SECTION LT
LIGHTING SYSTEM

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PRECAUTIONS

PFP:00011

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

EKS005K4

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.

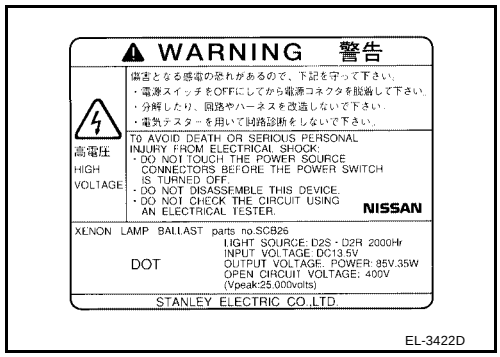
WARNING:

- **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

EKS0056G

- Never work with wet hands.
- Xenon headlamp includes high voltage generating part. Be sure to disconnect battery negative cable (negative terminal) or power fuse before removing, installing, or touching the xenon headlamp (including lamp bulb).
- Turn the lighting switch OFF before disconnecting and connecting the connector.
- When turning the xenon headlamp on and while it is illuminated, never touch the harness, bulb, and socket of the headlamp.
- When checking the headlamp on/off operation, check it on vehicle and with the power connected to the vehicle-side connector.
- Do not touch the headlamp bulb glass surface with bare hands or allow oil or grease to get on it. Do not touch the headlamp bulb just after the headlamp is turned off, because it is very hot.



- Install the xenon headlamp bulb socket correctly. If it is installed improperly, high-voltage leak or corona discharge may occur that can melt the bulb, connector, and housing. Do not illuminate the xenon headlamp bulb out of the headlamp housing. Doing so can cause fire and harm your eyes.
- When the bulb has burned out, wrap it in a thick vinyl bag and discard. Do not break the bulb.
- Leaving the bulb removed from the headlamp housing for a long period of time can deteriorate the performance of the lens and reflector (dirt, clouding). Always prepare a new bulb and have it on hand when replacing the bulb.
- Do not use organic solvent (paint thinner or gasoline) to clean lamps and to remove old sealant.

Wiring Diagrams and Trouble Diagnosis

EKS0056H

When you read wiring diagrams, refer to the following:

- Refer to GI-12, "How to Read Wiring Diagrams" in GI section.
- Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" for power distribution in PG section.

When you perform trouble diagnosis, refer to the following:

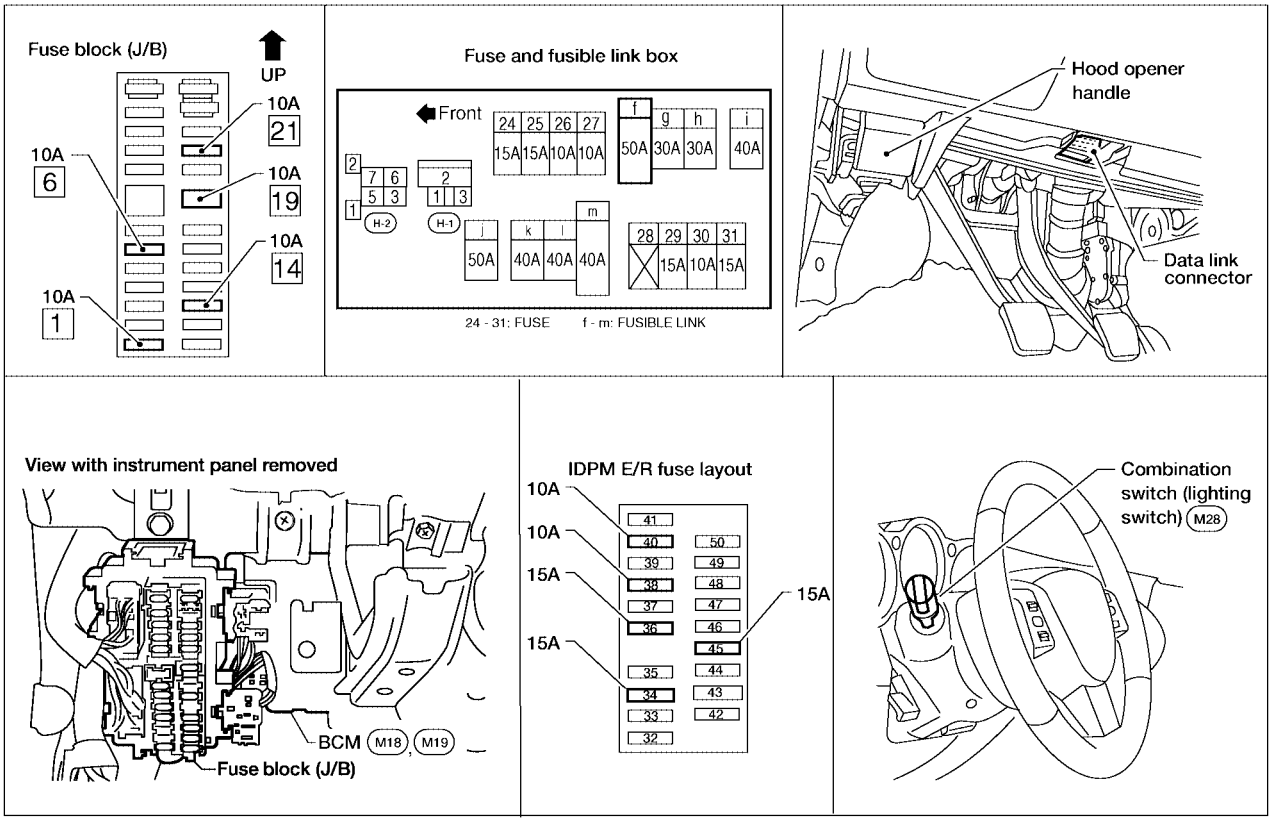
- Refer to GI-10, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES" in GI section.
- Refer to GI-25, "How to Perform Efficient Diagnosis for an Electrical Incident" in GI section.

HEADLAMP (FOR USA)

PFP:26010

Component Parts and Harness Connector Location

EKS005BO



WKIA3127E

System Description

EKS005BP

Control of the headlamp system operation is dependent upon the position of the combination switch (lighting switch). When the lighting switch is placed in the 2ND position, the BCM (body control module) receives input signal requesting the headlamps (and tail lamps) illuminate. This input signal is communicated to the IPDM E/R (intelligent power distribution module engine room) across the CAN communication lines. The CPU (central processing unit) of the IPDM E/R controls the headlamp high and headlamp low relay coils. These relays, when energized, direct power to the respective headlamps, which then illuminate.
If voltage is applied to a high beam solenoid, the bulb shade will move and a high beam and a low beam are changed.

OUTLINE

Power is supplied at all times

- to headlamp high relay, located in the IPDM E/R
- to headlamp low relay, located in the IPDM E/R
- to ignition relay, located in the IPDM E/R
- through 15A fuse (No. 34, located in the IPDM E/R)
- to CPU in the IPDM E/R
- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 55
- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to BCM terminal 42
- through 10A fuse [No. 19, located in the fuse block (J/B)]
- to combination meter terminal 24.

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

- to ignition relay, located in the IPDM E/R

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to BCM terminal 38
- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to combination meter terminal 23.

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

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to BCM terminal 11.

Ground is supplied at all times

- to BCM terminals 49 (early production) and 52
- to combination meter terminals 10, 11 and 12
- through grounds M57, M61 and M79
- to IPDM E/R terminals 38 and 60
- through grounds E15 and E24.

Low Beam Operation

With the lighting switch in 2ND position, the BCM receives input signal requesting the headlamps to illuminate. This input signal is communicated to the IPDM E/R across the CAN communication lines. The CPU in the IPDM E/R controls the headlamp low relay coil, which when energized, directs power

- to 15A fuse (No. 36, located in the IPDM E/R)
- through IPDM E/R terminal 20
- to headlamp RH terminal 3
- to 15A fuse (No. 45, located in the IPDM E/R)
- through IPDM E/R terminal 30
- to headlamp LH terminal 3.

Ground is supplied at all times

- to headlamp RH terminal 4
- through grounds E15 and E24
- to headlamp LH terminal 4
- through grounds E15 and E24.

With power and ground supplied, low beam headlamps illuminate.

High Beam Operation/Flash-to-Pass Operation

With the lighting switch in 2ND position and placed in HIGH or PASS position, the BCM receives input signal requesting the headlamp high beams to illuminate. This input signal is communicated to the IPDM E/R across the CAN communication lines. The CPU in the IPDM E/R controls the headlamp high relay coil and low relay coil, which when energized, directs power

- to 15A fuse (No. 36, located in the IPDM E/R)
- through IPDM E/R terminal 20
- to headlamp RH terminal 3
- to 15A fuse (No. 45, located in the IPDM E/R)
- through IPDM E/R terminal 30
- to headlamp LH terminal 3
- to 10A fuse (No. 40, located in the IPDM E/R)
- through IPDM E/R terminal 27
- to headlamp RH terminal 7
- to 10A fuse (No. 38, located in the IPDM E/R)
- through IPDM E/R terminal 28
- to headlamp LH terminal 7.

Ground is supplied at all times

- to headlamp RH terminals 4 and 8
- through grounds E15 and E24

- to headlamp LH terminals 4 and 8
- through grounds E15 and E24.

With power and ground supplied, the high beam headlamps illuminate.
If voltage is applied to a high beam solenoid, the bulb shade will move and a high beam and a low beam are changed.
The unified meter and A/C amp that received the high beam request signal by BCM across the CAN communication makes a high beam indicator lamp turn on in combination meter.

COMBINATION SWITCH READING FUNCTION

Refer to LT-125, "Combination Switch Reading Function" .

EXTERIOR LAMP BATTERY SAVER CONTROL

When the combination switch (lighting switch) is in the 2ND position (ON) and the ignition switch is turned from ON or ACC to OFF, the battery saver control function is activated.
Under this condition, the headlamps remain illuminated for 5 minutes, then the headlamps are turned off.
Exterior lamp battery saver control mode can be changed by the function setting of CONSULT-II.

AUTO LIGHT OPERATION

Refer to LT-59, "System Description" in "AUTO LIGHT SYSTEM".

VEHICLE SECURITY SYSTEM

The vehicle security system will flash the high beams if the system is triggered. Refer to BL-78, "VEHICLE SECURITY (THEFT WARNING) SYSTEM" .

XENON HEADLAMP (IF EQUIPPED)

Xenon type headlamp is adopted to the low and high 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.
Following are some of the many advantages of the xenon type headlamp.

- The light produced by the headlamps is a white color comparable 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 which the human eye is most sensitive. This 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.

CAN Communication System Description

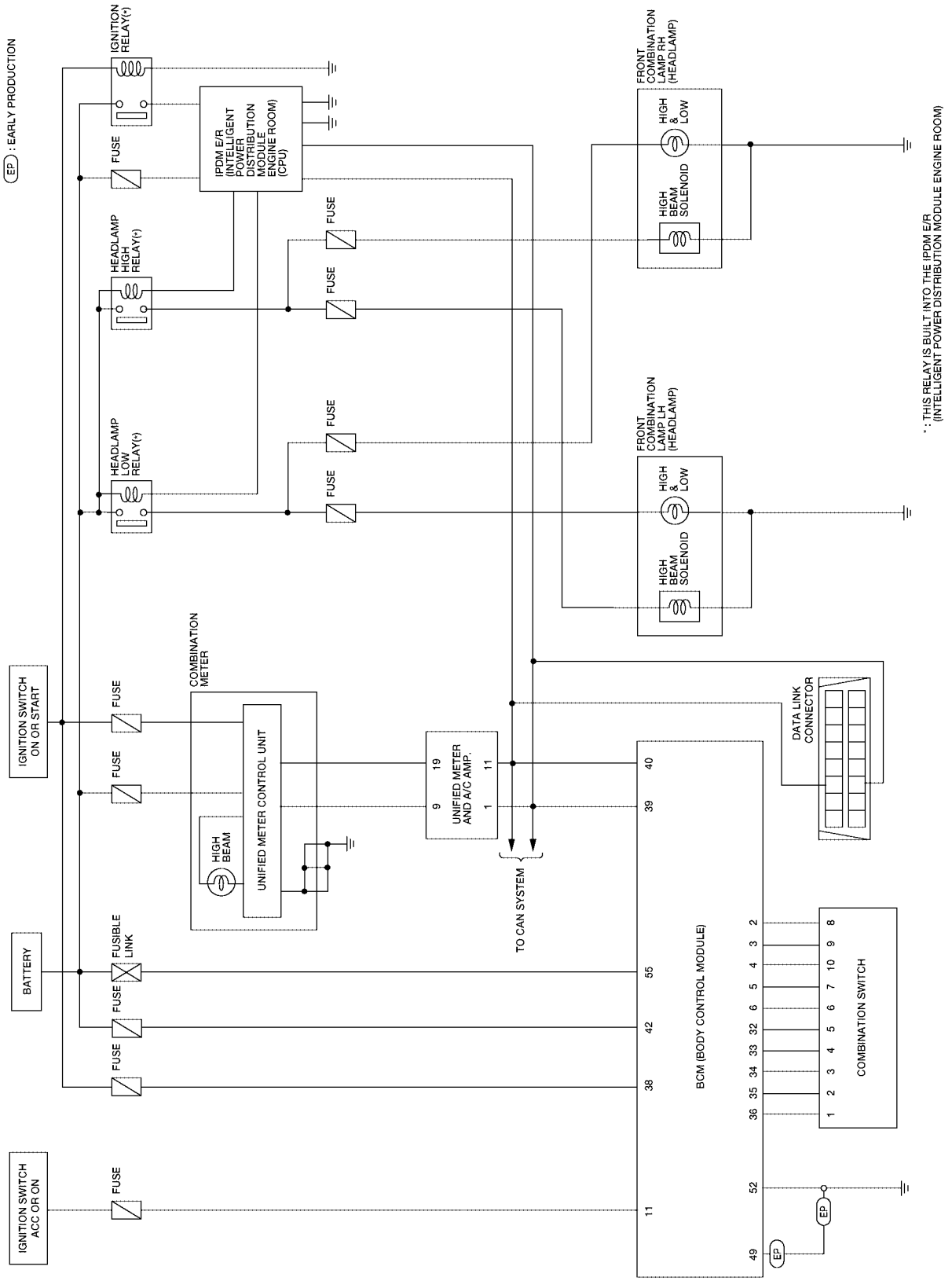
EKS005BR

Refer to LAN-8, "CAN COMMUNICATION" .

Schematic

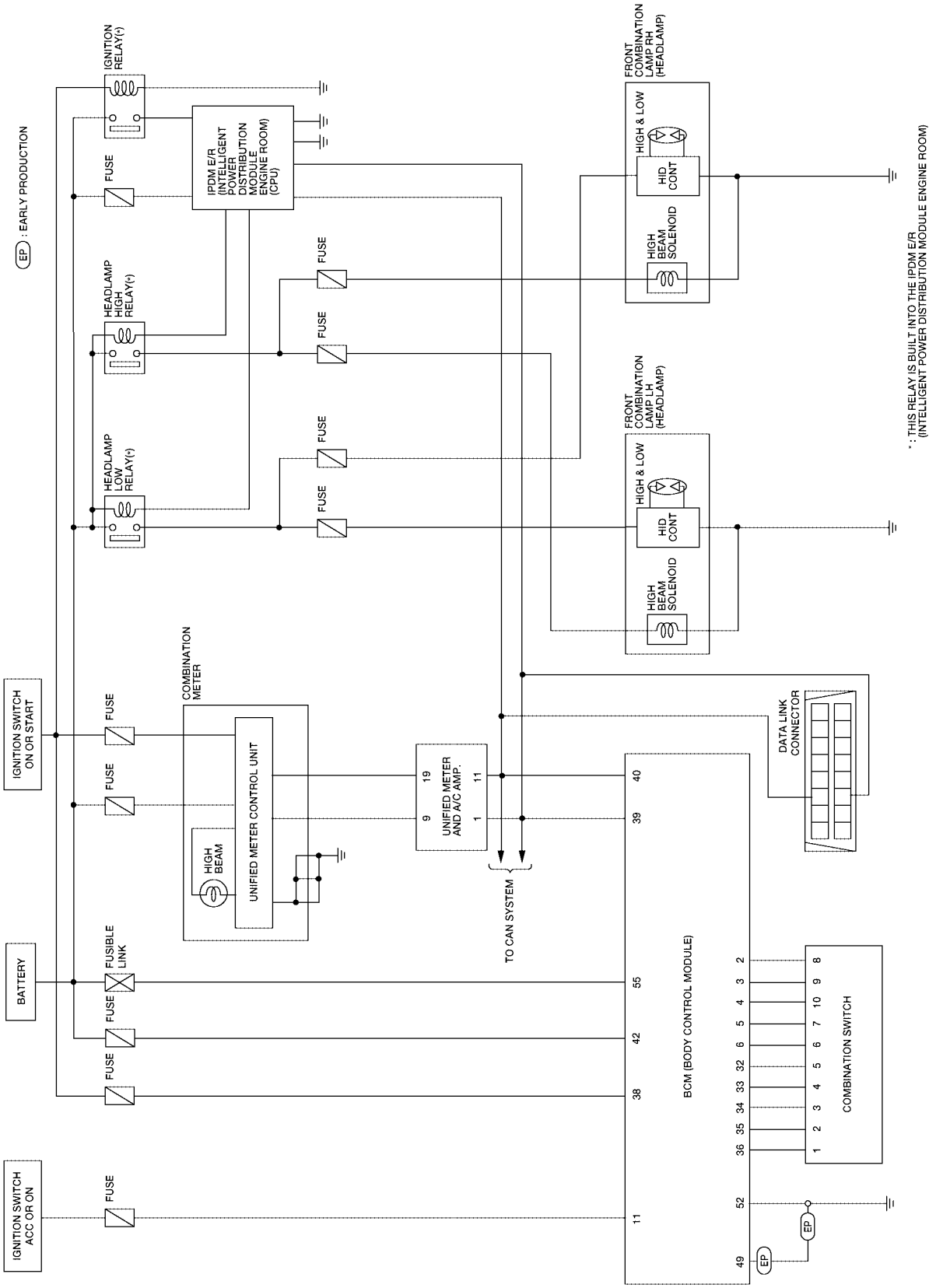
HALOGEN TYPE

EKS005BS



WKWA1806E

XENON TYPE



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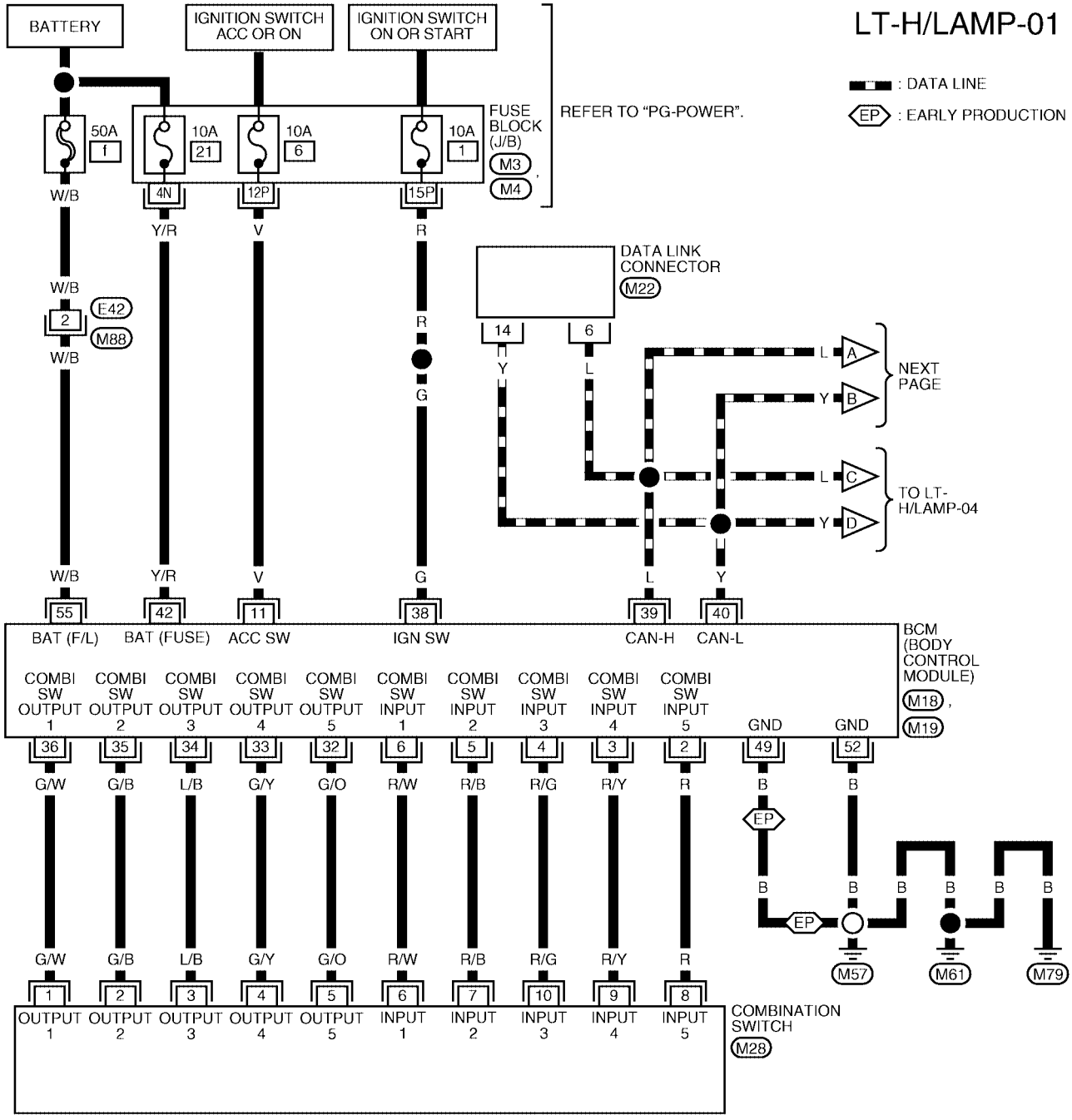
Wiring Diagram — H/LAMP —

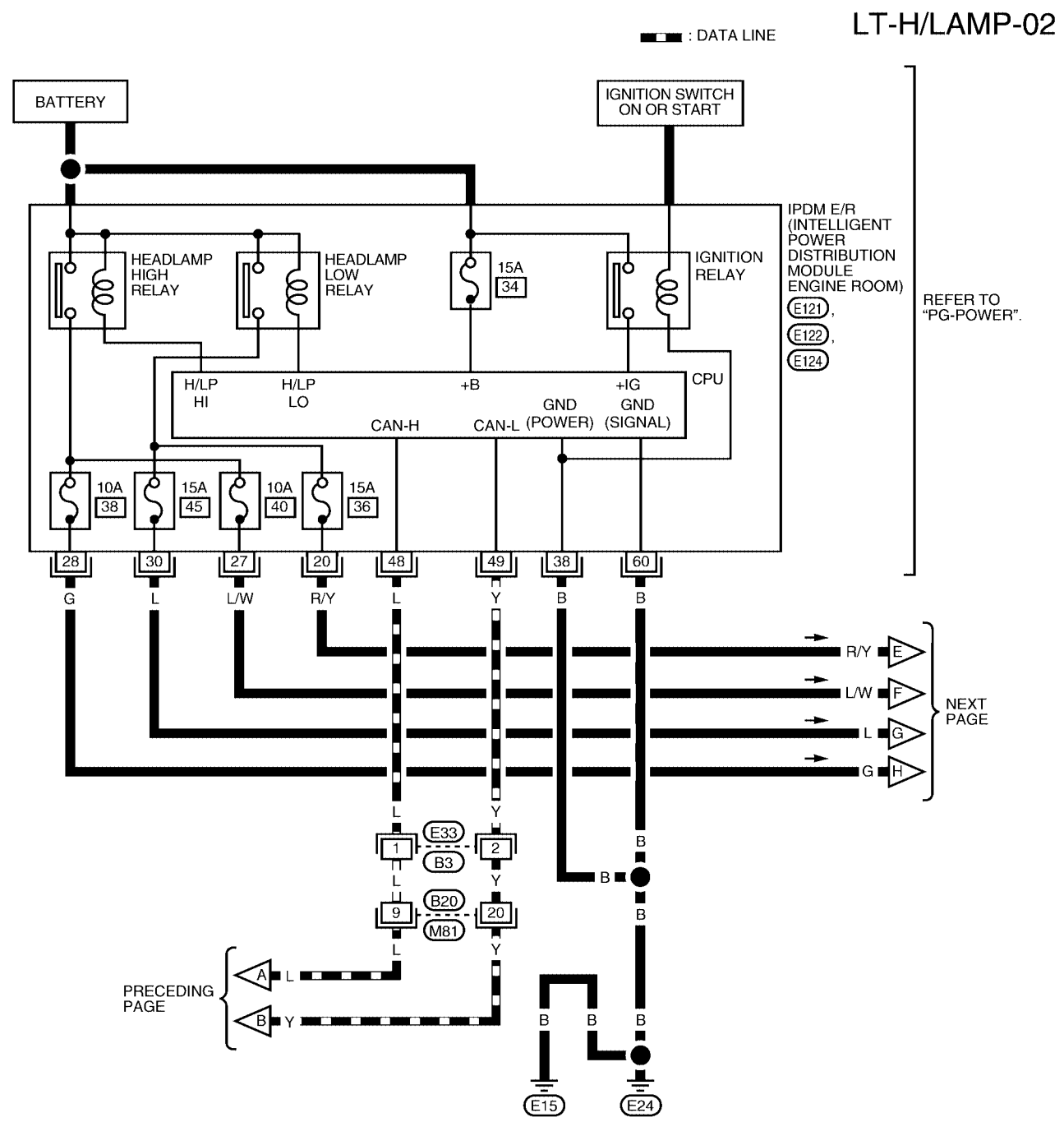
EKS0056L

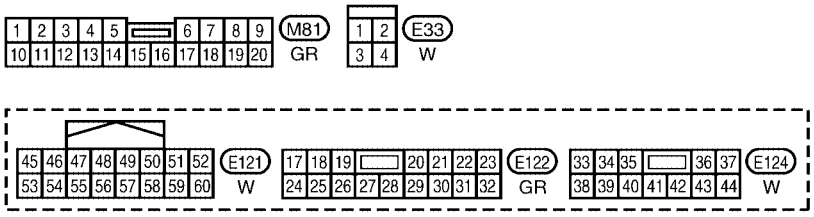
HALOGEN TYPE



REFER TO THE FOLLOWING.
M3, M4 - FUSE BLOCK-JUNCTION BOX (J/B)
M18, M19 - ELECTRICAL UNITS

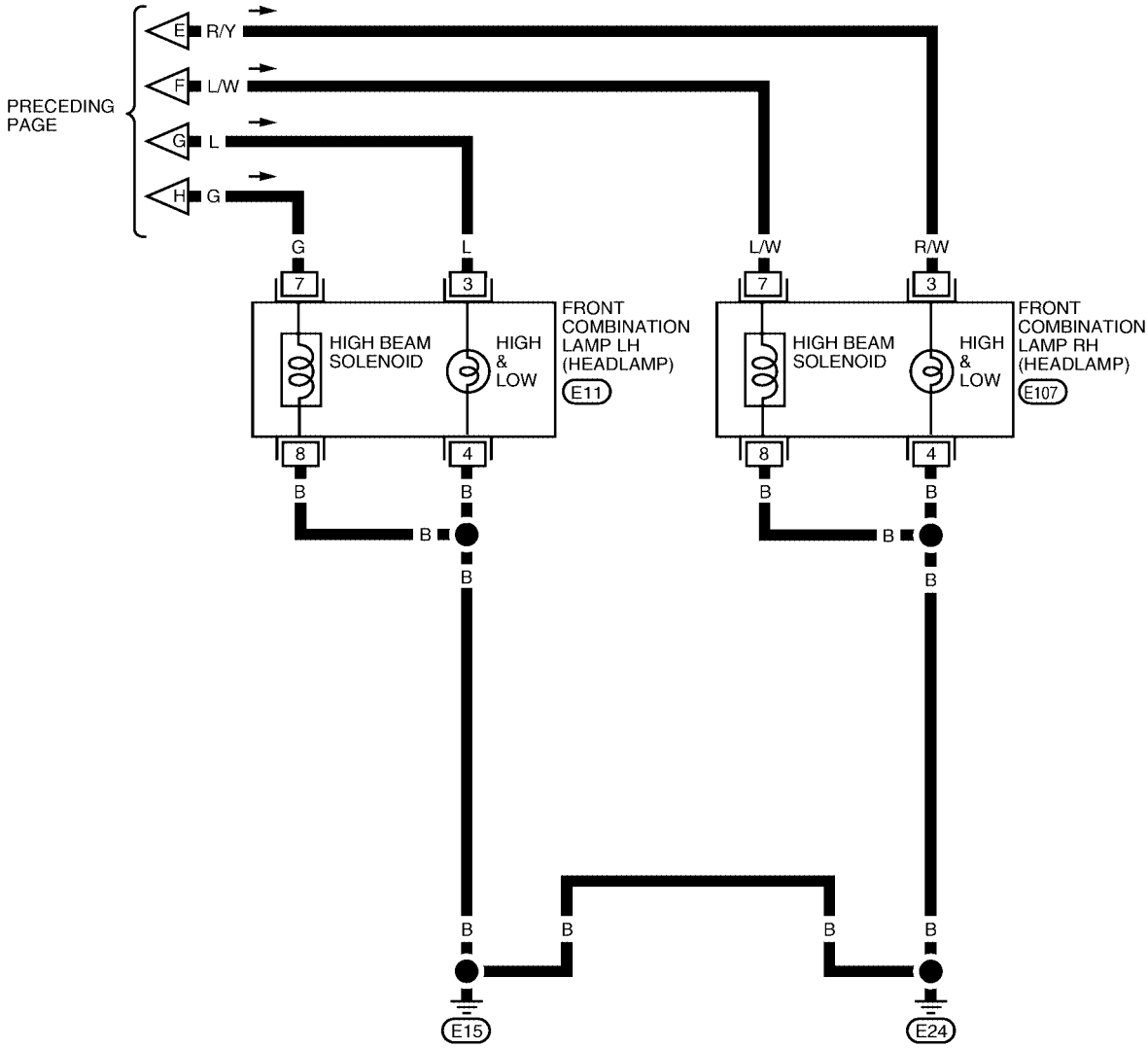
WKWA1808E

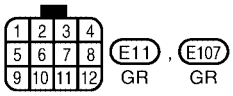

LT-H/LAMP-02
: DATA LINE
BATTERY
IGNITION SWITCH ON OR START
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E121, E122, E124
REFER TO "PG-POWER".
HEADLAMP HIGH RELAY
HEADLAMP LOW RELAY
15A 34
IGNITION RELAY
H/LP HI
H/LP LO
+B
+IG
GND (POWER)
GND (SIGNAL)
CAN-H
CAN-L
CPU
10A 38
15A 45
10A 40
15A 36
28 30 27 20 48 49 38 60
G L L/W R/Y L Y B B
R/Y E
L/W F
L G
G H
NEXT PAGE
E33 1 2 B3
B20 9 20 M81
PRECEDING PAGE
A L
B Y
B B B
E15
E24


M81 GR
E33 W
E121 W
E122 GR
E124 W

LKWA0196E

LT-H/LAMP-03





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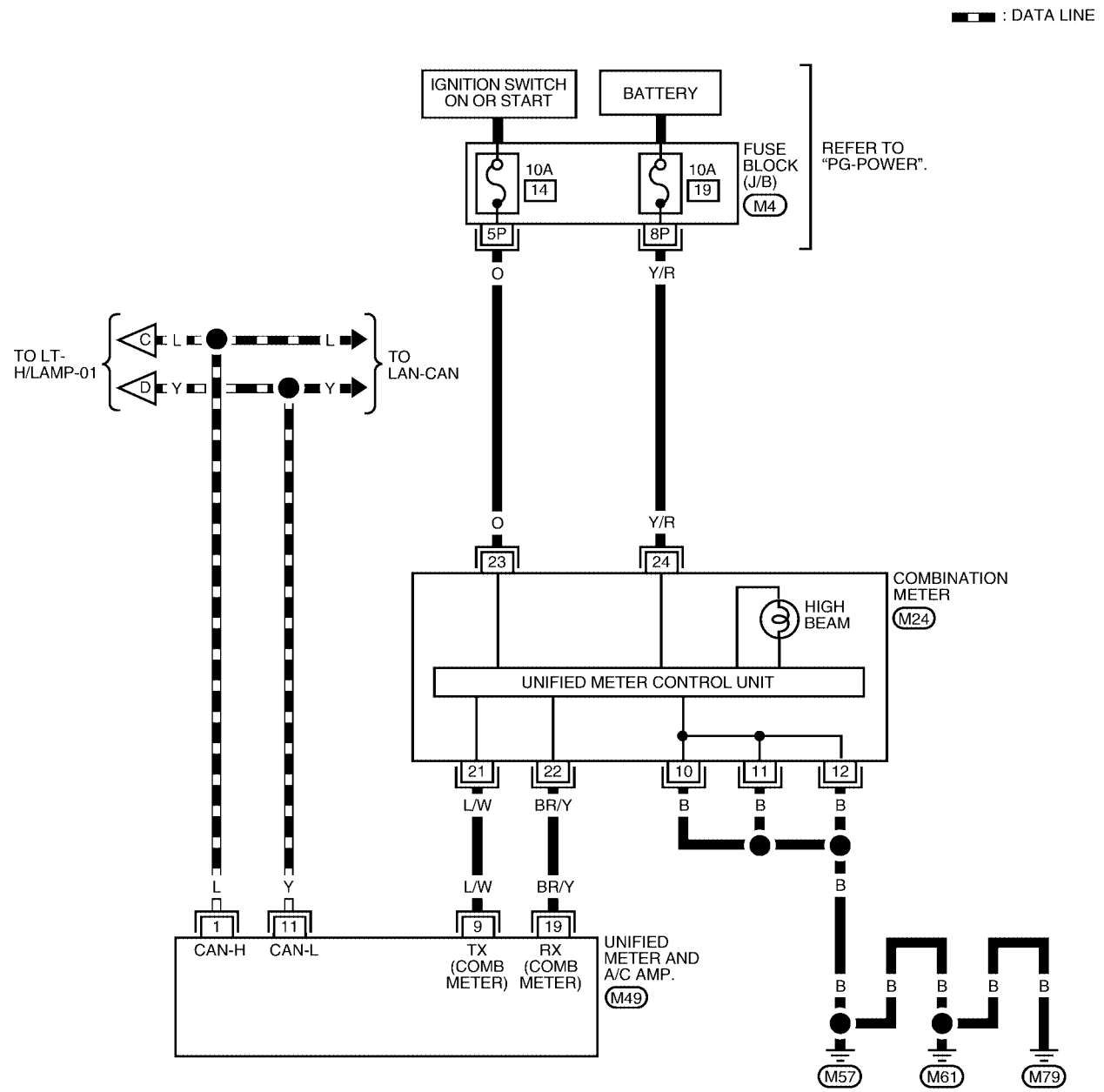
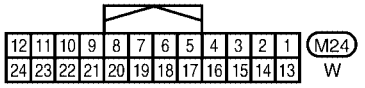
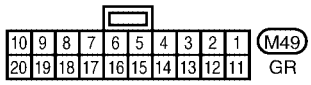
LT-H/LAMP-04



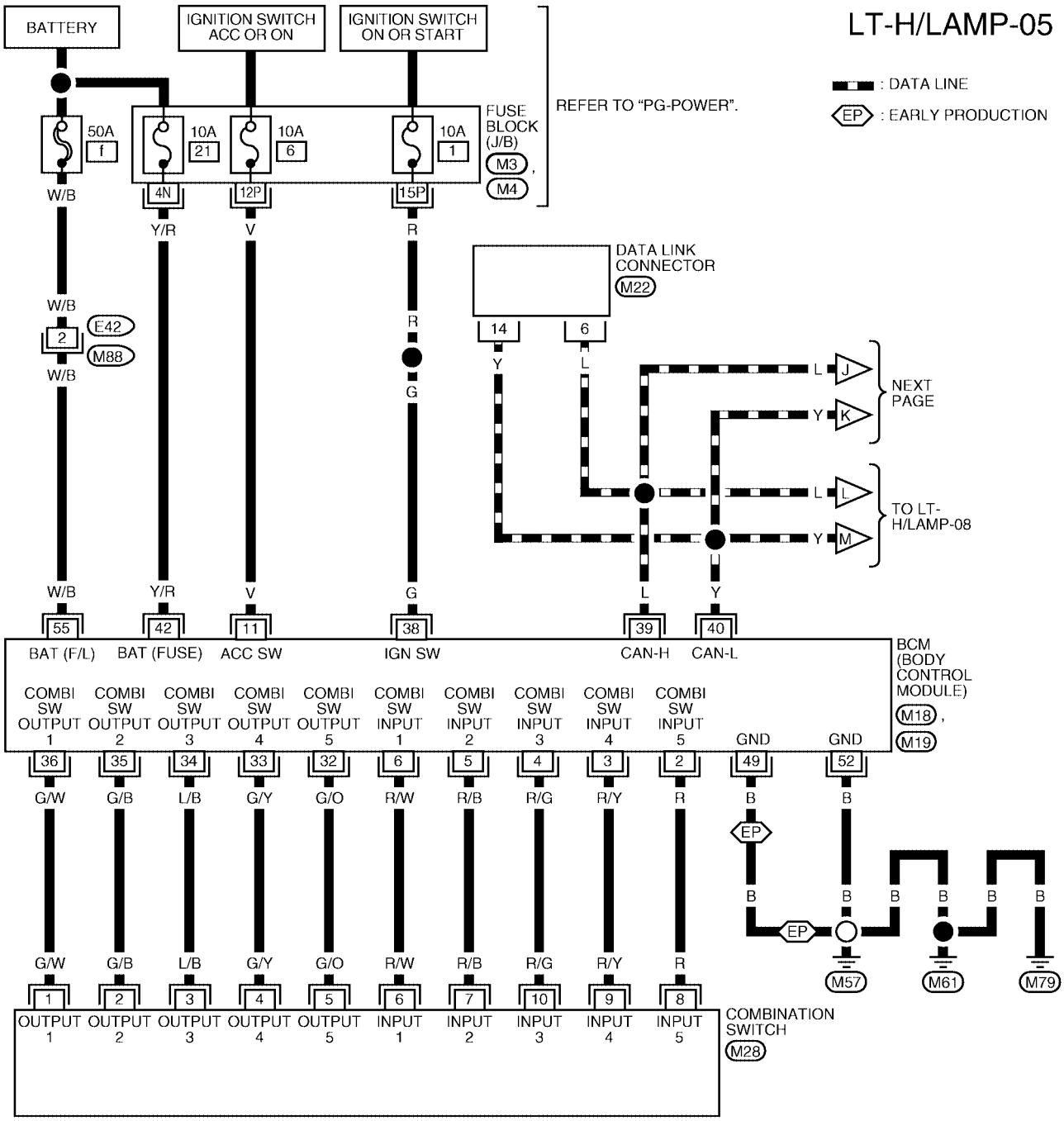


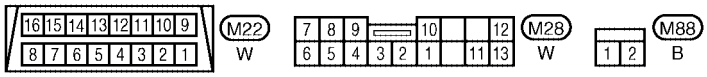


REFER TO THE FOLLOWING.
M4 - FUSE BLOCK - JUNCTION BOX (J/B)

LKWA0198E

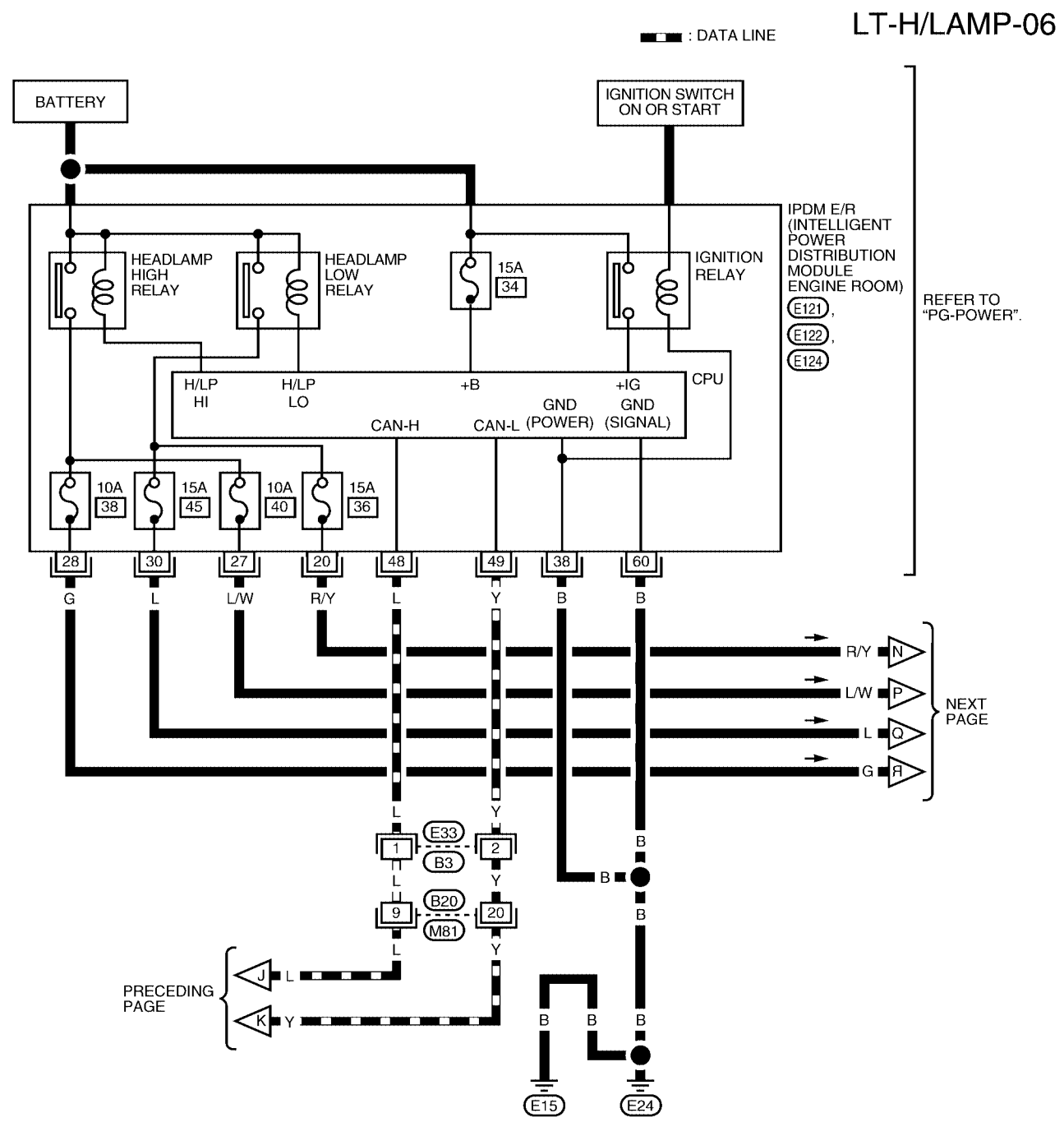
XENON TYPE

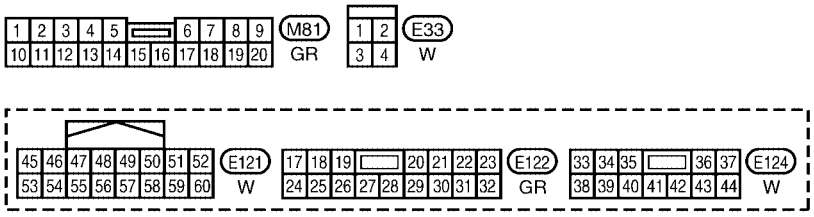




REFER TO THE FOLLOWING.
M3, M4 - FUSE BLOCK-JUNCTION BOX (J/B)
M18, M19 - ELECTRICAL UNITS

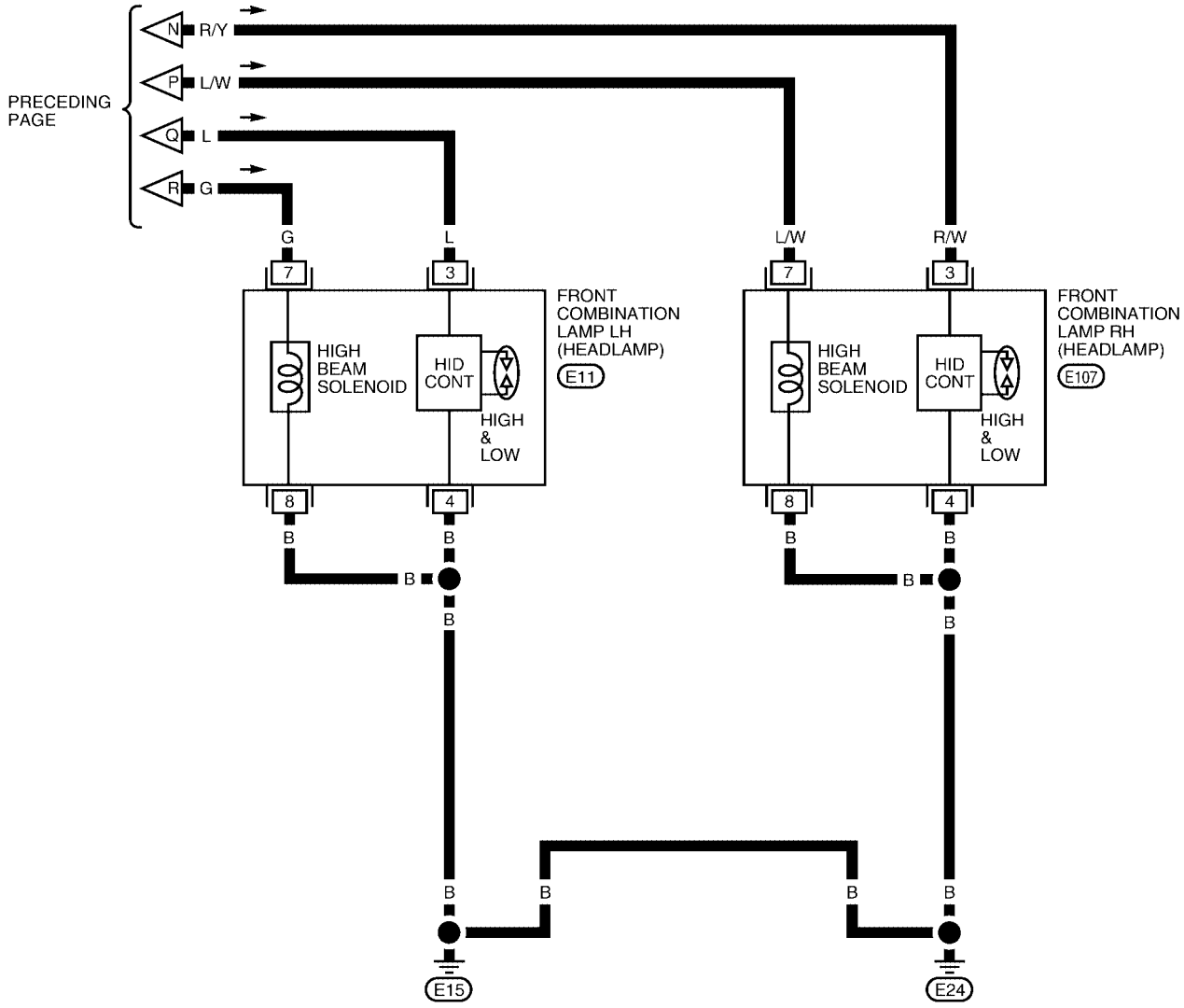
WKWA1809E

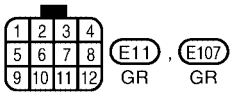

LT-H/LAMP-06
: DATA LINE
BATTERY
IGNITION SWITCH ON OR START
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E121, E122, E124
REFER TO "PG-POWER".
HEADLAMP HIGH RELAY
HEADLAMP LOW RELAY
15A 34
IGNITION RELAY
H/LP HI
H/LP LO
+B
+IG
GND (POWER)
GND (SIGNAL)
CAN-H
CAN-L
CPU
10A 38
15A 45
10A 40
15A 36
28 30 27 20 48 49 38 60
G L L/W R/Y L Y B B
R/Y N
L/W P
L Q
G R
NEXT PAGE
E33
1 2
B3
9 20
B20
M81
PRECEDING PAGE
J L
K Y
B B B
E15
E24


M81 GR
E33 W
E121 W
E122 GR
E124 W

LKWA0200E

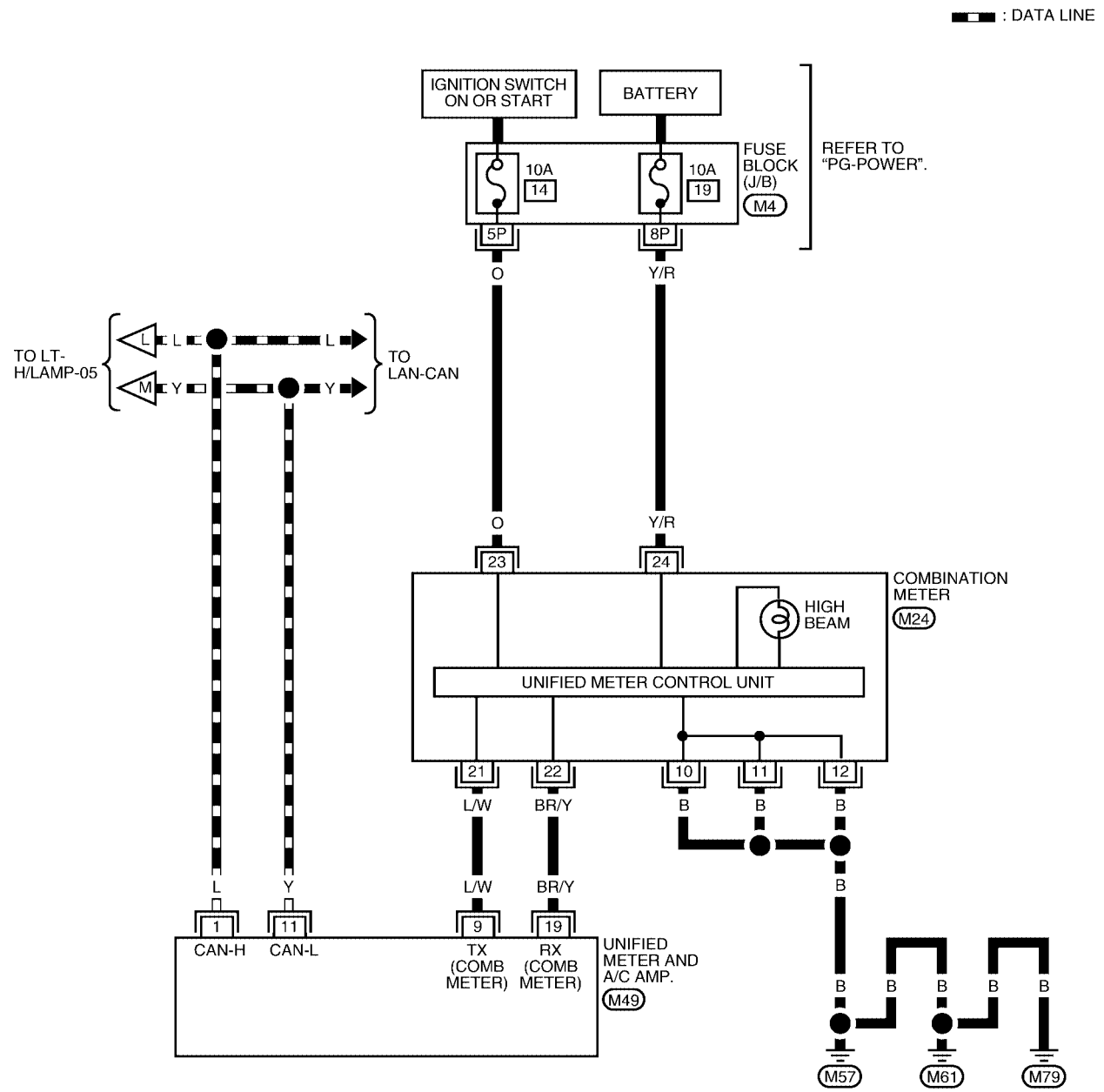
LT-H/LAMP-07

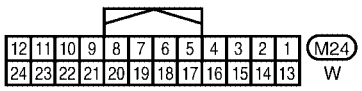


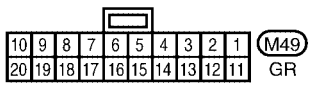


LKWA0201E

LT-H/LAMP-08





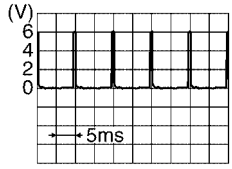
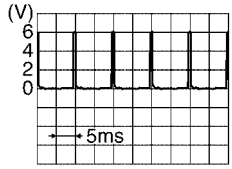
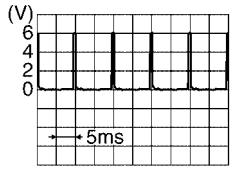
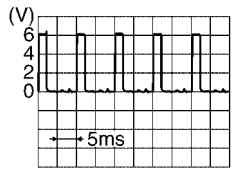


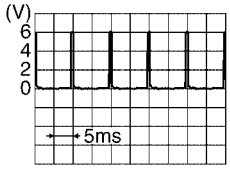
REFER TO THE FOLLOWING.
M4 - FUSE BLOCK - JUNCTION BOX (J/B)

LKWA0202E

Terminals and Reference Value for BCM

EKS005BT

Terminal No.	Wire color	Signal name	Measuring condition		Reference value (Approx.)
			Ignition switch	Operation or condition	
2	R	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	R/Y	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	R/G	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	R/B	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	R/W	Combination switch input 1			
11	V	Ignition switch (ACC)	ACC	—	Battery voltage
32	G/O	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	G/Y	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	L/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E

Terminal No.	Wire color	Signal name	Measuring condition		Reference value (Approx.)
			Ignition switch	Operation or condition	
35	G/B	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	G/W	Combination switch output 1			
38	G	Ignition switch (ON)	ON	—	Battery voltage
39	L	CAN-H	—	—	—
40	Y	CAN-L	—	—	—
42	Y/R	Battery power supply	OFF	—	Battery voltage
49 (early production)	B	Ground	ON	—	0V
52	B	Ground	ON	—	0V
55	W/B	Battery power supply (fusible link)	OFF	—	Battery voltage

Terminals and Reference Values for IPDM E/R

EKS005BU

Terminal No.	Wire color	Signal name	Measuring condition			Reference value (Approx.)
			Ignition switch	Operation or condition		
20	R/Y	Headlamp low (RH)	ON	Lighting switch 2ND position	OFF	0V
					ON	Battery voltage
27	L/W	Headlamp high (RH)	ON	Lighting switch HIGH or PASS position	OFF	0V
					ON	Battery voltage
28	G	Headlamp high (LH)	ON	Lighting switch HIGH or PASS position	OFF	0V
					ON	Battery voltage
30	L	Headlamp low (LH)	ON	Lighting switch 2ND position	OFF	0V
					ON	Battery voltage
38	B	Ground	ON	—		0V
48	L	CAN-H	—	—		—
49	Y	CAN-L	—	—		—
60	B	Ground	ON	—		0V

How to Proceed With Trouble Diagnosis

EKS005BV

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-6, "System Description" .
3. Perform the Preliminary Check. Refer to LT-21, "Preliminary Check" .
4. Check symptom and repair or replace the cause of malfunction.
5. Does the headlamp operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. Inspection End.

Preliminary Check

EKS005BW

CHECK POWER SUPPLY AND GROUND CIRCUIT

1. CHECK FUSES AND FUSIBLE LINK

Check for blown fuses or fusible link.

Unit	Power source	Fuse No.
BCM	Battery	f
	Battery	21
	Ignition switch ON or START position	1
	Ignition switch ACC or ON position	6
IPDM E/R	Battery	34
		36
		38
		40
		45

Refer to LT-11, "Wiring Diagram — H/LAMP —" .

