switch Circuit Inspection" . 4. Check harness between combination flasher unit terminal 2 and turn signal switch terminal 1 for open circuit.
Hazard warning lamps do not operate but turn signal lamps operate.	1. 15A fuse 2. Combination flasher unit 3. Hazard switch 4. Open in hazard switch circuit 5. Grounds M24 and M114	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. 2. Check combination flasher unit. Refer to LT-65, "Electrical Components Inspection" . 3. Check hazard switch. 4. Check harness between combination flasher unit terminal 6 and hazard switch terminal 1 for open circuit. 5. Check grounds M24 and M114.
Front turn signal lamp LH or RH does not operate.	1. Bulb 2. Grounds E42 and E62 3. Open in front turn signal lamp circuit	1. Check bulb. 2. Check grounds E42 and E62. 3. Check harness between combination switch and front turn signal lamp for open circuit.
Rear turn signal lamp LH or RH does not operate.	1. Bulb 2. Grounds B17 and B57 3. Open in rear turn signal lamp circuit	1. Check bulb. 2. Check grounds B17 and B57. 3. Check harness between combination switch and rear turn signal lamp for open circuit.
LH and RH turn indicators do not operate.	1. Grounds M24 and M114	1. Check grounds M24 and M114.
LH or RH turn indicator does not operate.	1. Bulb 2. Open in turn indicator circuit	1. Check bulb in combination meter. 2. Check harness between combination flasher unit and combination meter (turn indicator) for open circuit.

Electrical Components Inspection

EKS000TB

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 blinks when power is supplied to the circuit.



Bulb Replacement

EKS001AS

FRONT TURN SIGNAL LAMP

Refer to LT-30, "Bulb Replacement" in “HEADLAMP (USA)”.

REAR TURN SIGNAL LAMP

Refer to LT-80, "REAR COMBINATION LAMP" in “PARKING, LICENSE PLATE AND TAIL LAMPS”.

Removal and Installation

EKS000W3

FRONT TURN SIGNAL LAMP

Refer to LT-32, "Removal and Installation" in “HEADLAMP (USA)”.

SIDE TURN SIGNAL LAMP

Refer to GW-116, "Disassembly and Assembly" in “GLASSES, WINDOW SYSTEM & MIRRORS (GW)” section.

REAR TURN SIGNAL LAMP

Refer to LT-81, "REAR COMBINATION LAMP" in “PARKING, LICENSE PLATE AND TAIL LAMPS”.

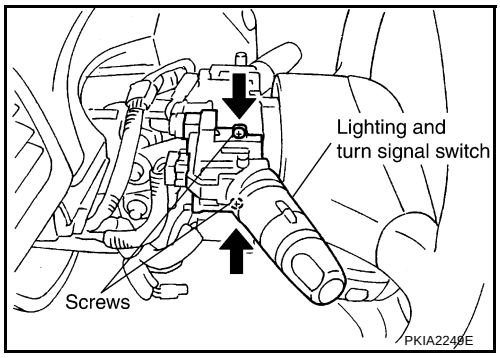
LIGHTING AND TURN SIGNAL SWITCH

PFP:25540

Removal and Installation

EKS00GCH

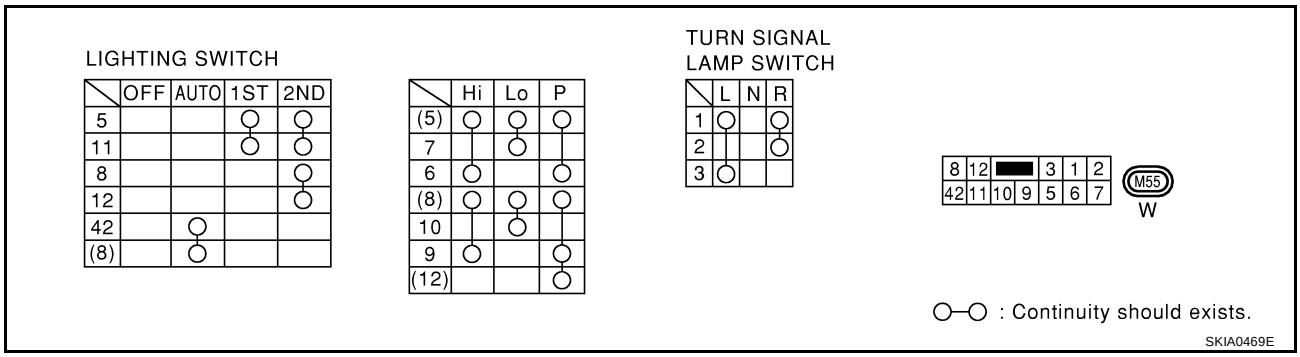
1. Remove steering column cover. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" in “INSTRUMENT PANEL ASSEMBRY (IP)” section.
2. Remove lighting and turn signal switch mounting screws and remove lighting and turn signal switch from harness.
3. Disconnect lighting and turn signal switch connector.



Switch Circuit Inspection

EKS000TH

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



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

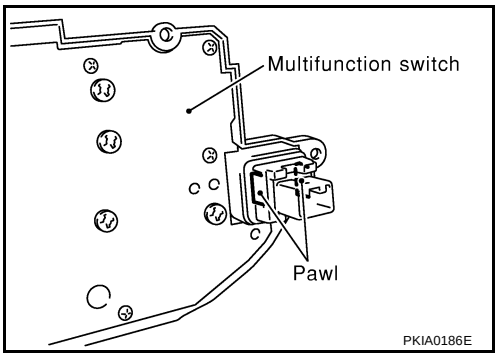
HAZARD SWITCH

PFP:25290

Removal and Installation

EKS000TI

Refer to DI-117, "Disassembly and Assembly for Multifunction Switch" ,DI-144, "Disassembly and Assembly for Multifunction Switch" in “DRIVER INFORMATION SYSTEM (DI)” section.

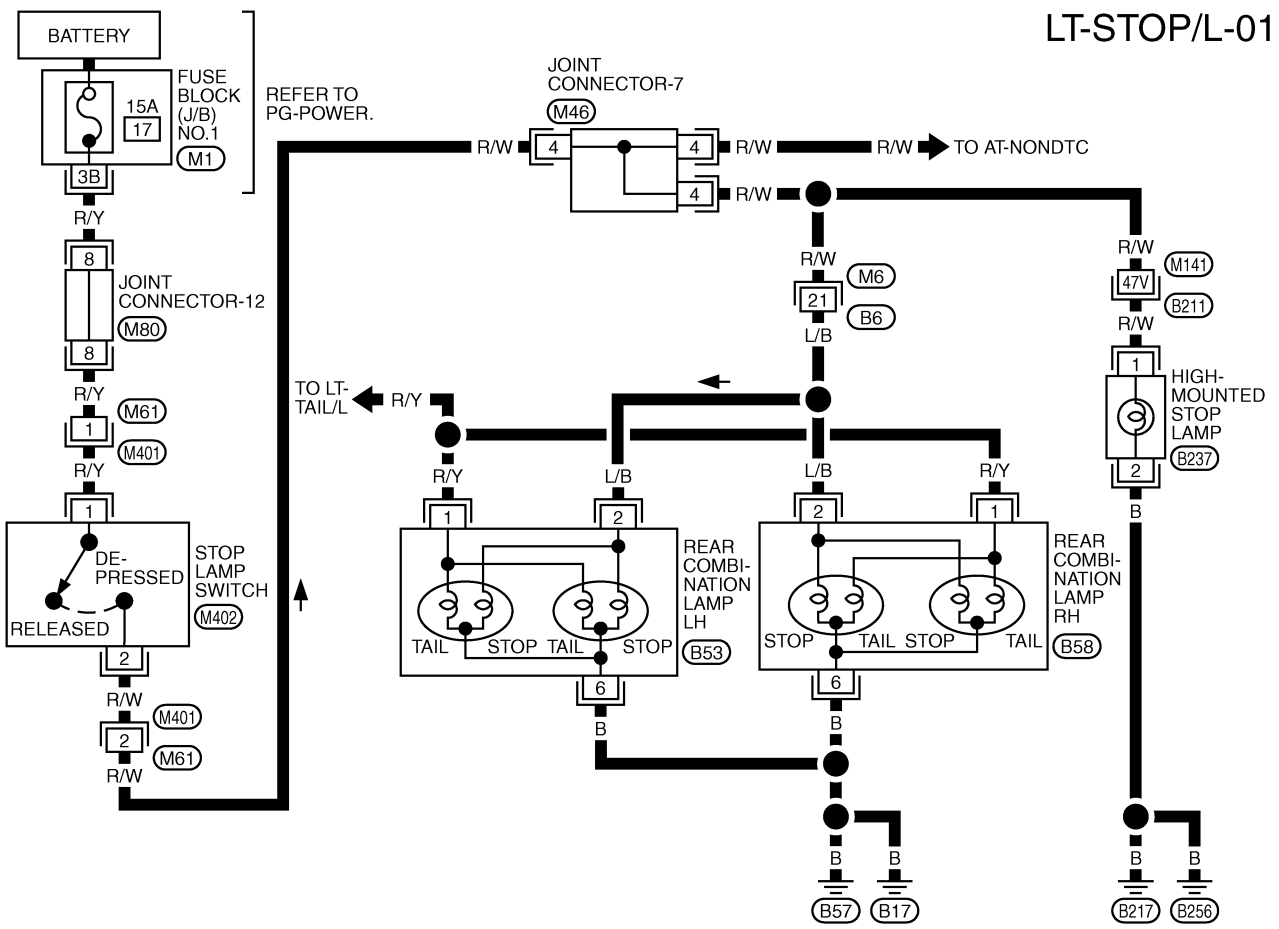


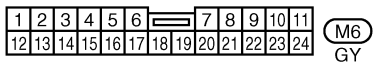
STOP LAMP

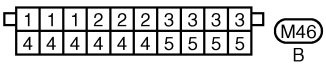
PFP:26550

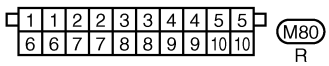
Wiring Diagram — STOP/L —

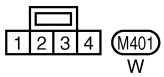
EKS000V1

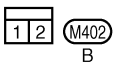


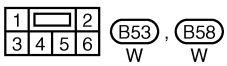


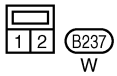












REFER TO THE FOLLOWING.

B211 -SUPER MULTIPLE JUNCTION (SMJ)

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

TKWM0981E

Bulb Replacement

EKS0014S

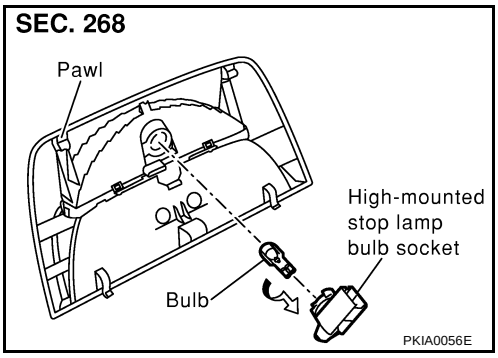
STOP LAMP

Refer to LT-80, "REAR COMBINATION LAMP" in “PARKING, LICENSE PLATE AND TAIL LAMPS”.

HIGH-MOUNTED STOP LAMP

1. Remove the high-mounted stop lamp. Refer to LT-69, "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

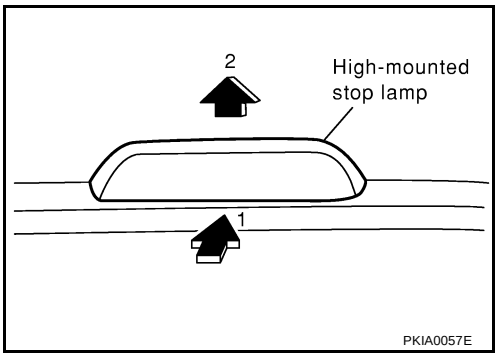
EKS000WD

STOP LAMP

Refer to LT-81, "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.



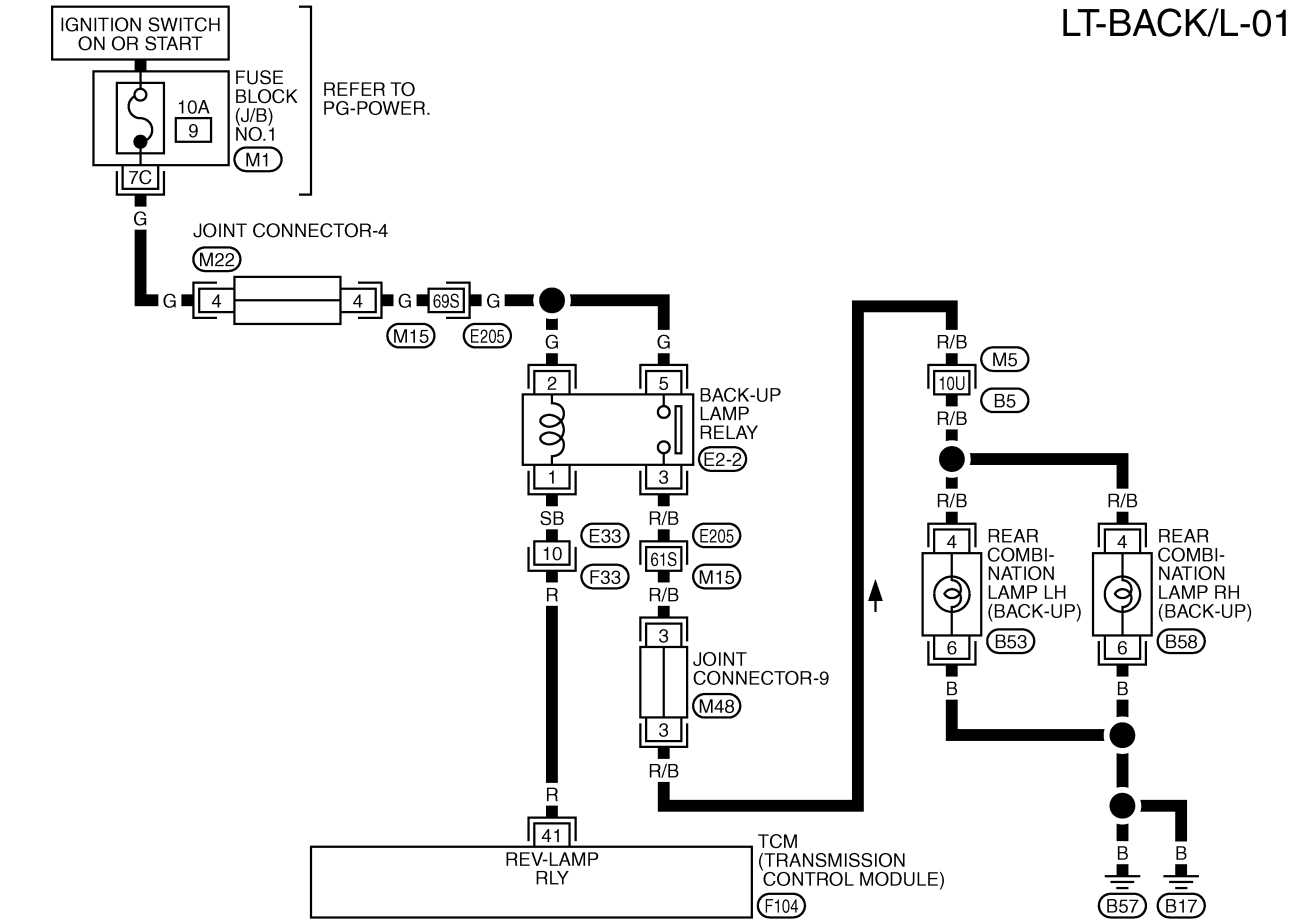
BACK-UP LAMP

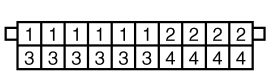
PFP:26550

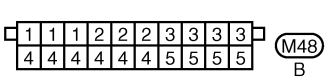
Wiring Diagram — BACK/L —

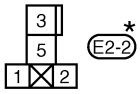
EKS000V6

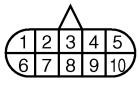
LT-BACK/L-01

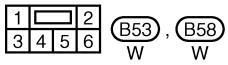












*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

REFER TO THE FOLLOWING.

M5 , E205 -SUPER MULTIPLE JUNCTION (SMJ)

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

F104 -ELECTRICAL UNITS

TKWM0405E

Bulb Replacement

EKS000V7

Refer to LT-80, "REAR COMBINATION LAMP" in PARKING, LICENSE PLATE AND TAIL LAMPS.

Removal and Installation

EKS000V8

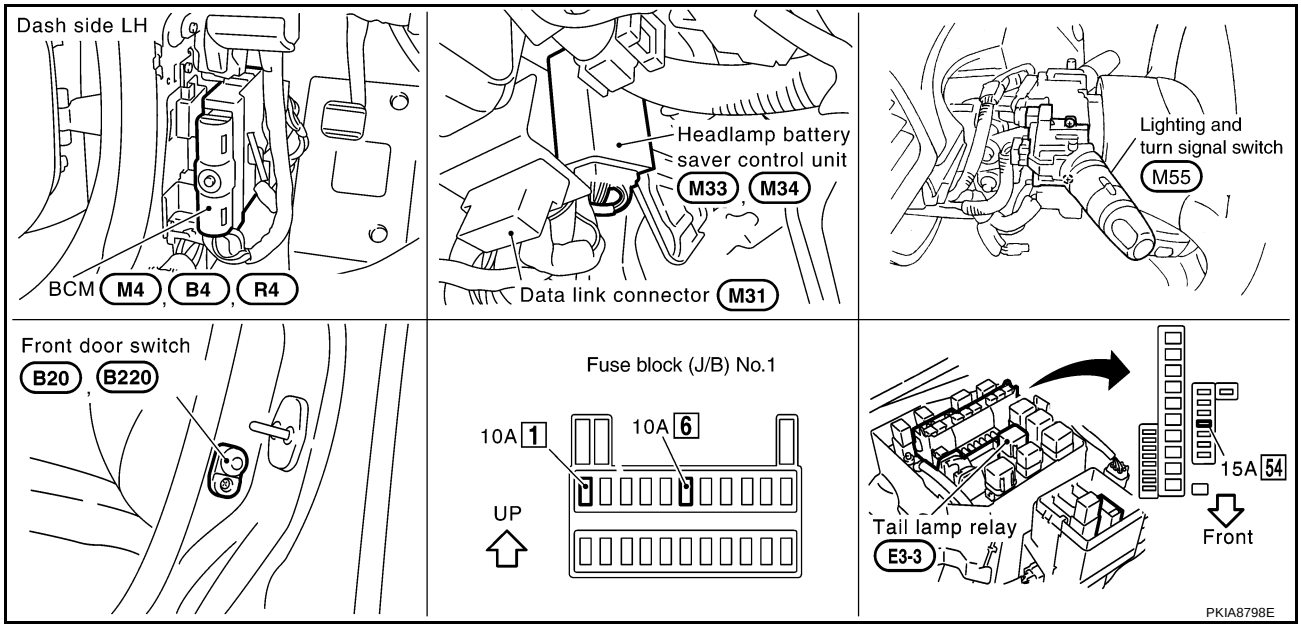
Refer to LT-81, "REAR COMBINATION LAMP" in PARKING, LICENSE PLATE AND TAIL LAMPS.

PARKING, LICENSE PLATE AND TAIL LAMPS

PFP:26550

Component Parts and Harness Connector Location

EKS00F4D



System Description

EKS000TK

The parking, license and tail lamp operation is controlled by the lighting switch which is built into the spiral cable and BCM. The battery saver system is controlled by the headlamp battery saver control unit and BCM.
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.
The parking, license, side marker and tail lamps are turned off when driver or passenger side 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.

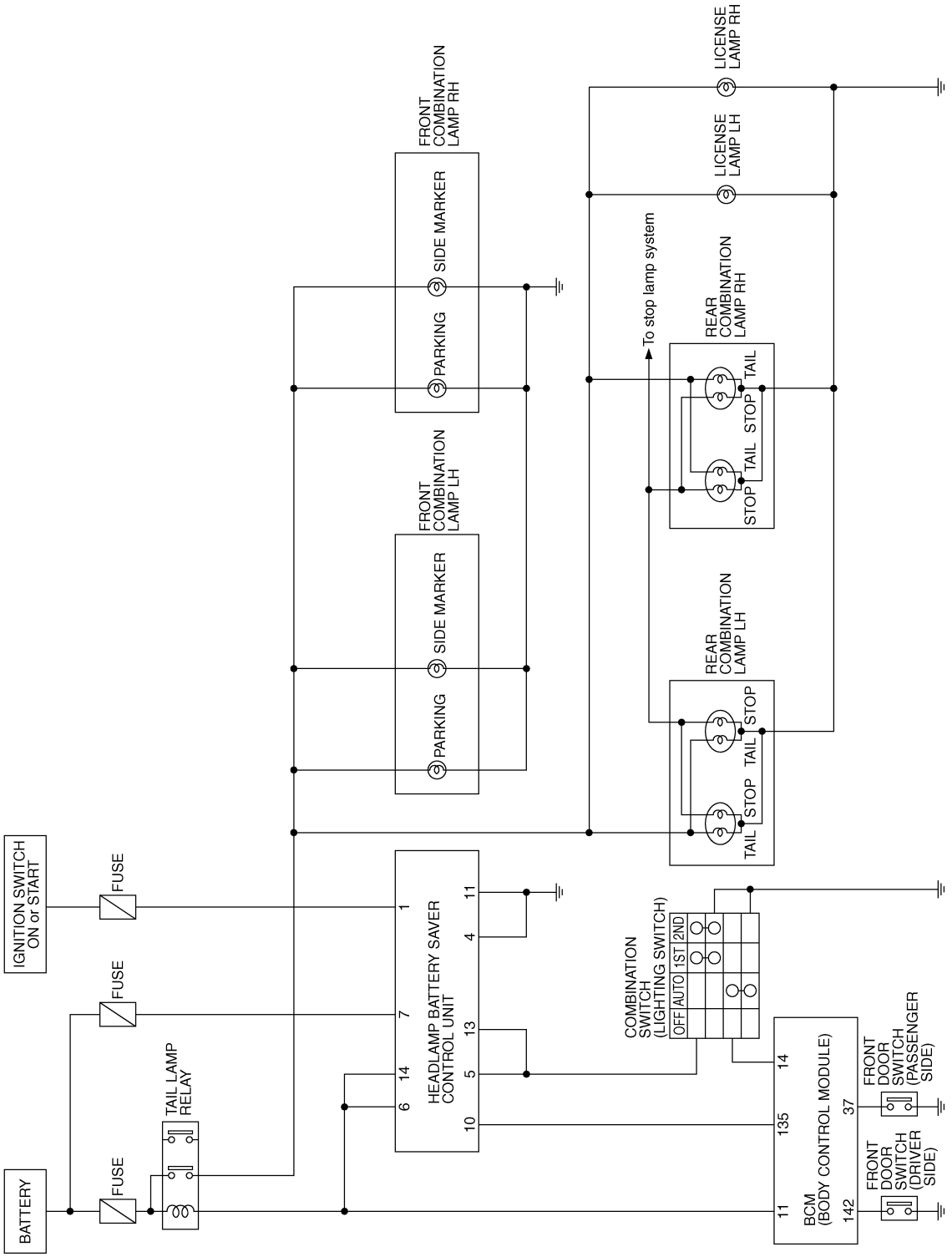
When the lighting switch is turned from OFF to 1ST (or 2ND) after the parking, license, side marker and tail lamps are turned off by the headlamp battery saver control, ground is supplied.

- 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.

Schematic

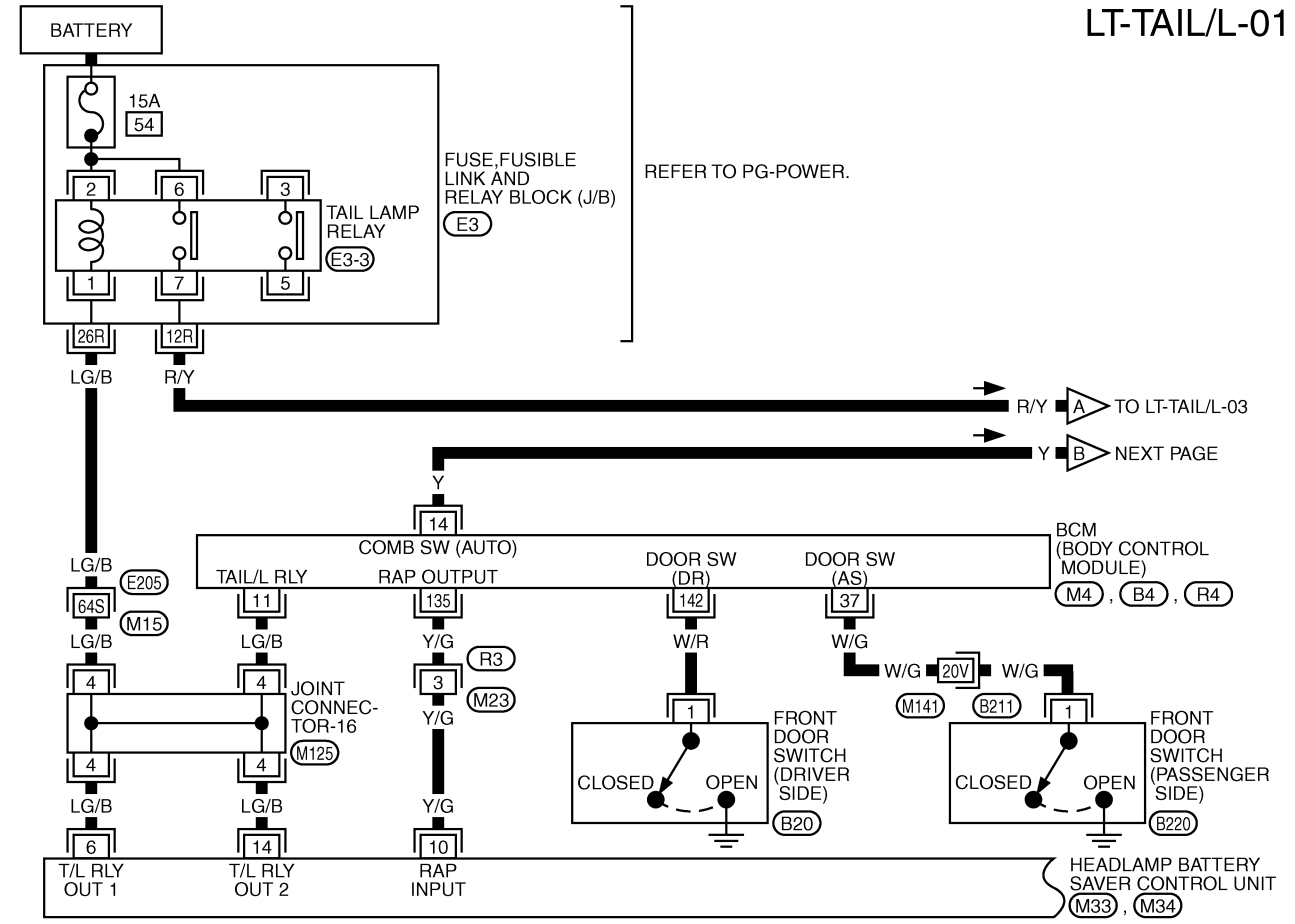
EKS000TL

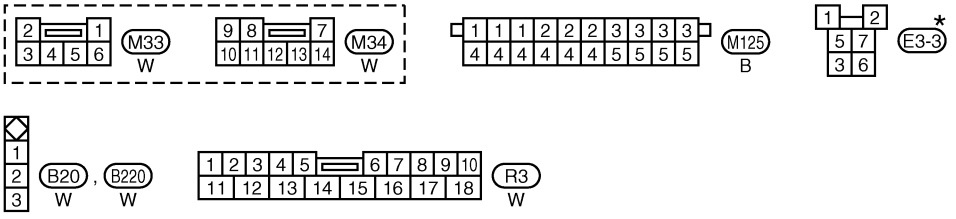


TKWM0022E

Wiring Diagram — TAIL/L —

EKS000TM





REFER TO THE FOLLOWING.