OK or NG

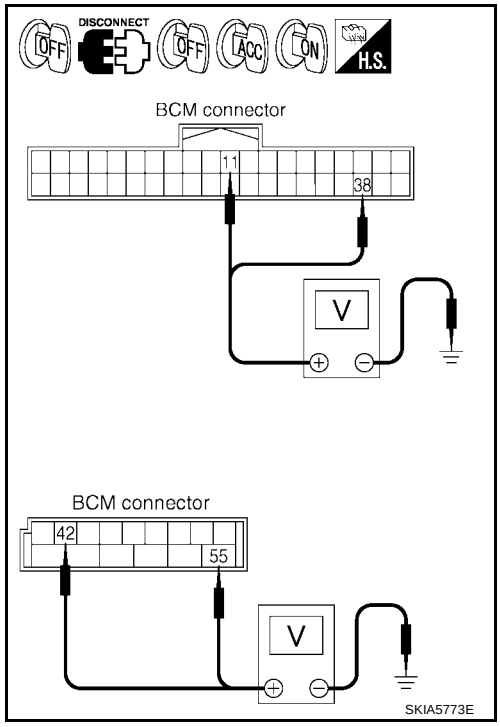
OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

Terminals			Ignition switch position		
(+)		(–)			
Connector	Terminal (Wire color)		OFF	ACC	ON
M18	11 (V)	Ground	0V	Battery voltage	Battery voltage
	38 (G)		0V	0V	Battery voltage
M19	42 (Y/R)		Battery voltage	Battery voltage	Battery voltage
	55 (W/B)		Battery voltage	Battery voltage	Battery voltage



OK or NG

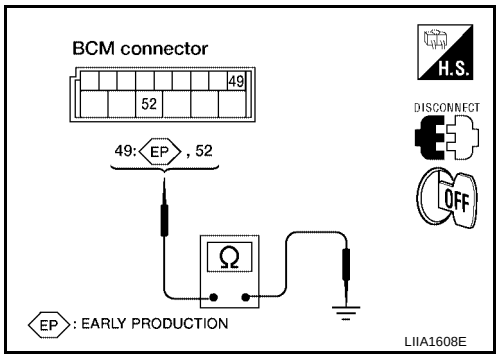
OK >> GO TO 3.

NG >> Check harness for open between BCM and fuse.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

Terminals			Continuity
(+)		(–)	
Connector	Terminal (Wire color)		
M19	49 (B) (early production)	Ground	Yes
	52 (B)		



OK or NG

OK >> Inspection End.
NG >> Check ground circuit harness.

CONSULT-II Function (BCM)

EKS005BX

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

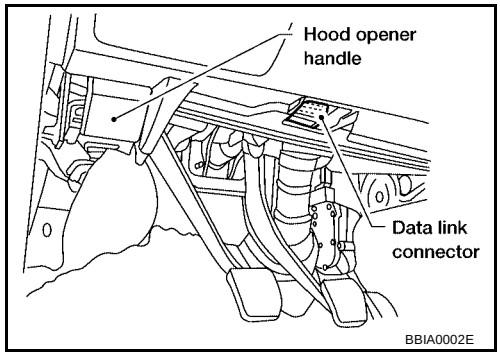
BCM diagnostic test item	Diagnostic mode	Description
Inspection by part	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
	DATA MONITOR	Displays BCM input/output data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
	SELF-DIAG RESULTS	Displays BCM self-diagnosis results.
	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
	ECU PART NUMBER	BCM part number can be read.
	CONFIGURATION	Performs BCM configuration read/write functions.

CONSULT-II OPERATION

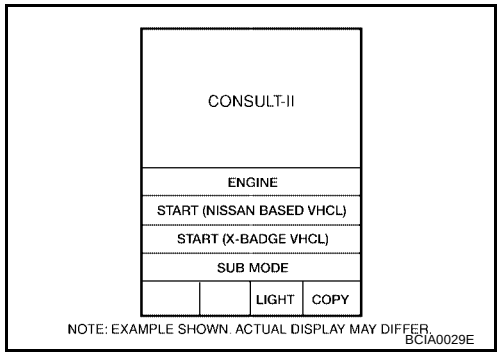
CAUTION:

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

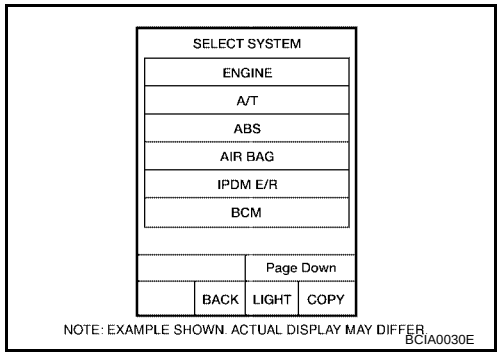
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn ignition switch ON.



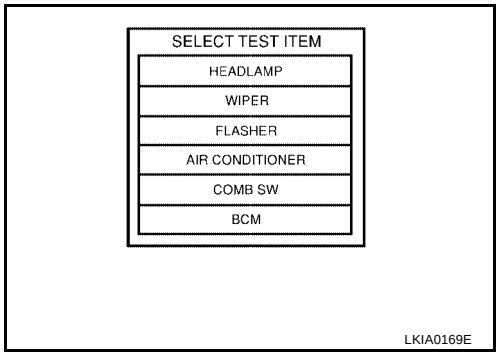
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "BCM" on "SELECT SYSTEM" screen.
If "BCM" is not indicated, go to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .



4. Touch "HEADLAMP" on "SELECT TEST ITEM" screen.



WORK SUPPORT

Operation Procedure

1. Touch "HEADLAMP" on "SELECT TEST ITEM" screen.
2. Touch "WORK SUPPORT" on "SELECT DIAG MODE" screen.
3. Touch item on "SELECT WORK ITEM" screen.
4. Touch "START".
5. Touch "CHANGE SET".
6. The setting will be changed and "CUSTOMIZING COMPLETED" will be displayed.
7. Touch "END".

Display Item List

Item	Description	CONSULT-II	Factory setting
BATTERY SAVER SET	Exterior lamp battery saver control mode can be changed in this mode. Selects exterior lamp battery saver control mode between ON/OFF.	ON	×
		OFF	—

DATA MONITOR

Operation Procedure

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

All signals	Monitors all the signals.
Selection from menu	Selects and monitors individual signal.

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

Display Item List

Monitor item		Contents
IGN ON SW	"ON/OFF"	Displays "IGN position (ON)/OFF, ACC position (OFF)" judged from the ignition switch signal.
ACC ON SW	"ON/OFF"	Displays "ACC (ON)/OFF, Ignition OFF (OFF)" status judged from ignition switch signal.
HI BEAM SW	"ON/OFF"	Displays status (high beam switch: ON/Others: OFF) of high beam switch judged from lighting switch signal.
HEAD LAMP SW 1	"ON/OFF"	Displays status (headlamp switch 1: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.
HEAD LAMP SW 2	"ON/OFF"	Displays status (headlamp switch 2: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.

Monitor item		Contents
LIGHT SW 1ST	"ON/OFF"	Displays status (lighting switch 1st position: ON/Others: OFF) of lighting switch judged from lighting switch signal.
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)
PASSING SW	"ON/OFF"	Displays status (flash-to-pass switch: ON/Others: OFF) of flash-to-pass switch judged from lighting switch signal.
FR FOG SW	"ON/OFF"	Displays status (front fog lamp switch: ON/Others: OFF) of front fog lamp switch judged from lighting switch signal.
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 status of the passenger door as judged from the passenger door switch signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - RR	"ON/OFF"	Displays status of the rear door as judged from the rear door switch (RH) signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - RL	"ON/OFF"	Displays status of the rear door as judged from the rear door switch (LH) signal. (Door is open: ON/Door is closed: OFF)
BACK DOOR SW	"ON/OFF"	Displays status of the back door as judged from the back door switch signal. (Door is open: ON/Door is closed: OFF)
TURN SIGNAL R	"ON/OFF"	Displays status (Turn right: ON/Others: OFF) as judged from lighting switch signal.
TURN SIGNAL L	"ON/OFF"	Displays status (Turn left: ON/Others: OFF) as judged from lighting switch signal.
ENGINE RUN[Note 1]	"ON/OFF"	Displays status (Engine running: ON/Others: OFF) as judged from engine status signal.
PKB SW[Note 1]	"ON/OFF"	Displays status (Parking brake switch: ON/Others: OFF) as judged from parking brake switch signal.
OPTICAL SENSOR	[0 - 5V]	Displays "ambient light (close to 5V when light/close to 0V when dark)" judged from optical sensor signal.

NOTE:
1. Vehicles without daytime light system display this item, but cannot monitor it.

ACTIVE TEST

Operation Procedure

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

Display Item List

Test item	Description
TAIL LAMP	Allows tail lamp relay to operate by switching ON-OFF.
HEAD LAMP (LOW)	Allows headlamp relay to operate by switching ON-OFF.
HEAD LAMP (HI)	Allows headlamp relay to operate by switching ON-OFF.
FR FOG LAMP	Allows fog lamp relay to operate by switching ON-OFF.
DTRL[Note 1]	Allow day time light lamp operate by switching ON-OFF.
CORNERING LAMP	Allows cornering lamp relay (RH, LH) to operate by switching ON-OFF.

NOTE:
1. Vehicles without daytime light system display this item, but cannot monitor it.

SELF-DIAGNOSTIC RESULTS

Operation Procedure

1. Touch "BCM C/U" on "SELECT TEST ITEM" screen.
2. Touch "SELF-DIAG RESULTS" on "SELECT DIAG MODE" screen.
3. Self-diagnostic results are displayed.

Display Item List

Monitored item	CONSULT-II display	Description
CAN communication	CAN communication [U1000]	Malfunction is detected in CAN communication.
CAN communication system	CAN communication system 1 to 6 [U1000]	Malfunction is detected in CAN system.

CONSULT-II Function (IPDM E/R)

EKS005BY

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

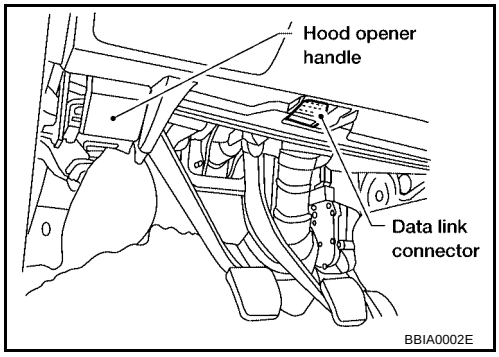
IPDM E/R diagnostic Mode	Description
SELF-DIAG RESULTS	Displays IPDM E/R self-diagnosis results.
DATA MONITOR	Displays IPDM E/R input/output data in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.

CONSULT-II OPERATION

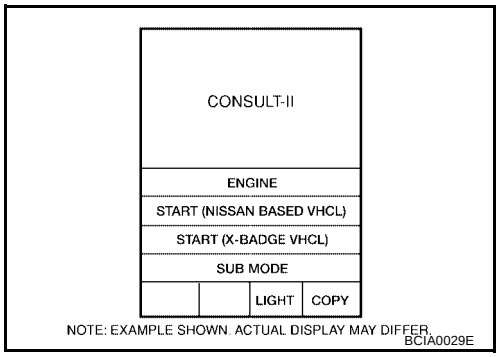
CAUTION:

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

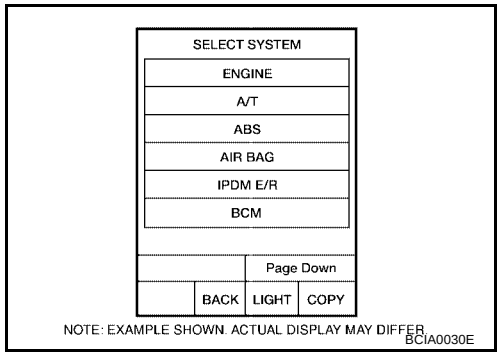
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.



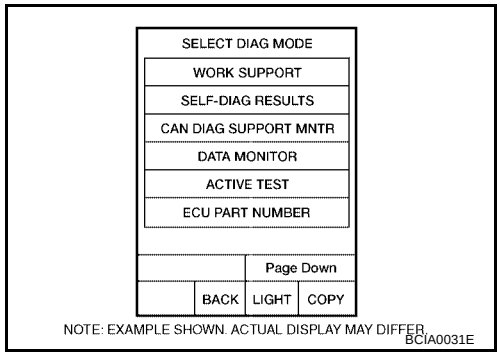
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "IPDM E/R" on "SELECT SYSTEM" screen.
If "IPDM E/R" is not displayed, go to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .



4. Select the desired part to be diagnosed on the "SELECT DIAG MODE" screen.



DATA MONITOR

Operation Procedure

1. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
2. Touch "ALL SIGNALS", "MAIN SIGNALS" or "SELECT FROM MENU" on the "DATA MONITOR" screen.

ALL SIGNALS	All items will be monitored.
MAIN SIGNALS	Monitor the predetermined item.
SELECT FROM MENU	Select any item for monitoring.

3. Touch "START".
4. Touch the required monitoring item on "SELECT ITEM MENU". In "ALL SIGNALS", all items are monitored. In "MAIN SIGNALS", predetermined items are monitored.
5. Touch "RECORD" while monitoring to record the status of the item being monitored. To stop recording, touch "STOP".

All Items, Main Items, Select Item Menu

Item name	CONSULT-II screen display	Display or unit	Monitor item selection			Description
			ALL SIGNALS	MAIN SIGNALS	SELECT FROM MENU	
Position lights request	TAIL&CLR REQ	ON/OFF	×	×	×	Signal status input from BCM
Headlamp low beam request	HL LO REQ	ON/OFF	×	×	×	Signal status input from BCM
Headlamp high beam request	HL HI REQ	ON/OFF	×	×	×	Signal status input from BCM
Cornering lamp	CRNRNG LMP REQ	ON/OFF	×	–	×	Signal status input from BCM
Front fog lights request	FR FOG REQ	ON/OFF	×	×	×	Signal status input from BCM

NOTE:
Perform monitoring of IPDM E/R data with the ignition switch ON. When the ignition switch is at ACC, the display may not be correct.

ACTIVE TEST

Operation Procedure

1. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Touch item to be tested, and check operation.
3. Touch "START".
4. Touch "STOP" while testing to stop the operation.

Test item	CONSULT-II screen display	Description
Headlamp relay (HI, LO) output	LAMPS	Allows headlamp relay (HI, LO) to operate by switching operation (OFF, HI ON, LO ON) at your option (Head lamp high beam repeats ON-OFF every 1 second).
Front fog lamp relay (FOG) output		Allows fog lamp relay (FOG) to operate by switching operation ON-OFF at your option
Tail lamp relay output	TAIL LAMP	Allows tail lamp relay to operate by switching operation ON-OFF at your option
Cornering lamp relay (RH, LH) output	CORNERING LAMP	Allows cornering lamp relay (RH, LH) to operate by switching operation ON-OFF at your option

Headlamp Does Not Change To High Beam (Both Sides)

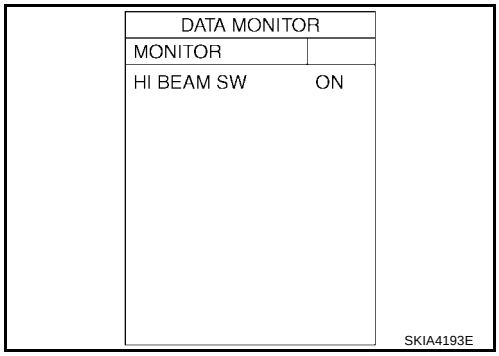
EKS005BZ

1. CHECK COMBINATION SWITCH INPUT SIGNAL

With CONSULT-II

Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "HI BEAM SW" turns ON-OFF linked with operation of lighting switch.

When lighting switch is HIGH position : HI BEAM SW ON



Without CONSULT-II

Refer to LT-127, "Combination Switch Inspection" .

OK or NG

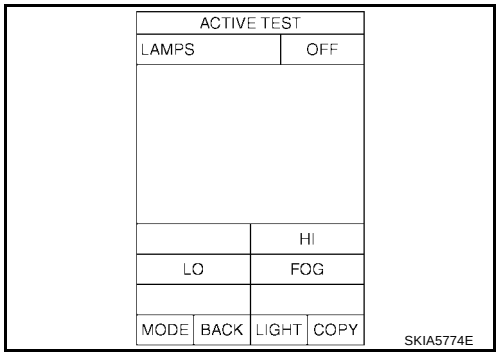
OK >> GO TO 2.
NG >> Check lighting switch. Refer to LT-127, "Combination Switch Inspection" .

2. HEADLAMP ACTIVE TEST

With CONSULT-II

1. Select "IPDM E/R" on CONSULT-II and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "LAMPS" on "SELECT TEST ITEM" screen.
3. Touch "HI" screen.
4. Make sure headlamp high beam operates.

Headlamp high beam should operate (Headlamp high beam repeats ON-OFF every 1 second).



Without CONSULT-II

1. Start auto active test. Refer to PG-20, "Auto Active Test" .
2. Make sure headlamp high beam operates.

Headlamp high beam should operate.

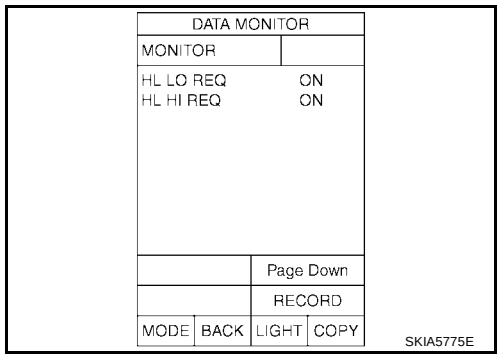
OK or NG

OK >> GO TO 3.
NG >> GO TO 4.

3. CHECK IPDM E/R

1. Select "IPDM E/R" on CONSULT-II and select "DATA MONITOR" on "SELECT DIAG MODE" screen.
2. Make sure "HL LO REQ" and "HL HI REQ" turns ON when lighting switch is in HI position.

When lighting switch is HIGH position : HL LO REQ ON : HL HI REQ ON



OK or NG

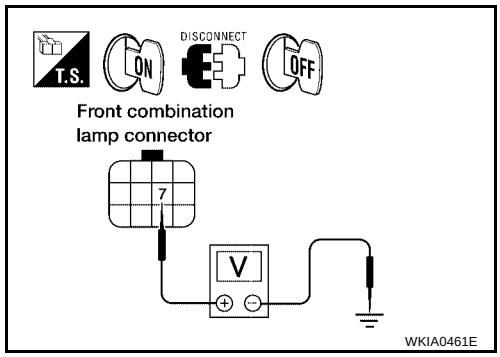
OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .

NG >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

4. CHECK HEADLAMP INPUT SIGNAL

With CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Select "IPDM E/R" on CONSULT-II and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
4. Select "LAMPS" on "SELECT TEST ITEM" screen.
5. Touch "HI" screen.
6. When headlamp high beam is operating, check voltage between front combination lamp RH and LH harness connector and ground (Headlamp high beam repeats ON-OFF every 1 second).



Without CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Start auto active test. Refer to PG-20, "Auto Active Test" .
4. When headlamp high beam is operating, check voltage between front combination lamp RH and LH harness connector and ground.

Terminals				Voltage
(+)			(-)	
Connector		Terminal (Wire color)		
RH	E107	7 (L/W)	Ground	Battery voltage
LH	E11	7 (G)		

OK or NG

OK >> GO TO 6.

NG >> GO TO 5.

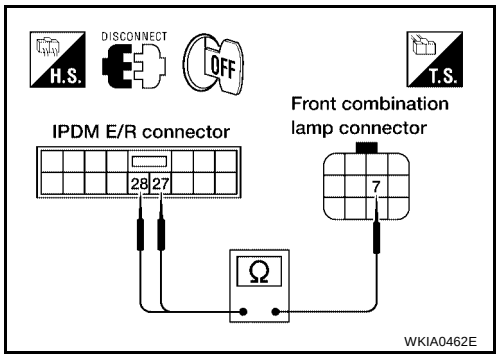
5. CHECK HEADLAMP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector E122 terminal 27 (L/W) and front combination lamp RH harness connector E107 terminal 7 (L/W).

27 (L/W) - 7 (L/W) : Continuity should exist.

4. Check continuity between IPDM E/R harness connector E122 terminal 28 (G) and front combination lamp LH harness connector E11 terminal 7 (G).

28 (G) - 7 (G) : Continuity should exist.



OK or NG

OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .
NG >> Repair harness or connector.

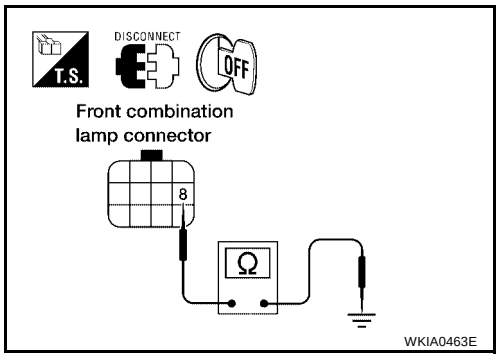
6. CHECK HEADLAMP GROUND

1. Check continuity between front combination lamp RH harness connector E107 terminal 8 (B) and ground.

8 (B) - Ground : Continuity should exist.

2. Check continuity between front combination lamp LH harness connector E11 terminal 8 (B) and ground.

8 (B) - Ground : Continuity should exist.



OK or NG

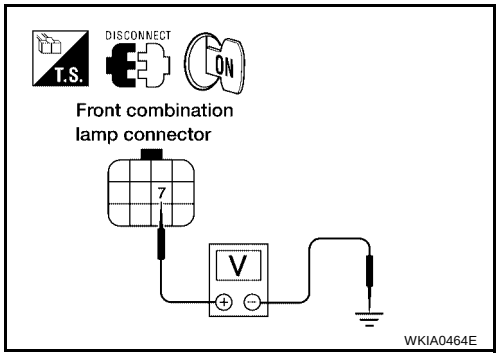
OK >> Replace headlamp assembly. Refer to LT-41, "Combination Lamp Removal and Installation" .
NG >> Repair harness or connector.

Headlamp Does Not Change To High Beam (One Side)

EKS005C0

1. CHECK HEADLAMP INPUT SIGNAL

1. Disconnect front combination lamp RH or LH connector.
2. Turn ignition switch ON.
3. Lighting switch is turned to HIGH position.
4. Check voltage between front combination lamp RH or LH harness connector and ground.



Terminals				Voltage
(+)			(-)	
Connector		Terminal (Wire color)		
RH	E107	7 (L/W)	Ground	Battery voltage
LH	E11	7 (G)		

OK or NG

OK >> GO TO 3.
NG >> GO TO 2.

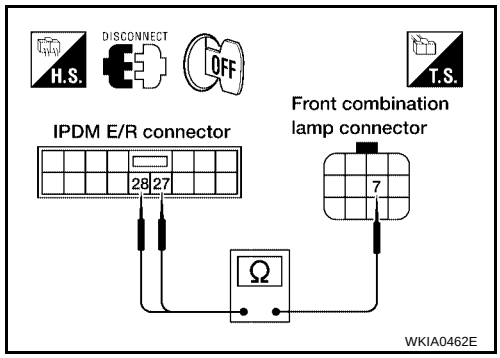
2. CHECK HEADLAMP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector E122 terminal 27 (L/W) and front combination lamp RH harness connector E107 terminal 7 (L/W).

27 (L/W) - 7 (L/W) : Continuity should exist.

4. Check continuity between IPDM E/R harness connector E122 terminal 28 (G) and front combination lamp LH harness connector E11 terminal 7 (G).

28 (G) - 7 (G) : Continuity should exist.



OK or NG

OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .
NG >> Repair harness or connector.

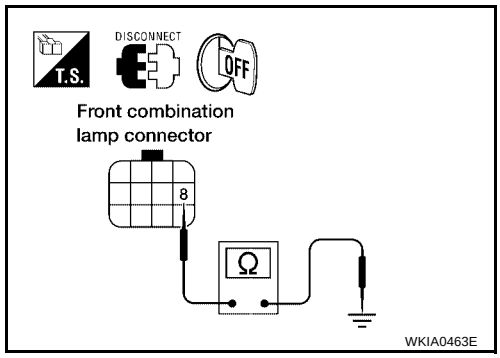
3. CHECK HEADLAMP GROUND

1. Check continuity between front combination lamp RH harness connector E107 terminal 8 (B) and ground.

8 (B) - Ground : Continuity should exist.

2. Check continuity between front combination lamp LH harness connector E11 terminal 8 (B) and ground.

8 (B) - Ground : Continuity should exist.



OK or NG

OK >> Replace headlamp assembly. Refer to LT-41, "Combination Lamp Removal and Installation" .
NG >> Repair harness or connector.

High Beam Indicator Lamp Does Not Illuminate

EKS005C1

1. CHECK BULB

Check bulb of high beam indicator lamp.

OK or NG

OK >> Replace combination meter. Refer to IP-15, "Combination Meter" .
NG >> Replace indicator bulb.

Headlamp Low Beam Does Not Illuminate (Both Sides)

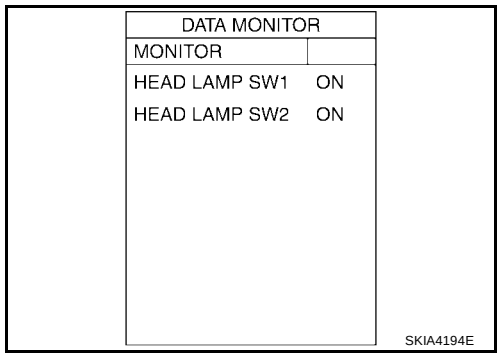
EKS005C2

1. CHECK COMBINATION SWITCH INPUT SIGNAL

With CONSULT-II

Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "HEAD LAMP SW 1" and "HEAD LAMP SW 2" turns ON-OFF linked with operation of lighting switch.

When lighting switch is 2ND position : HEAD LAMP SW 1 ON
: HEAD LAMP SW 2 ON



Without CONSULT-II

Refer to LT-127, "Combination Switch Inspection" .

OK or NG

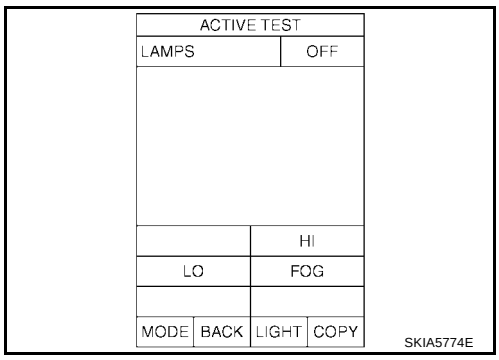
OK >> GO TO 2.
NG >> Check lighting switch. Refer to LT-127, "Combination Switch Inspection" .

2. HEADLAMP ACTIVE TEST

With CONSULT-II

1. Select "IPDM E/R" on CONSULT-II and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "LAMPS" on "SELECT TEST ITEM" screen.
3. Touch "LO" screen.
4. Make sure headlamp low beam operates.

Headlamp low beam should operate.



Without CONSULT-II

1. Start auto active test. Refer to PG-20, "Auto Active Test" .
2. Make sure headlamp low beam operates.

Headlamp low beam should operate.

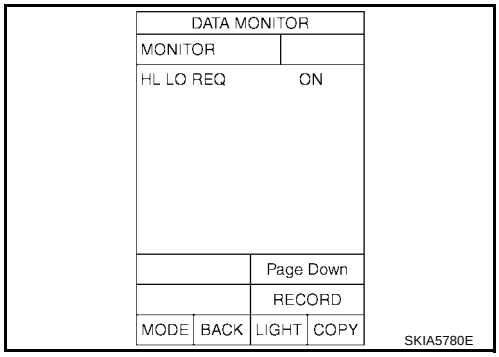
OK or NG

OK >> GO TO 3.
NG >> GO TO 4.

3. CHECK IPDM E/R

1. Select "IPDM E/R" on CONSULT-II and select "DATA MONITOR" on "SELECT DIAG MODE" screen.
2. Make sure "HL LO REQ" turns ON when lighting switch is in 2ND position.

When lighting switch is 2ND position : HL LO REQ ON



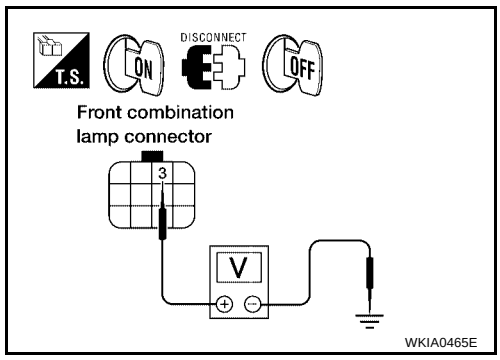
OK or NG

OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .
NG >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

4. CHECK HEADLAMP INPUT SIGNAL

With CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Select "IPDM E/R" on CONSULT-II and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
4. Select "LAMPS" on "SELECT TEST ITEM" screen.
5. Touch "LO" screen.
6. When headlamp low beam is operating, check voltage between front combination lamp RH and LH harness connector and ground.



Without CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Start auto active test. Refer to PG-20, "Auto Active Test" .
4. When headlamp low beam is operating, check voltage between front combination lamp RH and LH harness connector and ground.

Terminals				Voltage
(+)			(-)	
Connector		Terminal (Wire color)		
RH	E107	3 (R/Y)	Ground	Battery voltage
LH	E11	3 (L)		

OK or NG

OK >> GO TO 6.
NG >> GO TO 5.

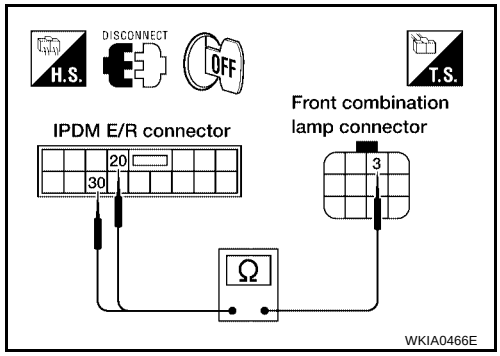
5. CHECK HEADLAMP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector E122 terminal 20 (R/Y) and front combination lamp RH harness connector E107 terminal 3 (R/Y).

20 (R/Y) - 3 (R/Y) : Continuity should exist.

4. Check continuity between IPDM E/R harness connector E122 terminal 30 (L) and front combination lamp LH harness connector E11 terminal 3 (L).

30 (L) - 3 (L) : Continuity should exist.



OK or NG

OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .
NG >> Repair harness or connector.

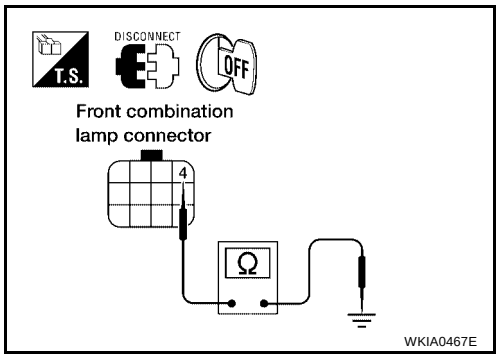
6. CHECK HEADLAMP GROUND

1. Turn ignition switch OFF.
2. Check continuity between front combination lamp RH harness connector E107 terminal 4 (B) and ground.

4 (B) - Ground : Continuity should exist.

3. Check continuity between front combination lamp LH harness connector E11 terminal 4 (B) and ground.

4 (B) - Ground : Continuity should exist.



OK or NG

OK >> Check headlamp harness and connectors, ballasts (HID control unit), and xenon bulbs. Refer to LT-38, "Xenon Headlamp Trouble Diagnosis" .

NG >> Repair harness or connector.

Headlamp Low Beam Does Not Illuminate (One Side)

EKS005C3

1. CHECK BULB

Check ballasts (HID control unit) and xenon bulb of lamp which does not illuminate. Refer to LT-38, "Xenon Headlamp Trouble Diagnosis" .

OK or NG

OK >> GO TO 2.

NG >> Repair malfunctioning part.

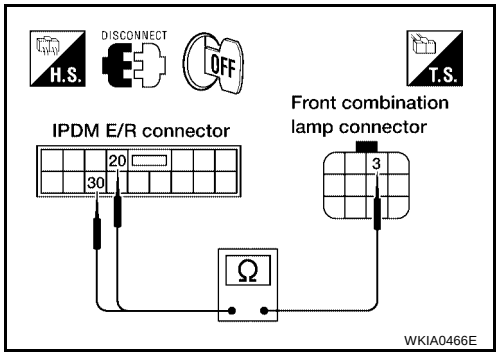
2. CHECK HEADLAMP CIRCUIT

1. Disconnect IPDM E/R connector and front combination lamp RH or LH connector.
2. Check continuity between IPDM E/R harness connector E122 terminal 20 (R/Y) and front combination lamp RH harness connector E107 terminal 3 (R/Y).

20 (R/Y) - 3 (R/Y) : Continuity should exist.

3. Check continuity between IPDM E/R harness connector E122 terminal 30 (L) and front combination lamp LH harness connector E11 terminal 3 (L).

30 (L) - 3 (L) : Continuity should exist.



OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.

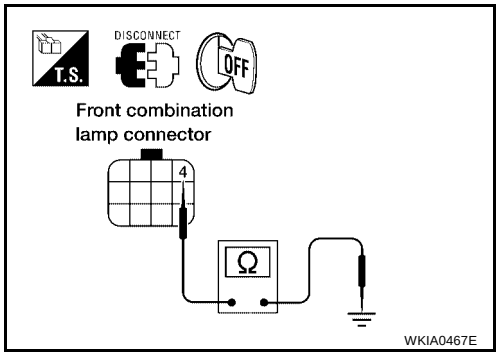
3. CHECK HEADLAMP GROUND

1. Check continuity between front combination lamp RH harness connector E107 terminal 4 (B) and ground.

4 (B) - Ground : Continuity should exist.

2. Check continuity between front combination lamp LH harness connector E11 terminal 4 (B) and ground.

4 (B) - Ground : Continuity should exist.



OK or NG

OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .

NG >> Repair harness or connector.

Headlamp RH Low Beam and High Beam Does Not Illuminate

EKS005C4

1. CHECK BULB

Inspect ballasts (HID control unit) and xenon bulb of lamp which does not illuminate. Refer to LT-38, "Xenon Headlamp Trouble Diagnosis" .

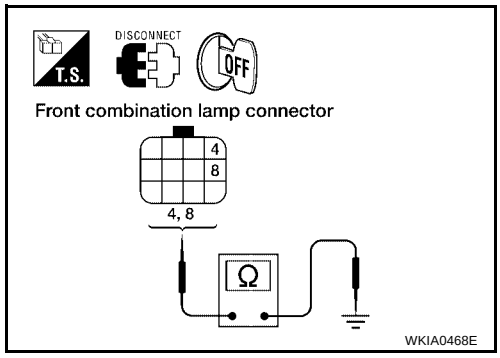
OK or NG

OK >> GO TO 2.
NG >> Repair malfunctioning part.

2. CHECK HEADLAMP GROUNDS

1. Disconnect front combination lamp RH connector.
2. Check continuity between front combination lamp RH harness connector E107 terminal 4 (B), 8 (B) and ground.

4 (B), 8 (B) - Ground : Continuity should exist.



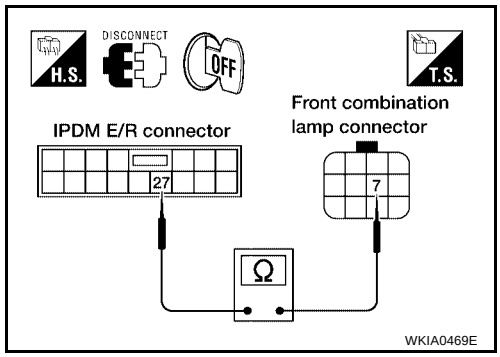
OK or NG

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

3. CHECK HEADLAMP CIRCUIT

1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector E122 terminal 27 (L/W) and front combination lamp RH harness connector E107 terminal 7 (L/W).

27 (L/W) - 7 (L/W) : Continuity should exist.

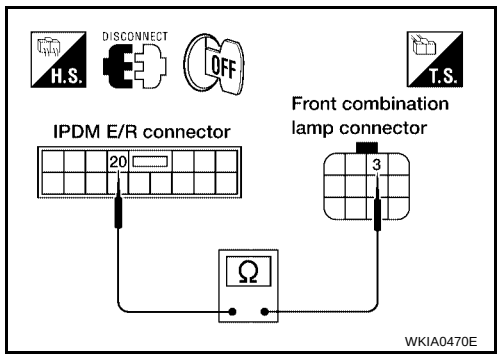


3. Check continuity between IPDM E/R harness connector E122 terminal 20 (R/Y) and front combination lamp RH harness connector E107 terminal 3 (R/Y).

20 (R/Y) - 3 (R/Y) : Continuity should exist.

OK or NG

OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .
NG >> Repair harness or connector.



Headlamp LH Low Beam and High Beam Does Not Illuminate

EKS005C5

1. CHECK BULB

Inspect ballasts (HID control unit) and xenon bulb of lamp which does not illuminate. Refer to LT-38, "Xenon Headlamp Trouble Diagnosis" .

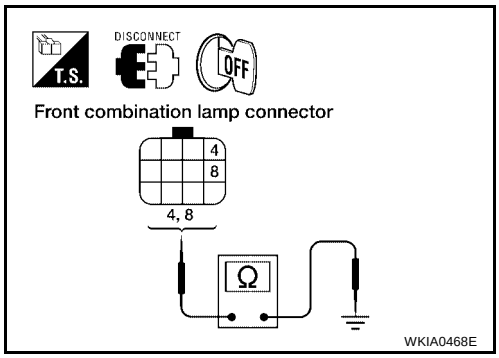
OK or NG

OK >> GO TO 2.
NG >> Repair malfunctioning part.

2. CHECK HEADLAMP GROUND

1. Disconnect front combination lamp LH connector.
2. Check continuity between front combination lamp LH harness connector E11 terminal 4 (B), 8 (B) and ground.

4 (B), 8 (B) - Ground : Continuity should exist.



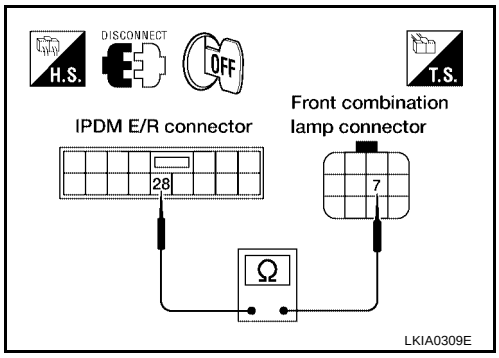
OK or NG

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

3. CHECK HEADLAMP CIRCUIT

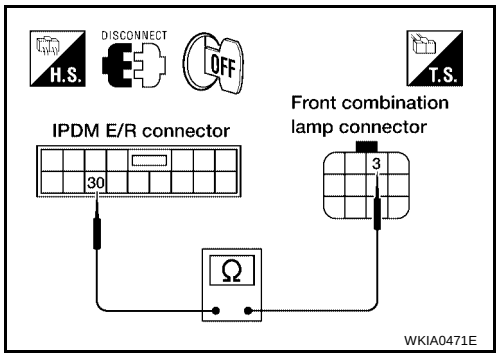
1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector E122 terminal 28 (G) and front combination lamp LH harness connector E11 terminal 7 (G).

28 (G) - 7 (G) : Continuity should exist.



3. Check continuity between IPDM E/R harness connector E122 terminal 30 (L) and front combination lamp LH harness connector E11 terminal 3 (L).

30 (L) - 3 (L) : Continuity should exist.



OK or NG

OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .
NG >> Repair harness or connector.

Headlamps Do Not Turn OFF

EKS005C6

1. CHECK HEADLAMP TURN OFF

Make sure that lighting switch is OFF. And make sure is headlamp turns off when ignition switch is turned OFF.

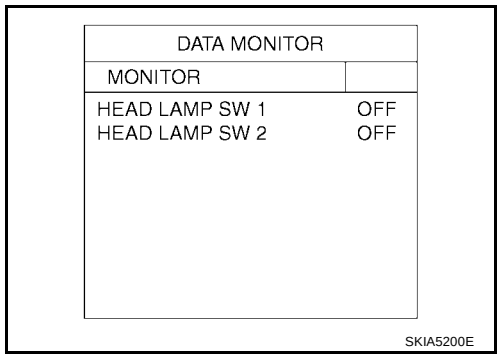
OK or NG

OK >> GO TO 3.
NG >> GO TO 2.

2. CHECK COMBINATION SWITCH INPUT SIGNAL

Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "HEAD LAMP SW 1" and "HEAD LAMP SW 2" turns ON-OFF linked with operation of lighting switch.

When lighting switch is OFF position : HEAD LAMP SW 1 OFF
: HEAD LAMP SW 2 OFF



OK or NG

OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .

NG >> Check lighting switch. Refer to LT-127, "Combination Switch Inspection" .

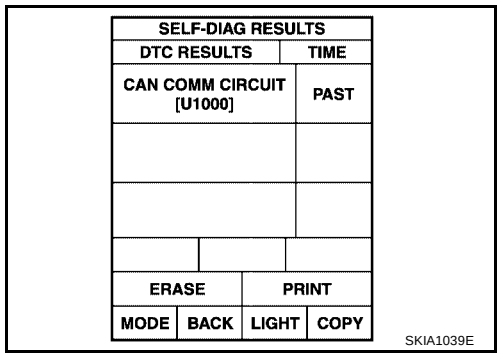
3. CHECKING CAN COMMUNICATIONS BETWEEN BCM AND IPDM E/R

Select "BCM" by CONSULT-II and perform self-diagnosis for BCM.

Display of self-diagnosis results

NO DTC>>Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .

CAN COMM CIRCUIT>> Refer to BCS-13, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)" .



CAUTION:

EKS005C7

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

Xenon Headlamp Trouble Diagnosis

EKS005C8

1. CHECK 1: XENON HEADLAMP LIGHTING

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

OK or NG

OK >> Replace xenon bulb. Refer to LT-40, "HEADLAMP" .
NG >> GO TO 2.

2. CHECK 2: XENON HEADLAMP LIGHTING

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

OK or NG

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

3. CHECK 3: XENON HEADLAMP LIGHTING

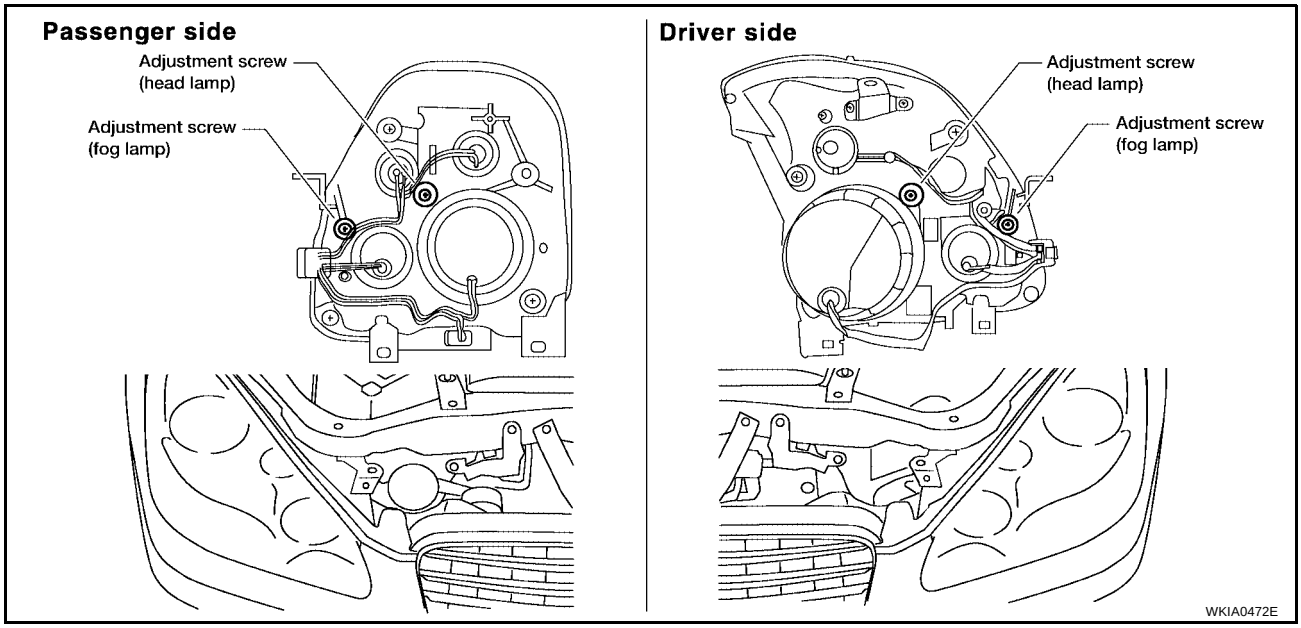
Install normal xenon lamp housing assembly to corresponding xenon headlamp and check if lamp lights up.

OK or NG

OK >> Malfunction in starter (boosting circuit) in xenon headlamp housing. (Replace xenon headlamp housing assembly)
NG >> Inspection End.

Aiming Adjustment

EKS0056W



For details, refer to the regulations in your area.

Before performing aiming adjustment, check the following.

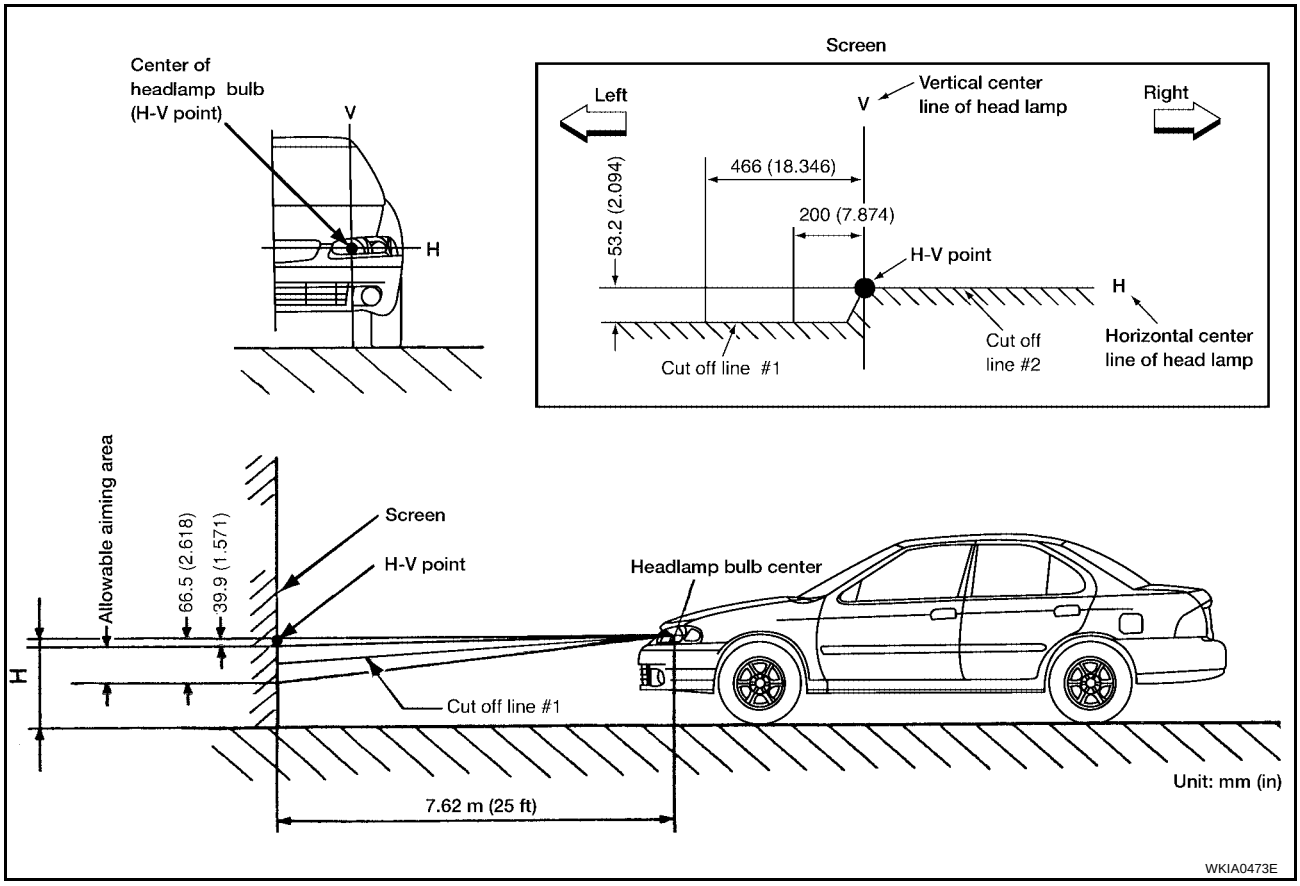
1. Ensure all tires are inflated to correct pressure.
2. Place vehicle and screen on level surface.
3. Ensure there is no load in vehicle other than the driver (or equivalent weight placed in driver's position). Coolant and engine oil filled to correct level and fuel tank full.
4. Confirm spare tire, jack and tools are properly stowed.

LOW BEAM AND HIGH BEAM

NOTE:

Aim each headlamp individually and ensure other headlamp beam pattern is blocked from screen.

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



If the vehicle front body has been repaired and/or the combination lamp 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 combination lamps accordingly.**

Bulb Replacement

EKS0056X

HEADLAMP

1. Disconnect negative battery cable.
2. Turn the plastic cap counterclockwise to unlock it from the combination lamp.
3. Turn the bulb socket counterclockwise to unlock it.
4. Unlock the retaining spring and remove the bulb from the combination lamp.

Installation is in the reverse order of removal.

CAUTION:

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

FRONT TURN SIGNAL LAMP

1. Remove the combination lamp. Refer to LT-41, "Combination Lamp Removal and Installation" .
2. Turn the bulb socket counterclockwise to unlock it.
3. Push and turn the bulb counterclockwise to remove it.

Installation is in the reverse order of removal.

CAUTION:

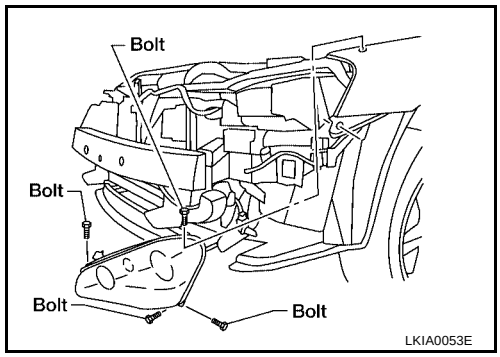
After installing the bulb, be sure to install the bulb socket securely to ensure watertightness.

Combination Lamp Removal and Installation

EKS0056Y

1. Remove the front fascia. Refer to EI-14, "Removal and Installation" .
2. Ensure lighting switch is OFF.
3. Disconnect the negative battery cable.
4. Remove the combination lamp mounting bolts.
5. Pull the combination lamp up and toward the front of the vehicle, disconnect connector and remove from vehicle.

Installation is in the reverse order of removal.



Combination lamp mounting bolts:

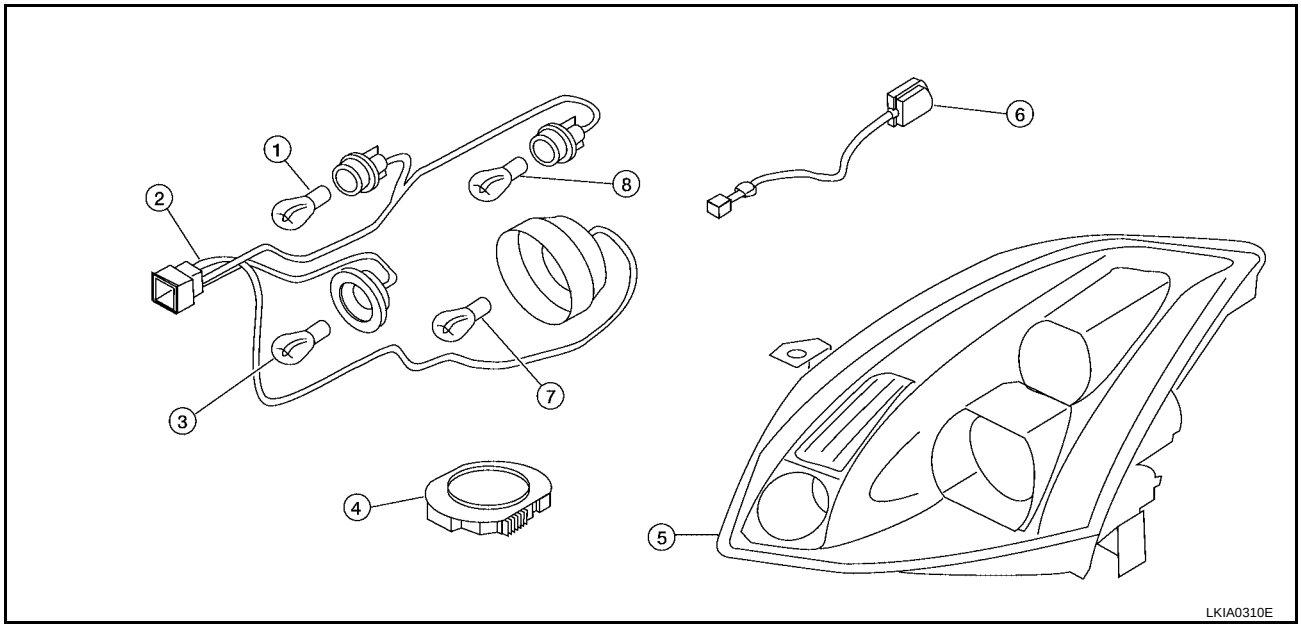
: 4.4 - 6.4 N·m (0.45 - 0.65 kg-m, 39 - 56 in-lb)

Disassembly and Assembly

EKS0056Z

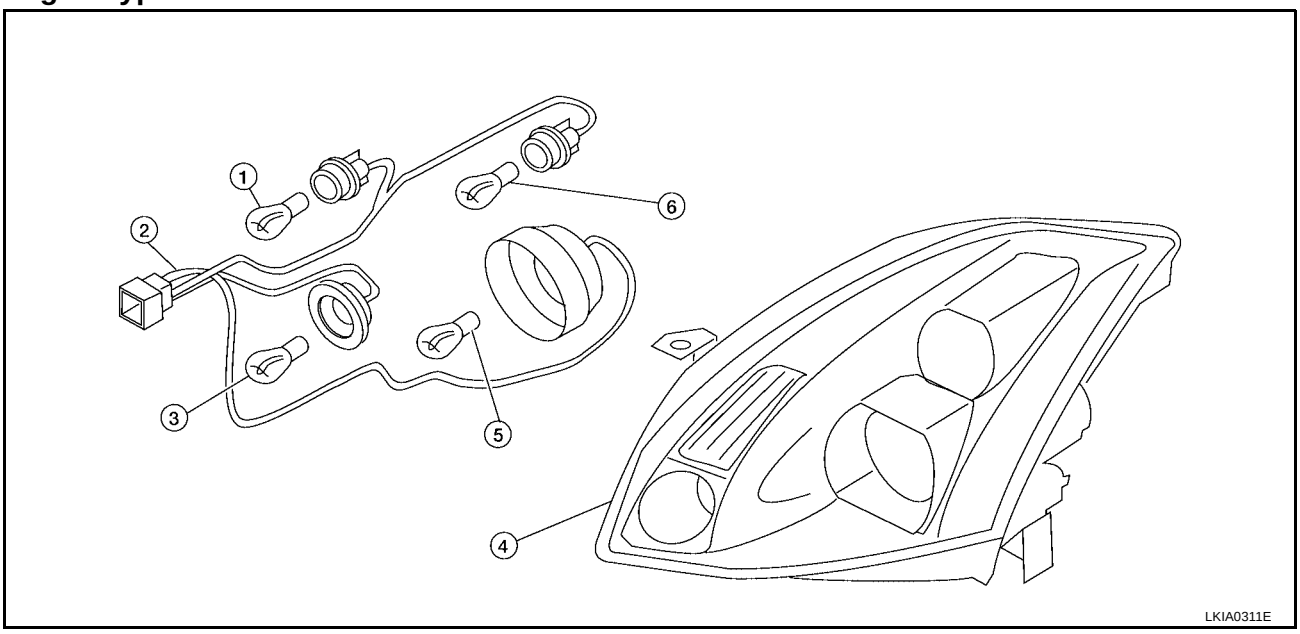
DISASSEMBLY

Xenon Type



1. Daytime light bulb (Canada only)
2. Wiring harness
3. Front fog lamp bulb
4. Ballast
5. Headlamp assembly
6. Ignitor
7. Xenon bulb
8. Front park/turn signal lamp bulb

Halogen Type



1. Daytime light bulb (Canada only)
2. Wiring harness
3. Front fog lamp bulb
4. Headlamp assembly
5. Halogen bulb
6. Front park/turn signal lamp bulb

1. Turn the headlamp bulb plastic cap counterclockwise to unlock and remove it.
2. Turn the bulb socket counterclockwise to unlock and remove it (xenon).
3. Disconnect the electrical connectors from the bulb terminals (halogen).
4. Unlock the retaining springs and remove the bulb.
5. Release the ignitor and remove from the plastic cap (xenon).
6. Turn the high beam lamp socket counterclockwise to unlock and remove it.
7. Turn the front park/turn signal lamp bulb socket counterclockwise and unlock it.
8. Remove the front park/turn signal lamp bulb from its socket.
9. Turn the front fog lamp bulb socket counterclockwise and unlock it.
10. Remove the front fog lamp bulb from its socket.

ASSEMBLY

Assembly is in the reverse order of disassembly.

CAUTION:

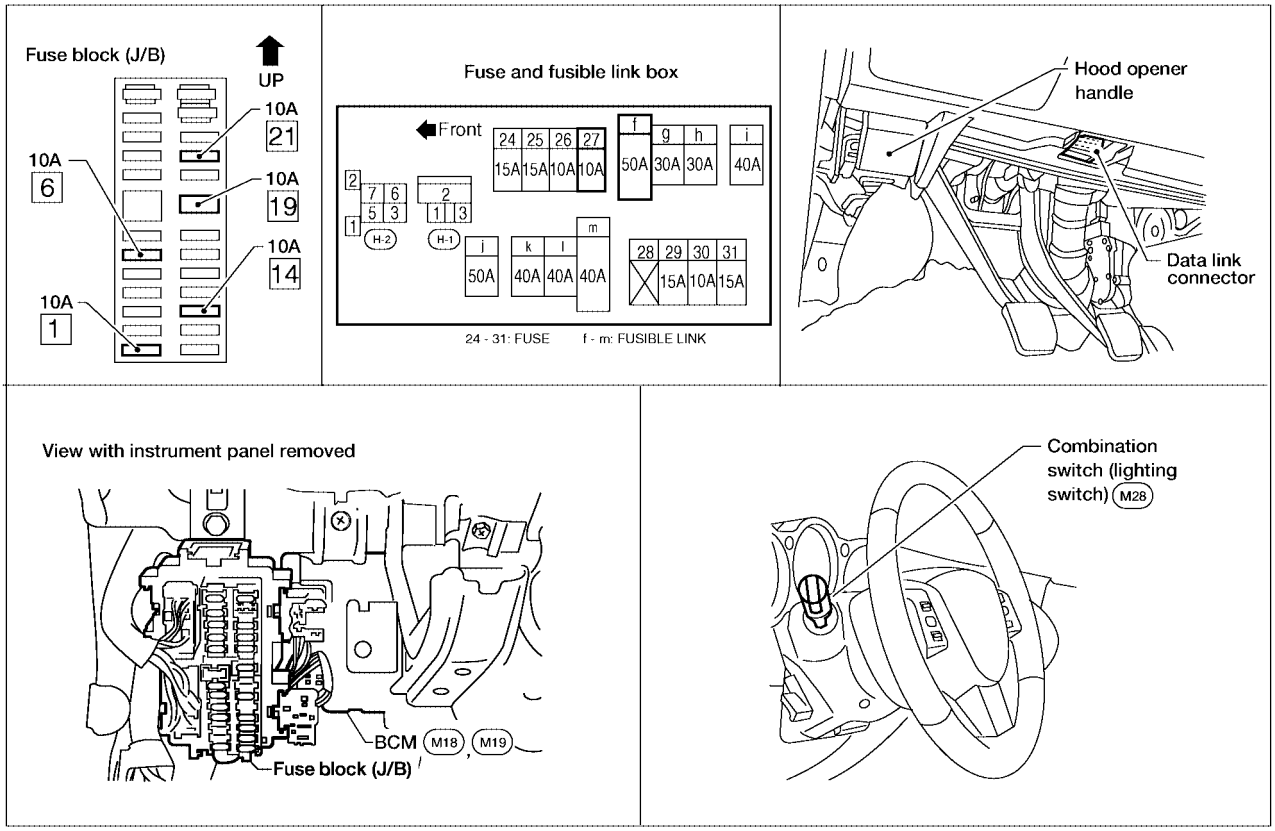
- **After installing the xenon bulb, be sure to install the bulb socket and plastic cap securely to ensure watertightness.**

HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

PFP:26010

Component Parts and Harness Connector Location

EKS005C9



WKIA3129E

System Description

EKS005CA

DAYTIME LIGHT SYSTEM turns on daytime light lamps while driving. Daytime light lamps are not turned on if engine is activated with parking brake on. Take off parking brake to turn on daytime light lamps. The lamps turn off when lighting switch is in the 2ND position or AUTO position (Head lamp is "ON") and when lighting switch is in the PASSING position. (Daytime light lamps are not turned off only by parking brake itself.)
A parking brake signal and engine run or stop signal are sent to BCM (body control module) by CAN communication line and control daytime light system.

OUTLINE

Power is supplied at all times

- through 10A fuse [No. 19, located in the fuse block (J/B)]
- to combination meter terminal 24
- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to BCM terminal 42
- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 55
- through 10A fuse (No. 27, located in the fuse and fusible link box)
- to daytime light relay terminals 1, 3 and 6.

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

- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to combination meter terminal 23
- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to BCM terminal 38.

Ground is supplied at all times

- to combination meter terminals 10, 11 and 12

- to BCM terminals 49 (early production) and 52
- through grounds M57, M61 and M79.

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 relay terminal 2
- to combination meter terminal 19
- through daytime light relay terminal 5
- to combination lamp LH terminal 9
- through daytime light relay terminal 7
- to combination lamp RH terminal 9.

Ground is supplied at all times

- to combination meter terminals 10, 11 and 12
- through grounds M57, M61 and M79
- to combination lamp RH and LH
- through grounds E15 and E24.

With power and grounds supplied, the daytime lights illuminate.

COMBINATION SWITCH READING FUNCTION

Refer to LT-125, "Combination Switch Reading Function" .

AUTO LIGHT OPERATION

For auto light operation, refer to LT-59, "System Description" in "AUTO LIGHT SYSTEM".

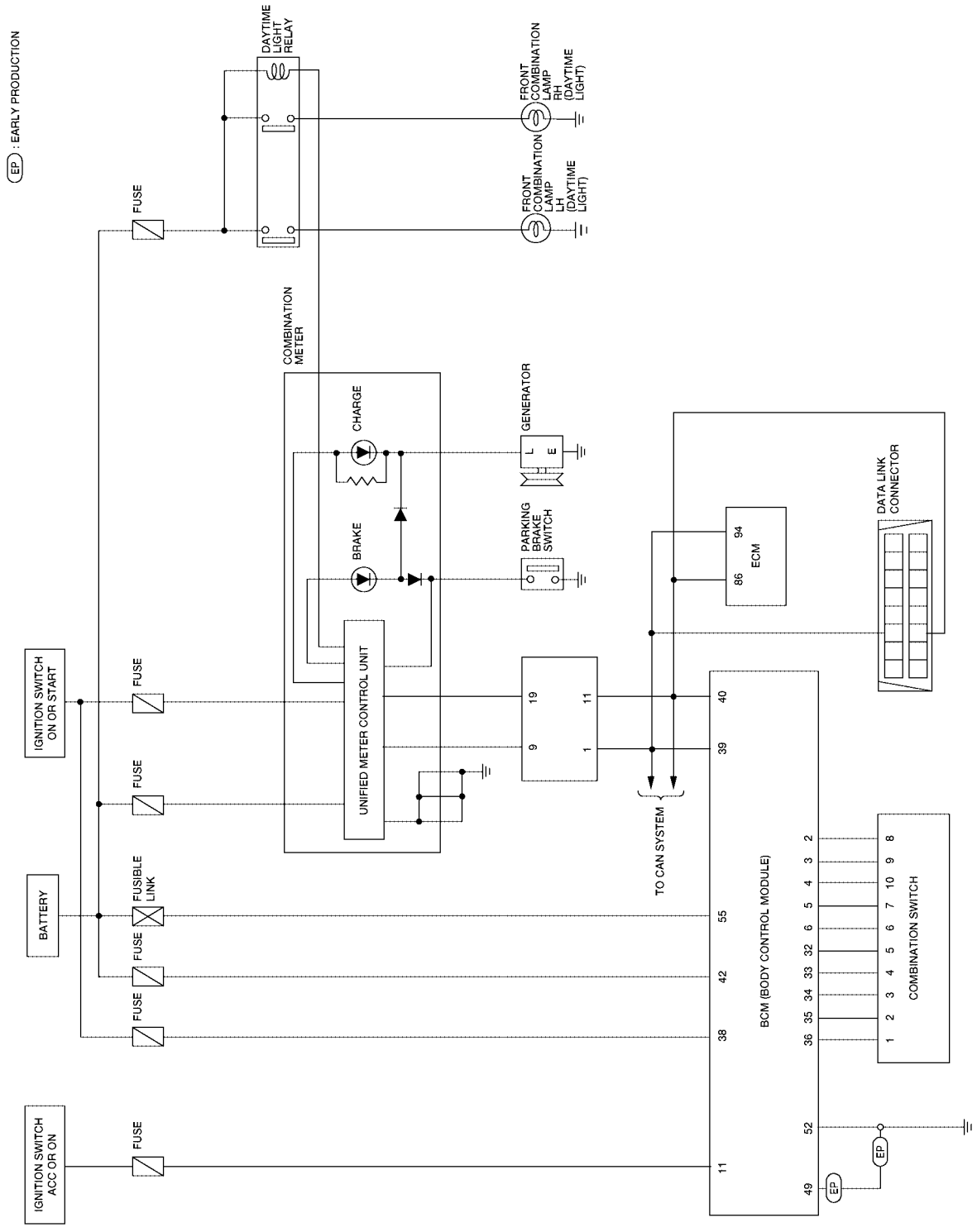
CAN Communication System Description

EKS005CB

Refer to LAN-8, "CAN COMMUNICATION" .

Schematic

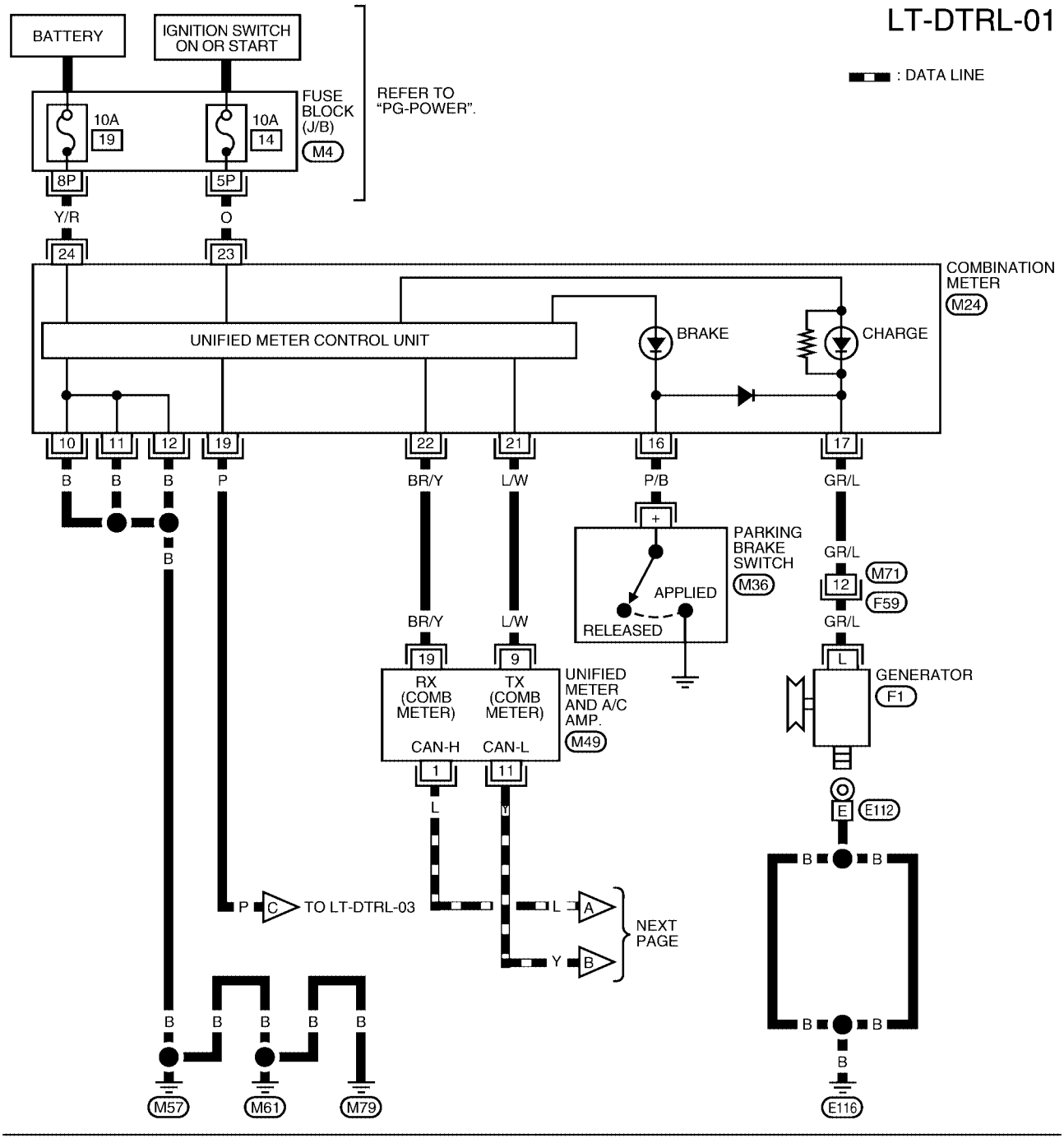
EKS005CD

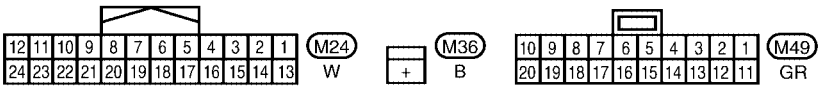


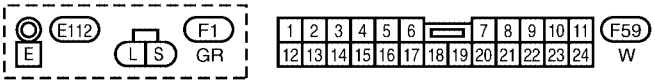
WKWA1810E

Wiring Diagram — DTRL —

EKS005CE

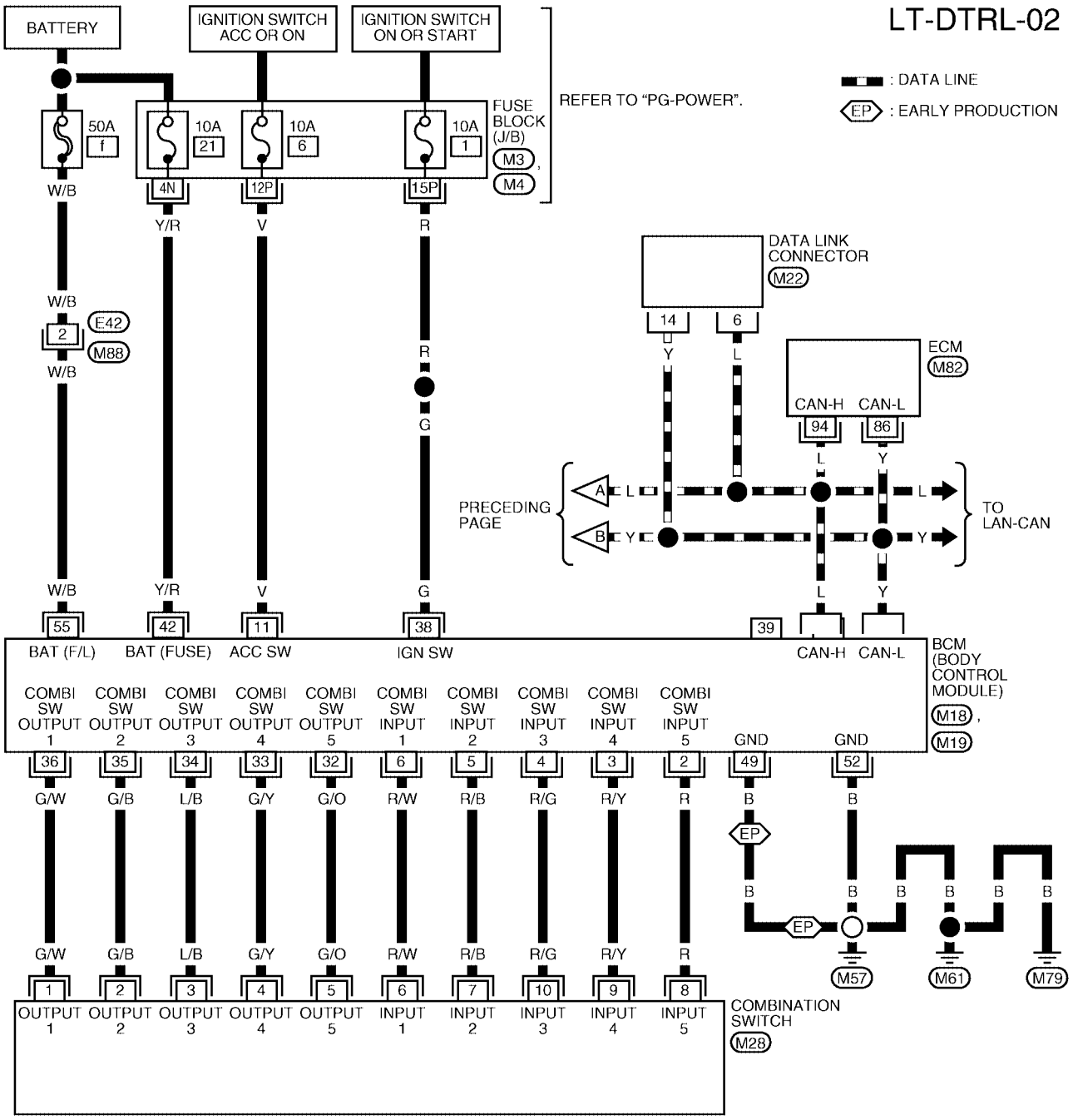


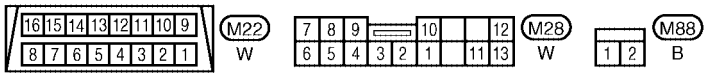




REFER TO THE FOLLOWING.
M4 - FUSE BLOCK - JUNCTION BOX (J/B)

LKWA0204E

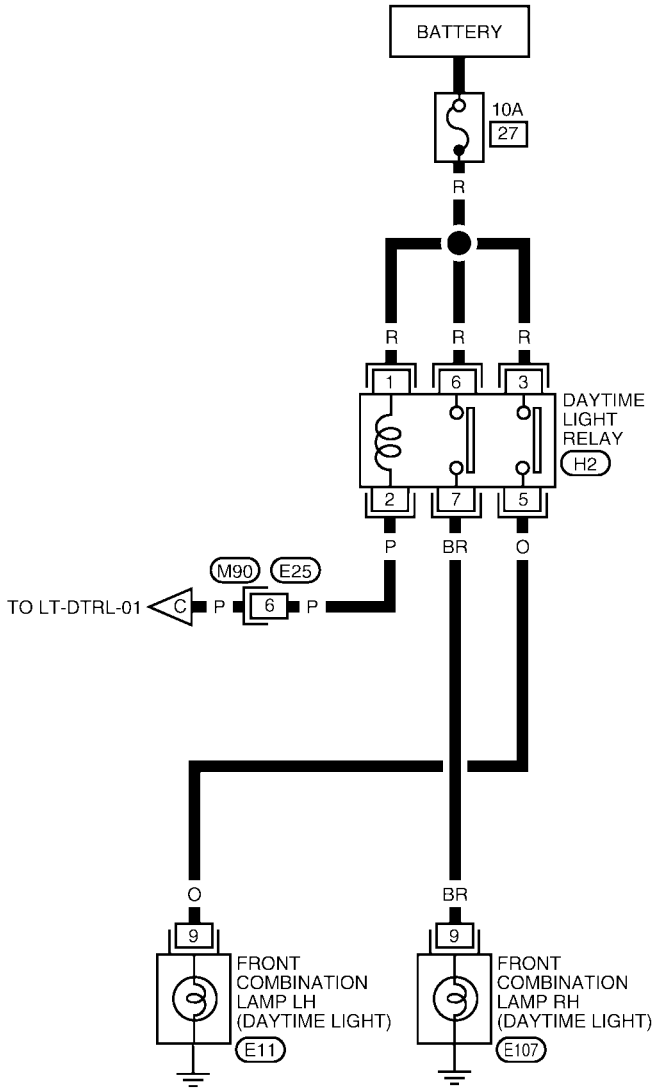


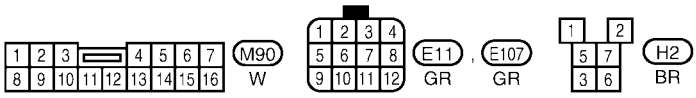


REFER TO THE FOLLOWING.
M3, M4 - FUSE BLOCK-JUNCTION BOX (J/B)
M18, M82 - ELECTRICAL UNITS

WKWA1815E

LT-DTRL-03

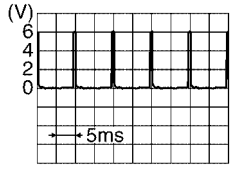
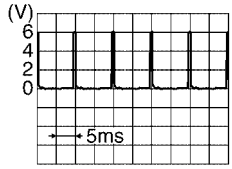
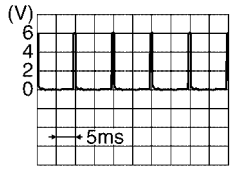
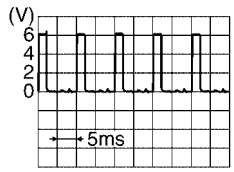


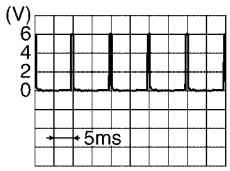


LKWA0206E

Terminals and Reference Value for BCM

EKS005H4

Terminal No.	Wire color	Signal name	Measuring condition		Reference value (Approx.)
			Ignition switch	Operation or condition	
2	R	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	R/Y	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	R/G	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	R/B	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	R/W	Combination switch input 1			
11	V	Ignition switch (ACC)	ACC	—	Battery voltage
32	G/O	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	G/Y	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	L/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E

Terminal No.	Wire color	Signal name	Measuring condition		Reference value (Approx.)
			Ignition switch	Operation or condition	
35	G/B	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	G/W	Combination switch output 1			
38	G	Ignition switch (ON)	ON	—	Battery voltage
39	L	CAN-H	—	—	—
40	Y	CAN-L	—	—	—
42	Y/R	Battery power supply	OFF	—	Battery voltage
49 (early production)	B	Ground	ON	—	0V
52	B	Ground	ON	—	0V
55	W/B	Battery power supply (fusible link)	OFF	—	Battery voltage

How to Proceed With Trouble Diagnosis

EKS005CG

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-43, "System Description" .
3. Perform the Preliminary Check. Refer to LT-50, "Preliminary Check" .
4. Check symptom and repair or replace the cause of malfunction.
5. Does the headlamp operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. Inspection End.

Preliminary Check

EKS005CH

CHECK BCM CONFIGURATION

1. CHECK BCM CONFIGURATION

Confirm BCM configuration for "DTRL" is set to "WITH". Refer to BCS-14, "READ CONFIGURATION PROCEDURE" .

OK or NG

OK >> Continue preliminary check. Refer to LT-50, "INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT" .

NG >> Change BCM configuration for "DTRL" to "WITH". Refer to BCS-16, "WRITE CONFIGURATION PROCEDURE" .

INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT

1. CHECK FUSES AND FUSIBLE LINK

Check for blown fuses or fusible link.

Unit	Power source	Fuse No.
BCM	Battery	f
		21
	Ignition switch ON or START position	1
Daytime light relay	Battery	27

Refer to LT-46, "Wiring Diagram — DTRL —" .

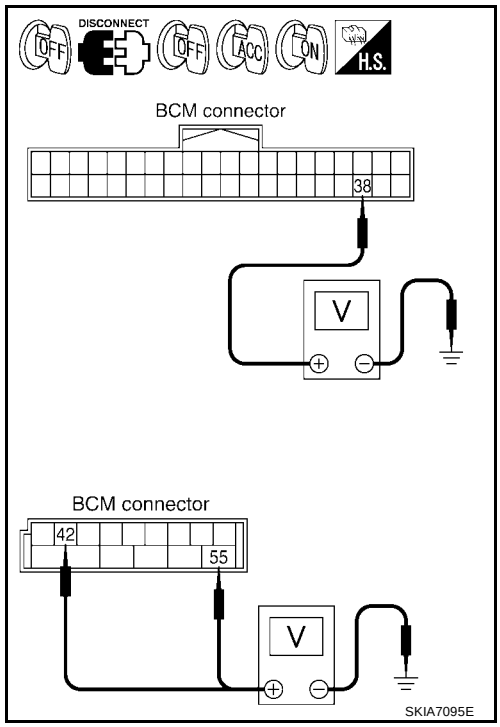
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

Terminals			Ignition switch position	
(+)		(–)	OFF	ON
Connector	Terminal (Wire color)			
M18	38 (G)	Ground	0V	Battery voltage
M19	42 (Y/R)		Battery voltage	Battery voltage
	55 (W/B)		Battery voltage	Battery voltage



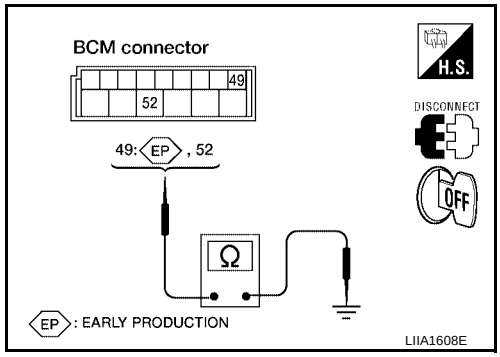
OK or NG

OK >> GO TO 3.
NG >> Check harness for open between BCM and fuse.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

Terminals			Continuity
(+)		(–)	
Connector	Terminal (Wire color)		
M19	49 (B) (early production)	Ground	Yes
	52 (B)		



OK or NG

OK >> Inspection End.
NG >> Check ground circuit harness.

INSPECTION PARKING BRAKE SWITCH CIRCUIT

1. CHECK BRAKE INDICATOR

1. Turn ignition switch ON.
2. When parking brake is switched ON/OFF, it checks whether the brake indicator lamp of combination meter lights up / puts out the light.

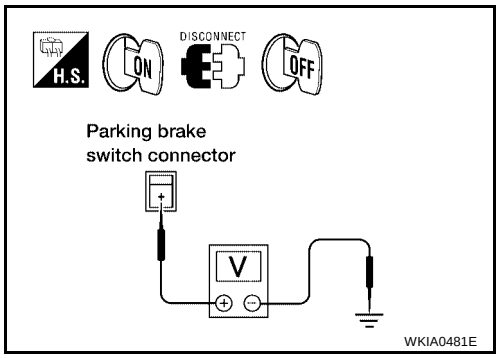
OK or NG

OK >> Inspection End.
NG >> GO TO 2.

2. CHECK PARKING BRAKE SWITCH SIGNAL

1. Disconnect parking brake switch connector.
2. Turn ignition switch ON.
3. Check voltage between parking brake switch harness connector M36 terminal + (P/B) and ground.

+ (P/B) - Ground : Battery voltage should exist.



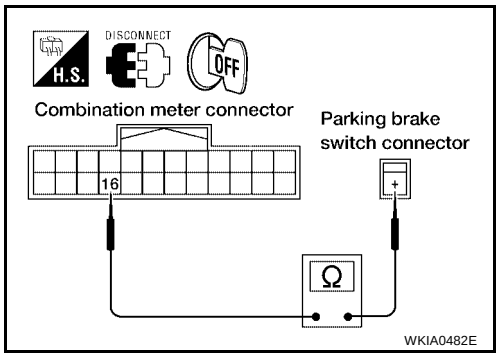
OK or NG

OK >> Replace parking brake switch.
NG >> GO TO 3.

3. CHECK PARKING BRAKE SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter connector.
3. Check continuity between combination meter harness connector M24 terminal 16 (P/B) and parking brake switch harness connector M36 terminal + (P/B).

+ (P/B) - 16 (P/B) : Continuity should exist.



OK or NG

OK >> Replace combination meter. Refer to IP-15, "Combination Meter" .
NG >> Repair harness or connector.

CONSULT-II Function (BCM)

EKS005CI

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

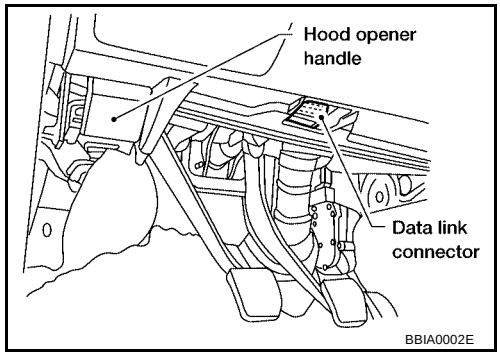
BCM diagnostic test item	Diagnostic mode	Description
Inspection by part	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
	DATA MONITOR	Displays BCM input/output data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
	SELF-DIAG RESULTS	Displays BCM self-diagnosis results.
	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
	ECU PART NUMBER	BCM part number can be read.
	CONFIGURATION	Performs BCM configuration read/write functions.

CONSULT-II OPERATION

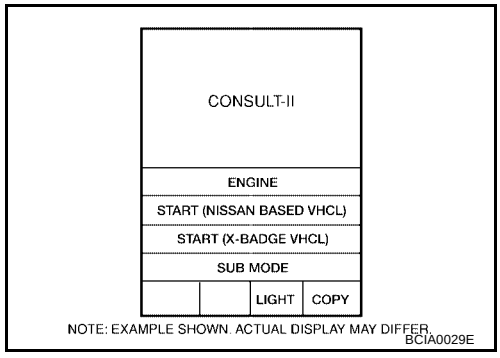
CAUTION:

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

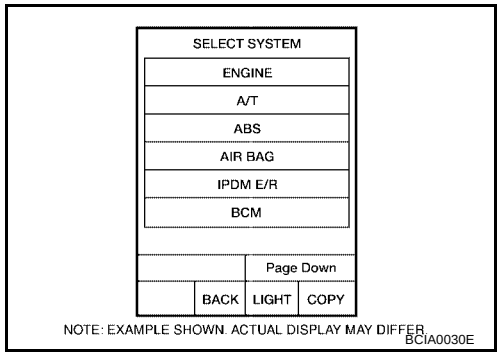
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn ignition switch ON.



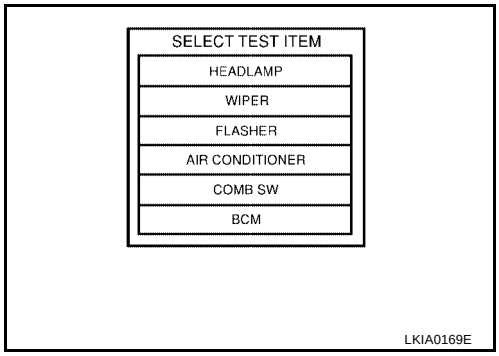
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "BCM" on "SELECT SYSTEM" screen.
If "BCM" is not indicated, go to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .



4. Touch "HEADLAMP" on "SELECT TEST ITEM" screen.



DATA MONITOR

Operation Procedure

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

All signals	Monitors all the signals.
Selection from menu	Selects and monitors individual signal.

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

Display Item List

Monitor item		Contents
IGN ON SW	"ON/OFF"	Displays "IGN position (ON)/OFF, ACC position (OFF)" judged from the ignition switch signal.
ACC ON SW	"ON/OFF"	Displays "ACC (ON)/OFF, Ignition OFF (OFF)" status judged from ignition switch signal.
HI BEAM SW	"ON/OFF"	Displays status (high beam switch: ON/Others: OFF) of high beam switch judged from lighting switch signal.
HEAD LAMP SW 1	"ON/OFF"	Displays status (headlamp switch 1: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.
HEAD LAMP SW 2	"ON/OFF"	Displays status (headlamp switch 2: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.
LIGHT SW 1ST	"ON/OFF"	Displays status (lighting switch 1st position: ON/Others: OFF) of lighting switch judged from lighting switch signal.
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)
PASSING SW	"ON/OFF"	Displays status (flash-to-pass switch: ON/Others: OFF) of flash-to-pass switch judged from lighting switch signal.
FR FOG SW	"ON/OFF"	Displays status (front fog lamp switch: ON/Others: OFF) of front fog lamp switch judged from lighting switch signal.
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 status of the passenger door as judged from the passenger door switch signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - RR	"ON/OFF"	Displays status of the rear door as judged from the rear door switch (RH) signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - RL	"ON/OFF"	Displays status of the rear door as judged from the rear door switch (LH) signal. (Door is open: ON/Door is closed: OFF)

Monitor item		Contents
BACK DOOR SW	"ON/OFF"	Displays status of the back door as judged from the back door switch signal. (Door is open: ON/Door is closed: OFF)
TURN SIGNAL R	"ON/OFF"	Displays status (Turn right: ON/Others: OFF) as judged from lighting switch signal.
TURN SIGNAL L	"ON/OFF"	Displays status (Turn left: ON/Others: OFF) as judged from lighting switch signal.
ENGINE RUN	"ON/OFF"	Displays status (Engine running: ON/Others: OFF) as judged from engine status signal.
PKB SW	""ON/OFF"	Displays status (Parking brake switch: ON/Others: OFF) as judged from parking brake switch signal.
OPTICAL SENSOR	[0 - 5V]	Displays "ambient light (close to 5V when light/close to 0V when dark)" judged from optical sensor signal.

ACTIVE TEST

Operation Procedure

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

Display Item List

Test item	Description
TAIL LAMP	Allows tail lamp relay to operate by switching ON-OFF.
HEAD LAMP (LOW)	Allows headlamp relay to operate by switching ON-OFF.
HEAD LAMP (HI)	Allows headlamp relay to operate by switching ON-OFF.
FR FOG LAMP	Allows fog lamp relay to operate by switching ON-OFF.
DTRL	Allow day time light lamp operate by switching ON-OFF.
CORNERING LAMP	Allows cornering lamp relay (RH, LH) to operate by switching ON-OFF.

SELF-DIAGNOSTIC RESULTS

Operation Procedure

1. Touch "BCM C/U" on "SELECT TEST ITEM" screen.
2. Touch "SELF-DIAG RESULTS" on "SELECT DIAG MODE" screen.
3. Self-diagnostic results are displayed.

Display Item List

Monitored item	CONSULT-II display	Description
CAN communication	CAN communication [U1000]	Malfunction is detected in CAN communication.
CAN communication system	CAN communication system 1 to 6 [U1000]	Malfunction is detected in CAN system.
Combination switch	Diagnosis 1 - 5 systems open circuit	Malfunction is detected in combination switch system.

Daytime Light Control Does Not Operate Properly

EKS005CJ

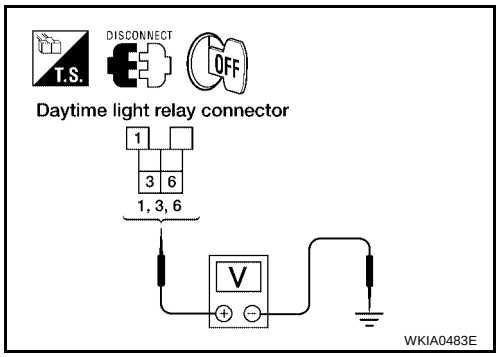
1. CHECK DAYTIME LIGHT RELAY POWER SUPPLY CIRCUIT

1. Remove daytime light relay.
2. Check voltage between daytime light relay harness connector H2 terminal 1 (R) and ground.

1 (R) - Ground : Battery voltage should exist.

3. Check voltage between daytime light relay harness connector H2 terminal 3 (R), 6 (R) and ground.

3 (R), 6 (R) - Ground : Battery voltage should exist.



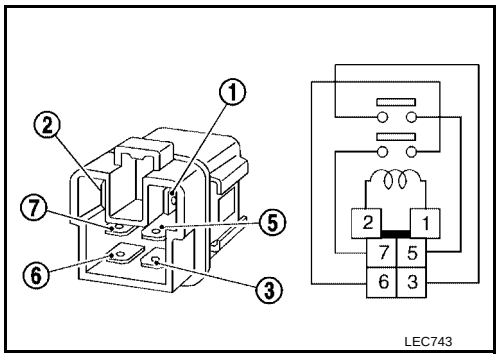
OK or NG

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

2. CHECK DAYTIME LIGHT RELAY

1. Apply battery voltage to daytime light relay terminal 1 and ground terminal 2.
2. Check continuity between terminals 3 and 5 and terminals 6 and 7.

3 - 5, 6 - 7 : Continuity should exist.



OK or NG

OK >> GO TO 3.
NG >> Replace daytime light relay.

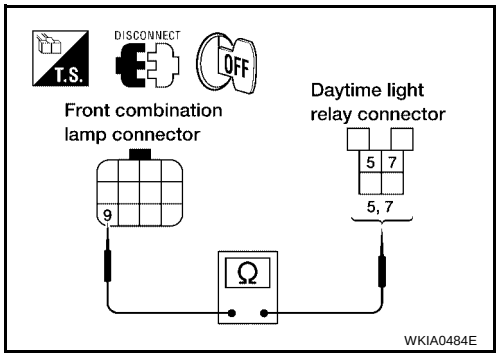
3. CHECK DAYTIME LIGHT RELAY CIRCUIT

1. Disconnect combination lamp RH and LH connector.
2. Check continuity between daytime light relay connector H2 terminal 7 (BR) and combination lamp RH harness connector E107 terminal 9 (BR).

7 (BR) - 9 (BR) : Continuity should exist.

3. Check continuity between daytime light relay connector H2 terminal 5 (O) and combination lamp LH harness connector E11 terminal 9 (O).

5 (O) - 9 (O) : Continuity should exist.



OK or NG

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

4. CHECK GROUND

1. Check continuity between combination lamp RH harness connector E107 and ground.

E107 - Ground : Continuity should exist.

2. Check continuity between combination lamp LH harness connector E11 and ground.

E11 - Ground : Continuity should exist.

OK or NG

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

5. CHECK BULB

Inspect bulb of lamp which does not illuminate.

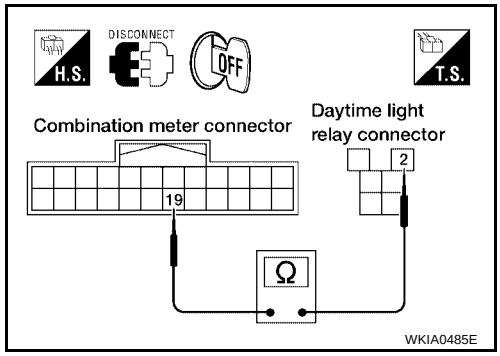
OK or NG

OK >> GO TO 6.
NG >> Replace bulb. Refer to LT-40, "HEADLAMP" .

6. CHECK DAYTIME LIGHT RELAY CIRCUIT

1. Disconnect combination meter connector.
2. Check continuity between daytime light relay harness connector H2 terminal 2 (P) and combination meter harness connector M24 terminal 19 (P).

2 (P) - 19 (P) : Continuity should exist.



OK or NG

OK >> GO TO 7.
NG >> Repair harness or connector.

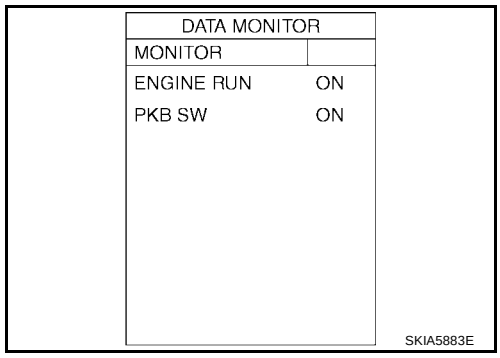
7. CHECK INPUT SIGNAL

1. Connect combination meter connector.
2. Start engine.
3. Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "ENGINE RUN" turns ON-OFF linked with operation of engine running or stop.

Engine running : ENGINE RUN ON
Engine stop : ENGINE RUN OFF

4. Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "PKB SW" turns ON-OFF linked with operation of parking brake switch.

Parking brake ON : PKR SW ON
Parking brake OFF : PKR SW OFF



OK or NG

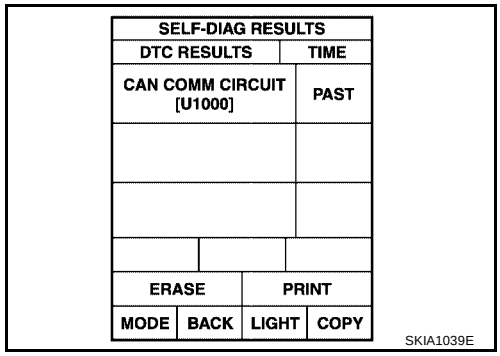
OK >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .
NG >> GO TO 8.

8. CHECKING CAN COMMUNICATIONS

Select "BCM" by CONSULT-II and perform self-diagnosis for BCM.

Displayed self-diagnosis results

NO DTC>>Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .
CAN COMM CIRCUIT>> Check BCM CAN communication system. Refer to BCS-13, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)" .



Aiming Adjustment

EKS0057W

Refer to LT-39, "Aiming Adjustment" .

Bulb Replacement

EKS0057X

Refer to LT-41, "Disassembly and Assembly" .

Removal and Installation

EKS0057Y

Refer to LT-41, "Combination Lamp Removal and Installation" .

Disassembly and Assembly

EKS0057Z

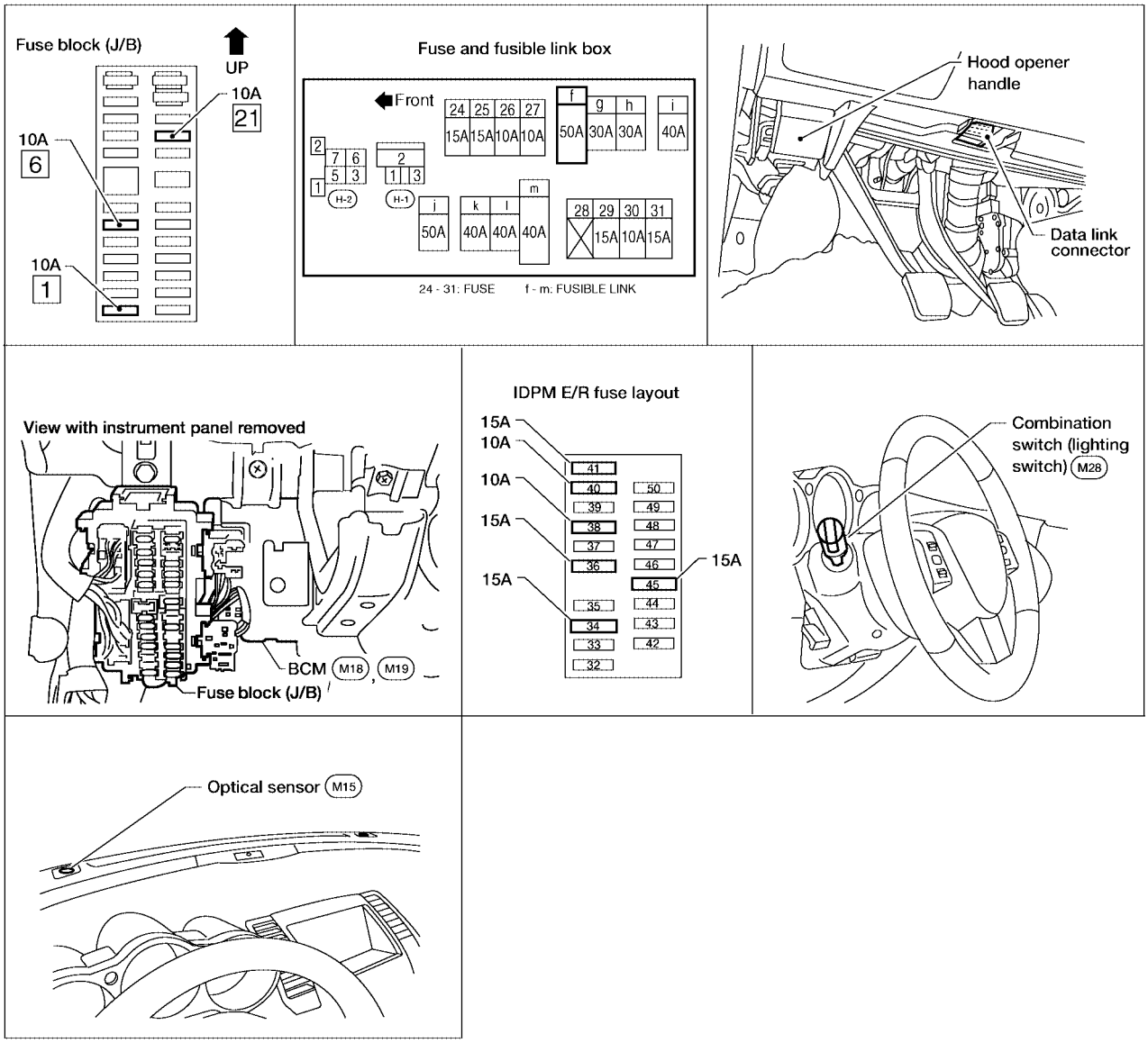
Refer to LT-41, "Disassembly and Assembly" .

AUTO LIGHT SYSTEM

PFP:28491

Component Parts and Harness Connector Location

EKS0058F



WKIA3130E

System Description

EKS0058G

Automatically turns on/off the parking lamps and the headlamps in accordance with ambient light.
Timing for when the lamps turn on/off can be selected using four modes.

OUTLINE

The auto light control system uses an optical sensor that detects outside brightness.
When the lighting switch is in "AUTO" position, it automatically turns on/off the parking 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-67, "SETTING CHANGE FUNCTIONS" .
Optical sensor, power is supplied

- from BCM (body control module) terminal 17
- to optical sensor terminal 1.

Optical sensor, ground is supplied

- from BCM terminal 18
- to optical sensor terminal 3.

When ignition switch is turned to "ON" position and when outside brightness is darker than prescribed level, input is supplied

- to BCM terminal 14
- from optical sensor terminal 2.

The headlamps will then illuminate. For a description of headlamp operation, refer to LT-6, "System Description" .

COMBINATION SWITCH READING FUNCTION

Refer to LT-125, "Combination Switch Reading Function" .

EXTERIOR LAMP BATTERY SAVER CONTROL

When the combination switch (lighting switch) is in the AUTO position and the ignition switch is turned from ON or ACC to OFF, and one of the front doors is opened, the battery saver control feature is activated.
Under this condition, the headlamps remain illuminated for 5 minutes, then the headlamp are turned off.
Exterior lamp battery saver control mode can be changed by the function setting of CONSULT-II.

DELAY TIMER FUNCTION

When the ignition switch is ON and auto light switch is ON, the BCM turns on/off the headlamps. In delay timer function, ignition is OFF, auto light sensor power source is OFF and the headlamps are not turned on/off by the BCM. On condition that:

- when the state of ignition switch ON or ACC is ON and output judgment by auto light function is headlamp ON changes to ignition switch and ACC are OFF and any door switch is ON, output judgment by BCM should be headlamp ON for 5 minutes by timer. After time out, output judgment by BCM should be headlamp OFF.
- when the state of any door switch is turned to ON from OFF while 45 second or 5 minute timer is counting, timer stops, and restarts counting for 5 minutes, then BCM judges output as headlamp ON. After time out, BCM judges output as headlamp OFF.
- when the state of front door switch (driver side), front door switch (passenger side), rear door switch LH, rear door switch RH or back door latch (door ajar switch) is ON turns to all door switches are OFF while 45 second or 5 minute timer is counting, timer stops, and restarts counting for 45 seconds, then BCM judges output as headlamp ON. After timer out, BCM judges output as headlamp OFF.
- when the state is ignition switch ON or ACC is ON or auto light switch OFF while timer is counting, timer stops counting and BCM turns on/off lamps according to headlamp function, front fog lamp function, auto light function and headlamp battery save function.

Delay timer control mode can be changed by the function setting of CONSULT-II.

CAN Communication System Description

EKS0058H

Refer to LAN-8, "CAN COMMUNICATION" .