E205 , B211 -SUPER MULTIPLE JUNCTION (SMJ)

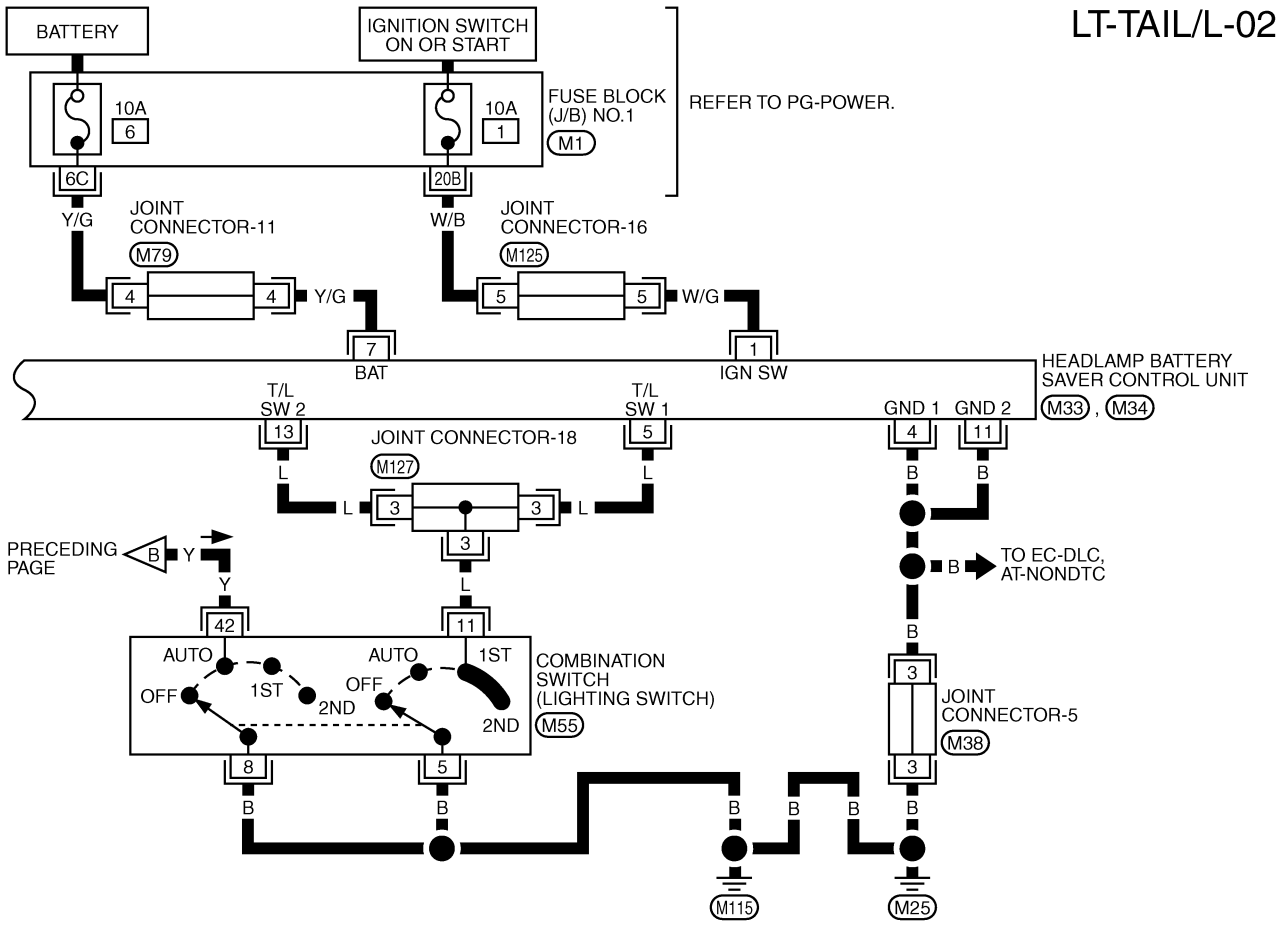
E3 -FUSE,FUSIBLE LINK AND RELAY BLOCK (J/B)

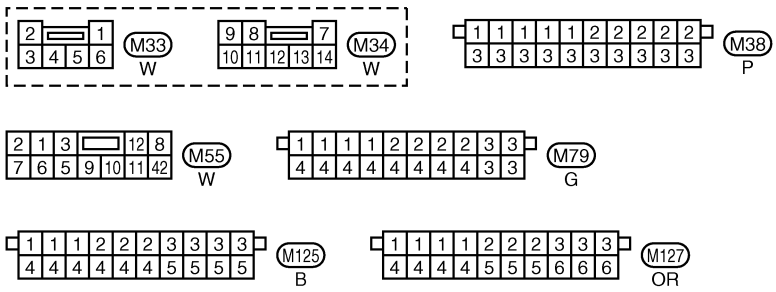
M4 , B4 , R4 -ELECTRICAL UNITS

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

TKWM0023E

LT-TAIL/L-02



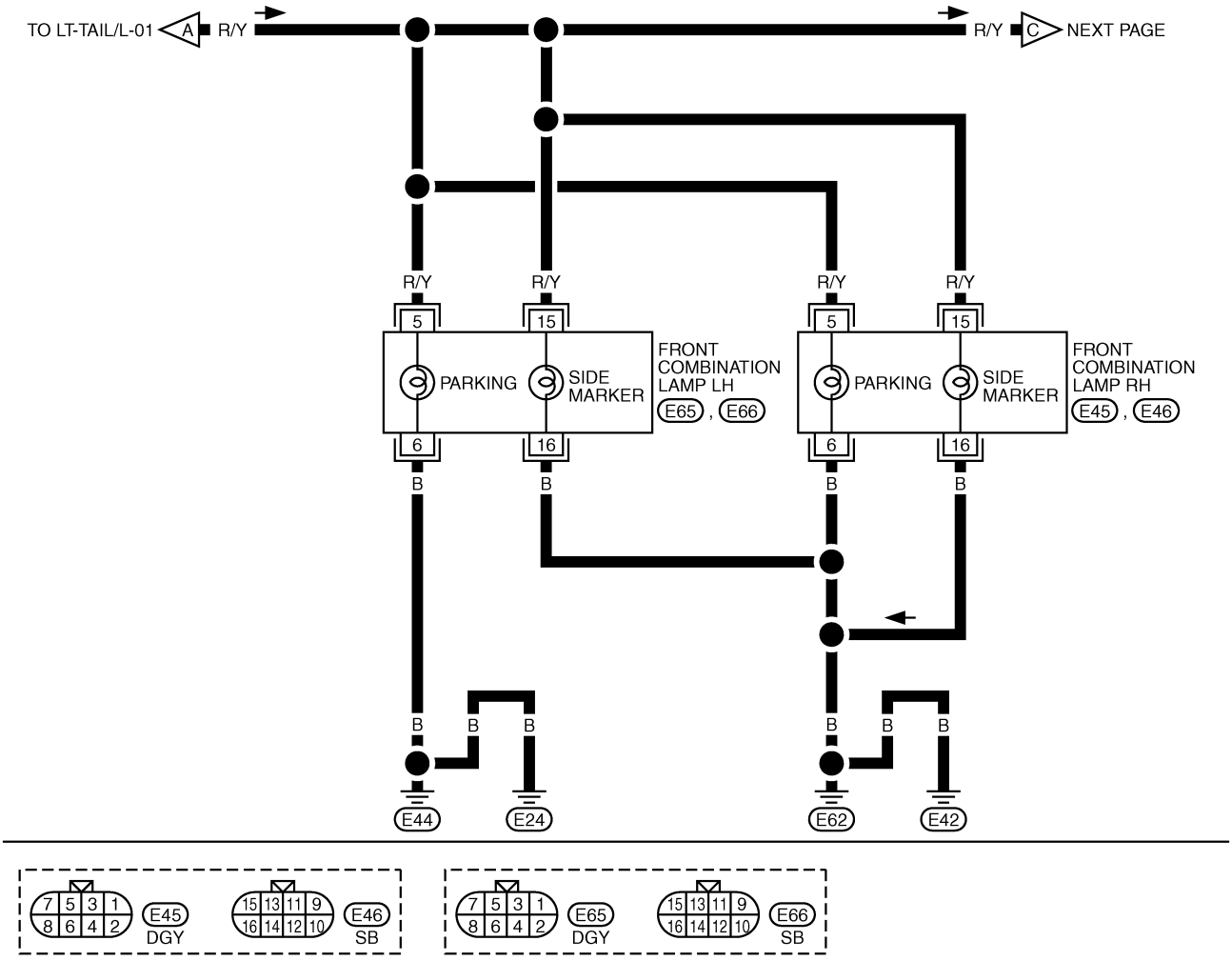


REFER TO THE FOLLOWING.

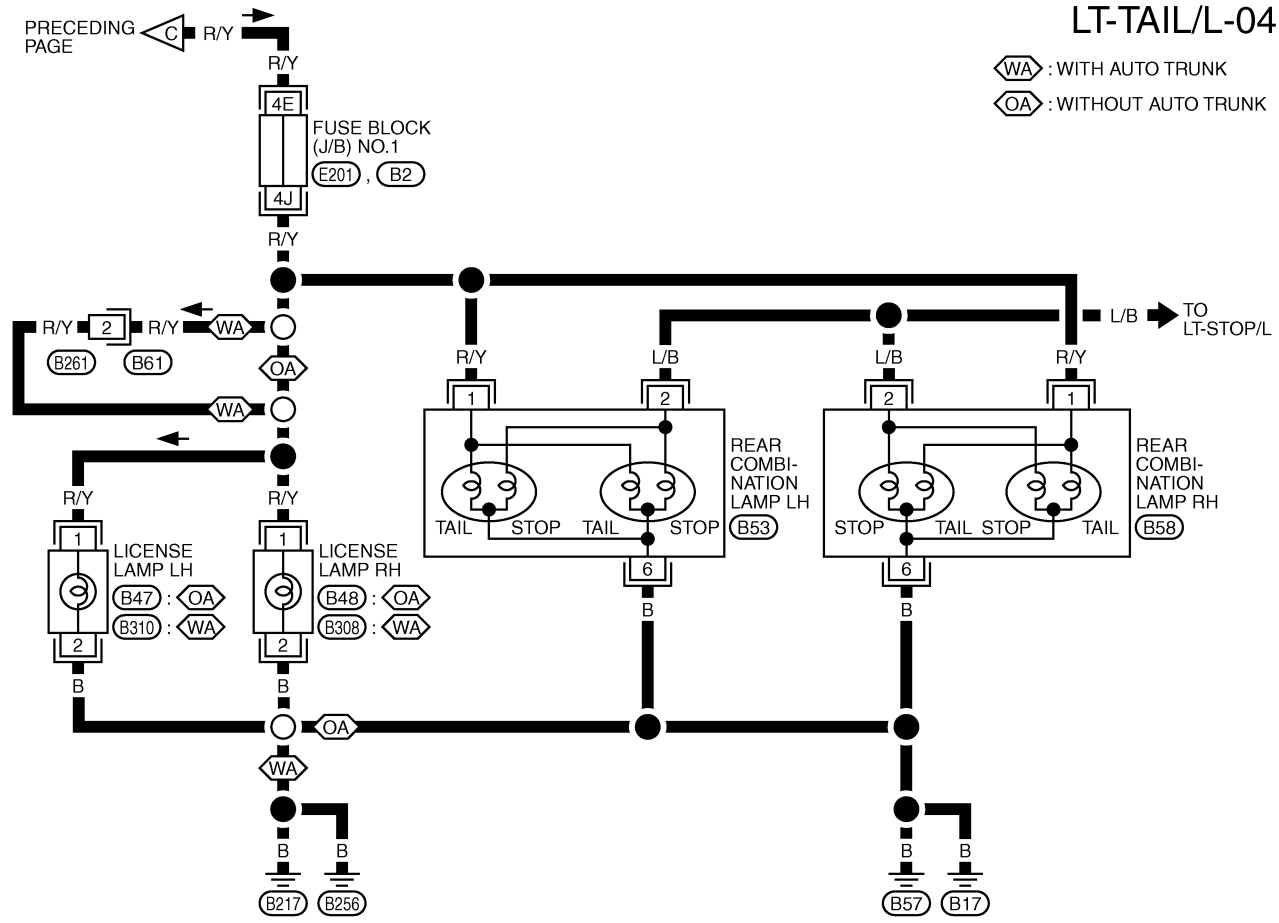
M1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

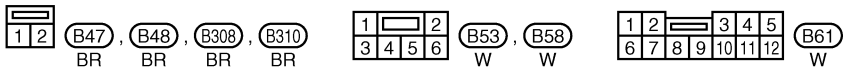
TKWM0401E

LT-TAIL/L-03



TKWM0402E





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

TKWM0724E

Trouble Diagnoses

EKS000TN

Symptom	Repair Procedure
No lamps operate (including headlamps).	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. 2. Check lighting switch. Refer to LT-66, "Switch Circuit Inspection" . 3. Check headlamp battery saver control unit. Refer to LT-16, "Terminals and Reference Value for Battery Saver Control Unit" .
No parking, side marker, license and tail lamps operate, but headlamps do operate.	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. 2. Check tail lamp relay. 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. 4. Check lighting switch. Refer to LT-66, "Switch Circuit Inspection" . 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. 6. Check headlamp battery saver control unit. Refer to LT-16, "Terminals and Reference Value for Battery Saver Control Unit" .
Battery saver control does not operate properly.	1. Check RAP signal. Verify 12 positive voltage from BCM is present at terminal 10 of headlamp battery saver control unit: – Within 45 seconds after ignition switch turned off. – Front door is opened or more than 45 seconds after ignition switch is turned off. 2. Check the following. – Harness between BCM and front door switch (driver side) or front door switch (passenger side) for open or short circuit. – Front door switch (driver side) or front door switch (passenger side) ground circuit. – Front door switch (driver side) or front door switch (passenger side). 3. Check the following. – Harness between headlamp battery saver control unit terminals 5 or 13 and lighting switch terminal 11 for open or short circuit. – Harness between lighting switch terminal 5 and ground. – Lighting switch. Refer to LT-66, "Switch Circuit Inspection" . 4. Check headlamp battery saver control unit. Refer to LT-16, "Terminals and Reference Value for Battery Saver Control Unit" . 5. Check BCM. Refer to LT-17, "Terminals and Reference Value for BCM" .

Bulb Replacement

EKS000WE

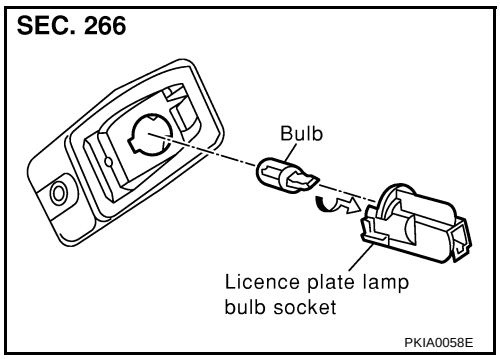
LICENSE PLATE LAMP

1. Open the trunk and remove the trunk lid finisher. Refer to EI-59, "TRUNK ROOM TRIM & TRUNK LID FINISHER" in “EXTERIOR & INTERIOR (EI)” section.
2. Disconnect the license plate lamp connector.
3. Turn the bulb socket counterclockwise and unlock it.
4. 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)



FRONT COMBINATION LAMP

Refer to LT-30, "Bulb Replacement" in “HEADLAMP (FOR USA)”.

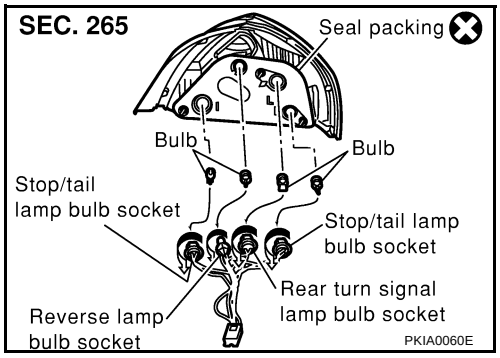
REAR COMBINATION LAMP

1. Open the trunk and remove the trunk side finisher. Refer to EI-59, "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 (outer·inner side) : 12V 21/5W

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

Buck-up lamp : 12V 18W



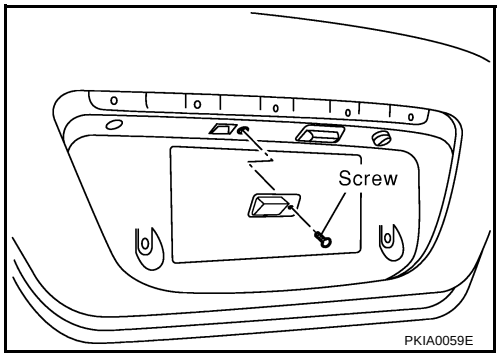
Removal and Installation

EKS000WI

LICENSE PLATE LAMP

Removal

1. Remove the license plate finisher. Refer to EI-59, "TRUNK ROOM TRIM & TRUNK LID FINISHER" in “EXTERIOR & INTERIOR (EI)” section.
2. Disconnect the license plate lamp connector.
3. Remove the license plate lamp mounting screw and remove the license plate lamp from the vehicle.



Installation

Install in the reverse order of removal, taking care of the following points.

License plate lamp mounting screw:

: 2.4 N·m (0.24 kg-m, 21 in-lb)

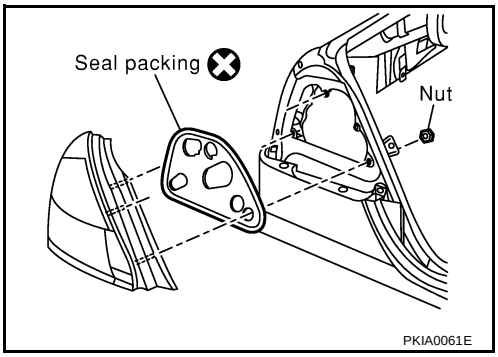
FRONT COMBINATION LAMP

Refer to LT-32, "Removal and Installation" in “HEADLAMP (FOR USA)”.

REAR COMBINATION LAMP

Removal

1. Open the trunk and remove the trunk side finisher. Refer to EI-59, "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 the rear combination lamp toward rear of the vehicle and remove from the vehicle.
5. Remove the seal packing from the vehicle.



Installation

Install in the reverse order of removal, taking care of the following points.

- 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)

INTERIOR ROOM LAMP

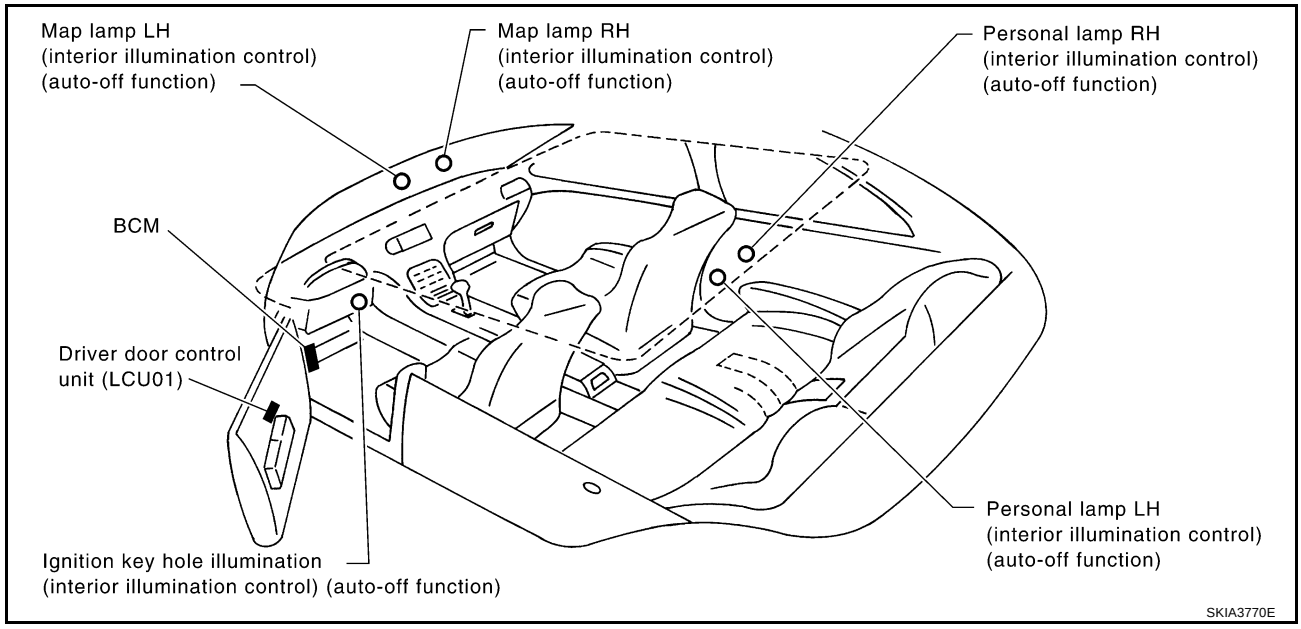
PFP:26410

System Description

EKS0017P

OUTLINE

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)	● 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). ● Timer will be cancelled by input of the switch OFF (door locked) signal.
Front door switch (driver side)	● Timer will be cancelled by input of the switch ON (door open) signal. ● Timer will be actuated by input of the switch ON→OFF (door open→closed) signal when the key-in detection switch is OFF.
Ignition switch	● Timer will be cancelled by input of the switch ACC or ON signal.
Key switch and key lock solenoid (Key switch)	● Timer will be actuated by input of the switch ON→OFF (key inserted→withdrawn) signal when the driver door switch is OFF (door closed).

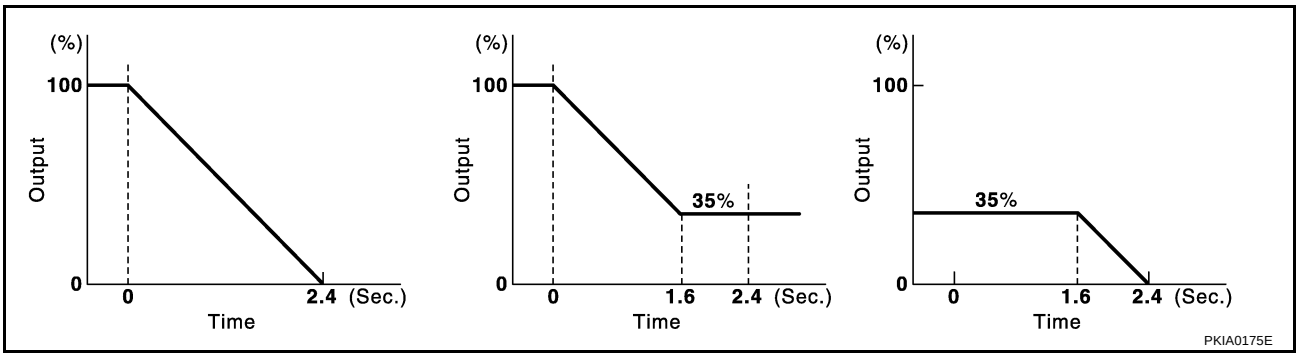
- If a new timer actuation signal is input while the timer is operating, the later input will have priority.
- If any lamp switch is operated and a separate actuation signal is input while the timer is operating, the lamp operation will be prioritized. However, the timer operation will not be renewed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

LAMP OUTPUT CONTROL FUNCTION

Controls output of lamps except for the ignition key hole illumination.

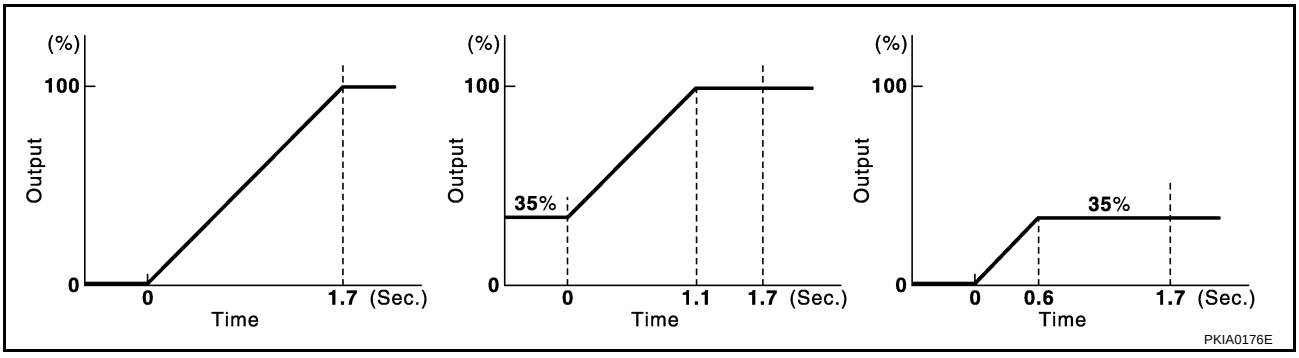
- In case from full illumination to off, from full illumination to half illumination, and from half illumination to off.

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



- In case from off to full illumination, from half illumination to full illumination, and from off to 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 ill switch and personal lamps switch are “AUTO” position, and then door switch of either is opened.
- Interior lamp ill switch is “ON” position.
- Personal lamp switch is “FULL” position.

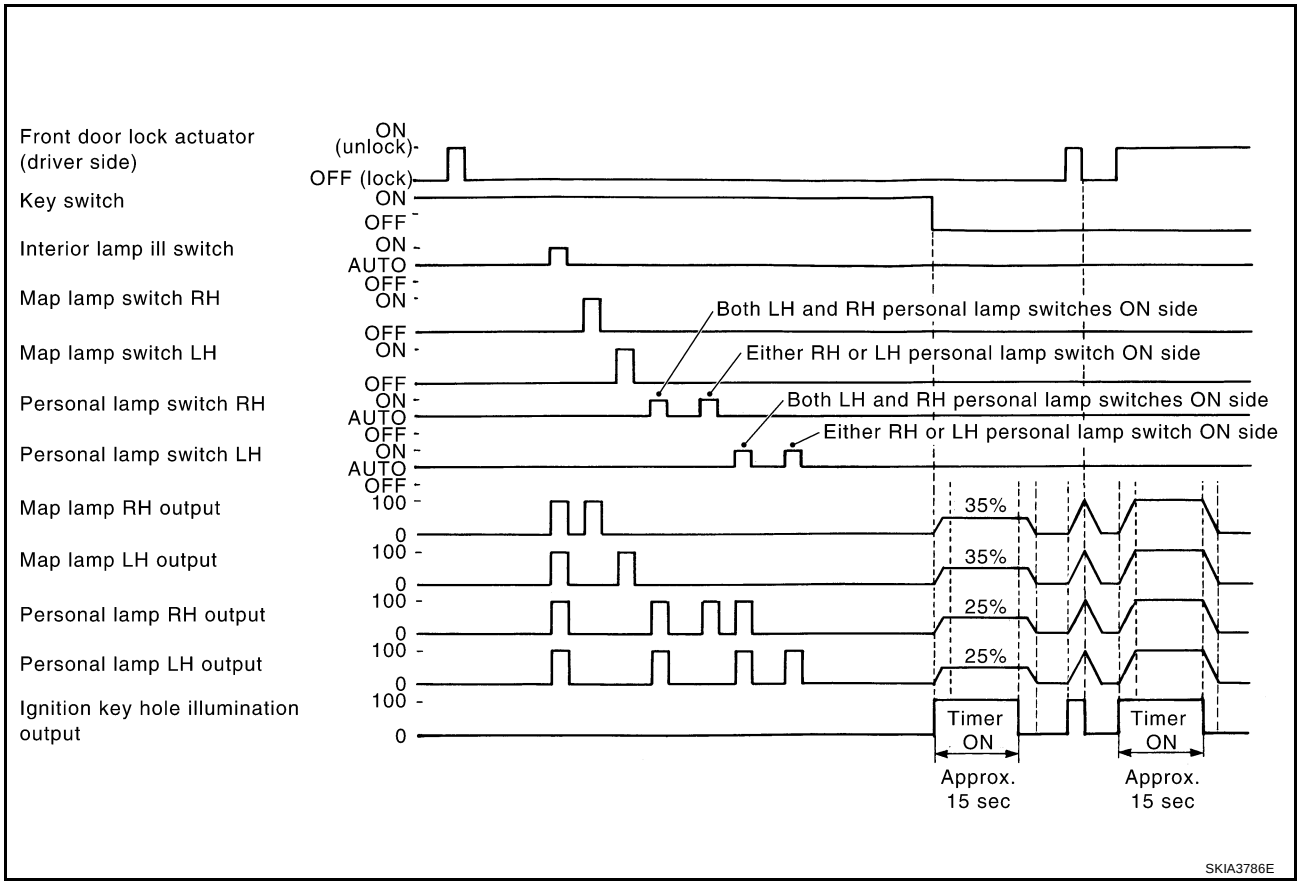
The auto off function is turned OFF when the one of following change is operated, and executes a usual operation control thereafter.

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

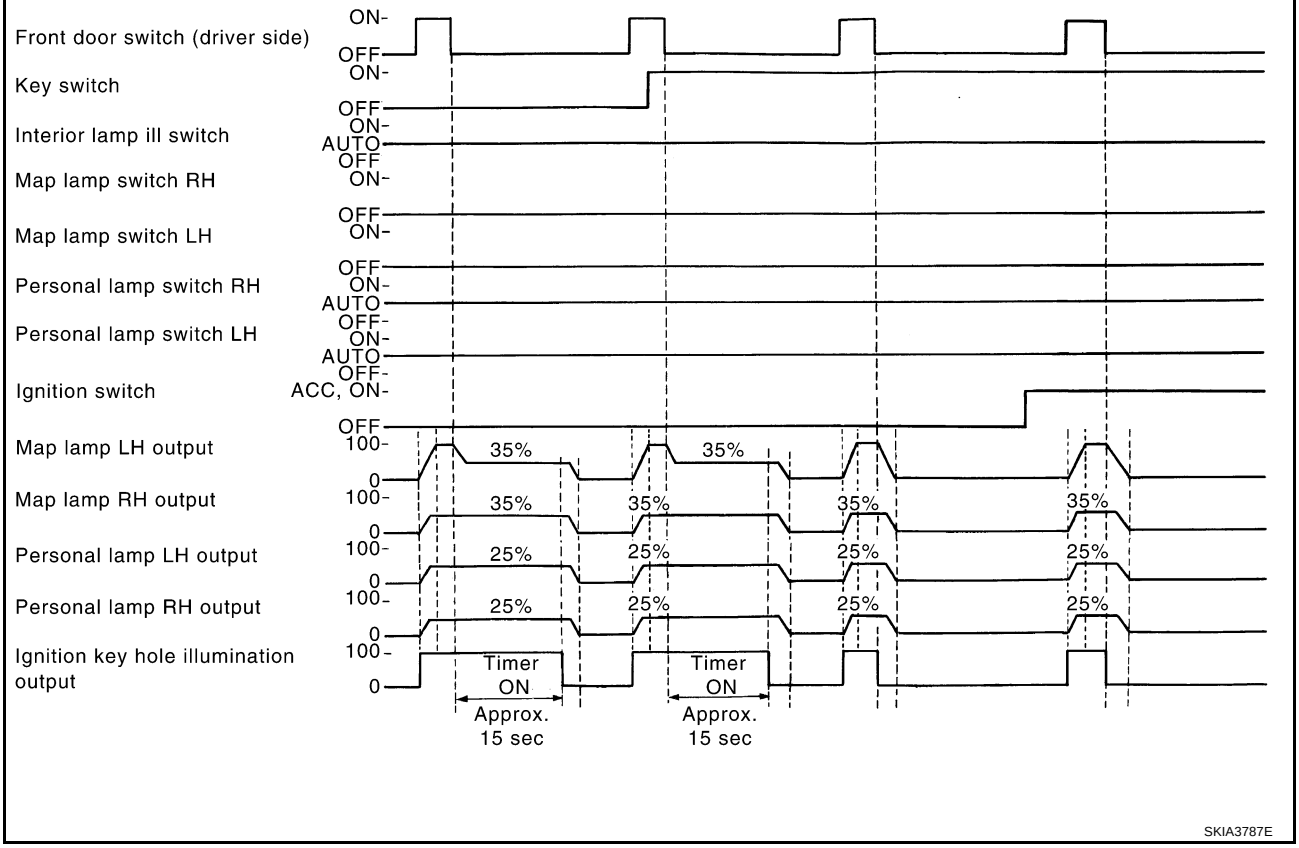
LIGHTS ON/OFF MODES

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

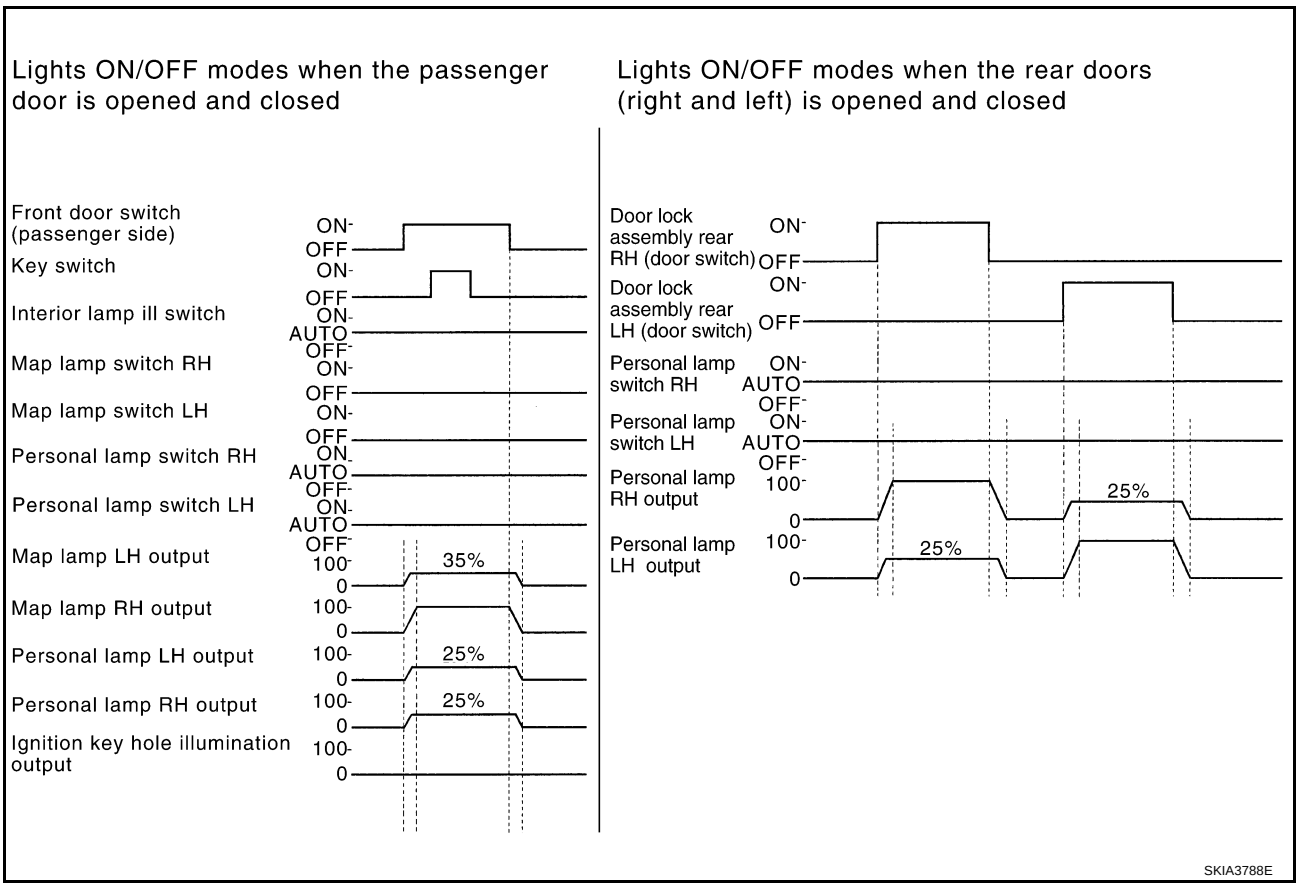
1. Lights on-off modes when each lamp switch is operated.



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.



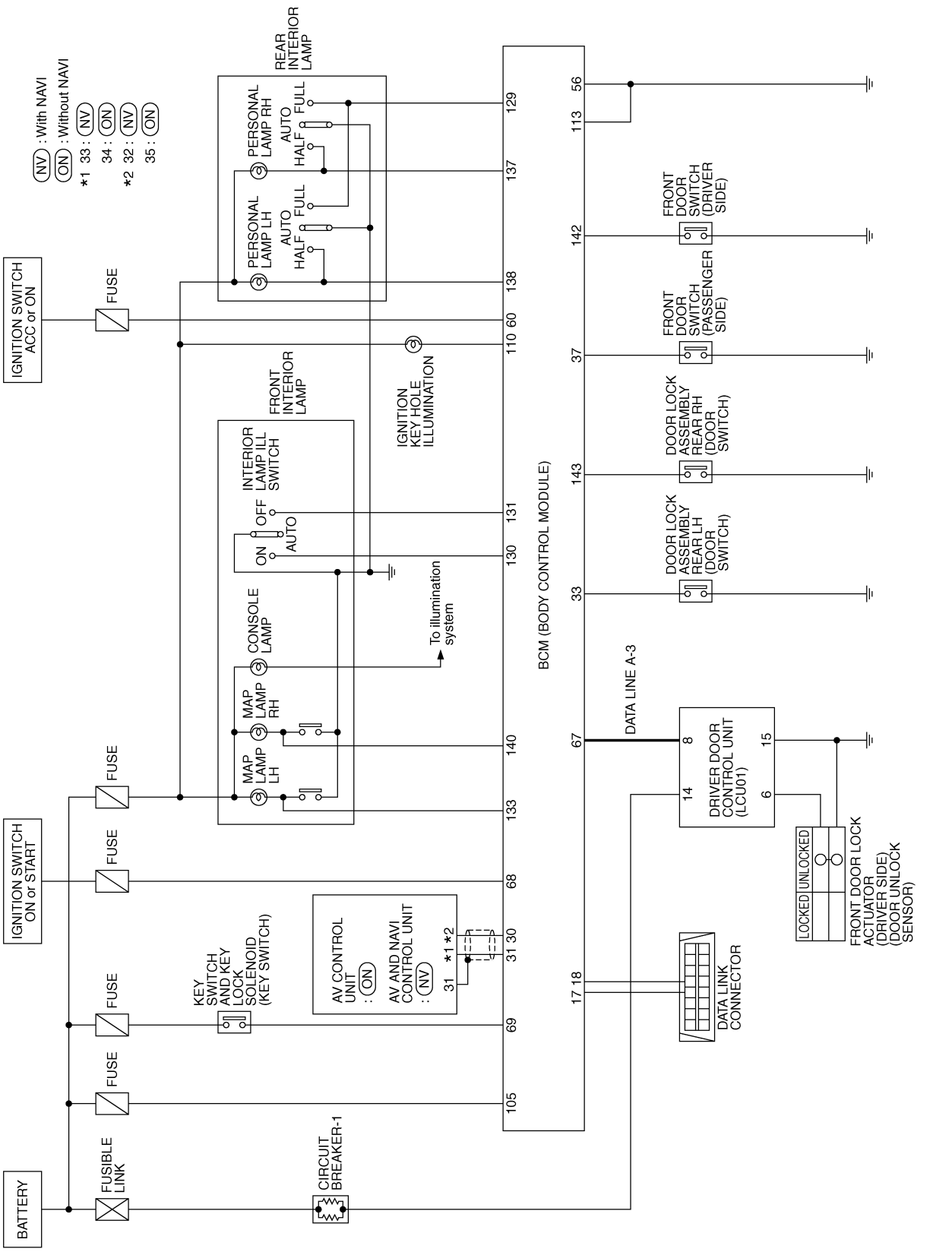
Major Components and Their Functions

EKS0017R

Components	Functions
BCM	● Controls on/off and afterglow time of the interior lamps and illuminations according to the signals from the ignition switch, key switch, lighting switch, each door switch, door unlock sensor, and each lamp switch. **CAUTION:** **On/off control varies with signal input from each switch. Refer to LT-84, "LIGHTS ON/ OFF MODES" .**
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.

Schematic

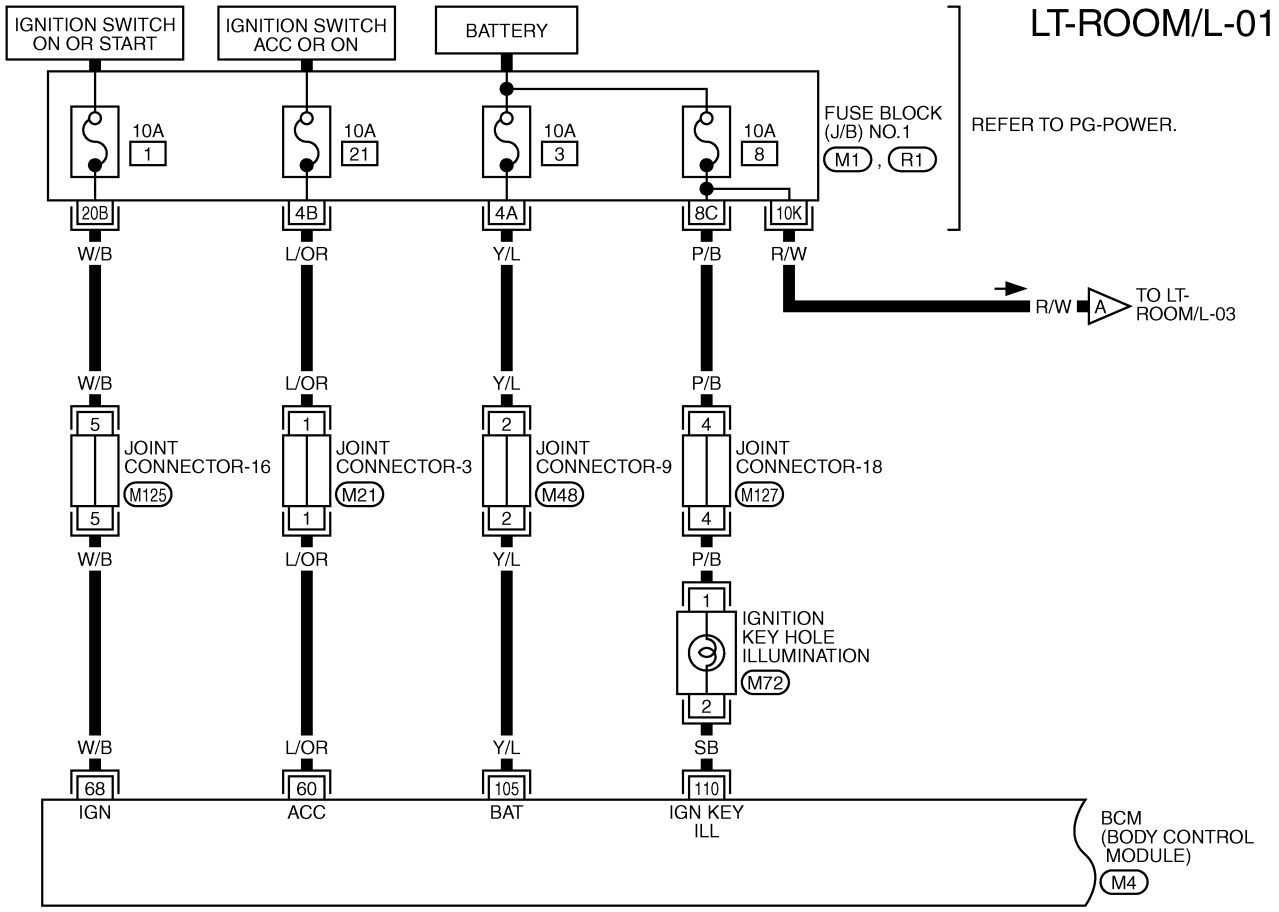
EKS000TZ

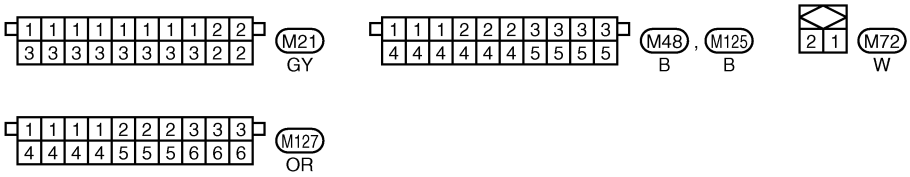


TKWM1040E

Wiring Diagram — INT/L —

EKS000U0

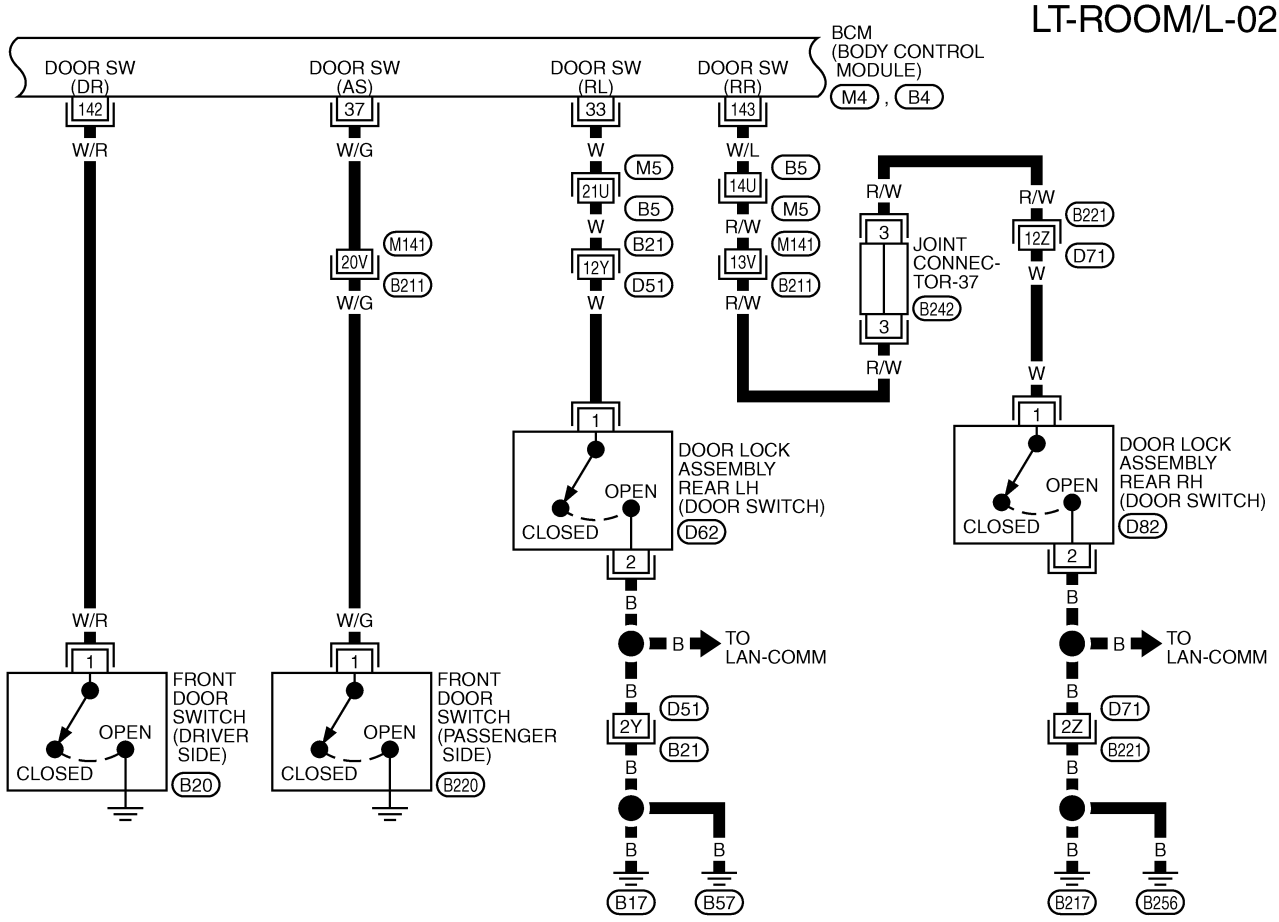


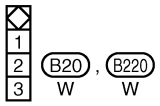


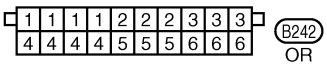
REFER TO THE FOLLOWING.
M1 , R1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1
M4 -ELECTRICAL UNITS

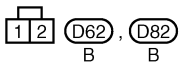
TKWM0983E

LT-ROOM/L-02







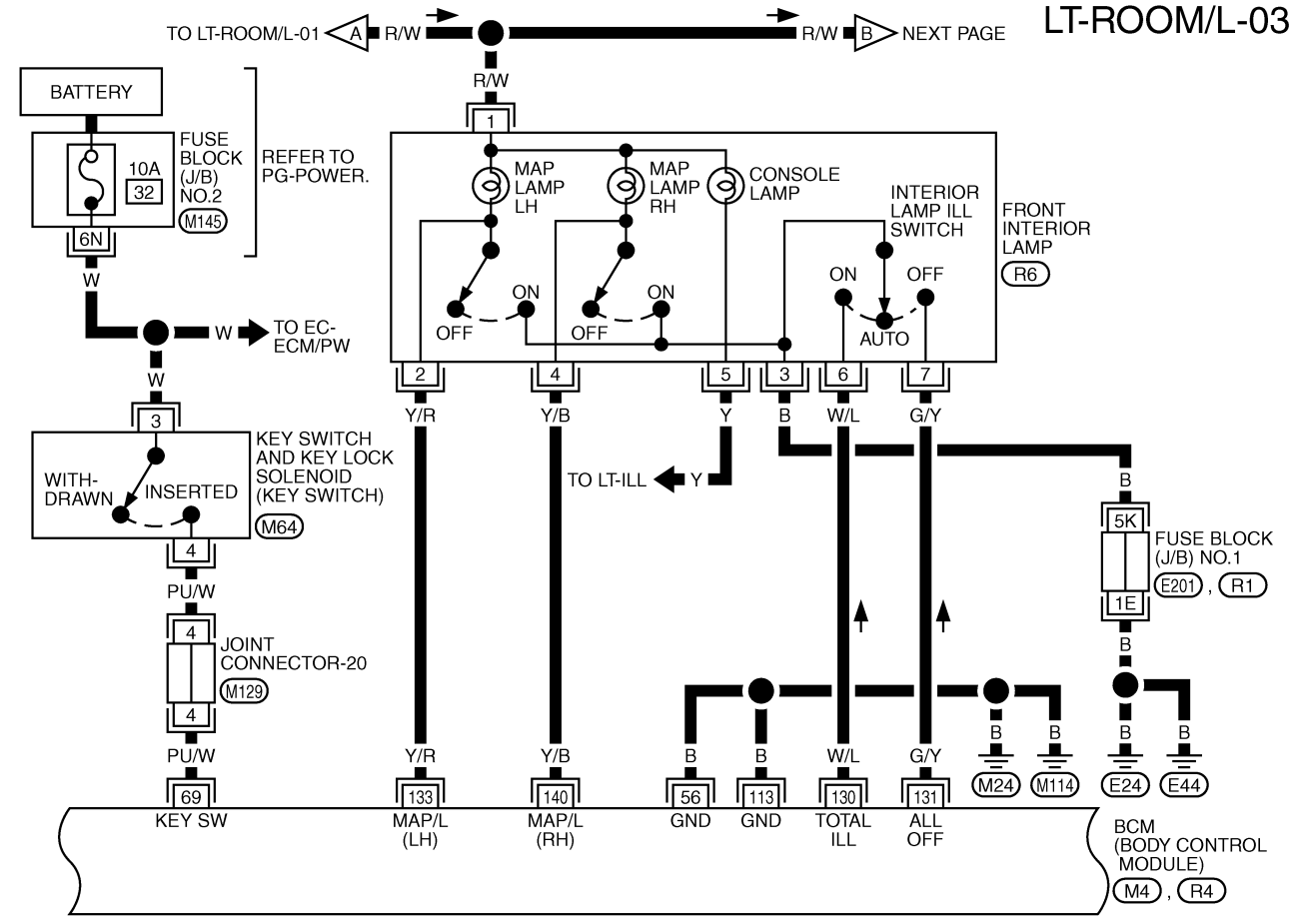


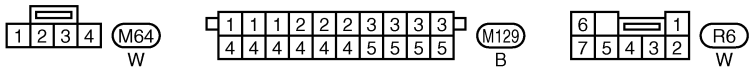
REFER TO THE FOLLOWING.

M5 , B21 , B211 , B221
-SUPER MULTIPLE JUNCTION (SMJ)

M4 , B4 -ELECTRICAL UNITS

TKWM0413E





REFER TO THE FOLLOWING.

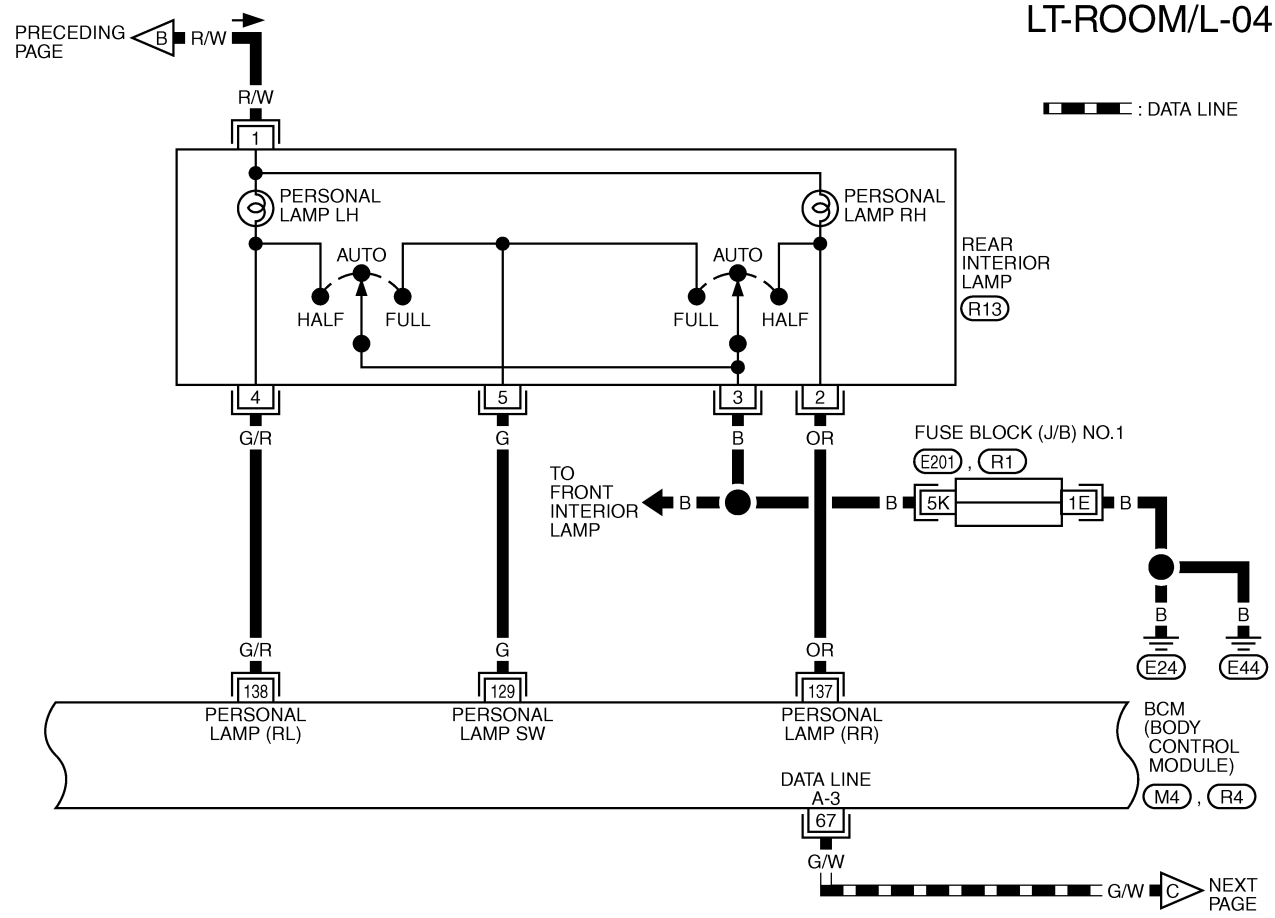
E201 , R1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

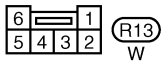
M145 -FUSE BLOCK-JUNCTION BOX (J/B) NO.2

M4 , R4 -ELECTRICAL UNITS

TKWM1041E

LT-ROOM/L-04



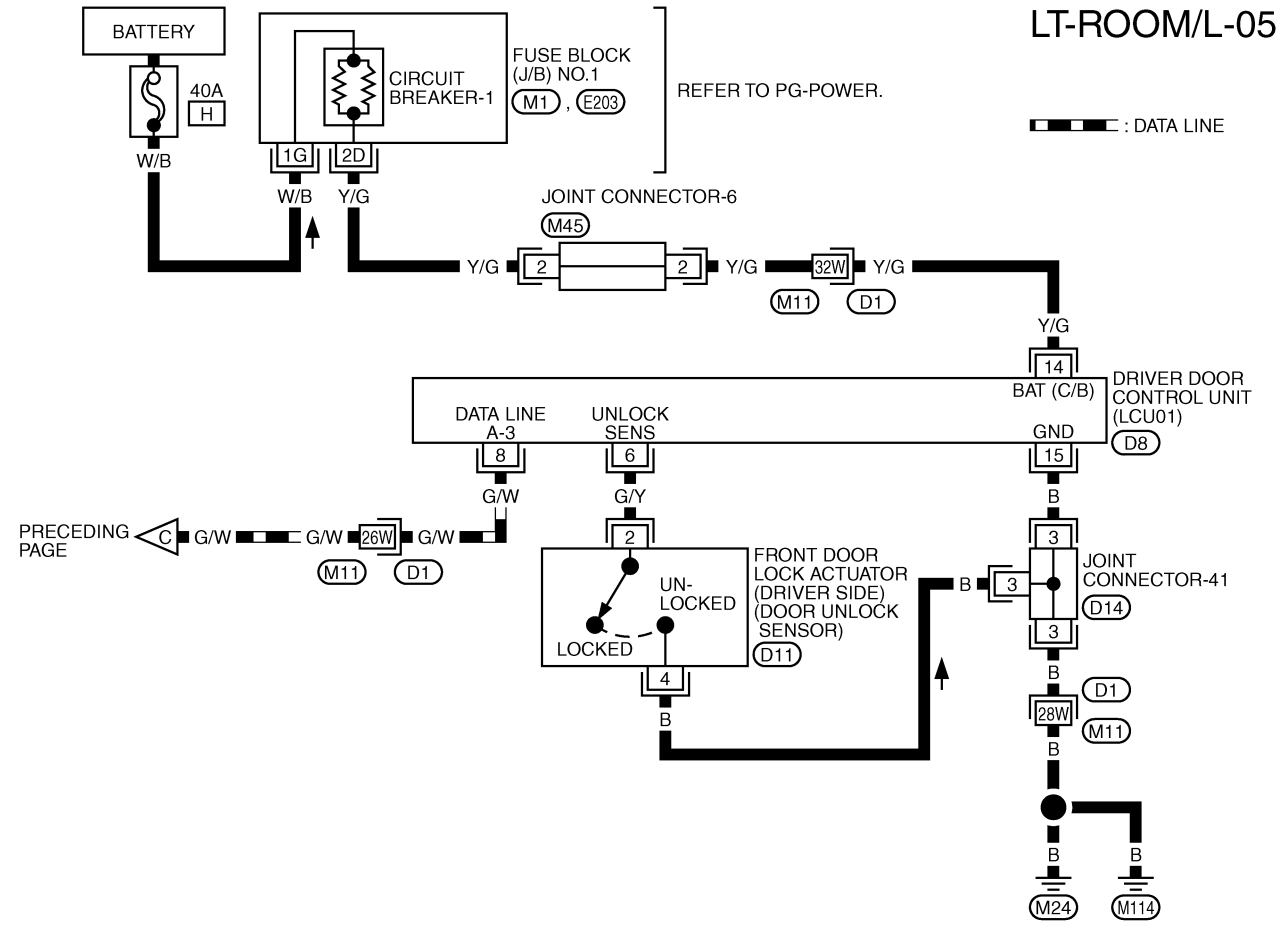


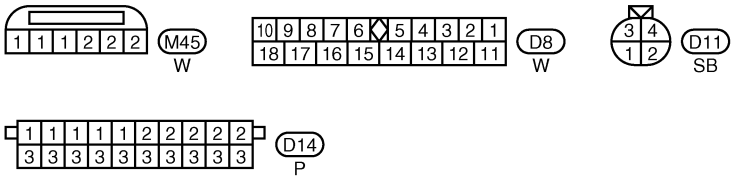
REFER TO THE FOLLOWING.

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

M4 , R4 -ELECTRICAL UNITS

TKWM0415E





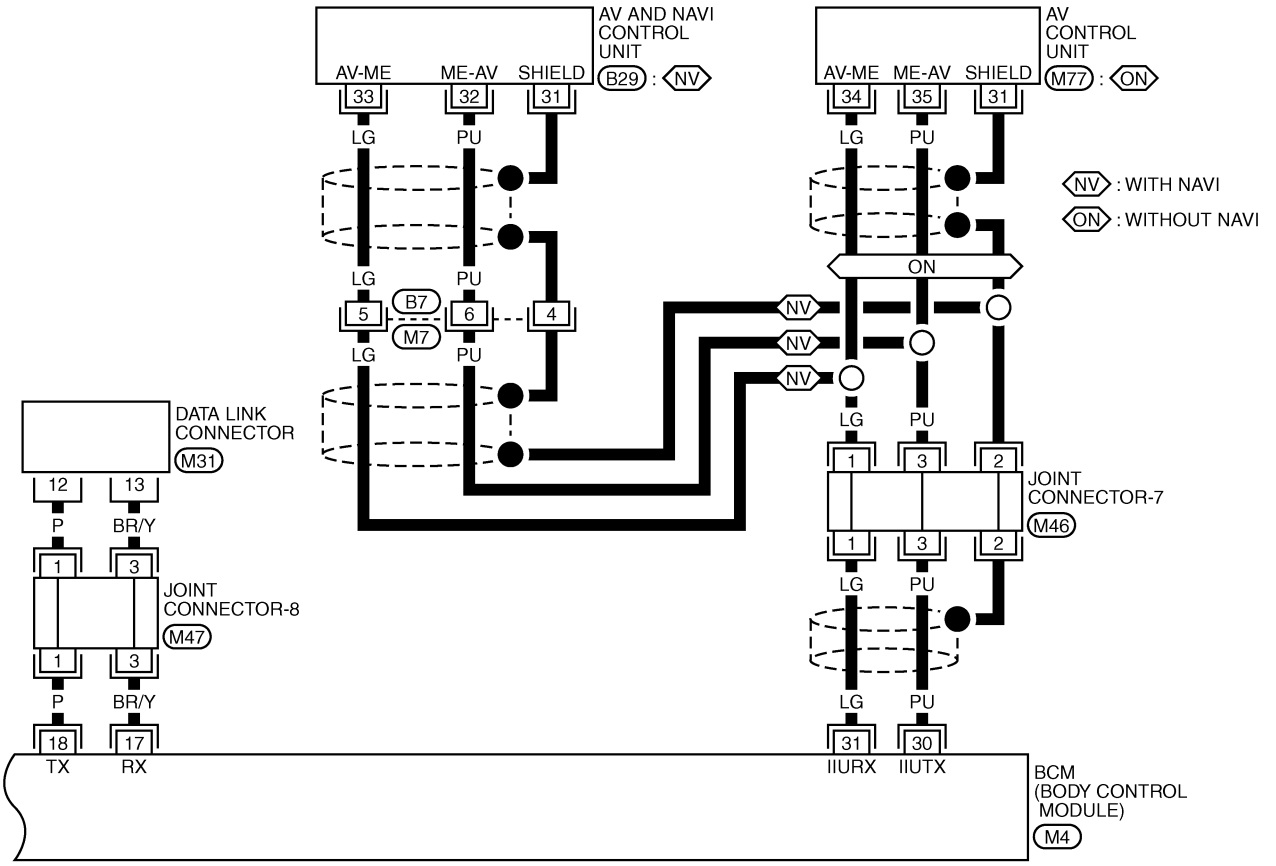
REFER TO THE FOLLOWING.

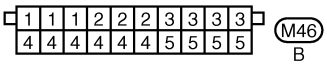
D1 -SUPER MULTIPLE JUNCTION (SMJ)

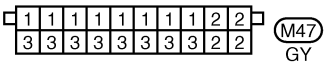
M1 , E203 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

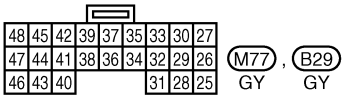
TKWM0416E

LT-ROOM/L-06









REFER TO THE FOLLOWING.
M4 -ELECTRICAL UNITS

TKWM0349E

Terminals and Reference Value for BCM

EKS00174

Terminal No.	Wire color	Signal description	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. 0V
					OFF (closed)	Battery voltage
37	W/G	Passenger door switch signal	OFF	Passenger door switch	ON (open)	Approx. 0V
					OFF (closed)	Battery voltage
56	B	Ground	—	—		—
60	L/OR	ACC power supply	ACC	—		Battery voltage
67	G/W	LAN communication	—	—		—
68	W/B	IGN power supply	ON	—		Battery voltage
69	PU/W	Key switch and key lock solenoid signal	OFF	Key withdrawn (OFF)		Approx. 0V
				Key inserted (ON)		Battery voltage
105	Y/L	BAT power supply	OFF	—		Battery voltage
110	SB	Ignition switch illumination signal	OFF	Turned OFF		Battery voltage
				Turned ON		Approx. 0V
113	B	Ground	—	—		—
129	G	Personal lamp switch signal	OFF	Personal lamp switch	One switch ON	Approx. 5V
					AUTO	Approx. 5V
					Both switch ON	Approx. 0V
130	W/L	Interior lamp ill switch ON signal	OFF	Interior lamp ill switch	ON	Approx. 0V
					AUTO	Approx. 5V
					OFF	Approx. 5V
131	G/Y	Interior lamp ill switch OFF signal	OFF	Interior lamp ill switch	ON	Approx. 5V
					AUTO	Approx. 5V
					OFF	Approx. 0V
133	Y/R	Map lamp LH signal	OFF	Turned OFF		Battery voltage
				Dimming		Approx. 8V
				Turned ON		Approx. 0V
137	OR	Personal lamp RH signal	OFF	Turned OFF		Battery voltage
				Dimming		Approx. 8V
				Turned ON		Approx. 0V
138	G/R	Personal lamp LH signal	OFF	Turned OFF		Battery voltage
				Dimming		Approx. 8V
				Turned ON		Approx. 0V
140	Y/B	Map lamp RH signal	OFF	Turned OFF		Battery voltage
				Dimming		Approx. 8V
				Turned ON		Approx. 0V

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

Terminals and Reference Value for Driver Door Control Unit (LCU01)

EKS000X0

Terminal No.	Wire color	Item	Condition	Voltage (Approximate values)
6	G/Y	Door unlock sensor	OFF (Locked) → ON (unlocked)	5V → 0V
8	G/W	Data line A-3	—	—
14	Y/G	Power source (PTC)	—	Battery voltage
15	B	Ground	—	0V

Work Flow

EKS000X1

1. Confirm the symptom or customer complaint.
2. Understand system description. Refer to LT-82, "System Description" .
3. Perform the preliminary check. Refer to LT-95, "Preliminary Check" .
4. Does the door lock system operate normally? When yes, go to step 5. When 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-101, "Symptom Chart" .
6. Does the total coordinated interior illumination operate normally? When yes, go to step 7. When no, go to step 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.