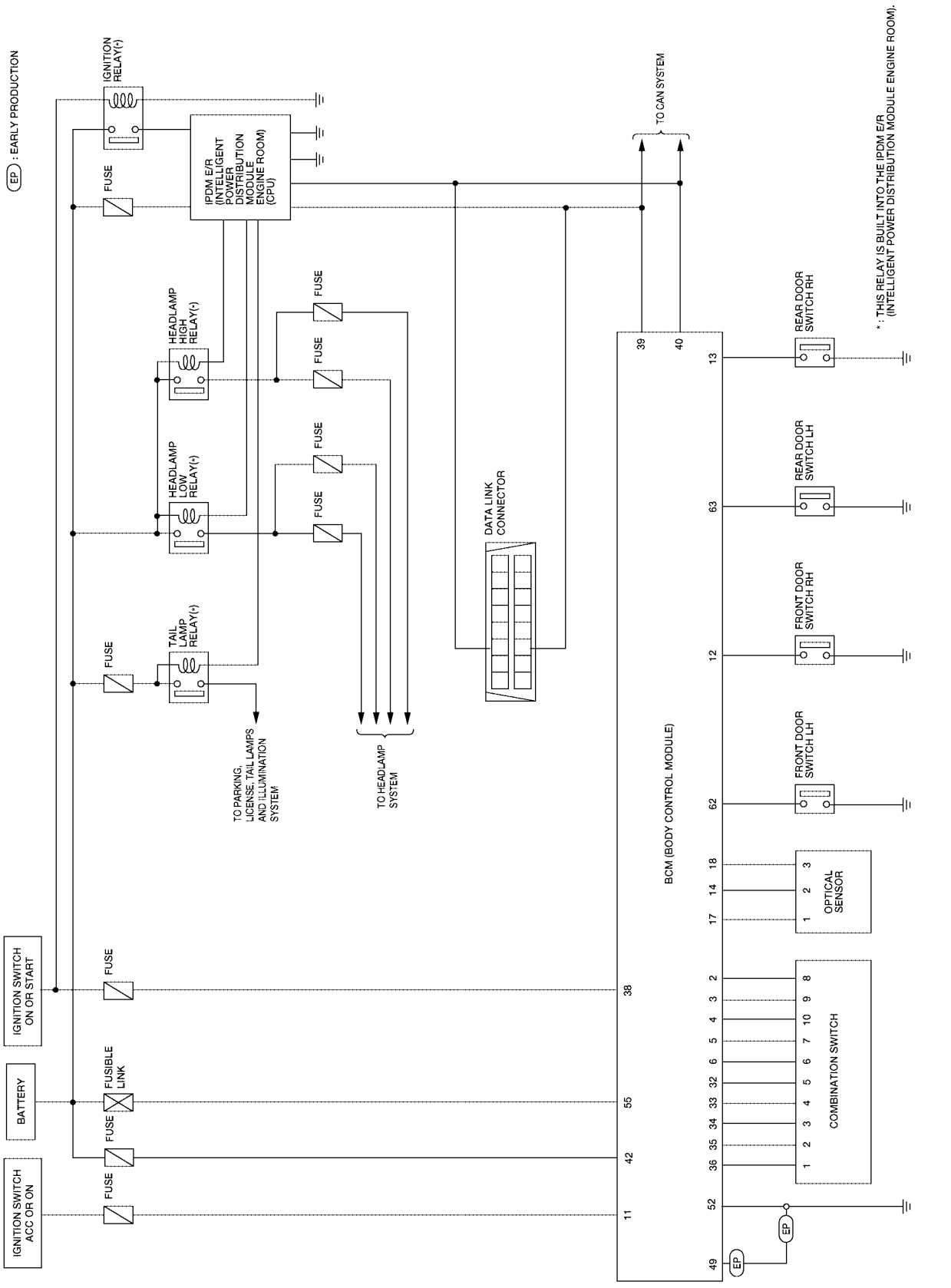
Major Components and Functions

EKS0058J

Components	Functions
BCM	● Turns on/off circuits of tail light and headlamp according to signals from light sensor, lighting switch (AUTO), driver door switch, passenger door switch, rear door switch, and ignition switch (ON, OFF).
Optical sensor	● Converts ambient light (lux) to voltage and sends it to BCM. (Detects lightness of 50 to 1,300 lux)

Schematic

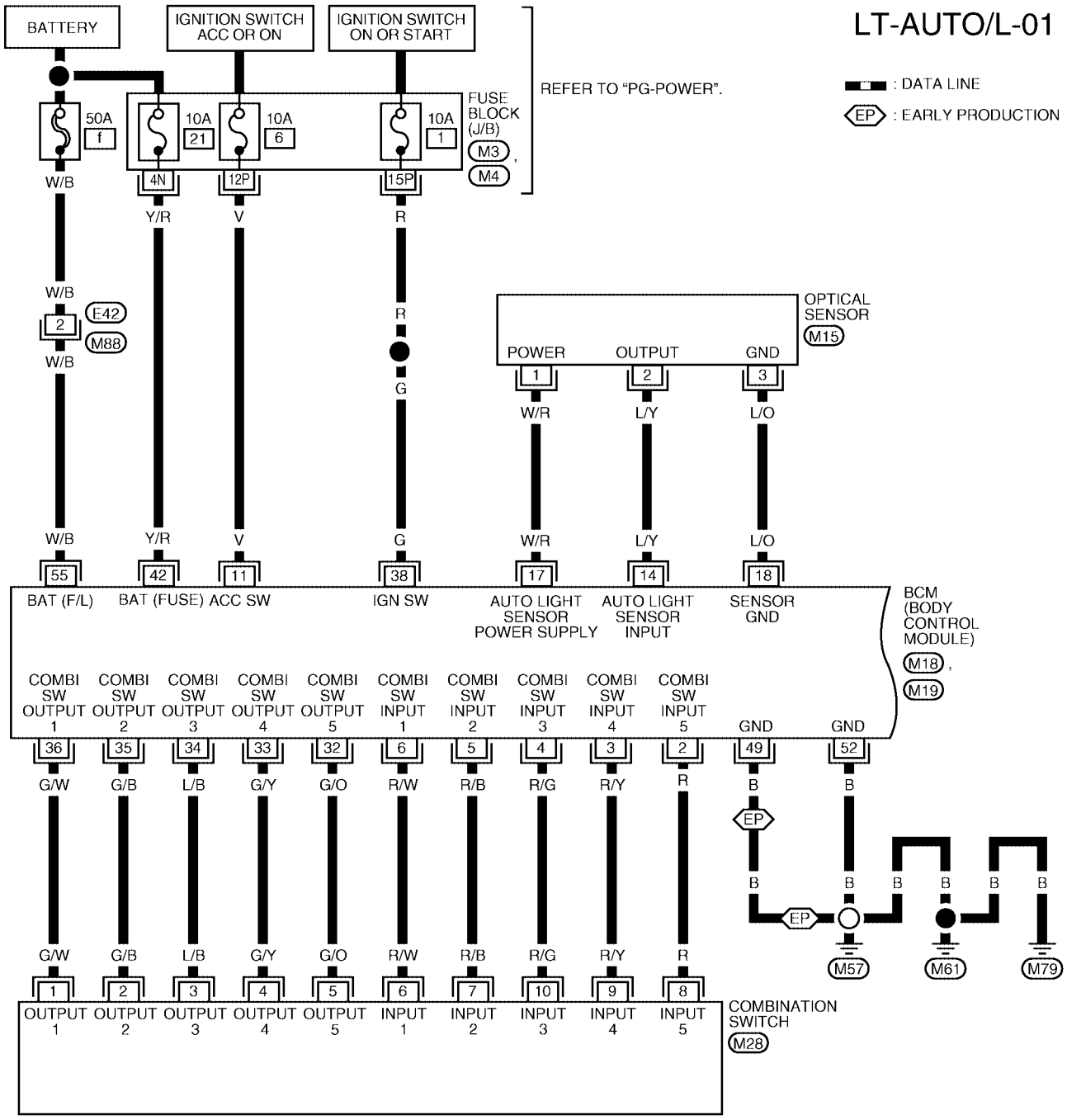
EKS0058K

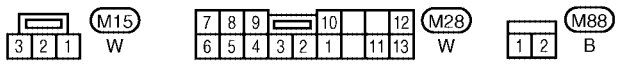


WKWA1811E

Wiring Diagram — AUTO/L —

EKS0058L

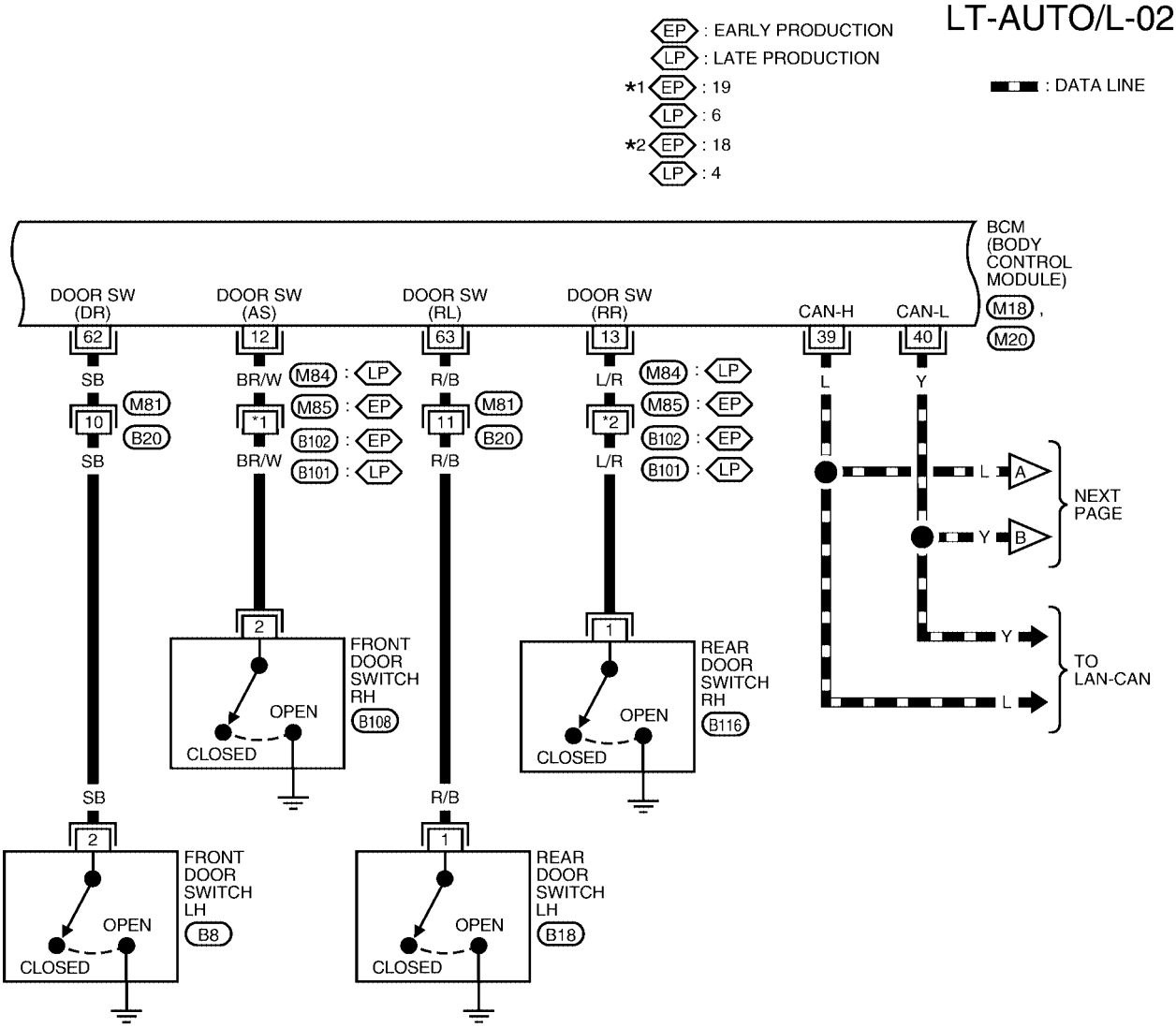


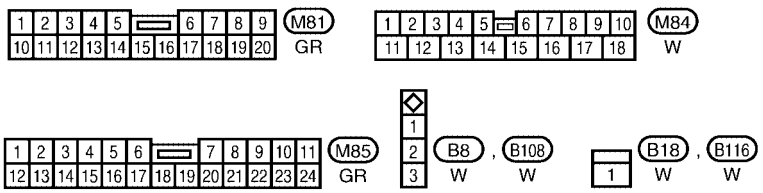


REFER TO THE FOLLOWING.
M3, M4 - FUSE BLOCK-JUNCTION BOX (J/B)
M18, M19 - ELECTRICAL UNITS

WKWA1812E

LT-AUTO/L-02

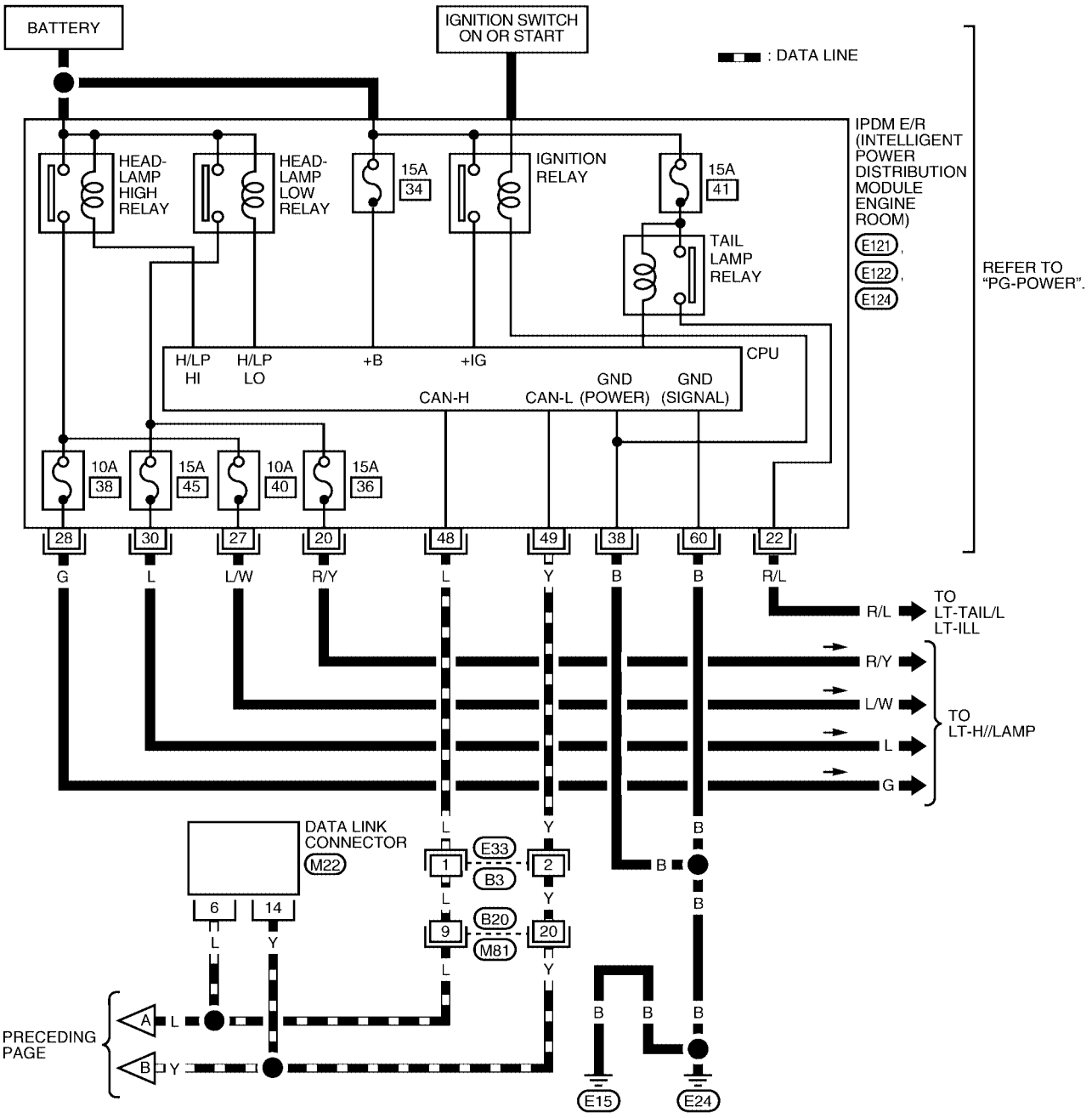


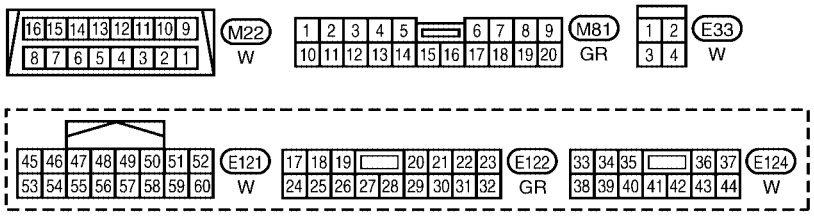


REFER TO THE FOLLOWING.
M18, M20 - ELECTRICAL UNITS

WKWA0940E

LT-AUTO/L-03

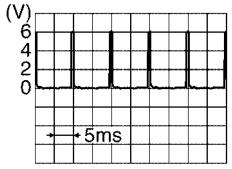
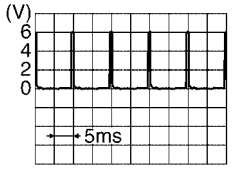
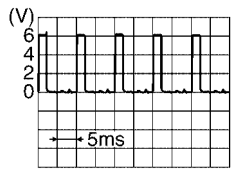


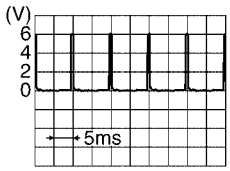
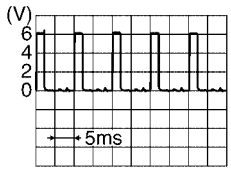
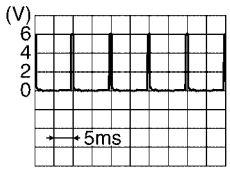


LKWA0210E

Terminals and Reference Value for BCM

EKS0058M

Terminal No.	Wire color	Signal name	Measuring condition			Reference value (Approx.)
			Ignition switch	Operation or condition		
2	R	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5291E
3	R/Y	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5292E
4	R/G	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5291E
5	R/B	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5292E
6	R/W	Combination switch input 1				
11	V	Ignition switch (ACC)	ACC	—		Battery voltage
12	BR/W	Front door switch (Passenger side) signal	OFF	Front door switch (Passenger side)	ON (open)	0V
					OFF (closed)	Battery voltage
13	L/R	Rear door switch RH signal	OFF	Rear door switch RH	ON (open)	0V
					OFF (closed)	Battery voltage
14	L/Y	Optical sensor signal	ON	When optical sensor is illuminated		3.1 V or more[Note]
				When optical sensor is not illuminated		0.6 V or less
17	W/R	Optical sensor power supply	ON	—		5V
18	L/O	Sensor ground	ON	—		0V
32	G/O	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5291E

Terminal No.	Wire color	Signal name	Measuring condition			Reference value (Approx.)
			Ignition switch	Operation or condition		
33	G/Y	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5292E
34	L/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5291E
35	G/B	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5292E
36	G/W	Combination switch output 1				
38	G	Ignition switch (ON)	ON	—		Battery voltage
39	L	CAN-H	—	—		—
40	Y	CAN-L	—	—		—
42	Y/R	Battery power supply	OFF	—		Battery voltage
49 (early production)	B	Ground	ON	—		0V
52	B	Ground	ON	—		0V
55	W/B	Battery power supply	OFF	—		Battery voltage
62	SB	Front door switch (Driver side) signal	OFF	Front door switch (Driver side)	ON (open)	0V
					OFF (closed)	Battery voltage
63	R/B	Rear door switch LH signal	OFF	Rear door switch LH	ON (open)	0V
					OFF (closed)	Battery voltage

NOTE:
Optical sensor must be completely subjected to work lamp light. If the optical sensor is insufficiently illuminated, the measured value may not satisfy standard.

Terminals and Reference Values for IPDM E/R

EKS0058N

Terminal No.	Wire color	Signal name	Measuring condition			Reference value (Approx.)
			Ignition switch	Operation or condition		
20	R/Y	Headlamp low (RH)	ON	Lighting switch 2ND position	OFF	0V
					ON	Battery voltage
22	R/L	Parking, license, and tail lamp	ON	Lighting switch 1ST position	OFF	0V
					ON	Battery voltage

Terminal No.	Wire color	Signal name	Measuring condition			Reference value (Approx.)
			Ignition switch	Operation or condition		
27	L/W	Headlamp high (RH)	ON	Lighting switch HIGH or PASS position	OFF	0V
					ON	Battery voltage
28	G	Headlamp high (LH)	ON	Lighting switch HIGH or PASS position	OFF	0V
					ON	Battery voltage
30	L	Headlamp low (LH)	ON	Lighting switch 2ND position	OFF	0V
					ON	Battery voltage
38	B	Ground	ON	—		0V
48	L	CAN-H	—	—		—
49	Y	CAN-L	—	—		—
60	B	Ground	ON	—		0V

How to Proceed With Trouble Diagnosis

EKS0058O

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-59, "System Description" .
3. Carry out the Preliminary Check. Refer to LT-67, "Preliminary Check" .
4. Check symptom and repair or replace the cause of malfunction. Refer to LT-74, "Trouble Diagnosis Chart by Symptom" .
5. Does the auto light system operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. Inspection End.

Preliminary Check

EKS0058P

SETTING CHANGE FUNCTIONS

- Sensitivity of auto light system can be adjusted using CONSULT-II. Refer to LT-70, "WORK SUPPORT" .

CHECK POWER SUPPLY AND GROUND CIRCUIT

1. CHECK FUSES AND FUSIBLE LINK

Check for blown fuses or fusible link.

Unit	Power source	Fuse No.
BCM	Battery	f
		21
	Ignition switch ON or START position	1
	Ignition switch ACC or ON position	6
IPDM E/R	Battery	34
		36
		38
		40
		41
		45

Refer to LT-62, "Wiring Diagram — AUTO/L —" .

OK or NG

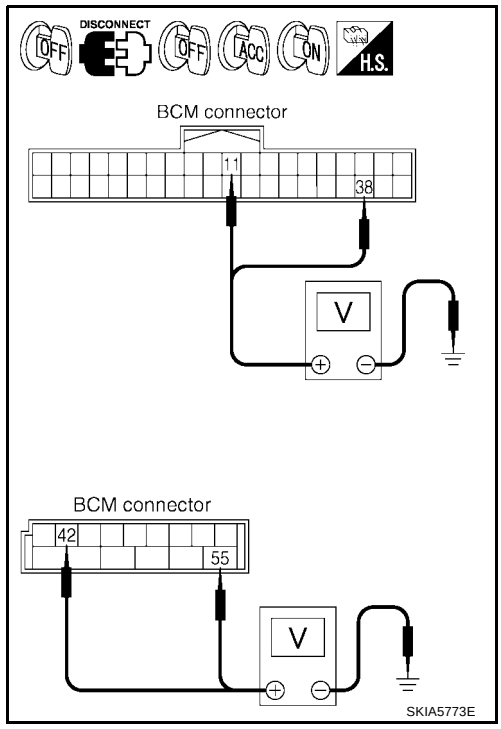
OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

Terminals			Ignition switch position		
(+)		(–)	OFF	ACC	ON
Connector	Terminal (Wire color)				
M18	11 (V)	Ground	0V	Battery voltage	Battery voltage
	38 (G)		0V	0V	Battery voltage
M19	42 (Y/R)		Battery voltage	Battery voltage	Battery voltage
	55 (W/B)		Battery voltage	Battery voltage	Battery voltage



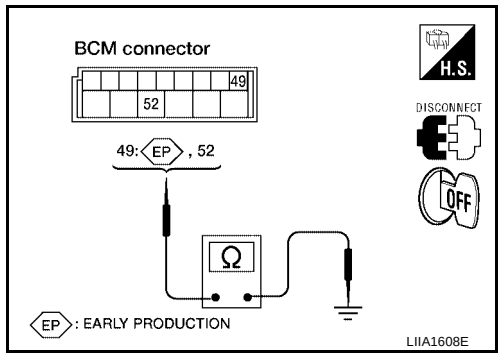
OK or NG

OK >> GO TO 3.
NG >> Check harness for open between BCM and fuse.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

Terminals			Continuity
(+)		(–)	
Connector	Terminal (Wire color)		
M19	49 (B) (early production)	Ground	Yes
	52 (B)		



OK or NG

OK >> Inspection End.
NG >> Check ground circuit harness.

CONSULT-II Function (BCM)

EKS0058Q

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

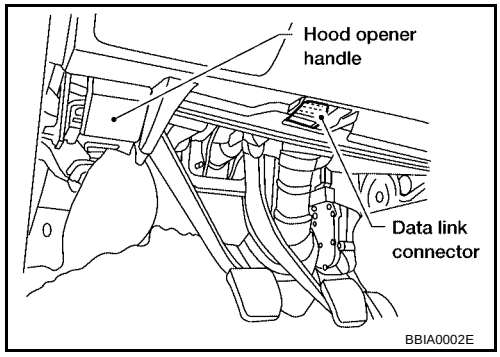
BCM diagnostic test item	Diagnostic mode	Description
Inspection by part	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
	DATA MONITOR	Displays BCM input/output data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
	SELF-DIAG RESULTS	Displays BCM self-diagnosis results.
	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
	ECU PART NUMBER	BCM part number can be read.
	CONFIGURATION	Performs BCM configuration read/write functions.

CONSULT-II OPERATION

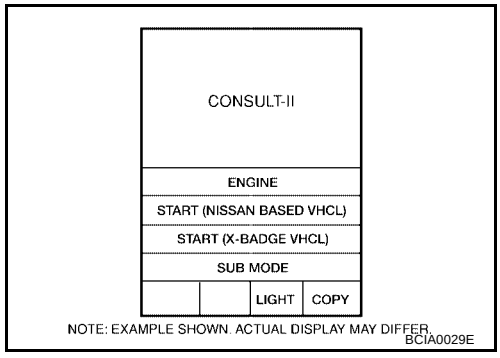
CAUTION:

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

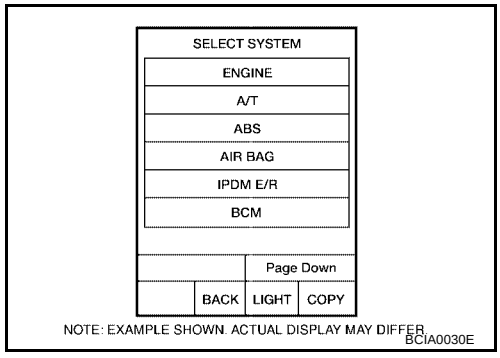
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn ignition switch ON.



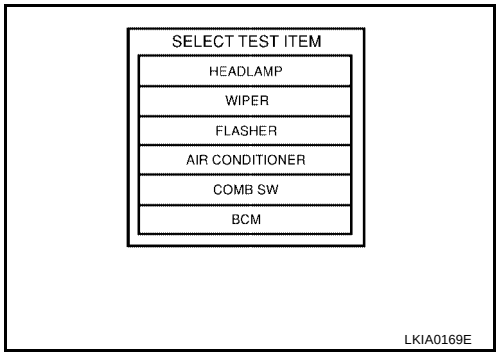
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "BCM" on "SELECT SYSTEM" screen.
If "BCM" is not indicated, go to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .



4. Touch "HEADLAMP" on "SELECT TEST ITEM" screen.



WORK SUPPORT

Operation Procedure

1. Touch "HEADLAMP" on "SELECT TEST ITEM" screen.
2. Touch "WORK SUPPORT" on "SELECT DIAG MODE" screen.
3. Touch "CUSTOM A/LIGHT SETTING" or "ILL DELAY SET" on "SELECT WORK ITEM" screen.
4. Touch "START".
5. Touch "NORMAL" or "MODE 2-4" of setting to be changed (CUSTOM A/LIGHT SETTING). Touch "MODE1-8" of setting to be changed. (ILL DELAY SET)
6. Touch "SETTING CHANGE".
7. The setting will be changed and "CUSTOMIZING COMPLETED" will be displayed.
8. Touch "END".

Work Support Setting Item

- Sensitivity of auto light can be selected and set from four modes.

Work item	Description
CUSTOM A/LIGHT SETTING	Auto light sensitivity can be changed in this mode. Sensitivity can be adjusted in four modes. ● MODE 1 (Normal)/ MODE 2 (Sensitive)/ MODE 3 (Desensitized)/ MODE4 (Insensitive)
ILL DELAY SET	Auto light delay off timer period can be changed in this mode. Selects auto light delay off timer period among eight modes. ● MODE 1 (45 sec.)/ MODE 2 (OFF)/ MODE 3 (30 sec.)/ MODE 4 (60 sec.)/ MODE 5 (90 sec.)/ MODE 6 (120 sec.)/ MODE 7 (150 sec.)/ MODE 8 (180 sec.)

DATA MONITOR

Operation Procedure

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

All signals	Monitors all the signals.
Selection from menu	Selects and monitors individual signal.

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

Display Item List

Monitor item		Contents
IGN ON SW	"ON/OFF"	Displays "IGN position (ON)/OFF, ACC position (OFF)" judged from the ignition switch signal.
ACC ON SW	"ON/OFF"	Displays "ACC (ON)/OFF, Ignition OFF (OFF)" status judged from ignition switch signal.

Monitor item		Contents
HI BEAM SW	"ON/OFF"	Displays status (high beam switch: ON/Others: OFF) of high beam switch judged from lighting switch signal.
HEAD LAMP SW 1	"ON/OFF"	Displays status (headlamp switch 1: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.
HEAD LAMP SW 2	"ON/OFF"	Displays status (headlamp switch 2: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.
LIGHT SW 1ST	"ON/OFF"	Displays status (lighting switch 1st position: ON/Others: OFF) of lighting switch judged from lighting switch signal.
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)
PASSING SW	"ON/OFF"	Displays status (flash-to-pass switch: ON/Others: OFF) of flash-to-pass switch judged from lighting switch signal.
FR FOG SW	"ON/OFF"	Displays status (front fog lamp switch: ON/Others: OFF) of front fog lamp switch judged from lighting switch signal.
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 status of the passenger door as judged from the passenger door switch signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - RR	"ON/OFF"	Displays status of the rear door as judged from the rear door switch (RH) signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - RL	"ON/OFF"	Displays status of the rear door as judged from the rear door switch (LH) signal. (Door is open: ON/Door is closed: OFF)
BACK DOOR SW	"ON/OFF"	Displays status of the back door as judged from the back door switch signal. (Door is open: ON/Door is closed: OFF)
TURN SIGNAL R	"ON/OFF"	Displays status (Turn right: ON/Others: OFF) as judged from lighting switch signal.
TURN SIGNAL L	"ON/OFF"	Displays status (Turn left: ON/Others: OFF) as judged from lighting switch signal.
ENGINE RUN[Note 1]	"ON/OFF"	Displays status (Engine running: ON/Others: OFF) as judged from engine status signal.
PKB SW[Note 1]	"ON/OFF"	Displays status (Parking brake switch: ON/Others: OFF) as judged from parking brake switch signal.
OPTICAL SENSOR	[0 - 5V]	Displays "ambient light (close to 5V when light/close to 0V when dark)" judged from optical sensor signal.

NOTE:
1. Vehicles without daytime light system display this item, but cannot monitor it.

ACTIVE TEST

Operation Procedure

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

Display Item List

Test item	Description
TAIL LAMP	Allows tail lamp relay to operate by switching ON-OFF.
HEAD LAMP (LOW)	Allows headlamp relay to operate by switching ON-OFF.
HEAD LAMP (HI)	Allows headlamp relay to operate by switching ON-OFF.
FR FOG LAMP	Allows fog lamp relay to operate by switching ON-OFF.
DTRL[Note 1]	Allow day time light lamp operate by switching ON-OFF.
CORNERING LAMP	Allows cornering lamp relay (RH, LH) to operate by switching ON-OFF.

NOTE:
1. Vehicles without daytime light lamp system display this item, but cannot monitor it.

SELF-DIAGNOSTIC RESULTS

Operation Procedure

1. Touch "BCM C/U" on "SELECT TEST ITEM" screen.
2. Touch "SELF-DIAG RESULTS" on "SELECT DIAG MODE" screen.
3. Self-diagnostic results are displayed.

Display Item List

Monitored item	CONSULT-II display	Description
CAN communication	CAN communication [U1000]	Malfunction is detected in CAN communication.
CAN communication system	CAN communication system 1 to 6 [U1000]	Malfunction is detected in CAN system.

CONSULT-II Function (IPDM E/R)

EKS0058R

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

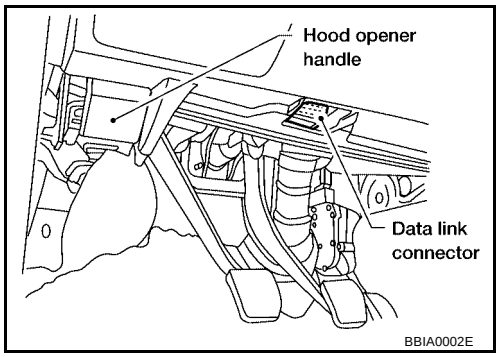
IPDM E/R diagnostic Mode	Description
SELF-DIAG RESULTS	Displays IPDM E/R self-diagnosis results.
DATA MONITOR	Displays IPDM E/R input/output data in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.

CONSULT-II OPERATION

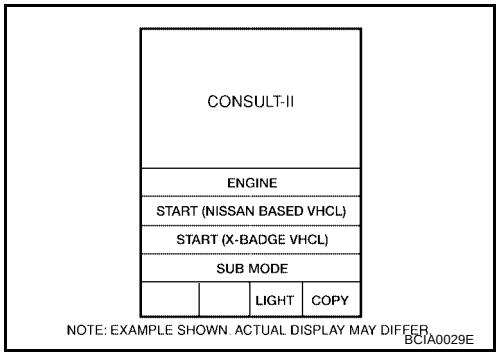
CAUTION:

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

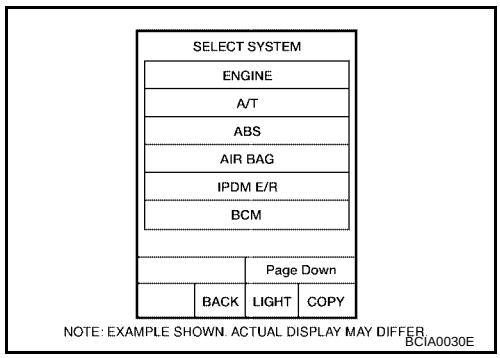
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.



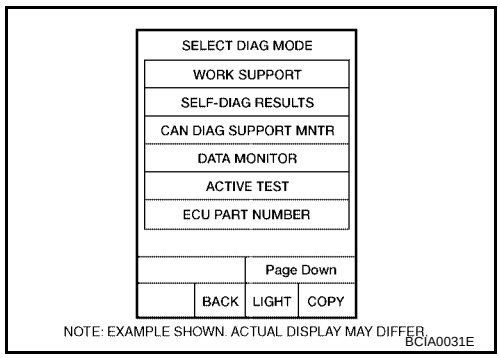
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "IPDM E/R" on "SELECT SYSTEM" screen.
If "IPDM E/R" is not displayed, go to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .



4. Select the desired part to be diagnosed on the "SELECT DIAG MODE" screen.



DATA MONITOR

Operation Procedure

1. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
2. Touch "ALL SIGNALS", "MAIN SIGNALS" or "SELECT FROM MENU" on the "DATA MONITOR" screen.

ALL SIGNALS	All items will be monitored.
MAIN SIGNALS	Monitor the predetermined item.
SELECT FROM MENU	Select any item for monitoring.

3. Touch "START".
4. Touch the required monitoring item on "SELECT ITEM MENU". In "ALL SIGNALS", all items are monitored. In "MAIN SIGNALS", predetermined items are monitored.
5. Touch "RECORD" while monitoring to record the status of the item being monitored. To stop recording, touch "STOP".

All Items, Main Items, Select Item Menu

Item name	CONSULT-II screen display	Display or unit	Monitor item selection			Description
			ALL SIGNALS	MAIN SIGNALS	SELECT FROM MENU	
Position lights request	TAIL&CLR REQ	ON/OFF	×	×	×	Signal status input from BCM
Headlamp low beam request	HL LO REQ	ON/OFF	×	×	×	Signal status input from BCM
Headlamp high beam request	HL HI REQ	ON/OFF	×	×	×	Signal status input from BCM
Front fog lights request	FR FOG REQ	ON/OFF	×	×	×	Signal status input from BCM
Cornering lamp	CRNRNG LMP REQ	ON/OFF	×	–	×	Signal status input from BCM

NOTE:
Perform monitoring of IPDM E/R data with the ignition switch ON. When the ignition switch is at ACC, the display may not be correct.

ACTIVE TEST

Operation Procedure

1. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Touch item to be tested, and check operation.
3. Touch "START".
4. Touch "STOP" while testing to stop the operation.

Test item	CONSULT-II screen display	Description
Headlamp relay (HI, LO) output	LAMPS	Allows headlamp relay (HI, LO) to operate by switching operation (OFF, HI ON, LO ON) at your option (Headlamp high beam repeats ON-OFF every 1 second).
Front fog lamp relay output		Allows fog lamp relay to operate by switching operation ON-OFF at your option.
Tail lamp relay output	TAIL LAMP	Allows tail lamp relay to operate by switching operation ON-OFF at your option.
Cornering lamp relay (RH, LH) output	CORNERING LAMP	Allows cornering lamp relay (RH, LH) to operate by switching operation ON-OFF at your option.

Trouble Diagnosis Chart by Symptom

EKS0058S

Trouble phenomenon	Malfunction system and reference
● Parking lamps and headlamps will not illuminate when outside of the vehicle becomes dark. (Lighting switch 1st position and 2nd position operate normally.) ● Parking lamps and headlamp will not go out when outside of the vehicle becomes light. (Lighting switch 1st position and 2nd position operate normally.) ● Headlamps go out when outside of the vehicle becomes light, but parking lamps stay on.	● Refer to LT-70, "WORK SUPPORT" . ● Refer to LT-75, "Lighting Switch Inspection" . ● Refer to LT-75, "Optical Sensor System Inspection" . If above systems are normal, replace BCM.
Parking lamps illuminate when outside of the vehicle becomes dark, but headlamps stay off. (Lighting switch 1st position and 2nd position operate normally.)	● Refer to LT-70, "WORK SUPPORT" . ● Refer to LT-75, "Optical Sensor System Inspection" . If above systems are normal, replace BCM.
Auto light adjustment system will not operate. (Lighting switch AUTO, 1st position and 2nd position operate normally.)	● Refer to LT-75, "Optical Sensor System Inspection" . If above system is normal, replace BCM.
Auto light adjustment system of combination meter will not operate.	● CAN communication line inspection between BCM and combination meter. Refer to BCS-13, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)" .
Shut off delay feature will not operate.	● CAN communication line inspection between BCM and combination meter. Refer to BCS-13, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)" . ● Refer to BL-29, "Door Switch Check" . If above system is normal, replace BCM.

Lighting Switch Inspection

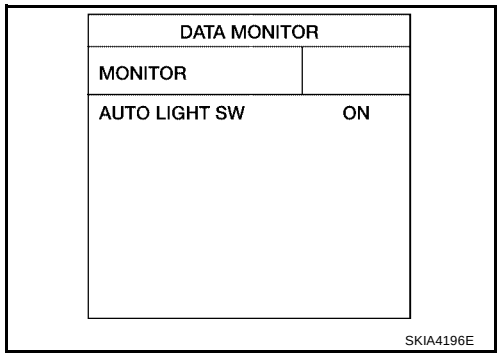
EKS0058T

1. CHECK LIGHTING SWITCH INPUT SIGNAL

With CONSULT-II

Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "AUTO LIGHT SW" turns ON-OFF linked with operation of lighting switch.

When lighting switch is in AUTO position : AUTO LIGHT SW ON



Without CONSULT-II

Refer to LT-127, "Combination Switch Inspection" .

OK or NG

OK >> Inspection End.

NG >> Check lighting switch. Refer to LT-127, "Combination Switch Inspection" .

Optical Sensor System Inspection

EKS0058U

1. CHECK OPTICAL SENSOR INPUT SIGNAL

With CONSULT-II

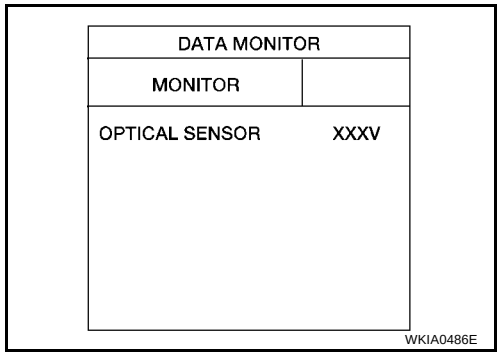
Select "BCM" on CONSULT-II. With "OPTICAL SENSOR" data monitor, make sure "OPTICAL SENSOR", check difference in the voltage when the optical sensor is illuminated and not illuminated.

Illuminated

OPTICAL SENSOR : 3.1V or more

Not illuminated

OPTICAL SENSOR : 0.6V or less



CAUTION:

Optical sensor must be completely subjected to work lamp light. If the optical sensor is insufficiently illuminated, the measured value may not satisfy the standard.

Without CONSULT-II

GO TO 2.

OK or NG

OK >> Inspection End.

NG >> GO TO 2.

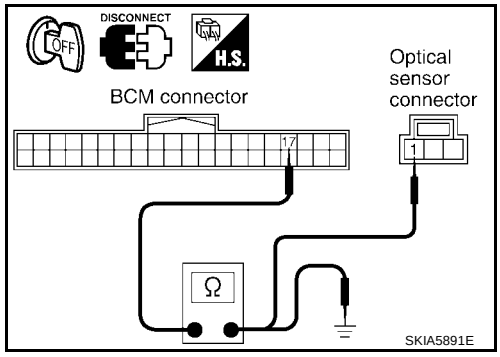
2. CHECK OPTICAL SENSOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and optical sensor connector.
3. Check continuity (open circuit) between BCM harness connector M18 terminal 17 (W/R) and optical sensor harness connector M15 terminal 1 (W/R).

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

4. Check continuity (short circuit) between BCM harness connector M18 terminal 17 (W/R) and ground.

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



OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.

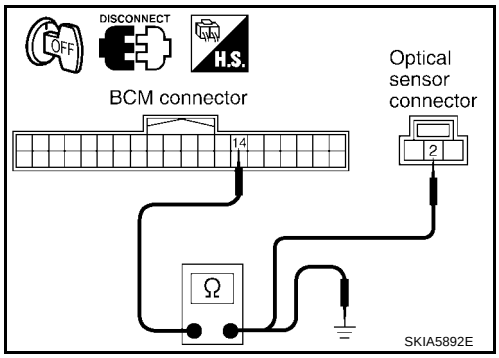
3. CHECK OPTICAL SENSOR POWER SUPPLY CIRCUIT

1. Check continuity (open circuit) between BCM harness connector M18 terminal 14 (L/Y) and optical sensor harness connector M15 terminal 2 (L/Y).

14 (L/Y) - 2 (L/Y) : Continuity should exist.

2. Check continuity (short circuit) between BCM harness connector M18 terminal 14 (L/Y) and ground.

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



OK or NG

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

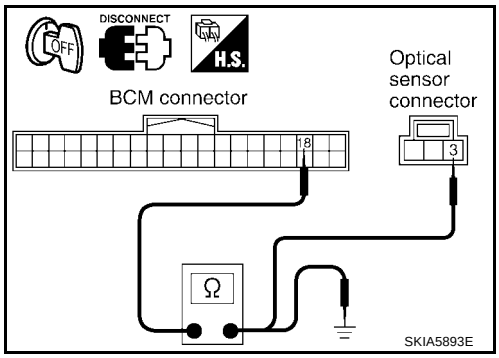
4. CHECK OPTICAL SENSOR POWER SUPPLY CIRCUIT

1. Check continuity (open circuit) between BCM harness connector M18 terminal 18 (L/O) and optical sensor harness connector M15 terminal 3 (L/O).

18 (L/O) - 3 (L/O) : Continuity should exist.

2. Check continuity (short circuit) between BCM harness connector M18 terminal 18 (L/O) and ground.

18 (L/O) - Ground : Continuity should not exist.



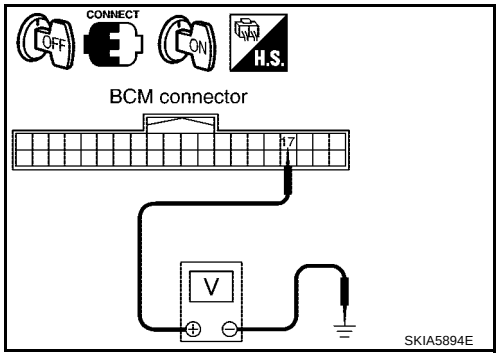
OK or NG

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

5. CHECK OPTICAL SENSOR VOLTAGE

1. Connect BCM connector.
2. Turn ignition switch ON.
3. Check voltage between BCM harness connector M18 terminal 17 (W/R) and ground.

17 (W/R) - Ground : Approx. 5V should exist.



OK or NG

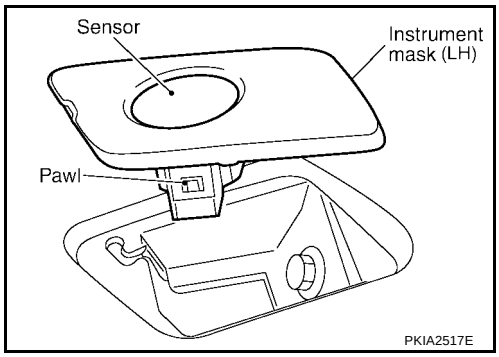
OK >> Replace the optical sensor. Refer to LT-76, "Removal and Installation of Optical Sensor" .
NG >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

Removal and Installation of Optical Sensor

EKS0058V

1. Remove instrument mask assembly. Refer to IP-10, "Removal and Installation" .
2. While pressing pawl, remove the sensor unit from instrument mask.

Installation is in the reverse order of removal.

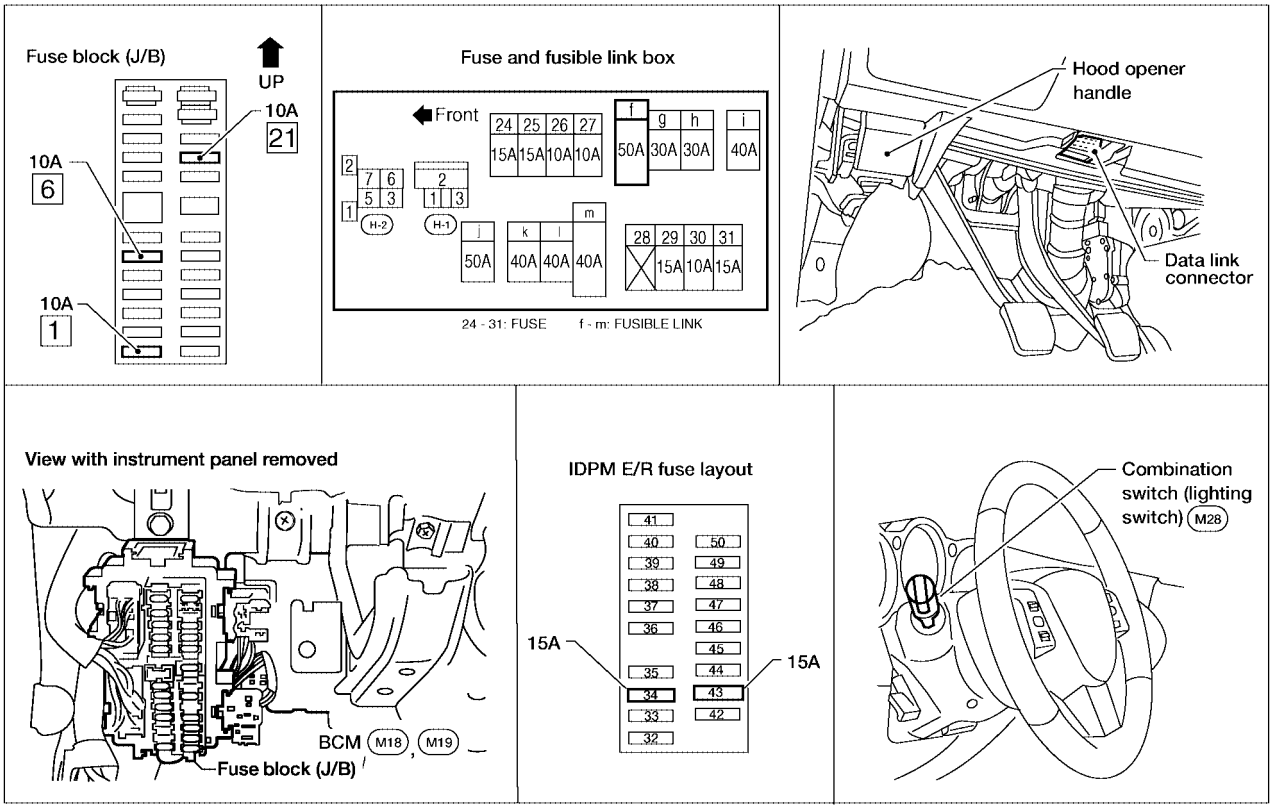


FRONT FOG LAMP

PFP:26150

Component Parts and Harness Connector Location

EKS0058W



LKIA0263E

System Description

EKS0058X

Control of the fog lamps is dependent upon the position of the combination switch (lighting switch). The lighting switch must be in the 2ND position or AUTO position (LOW beam is ON) for front fog lamp operation. When the lighting switch is placed in the fog lamp position, the BCM (body control module) receives input signal requesting the fog lamps to illuminate. When the headlamps are illuminated, this input signal is communicated to the IPDM E/R (intelligent power distribution module engine room) across the CAN communication lines. The CPU (central processing unit) of the IPDM E/R controls the front fog lamp relay coil. When activated, this relay directs power to the front fog lamps.

OUTLINE

Power is supplied at all times

- through 15A fuse (No. 43, located in the IPDM E/R)
- to front fog lamp relay, located in the IPDM E/R
- through 15A fuse (No. 34, located in the IPDM E/R)
- to CPU in the IPDM E/R.

Power is also supplied at all times

- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 55
- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to BCM terminal 42.

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

- to ignition relay, located in the IPDM E/R
- through 10A fuse [No. 1 located in the fuse block (J/B)]
- to BCM terminal 38.

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

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to BCM terminal 11.

Ground is supplied at all times

- to BCM terminals 49 (early production) and 52
- through grounds M57, M61 and M79
- to IPDM E/R terminals 38 and 60
- through grounds E15 and E24.

FOG LAMP OPERATION

The fog lamp switch is built into the combination switch. The lighting switch must be in the 2ND position or AUTO position (LOW beam is ON) and the fog lamp switch must be ON for fog lamp operation.
With the fog lamp switch in the ON position, the CPU of the IPDM E/R grounds the coil side of the fog lamp relay. The fog lamp relay then directs power

- through IPDM E/R terminal 37
- to front combination lamp LH terminal 11
- through IPDM E/R terminal 36
- to front combination lamp RH terminal 11.

Ground is supplied at all times

- to combination lamp LH terminal 12
- through grounds E15 and E24
- to combination lamp RH terminal 12
- through grounds E15 and E24.

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

COMBINATION SWITCH READING FUNCTION

Refer to LT-125, "Combination Switch Reading Function" .

EXTERIOR LAMP BATTERY SAVER CONTROL

When the combination switch (lighting switch) is in the 2ND position (ON), the fog lamp switch is ON, and the ignition switch is turned from ON or ACC to OFF, the battery saver control feature is activated.
Under this condition, the fog lamps (and headlamps) remain illuminated for 5 minutes, then the fog lamps (and headlamps) are turned off.
Exterior lamp battery saver control mode can be changed by the function setting of CONSULT-II.

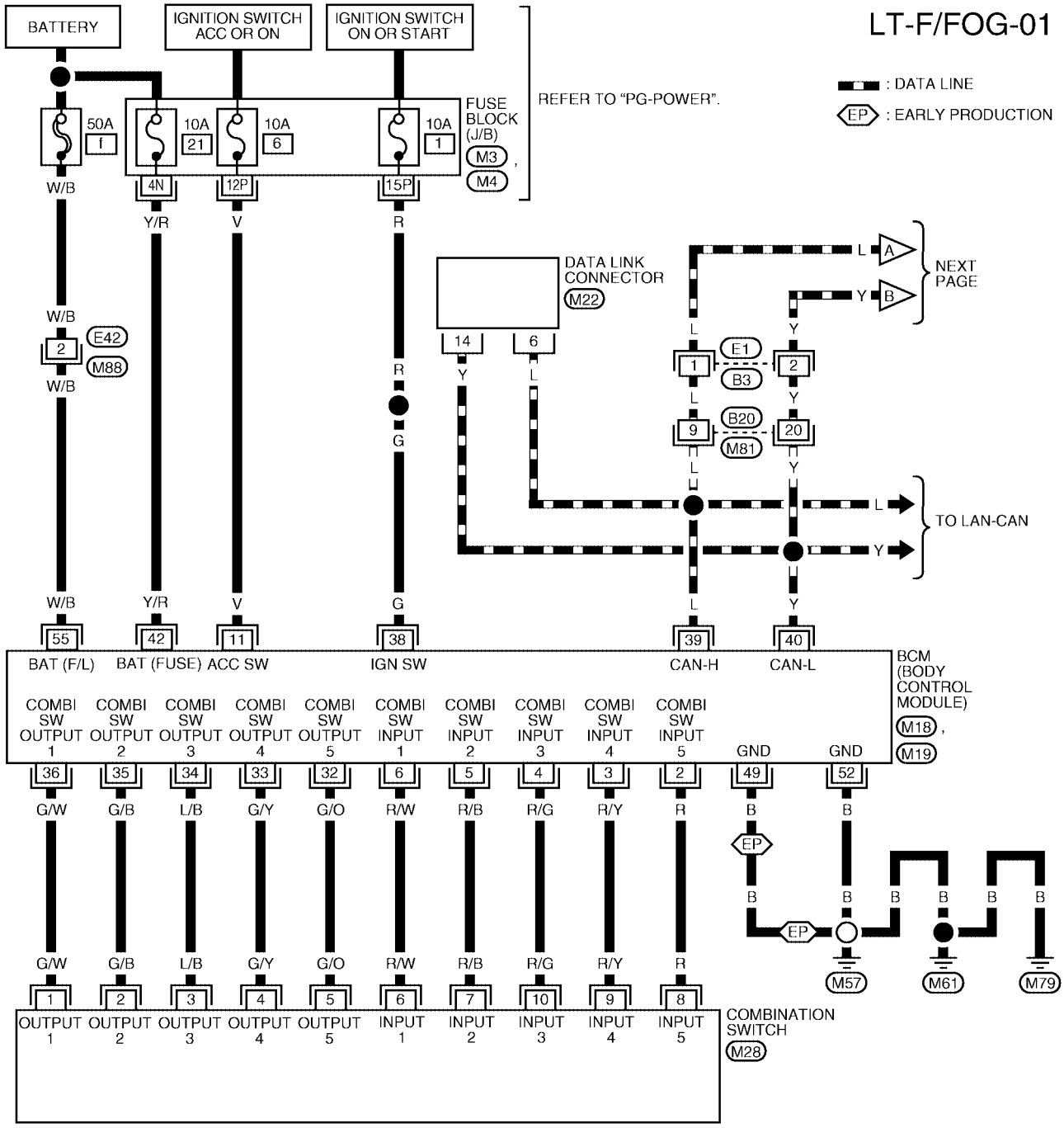
CAN Communication System Description

EKS0058Y

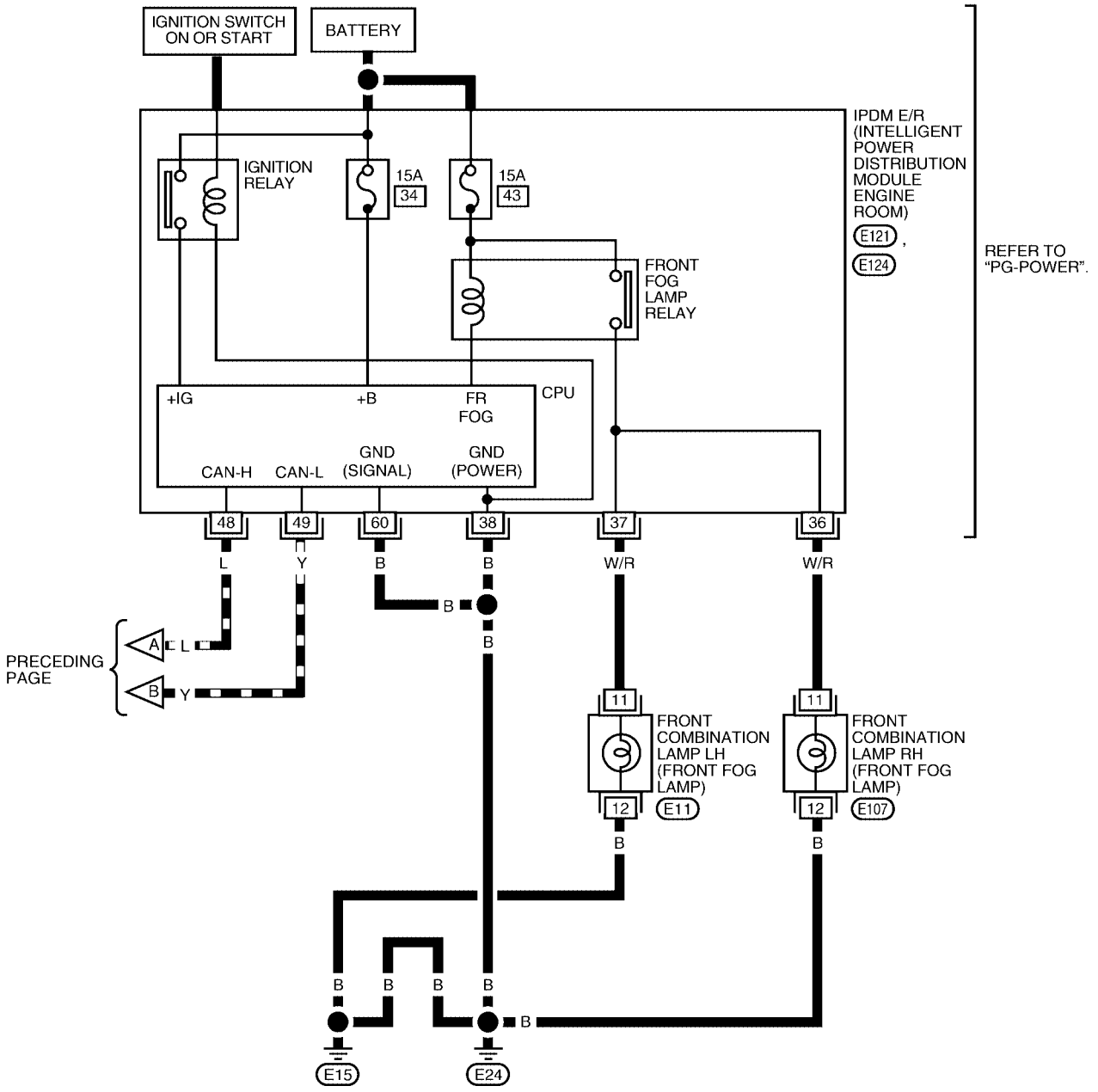
Refer to LAN-8, "CAN COMMUNICATION" .

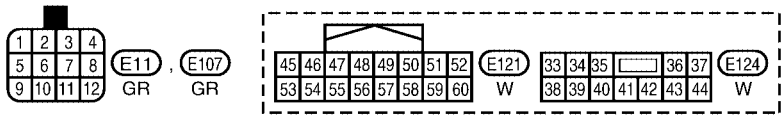
Wiring Diagram — F/FOG —

EKS00590



LT-F/FOG-02

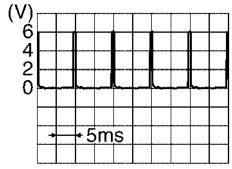
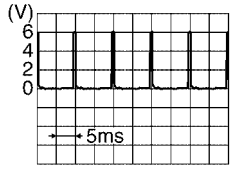
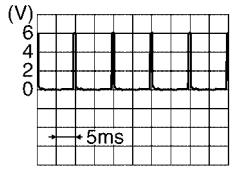
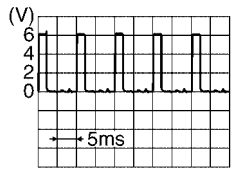


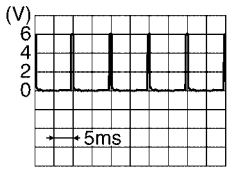


WKWA2839E

Terminals and Reference Value for BCM

EKS005H7

Terminal No.	Wire color	Signal name	Measuring condition		Reference value (Approx.)
			Ignition switch	Operation or condition	
2	R	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	R/Y	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	R/G	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	R/B	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	R/W	Combination switch input 1			
11	V	Ignition switch (ACC)	ACC	—	Battery voltage
32	G/O	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	G/Y	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	L/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E

Terminal No.	Wire color	Signal name	Measuring condition		Reference value (Approx.)
			Ignition switch	Operation or condition	
35	G/B	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	G/W	Combination switch output 1			
38	G	Ignition switch (ON)	ON	—	Battery voltage
39	L	CAN-H	—	—	—
40	Y	CAN-L	—	—	—
42	Y/R	Battery power supply	OFF	—	Battery voltage
49 (early production)	B	Ground	ON	—	0V
52	B	Ground	ON	—	0V
55	W/B	Battery power supply (fusible link)	OFF	—	Battery voltage

Terminals and Reference Values for IPDM E/R

EKS00592

Terminal No.	Wire color	Signal name	Measuring condition			Reference value (Approx.)
			Ignition switch	Operation or condition		
36	W/R	Front fog lamp (RH)	ON	Lighting switch must be in the 2ND position or AUTO position (LOW beam is ON) and the front fog lamp switch must be ON	OFF	0V
					ON	Battery voltage
37	W/R	Front fog lamp (LH)	ON	Lighting switch must be in the 2ND position or AUTO position (LOW beam is ON) and the front fog lamp switch must be ON	OFF	0V
					ON	Battery voltage
38	B	Ground	ON	—		0V
48	L	CAN - H	—	—		—
49	Y	CAN - L	—	—		—
60	B	Ground	ON	—		0V

How to Proceed With Trouble Diagnosis

EKS00593

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-77, "System Description" .
3. Perform the Preliminary Check. Refer to LT-83, "Preliminary Check" .
4. Check symptom and repair or replace the cause of malfunction.
5. Does the front fog lamp operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. Inspection End.

Preliminary Check

EKS00594

CHECK POWER SUPPLY AND GROUND CIRCUIT

1. CHECK FUSES AND FUSIBLE LINK

Check for blown fuses or fusible link.

Unit	Power source	Fuse No.
BCM	Battery	f
	Battery	21
	Ignition switch ON or START position	1
	Ignition switch ACC or ON position	6
IPDM E/R	Battery	43

Refer to LT-79, "Wiring Diagram — F/FOG —" .