INSPECTION FOR POWER AND GROUND CIRCUIT

1. CHECK FUSE

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

Unit	Power source	Terminal	Fuse No.
BCM	Battery power supply	105	3
	ACC power supply	60	21
	IGN power supply	68	1

Refer to PG-2, "POWER SUPPLY ROUTING" .

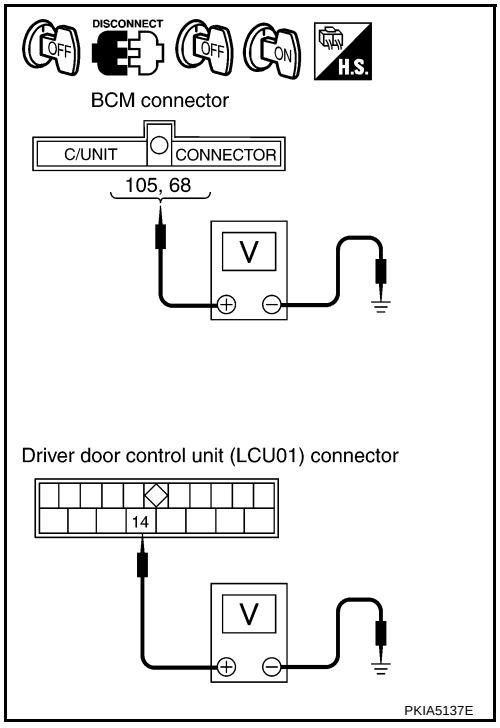
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

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.

Terminals			Ignition switch position	
(+)		(–)	OFF	ON
Connector	Terminal (Wire color)			
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



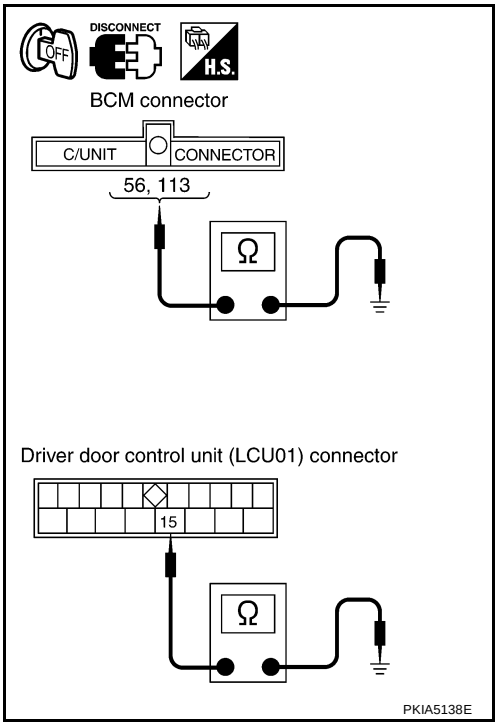
OK or NG

OK >> GO TO 3.
NG >> Check harness for open or short between BCM or driver door LCU and fuse.

3. CHECK GROUND CIRCUIT

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

Terminals			Continuity
Connector	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.

CONSULT-II Function

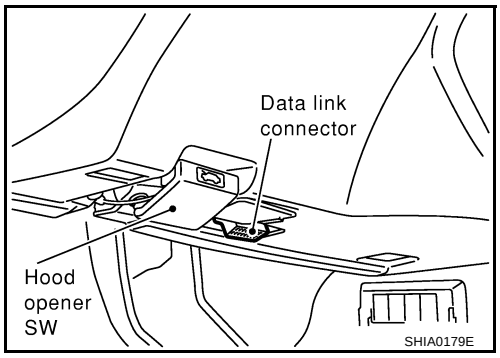
EKS000X3

- CONSULT-II performs the following functions communicating with the BCM.

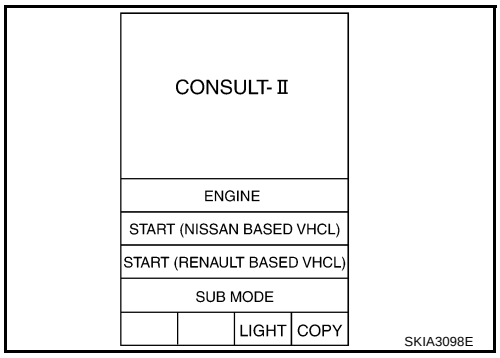
IVMS diagnosis position	Diagnosis mode	Description
Interior illumination	Work support	Changes setting of each function.
	Data monitor	Displays input data of the BCM and each LCU in real-time.
	Active test	Operation of electrical loads can be checked by sending driving signal to them.
BCM part number		Displays BCM part No.

CONSULT-II BASIC OPERATION PROCEDURE

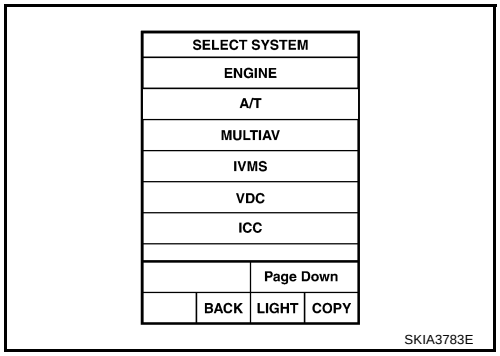
1. With the ignition switch OFF, connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector, then turn ignition switch ON.



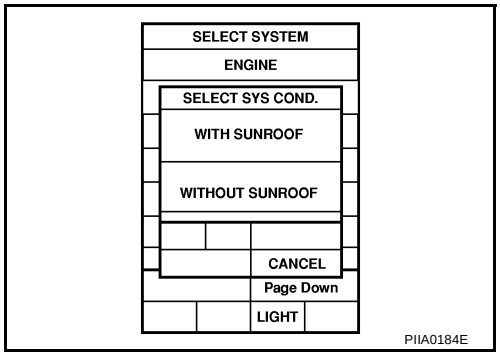
2. Touch “START (NISSAN BASED VHCL)”.



3. Touch “IVMS” on “SELECT SYSTEM” screen. If “IVMS” is not indicated, refer to GI-38, "CONSULT-II Data Link Connector (DLC) Circuit" .



4. Check the model specification, touch either “WITH SUNROOF” or “WITHOUT SUNROOF”.
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-95, "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 “DATA MONITOR” screen.

MAIN SIGNALS	Monitors the main items.
SELECTION FROM MENU	Selects and monitors the items.

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.
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. Touch “STOP” while testing and the operation will be stopped.

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 conducted with the lamp switch in AUTO position.

On Board Diagnosis

EKS000X4

ON BOARD DIAGNOSTIC RESULTS INDICATOR LAMP.

- Front map lamps and step lamps (all seats) act an the indicators for the on board diagnosis.

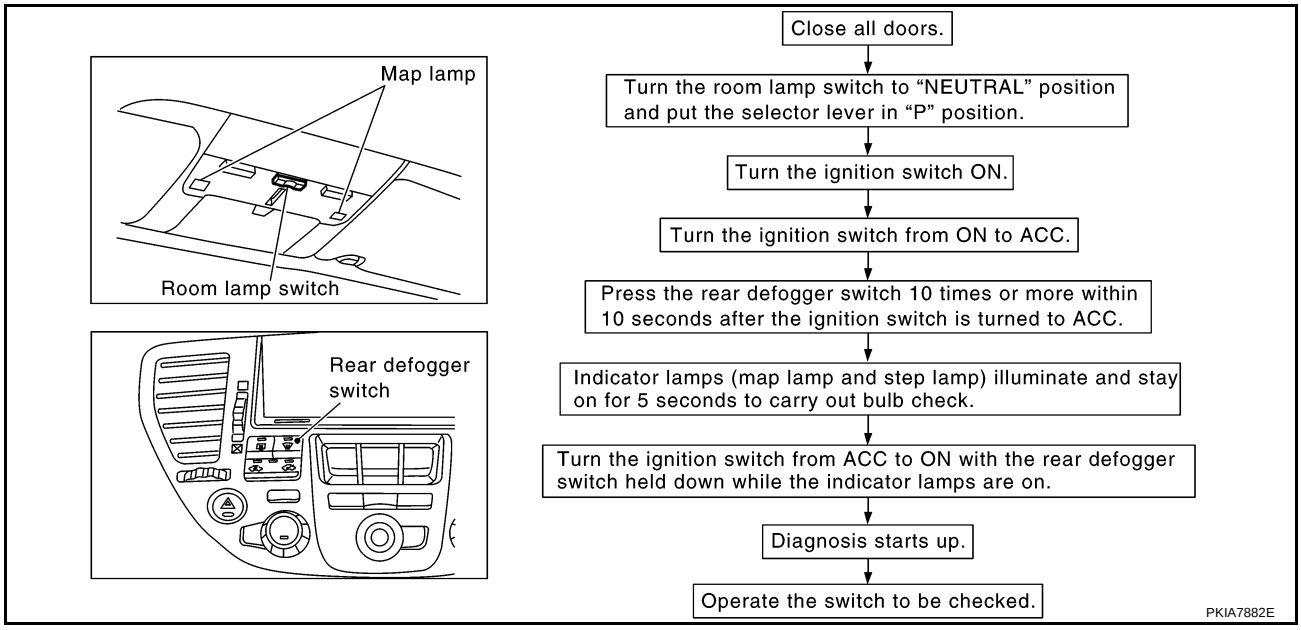
DIAGNOSIS ITEM

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

SWITCH MONITOR

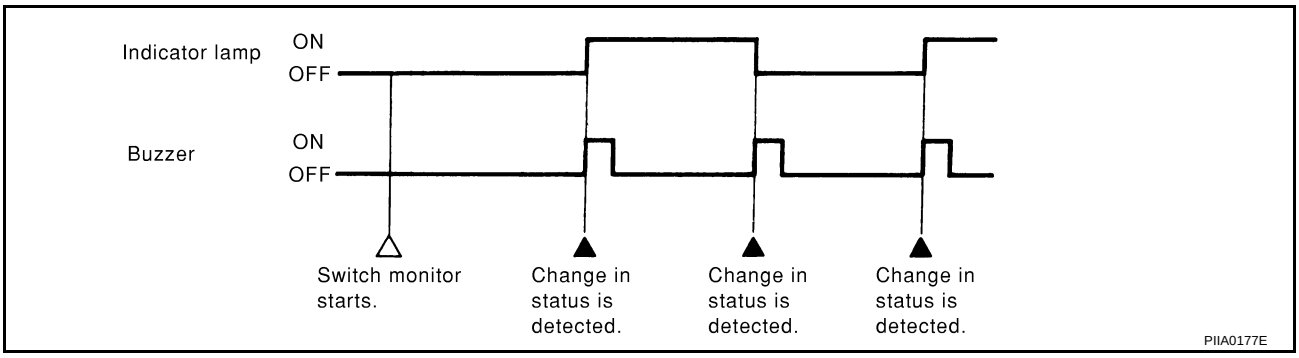
- Perform the diagnosis on the switch system to each control unit.

How to Perform Switch Monitor



Description

- In this mode, when BCM detects the input signal from a switch in IVMS as shown below, the detection is indicated by the map lamp and front step lamps with buzzer.



Switch Monitor Item

- The status of the switch (except the ignition switch, interior lamp ill 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

Cancel of Switch Monitor

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

EKS000X5

Symptom	Malfunctioning system and reference
● Map lamp, and personal lamp will not illuminate when the interior lamp ill switch is turned ON with the personal lamp switch in AUTO position. ● Map lamp, and personal lamp will not go out when the interior lamp ill switch is turned OFF with the personal lamp switch in AUTO position.	● Interior lamp ill switch system. Refer to LT-102, "Interior Lamp ILL Switch System Check" . If above systems are normal, replace the BCM.
● Personal lamp will not illuminate when RH personal lamp switch is turned ON with LH personal lamp switch in AUTO position. ● Personal lamp will not illuminate when LH personal lamp switch is turned ON with RH personal lamp switch in AUTO position. ● Personal lamp switch will not go out when both RH and LH personal lamp switches are turned to AUTO position.	● Personal lamp switch system. Refer to LT-103, "Personal Lamp Switch System Check" . If above system is normal, replace the BCM.
● All lamps (except step lamp) will not illuminate in the lamp illumination conditions with the interior lamp ill switch and RH and LH personal lamp switches in AUTO position. ● 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.	● Interior lamp ill switch system. Refer to LT-102, "Interior Lamp ILL Switch System Check" . ● Door switch system. Refer to LT-104, "Door Switch System Check" . ● Key-in detection switch system. Refer to LT-106, "Key Switch and Key Lock Solenoid System Check" . If above system is normal, replace the BCM.
● Lamps illuminate fully in half illumination conditions. ● Dimming function will not operate when turning the lamp off.	Replace the BCM.*1

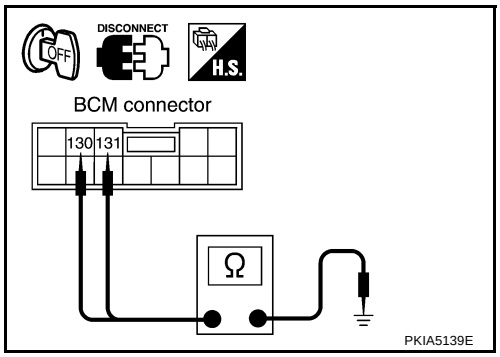
*1**: When BCM input/output signal are normal** .

Interior Lamp ILL Switch System Check

EKS000X6

1. CHECK INTERIOR LAMP ILL SWITCH SIGNAL

1. Turn ignition switch OFF.
2. Disconnect the BCM connector.
3. Check continuity between BCM harness connector and ground while operating interior lamp ill switch.



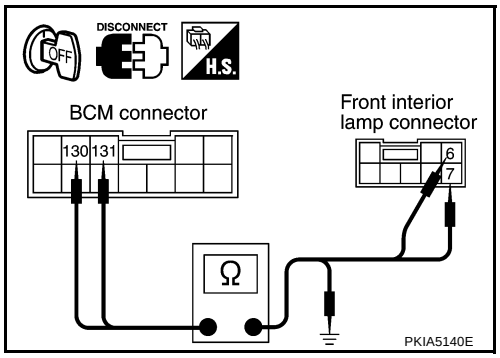
Terminals			Condition	Continuity
Connector	Terminal (Wire color)			
R4	130 (`W/L)	Ground	Interior lamp switch ON	Yes
			Interior lamp switch OFF and AUTO	No
	131 (G/Y)		Interior lamp switch OFF	Yes
			Interior lamp switch OFF and AUTO	No

OK or NG

OK >> Interior lamp ill switch is OK.
NG >> GO TO 2.

2. CHECK WIRE HARNESS CONTINUITY

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



Terminals				Continuity
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
R4	130 (W/L)	R6	6 (W/L)	Yes
	131 (G/Y)		7 (G/Y)	No
	130 (W/L)	Ground		No
	131 (G/Y)			

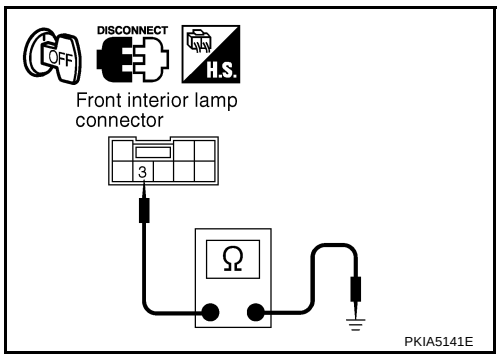
OK or NG

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 ill switch.
NG >> Repair or replace harness.

Personal Lamp Switch System Check

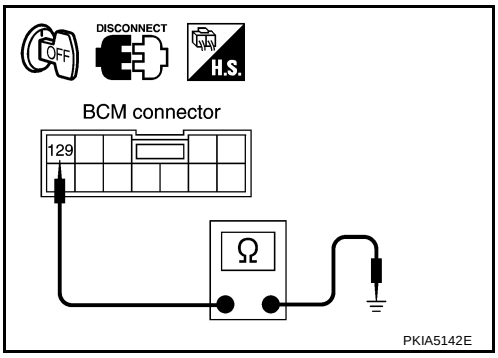
EKS000X7

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 exists.

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



OK or NG

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

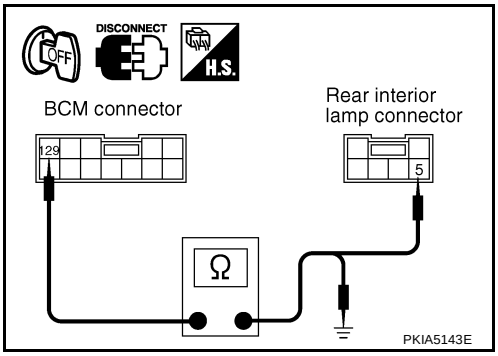
2. CHECK WIRE HARNESS CONTINUITY

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.



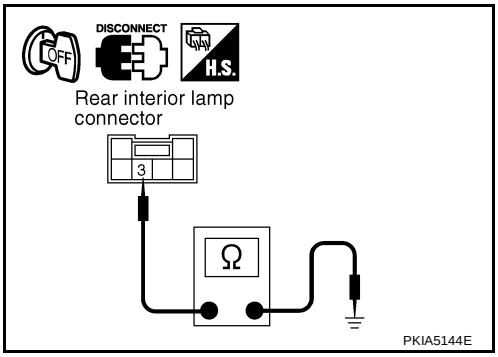
OK or NG

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.

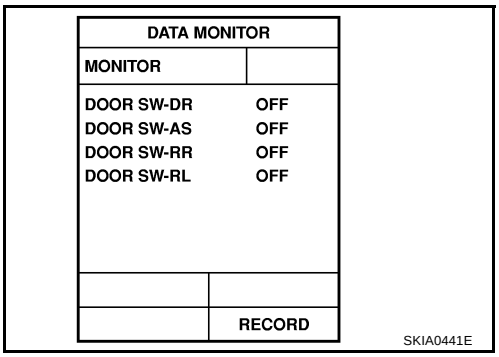
Door Switch System Check

EKS006ZN

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.



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.

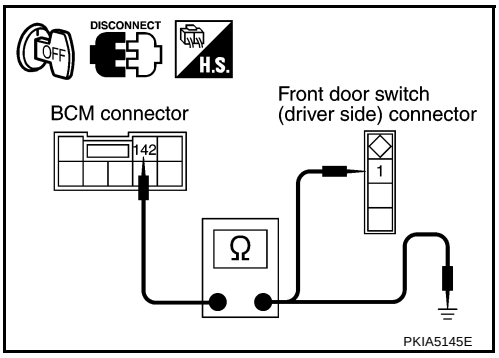
2. CHECK FRONT DOOR SWITCH (DRIVER SIDE) CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and front door switch (driver side) connector.
3. Check continuity between BCM harness connector B4 terminal 142 (W/R) and front door switch (driver side) harness connector B20 terminal 1 (W/R).

   142 (W/R) - 1 (W/R) : Continuity should exist.

4. Check continuity between BCM harness connector B4 terminal 142 (W/R) and ground.

   142 (W/R) - Ground : Continuity should not exist.



NOTE:
If front door switch (driver side) is normal, skip this procedure and go to 3.

OK or NG

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

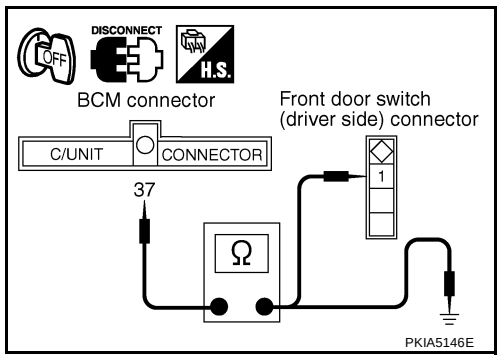
3. CHECK FRONT DOOR SWITCH (PASSENGER SIDE) CIRCUIT

1. Disconnect front door switch (passenger side) connector.
2. Check continuity between BCM harness connector M4 terminal 37 (W/G) and front door switch (passenger side) harness connector B220 terminal 1 (W/G).

37 (W/G) - 1 (W/G) : Continuity should exist.

3. Check continuity between BCM harness connector M4 terminal 37 (W/G) and ground.

37 (W/G) - Ground : Continuity should not exist.



NOTE:
If front door switch (passenger side) is normal, skip this procedure and go to 4.

OK or NG

OK >> GO TO 4.
NG >> Repair harness or connector.

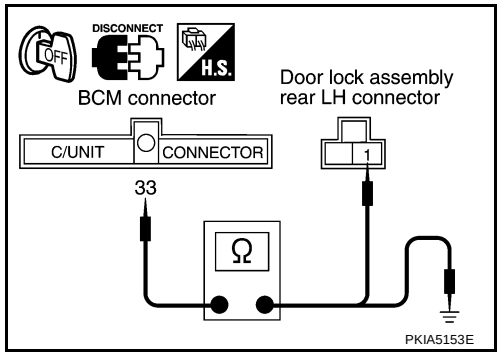
4. CHECK DOOR LOCK ASSEMBLY REAR LH (DOOR SWITCH) CIRCUIT

1. Disconnect door lock assembly rear LH connector.
2. Check continuity between BCM harness connector M4 terminal 33 (W) and door lock assembly rear LH harness connector D62 terminal 1 (W).

33 (W) - 1 (W) : Continuity should exist.

3. Check continuity between BCM harness connector M4 terminal 33 (W) and ground.

33 (W) - Ground : Continuity should not exist.



NOTE:
If door lock assembly rear LH (door switch) is normal, skip this procedure and go to 5.

OK or NG

OK >> GO TO 5.
NG >> Repair harness or connector.

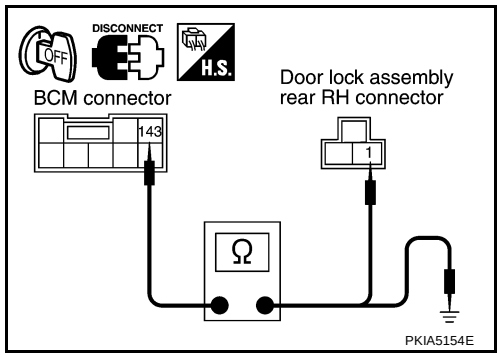
5. CHECK DOOR LOCK ASSEMBLY REAR RH (DOOR SWITCH) CIRCUIT

1. Disconnect door lock assembly rear RH connector.
2. Check continuity between BCM harness connector B4 terminal 143 (W/L) and door lock assembly rear RH harness connector D82 terminal 1 (W).

143 (W/L) - 1 (W) : Continuity should exist.

3. Check continuity between BCM harness connector B4 terminal 143 (W/L) and ground.

143 (W/L) - Ground : Continuity should not exist.



NOTE:
If door lock assembly rear RH (door switch) is normal, skip this procedure and go to 6.

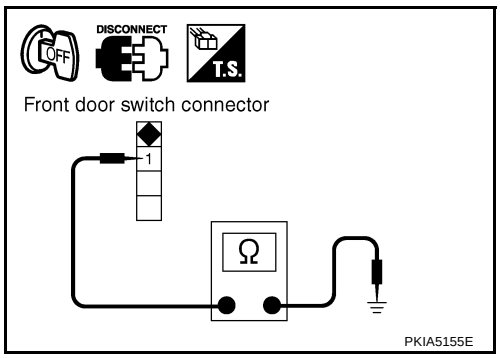
OK or NG

OK >> GO TO 6.
NG >> Repair harness or connector.

6. CHECK DOOR SWITCH

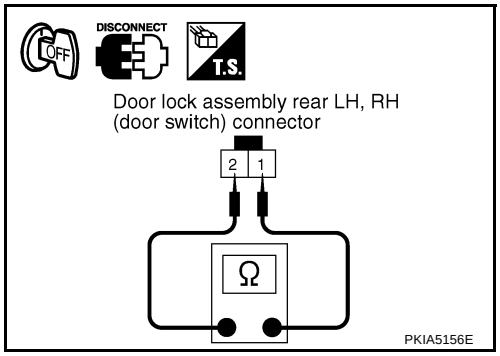
1. Check continuity between front door switch connector terminal and ground while turning door switches ON (open) and OFF (closed).

Connector	Terminal		Condition	Continuity
B20	1	Ground	ON (Door open)	Yes
B220			OFF (Door closed)	No



2. Check continuity between door lock assembly rear LH, RH (door switch) connector terminals while turning door switches ON (open) and OFF (closed).

Connector	Terminal		Condition	Continuity
D62	1	2	ON (Door open)	Yes
D82			OFF (Door closed)	No



OK or NG

OK >> Check front door switch case ground condition or door lock assembly rear LH, RH (door switch) ground circuit.

NG >> Replace the door switch.

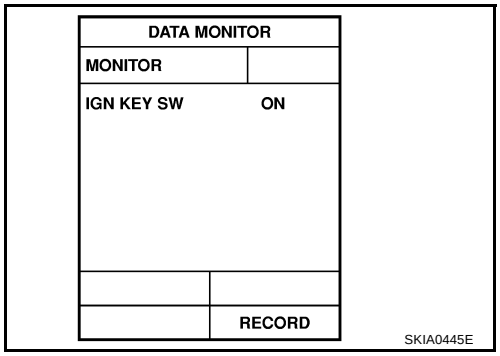
Key Switch and Key Lock Solenoid System Check

EKS000X9

1. CHECK KEY SWITCH AND KEY LOCK SOLENOID SIGNAL

With CONSULT-II

- Insert and withdrawn the key via “IGN KEY SW” on DATA MONITOR screen and check that switch turns on and off accordingly.

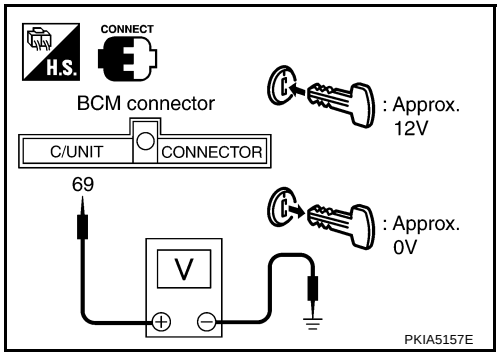


Without CONSULT-II

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

Key withdrawn (switch OFF) : approx. 0V

Key inserted (switch ON) : approx. 12V



OK or NG

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

NG >> GO TO 2.

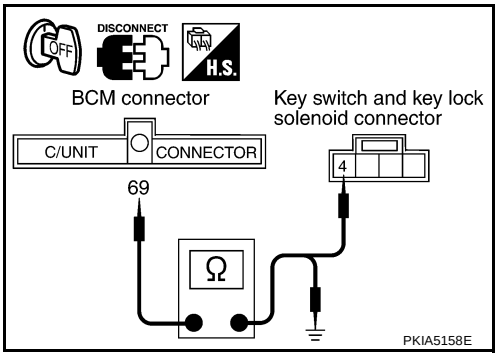
2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM connector and key switch connector.
3. Check continuity at harness 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

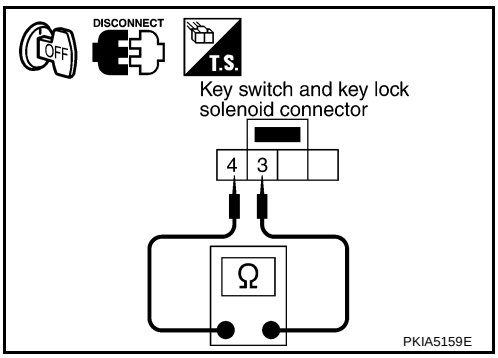
OK >> GO TO 3.
NG >> Repair or replace harness.

3. CHECK KEY SWITCH AND KEY LOCK SOLENOID

Check continuity between key switch and key lock solenoid connector M64 terminals 3 (L) and 4 (PU/W) while inserting and withdrawing the ignition key.

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

Key inserted (switch ON) : Continuity should exist.



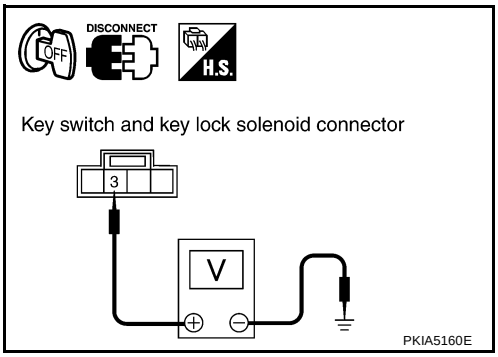
OK or NG

OK >> GO TO 4.
NG >> Replace key switch and key key lock solenoid.

4. CHECK POWER SUPPLY CIRCUIT

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

3 (L) - Ground : Battery voltage should exist.



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.

Bulb Replacement

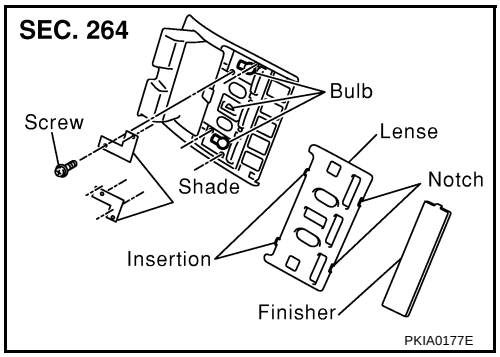
EKS000WN

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

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

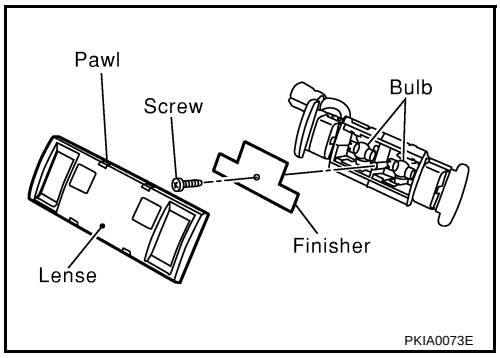
1. Remove the front interior lamp. Refer toLT-108, "FRONT INTERIOR LAMP" .
2. Turn the console lamp bulb socket counterclockwise and unlock it.

Console lamp (Console light) : 12V 1.4W

PERSONAL LAMP (REAR PERSONAL LIGHT)

1. Remove the rear interior lamp. Refer to LT-108, "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

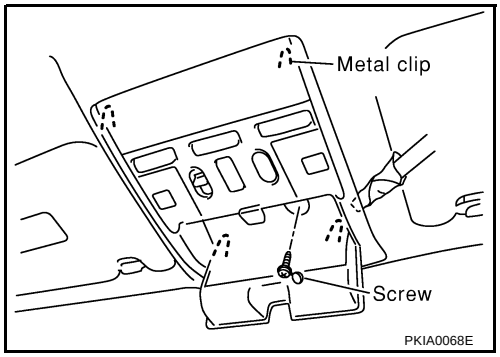


Removal and Installation

EKS000U4

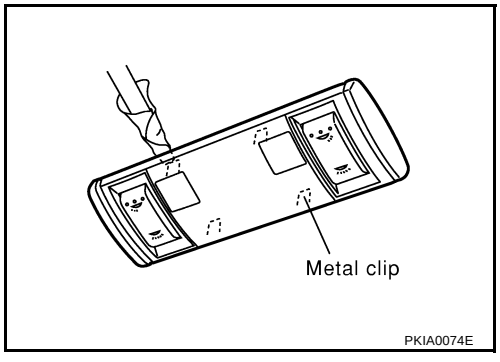
FRONT INTERIOR LAMP

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

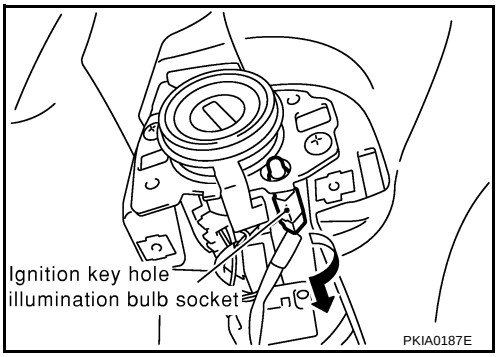
1. Using a clip driver or a suitable tool, press and remove the metal clip of the rear interior lamp.
2. Disconnect the rear interior lamp connector.