OK or NG

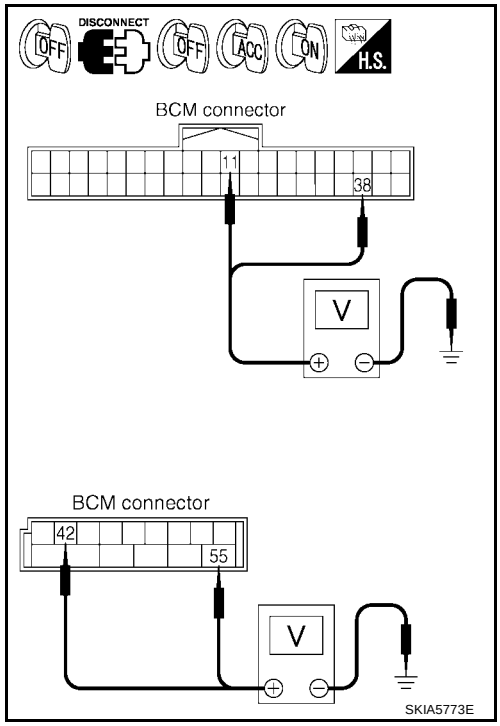
OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

Terminals			Ignition switch position		
(+)		(–)	OFF	ACC	ON
Connector	Terminal (Wire color)				
M18	11 (V)	Ground	0V	Battery voltage	Battery voltage
	38 (G)		0V	0V	Battery voltage
M19	42 (Y/R)		Battery voltage	Battery voltage	Battery voltage
	55 (W/B)		Battery voltage	Battery voltage	Battery voltage



OK or NG

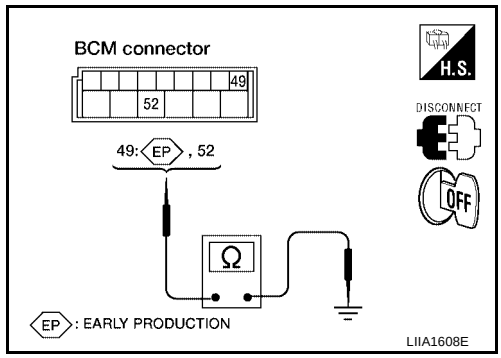
OK >> GO TO 3.

NG >> Check harness for open between BCM and fuse.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

Terminals			Continuity
(+)		(–)	
Connector	Terminal (Wire color)		
M19	49 (B) (early production)	Ground	Yes
	52 (B)		



OK or NG

OK >> Inspection End.
NG >> Check ground circuit harness.

CONSULT-II Functions

EKS00595

Refer to LT-23, "CONSULT-II Function (BCM)" in HEADLAMP (FOR USA).
Refer to LT-26, "CONSULT-II Function (IPDM E/R)" in HEADLAMP (FOR USA).

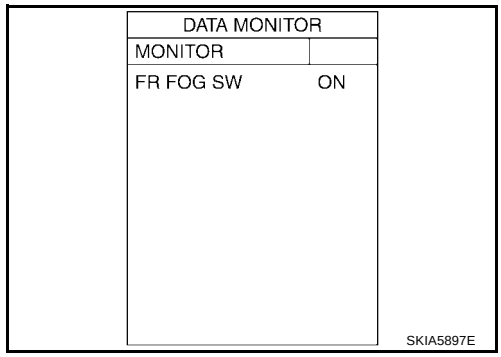
Front Fog lamps Does Not Illuminate (Both Sides)

EKS00596

1. CHECK COMBINATION SWITCH INPUT SIGNAL

With CONSULT-II
Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "FR FOG SW" turns ON-OFF linked with operation of lighting switch.

When lighting switch is FOG position : FR FOG SW ON



Without CONSULT-II
Refer to LT-127, "Combination Switch Inspection" .

OK or NG

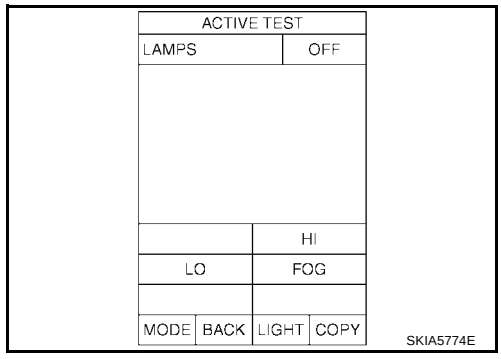
OK >> GO TO 2.
NG >> Check lighting switch. Refer to LT-127, "Combination Switch Inspection" .

2. FOG LAMP ACTIVE TEST

With CONSULT-II

1. Select "IPDM E/R" on CONSULT-II and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "LAMPS" on "SELECT TEST ITEM" screen.
3. Touch "FOG" screen.
4. Make sure fog lamps operate.

Fog lamp should operate.



Without CONSULT-II

1. Start auto active test. Refer to PG-20, "Auto Active Test" .
2. Make sure fog lamps operate.

Fog lamp should operate.

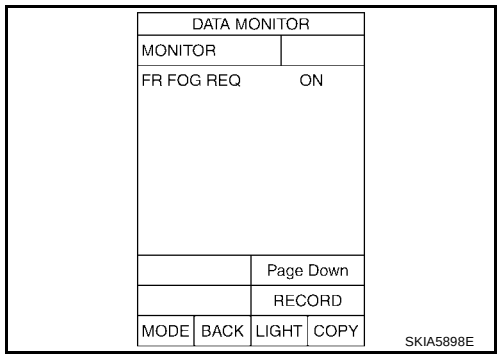
OK or NG

OK >> GO TO 3.
NG >> GO TO 4.

3. CHECK IPDM E/R

1. Select "IPDM E/R" on CONSULT-II and select "DATA MONITOR" on "SELECT DIAG MODE" screen.
2. Make sure "FR FOG REQ" turns ON when lighting switch is in FOG position.

When lighting switch is FOG position : FR FOG REQ ON



OK or NG

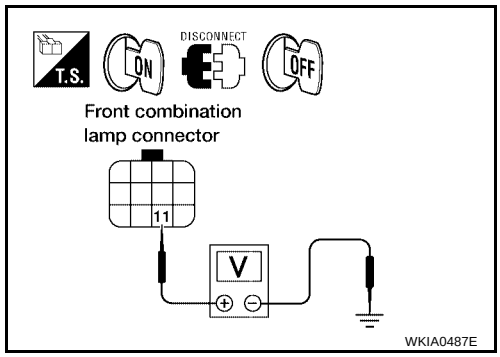
OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .

NG >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

4. CHECK FOG LAMP INPUT SIGNAL

With CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Select "IPDM E/R" on CONSULT-II and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
4. Select "TAIL LAMP" on “SELECT TEST ITEM” screen.
5. Touch "FOG" screen.
6. When fog lamp is operating, check voltage between front combination lamp RH and LH harness connector and ground.



Without CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Start auto active test. Refer to PG-20, "Auto Active Test" .
4. When fog lamp is operating, check voltage between front combination lamp RH and LH harness connector and ground.

Terminals				Voltage
(+)			(-)	
Connector		Terminal (Wire color)		
RH	E107	11 (W/R)	Ground	Battery voltage
LH	E11	11 (W/R)		

OK or NG

OK >> GO TO 6.

NG >> GO TO 5.

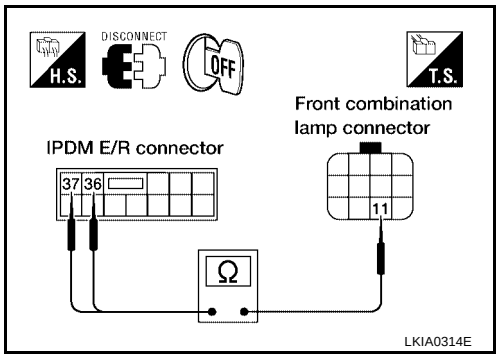
5. CHECK FOG LAMP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector E124 terminal 36 (W/R) and front combination lamp RH harness connector E107 terminal 11 (W/R).

36 (W/R) - 11 (W/R) : Continuity should exist.

4. Check continuity between IPDM E/R harness connector E124 terminal 37 (W/R) and front combination lamp LH harness connector E11 terminal 11 (W/R).

37 (W/R) - 11 (W/R) : Continuity should exist.



OK or NG

OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .
NG >> Repair harness or connector.

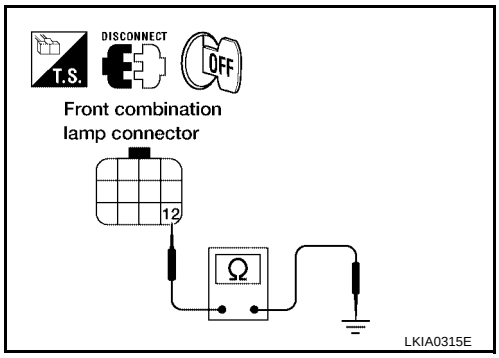
6. CHECK FOG LAMP GROUND

1. Check continuity between front combination lamp RH harness connector E107 terminal 12 (B) and ground.

12 (B) - Ground : Continuity should exist.

2. Check continuity between front combination lamp LH harness connector E11 terminal 12 (B) and ground.

12 (B) - Ground : Continuity should exist.



OK or NG

OK >> Check front fog lamp bulbs.
NG >> Repair harness or connector.

Front Fog Lamp Does Not Illuminate (One Side)

EKS00597

1. CHECK BULB

Check bulb of lamp which does not illuminate.

OK or NG

OK >> GO TO 2.
NG >> Replace front fog lamp bulb. Refer to LT-89, "Bulb Replacement" .

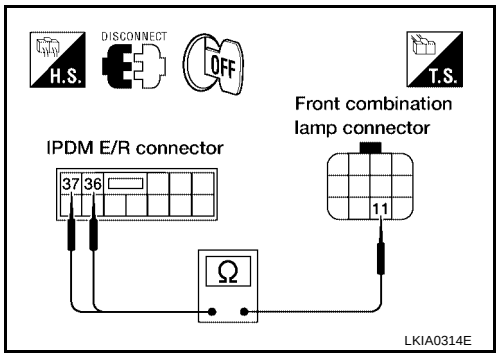
2. CHECK FOG LAMP CIRCUIT

1. Disconnect IPDM E/R connector and front combination lamp RH or LH connector.
2. Check continuity between IPDM E/R harness connector E124 terminal 36 (W/R) and front combination lamp RH harness connector E107 terminal 11 (W/R).

36 (W/R) - 11 (W/R) : Continuity should exist.

3. Check continuity between IPDM E/R harness connector E124 terminal 37 (W/R) and front combination lamp LH harness connector E11 terminal 11 (W/R).

37 (W/R) - 11 (W/R) : Continuity should exist.



OK or NG

OK >> GOTO 3.
NG >> Repair harness or connector.

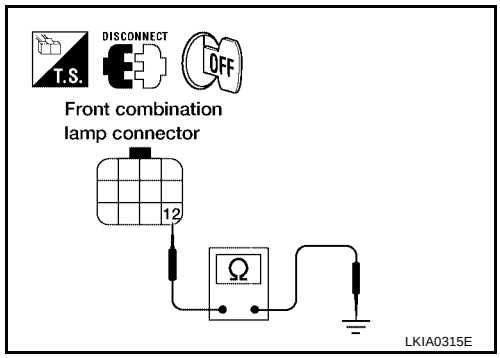
3. CHECK FOG LAMP GROUND

1. Check continuity between front combination lamp RH harness connector E107 terminal 12 (B) and ground.

12 (B) - Ground : Continuity should exist.

2. Check continuity between front combination lamp LH harness connector E11 terminal 12 (B) and ground.

12 (B) - Ground : Continuity should exist.



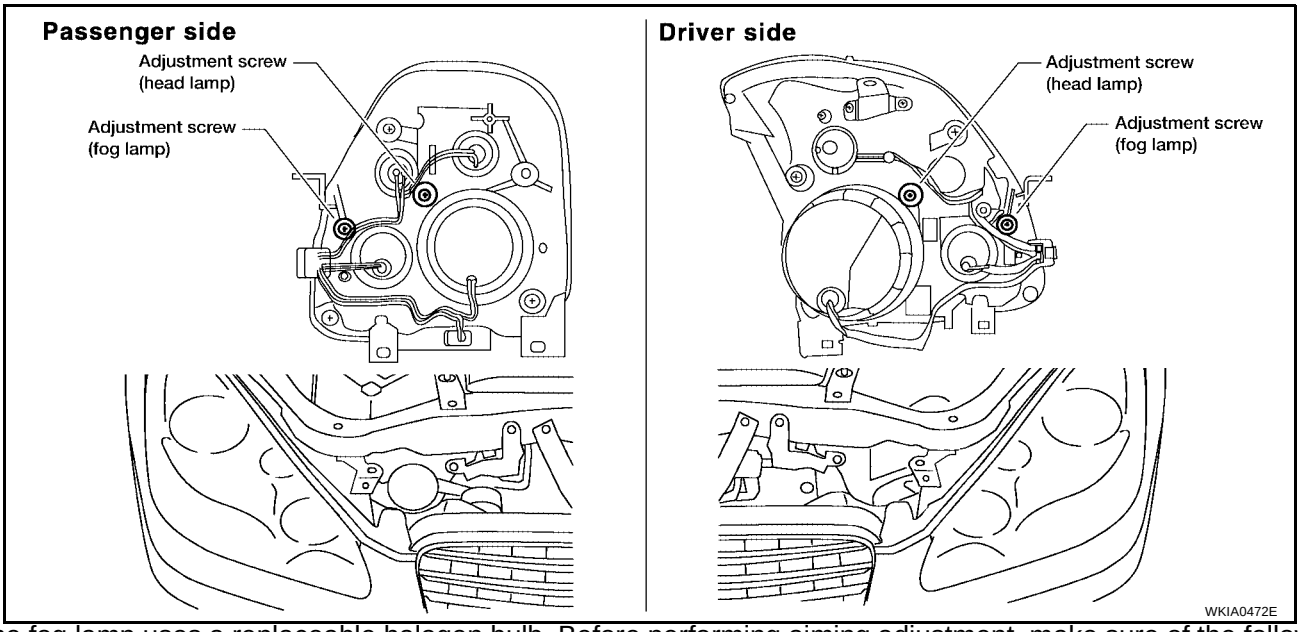
OK or NG

OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .

NG >> Repair harness or connector.

Aiming Adjustment

EKS00598

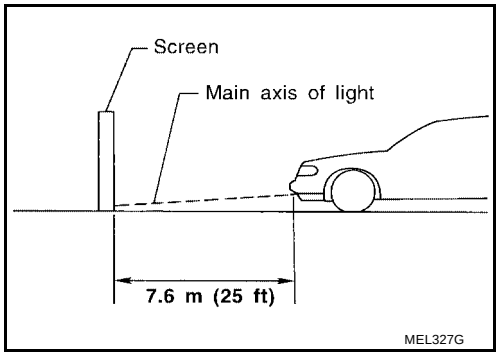


The fog lamp uses a replaceable halogen bulb. Before performing aiming adjustment, make sure of the following.

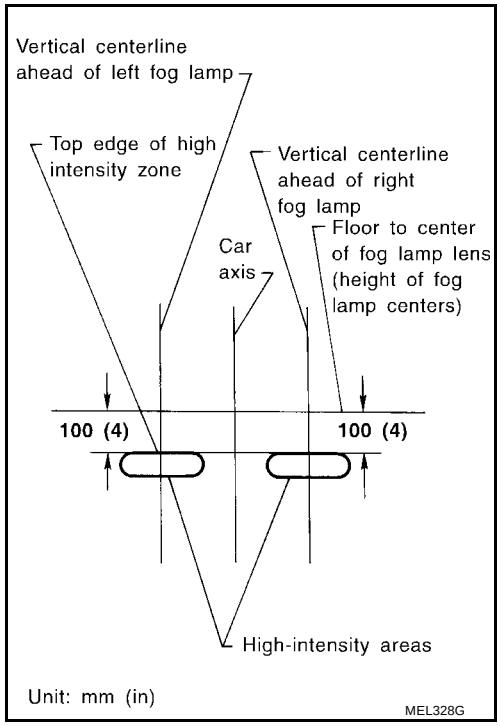
- Keep all tires inflated to correct pressure.
- Place vehicle on level ground.
- See that vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in driver seat.

Adjust aiming in the vertical direction by turning the adjusting screw.

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



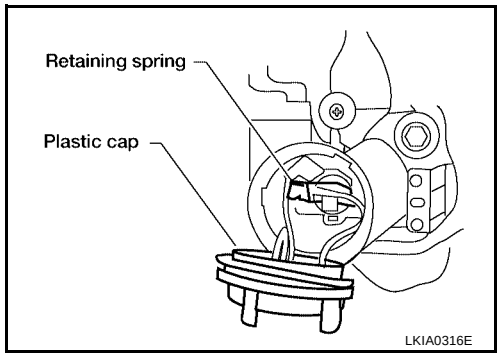
3. Adjust front fog lamps using adjusting screw so that the top edge of the high intensity zone is 100 mm (4 in) below the height of the fog lamp centers as shown.
   - When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.



Bulb Replacement

EKS00599

1. For LH side, remove air cleaner case. Refer to EM-15, "Removal and Installation" .
   For RH side, position IPDM E/R aside and remove washer tank inlet. Refer to PG-26, "Removal and Installation of IPDM E/R" .
2. Turn the plastic cap counterclockwise to unlock it from the combination lamp.
3. Disconnect fog lamp bulb connector.
4. Unlock the retaining spring and remove the bulb.



CAUTION:

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

Installation is in the reverse order of removal.

Removal and Installation

EKS0059A

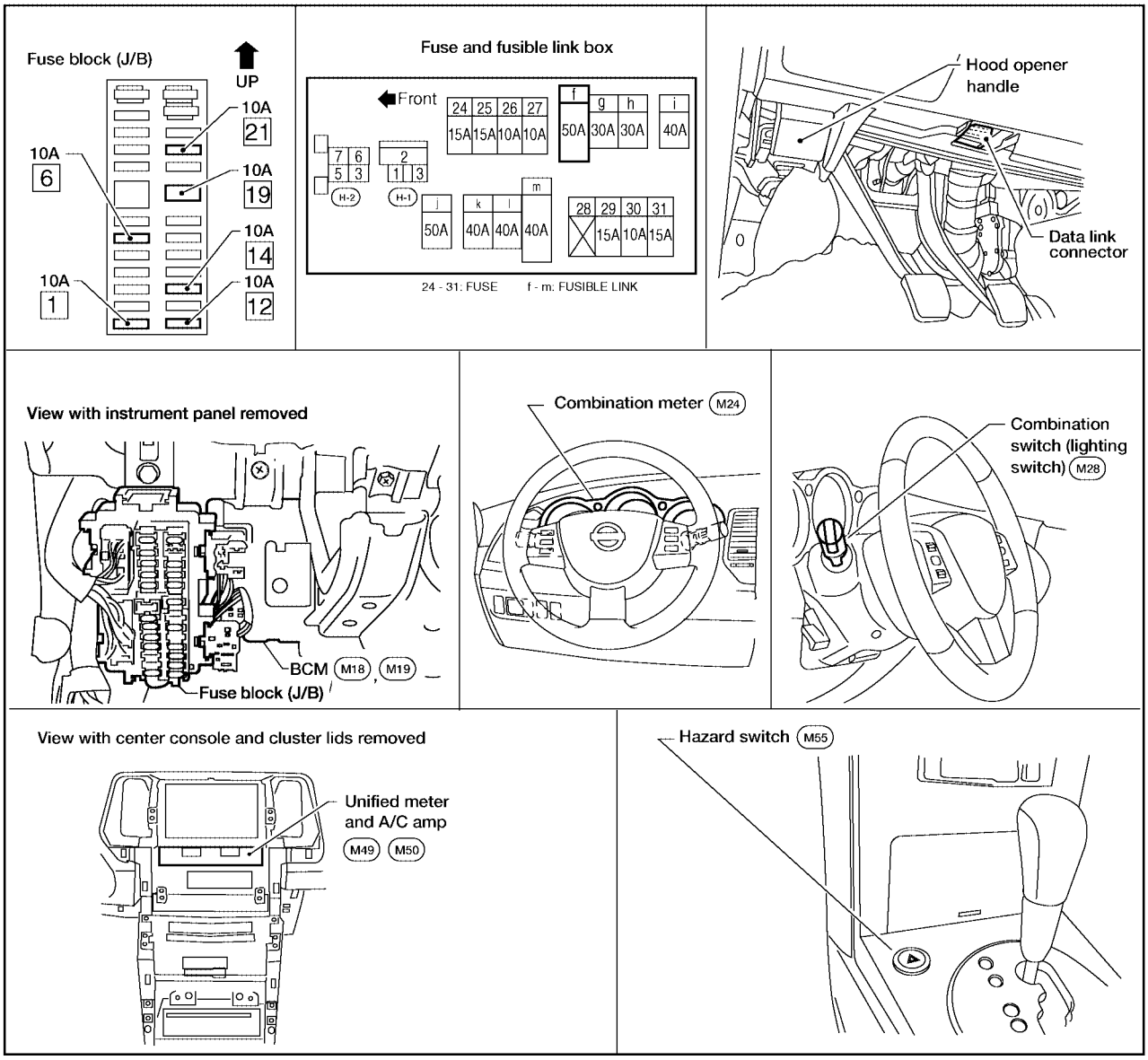
Refer to LT-41, "Combination Lamp Removal and Installation" .

TURN SIGNAL AND HAZARD WARNING LAMPS

PFP:26120

Component Parts and Harness Connector Location

EKS0059B



WKIA3126E

System Description

EKS0059C

OUTLINE

Power is supplied at all times

- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM (body control module) terminal 55
- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to BCM terminal 42
- through 10A fuse [No. 19, located in the fuse block (J/B)]
- to unified meter and A/C amp. terminal 21
- to combination meter terminal 24.

TURN SIGNAL OPERATION

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

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to BCM terminal 38

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to unified meter and A/C amp. terminal 22
- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to combination meter terminal 23.

Ground is supplied at all times

- to BCM terminals 49 (early production) and 52
- to unified meter and A/C amp. terminals 29 and 30
- to combination meter terminals 10, 11 and 12
- through grounds M57, M61 and M79.

LH Turn

When the turn signal switch is moved to the left position, BCM outputs turn signal from BCM terminal 45, interpreting it as turn signal is ON.
The BCM supplies power

- from terminal 45
- to front combination lamp LH terminal 5
- through front combination lamp LH terminal 10
- to grounds E15 and E24
- to rear combination lamp LH terminal 3
- through rear combination lamp LH terminal 5
- to grounds B7 and B19.

BCM sends signal to unified meter and A/C amp through CAN communication lines and turns on turn signal indicator lamp within combination meter.

RH Turn

When the turn signal switch is moved to the right position, BCM outputs turn signal from BCM terminal 46, interpreting it as turn signal is ON.
The BCM supplies power

- from terminal 46
- to front combination lamp RH terminal 5
- through front combination lamp RH terminal 10
- to grounds E15 and E24
- to rear combination lamp RH terminal 3
- through rear combination lamp RH terminal 5
- to grounds B7 and B19.

BCM sends signal to unified meter and A/C amp through CAN communication lines and turns on turn signal indicator lamp within combination meter.

HAZARD LAMP OPERATION

Power is supplied at all times

- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 55
- through 10A fuse [No. 19, located in the fuse block (J/B)]
- to combination meter terminal 24
- to unified meter and A/C amp. terminal 21.

Ground is supplied at all times

- through BCM terminals 49 (early production) and 52
- through combination meter terminals 10, 11 and 12
- through unified meter and A/C amp. terminals 29 and 30
- to grounds M57, M61 and M79.

When the hazard switch is depressed, ground is supplied

- to BCM terminal 29

- through hazard switch terminal 2
- through hazard switch terminal 1
- through grounds M57, M61 and M79.

When the hazard switch is depressed, BCM outputs turn signal from BCM terminals 45 and 46, interpreting it as turn signal is ON.
The BCM supplies power

- from terminals 45 and 46
- to front combination lamp LH and RH terminal 5
- through front combination lamp LH and RH terminal 10
- to grounds E15 and E24
- to rear combination lamp LH and RH terminal 3
- through rear combination lamp LH and RH terminal 5
- to grounds B7 and B19.

BCM sends signal to unified meter and A/C amp through CAN communication lines and turns on turn signal indicator lamp within combination meter.

REMOTE KEYLESS ENTRY SYSTEM OPERATION

Power is supplied at all times

- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 55
- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to BCM terminal 42
- through 10A fuse [No. 19, located in the fuse block (J/B)]
- to unified meter and A/C amp. terminal 21
- to combination meter terminal 24.

Ground is supplied at all times

- to BCM terminals 49 (early production) and 52
- to combination meter terminals 10, 11 and 12
- to unified meter and A/C amp. terminals 29 and 30
- through grounds M57, M61 and M79.

When the remote keyless entry system is triggered by input from the key fob, BCM outputs turn signal from BCM terminals 45 and 46, interpreting it as turn signal is ON.
The BCM supplies power

- from terminals 45 and 46
- to front combination lamp LH and RH terminal 5
- through front combination lamp LH and RH terminal 10
- to grounds E15 and E24
- to rear combination lamp LH and RH terminal 3
- through rear combination lamp LH and RH terminal 5
- to grounds B7 and B19.

BCM sends signal to unified meter and A/C amp through CAN communication lines and turns on turn signal indicator lamp with combination meter.
With power and input supplied, the BCM controls the flashing of the hazard warning lamps when key fob is used to activate the remote keyless entry system.

COMBINATION SWITCH READING FUNCTION

Refer to LT-125, "Combination Switch Reading Function" .

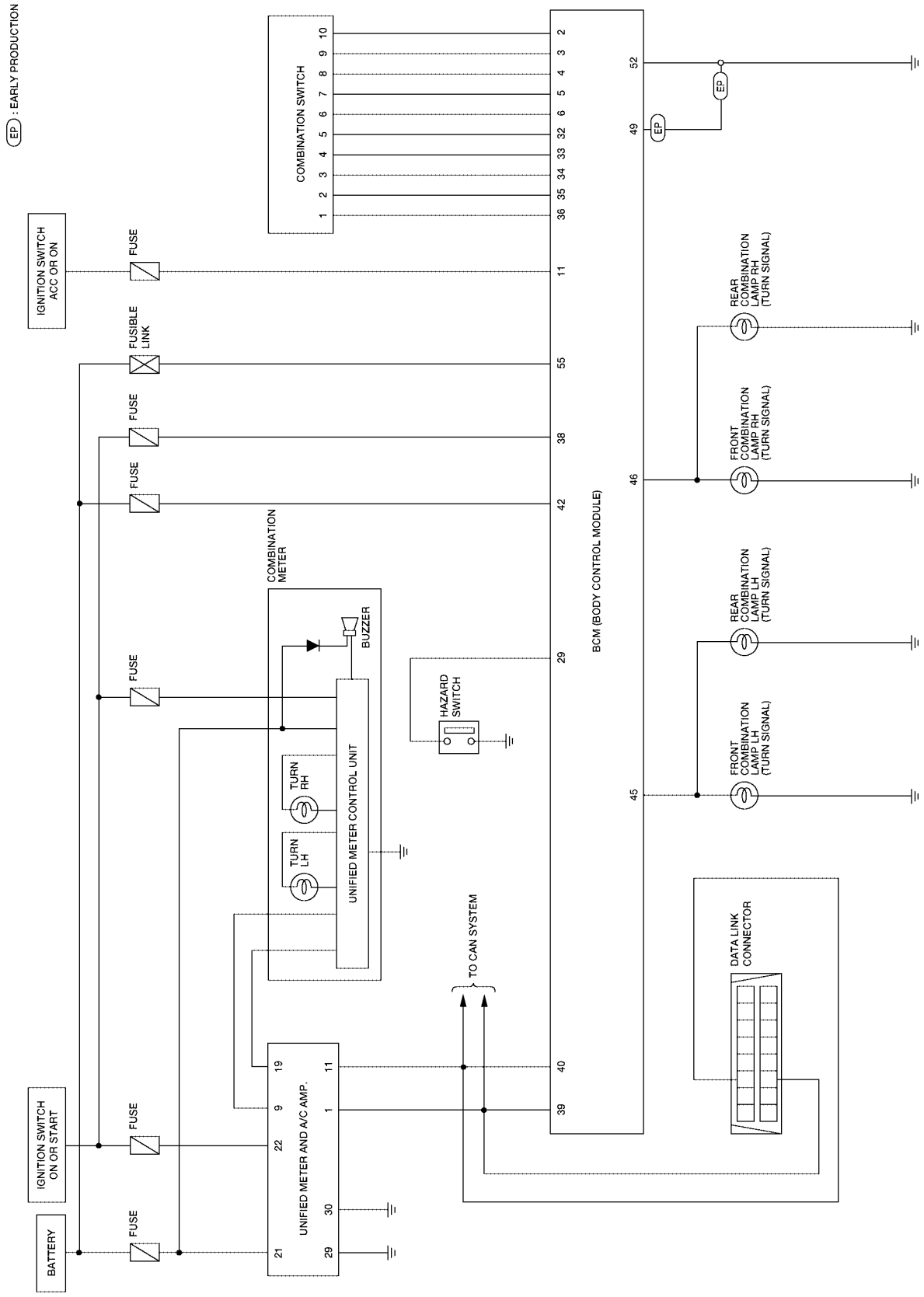
CAN Communication System Description

EKS0059D

Refer to LAN-8, "CAN COMMUNICATION" .

Schematic

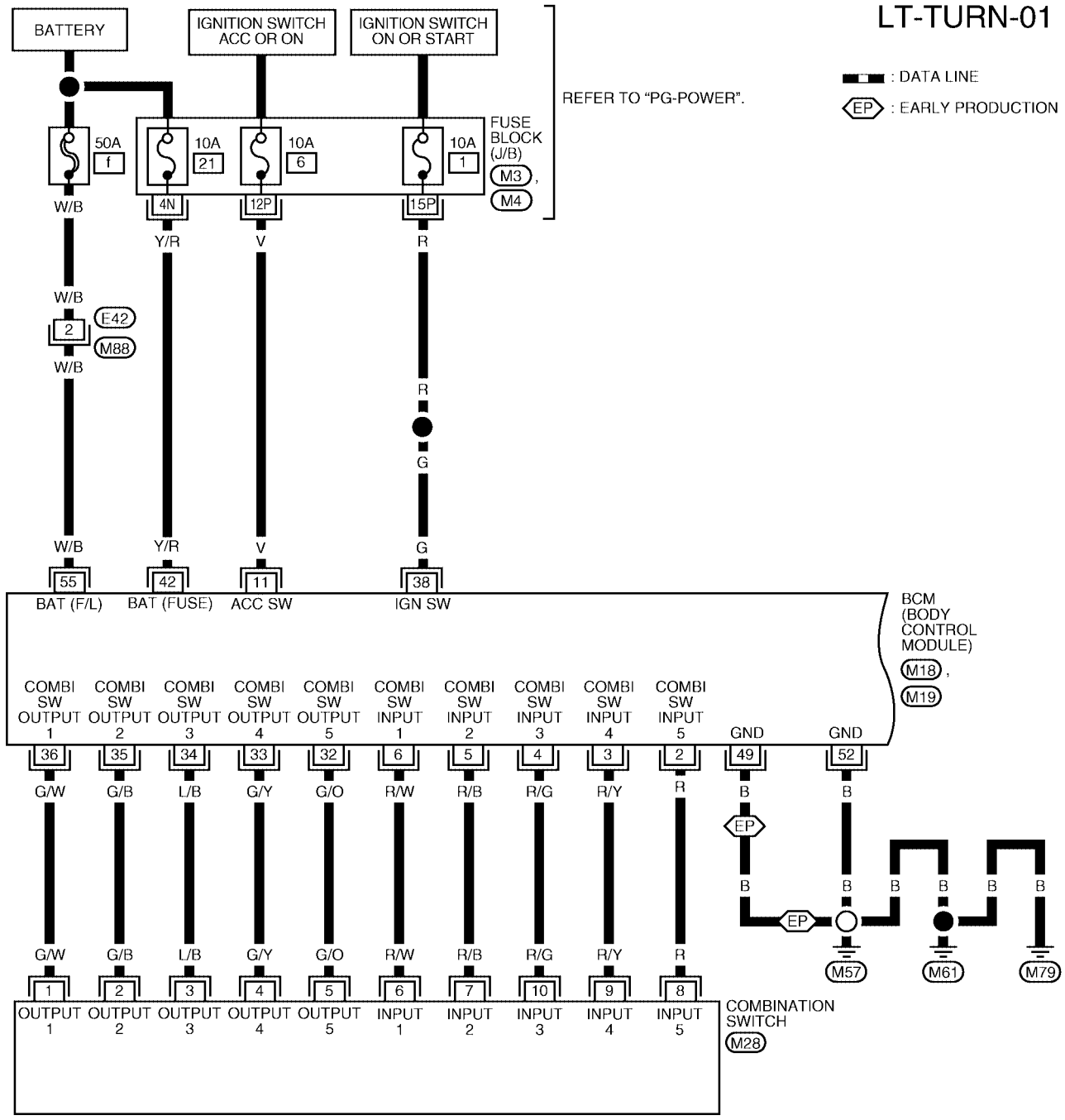
EKS0059F

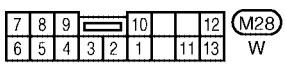


WKWA1814E

Wiring Diagram — TURN —

EKS0059G

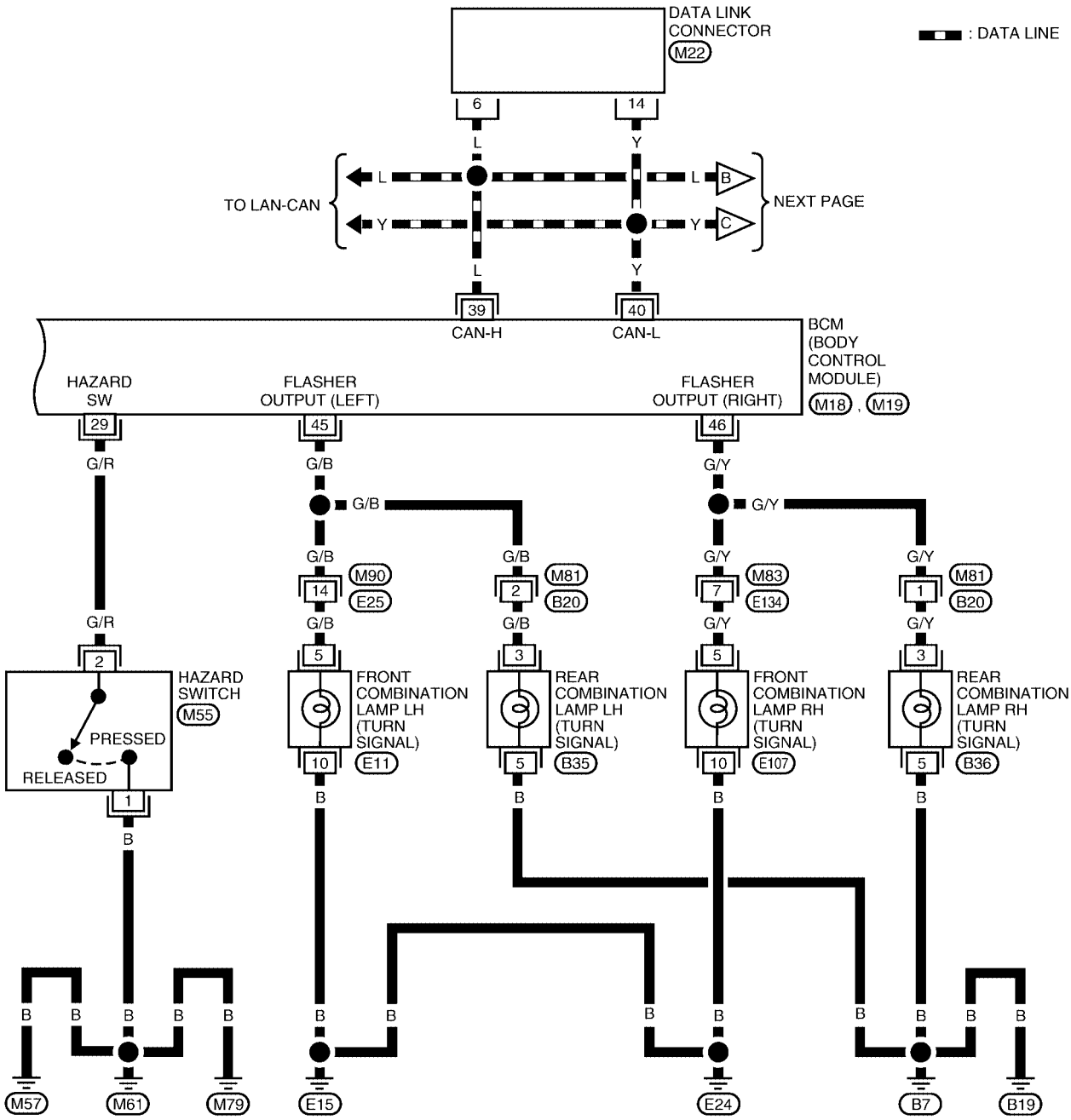


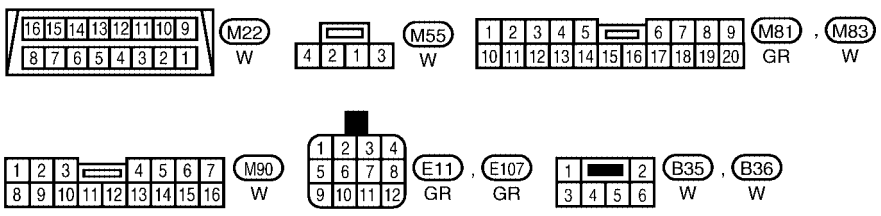


REFER TO THE FOLLOWING.
M3, M4 - FUSE BLOCK-JUNCTION BOX (J/B)
M18, M19 - ELECTRICAL UNITS

WKWA1816E

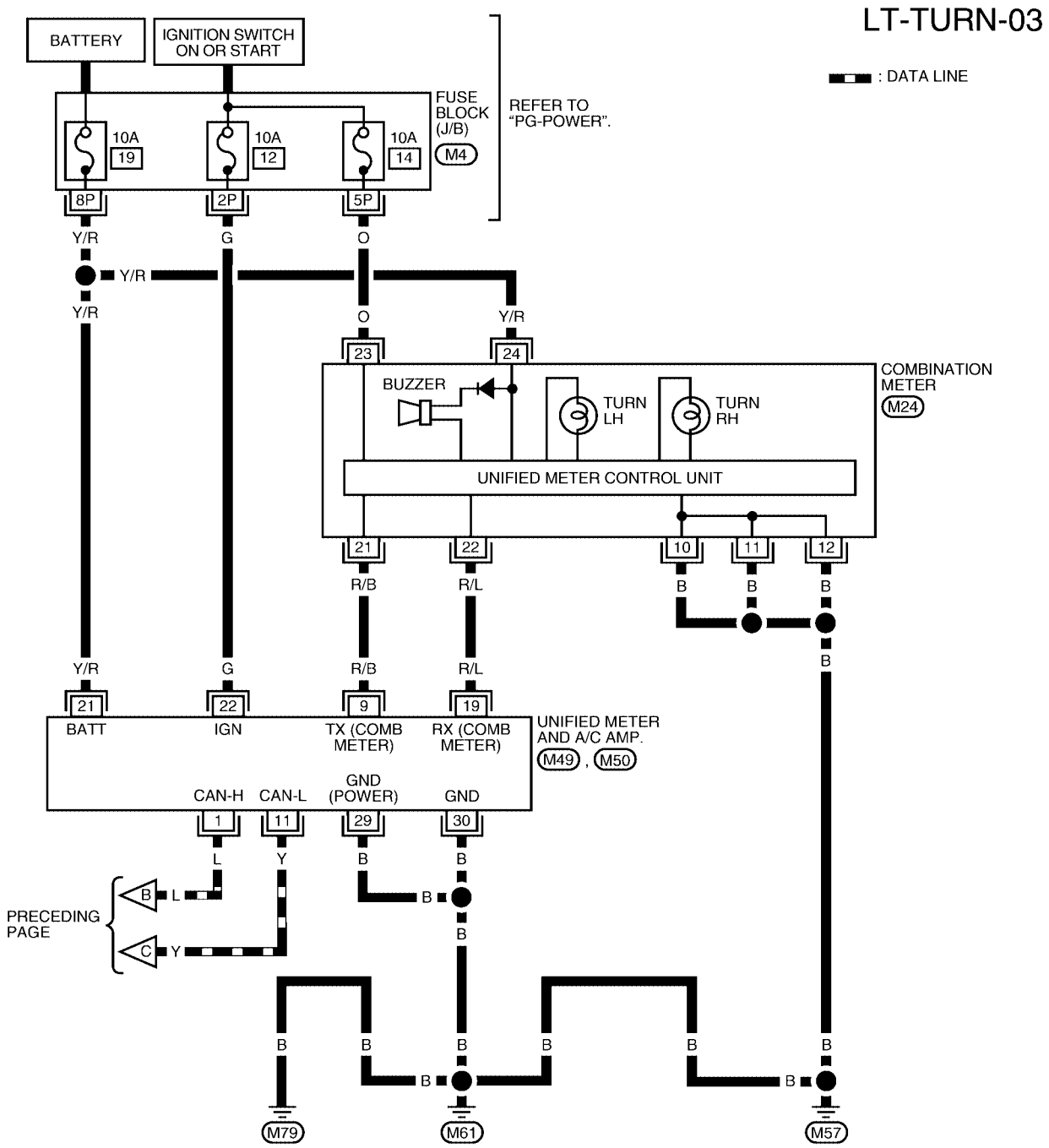
LT-TURN-02

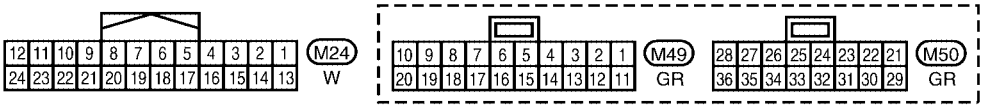




REFER TO THE FOLLOWING.
M18, M19 - ELECTRICAL UNITS

LKWA0215E



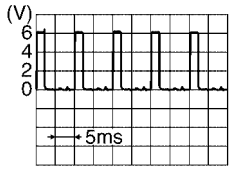
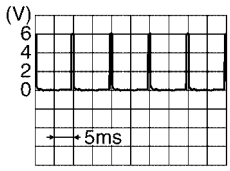
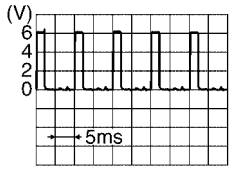
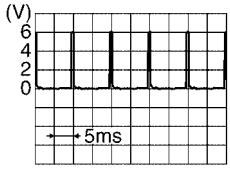
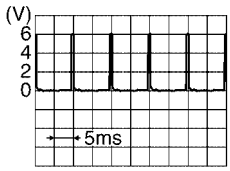


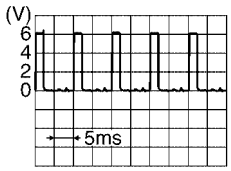
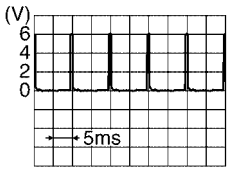
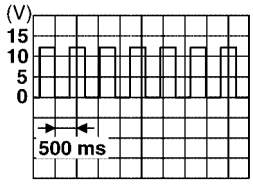
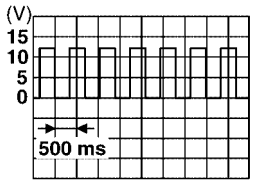
REFER TO THE FOLLOWING.
M4 - FUSE BLOCK - JUNCTION BOX (J/B)

LKWA0216E

Terminals and Reference Value for BCM

EKS0059H

Terminal No.	Wire color	Signal name	Measuring condition			Reference value (Approx.)
			Ignition switch	Operation or condition		
2	R	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5291E
3	R/Y	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5292E
4	R/G	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5291E
5	R/B	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5292E
6	R/W	Combination switch input 1				
11	V	Ignition switch (ACC)	ACC	—		Battery voltage
29	G/R	Hazard switch signal	OFF	Hazard switch	ON	0V
					OFF	5V
32	G/O	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5291E
33	G/Y	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5292E

Terminal No.	Wire color	Signal name	Measuring condition			Reference value (Approx.)
			Ignition switch	Operation or condition		
34	L/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5291E
35	G/B	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5292E
36	G	Combination switch output 1				
38	G	Ignition switch (ON)	ON	—		Battery voltage
39	L	CAN-H	—	—		—
40	Y	CAN-L	—	—		—
42	Y/R	Battery power supply	OFF	—		Battery voltage
45	G/B	Turn signal (left)	ON	Combination switch	Turn left ON	 SKIA3009J
46	G/Y	Turn signal (right)	ON	Combination switch	Turn right ON	 SKIA3009J
49 (early production)	B	Ground	ON	—		0V
52	B	Ground	ON	—		0V
55	W/B	Battery power supply	OFF	—		Battery voltage

How to Proceed With Trouble Diagnosis

EKS0059I

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-90, "System Description" .
3. Perform preliminary check. Refer to LT-99, "Preliminary Check" .
4. Check symptom and repair or replace the cause of malfunction.
5. Do turn signal and hazard warning lamps operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. Inspection End.

Preliminary Check

EKS0059J

CHECK POWER SUPPLY AND GROUND CIRCUIT

1. CHECK FUSES AND FUSIBLE LINK

Check for blown fuses or fusible link.

Unit	Power source	Fuse No.
BCM	Battery	f
	Battery	21
	Ignition switch ON or START position	1
	Ignition switch ACC or ON position	6

Refer to LT-94, "Wiring Diagram — TURN —" .

OK or NG

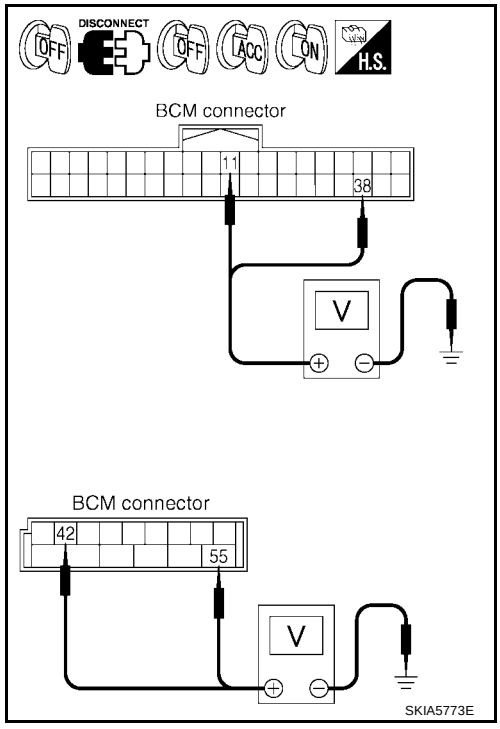
OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

Terminals			Ignition switch position		
(+)		(–)	OFF	ACC	ON
Connector	Terminal (Wire color)				
M18	11 (V)	Ground	0V	Battery voltage	Battery voltage
	38 (G)		0V	0V	Battery voltage
M19	42 (Y/R)		Battery voltage	Battery voltage	Battery voltage
	55 (W/B)		Battery voltage	Battery voltage	Battery voltage



OK or NG

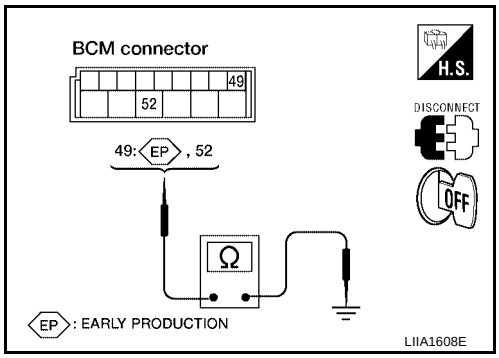
OK >> GO TO 3.

NG >> Check harness for open between BCM and fuse.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

Terminals			Continuity
(+)		(–)	
Connector	Terminal (Wire color)		
M19	49 (B) (early production)	Ground	Yes
	52 (B)		



OK or NG

OK >> Inspection End.
NG >> Check ground circuit harness.

CONSULT-II Function (BCM)

EKS0059K

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

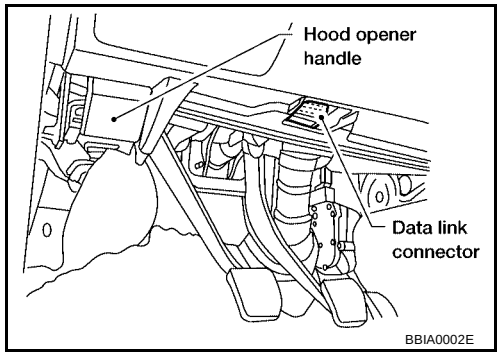
BCM diagnostic test item	Diagnostic mode	Description
Inspection by part	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
	DATA MONITOR	Displays BCM input/output data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
	SELF-DIAG RESULTS	Displays BCM self-diagnosis results.
	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
	ECU PART NUMBER	BCM part number can be read.
	CONFIGURATION	Performs BCM configuration read/write functions.

CONSULT-II OPERATION

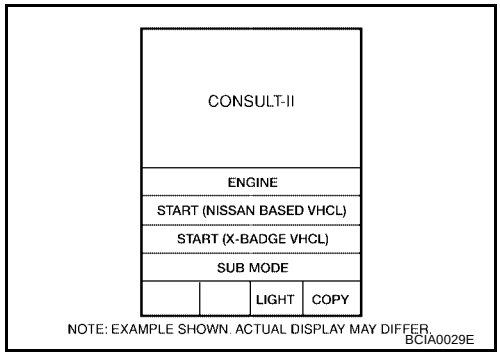
CAUTION:

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

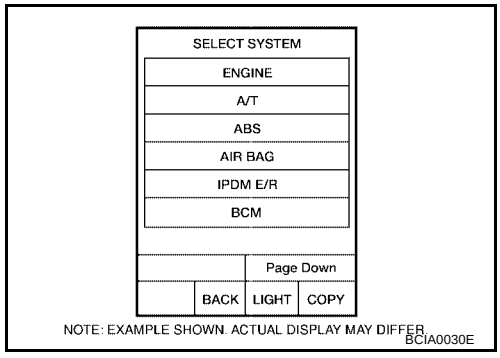
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn ignition switch ON.



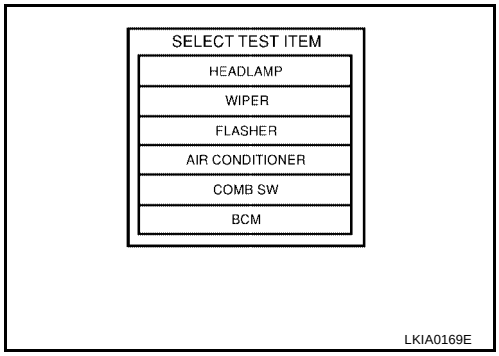
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "BCM" on "SELECT SYSTEM" screen.
If "BCM" is not indicated, go to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .



4. Touch "FLASHER" on "SELECT TEST ITEM" screen.



DATA MONITOR

Operation Procedure

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

All signals	Monitors all the signals.
Selection from menu	Selects and monitors the individual signal.

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

Display Item List

Monitor item		Contents
IGN ON SW	"ON/OFF"	Displays "IGN position (ON)/OFF, ACC position (OFF)" judged from the ignition switch signal.
HAZARD SW	"ON/OFF"	Displays "Hazard ON (ON)/Hazard OFF (OFF)" status, determined from hazard switch signal.
TURN SIGNAL R	"ON/OFF"	Displays "Turn right (ON)/Other (OFF)" status, determined from lighting switch signal.
TURN SIGNAL L	"ON/OFF"	Displays "Turn left (ON)/Other (OFF)" status, determined from lighting switch signal.
BRAKE SW[Note]	"OFF"	—

NOTE:
This item is displayed, but cannot monitor it.

ACTIVE TEST

Operation Procedure

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

Display Item List

Test item	Description
FLASHER (RIGHT)	Turn signal lamp (right) can be operated by any ON-OFF operations.
FLASHER (LEFT)	Turn signal lamp (left) can be operated by any ON-OFF operations.

Turn Signal Lamp Does Not Operate

EKS0059L

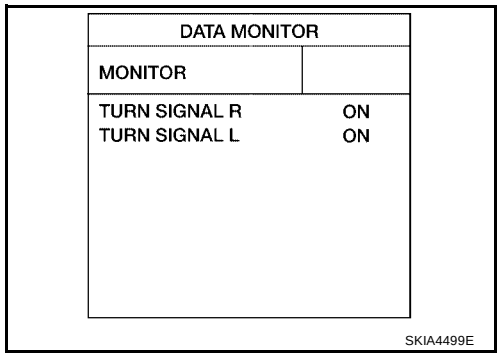
1. CHECK COMBINATION SWITCH INPUT SIGNAL

With CONSULT-II

Select "BCM" on CONSULT-II. With "FLASHER" data monitor, make sure "TURN SIGNAL R" and "TURN SIGNAL L" turns ON-OFF linked with operation of lighting switch.

When lighting switch is TURN RH position : TURN SIGNAL R ON

When lighting switch is TURN LH position : TURN SIGNAL L ON



Without CONSULT-II

Refer to LT-127, "Combination Switch Inspection" .

OK or NG

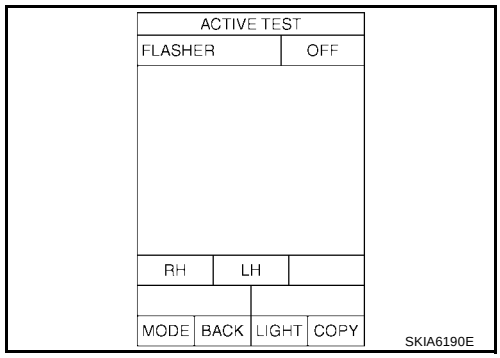
OK >> GO TO 2.

NG >> Check lighting switch. Refer to LT-127, "Combination Switch Inspection" .

2. ACTIVE TEST

With CONSULT-II

1. Select "FLASHER" during active test. Refer to LT-102, "ACTIVE TEST" .
2. Make sure "FLASHER RIGHT" and "FLASHER LEFT" operate.



Without CONSULT-II

GO TO 3.

OK or NG

OK >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

NG >> GO TO 3.

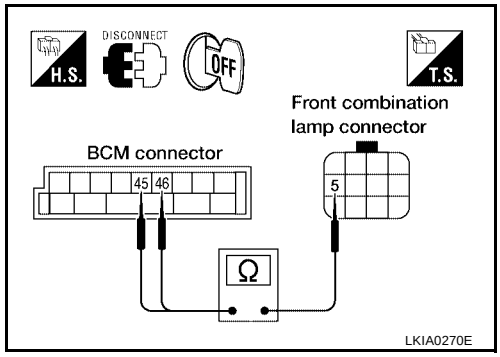
3. CHECK TURN SIGNAL LAMPS CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and front combination lamp LH and RH connectors.
3. Check continuity between BCM harness connector M19 terminal 45 (G/B) and front combination lamp LH harness connector E11 terminal 5 (G/B).

45 (G/B) - 5 (G/B) : Continuity should exist.

4. Check continuity between BCM harness connector M19 terminal 46 (G/Y) and front combination lamp RH harness connector E107 terminal 5 (G/Y).

46 (G/Y) - 5 (G/Y) : Continuity should exist.



OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.

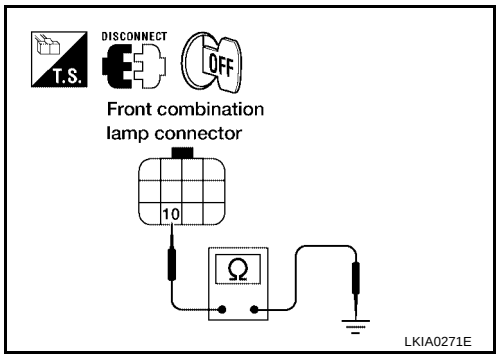
4. CHECK GROUND

1. Check continuity between front combination lamp LH harness connector E11 terminal 10 (B) and ground.

10 (B) - Ground : Continuity should exist.

2. Check continuity between front combination lamp RH harness connector E107 terminal 10 (B) and ground.

10 (B) - Ground : Continuity should exist.



OK or NG

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

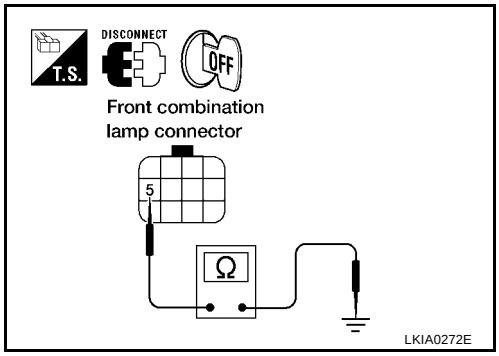
5. CHECK TURN SIGNAL LAMPS SHORT CIRCUIT

1. Disconnect rear combination lamp connectors.
2. Check continuity (short circuit) between front combination lamp LH harness connector E11 terminal 5 (G/B) and ground.