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

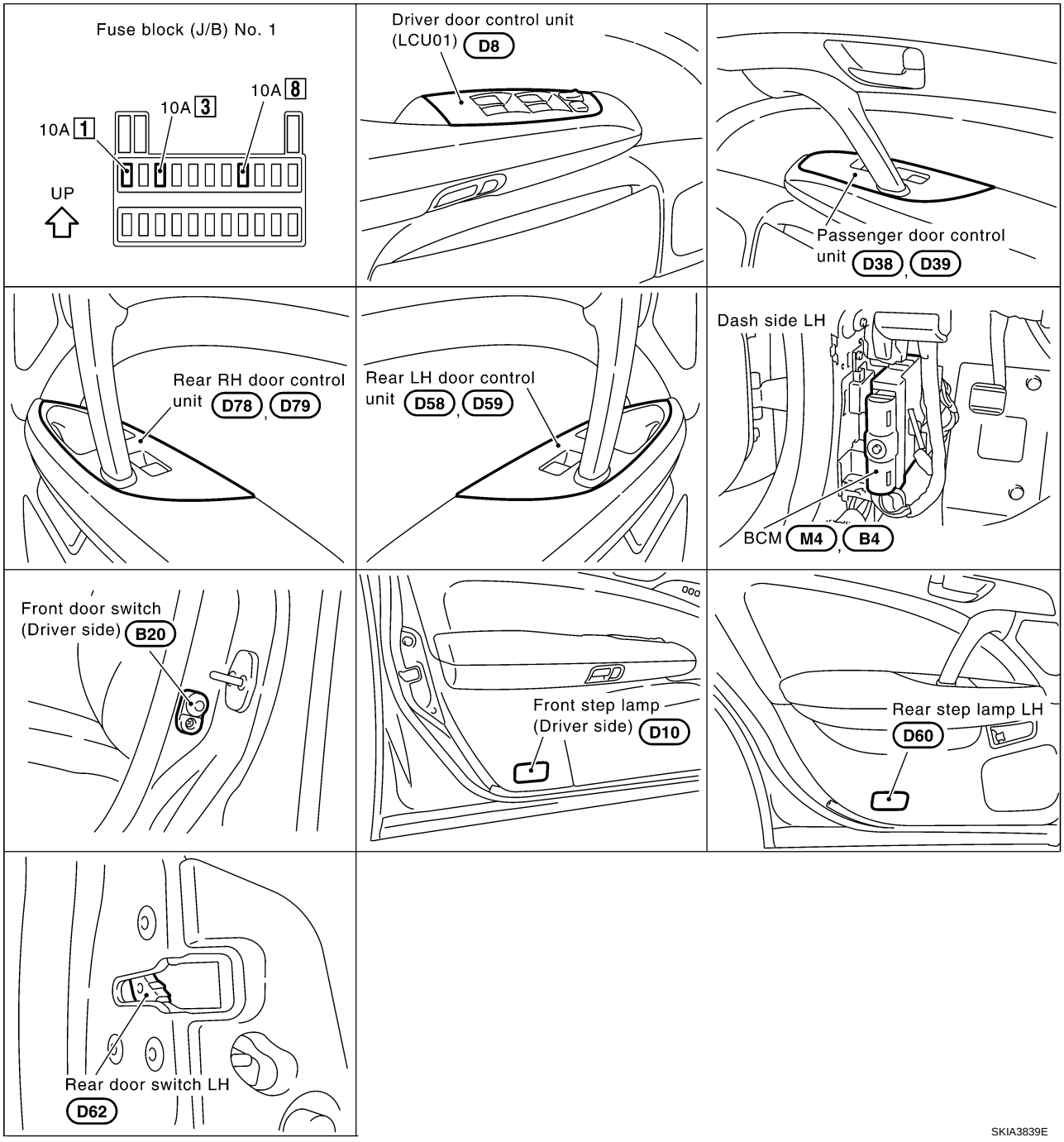


STEP LAMP

PFP:26420

Component Parts and Harness Connector Location

EKS000ZR



System Description

EKS0017S

POWER SUPPLY AND GROUND

Power is supplied at all times

- to BCM 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].

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.

OPERATING PROCEDURE

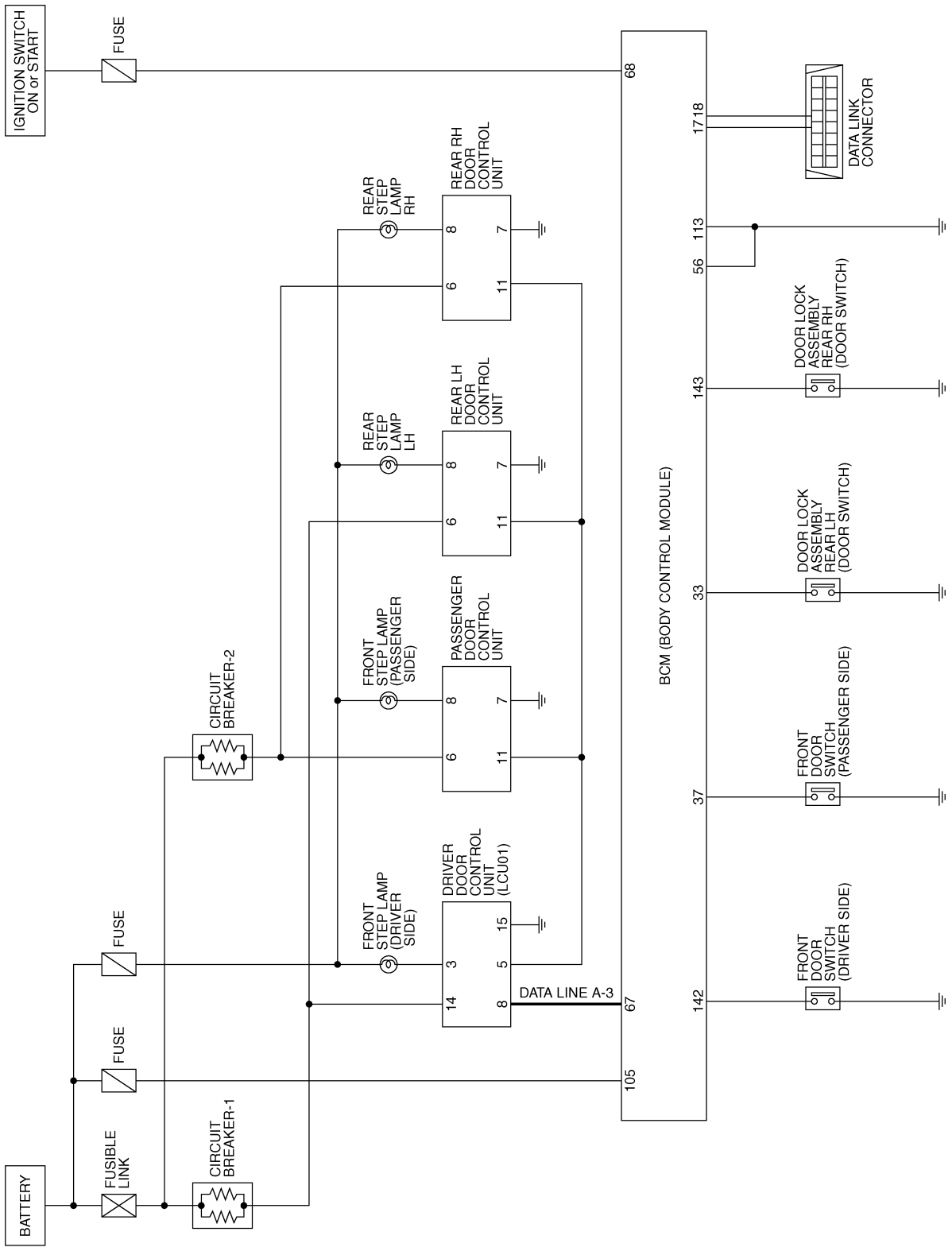
BCM is connected to driver door control unit as DATA LINE A-3.
Then driver door control unit is connected to each door control unit.
When any door switch is in OPEN position, ground is supplied

- 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.

Schematic

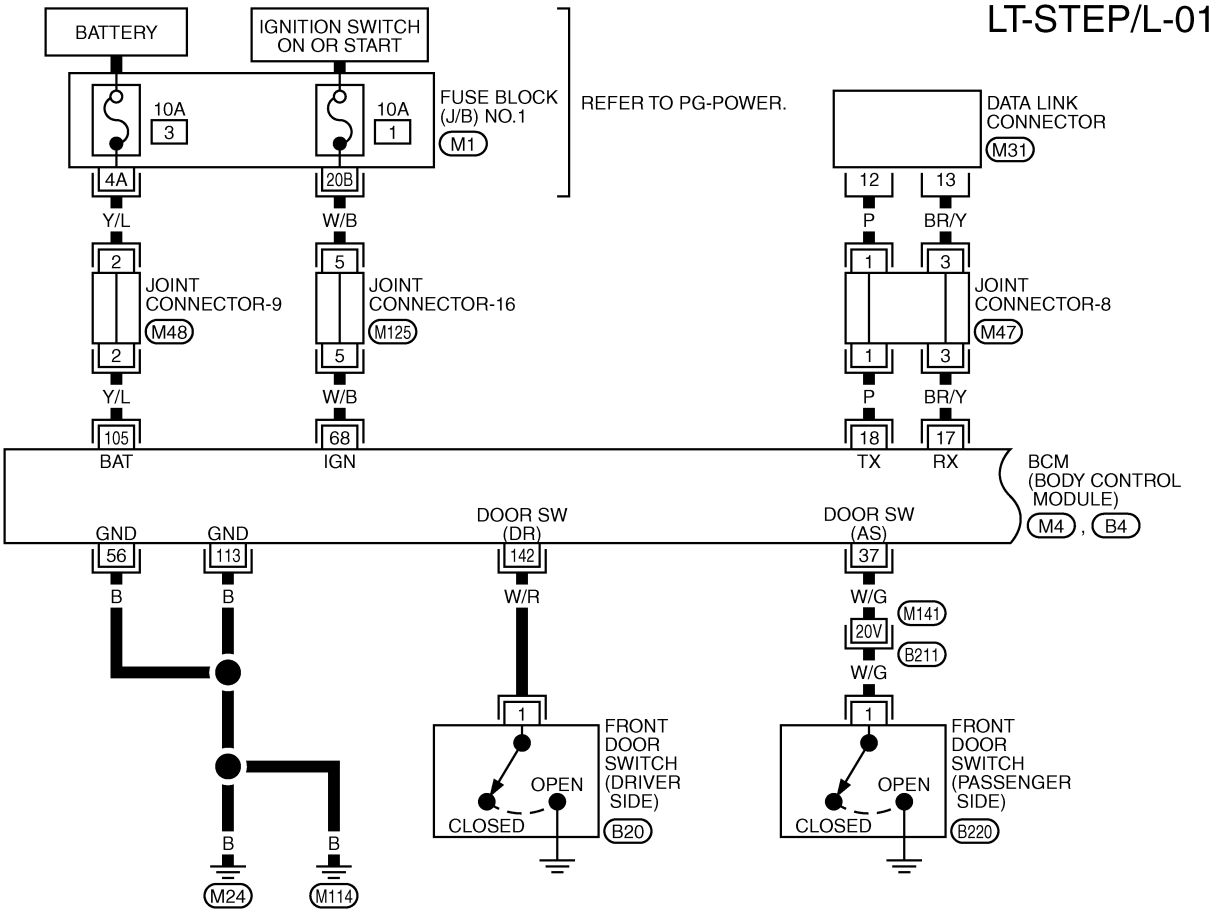
EKS000V9

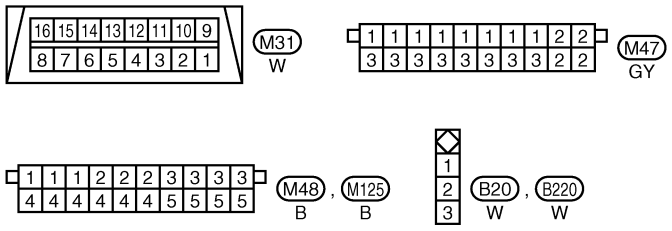


TKWM0205E

Wiring Diagram — STEP/L —

EKS000VA





REFER TO THE FOLLOWING.

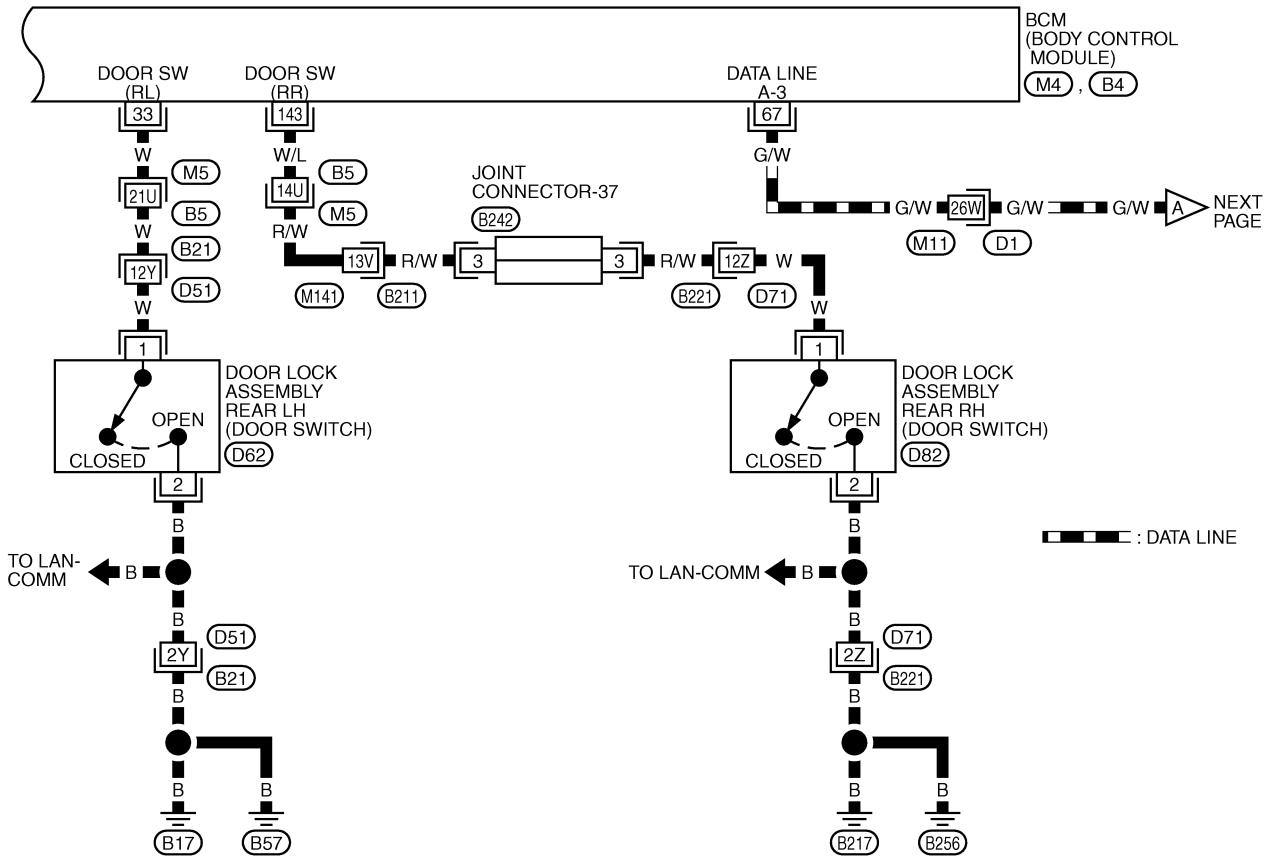
B211 -SUPER MULTIPLE JUNCTION (SMJ)

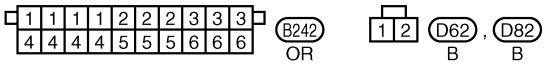
M1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

M4 , B4 -ELECTRICAL UNITS

TKWM0417E

LT-STEP/L-02

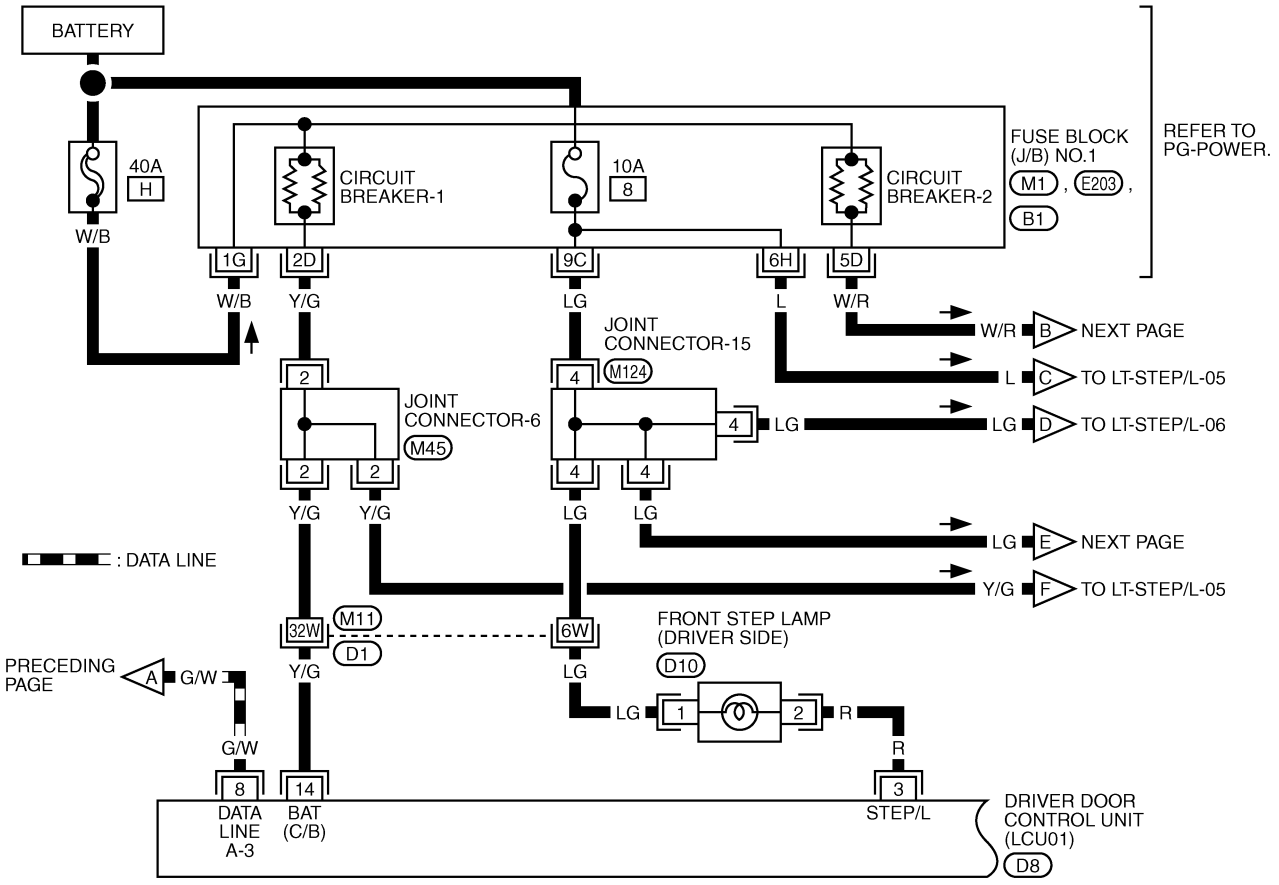


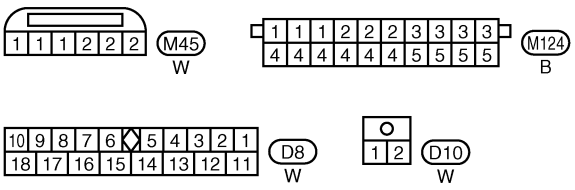


REFER TO THE FOLLOWING.
M5 , B21 , B211 , B221 ,
D1 -SUPER MULTIPLE JUNCTION (SMJ)
M4 , B4 -ELECTRICAL UNITS

TKWM0418E

LT-STEP/L-03

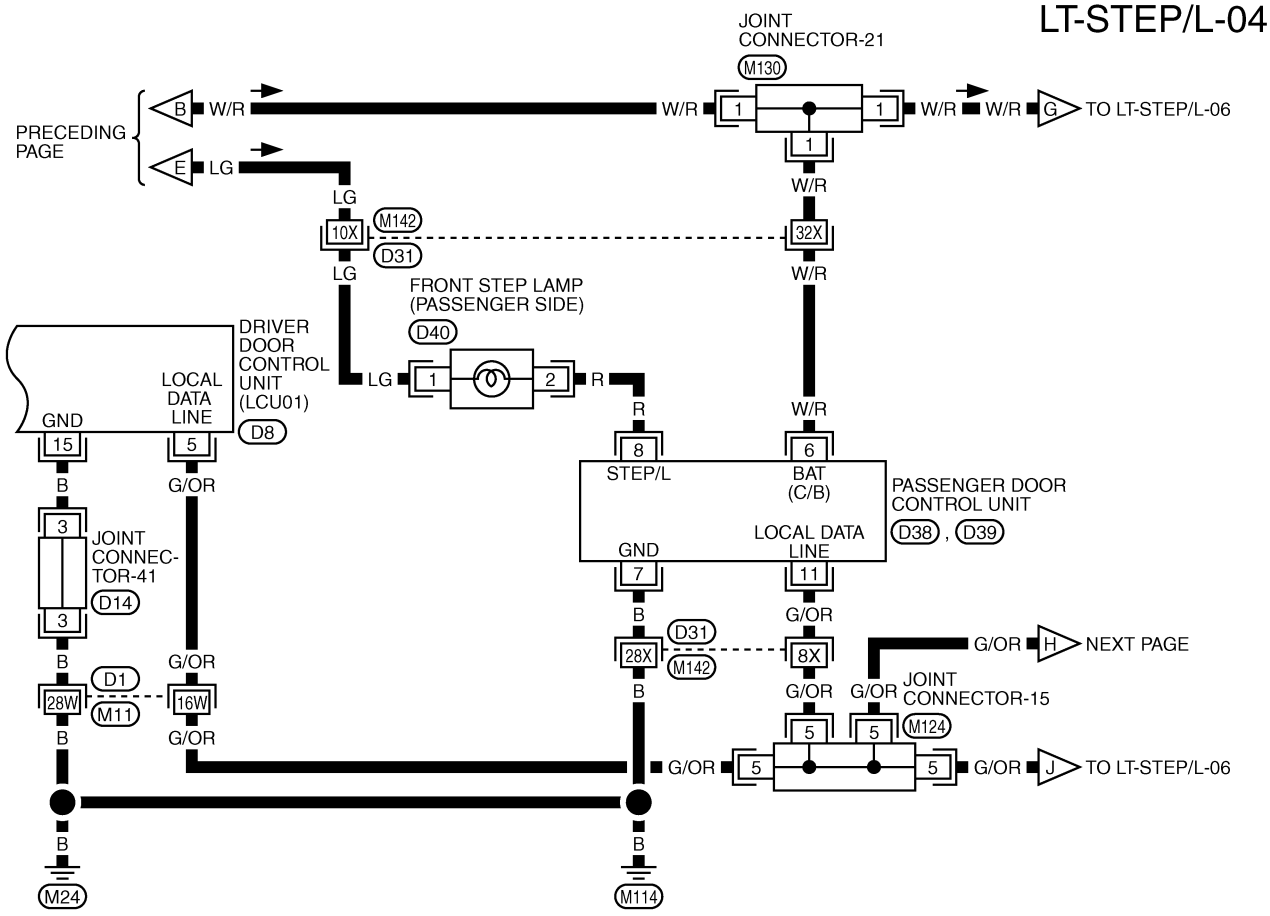


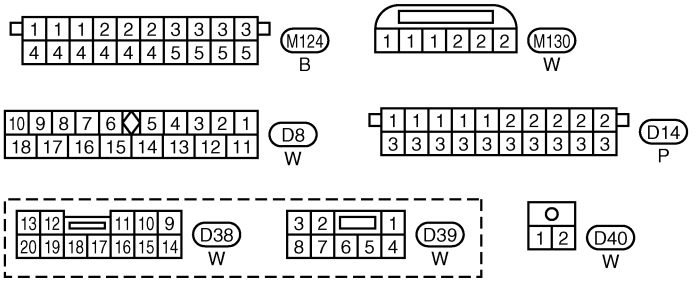


REFER TO THE FOLLOWING.
D1 -SUPER MULTIPLE JUNCTION (SMJ)
M1 , E203 , B1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM0056E

LT-STEP/L-04

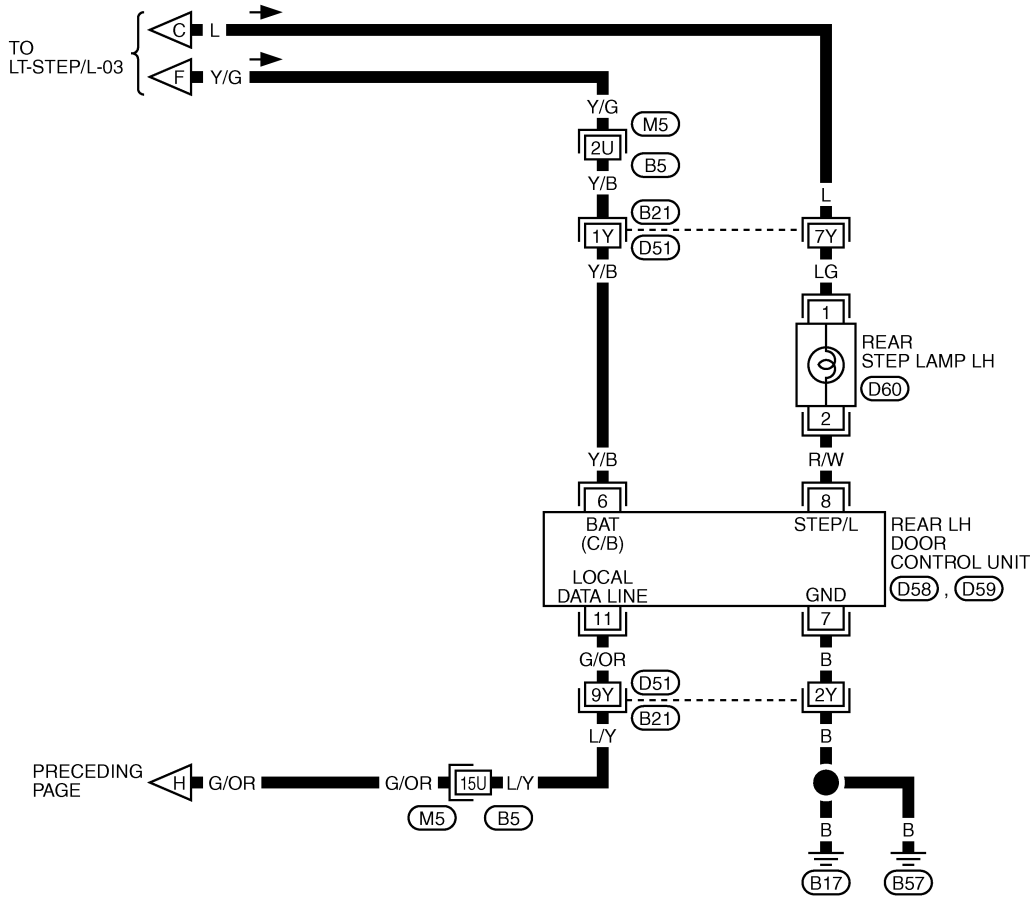


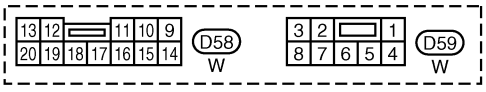


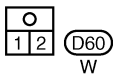
REFER TO THE FOLLOWING.
D1 , D31 -SUPER MULTIPLE JUNCTION (SMJ)

TKWM0419E

LT-STEP/L-05



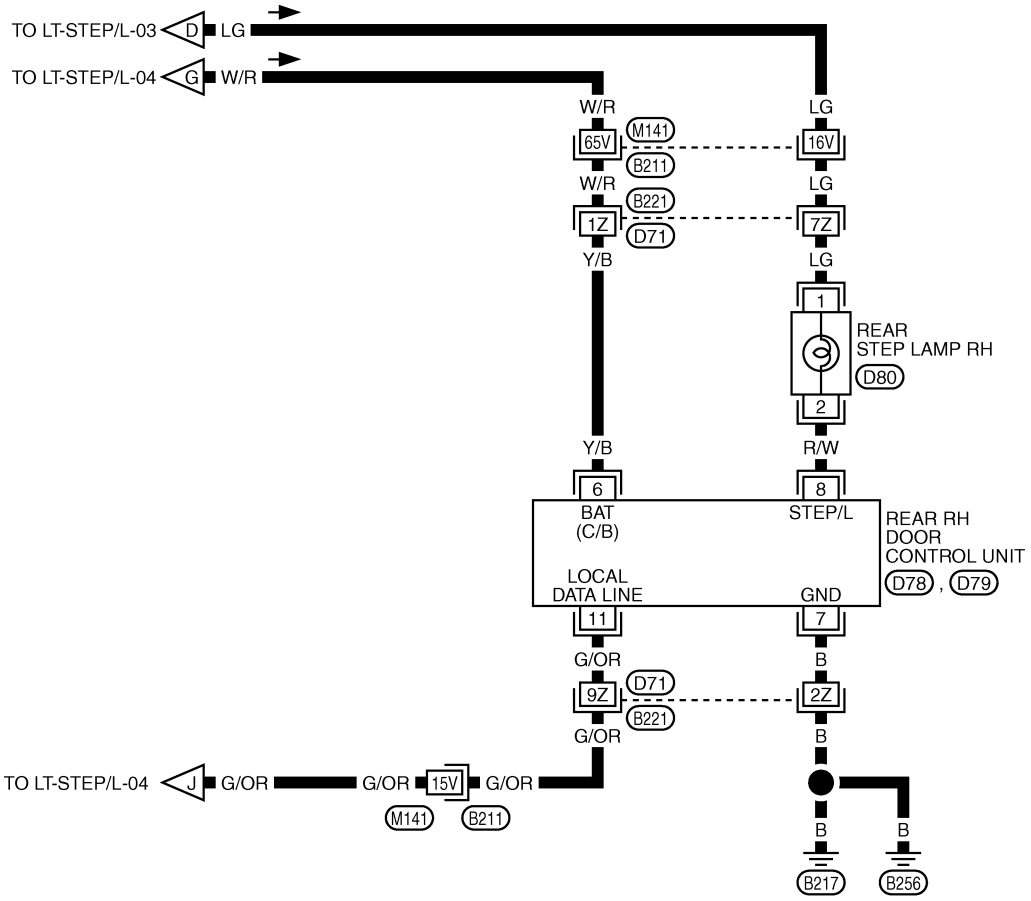


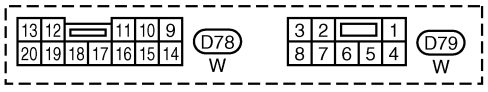


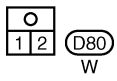
REFER TO THE FOLLOWING.
M5 , B21 -SUPER MULTIPLE JUNCTION (SMJ)

TKWM0420E

LT-STEP/L-06







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

TKWM0421E

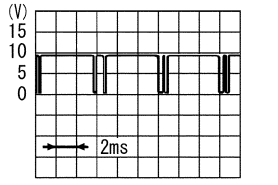
Terminals and Reference Value for BCM

EKS0017T

Terminal No.	Wire color	Signal description	Measuring condition			Reference value
			Ignition switch	Operation or condition		
17	BR/Y	Data link RX	—	—		—
18	P	Data link TX	—	—		—
33	W	Rear LH door switch signal	OFF	Rear LH door switch	ON (open)	Less than 1V
					OFF (closed)	Battery voltage
37	W/G	Passenger door switch signal	OFF	Passenger door switch	ON (open)	Less than 1V
					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	BAT power supply	OFF	—		Battery voltage
113	B	Ground	—	—		—
142	W/R	Driver door switch signal	OFF	Driver door switch	ON (open)	Less than 1V
					OFF (closed)	Battery voltage
143	W/L	Rear RH door switch signal	OFF	Rear RH door switch	ON (open)	Less than 1V
					OFF (closed)	Battery voltage

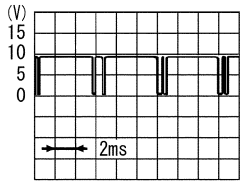
Terminals and Reference Value for Driver Door Control Unit (LCU01)

EKS0017U

Terminal No.	Wire color	Item	Condition		Voltage
3	R	Step lamp	Each door switch	ON (open)	Less than 1V
				OFF (closed)	Battery voltage
5	G/OR	Local data line	—		 SIIA0591J
8	G/W	Data line A-3	—		—
14	Y/G	Power source (PTC)	—		Battery voltage
15	B	Ground	—		Less than 1V

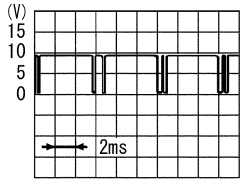
Terminals and Reference Value for Passenger Door Control Unit

EKS001G7

Terminal No.	Wire color	Item	Condition		Voltage
6	W/R	Power source (PTC)	—		Battery voltage
7	B	Ground	—		Less than 1V
8	R	Step lamp	Each door switch	ON (open)	Less than 1V
				OFF (closed)	Battery voltage
11	G/OR	Local data line	—		 SIIA0591J

Terminals and Reference Value for Rear LH, RH Door Control Unit

EKS006PN

Terminal No.	Wire color	Item	Condition		Voltage
6	Y/B	Power source (PTC)	—		Battery voltage
7	B	Ground	—		Less than 1V
8	R/W	Step lamp	Each door switch	ON (open)	Less than 1V
				OFF (closed)	Battery voltage
11	G/OR	Local data line	—		 SIIA0591J

Work Flow

EKS0017V

1. Confirm the symptom or customer complaint.
2. Understand system description. Refer to LT-111, "System Description" .
3. Perform preliminary check. Refer to LT-121, "Preliminary Check" .
4. Does the door lock system operate normally? When yes, go to step 5. When 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-126, "Symptom Chart" .
6. Does the total coordinated interior illumination operate normally? When yes, GO TO step 7. When no, GO TO step 5.
7. INSPECTION END

Preliminary Check

EKS0017W

INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT

1. CHECK FUSE

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

Unit	Power source	Terminal	Fuse No.
BCM	BAT power supply	105	3
	IGN power supply	68	1

Refer to PG-2, "POWER SUPPLY ROUTING" .

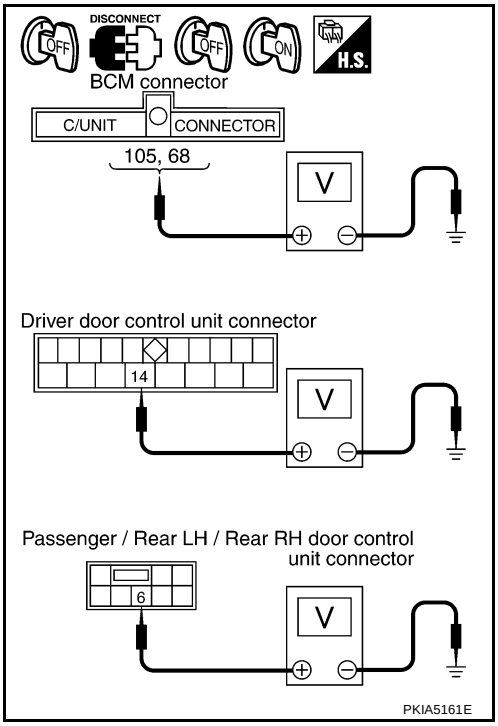
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown be sure eliminate cause of malfunction before installing new fuse.

2. CHECK POWER CIRCUIT

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

Terminals			Ignition switch position	
(+)		(–)	OFF	ON
Connector	Terminal (Wire color)			
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)			
Rear LH door control unit (D59)	6 (Y/B)			
Rear RH door control unit (D79)	6 (Y/B)			



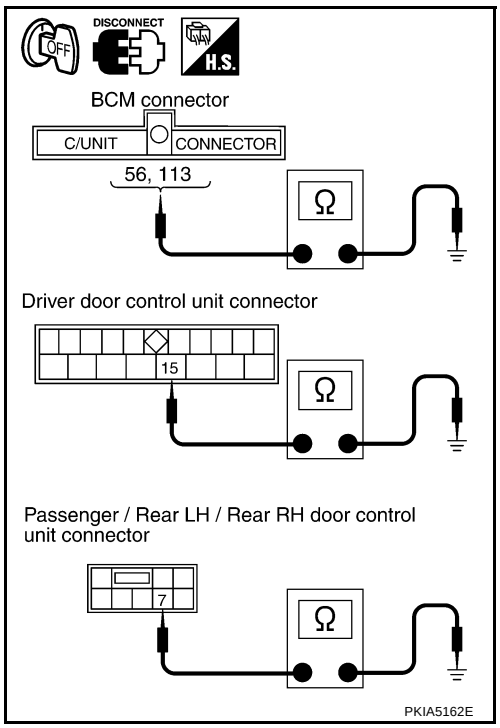
OK or NG

OK >> GO TO 3.
NG >> Check harness for open or short between BCM, driver door control unit, passenger door control unit, rear LH, RH door control unit and fuse.

3. CHECK GROUND CIRCUIT

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

Terminals			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.

CONSULT-II Function

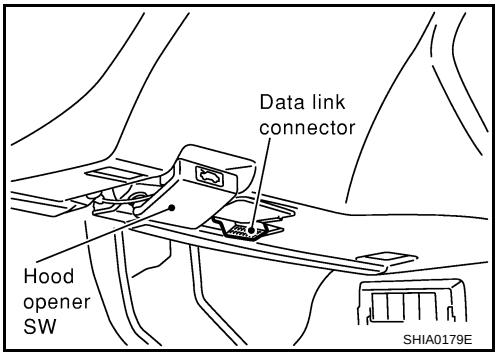
EKS0017Z

- CONSULT-II performs the following functions communicating with the BCM.

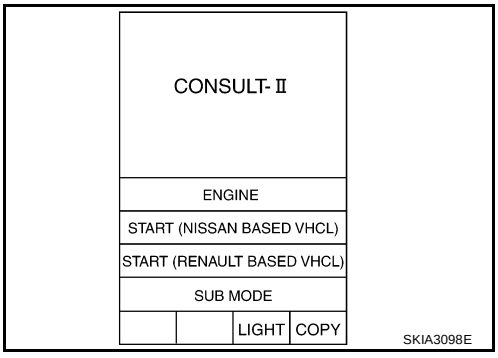
IVMS diagnosis position	Diagnosis mode	Description
Step lamp	Data monitor	Displays input data of the BCM and each LCU in real-time.
	Active test	Operation of electrical loads can be checked by sending driving signal to them.
BCM part number		Displays BCM part No.

CONSULT-II BASIC OPERATION PROCEDURE

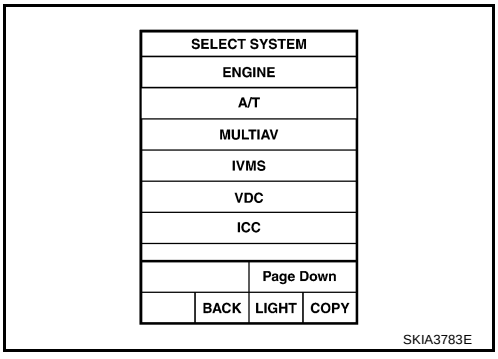
1. With the ignition switch OFF, connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector, then turn ignition switch ON.



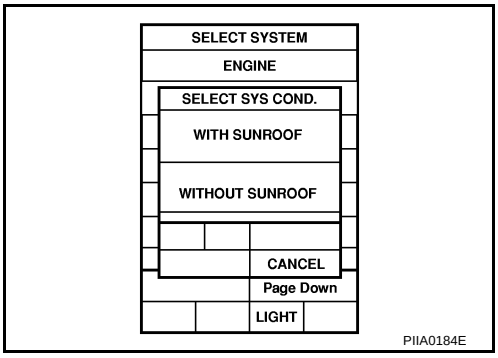
2. Touch “START(NISSAN BASED VHCL)”.



3. Touch “IVMS” on “SELECT SYSTEM” screen. If “IVMS” is not indicated, refer to GI-38, "CONSULT-II Data Link Connector (DLC) Circuit" .



4. Check the model specification, touch either “WITH SUNROOF” or “WITHOUT SUNROOF”.
5. Touch “OK”. If the selection is wrong, touch “CANCEL”.



6. Select the desired part to be diagnosed on the “SELECT TEST ITEM” screen.

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 “DATA MONITOR” screen.

MAIN SIGNALS	Monitors the main items.
SELECTION FROM MENU	Selects and monitors the items.

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”.

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.

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.

Active Test Item

Test items	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.

On Board Diagnosis

EKS00180

ON BOARD DIAGNOSTIC RESULTS INDICATOR LAMP.

- Map lamps and step lamps (all seats) act an the indicators for the on board diagnosis.

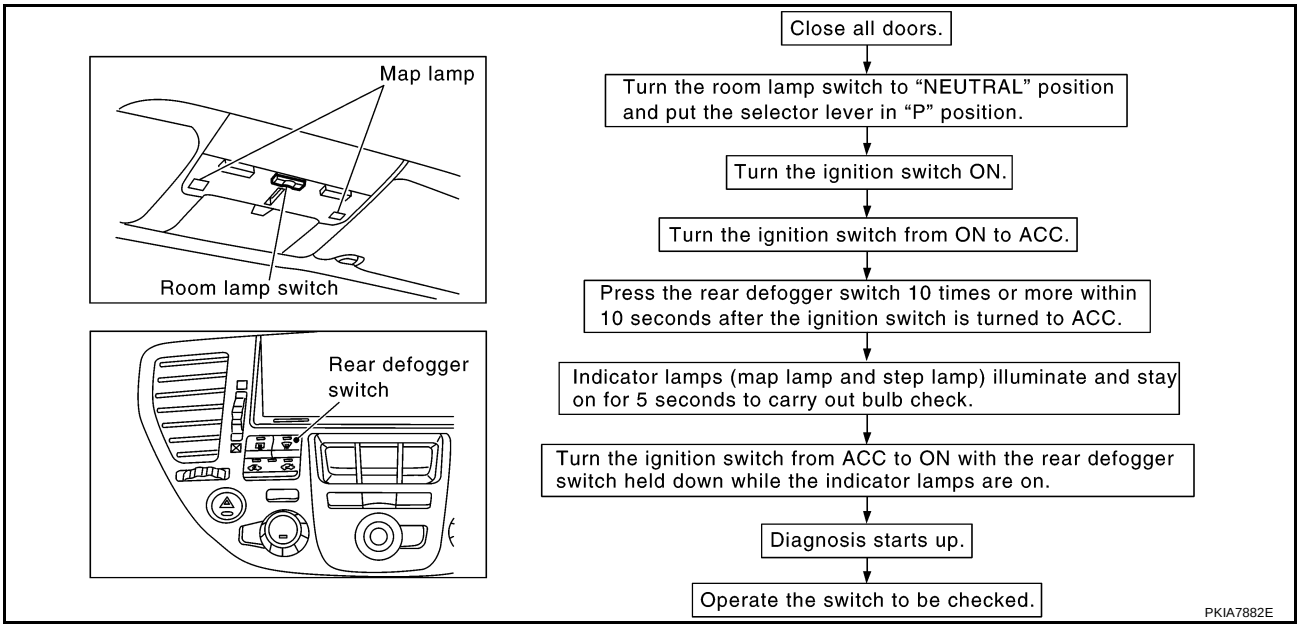
DIAGNOSIS ITEM

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

SWITCH MONITOR

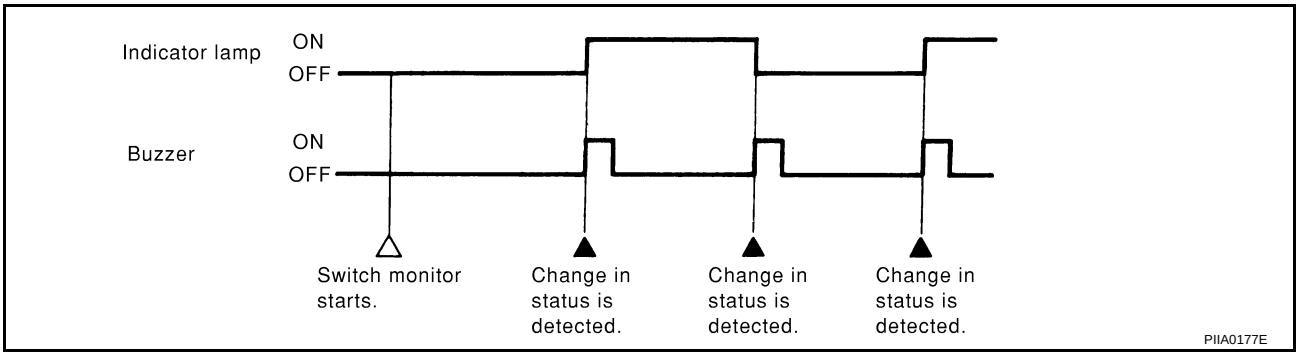
- Perform the diagnosis on the switch system to each control unit.

How to Perform Switch Monitor



Description

- In this mode, when BCM detects the input signal from a switch in IVMS as shown below, the detection is indicated by the map lamp and front step lamps with buzzer.



Switch Monitor Item

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

Control unit	Item
BCM	Each door switch

Cancel of Switch Monitor

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

EKS00181

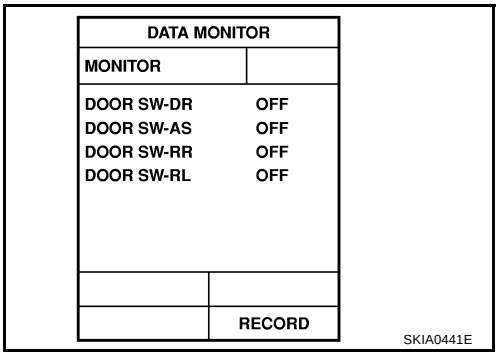
DIAGNOSTIC PROCEDURE

SYMPTOM: Step lamp does not illuminate/dose not go off when door is opened/closed.

1. CHECK DOOR SWITCH SIGNAL

With CONSULT-II

- Operate each door via “DOOR SW” on DATA MONITOR screen and check that switch turns on and off as commanded.



Without CONSULT-II

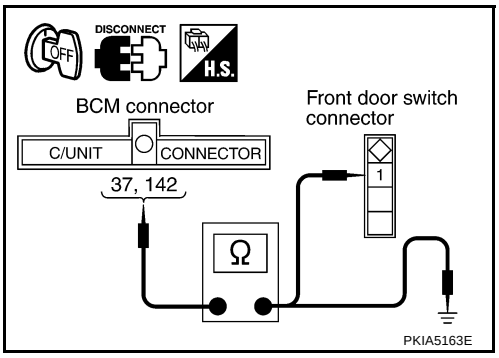
- Operate each door and via “switch monitor” of self-diagnosis function and check that switch turns on and off as commanded.

OK or NG

OK >> GO TO 5.
NG >> GO TO 2.

2. CHECK FRONT DOOR SWITCH HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect connectors BCM and front door switch.
3. Check continuity between BCM harness connector and door switches harness connectors.
4. Check continuity between BCM harness connector and ground.



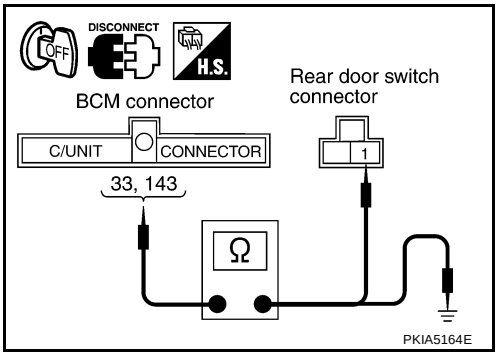
Terminals				Continuity
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
B4	142 (W/R)	B20	1 (W/R)	Yes
M4	37 (W/G)	B220	1 (W/G)	
B4	142 (W/R)	Ground		No
M4	37 (W/G)			

OK or NG

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

3. CHECK REAR DOOR SWITCH HARNESS CONTINUITY

1. Disconnect rear door switch connectors.
2. Check continuity between BCM harness connector and the door switches harness connectors.
3. Check continuity between BCM harness connector and ground.



Terminals				Continuity
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M4	33 (W)	D62	1 (W)	Yes
B4	143 (W/L)	D82	1 (W)	
M4	33 (W)	Ground		No
B4	143 (W/L)			

OK or NG

OK >> GO TO 4.
NG >> Repair or replace harness.

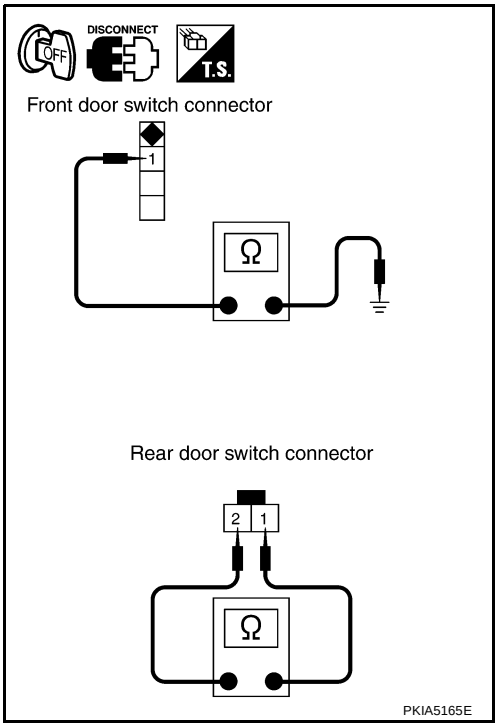
4. CHECK DOOR SWITCH

Check continuity between front door switch connector and ground, and rear door switch connector between terminal 1 and 2 while turning door switches ON (open) and OFF (closed).

Terminals			Condition	Continuity
Connector	Terminal (Wire color)	Terminal (Wire color)		
B20	1 (W/R)	Ground	ON (Open)	Yes
B220	1 (W/G)		OFF (Closed)	No
D62	1	2	ON (Open)	Yes
D82			OFF (Closed)	No

OK or NG

OK >> Check door switch ground circuit or door switch ground condition.
NG >> Replace door switch.



5. CHECK BULB

Check step lamp bulb.

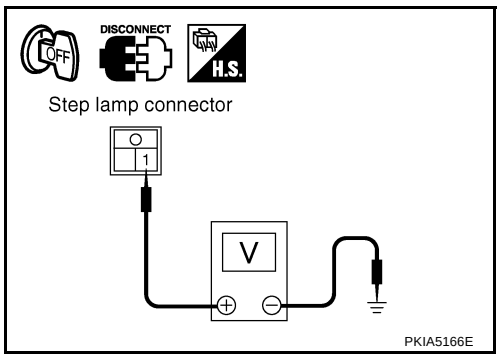
OK or NG

OK >> GO TO 6.
NG >> Replace bulb.

6. 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 should exist.



OK or NG

OK >> Check harness for open or short between step lamp and door control unit.

NG >> **Check the following.**

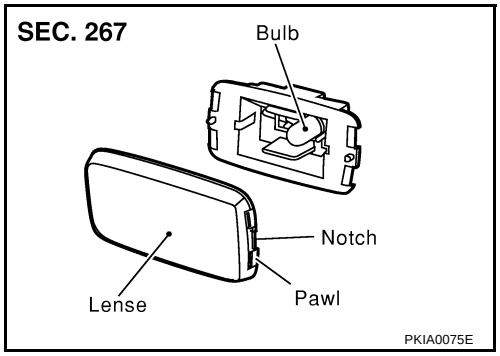
- 10A fuse [No. 8, located in fuse block (J/B) No. 1]
- Harness for open or short between fuse and step lamp.

Bulb Replacement

EKS00182

1. Remove the step lamp. Refer to LT-128, "Removal and Installation" in “Step Lamp”.
2. Insert a screwdriver in the notch and remove the lens.
3. Remove the bulb.

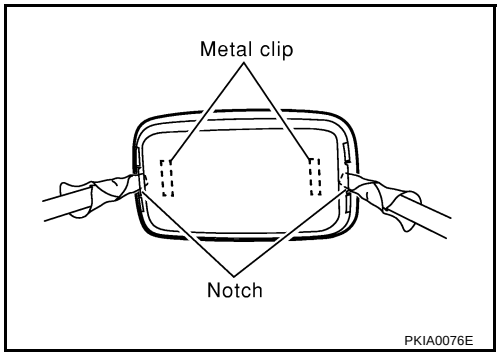
Step lamp : 12V 2.7W



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.



DOOR MIRROR LAMP

PFP:96301

System Description

EKS006RU

The door mirror 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]

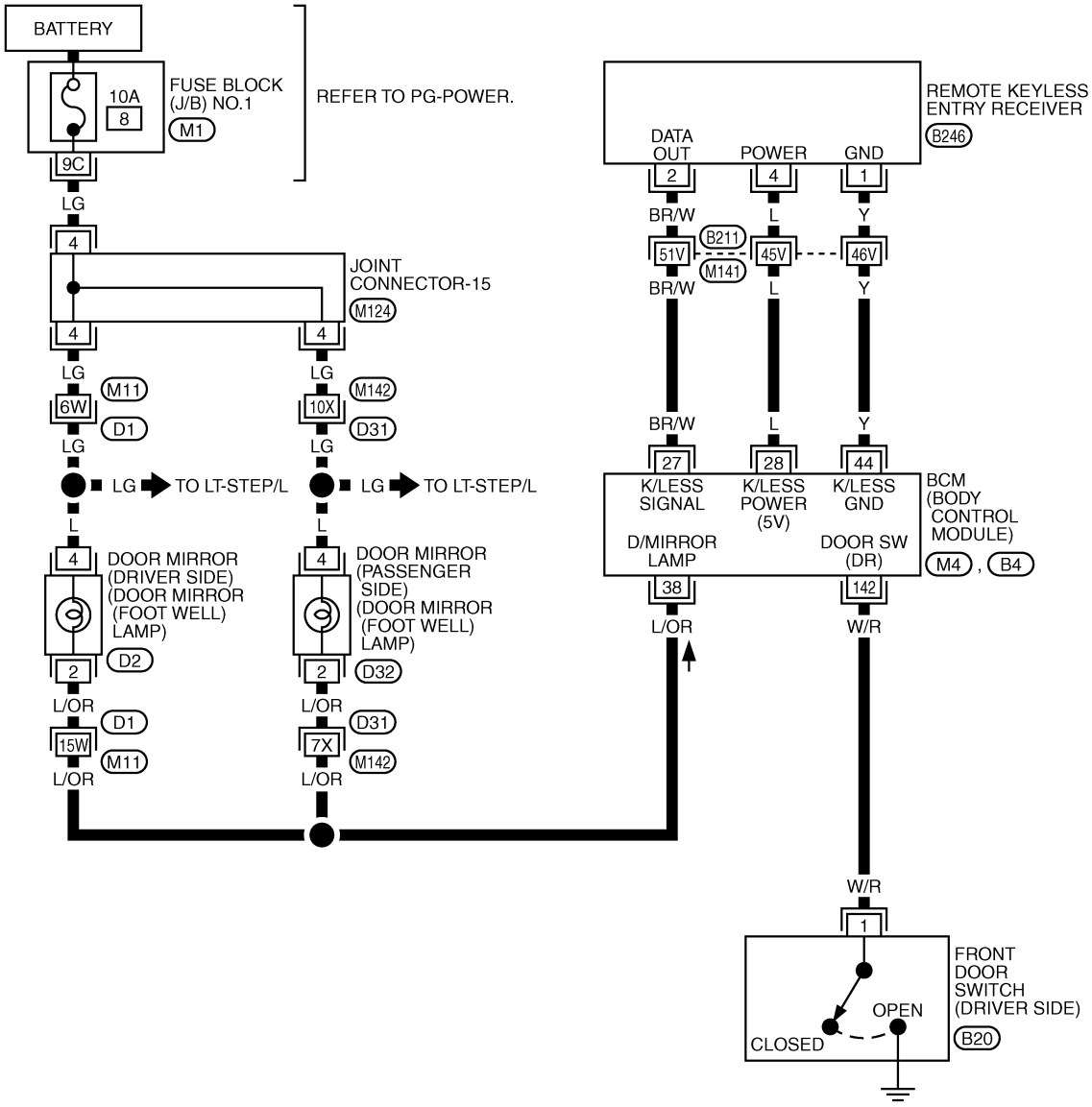
when door unlocking operation is commanded with remote controller.

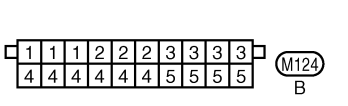
- to BCM terminal 38
- through BCM terminal 27
- to remote keyless entry receiver terminal 2

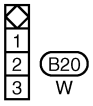
Wiring Diagram — MIRR/L —

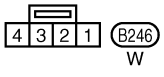
EKS006RV

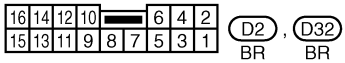
LT-MIRR/L-01











REFER TO THE FOLLOWING.

B211 , D1 , D31 -SUPER MULTIPLE JUNCTION (SMJ)

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

M4 , B4 -ELECTRICAL UNITS

TKWM0350E

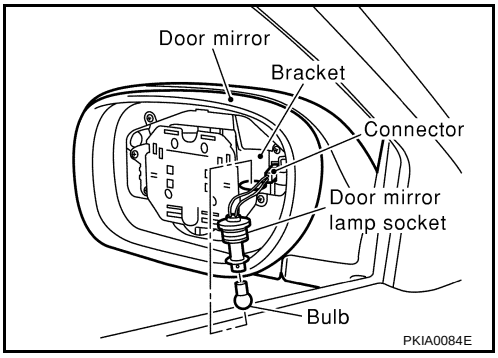
Bulb Replacement

EKS006RW

DOOR MIRROR LAMP

1. Remove the mirror from door mirror. Refer to GW-115, "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

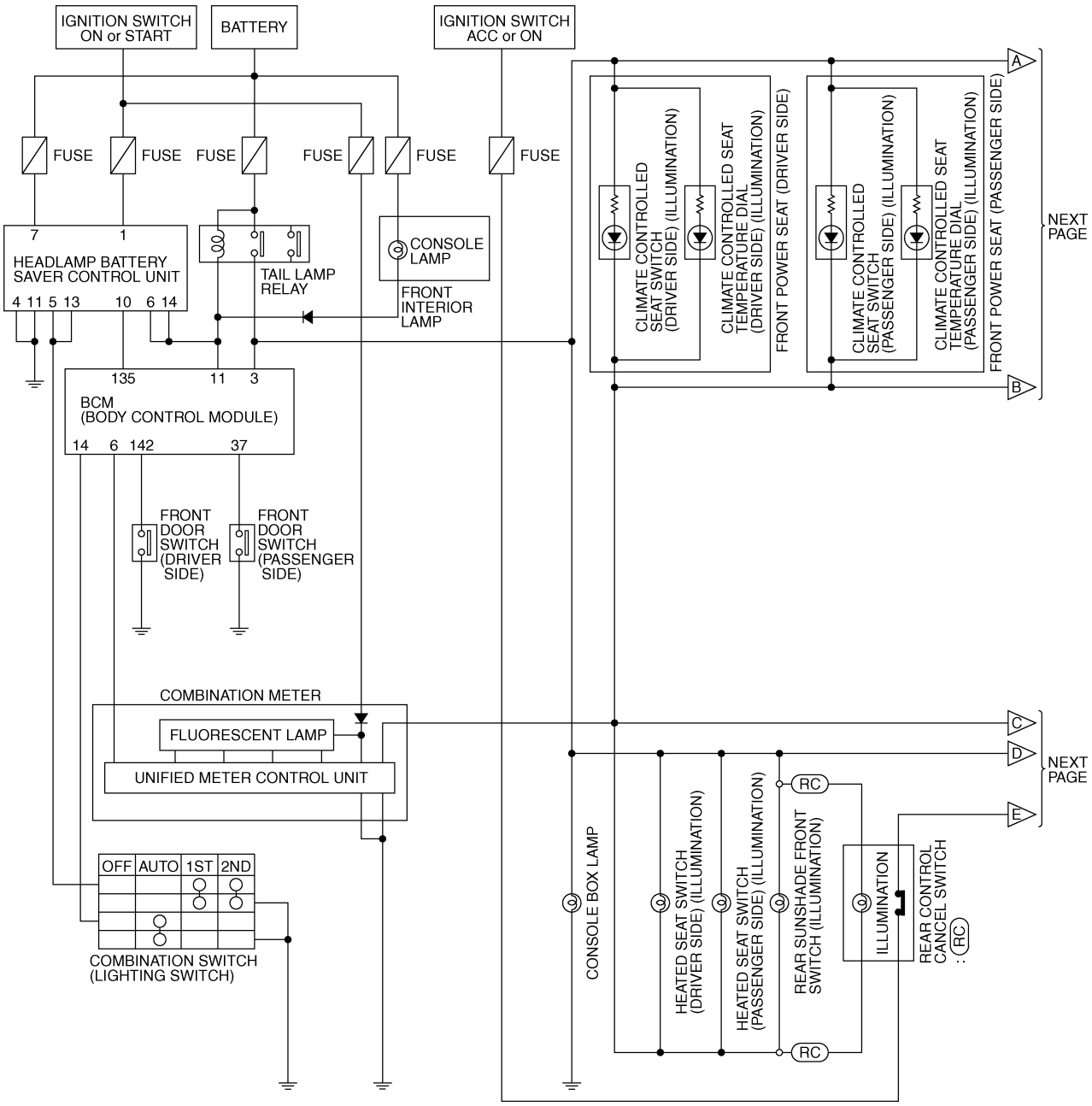
When the ignition switch is turned from ON (or START) to OFF (or ACC) positions while illumination lamps are illuminated, the RAP signal is supplied to terminal 10 of the headlamp battery saver control unit from BCM terminal 135.
After counting 45 seconds by the RAP signal from the BCM to headlamp battery 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 side 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.