5 (G/B) - Ground : Continuity should not exist.

3. Check continuity (short circuit) between front combination lamp RH harness connector E107 terminal 5 (G/Y) and ground.

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



OK or NG

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

6. CHECK BULB

Check bulb standard of each turn signal lamp is correct.

OK or NG

OK >> Replace BCM if turn signal lamps does not work after setting the connector again. Refer to BCS-19, "Removal and Installation of BCM" .
NG >> Replace turn signal lamp bulb. Refer to LT-40, "FRONT TURN SIGNAL LAMP" .

Rear Turn Signal Lamp Does Not Operate

EKS0059M

1. CHECK TAIL LAMPS AND STOP LAMPS

Check bulb standard of each turn signal lamp is correct.

OK or NG

OK >> GO TO 2.
NG >> Replace turn signal lamp bulb. Refer to LT-149, "Bulb Replacement" .

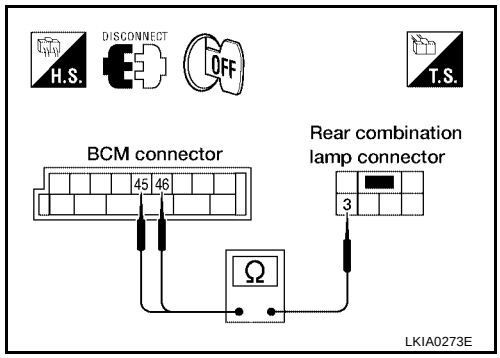
2. CHECK TURN SIGNAL LAMPS CIRCUIT

1. Disconnect BCM connector and rear combination lamp connector.
2. Check continuity between BCM harness connector M19 terminal 46 (G/Y) and rear combination lamp RH harness connector B36 terminal 3 (G/Y).

46 (G/Y) - 3 (G/Y) : Continuity should exist.

3. Check continuity between BCM harness connector M19 terminal 45 (G/B) and rear combination lamp LH harness connector B35 terminal 3 (G/B).

45 (G/B) - 3 (G/B) : Continuity should exist.



OK or NG

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

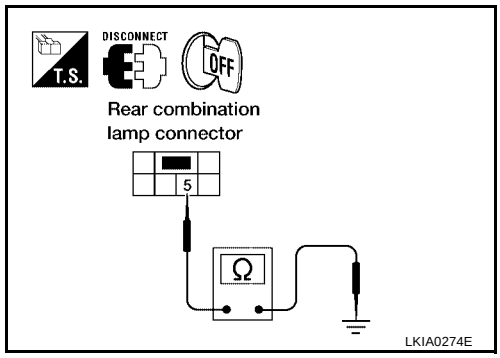
3. CHECK GROUND CIRCUIT

Check continuity between rear combination lamp harness connector B35 LH and B36 RH terminal 5 (B) and ground.

5 (B) - Ground : Continuity should exist.

OK or NG

OK >> Check rear combination lamp connector for proper connection. Repair as necessary.
NG >> Repair harness or connector.



Hazard Warning Lamp Does Not Operate But Turn Signal Lamps Operate

EKS0059N

1. CHECK BULB

Make sure bulb standard of each turn signal lamp is correct.

OK or NG

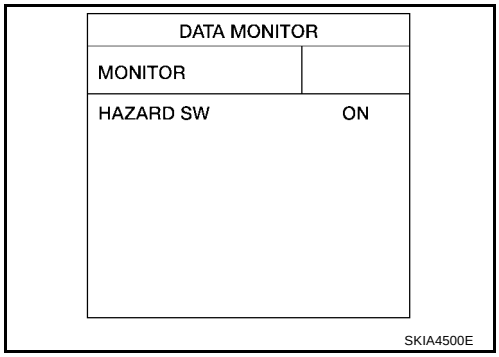
OK >> GO TO 2.
NG >> Replace turn signal lamp bulb. Refer to LT-40, "FRONT TURN SIGNAL LAMP" for front turn signal bulb. Refer to LT-149, "Bulb Replacement" for rear turn signal bulb.

2. CHECK HAZARD SWITCH INPUT SIGNAL

With CONSULT-II

Select "BCM" on CONSULT-II. With "FLASHER" data monitor, make sure "HAZARD SW" turns ON-OFF linked with operation of hazard switch.

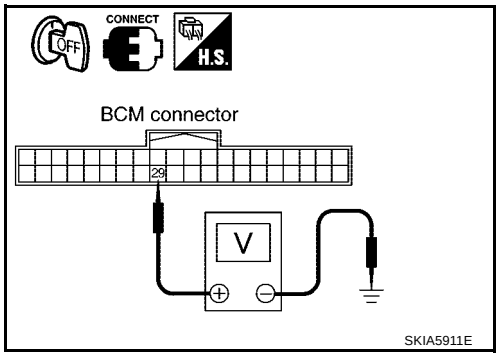
When hazard switch is ON : HAZARD SW ON
position



Without CONSULT-II

Check voltage between BCM harness connector M18 terminal 29 (G/R) and ground.

Terminals			Condition	Voltage (Approx.)
(+)		(-)		
Connector	Terminal (Wire color)			
M18	29 (G/R)	Ground	Hazard switch is ON	0V
			Hazard switch is OFF	5V



OK or NG

OK >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

NG >> GO TO 3.

3. CHECK HAZARD SWITCH CIRCUIT

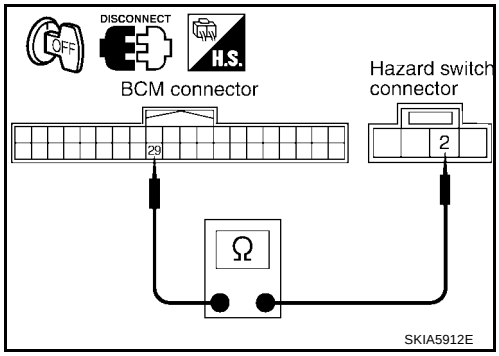
1. Turn ignition switch OFF.
2. Disconnect BCM connector and hazard switch connector.
3. Check continuity BCM harness connector M18 terminal 29 (G/R) and hazard switch harness connector M55 terminal 2 (G/R).

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

OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.



4. CHECK GROUND

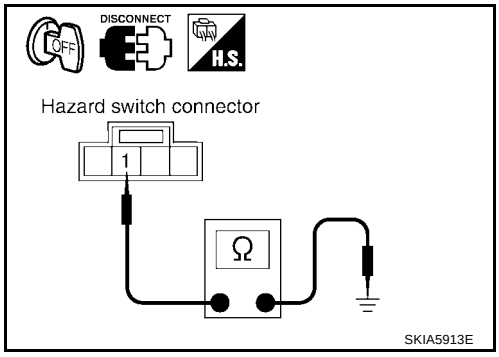
Check continuity hazard switch harness connector M55 terminal 1 (B) and ground.

1 (B) - Ground : Continuity should exist.

OK or NG

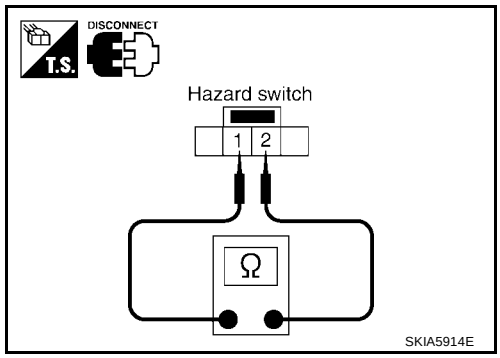
OK >> GO TO 5.

NG >> Repair harness or connector.



5. CHECK HAZARD SWITCH

1. Disconnect hazard switch connector.
2. Check continuity of hazard switch.



Terminal		Condition	Continuity
Hazard switch			
1	2	Hazard switch is ON	Yes
		Hazard switch is OFF	No

OK or NG

OK >> Replace BCM if turn signal lamps does not work after setting the connector again. Refer to BCS-19, "Removal and Installation of BCM" .

NG >> Replace hazard switch.

Turn Signal Indicator Lamp Does Not Operate

EKS0059O

1. CHECK BULB

Check CAN communication. Refer to LAN-8, "CAN COMMUNICATION" .

OK or NG

OK >> Replace combination meter. Refer to IP-15, "Combination Meter" .

NG >> Repair as necessary.

Bulb Replacement (Front Turn Signal Lamp)

EKS0059P

Refer to LT-40, "FRONT TURN SIGNAL LAMP" .

Bulb Replacement (Rear Turn Signal Lamp)

EKS0059Q

Refer to LT-149, "Bulb Replacement" in "REAR COMBINATION LAMP".

Removal and Installation of Front Turn Signal Lamp

EKS0059R

Refer to LT-41, "Combination Lamp Removal and Installation" .

Removal and Installation of Rear Turn Signal Lamp

EKS0059S

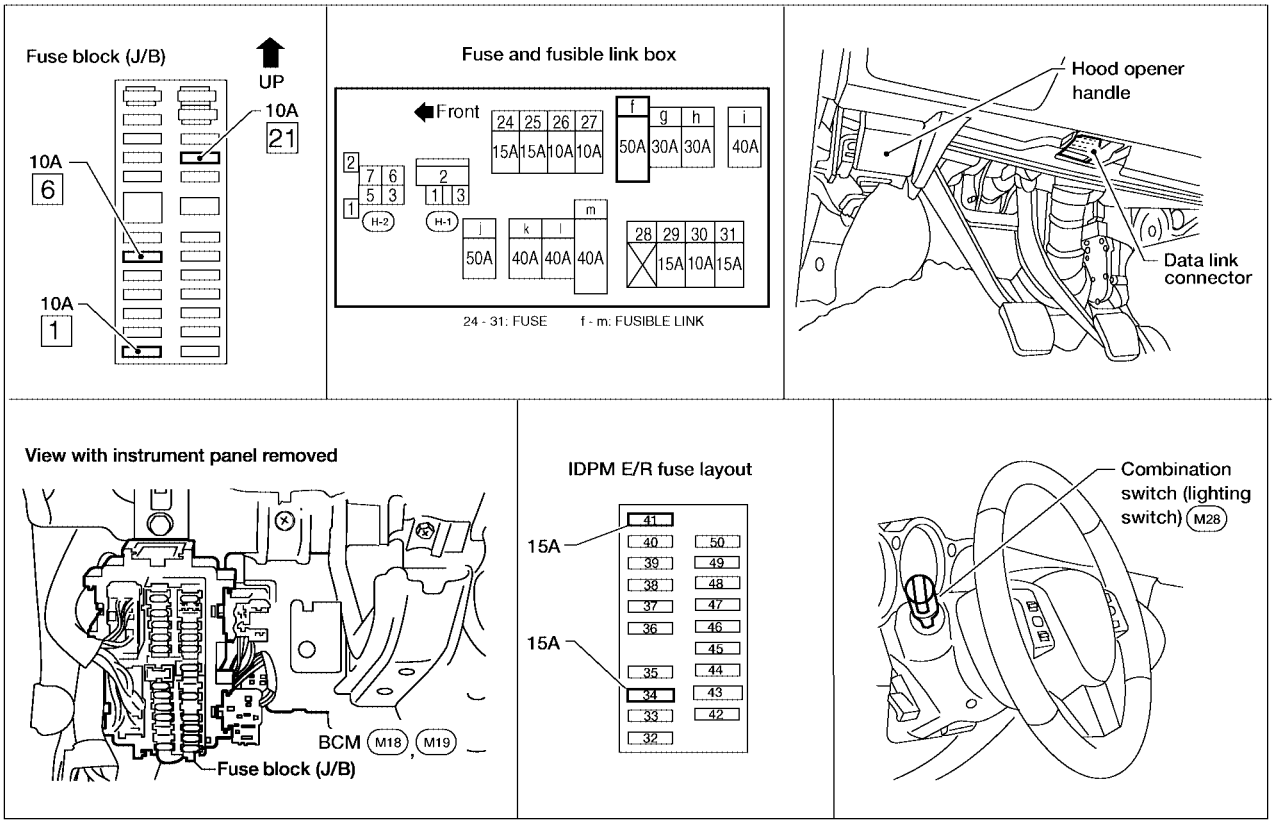
Refer to LT-149, "Removal and Installation" in "REAR COMBINATION LAMP".

CORNERING LAMP

PFP:26100

Component Parts and Harness Connector Location

EKS005GH



LKIA0275E

System Description

EKS005GI

OUTLINE

Power is supplied at all times

- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM (body control module) terminal 55
- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to BCM terminal 42
- through 15A fuse [No. 34, located in the IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) in the IPDM E/R
- through 15A fuse (No. 41, located in the IPDM E/R)
- to cornering lamp relay LH and RH.

CORNERING LAMP OPERATION

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

- to ignition relay, located in the IPDM E/R
- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to BCM terminal 38.

Ground is supplied at all times

- to BCM terminals 49 (early production) and 52
- through grounds M57, M61 and M79
- to IPDM E/R terminals 38 and 60
- through grounds E15 and E24.

LH Turn

When the lighting switch is in the 2nd position or in the AUTO position (headlamp ON) and turn signal switch is moved to the left position, BCM sends signal through CAN communication lines to IPDM E/R. The IPDM E/R then operates cornering lamp relay LH. It sends power from IPDM E/R terminal 34 to cornering lamp LH terminal +.

Cornering lamp turns on

- through cornering lamp terminal -
- to grounds E15 and E24.

RH Turn

When the lighting switch is in the 2nd position or in the AUTO position (headlamp ON) and turn signal switch is moved to the right position, BCM sends signal through CAN communication lines to IPDM E/R. The IPDM E/R then operates cornering lamp relay RH. It sends power from IPDM E/R terminal 23 to cornering lamp RH terminal +.

Cornering lamp turns on

- through cornering lamp terminal -
- to grounds E15 and E24.

COMBINATION SWITCH READING FUNCTION

Refer to BCS-3, "COMBINATION SWITCH READING FUNCTION" .

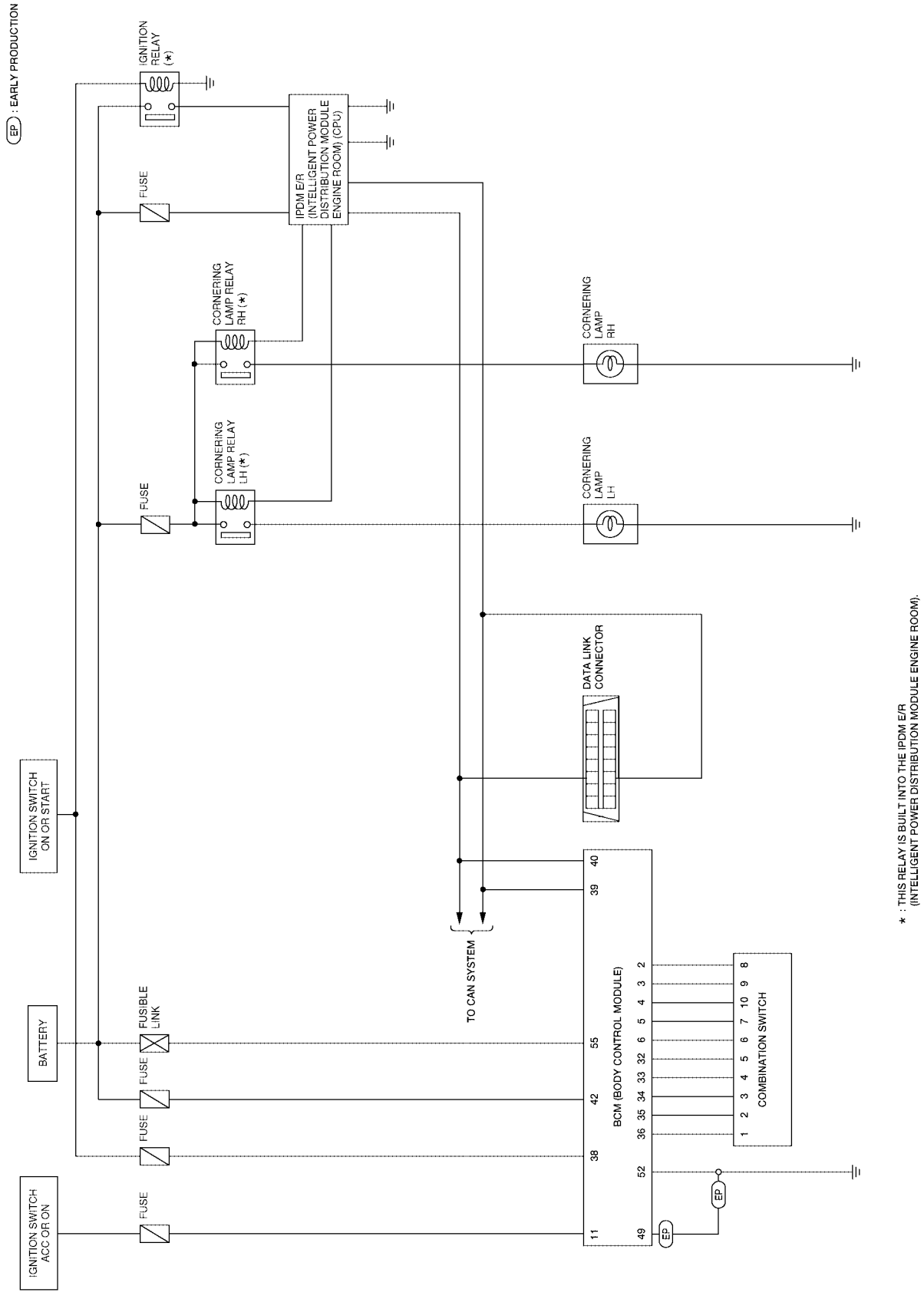
CAN Communication System Description

EKS005GJ

Refer to LAN-8, "CAN COMMUNICATION" .

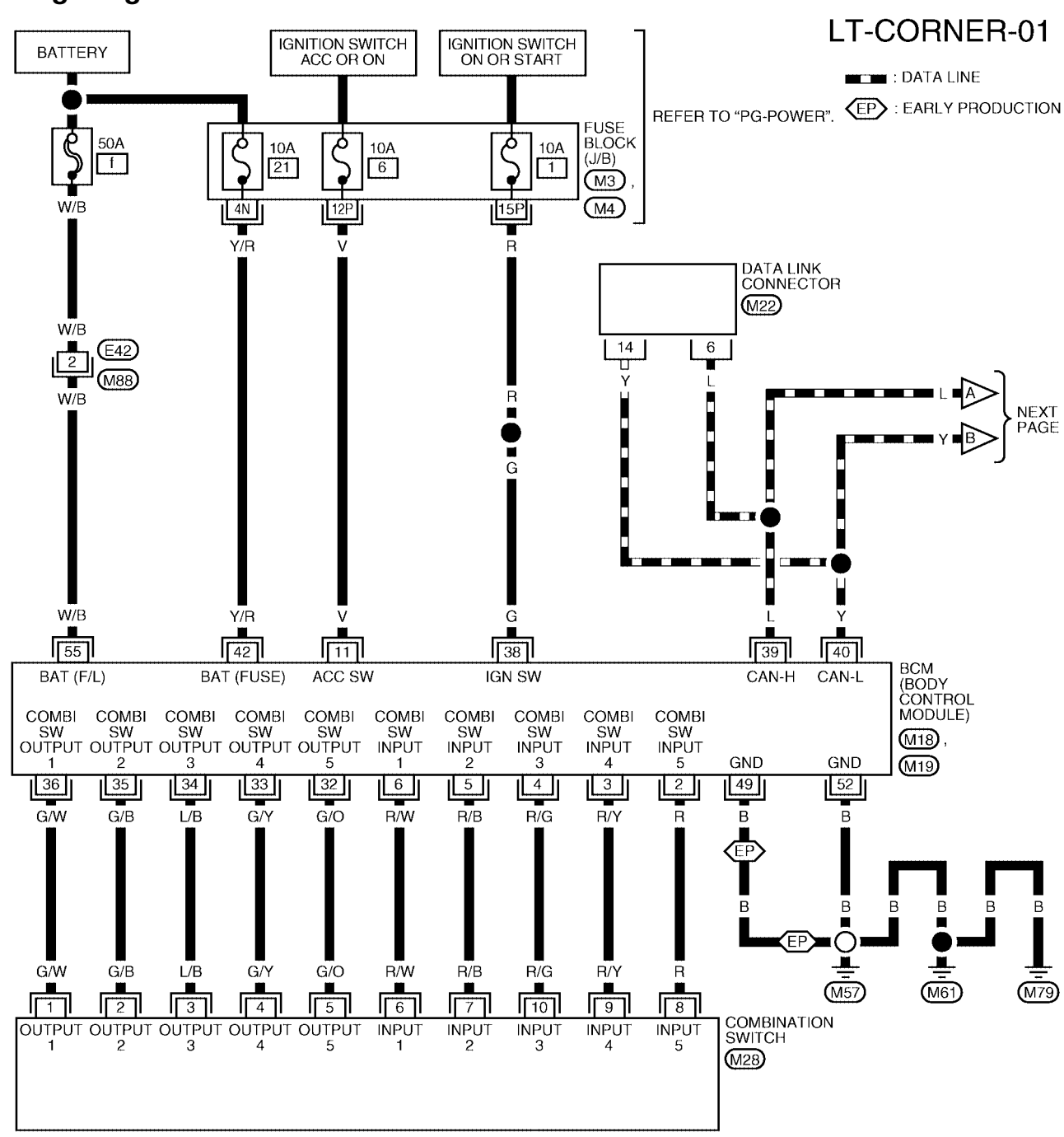
Schematic

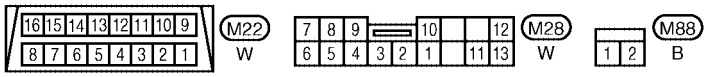
EKS005GL



Wiring Diagram — CORNER —

EKS005GM

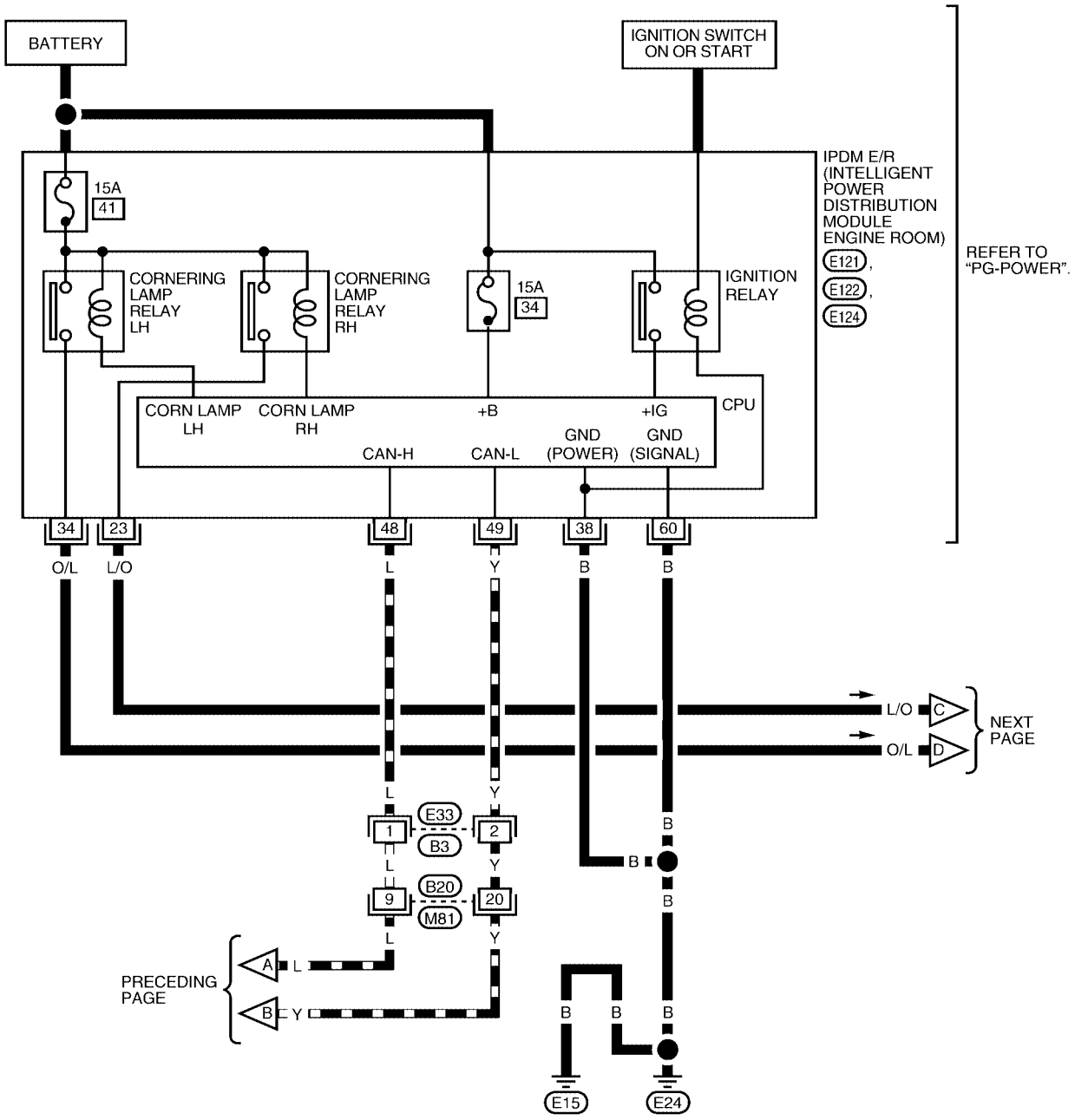


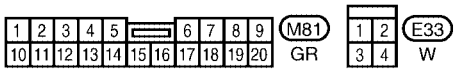


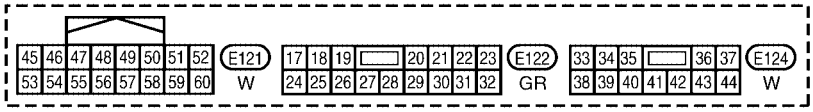
REFER TO THE FOLLOWING.
M3, M4 - FUSE BLOCK-JUNCTION BOX (J/B)
M18, M19 - ELECTRICAL UNITS

WKWA1818E

LT-CORNER-02

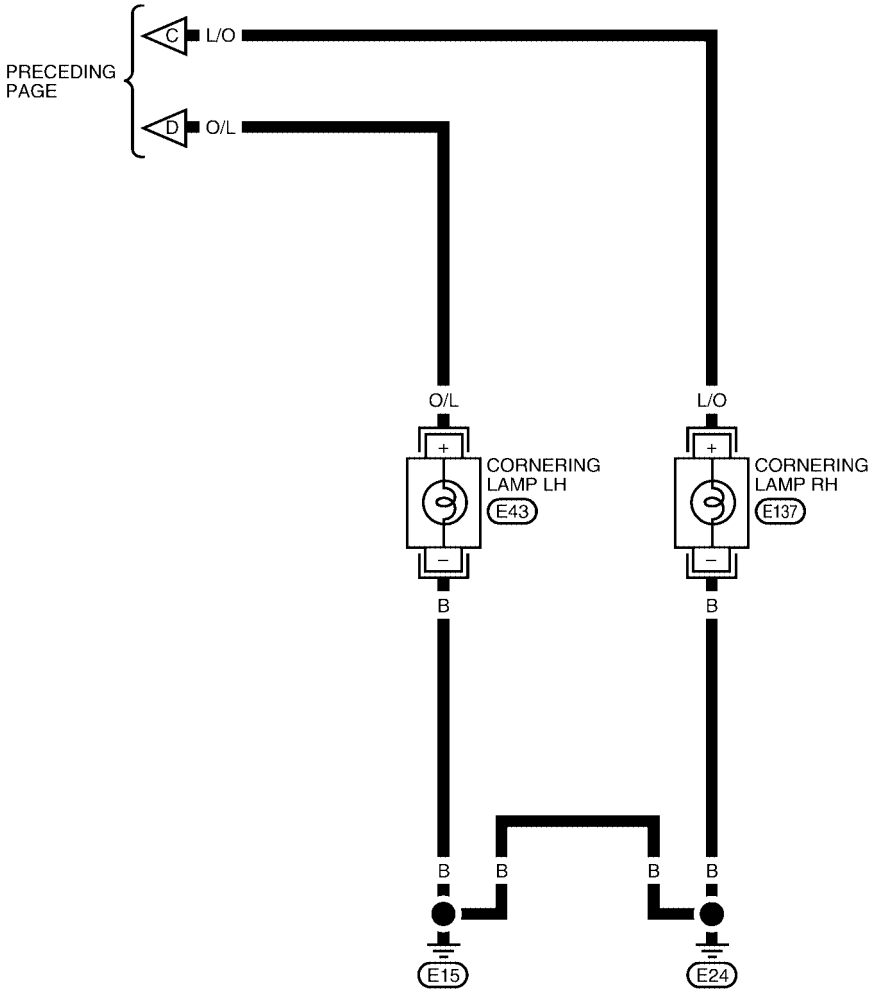


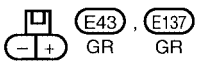




LKWA0244E

LT-CORNER-03

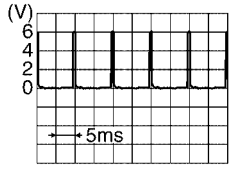
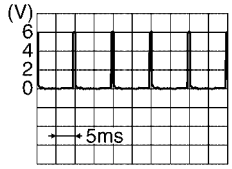
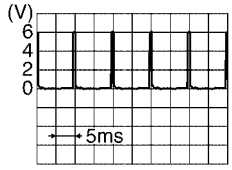


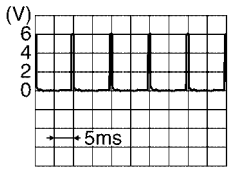


LKWA0245E

Terminals and Reference Value for BCM

EKS005H2

Terminal No.	Wire color	Signal name	Measuring condition		Reference value (Approx.)
			Ignition switch	Operation or condition	
2	R	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	R/Y	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	R/G	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	R/B	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	R/W	Combination switch input 1			
11	V	Ignition switch (ACC)	ACC	—	Battery voltage
32	G/O	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	G/Y	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	L/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E

Terminal No.	Wire color	Signal name	Measuring condition		Reference value (Approx.)
			Ignition switch	Operation or condition	
35	G/B	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	G/W	Combination switch output 1			
38	G	Ignition switch (ON)	ON	—	Battery voltage
39	L	CAN-H	—	—	—
40	Y	CAN-L	—	—	—
42	Y/R	Battery power supply	OFF	—	Battery voltage
49 (early production)	B	Ground	ON	—	0V
52	B	Ground	ON	—	0V
55	W/B	Battery power supply (fusible link)	OFF	—	Battery voltage

Terminals and Reference Values for IPDM E/R

EKS005H3

Terminal No.	Wire color	Signal name	Measuring condition			Reference value (Approx.)
			Ignition switch	Operation or condition		
23	L/O	Cornering lamp RH	ON	Lighting switch in RH position	OFF	0V
					ON	Battery voltage
34	O/L	Cornering lamp LH	ON	Lighting switch in LH position	OFF	0V
					ON	Battery voltage
38	B	Ground	ON	—		0V
48	L	CAN-H	—	—		—
49	Y	CAN-L	—	—		—
60	B	Ground	ON	—		0V

How to Proceed With Trouble Diagnosis

EKS005GO

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-108, "System Description" .
3. Perform preliminary check. Refer to LT-116, "Preliminary Check" .
4. Check symptom and repair or replace the cause of malfunction.
5. Do turn signal and hazard warning lamps operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. Inspection End.

Preliminary Check

EKS005GP

CHECK POWER SUPPLY AND GROUND CIRCUIT

1. CHECK FUSES AND FUSIBLE LINK

Check for blown fuses or fusible link.

Unit	Power source	Fuse No.
BCM	Battery	f
	Battery	21
	Ignition switch ON or START position	1
	Ignition switch ACC or ON position	6
IPDM E/R	Battery	41

Refer to LT-111, "Wiring Diagram — CORNER —" .

OK or NG

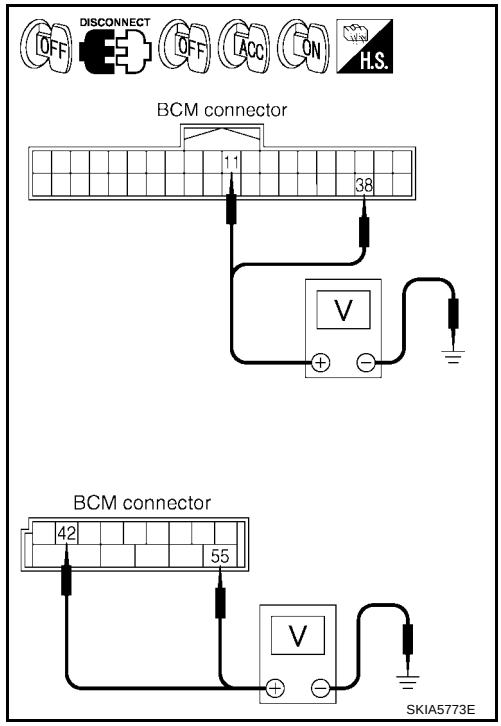
OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

Terminals			Ignition switch position		
(+)		(–)	OFF	ACC	ON
Connector	Terminal (Wire color)				
M18	11 (V)	Ground	0V	Battery voltage	Battery voltage
	38 (G)		0V	0V	Battery voltage
M19	42 (Y/R)		Battery voltage	Battery voltage	Battery voltage
	55 (W/B)		Battery voltage	Battery voltage	Battery voltage



OK or NG

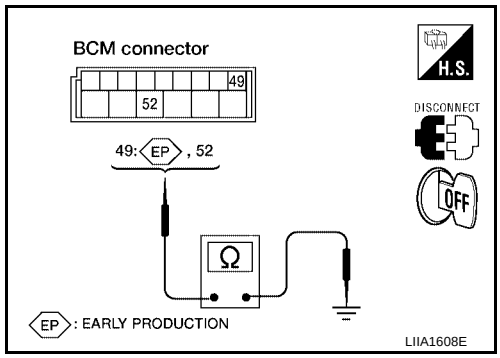
OK >> GO TO 3.

NG >> Check harness for open between BCM and fuse.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

Terminals			Continuity
(+)		(–)	
Connector	Terminal (Wire color)		
M19	49 (B) (early production)	Ground	Yes
	52 (B)		



OK or NG

OK >> Inspection End.
NG >> Check ground circuit harness.

CONSULT-II Functions

EKS005GQ

Refer to LT-23, "CONSULT-II Function (BCM)" and LT-26, "CONSULT-II Function (IPDM E/R)" in HEADLAMP (FOR USA).
CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

BCM diagnostic test item	Diagnostic mode	Description
Inspection by part	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
	DATA MONITOR	Displays BCM input/output data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
	SELF-DIAG RESULTS	Displays BCM self-diagnosis results.
	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
	ECU PART NUMBER	BCM part number can be read.
	CONFIGURATION	Performs BCM configuration read/write functions.

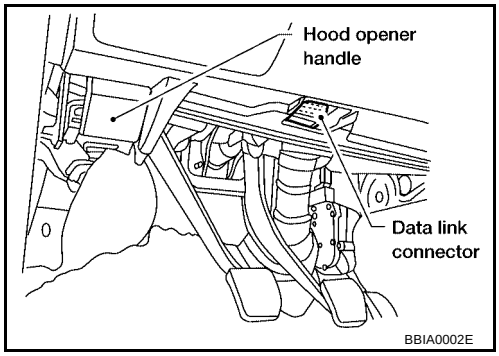
IPDM E/R diagnostic Mode	Description
SELF-DIAG RESULTS	Displays IPDM E/R self-diagnosis results.
DATA MONITOR	Displays IPDM E/R input/output data in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.

CONSULT-II OPERATION

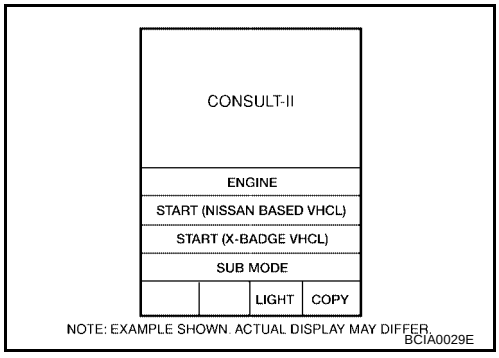
CAUTION:

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

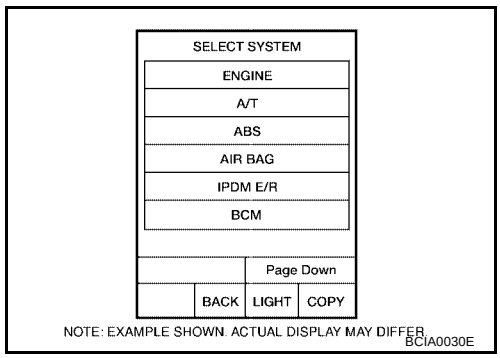
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn ignition switch ON.



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



3. Touch "BCM" or "IPDM E/R" on "SELECT SYSTEM" screen.
If "BCM" is not indicated, go to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .



4. Touch appropriate item on "DATA MONITOR" or "ACTIVE TEST" screen (IPDM E/R). Touch "FLASHER" on "SELECT TEST ITEM" screen (BCM).

DATA MONITOR

Operation Procedure

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

All signals	Monitors all the signals.
Selection from menu	Selects and monitors the individual signal.

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

Display Item List

Monitor item		Contents
IGN ON SW	"ON/OFF"	Displays "IGN position (ON)/OFF, ACC position (OFF)" judged from the ignition switch signal.
HAZARD SW	"ON/OFF"	Displays "Hazard ON (ON)/Hazard OFF (OFF)" status, determined from hazard switch signal.
TURN SIGNAL R	"ON/OFF"	Displays "Turn right (ON)/Other (OFF)" status, determined from lighting switch signal.
TURN SIGNAL L	"ON/OFF"	Displays "Turn left (ON)/Other (OFF)" status, determined from lighting switch signal.
BRAKE SW[Note]	"OFF"	—

NOTE:
This item is displayed, but cannot monitor it.

ACTIVE TEST

Operation Procedure

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

Display Item List

Test item	Description
FLASHER (RIGHT)	Turn signal lamp (right) can be operated by any ON-OFF operations.
FLASHER (LEFT)	Turn signal lamp (left) can be operated by any ON-OFF operations.

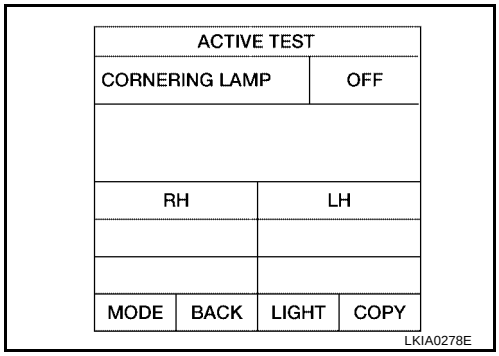
Cornering Lamp Does Not Operate

EKS005GR

1. ACTIVE TEST

With CONSULT-II

1. Select "IPDM E/R" on CONSULT-II and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "CORNERING LAMP" during active test.
3. Make sure cornering lamp LH and cornering lamp RH operate.



Without CONSULT-II

GO TO 3.

OK or NG

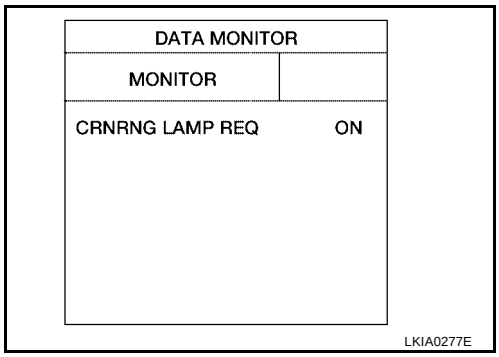
OK >> GO TO 2.
NG >> GO TO 3.

2. CHECK COMBINATION SWITCH INPUT SIGNAL

Select "IPDM E/R" on CONSULT-II and select "DATA MONITOR" on "SELECT DIAG MODE" screen. Make sure "CRNRNG LMP REQ" turns ON-OFF linked with operation of lighting switch.

When lighting switch is TURN RH position : CRNRNG LMP REQ ON

When lighting switch is TURN LH position : CRNRNG LMP REQ ON



OK or NG

OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .
NG >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

3. CHECK BULB

Check bulb standard of each cornering lamp is correct.

OK or NG

OK >> GO TO 4.
NG >> Replace cornering lamp bulb.

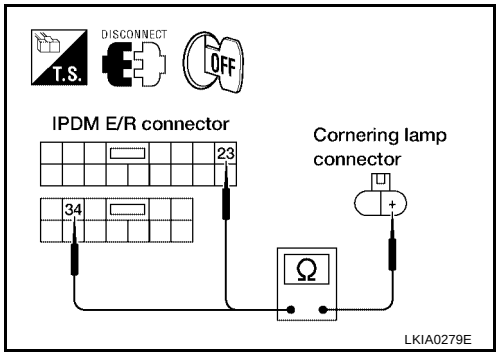
4. CHECK CORNERING LAMPS CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connectors and cornering lamp LH and RH connectors.
3. Check continuity between IPDM E/R harness connector E122 terminal 23 (L/O) and cornering lamp RH harness connector E137 terminal + (L/O).

+ (L/O) - 23 (L/O) : Continuity should exist.

4. Check continuity between IPDM E/R harness connector E124 terminal 34 (O/L) and front cornering lamp LH harness connector E43 terminal + (O/L).

+ (O/L) - 34 (O/L) : Continuity should exist.



OK or NG

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

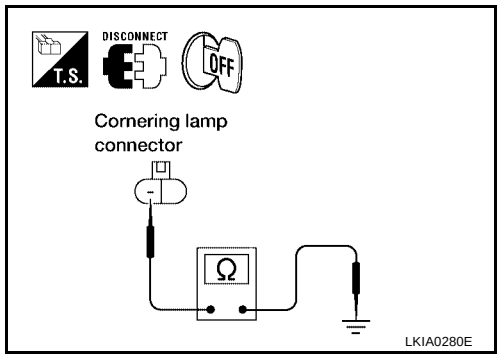
5. CHECK GROUND

1. Check continuity between cornering lamp LH harness connector E43 terminal - (B) and ground.

- (B) - Ground : Continuity should exist.

2. Check continuity between cornering lamp RH harness connector E137 terminal - (B) and ground.

- (B) - Ground : Continuity should exist.



OK or NG

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

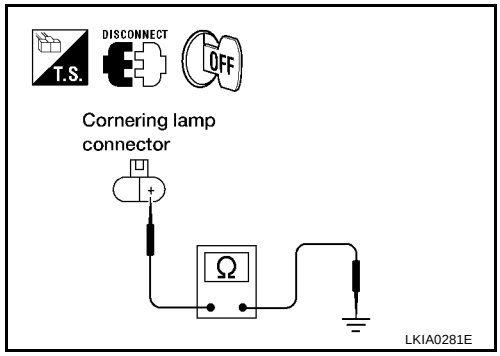
6. CHECK CORNERING LAMPS SHORT CIRCUIT

1. Check continuity (short circuit) between cornering lamp LH harness connector E43 terminal + (O/L) and ground.

+ (O/L) - Ground : Continuity should not exist.

2. Check continuity (short circuit) between cornering lamp RH harness connector E137 terminal + (L/O) and ground.

+ (L/O) - Ground : Continuity should not exist.



OK or NG

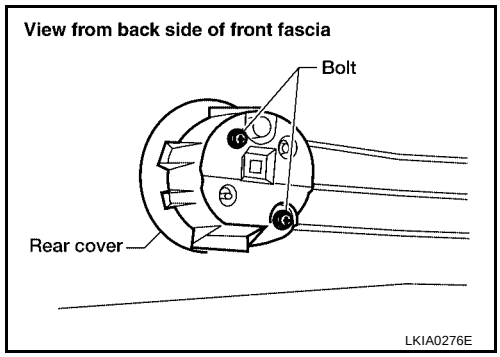
OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .
NG >> Repair harness or connector.

Removal and Installation of Cornering Lamp

EKS005GT

1. Disconnect connector.
2. Remove bolts.
3. Remove rear cover.
4. Pull lamp forward out of fascia.

Installation is in the reverse order of removal.



LIGHTING AND TURN SIGNAL SWITCH

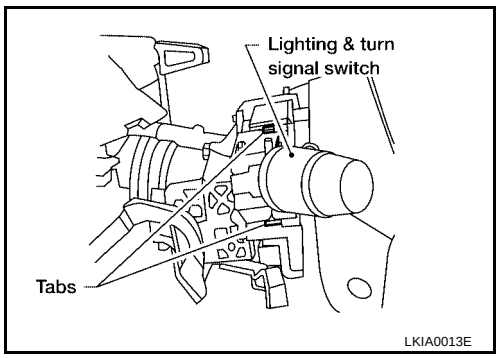
PFP:25540

Removal and Installation

EKS0059U

1. Remove steering column cover.
2. While pressing tabs, pull lighting and turn signal switch toward driver door and disconnect from the base.

Installation is in the reverse order of removal.



HAZARD SWITCH

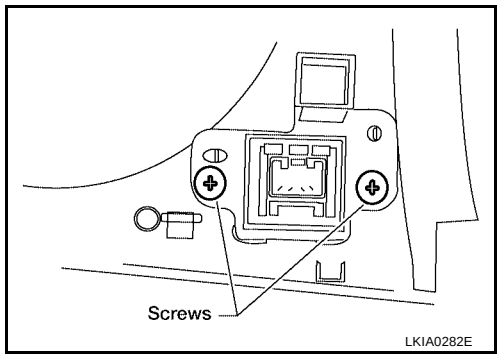
PFP:25290

Removal and Installation

EKS0059V

1. Remove console finisher. Refer to IP-16, "M/T Finisher" (with M/T) or IP-15, "A/T Finisher" (with A/T).
2. Remove screws from console finisher and remove the hazard switch.

Installation is in the reverse order of removal.

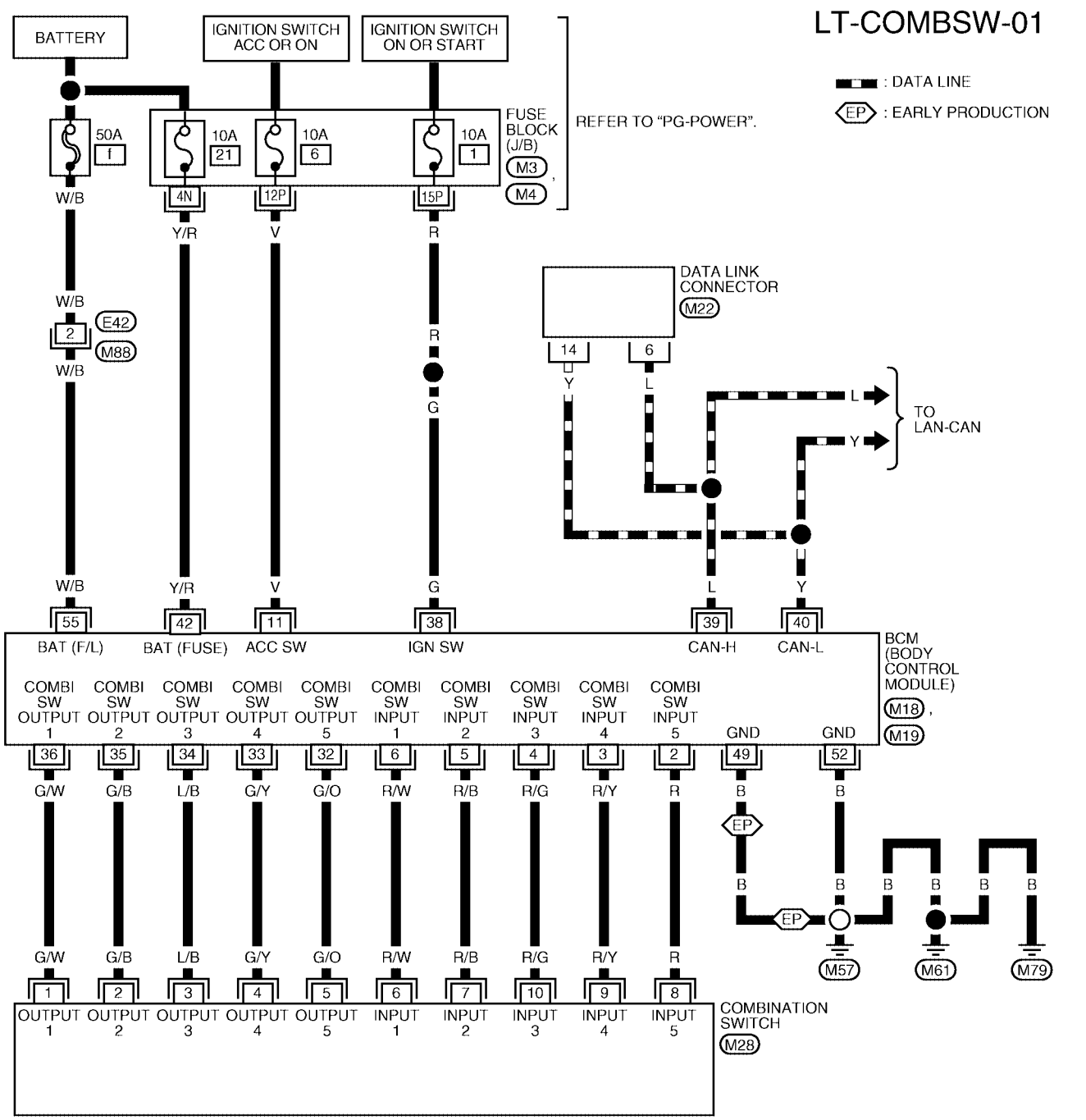


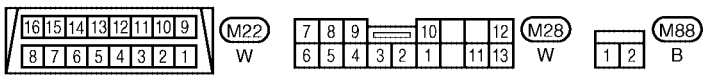
COMBINATION SWITCH

PFP:25567

Wiring Diagram — COMBSW —

EKS0059W





REFER TO THE FOLLOWING.
M3, M4 - FUSE BLOCK-JUNCTION BOX (J/B)
M18, M19 - ELECTRICAL UNITS

WKWA1819E

Combination Switch Reading Function

EKS0059X

For details, refer to BCS-3, "COMBINATION SWITCH READING FUNCTION" .

CONSULT-II Function (BCM)

EKS0059Y

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

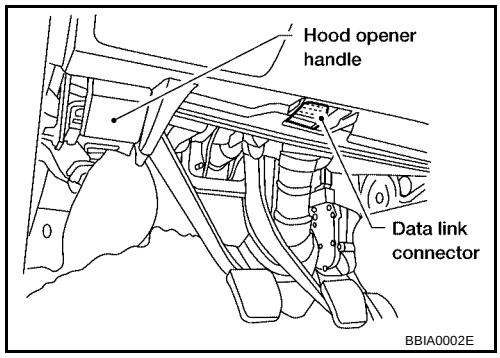
BCM diagnostic test item	Diagnostic mode	Description
Inspection by part	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
	DATA MONITOR	Displays BCM input/output data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
	SELF-DIAG RESULTS	Displays BCM self-diagnosis results.
	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
	ECU PART NUMBER	BCM part number can be read.
	CONFIGURATION	Performs BCM configuration read/write functions.

CONSULT-II OPERATION

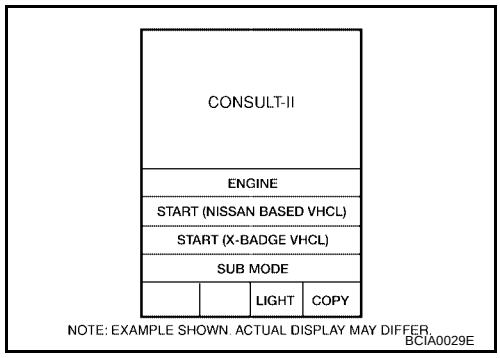
CAUTION:

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

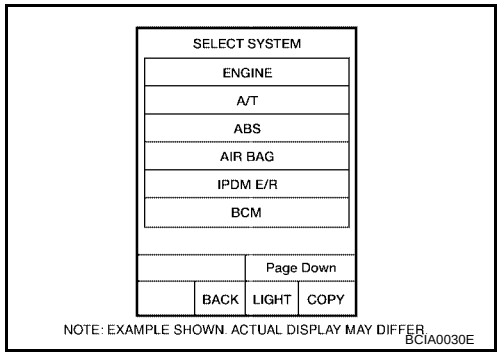
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn ignition switch ON.



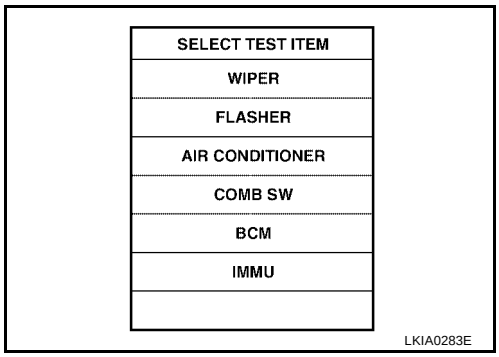
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "BCM" on "SELECT SYSTEM" screen.
If "BCM" is not indicated, go to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .



4. Touch "COMB SW".



DATA MONITOR

Operation Procedure

1. Touch "COMB SW" on "SELECT TEST ITEM" screen.
2. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
3. Touch either "ALL SIGNALS" or "SELECTION FROM MENU" on "DATA MONITOR" screen.

ALL SIGNALS	Monitors all the signals.
SELECTION FROM MENU	Selects and monitors individual signal.

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

Display Item List

Monitor item name "OPERATION OR UNIT"		Contents
TURN SIGNAL R	"ON/OFF"	Displays "Turn Right (ON)/Other (OFF)" status, determined from lighting switch signal.
TURN SIGNAL L	"ON/OFF"	Displays "Turn Left (ON)/Other (OFF)" status, determined from lighting switch signal.
HI BEAM SW	"ON/OFF"	Displays status (high beam switch: ON/Others: OFF) of high beam switch judged from lighting switch signal.
HEAD LAMP SW 1	"ON/OFF"	Displays "Headlamp switch 1 (ON)/Other (OFF)" status, determined from lighting switch signal.
HEAD LAMP SW 2	"ON/OFF"	Displays status (headlamp switch 2: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.
LIGHT SW 1ST	"ON/OFF"	Displays status (lighting switch 1st position: ON/Others: OFF) of lighting switch judged from lighting switch signal.
PASSING SW	"ON/OFF"	Displays status (flash-to-pass switch: ON/Others: OFF) of flash-to-pass switch judged from lighting switch signal.
AUTO LIGHT SW	"ON/OFF"	Displays "Auto light switch (ON)/Other (OFF)" status, determined from lighting switch signal.
FR FOG SW	“ON/OFF”	Displays "Front fog lamp switch (ON)/Other (OFF)" status, determined from lighting switch signal.
FR WIPER HI	"ON/OFF"	Displays "Front Wiper HI (ON)/Other (OFF)" status, determined from wiper switch signal.
FR WIPER LOW	"ON/OFF"	Displays "Front Wiper LOW (ON)/Other (OFF)" status, determined from wiper switch signal.
FR WIPER INT	"ON/OFF"	Displays "Front Wiper INT (ON)/Other (OFF)" status, determined from wiper switch signal.
FR WASHER SW	"ON/OFF"	Displays "Front Washer Switch (ON)/Other (OFF)" status, determined from wiper switch signal.
INT VOLUME	[1 - 7]	Displays intermittent operation knob setting (1 - 7), determined from wiper switch signal.

Combination Switch Inspection

EKS0059Z

1. SYSTEM CHECK

1. Referring to table below, check to which system the malfunctioning switch belongs.

System 1	System 2	System 3	System 4	System 5
—	FR WASHER	FR WIPER LO	TURN LH	TURN RH
FR WIPER HI	—	FR WIPER INT	PASSING	HEAD LAMP1
INT VOLUME 1	—	—	HEAD LAMP2	HI BEAM
—	INT VOLUME 3	AUTO LIGHT	—	TAIL LAMP
INT VOLUME 2	—	—	FR FOG	—

>> Check the system to which malfunctioning switch belongs and GO TO 2.

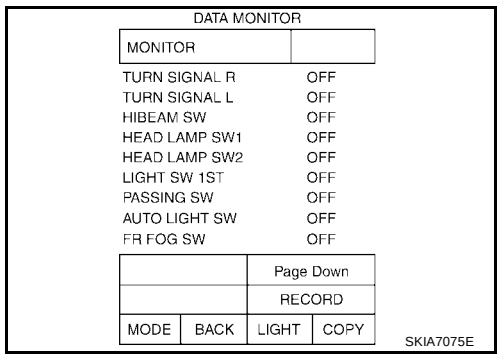
2. SYSTEM CHECK

With CONSULT-II

CAUTION:

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

1. Connect CONSULT-II and select "COMB SW" on "SELECT TEST ITEM" screen.
2. Select "DATA MONITOR".
3. Select "START" and confirm that other switches in malfunctioning system operate normally.
   Example: When auto light switch is malfunctioning, confirm that "FRONT WIPER LOW" and "FRONT WIPER INT" in System 3 to which the auto light switch belongs, turn ON-OFF normally.



Without CONSULT-II

Operate combination switch and confirm that other switches in malfunctioning system operate normally.
Example: When auto light switch is malfunctioning, confirm that "FRONT WIPER LOW" and "FRONT WIPER INT" in System 3 to which the auto light switch belongs, operate normally.

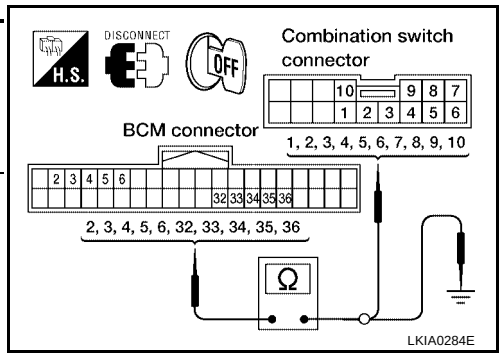
Check results

Other switches in malfunctioning system operate normally.>>Replace lighting switch or wiper switch.
Other switches in malfunctioning system do not operate normally.>>GO TO 3.

3. HARNESS INSPECTION

1. Disconnect BCM and combination switch connectors.
2. Check for continuity between BCM harness connector of the suspect system and the corresponding combination switch connector terminals.

Suspect system	Terminals					Continuity
	BCM			Combination switch		
	Connector	Terminal (Wire color)		Connector	Terminal (Wire color)	
1	M18	Input 1	6 (R/W)	M28	6 (R/W)	Yes
		Output 1	36 (G/W)		1 (G/W)	
2		Input 2	5 (R/B)		7 (R/B)	
		Output 2	35 (G/B)		2 (G/B)	
3		Input 3	4 (R/G)		10 (R/G)	
		Output 3	34 (L/B)		3 (L/B)	
4		Input 4	3 (R/Y)		9 (R/Y)	
		Output 4	33 (G/Y)		4 (G/Y)	
5		Input 5	2 (R)		8 (R)	
		Output 5	32 (G/O)		5 (G/O)	



3. Check for continuity between each terminal of BCM harness connector in suspect malfunctioning system and ground.

Suspect system	Terminals				Continuity
	BCM(+)			–	
	Connector	Terminal (Wire color)			
1	M18	Input 1	6 (R/W)	Ground	No
		Output 1	36 (G/W)		
2		Input 2	5 (R/B)		
		Output 2	35 (G/B)		
3		Input 3	4 (R/G)		
		Output 3	34 (L/B)		
4		Input 4	3 (R/Y)		
		Output 4	33 (G/Y)		
5		Input 5	2 (R)		
		Output 5	32 (G/O)		

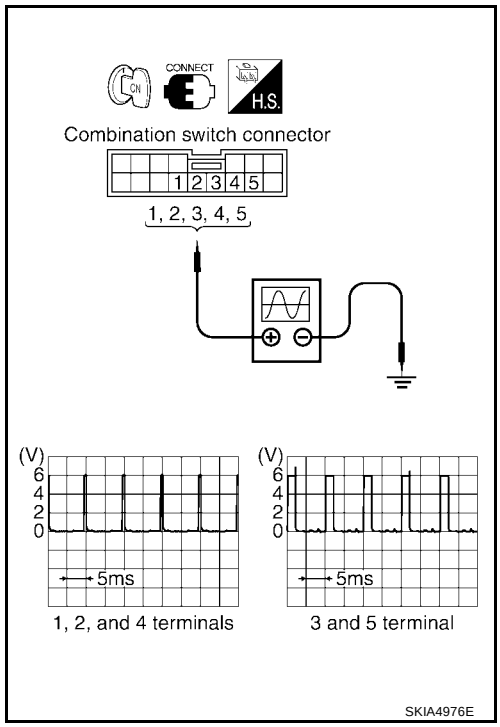
OK or NG

OK >> GO TO 4.
NG >> Check harness between BCM and combination switch for open or short circuit.

4. BCM OUTPUT TERMINAL INSPECTION

1. Turn lighting switch and wiper switch to OFF.
2. Set wiper dial to position 4.
3. Connect BCM and combination switch connectors and check BCM output terminal voltage waveform of suspect malfunctioning system.

Suspect system	Terminals		
	Combination switch(+)		
	Connector	Terminal (Wire color)	
1	M28	Output 1	1 (G/W)
2		Output 2	2 (G/B)
3		Output 3	3 (L/B)
4		Output 4	4 (G/Y)
5		Output 5	5 (G/O)



OK or NG

OK >> Open circuit in combination switch, GO TO 5.
NG >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

5. COMBINATION SWITCH INSPECTION

Referring to table below, perform combination switch inspection.

Procedure													
1	2		3		4		5		6		7		
Replace lighting switch.	Confirm check results.	OK	INSPECTION END		Confirm check results.	OK	INSPECTION END		Confirm check results.	OK	INSPECTION END		
		NG	Replace wiper switch.			NG	Replace switch base.			NG	Confirm symptom again.		

>> Inspection End.

Removal and Installation

EKS005A0

For details, refer to LT-122, "Removal and Installation" .

Switch Circuit Inspection

EKS005A1

For details, refer to LT-127, "Combination Switch Inspection" .

STOP LAMP

PFP:26550

System Description

EKS005A3

Power is supplied at all times

- through 10A fuse [No. 20, located in fuse block (J/B)]
- to stop lamp switch terminal 1.

When the brake pedal is pressed, the stop lamp switch is closed and power is supplied

- through stop lamp switch terminal 2
- to rear combination lamp LH and RH terminal 1
- to high-mounted stop lamp terminal +.

Ground is supplied at all times

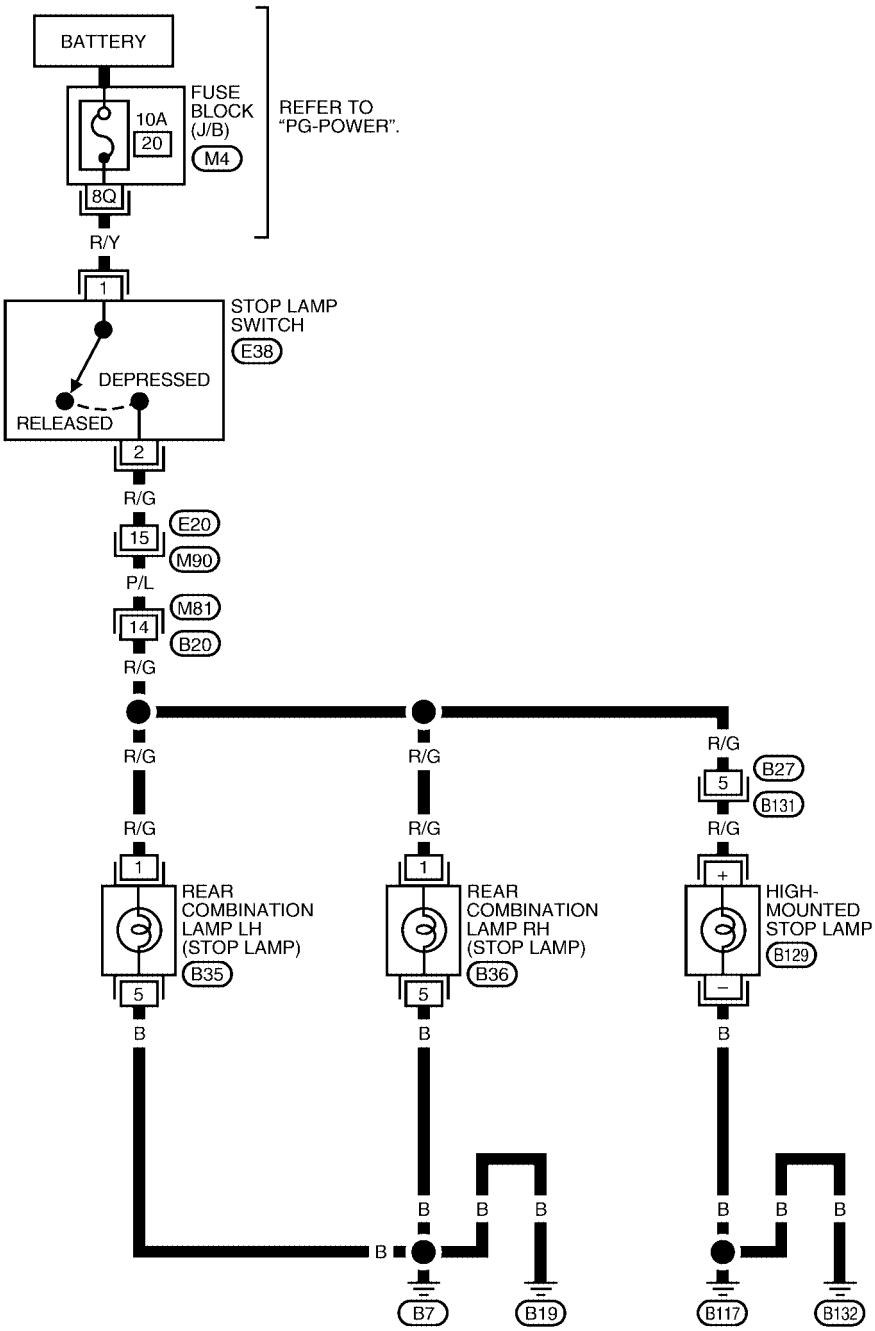
- to rear combination lamp LH and RH terminal 5
- through grounds B7 and B19
- to high-mounted stop lamp terminal -
- through grounds B117 and B132.

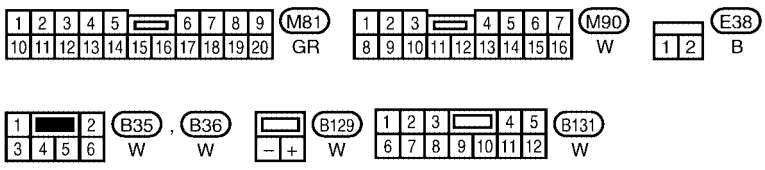
With power and ground supplied the stop lamps illuminate.

Wiring Diagram — STOP/L —

EKS005A5

LT-STOP/L-01





REFER TO THE FOLLOWING.
E30 - FUSE BLOCK - JUNCTION BOX (J/B)

LKWA0218E

High-Mounted Stop Lamp

EKS005A7

BULB REPLACEMENT, REMOVAL AND INSTALLATION

Refer to EI-35, "Removal and Installation" .

Stop Lamp

EKS005A8

BULB REPLACEMENT

Refer to LT-149, "Bulb Replacement" in "REAR COMBINATION LAMP".

REMOVAL AND INSTALLATION

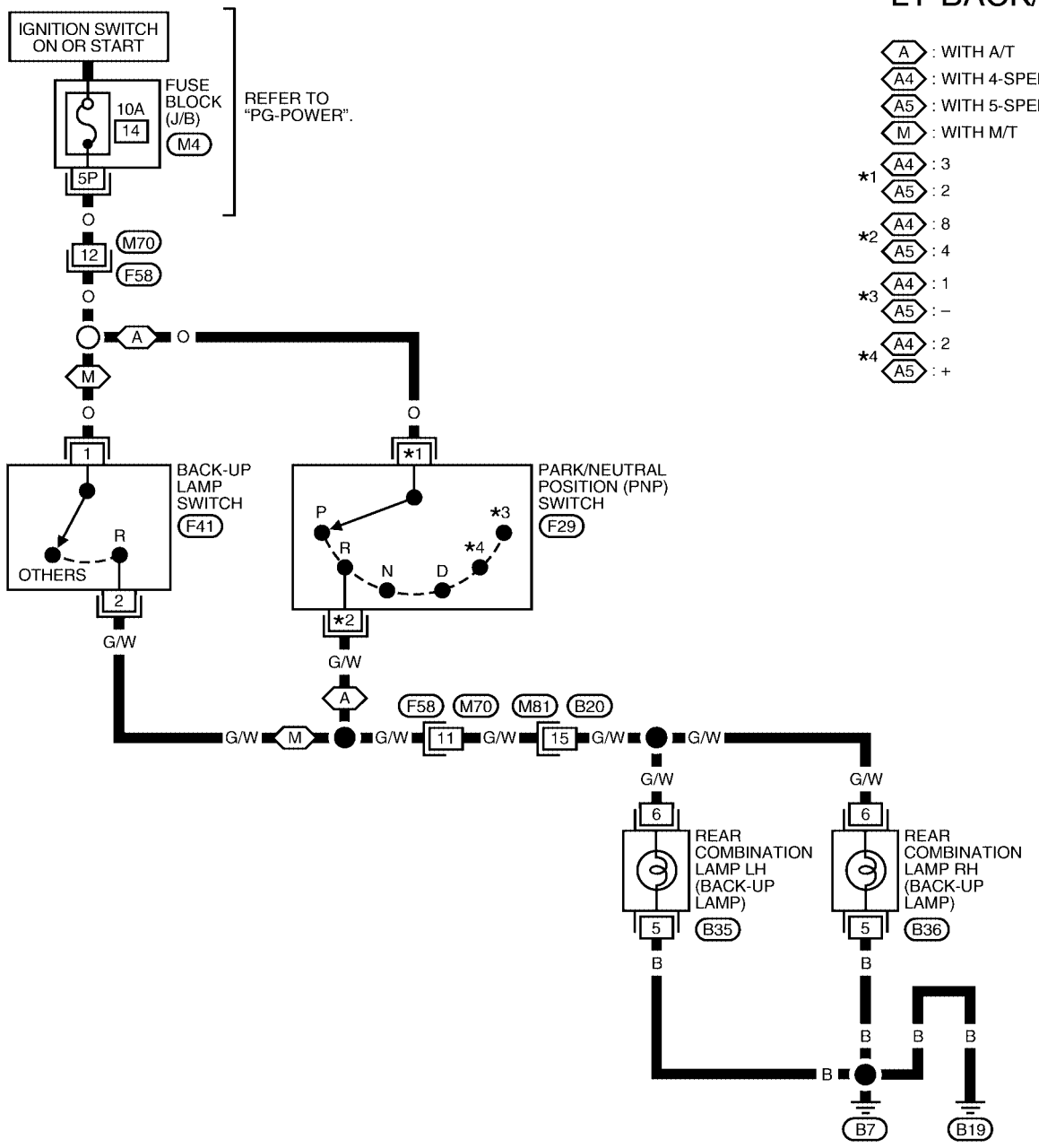
Refer to LT-149, "Removal and Installation" in "REAR COMBINATION LAMP".

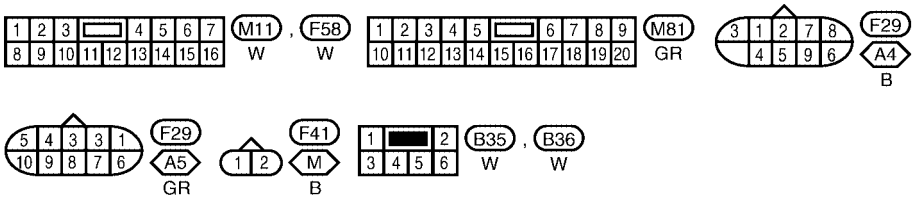
BACK-UP LAMP

PFP:26550

Wiring Diagram — BACK/L —

EKS005AA





REFER TO THE FOLLOWING.
M4 - FUSE BLOCK - JUNCTION BOX (J/B)

LKWA0219E

Bulb Replacement

EKS005AB

Refer to LT-149, "Bulb Replacement" in "REAR COMBINATION LAMP".

Removal and Installation

EKS005AC

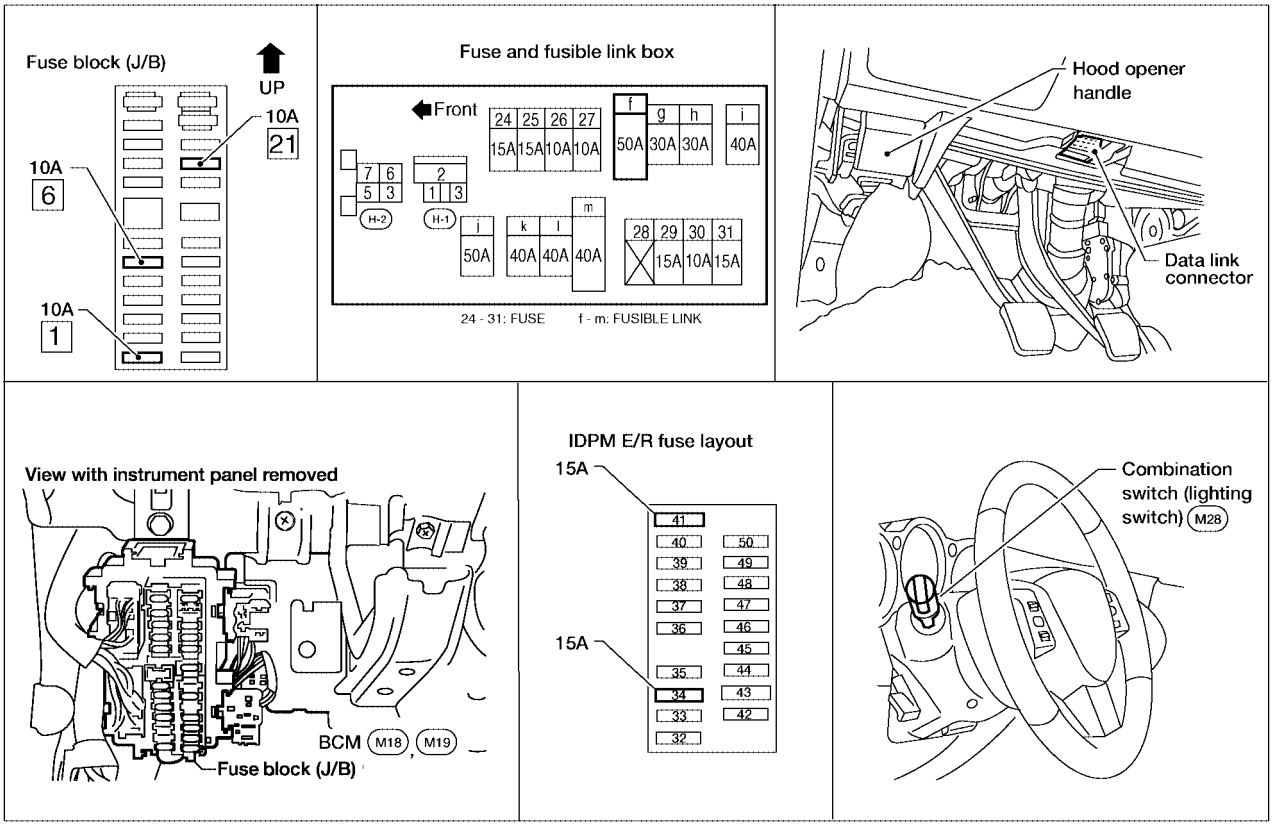
Refer to LT-149, "Removal and Installation" in "REAR COMBINATION LAMP".

PARKING, LICENSE PLATE AND TAIL LAMPS

PFP:26550

Component Parts and Harness Connector Location

EKS005AD



LKIA0266E

System Description

EKS005AE

Control of the parking, license plate, and tail lamp operation is dependent upon the position of the lighting switch (combination switch). When the lighting switch is placed in the 1ST position, the BCM (body control module) receives input signal requesting the parking, license plate, side marker and tail lamps to illuminate. This input signal is communicated to the IPDM E/R (intelligent power distribution module engine room) across the CAN communication lines. The CPU (central processing unit) of the IPDM E/R controls the tail lamp relay coil. This relay, when energized, directs power to the parking, license plate, rear side marker and tail lamps, which then illuminate.

Power is supplied at all times

- through 15A fuse (No. 41, located in the IPDM E/R)
- to tail lamp relay, located in the IPDM E/R
- through 15A fuse (No. 34, located in the IPDM E/R)
- to CPU in the IPDM E/R
- to ignition relay, located in the IPDM E/R.

Power is also supplied at all times

- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 55
- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to BCM terminal 42.

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

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to BCM terminal 38
- to ignition relay, located in the IPDM E/R.

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

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to BCM terminal 11.

Ground is supplied at all times

- to BCM terminal 49 (early production) and 52
- through grounds M57, M61 and M79
- to IPDM E/R terminals 38 and 60
- through grounds E15 and E24.

OPERATION BY LIGHTING SWITCH

With the lighting switch in the 1ST or 2ND position (or if the auto light system is activated), the BCM receives input signal requesting the parking, license plate, side marker and tail lamps to illuminate. This input signal is communicated to the IPDM E/R across the CAN communication lines. The CPU in the IPDM E/R controls the tail lamp relay coil, which when energized, directs power

- through IPDM E/R terminal 22
- to front combination lamp LH and RH terminal 6
- to license plate lamp LH and RH terminal +
- to rear combination lamp LH and RH terminal 2.

Ground is supplied at all times

- to front combination lamp LH and RH terminal 10
- through grounds E15 and E24
- to license plate lamp LH and RH terminal -
- to rear combination lamp LH and RH terminal 5
- through grounds B7 and B19

With power and ground supplied, the parking, license plate, rear side marker and tail lamps illuminate.

COMBINATION SWITCH READING FUNCTION

Refer to LT-125, "Combination Switch Reading Function" .

EXTERIOR LAMP BATTERY SAVER CONTROL

When the combination switch (lighting switch) is in the 1ST (or 2ND) position and the ignition switch is turned from ON or ACC to OFF, the battery saver control feature is activated.
Under this condition, the parking, license, side marker and tail lamps remain illuminated for 5 minutes, then the parking, license plate, side marker and tail lamps are turned off.
Exterior lamp battery saver control mode can be changed by the function setting of CONSULT-II.

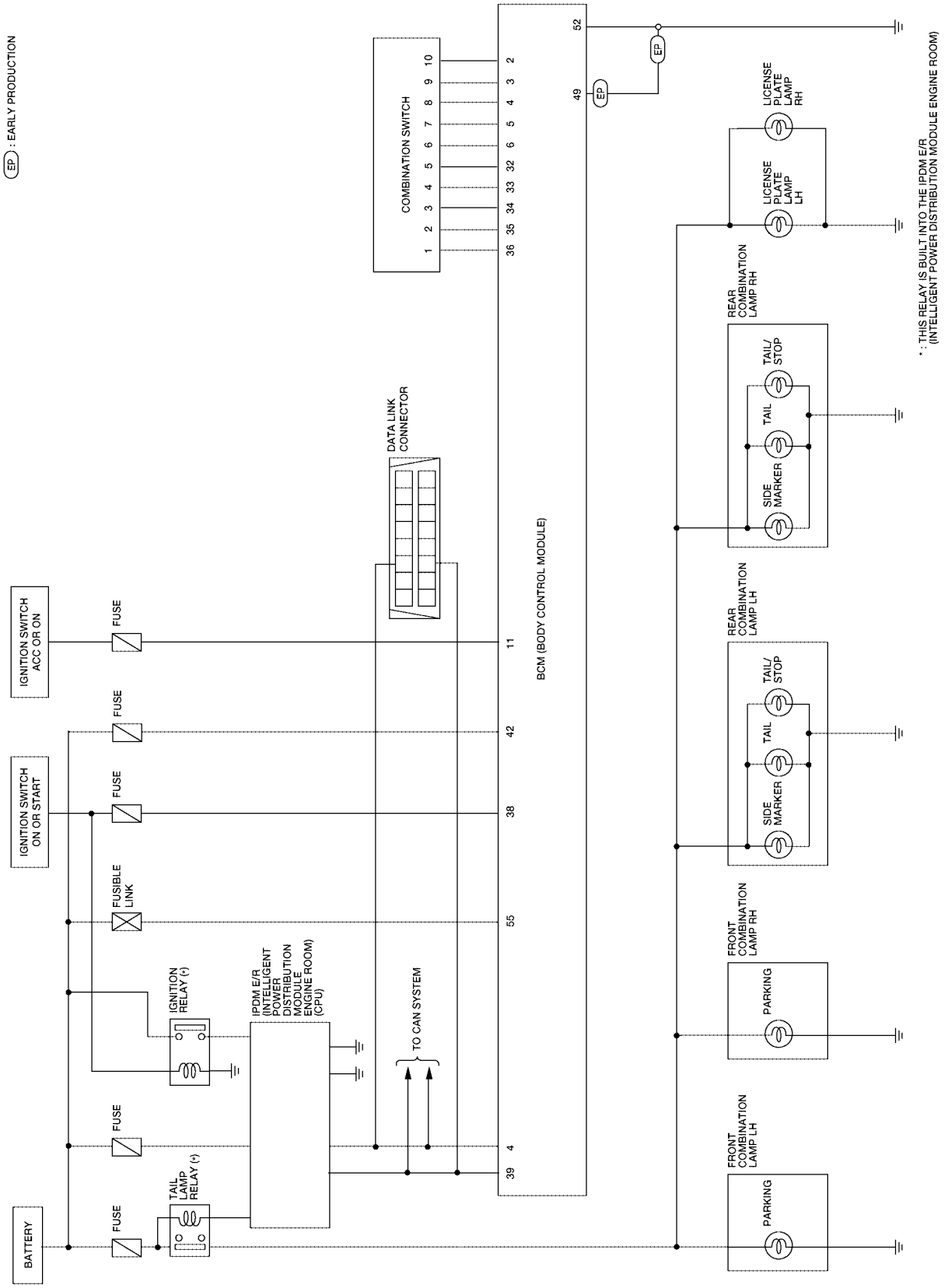
CAN Communication System Description

EKS005AF

Refer to LAN-8, "CAN COMMUNICATION" .

Schematic

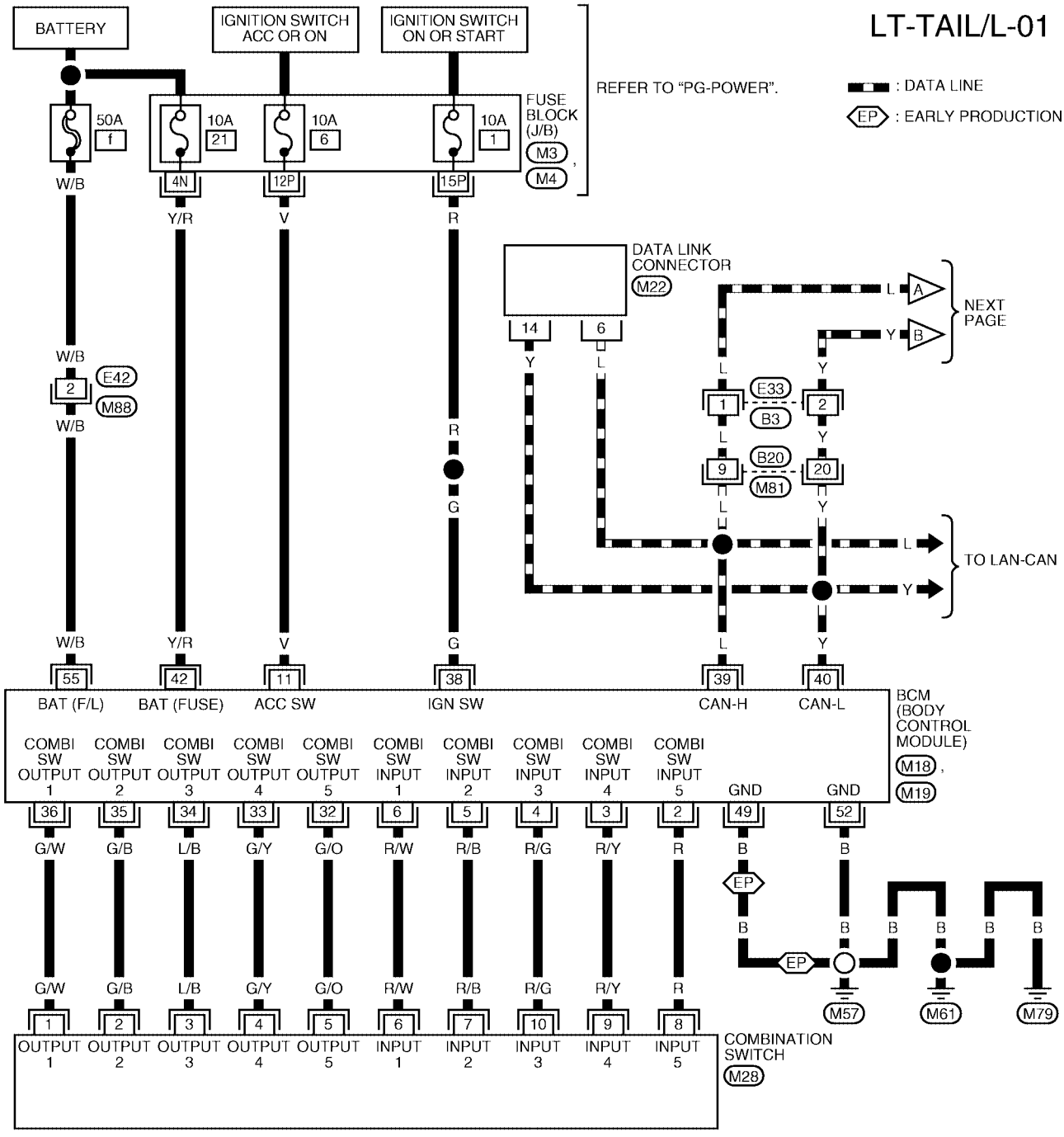
EKS005AH



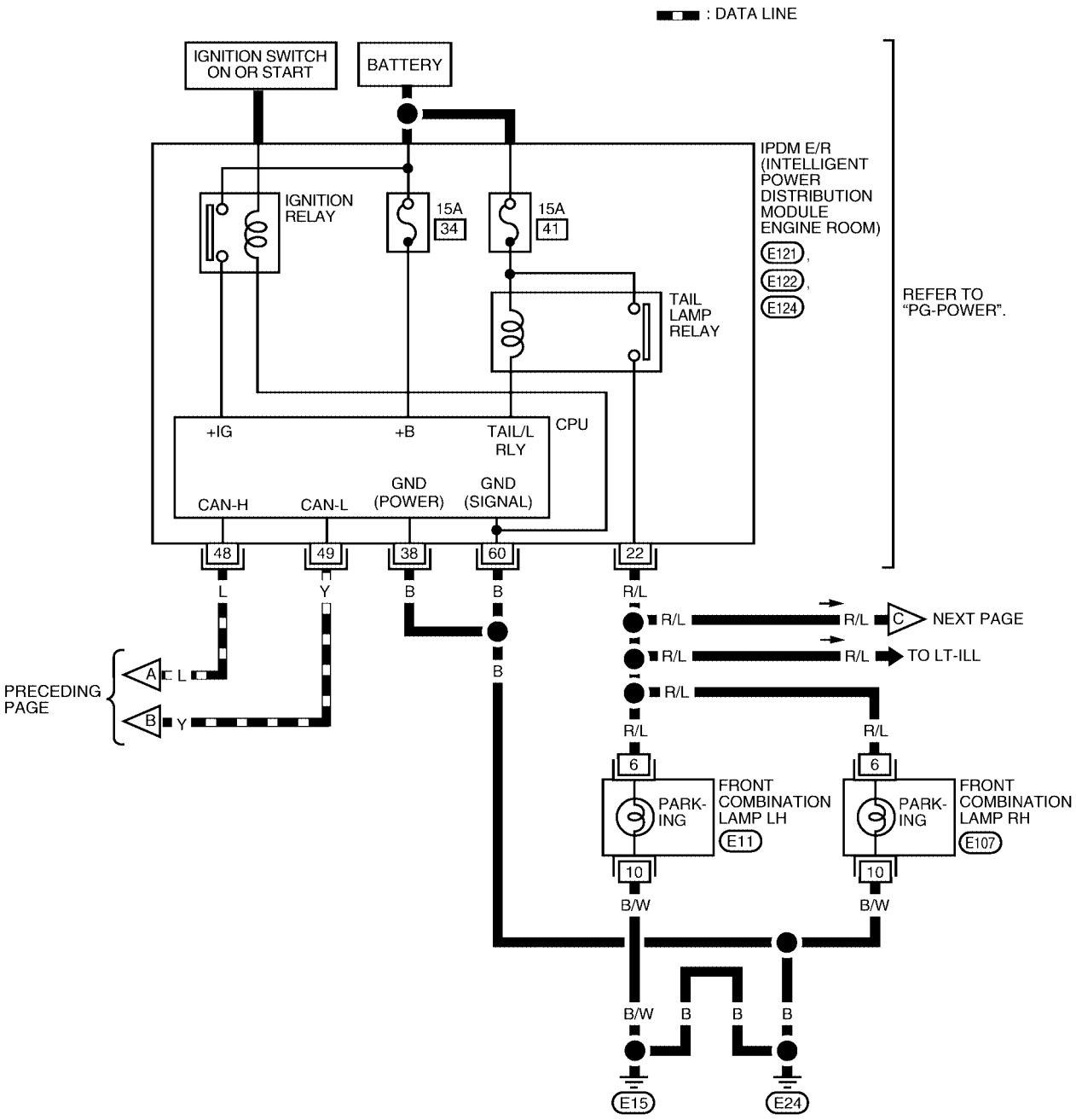
WKWA1820E

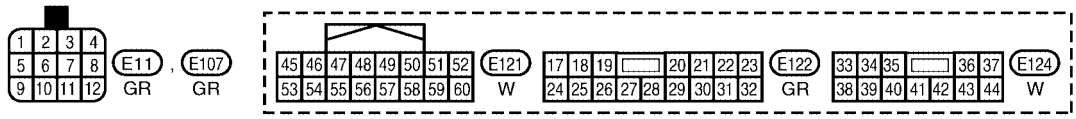
Wiring Diagram — TAIL/L —

EKS005AI

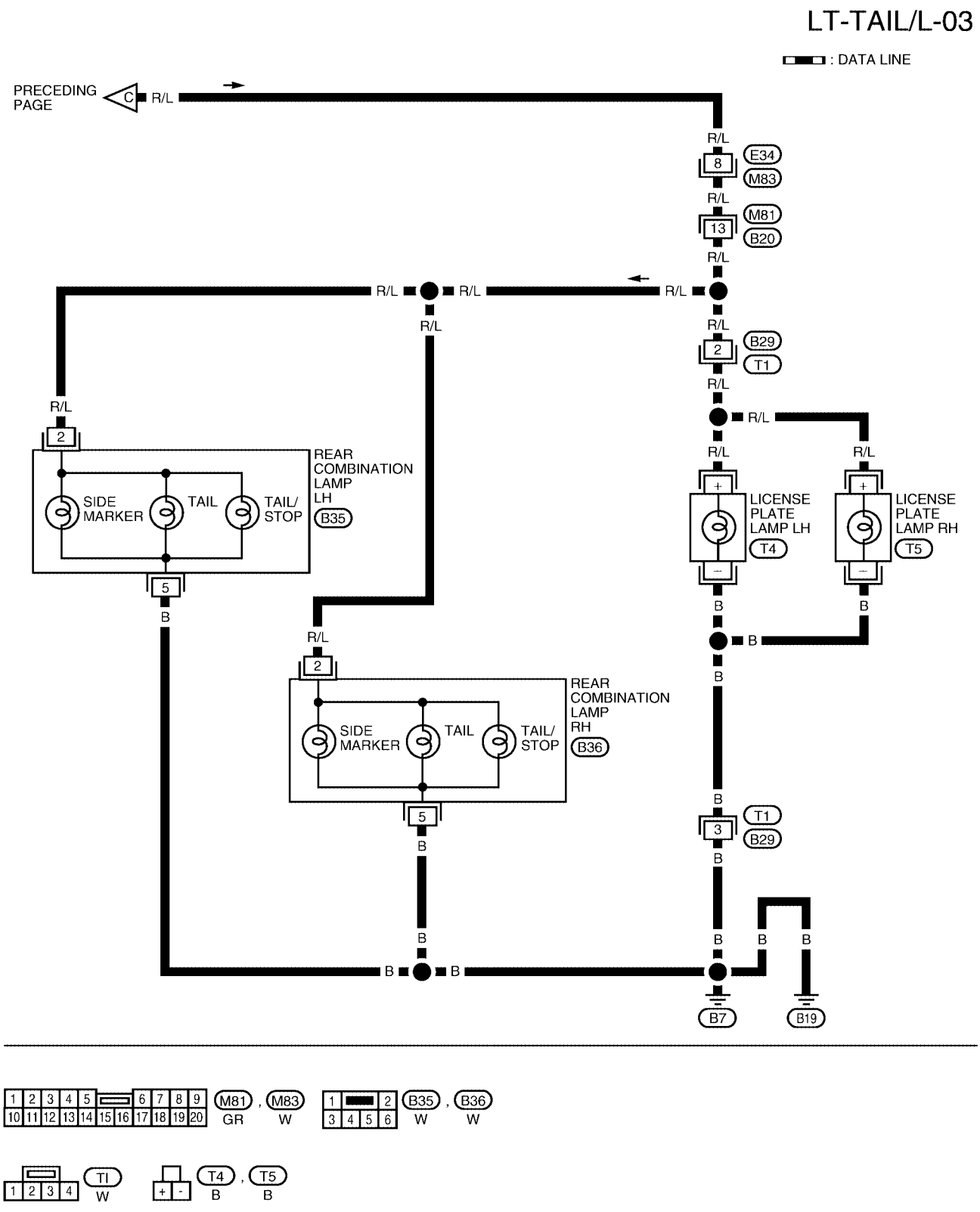


LT-TAIL/L-02



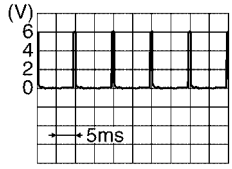
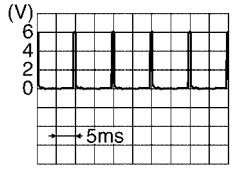
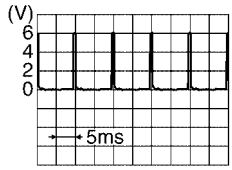
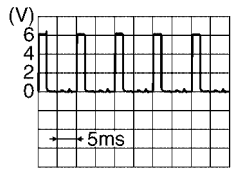


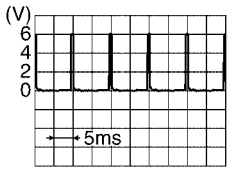
LKWA0222E


LT-TAIL/L-03
: DATA LINE
PRECEDING PAGE
C
R/L
E34
M83
M81
B20
B29
T1
REAR COMBINATION LAMP LH
B35
SIDE MARKER
TAIL
TAIL/ STOP
LICENSE PLATE LAMP LH
T4
LICENSE PLATE LAMP RH
T5
REAR COMBINATION LAMP RH
B36
B
B7
B19
M81 , M83
GR W
B35 , B36
W W
TI
W
T4 , T5
B B
LKWA0223E

Terminals and Reference Value for BCM

EKS005H5

Terminal No.	Wire color	Signal name	Measuring condition		Reference value (Approx.)
			Ignition switch	Operation or condition	
2	R	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	R/Y	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	R/G	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	R/B	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	R/W	Combination switch input 1			
11	V	Ignition switch (ACC)	ACC	—	Battery voltage
32	G/O	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	G/Y	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	L/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E

Terminal No.	Wire color	Signal name	Measuring condition		Reference value (Approx.)
			Ignition switch	Operation or condition	
35	G/B	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	G/W	Combination switch output 1			
38	G	Ignition switch (ON)	ON	—	Battery voltage
39	L	CAN-H	—	—	—
40	Y	CAN-L	—	—	—
42	Y/R	Battery power supply	OFF	—	Battery voltage
49 (early production)	B	Ground	ON	—	0V
52	B	Ground	ON	—	0V
55	W/B	Battery power supply (fusible link)	OFF	—	Battery voltage

Terminals and Reference Values for IPDM E/R

EKS005AK

Terminal No.	Wire color	Signal name	Measuring condition			Reference value (Approx.)
			Ignition switch	Operation or condition		
22	R/L	Parking, license, and tail lamp	ON	Lighting switch 1ST position	OFF	0V
					ON	Battery voltage
38	B	Ground	ON	—		0V
48	L	CAN-H	—	—		—
49	Y	CAN-L	—	—		—
60	B	Ground	ON	—		0V

How to Proceed With Trouble Diagnosis

EKS005AL

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-135, "System Description" .
3. Carry out the Preliminary Check. Refer to LT-142, "Preliminary Check" .
4. Check symptom and repair or replace the cause of malfunction.
5. Do the parking, license and tail lamps operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. Inspection End.

Preliminary Check

EKS005AM

CHECK POWER SUPPLY AND GROUND CIRCUIT

1. CHECK FUSES AND FUSIBLE LINK

Check for blown fuses or fusible link.

Unit	Power source	Fuse No.
BCM	Battery	f
	Battery	21
	Ignition switch ON or START position	1
	Ignition switch ACC or ON position	6
IPDM E/R	Battery	34
		41

Refer to LT-138, "Wiring Diagram — TAIL/L —" .

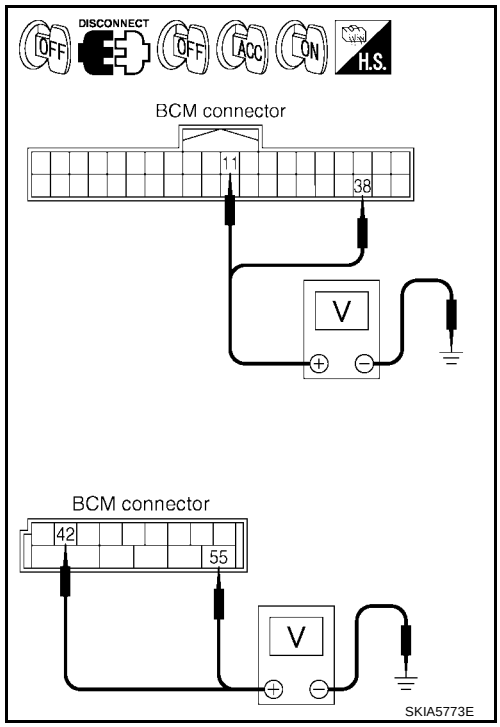
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

Terminals			Ignition switch position		
(+)		(–)	OFF	ACC	ON
Connector	Terminal (Wire color)				
M18	11 (V)	Ground	0V	Battery voltage	Battery voltage
	38 (G)		0V	0V	Battery voltage
M19	42 (Y/R)		Battery voltage	Battery voltage	Battery voltage
	55 (W/B)		Battery voltage	Battery voltage	Battery voltage



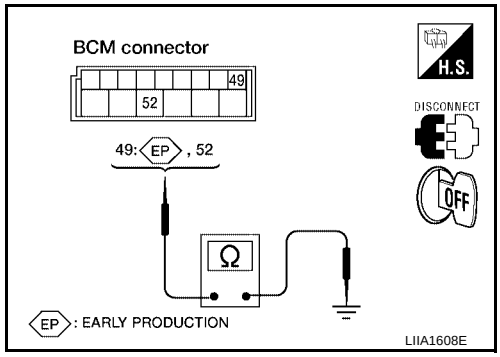
OK or NG

OK >> GO TO 3.
NG >> Check harness for open between BCM and fuse.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

Terminals			Continuity
(+)		(–)	
Connector	Terminal (Wire color)		
M19	49 (B) (early production)	Ground	Yes
	52 (B)		



OK or NG

OK >> Inspection End.
NG >> Check ground circuit harness.

CONSULT-II Functions

EKS005AN

Refer to LT-23, "CONSULT-II Function (BCM)" and LT-26, "CONSULT-II Function (IPDM E/R)" in HEADLAMP (FOR USA).

Parking, License Plate and/or Tail Lamps Do Not Illuminate

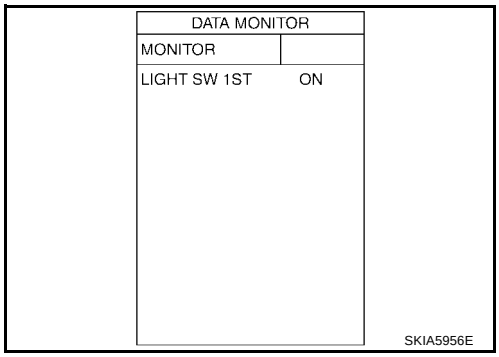
EKS005AO

1. CHECK COMBINATION SWITCH INPUT SIGNAL

With CONSULT-II

Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "LIGHT SW 1ST" turns ON-OFF linked with operation of lighting switch.

When lighting switch is 1ST position : LIGHT SW 1ST ON



Without CONSULT-II

Refer to LT-127, "Combination Switch Inspection" .

OK or NG

OK >> GO TO 2.

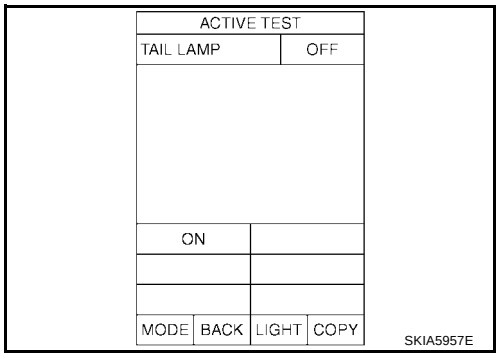
NG >> Check lighting switch. Refer to LT-127, "Combination Switch Inspection" .

2. ACTIVE TEST

With CONSULT-II

1. Select "IPDM E/R" on CONSULT-II and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "TAIL LAMP" on "SELECT TEST ITEM" screen.
3. Touch "ON".
4. Make sure parking, license plate, side marker and tail lamp operation.

Parking, license plate, side marker and tail lamp should operate



Without CONSULT-II

1. Start auto active test. Refer to PG-20, "Auto Active Test" .
2. Make sure parking, license plate, side marker and tail lamp operation.

Parking, license plate, side marker and tail lamp should operate

OK or NG

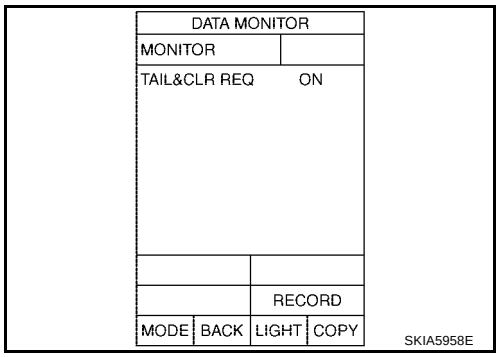
OK >> GO TO 3.

NG >> GO TO 4.

3. CHECK IPDM E/R

1. Select "IPDM E/R" on CONSULT-II and select "DATA MONITOR" on "SELECT DIAG MODE" screen.
2. Make sure "TAIL & CLR REQ" turns ON when lighting switch is in 1ST position.

When lighting switch is 1ST position : TAIL & CLR REQ ON



OK or NG

OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .

NG >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

4. CHECK INPUT SIGNAL

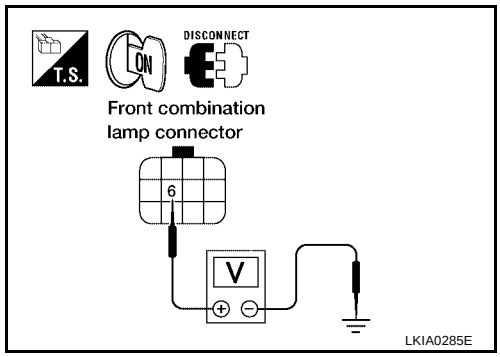
With CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front combination lamp, license plate lamp and rear combination lamp connectors.
3. Select "IPDM E/R" on CONSULT-II and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
4. Select "TAIL LAMP" on "SELECT TEST ITEM" screen.
5. Touch "ON" screen.
6. When tail lamp is operating, check voltage between front combination lamp, license plate lamp, rear combination lamp harness connector and ground.

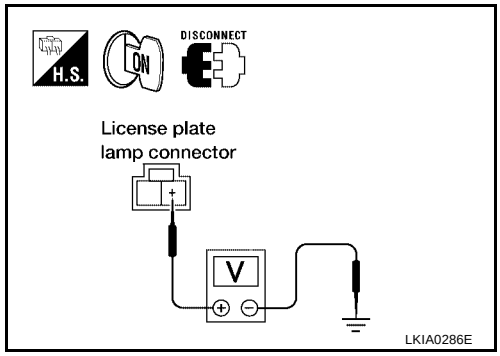
Without CONSULT-II

1. Turn ignition switch OFF.
2. Start auto active test. Refer to PG-20, "Auto Active Test" .
3. When tail lamp is operating, check voltage between front combination lamp, license plate lamp, rear combination lamp harness connector and ground.

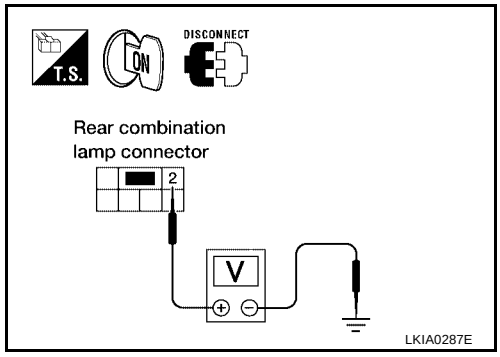
Terminals				Voltage
Front combination lamp (+)			(-)	
Connector		Terminal (Wire color)		
RH	E107	6 (R/L)	Ground	Battery voltage
LH	E11			



Terminals				Voltage
License plate lamp (+)			(-)	
Connector		Terminal (Wire color)		
RH	T5	+ (R/L)	Ground	Battery voltage
LH	T4			



Terminals				Voltage
Rear combination lamp (+) (Tail and side marker)			(-)	
Connector		Terminal (Wire color)		
RH	B36	2 (R/L)	Ground	Battery voltage
LH	B35			



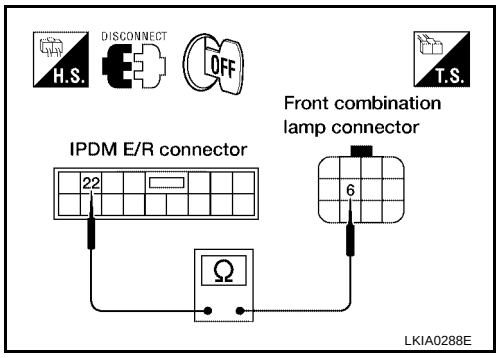
OK or NG

OK >> GO TO 6.
NG >> GO TO 5.

5. CHECK PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP CIRCUIT

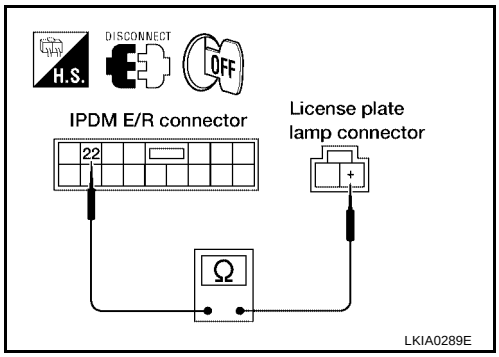
1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector and front side marker lamp harness connector.

Terminals					Continuity
IPDM E/R		Front combination lamp			
Connector	Terminal (Wire color)	Connector		Terminal (Wire color)	
E122	22 (R/L)	RH	E107	6 (R/L)	Yes
		LH	E11		



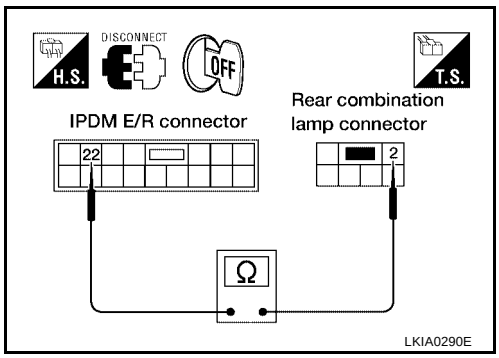
4. Check continuity between IPDM E/R harness connector and license plate lamp harness connector.

Terminals					Continuity
IPDM E/R		License plate lamp			
Connector	Terminal (Wire color)	Connector		Terminal (Wire color)	
E122	22 (R/L)	RH	T5	+ (R/L)	Yes
		LH	T4		



5. Check continuity between IPDM E/R harness connector and rear combination lamp harness connector.

Terminals					Continuity
IPDM E/R		Rear combination lamp			
Connector	Terminal (Wire color)	Connector		Terminal (Wire color)	
E122	22 (R/L)	RH	B36	2 (R/L)	Yes
		LH	B35		



OK or NG

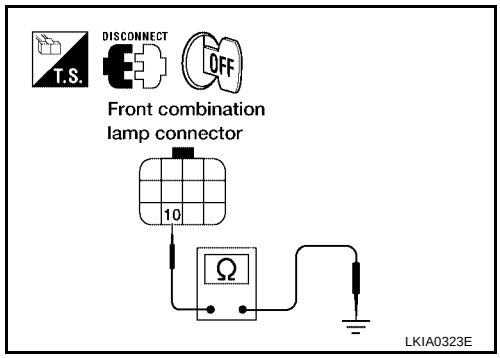
OK >> Replace IPDM E/R. Refer to PG-26, "Removal and Installation of IPDM E/R" .

NG >> Repair harness or connector.

6. CHECK GROUND

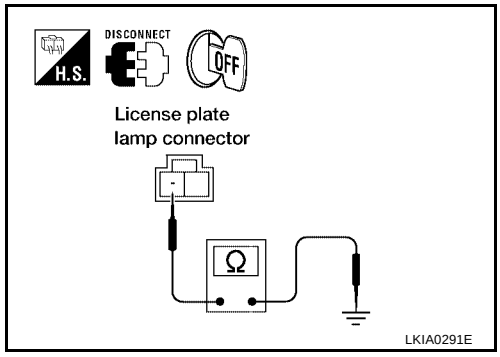
1. Check continuity between front combination lamp harness connector and ground.

Terminals				Continuity
Front combination lamp			Ground	
Connector		Terminal (Wire color)		
RH	E107	10 (B/W)		Yes
LH	E11			



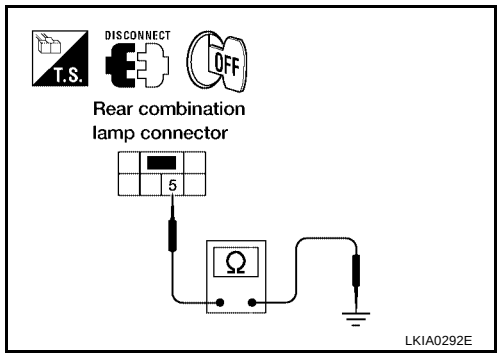
2. Check continuity between license lamp plate harness connector and ground.

Terminals				Continuity
License plate lamp			Ground	
Connector		Terminal (Wire color)		
RH	T5	- (B)		Yes
LH	T4			



3. Check continuity between rear combination lamp harness connector and ground.

Terminals				Continuity
Rear combination lamp (Tail and side marker)			Ground	
Connector		Terminal (Wire color)		
RH	B36	5 (B)		Yes
LH	B35			



OK or NG

OK >> Check bulbs.
NG >> Repair harness or connector.

Parking, License Plate and Tail Lamps Do Not Turn OFF (After Approx. 10 Minutes)

EKS005AQ

1. CHECK IPDM E/R

1. Turn ignition switch ON. Turn the combination switch (lighting switch) to the OFF position. Turn ignition switch OFF.
2. Verify that the parking, license plate, and tail lamps turn on and off after approximately 10 minutes.

OK or NG

OK >> Ignition relay malfunction. Refer to PG-15, "Function of Detecting Ignition Relay Malfunction" .
NG >> Inspection End.

Front Parking Lamp

EKS005AS

BULB REPLACEMENT

For bulb replacement, refer to LT-40, "Bulb Replacement" in HEADLAMP (FOR USA).

Tail Lamp

EKS005AT

BULB REPLACEMENT

For bulb replacement, refer to LT-149, "Bulb Replacement" in "REAR COMBINATION LAMP".