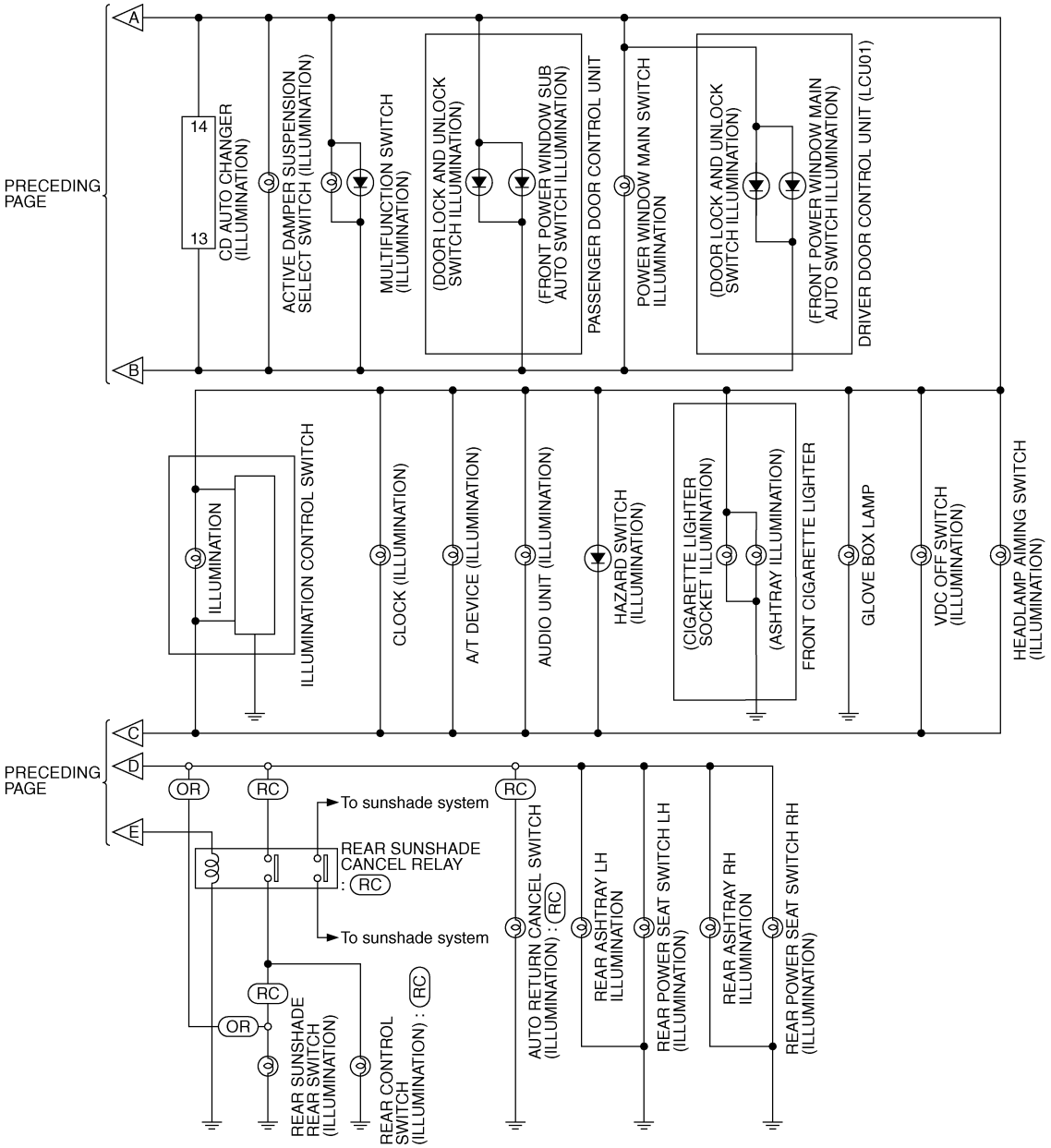
Then illumination lamps illuminate again.

Schematic

EKS000U7



TKWM0338E

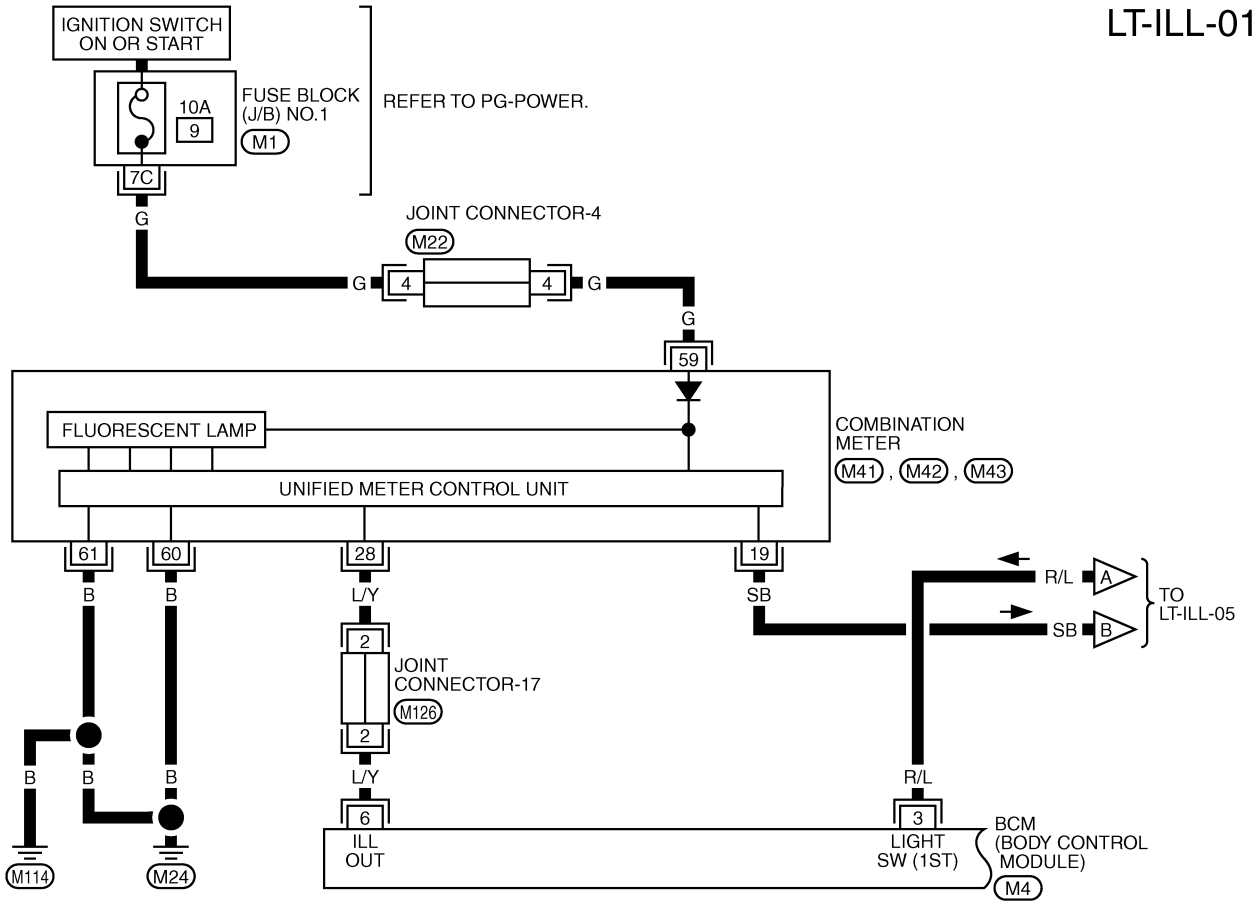

PRECEDING PAGE
A
B
C
D
E
14
13
CD AUTO CHANGER (ILLUMINATION)
ACTIVE DAMPER SUSPENSION SELECT SWITCH (ILLUMINATION)
MULTIFUNCTION SWITCH (ILLUMINATION)
(DOOR LOCK AND UNLOCK SWITCH ILLUMINATION)
(FRONT POWER WINDOW SUB AUTO SWITCH ILLUMINATION)
PASSENGER DOOR CONTROL UNIT
POWER WINDOW MAIN SWITCH ILLUMINATION
(DOOR LOCK AND UNLOCK SWITCH ILLUMINATION)
(FRONT POWER WINDOW MAIN AUTO SWITCH ILLUMINATION)
DRIVER DOOR CONTROL UNIT (LCU01)
ILLUMINATION
ILLUMINATION CONTROL SWITCH
CLOCK (ILLUMINATION)
A/T DEVICE (ILLUMINATION)
AUDIO UNIT (ILLUMINATION)
HAZARD SWITCH (ILLUMINATION)
(CIGARETTE LIGHTER SOCKET ILLUMINATION)
(ASHTRAY ILLUMINATION)
FRONT CIGARETTE LIGHTER
GLOVE BOX LAMP
VDC OFF SWITCH (ILLUMINATION)
HEADLAMP AIMING SWITCH (ILLUMINATION)
PRECEDING PAGE
OR
RC
To sunshade system
REAR SUNSHADE CANCEL RELAY : RC
To sunshade system
RC
OR
REAR SUNSHADE REAR SWITCH (ILLUMINATION)
REAR CONTROL SWITCH (ILLUMINATION) : RC
RC
AUTO RETURN CANCEL SWITCH (ILLUMINATION) : RC
REAR ASHTRAY LH ILLUMINATION
REAR POWER SEAT SWITCH LH (ILLUMINATION)
REAR ASHTRAY RH ILLUMINATION
REAR POWER SEAT SWITCH RH (ILLUMINATION)

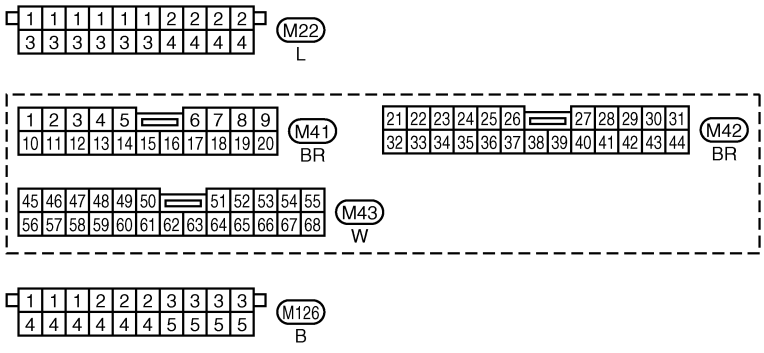
TKWM0373E

Wiring Diagram — ILL —

EKS000U8

LT-ILL-01



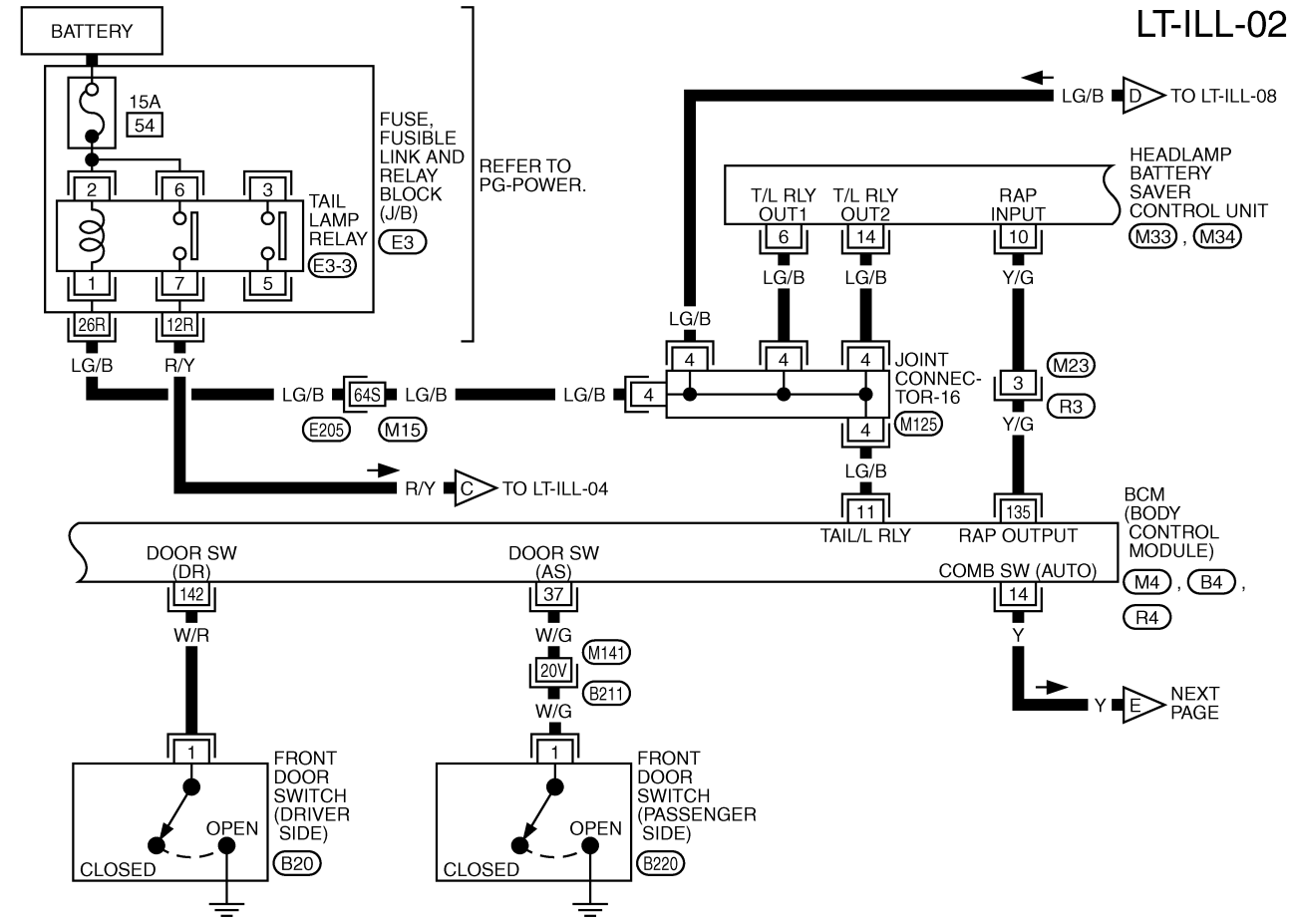


REFER TO THE FOLLOWING.

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

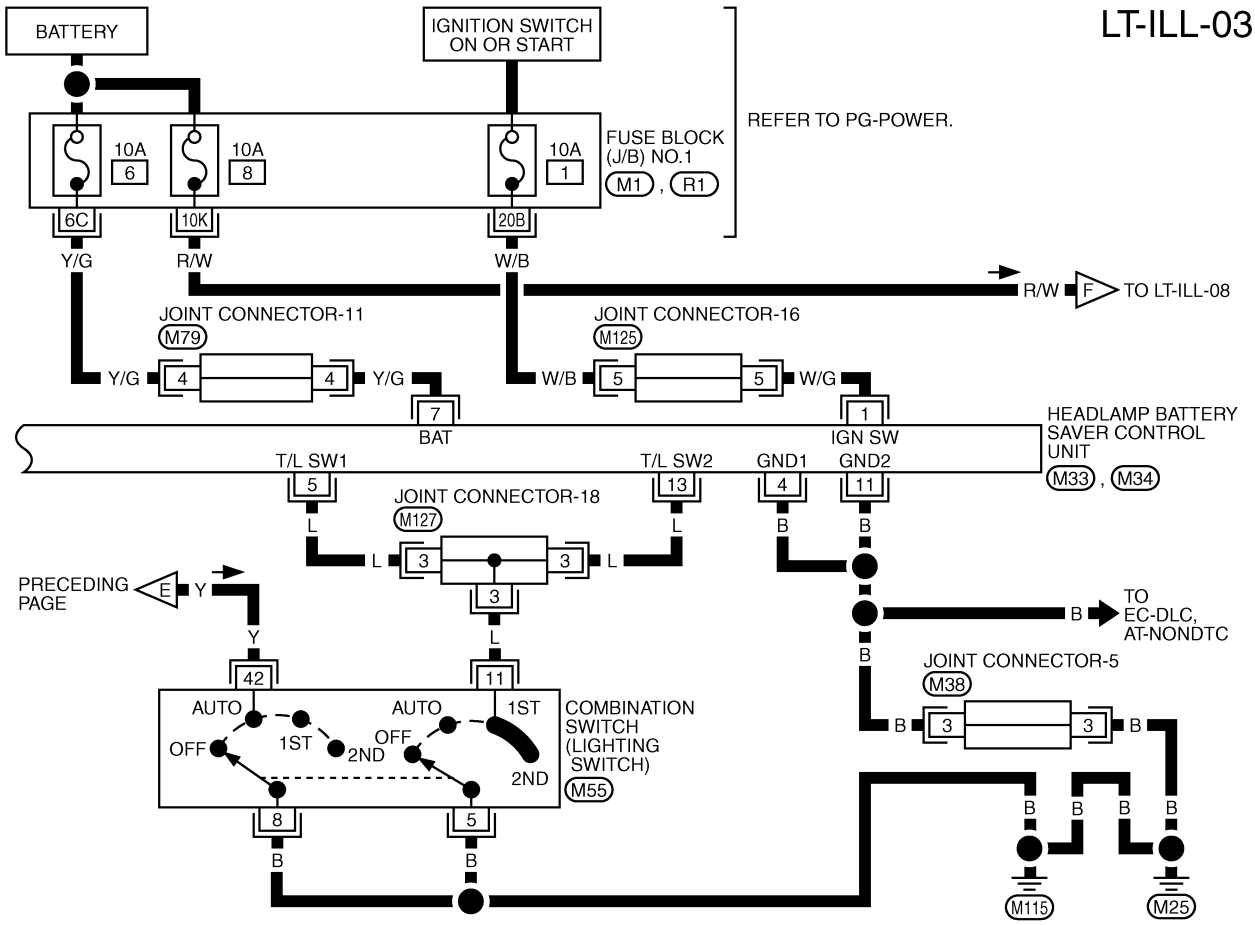
M4 -ELECTRICAL UNITS

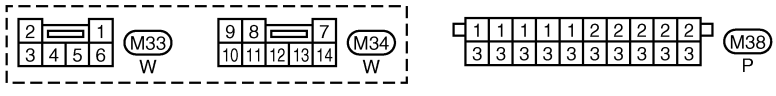
TKWM0410E

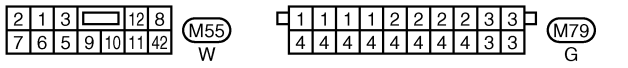

LT-ILL-02
BATTERY
15A
54
FUSE, FUSIBLE LINK AND RELAY BLOCK (J/B)
E3
REFER TO PG-POWER.
TAIL LAMP RELAY
E3-3
26R
12R
LG/B
R/Y
LG/B
64S
LG/B
LG/B
E205
M15
R/Y
C
TO LT-ILL-04
LG/B
D
TO LT-ILL-08
HEADLAMP BATTERY SAVER CONTROL UNIT
M33 , M34
T/L RLY OUT1
T/L RLY OUT2
RAP INPUT
LG/B
LG/B
Y/G
JOINT CONNEC-TOR-16
M125
M23
R3
Y/G
LG/B
TAIL/L RLY
RAP OUTPUT
BCM (BODY CONTROL MODULE)
M4 , B4 , R4
COMB SW (AUTO)
DOOR SW (DR)
DOOR SW (AS)
W/R
W/G
M141
20V
B211
W/G
Y
Y
E
NEXT PAGE
FRONT DOOR SWITCH (DRIVER SIDE)
B20
FRONT DOOR SWITCH (PASSENGER SIDE)
B220
OPEN
CLOSED
M33
W
M34
W
M125
B
E3-3
B20 , B220
W
W
R3
W
*: 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

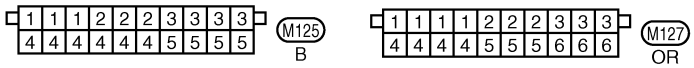
TKWM0036E

LT-ILL-03





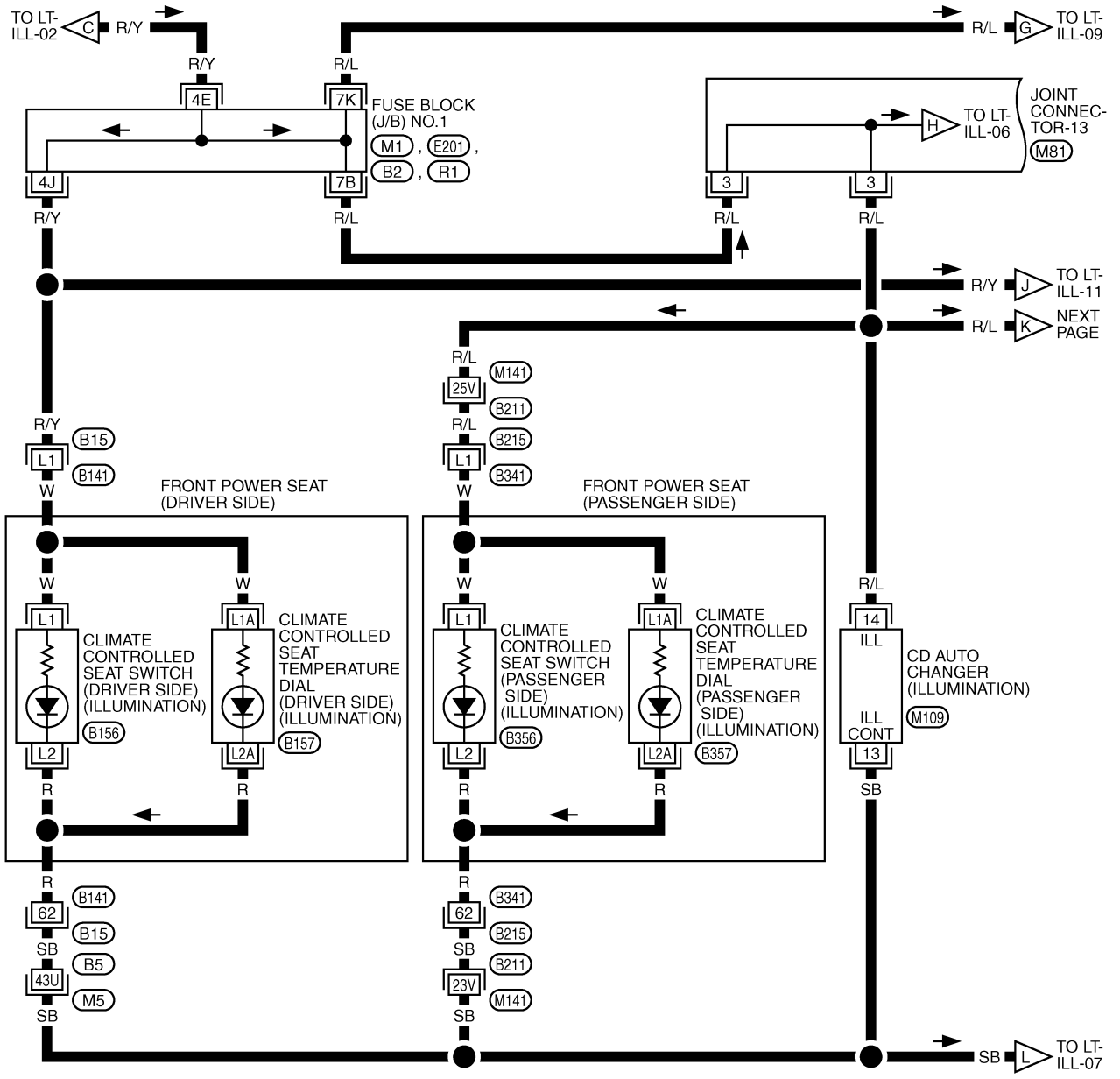


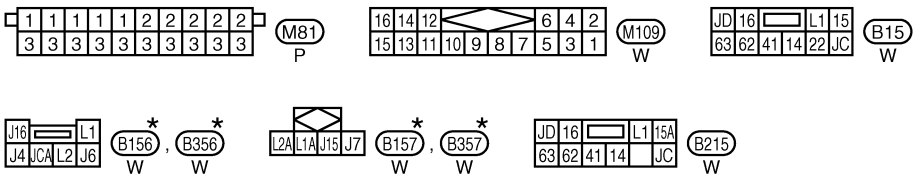


REFER TO THE FOLLOWING.
M1 , R1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM0411E

LT-ILL-04





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

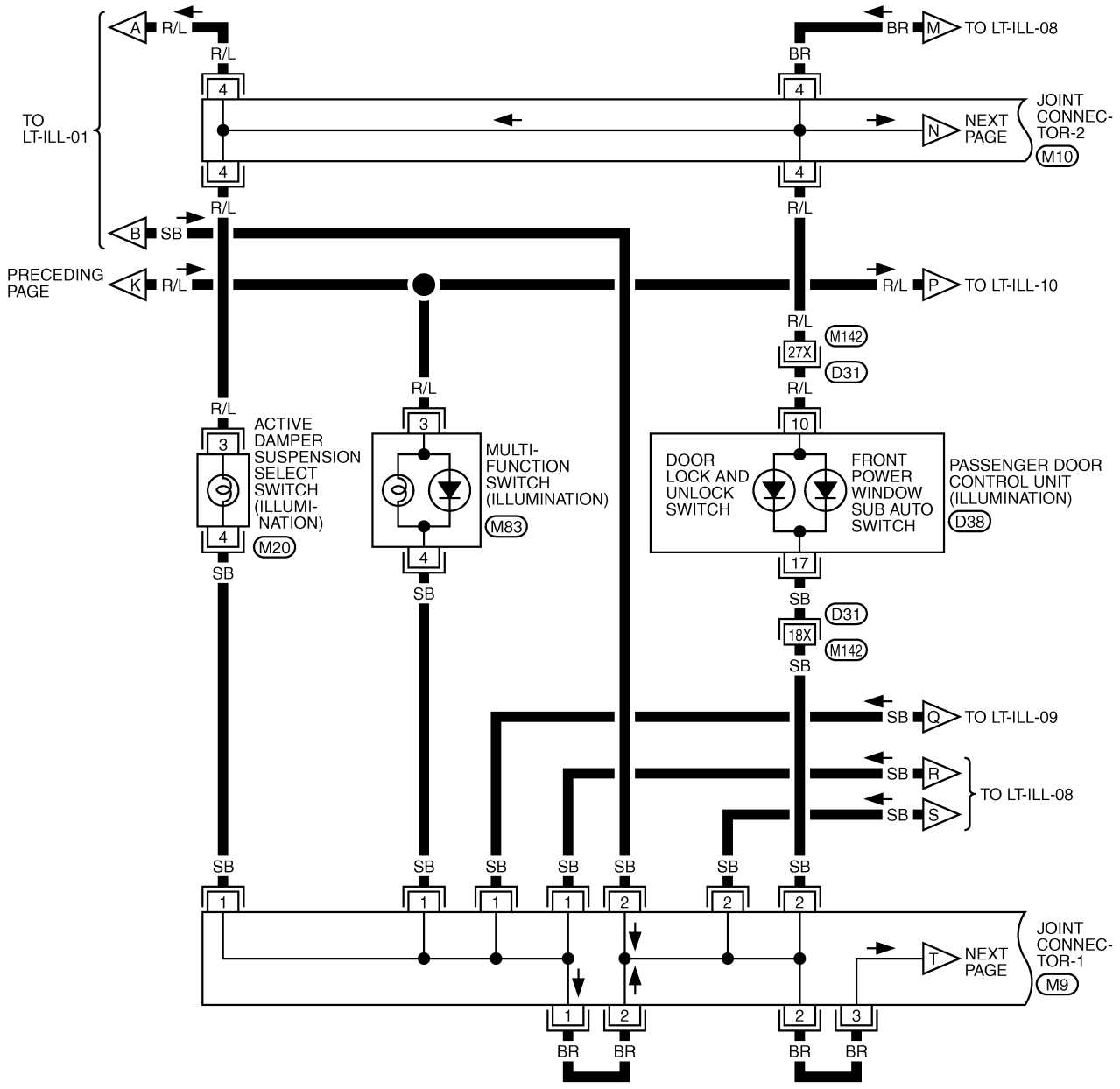
REFER TO THE FOLLOWING.

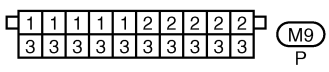
M5 , B211 -SUPER MULTIPLE JUNCTION (SMJ)

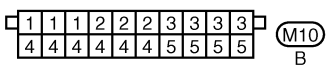
M1 , E201 , B2 , R1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

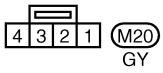
TKWM0339E

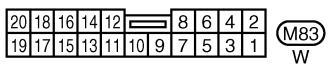
LT-ILL-05

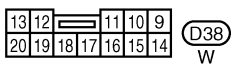










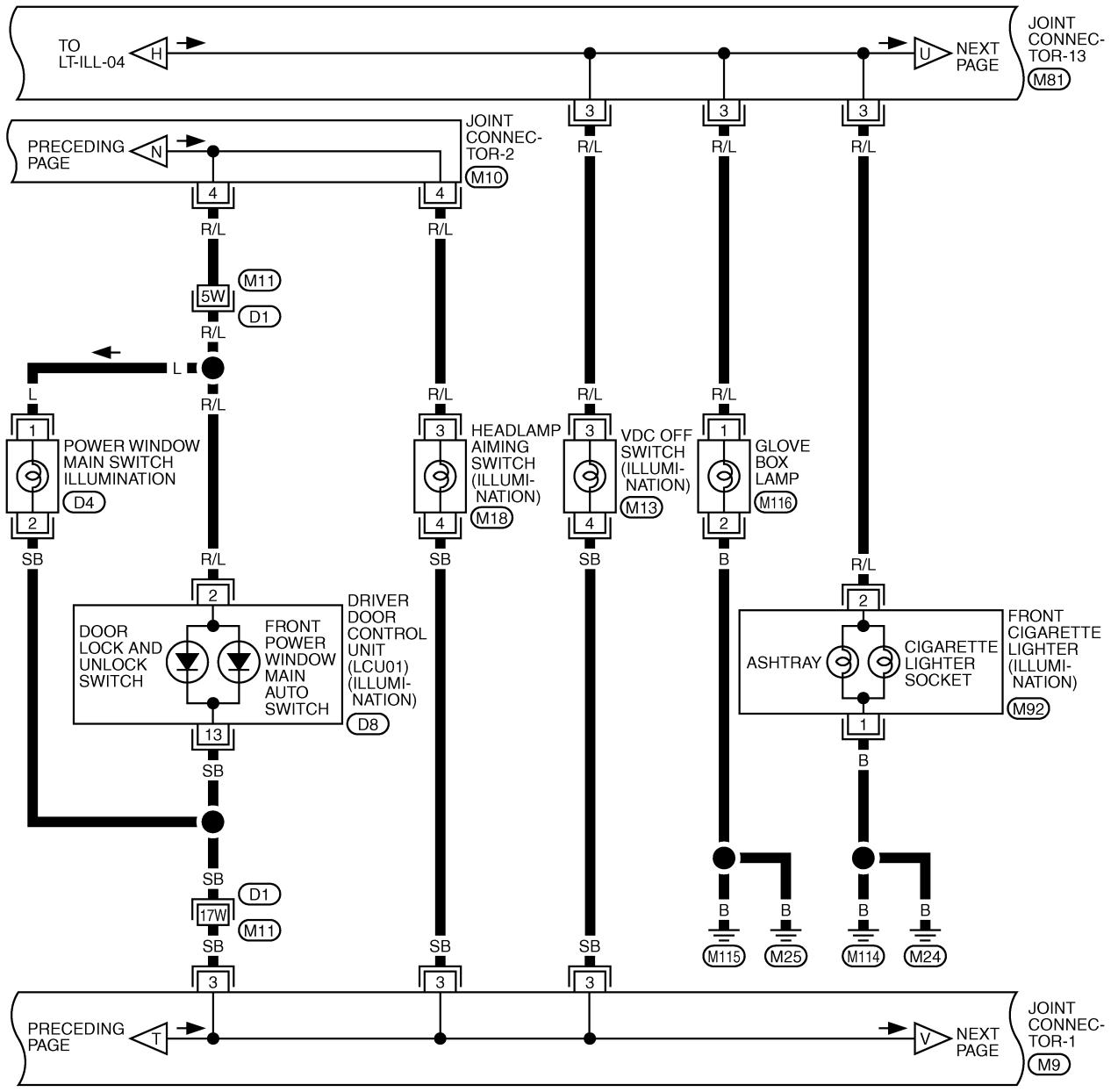


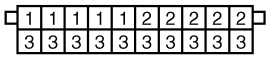
REFER TO THE FOLLOWING.

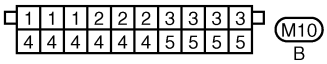
D31 -SUPER MULTIPLE JUNCTION (SMJ)

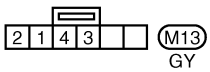
TKWM0340E

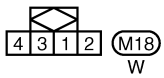
LT-ILL-06

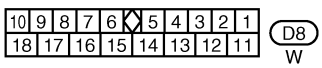










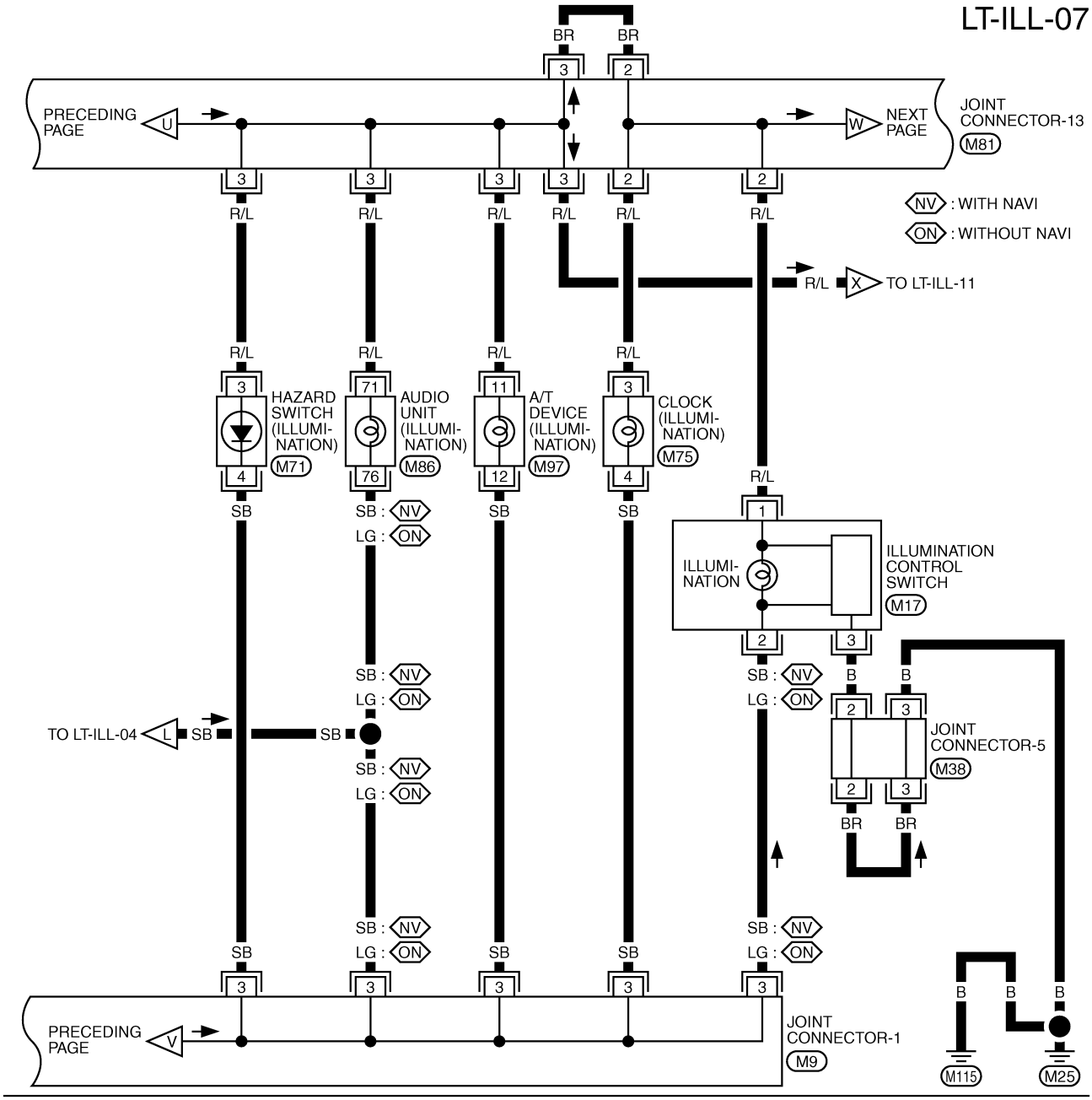


REFER TO THE FOLLOWING.

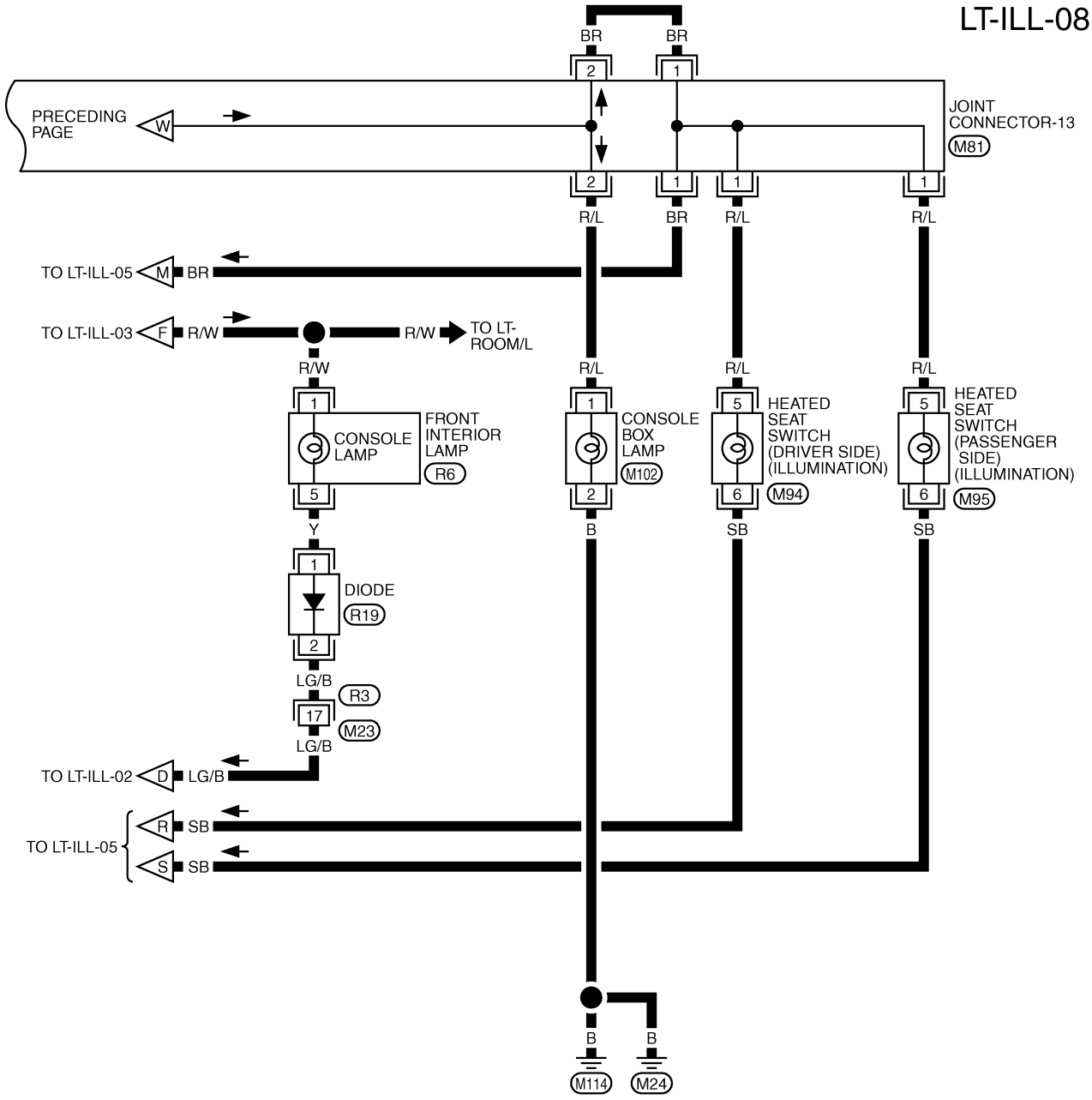
D1 -SUPER MULTIPLE JUNCTION (SMJ)

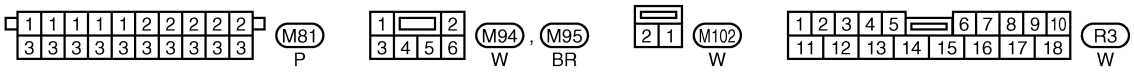
TKWM0341E

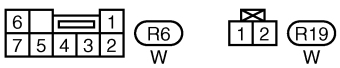
LT-ILL-07



TKWM0982E

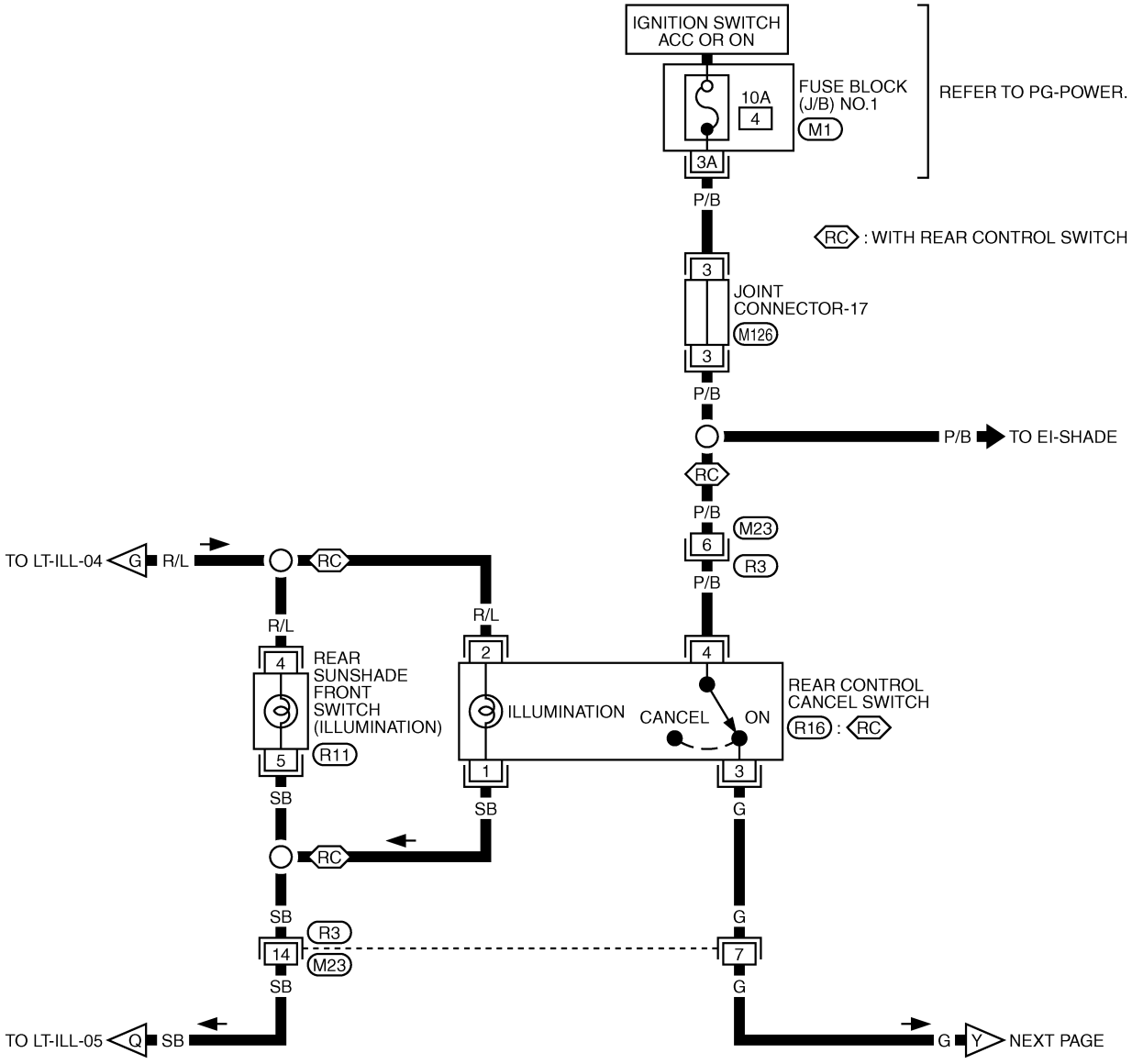

LT-ILL-08
BR
BR
2
1
PRECEDING PAGE
W
JOINT CONNECTOR-13
M81
2
1
1
1
R/L
BR
R/L
R/L
TO LT-ILL-05
M
BR
TO LT-ILL-03
F
R/W
R/W
TO LT-ROOM/L
R/W
R/L
R/L
R/L
1
CONSOLE LAMP
FRONT INTERIOR LAMP
R6
5
1
CONSOLE BOX LAMP
M102
2
5
HEATED SEAT SWITCH (DRIVER SIDE) (ILLUMINATION)
M94
6
5
HEATED SEAT SWITCH (PASSENGER SIDE) (ILLUMINATION)
M95
6
Y
B
SB
SB
1
DIODE
R19
2
LG/B
R3
17
M23
LG/B
TO LT-ILL-02
D
LG/B
TO LT-ILL-05
R
SB
S
SB
B
B
M114
M24

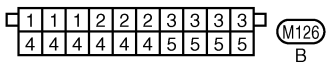

M81
P
M94
W
M95
BR
M102
W
R3
W

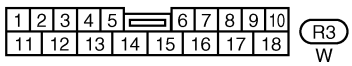

R6
W
R19
W

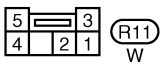
TKWM0343E

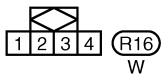
LT-ILL-09







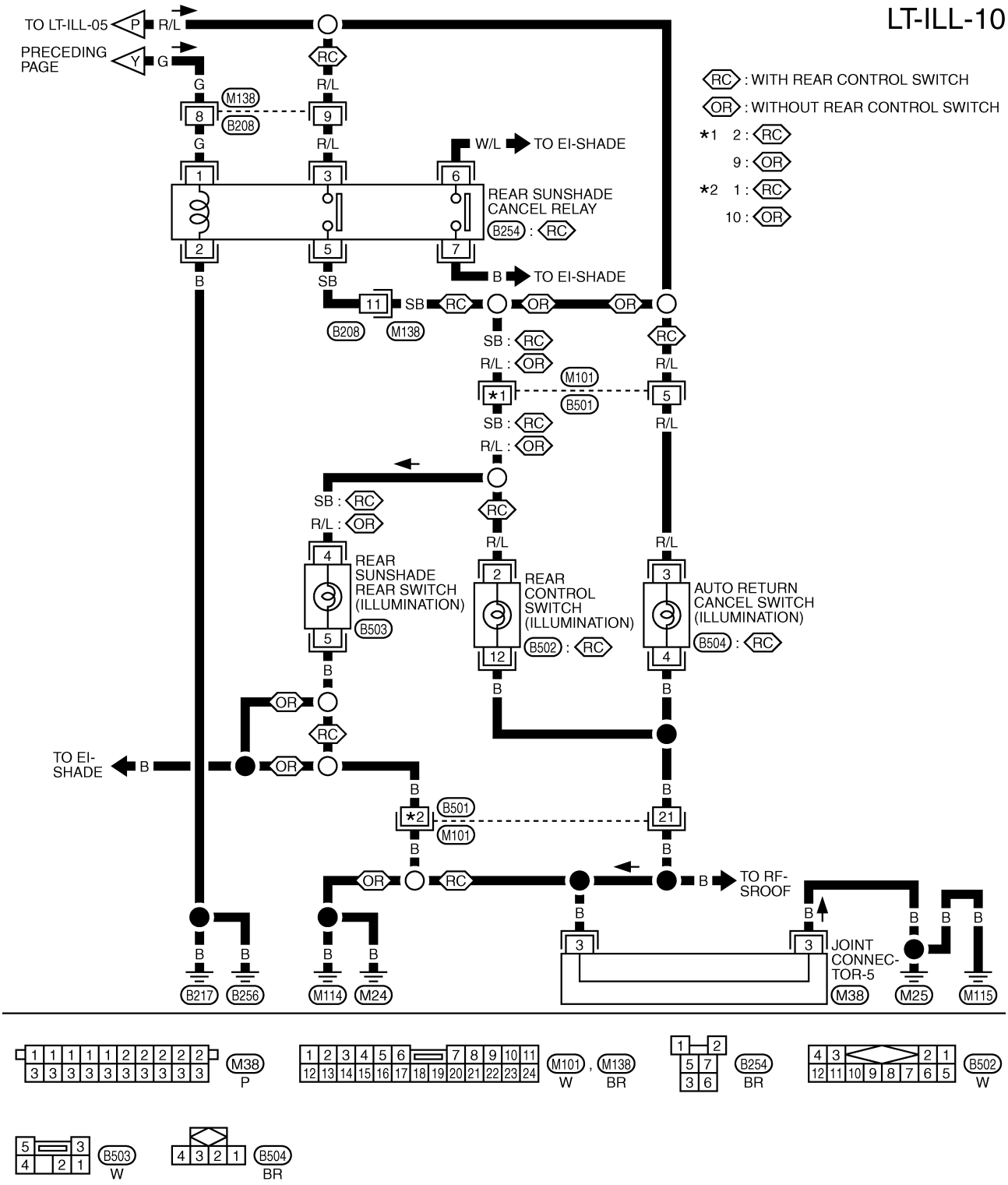




REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

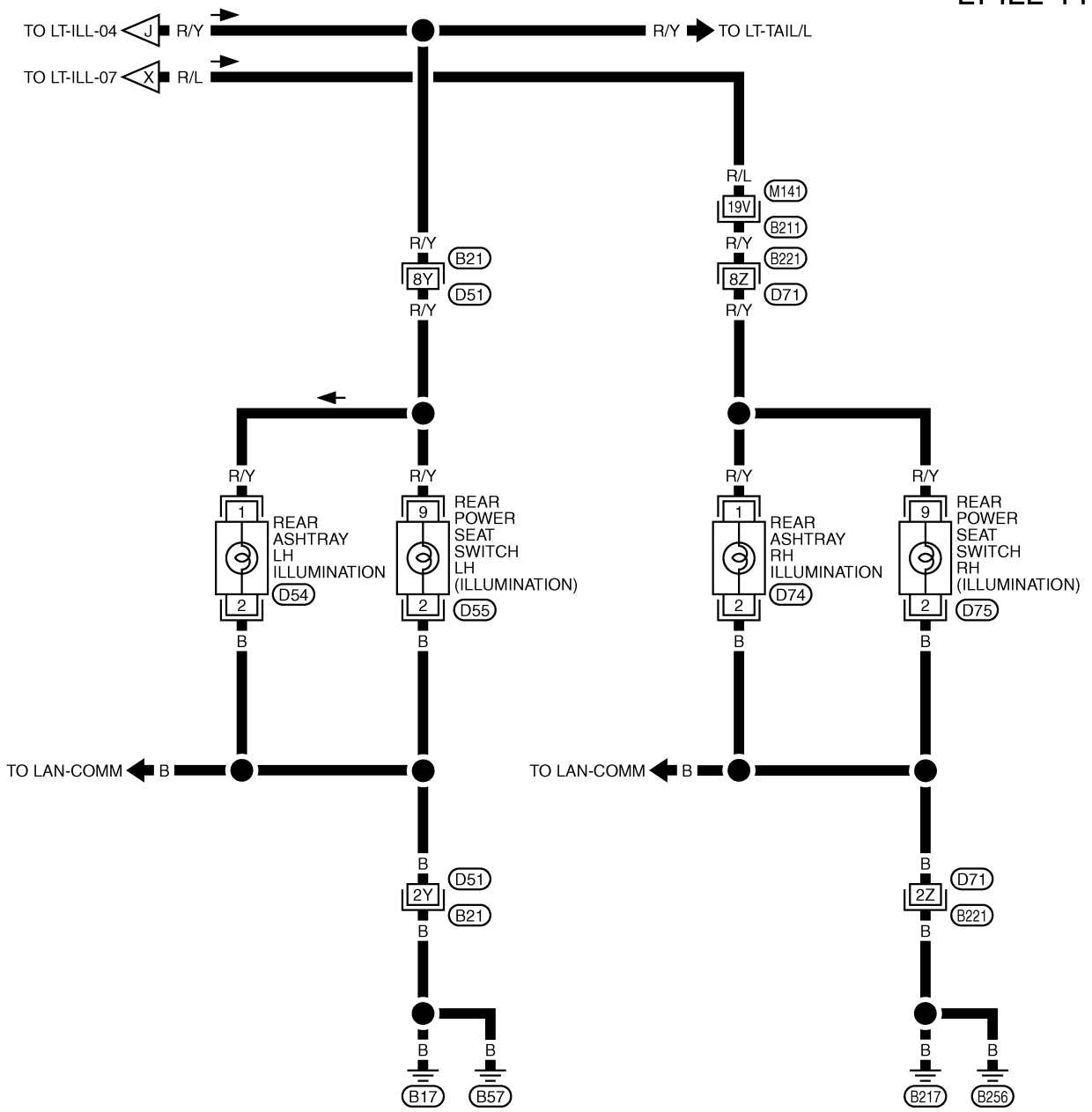
TKWM0344E

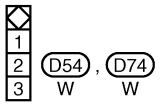
LT-ILL-10

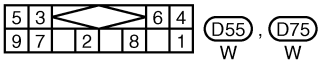


TKWM0345E

LT-ILL-11







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

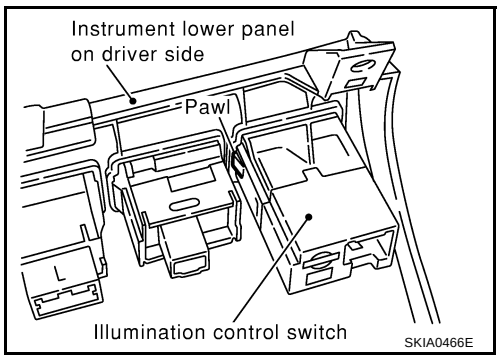
TKWM0346E

Removal and Installation

EKS0017N

ILLUMINATION CONTROL SWITCH

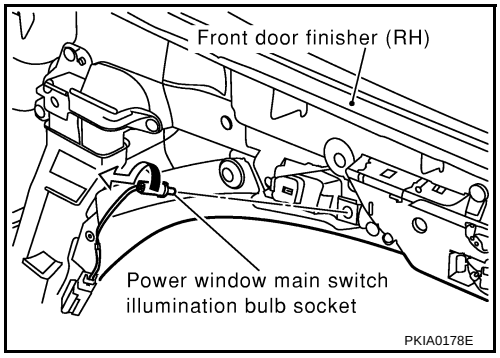
1. Remove the lower instrument panel (driver side). Refer to IP-10, "Removal and Installation" in “INSTRUMENT PANEL (IP)” section.
2. Press the illumination control switch fixing tabs and remove the unit from the lower instrument panel (driver side).



POWER WINDOW MAIN SWITCH ILLUMINATION

1. Remove the front door finisher (RH). Refer to EI-32, "FRONT DOOR FINISHER" in “EXTERIOR & INTERIOR (EI)” section.
2. Turn the bulb socket counterclockwise and unlock it.

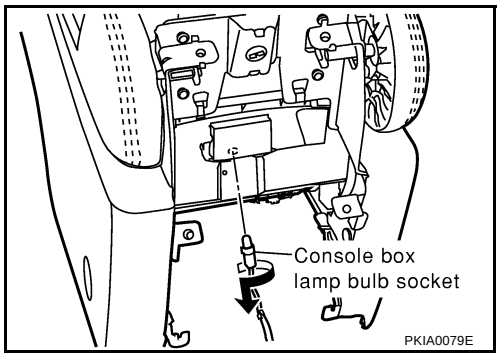
Power window main switch illumination : 12V 1.4W



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.

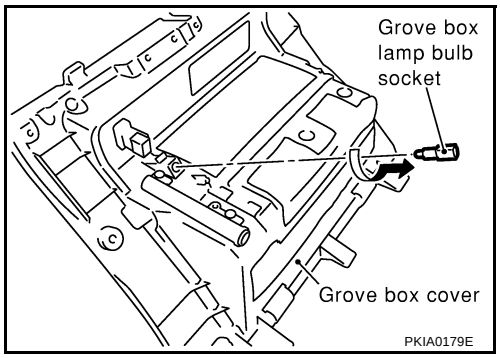
Console box lamp : 12V 2W



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

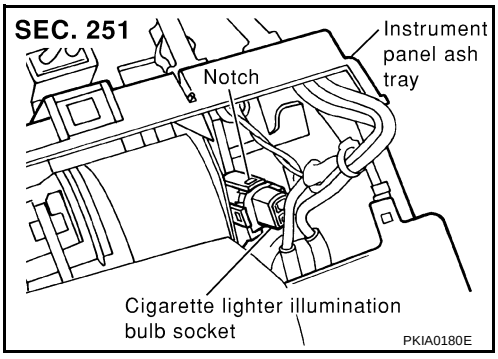


FRONT CIGARETTE LIGHTER ILLUMINATION

Cigarette Lighter Socket Illumination

1. Remove the instrument panel ashtray. Refer to IP-10, "Removal and Installation" in “INSTRUMENT PANEL (IP)” section.
2. Unfold three notches and remove the bulb socket.

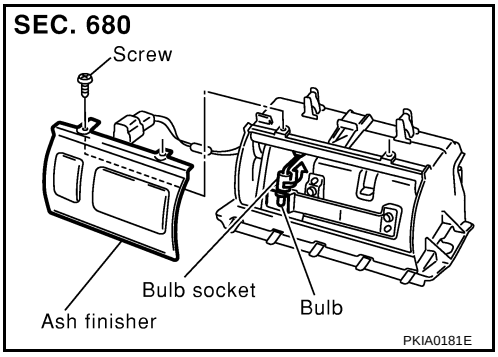
Cigarette lighter illumination : 12V 1.4W



Ashtray Illumination

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

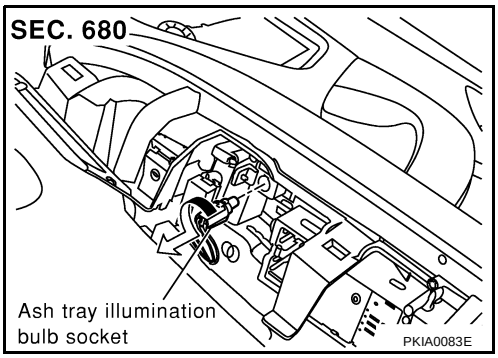
Ashtray illumination : 12V 1.4W



REAR ASHTRAY ILLUMINATION

1. Remove the rear door armrest finisher. Refer to EI-33, "REAR DOOR FINISHER" in “EXTERIOR & INTERIOR (EI)” section.
2. Turn the bulb socket counterclockwise and unlock it.
3. Disconnect the ashtray illumination connector.

Ashtray illumination : 12V 1.4W

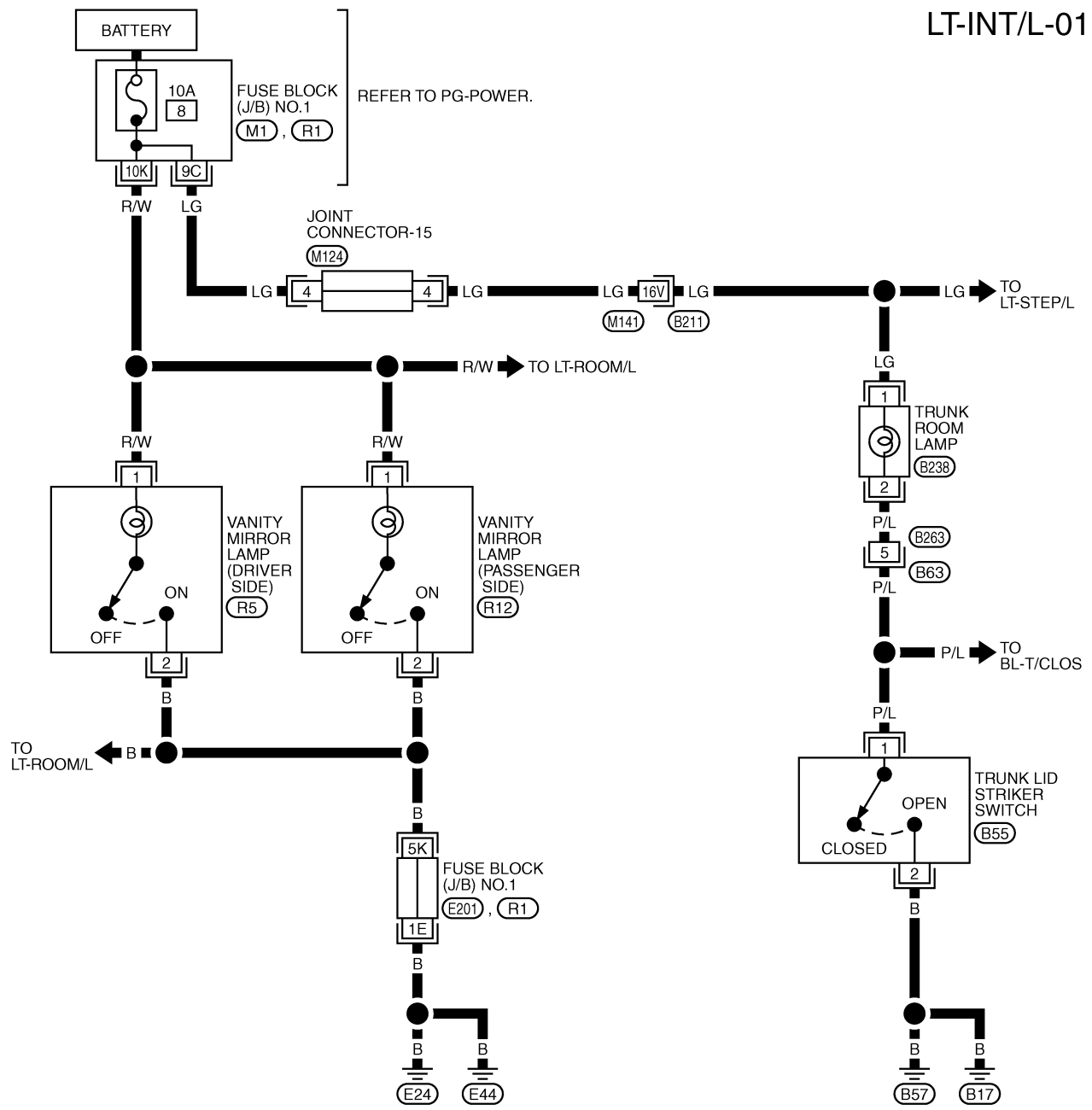


VANITY MIRROR AND TRUNK ROOM LAMPS

PFP:26470

Wiring Diagram — INT/L —

EKS000UC



TKWM0347E

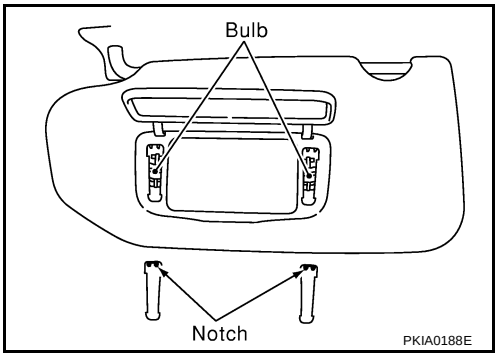
Bulb Replacement

EKS000UD

VANITY MIRROR LAMP

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

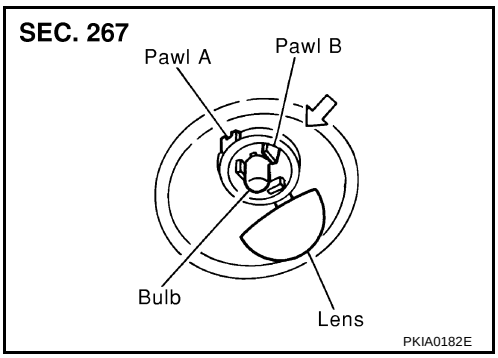
Vanity mirror lamp : 12V 1.4W



TRUNK ROOM LAMP

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

Trunk room lamp : 12V 3.4W



BULB SPECIFICATIONS

PFP:26297

Headlamp

EKS0018Q

Item	Wattage (W)
Low	35 (D2S)
High	55W (H1)

Exterior Lamp

EKS0018R

Item		Wattage (W)
Front combination lamp	Turn signal lamp	21(amber)
	Parking lamp (Clearance lamp)	5
	Side marker lamp	5
Rear combination lamp	Stop/Tail lamp	21/5
	Turn signal lamp	21 (amber)
	Back-up lamp	18
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