Rear Side Marker Lamp

EKS005AV

BULB REPLACEMENT

For bulb replacement, refer to LT-149, "Bulb Replacement" in "REAR COMBINATION LAMP".

REAR COMBINATION LAMP

PFP:26554

Bulb Replacement

EKS005AX

1. Remove rear combination lamp. Refer to LT-149, "Removal and Installation" .
2. Turn bulb socket counterclockwise and unlock it.
3. Remove bulb.

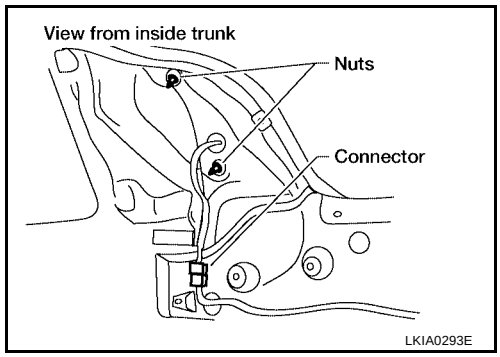
Installation is in the reverse order of removal.

Removal and Installation

EKS005AY

1. Position trunk room trim aside. Refer to EI-43, "Removal and Installation" .
2. Disconnect rear combination lamp connector.
3. Remove rear combination lamp mounting nuts.
4. Pull rear combination lamp to remove from the vehicle.

Installation is in the reverse order of removal.

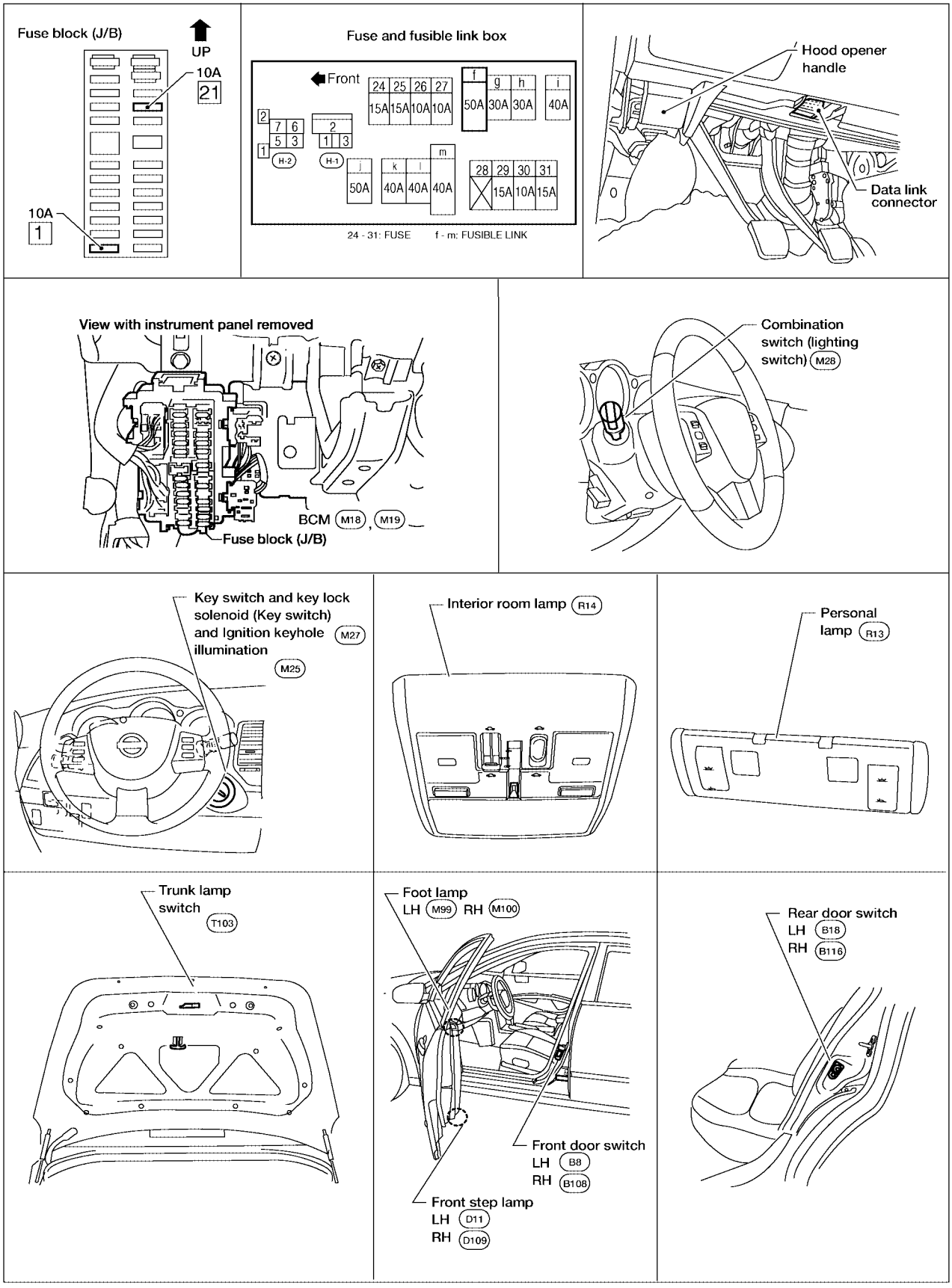


INTERIOR ROOM LAMP

PFP:26410

Component Parts and Harness Connector Location

EKS005AZ



LKIA0267E

System Description

EKS005B0

When room lamp and personal lamp switch is in AUTO position, room lamp and personal lamp ON/OFF is controlled by timer according to signals from switches including key switch, front door switch driver side, unlock signal from keyfob, door lock and unlock switch, key cylinder lock and unlock switch, ignition switch.
When room lamp and personal lamp turn ON, there is a gradual brightening over 1 second. When room lamp and personal lamp turn OFF, there is a gradual dimming over 1 second.
The room lamp and personal lamp timer is controlled by the BCM (body control module).
Room lamp and personal lamp timer control settings can be changed with CONSULT-II.
Ignition keyhole illumination turns ON when driver door is opened (door switch ON) or key is removed from key cylinder. Illumination turns OFF when driver door is closed (door switch OFF).
Step and foot lamps turn ON when driver door, passenger or rear doors are opened (door switch ON). Lamps turn OFF when driver, passenger and rear doors are closed (all door switches OFF).

POWER SUPPLY AND GROUND

Power is supplied at all times

- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to key switch terminal 3
- to BCM terminal 42
- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 55.

When the key is inserted in key switch, power is supplied

- through the key switch terminal 4
- to BCM terminal 37.

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

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to BCM terminal 38.

When the BCM receives input to supply power to terminal 41, power is supplied

- to step lamp terminals +
- to rear console lamp (late production) terminal 2
- to ignition keyhole illumination terminal +
- to foot lamp terminals +
- to vanity mirror lamp terminals 1
- to personal lamp terminal 2
- to interior room lamp terminal 7.

Ground is supplied at all times

- to BCM terminals 49 (early production) and 52
- through grounds terminals M57, M61 and M79.

When the driver side door is opened, ground is supplied

- through case ground of front door switch LH
- to BCM terminal 62.

When the passenger side door is opened, ground is supplied

- through case ground of front door switch RH
- to BCM terminal 12.

When the rear door LH is opened, ground is supplied

- through case ground of rear door switch LH
- to BCM terminal 63.

When the rear door RH is opened, ground is supplied

- through case ground of rear door switch RH
- to BCM terminal 13.

When the driver side door is unlocked by the door lock and unlock switch, BCM receives a ground signal

- through grounds terminals M57, M61 and M79

- to main power window and door lock/unlock switch terminal 17 or front power window (passenger side) terminal 11 (door lock and unlock switch)
- from main power window and door lock/unlock switch terminal 14 or front power window (passenger side) terminal 16 (door lock and unlock switch)
- to BCM terminal 22.

When the driver side door is unlocked by the front door lock assembly (driver side) (door key cylinder switch), BCM receives a ground signal

- through grounds M57, M61 and M79
- to front door lock assembly (driver side) (door key cylinder switch) terminal 5
- from front door lock assembly (driver side) (door key cylinder switch) terminal 6
- to main power window and door lock/unlock switch terminal 6
- from main power window and door lock/unlock switch terminal 14
- to BCM terminal 22.

When a signal or combination of signals is received by BCM, ground is supplied

- through BCM terminal 48
- to foot lamp LH and RH terminal -
- to interior room lamp (room/map lamps) terminal 6
- to interior room lamp (room/map lamps) when interior room lamp switch is in AUTO
- through interior room lamp (room/map lamps) terminal 5
- to personal lamp terminals 4 and 6.

With power and ground supplied, the interior lamp illuminates.

SWITCH OPERATION

When driver door switch is ON (door is opened), ground is supplied

- through BCM terminal 1
- to ignition keyhole illumination terminal -.

And power is supplied

- from BCM terminal 41
- to ignition keyhole illumination terminal +.

When any door switch is ON (door is opened), ground is supplied

- through BCM terminal 47
- to front step lamp LH and RH, rear step lamp LH and RH terminal -.

And power is supplied

- from BCM terminal 41
- to every step lamp terminal + and personal lamp LH and RH terminal 2.

When map lamp switch is ON, ground is supplied

- through grounds M57, M61 and M79
- to map lamp terminal 4.

And power is supplied

- from BCM terminal 41
- to map lamp terminal 7.

When vanity mirror lamp (driver side and passenger side) is ON, ground is supplied

- through grounds M57, M61 and M79
- to vanity mirror lamp (driver side and passenger side) terminal 2.

And power is supplied

- from BCM terminal 41
- to vanity mirror lamp (driver side and passenger side) terminal 1.

When rear console lamp (late production) switch is ON, ground is supplied

- through grounds B117 and B132
- to rear console lamp terminal 4.

And power is supplied
- from BCM terminal 41
- to rear console lamp terminal 2.

When trunk room lamp is ON, ground is supplied
- through grounds B7 and B19
- to trunk lamp switch and trunk release solenoid (trunk lamp switch) terminal 2
- to trunk room lamp terminal - and BCM terminal 57.

And power is supplied
- from 10A fuse [No. 21, located in the fuse block (J/B)]
- to trunk room lamp terminal +.

ROOM LAMP TIMER OPERATION

When interior room lamp and map lamp switch is in AUTO position and when all conditions below are met, BCM performs timer control (maximum 30 seconds) for interior room lamp and map lamp ON/OFF.
In addition, when map turns ON or OFF there is gradual brightening or dimming over 1 second.
Power is supplied
- from 10A fuse [No. 21, located in the fuse block (J/B)]
- to key switch terminal 3.

Key is removed from ignition key cylinder (key switch OFF), power will not be supplied to BCM terminal 37.
Ground is supplied
- from BCM terminal 22
- to main power window and door lock/unlock switch terminal 14.

At the time that driver door is opened, BCM detects that driver door is unlocked. It determines that interior room lamp and map lamp timer operation conditions are met and turns the interior room lamp and map lamp ON for 30 seconds.
Key is in ignition key cylinder (key switch ON), power is supplied
- through key switch terminal 4
- to BCM terminal 37.

When key is removed from key switch (key switch OFF), power supply to BCM terminal 37 is terminated. BCM detects that key has been removed, determines that interior room lamp and map lamp timer conditions are met, and turns the interior room lamp and map lamp ON for 30 seconds.
When driver door opens → closes and the key is not inserted in the key switch (key switch OFF), BCM terminal 62 changes between 0V (door open) → 12V (door closed). The BCM determines that conditions for interior room lamp and map lamp operation are met and turns the interior room lamp ON for 30 seconds.
Timer control is canceled under the following conditions.
- Driver door is locked (when locked with keyfob, main power window and door lock/unlock switch, or door key cylinder switch)
- Driver door is opened (driver door switch turns ON)
- Ignition switch ON.

INTERIOR LAMP BATTERY SAVER CONTROL

If interior lamp is left “ON”, it will not be turned out even when door is closed.
BCM turns off interior lamp automatically to save battery 30 minutes after ignition switch is turned off.
BCM controls interior lamps listed below:
- Vanity mirror lamp
- Interior room lamp (room/map lamps)
- Personal lamp
- Step lamp
- Foot lamp
- Ignition keyhole illumination
- Rear console lamp (late production)

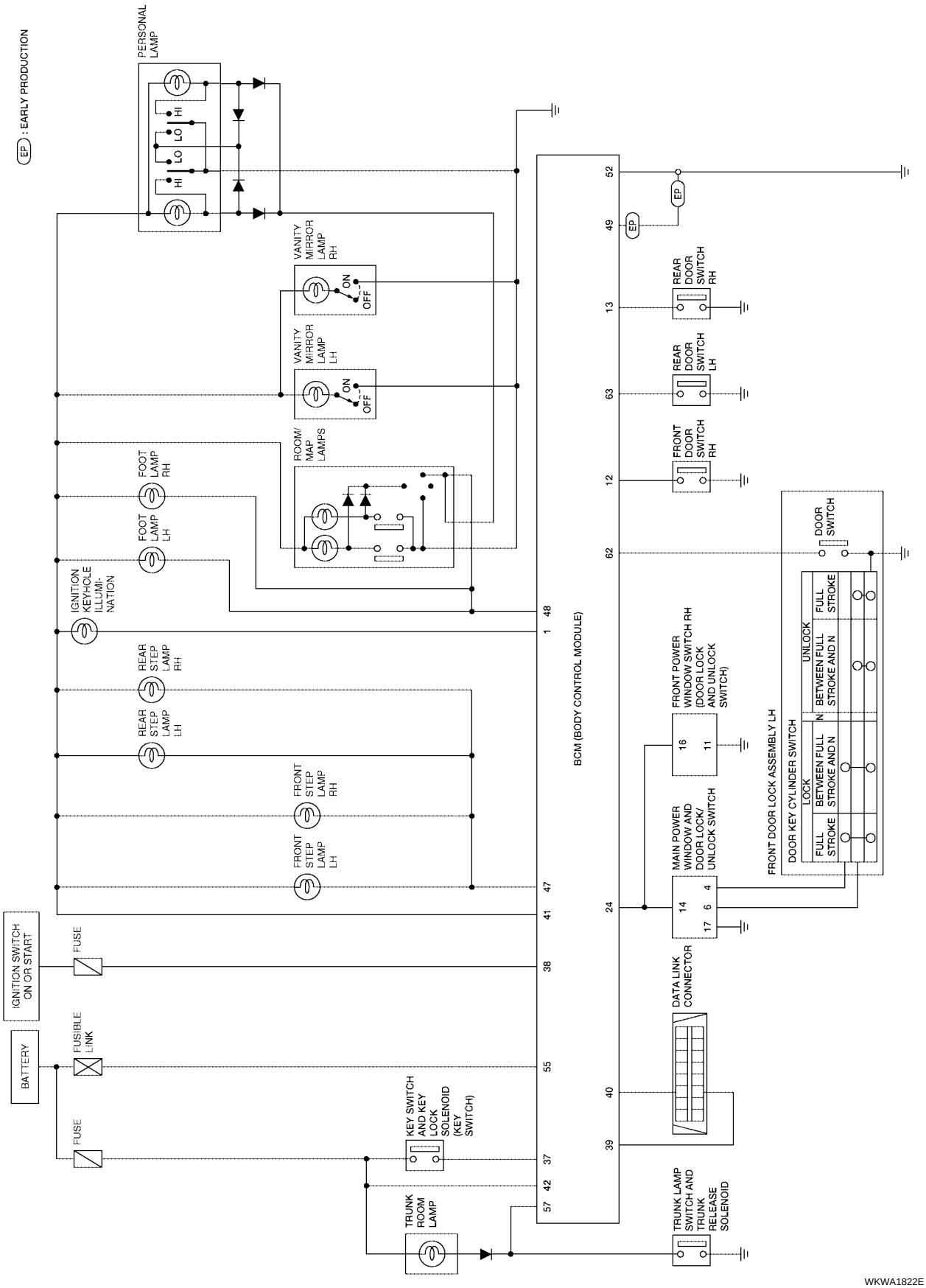
After lamps turn OFF by the battery saver system, the lamps illuminate again when
- signal from keyfob, or main power window and door lock/unlock switch or key cylinder is locked or unlocked

- door is opened or closed
- key is removed from or inserted in ignition key cylinder.

Interior lamp battery saver control period can be changed by the function setting of CONSULT-II.

Schematic

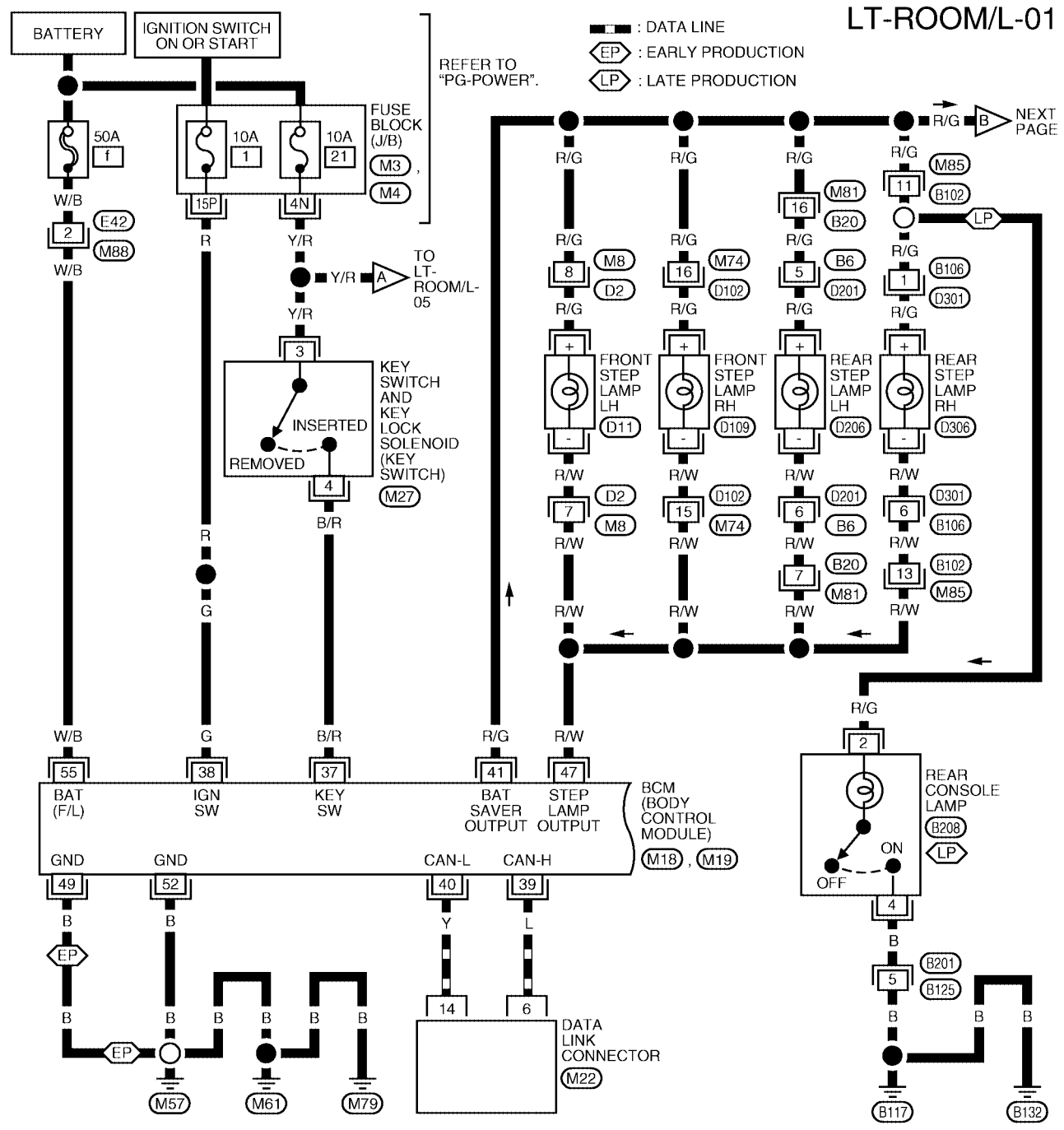
EKS005B1

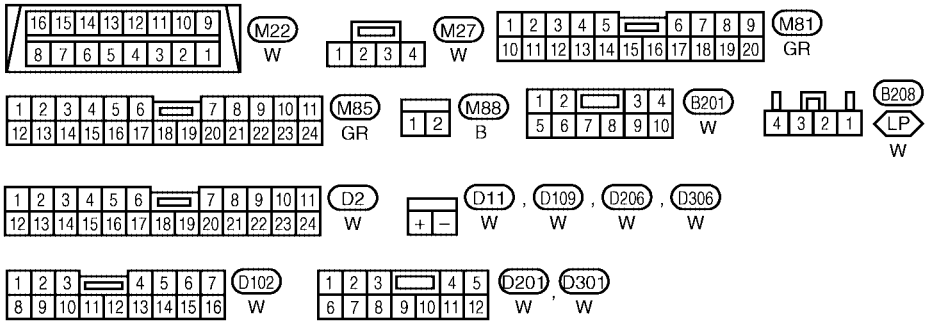


WKWA1822E

Wiring Diagram — ROOM/L —

EKS005B2

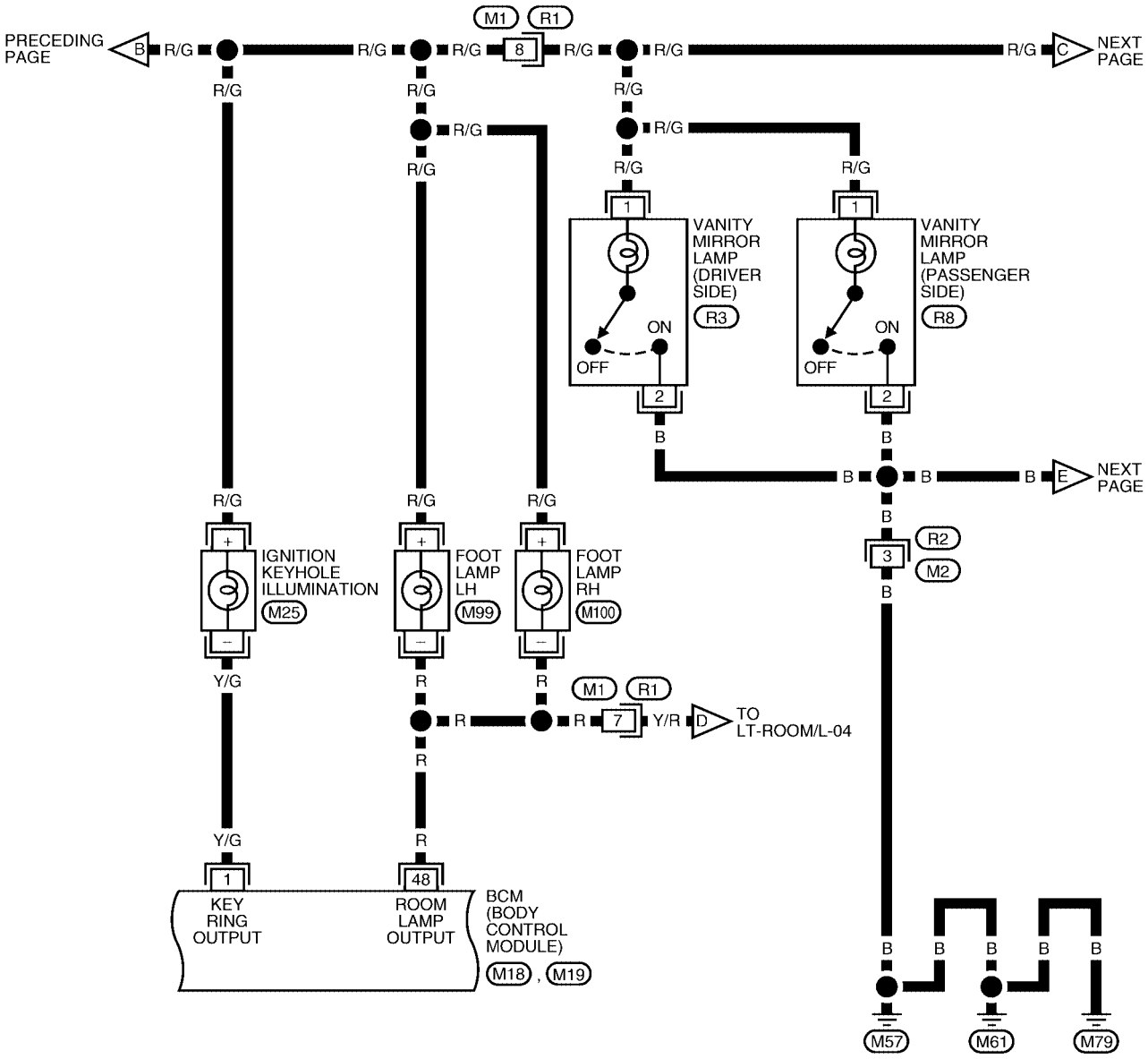


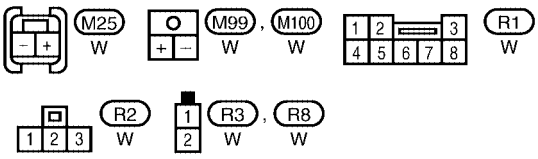


REFER TO THE FOLLOWING.
M3, M4 - FUSE BLOCK - JUNCTION BOX (J/B)
M18, M19 - ELECTRICAL UNITS

WKWA1823E

LT-ROOM/L-02

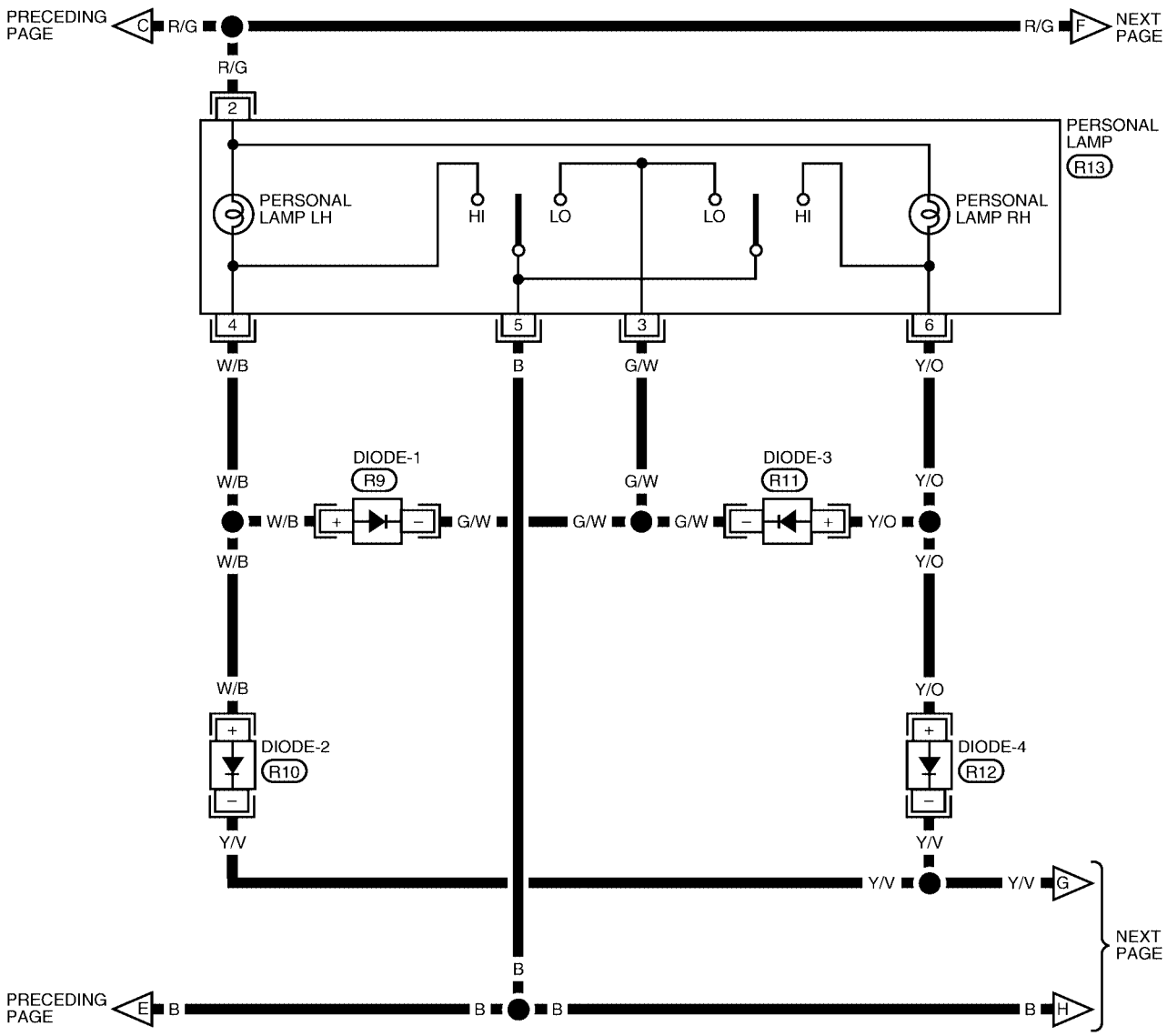


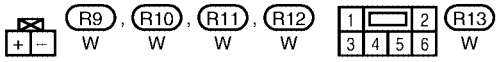


REFER TO THE FOLLOWING.
M18 , M19 - ELECTRICAL UNITS

WKWA0941E

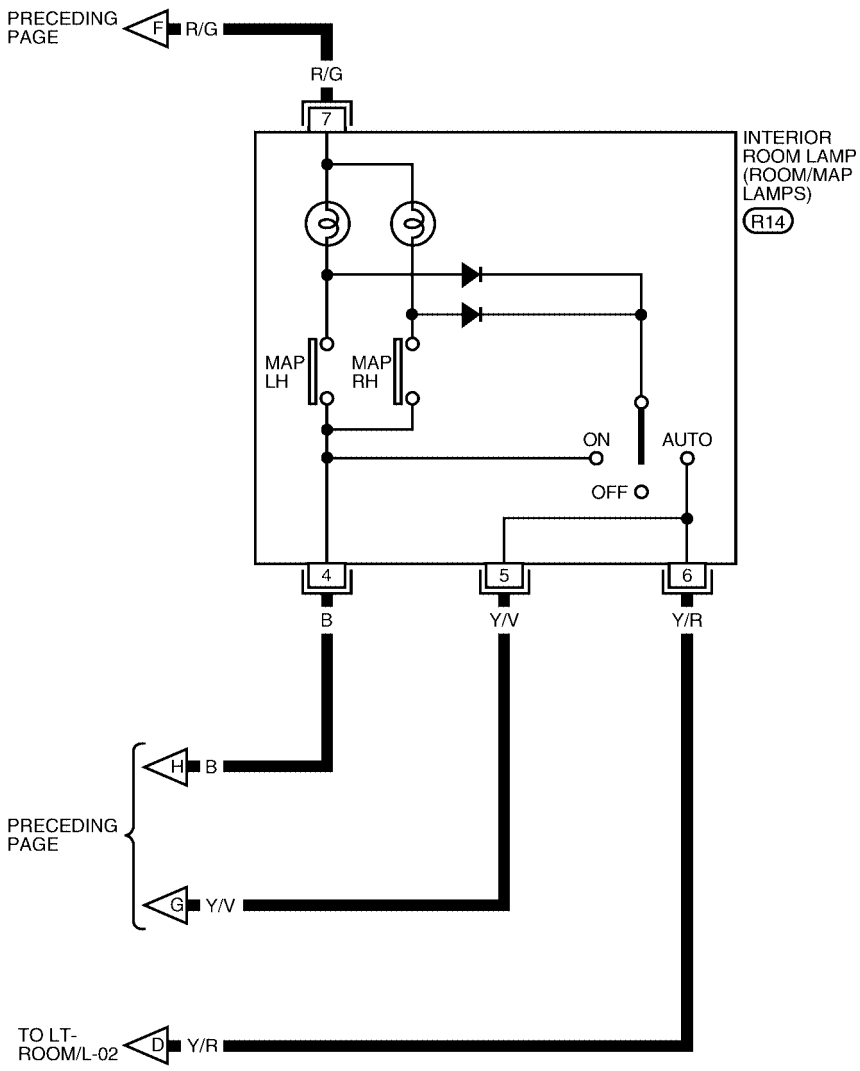
LT-ROOM/L-03

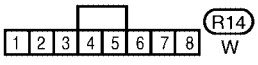




LKWA0227E

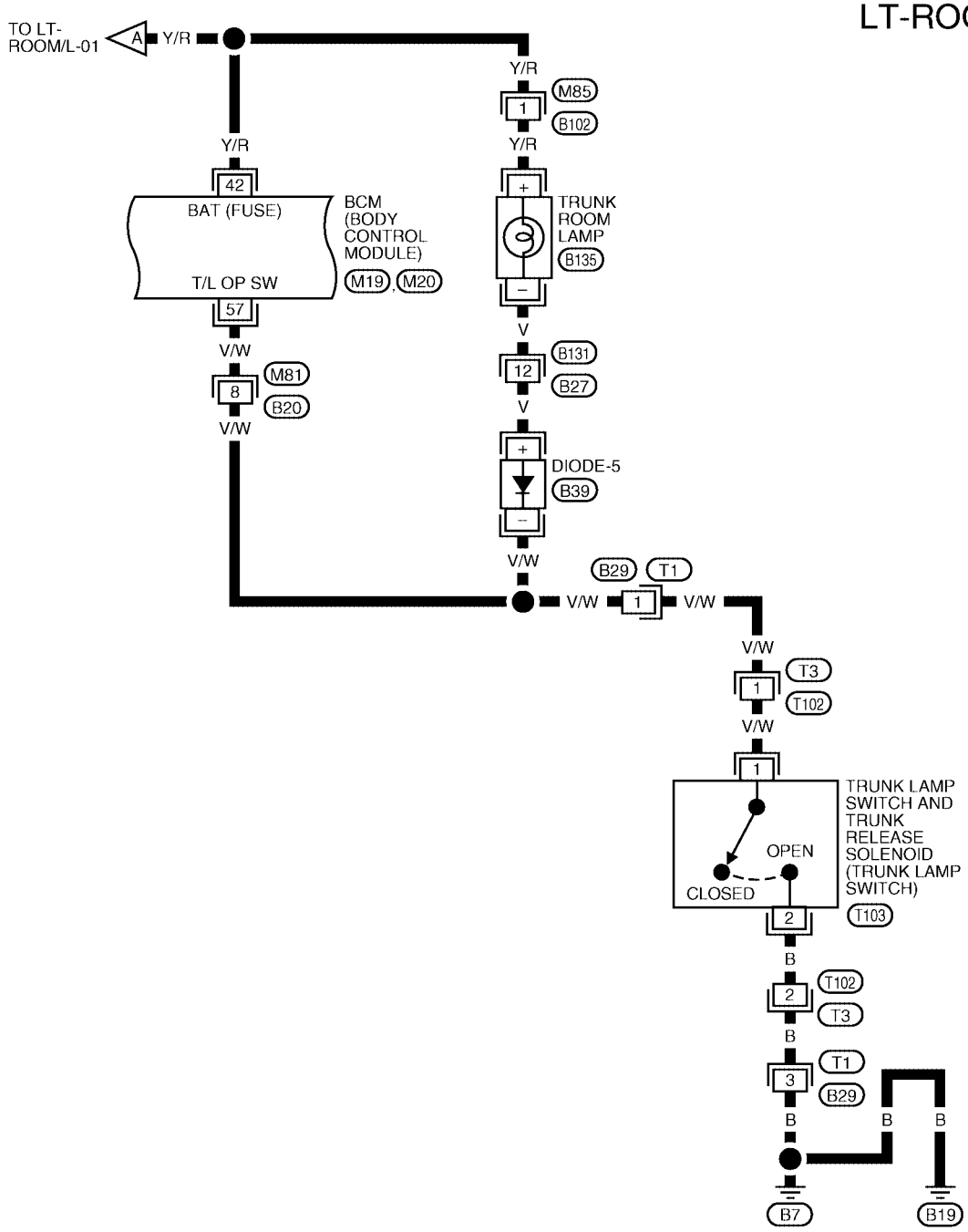
LT-ROOM/L-04

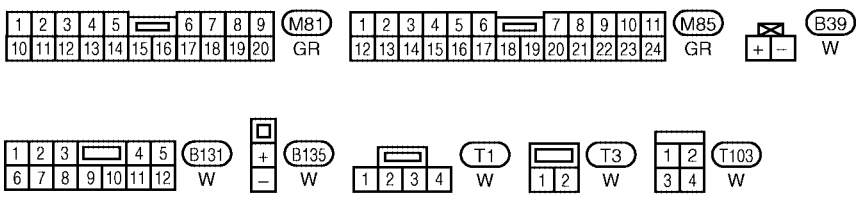




LKWA0228E

LT-ROOM/L-05



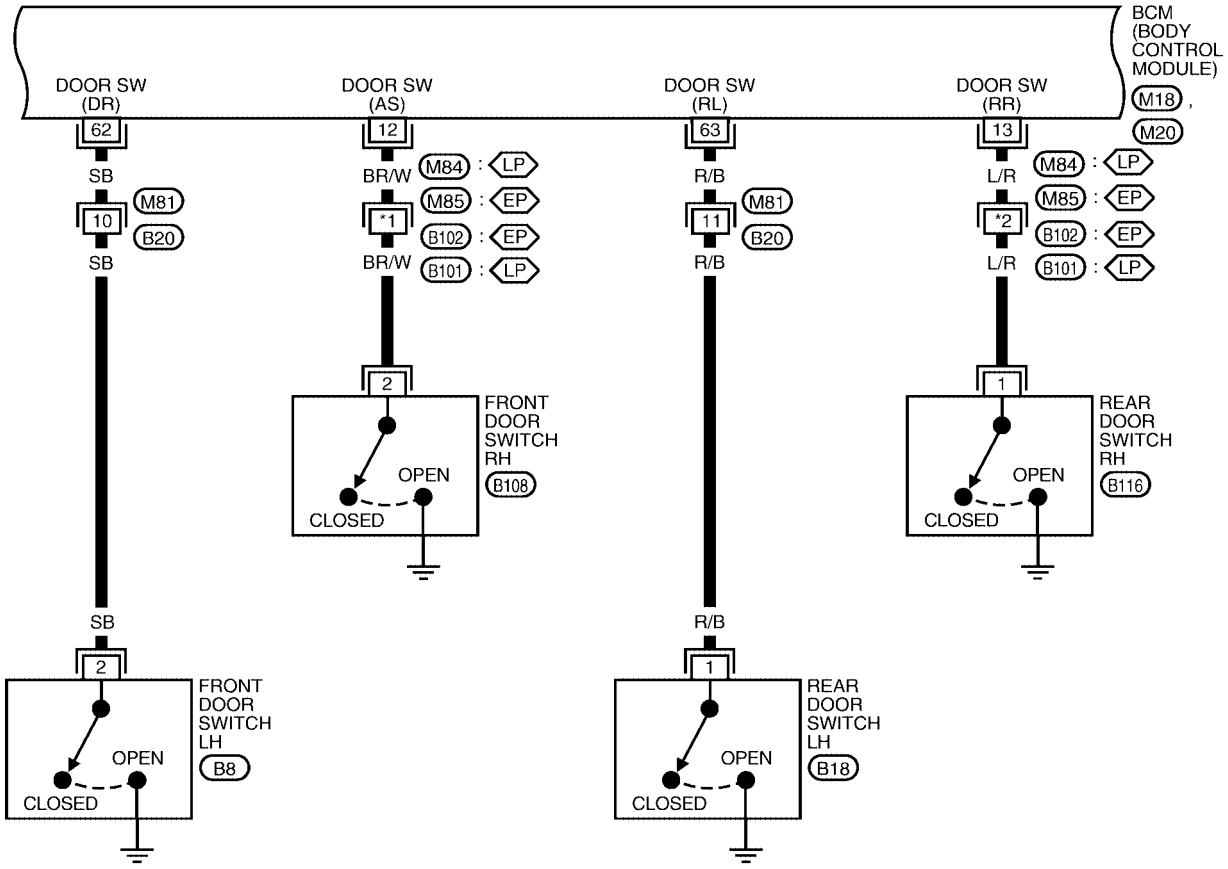


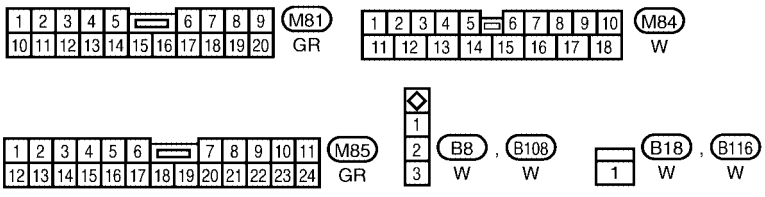
REFER TO THE FOLLOWING.
M19, M20 - ELECTRICAL UNITS

WKWA1828E

LT-ROOM/L-06

EP : EARLY PRODUCTION
LP : LATE PRODUCTION
*1 EP : 19
LP : 6
*2 EP : 18
LP : 4

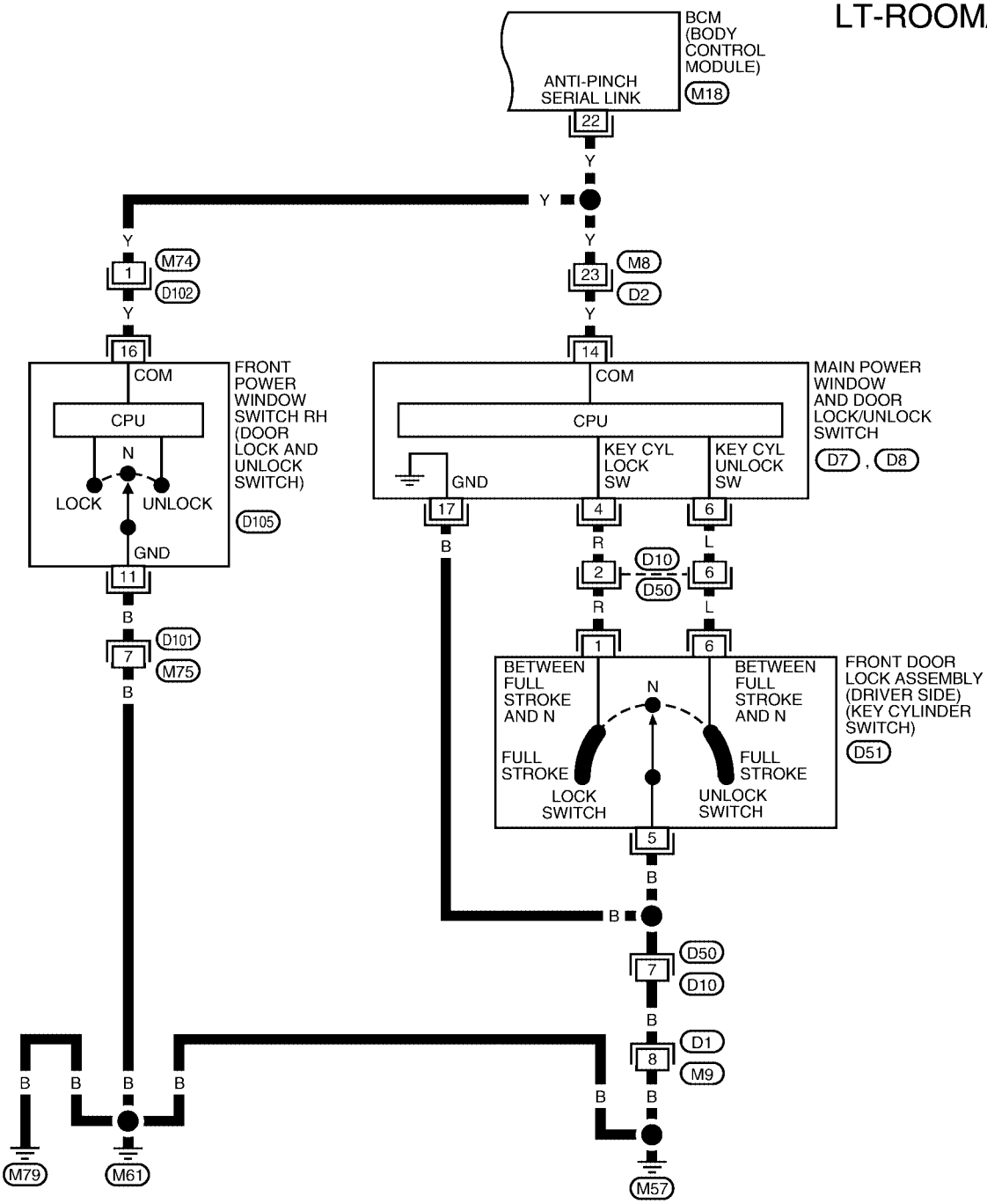


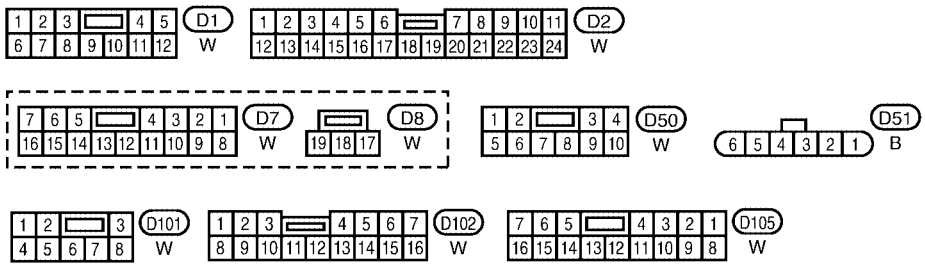


REFER TO THE FOLLOWING.
M18, M20 - ELECTRICAL UNITS

WKWA0943E

LT-ROOM/L-07



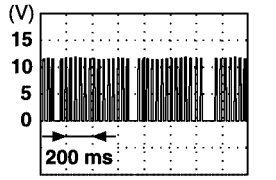


REFER TO THE FOLLOWING.
M18 - ELECTRICAL UNITS

LKWA0231E

Terminals and Reference Value for BCM

EKS005B3

Terminal No.	Wire color	Signal name	Measuring condition				Reference value (Approx.)
			Ignition switch	Operation or condition			
1	Y/G	Ignition keyhole illumination signal	OFF	Door is locked. (SW OFF)			Battery voltage
				Door is unlocked. (SW ON)			0V
12	BR/W	Front door switch RH signal	OFF	Front door switch RH	ON (open)		0V
					OFF (closed)		Battery voltage
13	L/R	Rear door switch RH signal	OFF	Rear door switch RH	ON (open)		0V
					OFF (closed)		Battery voltage
22	Y	Power window switch serial link	—	—			 PIIA2344J
37	B/R	Key-in detection switch signal	OFF	Vehicle key is removed.			0V
				Vehicle key is inserted.			Battery voltage
38	G	Ignition power supply	ON	—			Battery voltage
39	L	CAN-H	—	—			—
40	Y	CAN-L	—	—			—
41	R/G	Battery saver output signal	OFF	30 minutes after ignition switch is turned to OFF			0V
			ON	—			Battery voltage
42	Y/R	Battery power supply	OFF	—			Battery voltage
47	R/W	Step lamp signal	OFF	Any door is open (ON)			0V
				All doors are closed (OFF)			Battery voltage
48	R	Interior room lamp, map lamp and front door inside handle illumination output signal	OFF	Interior door switch: AUTO position	Any door switch	ON (open)	0V
						OFF (closed)	Battery voltage
49 (early production) 52	B	Ground	ON	—			0V
55	W/B	Battery power supply	OFF	—			Battery voltage
62	SB	Front door switch LH signal	OFF	Front door switch LH	ON (open)		0V
					OFF (closed)		Battery voltage
63	R/B	Rear door switch LH signal	OFF	Rear door switch LH	ON (open)		0V
					OFF (closed)		Battery voltage

How to Proceed With Trouble Diagnosis

EKS005B4

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-151, "System Description" .
3. Carry out the Preliminary Check. Refer to LT-164, "Preliminary Check" .
4. Check symptom and repair or replace the cause of malfunction.
5. Does the interior room lamp operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. Inspection End.

Preliminary Check

EKS005B5

INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT

1. CHECK FUSES AND FUSIBLE LINK

Check for blown BCM fuses or fusible link.

Unit	Power source	Fuse or fusible link No.
BCM	Battery	f
		21
	Ignition switch ON or START position	1

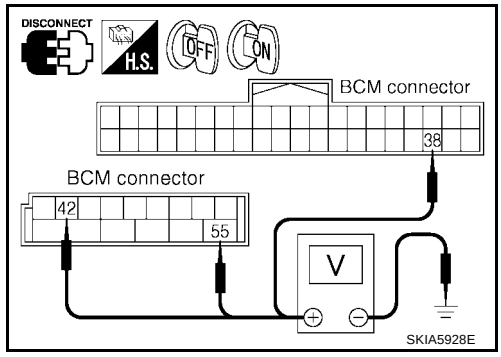
Refer to LT-156, "Wiring Diagram — ROOM/L —" .

OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check voltage between BCM connector and ground.



Terminals			Ignition switch position	
(+)		(–)	OFF	ON
Connector	Terminal (Wire color)			
M19	42 (Y/R)	Ground	Battery voltage	Battery voltage
	55 (W/B)		Battery voltage	Battery voltage
M18	38 (G)		0V	Battery voltage

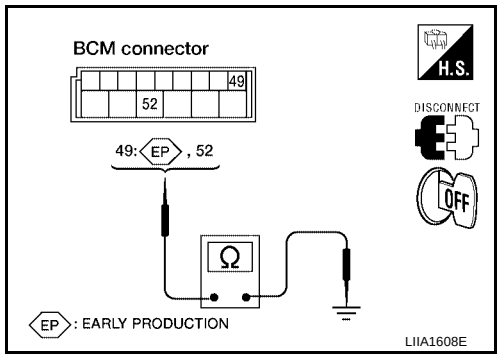
OK or NG

OK >> GO TO 3.
NG >> Check harness for open between BCM and fuse.

3. CHECK GROUND CIRCUIT

Check continuity between BCM and ground.

Terminals			Continuity
(+)		(–)	
Connector	Terminal (Wire color)		
M19	49 (B) (early production)	Ground	Yes
	52 (B)		



OK or NG

OK >> Inspection End.
NG >> Check harness ground circuit.

CONSULT-II Function (BCM)

EKS005B6

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

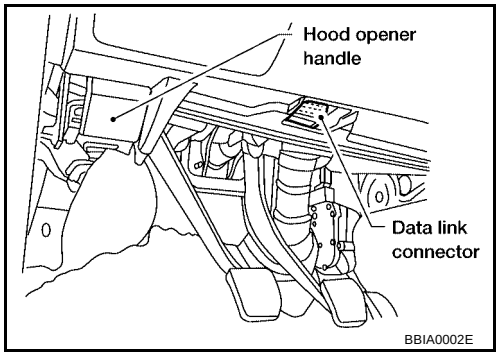
BCM diagnostic test item	Diagnostic mode	Description
Inspection by part	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
	DATA MONITOR	Displays BCM input/output data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
	SELF-DIAG RESULTS	Displays BCM self-diagnosis results.
	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
	ECU PART NUMBER	BCM part number can be read.
	CONFIGURATION	Performs BCM configuration read/write functions.

CONSULT-II OPERATION

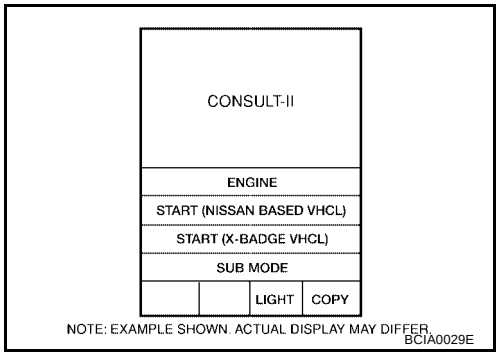
CAUTION:

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

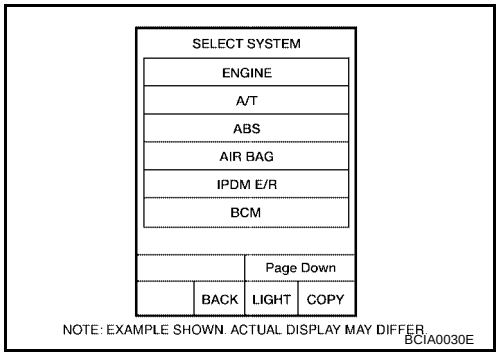
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn ignition switch ON.



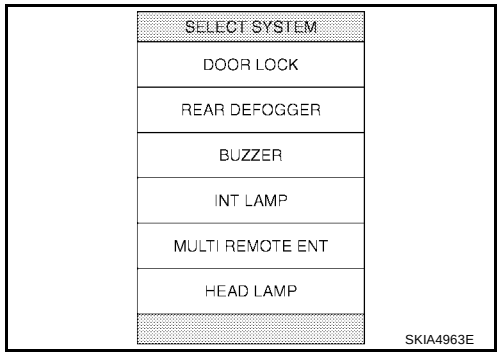
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "BCM" on "SELECT SYSTEM" screen.
   If "BCM" is not indicated, go to GI-36, "CONSULT-II Data Link Connector (DLC) Circuit" .



4. Touch "INT LAMP" on "SELECT SYSTEM" screen.



WORK SUPPORT

Operation Procedure

1. Touch "INT LAMP" on "SELECT SYSTEM" screen.
2. Touch "WORK SUPPORT" on "SELECT DIAG MODE" screen.
3. Touch "SET I/L D– UNLCK INTCON" on "SELECT WORK ITEM" screen.
4. Touch "START".
5. Touch "CHANGE SETT".
6. The setting will be changed and "CUSTOMIZING COMPLETED" will be displayed.
7. Touch "END".

Display Item List

Item	Description	CONSULT-II
SET I/L D–UNLCK INTCON	The 30 seconds glowing function the interior room lamps and the ignition keyhole illumination can be selected when driver door is released (unlocked).	ON/OFF
TURN ON TIME	The time in order to escalate illumination can be adjusted when the interior room lamps and the ignition keyhole illumination is turned on.	MODE 1 - 7
TURN OFF TIME	The time in order to diminish illumination can be adjusted when the interior room lamps and the ignition keyhole illumination is turned off.	MODE 1 - 7

Reference between "MODE" and "TIME" for "TURN ON/OFF".

MODE	1	2	3	4	5	6	7
Time (sec.)	0.5	1	2	3	4	5	0

DATA MONITOR

Operation Procedure

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

All signals	Monitors all the signals.
Selection from menu	Selects and monitors the individual signal.

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

Display Item List

Monitor item		Contents
IGN ON SW	"ON/OFF"	Displays "IGN position (ON)/OFF, ACC position (OFF)" judged from the ignition switch signal.
KEY ON SW	"ON/OFF"	Displays "Key inserted (ON)/key removed (OFF)" status judged from the key switch signal.
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, determined from passenger door switch signal.
DOOR SW - RR	"ON/OFF"	Displays "Door open (ON)/Door closed (OFF)" status, determined from rear door switch RH signal.
DOOR SW - RL	"ON/OFF"	Displays "Door open (ON)/Door closed (OFF)" status, determined from rear door switch LH signal.
BACK DOOR SW	"ON/OFF"	Displays "Door open (ON)/Door closed (OFF)" status, determined from back door switch signal.
KEY CYL LK - SW	"ON/OFF"	Displays "Door locked (ON)" status, determined from key cylinder lock switch in driver door.
KEY CYL UN - SW	"ON/OFF"	Displays "Door unlocked (OFF)" status, determined from key cylinder lock switch in driver door.
CDL LOCK SW	"ON/OFF"	Displays "Door locked (ON)/Door unlocked (OFF)" status, determined from locking detection switch in driver door.
CDL UNLOCK SW	"ON/OFF"	Displays "Door unlocked (OFF)" status, determined from locking detection switch in passenger door.
KEYLESS LOCK	"ON/OFF"	Displays "Locked (ON)/Other (OFF)" status, determined from lock signal.
KEYLESS UNLOCK	"ON/OFF"	Displays "Unlocked (ON)/Other (OFF)" status, determined from unlock signal.

ACTIVE TEST

Operation Procedure

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

Display Item List

Test item	Description
INT LAMP	Interior room lamp can be operated by any ON-OFF operations.
IGN ILLUM	Ignition keyhole illumination can be operated by ON-OFF operation.

Interior Room Lamp Control Does Not Operate

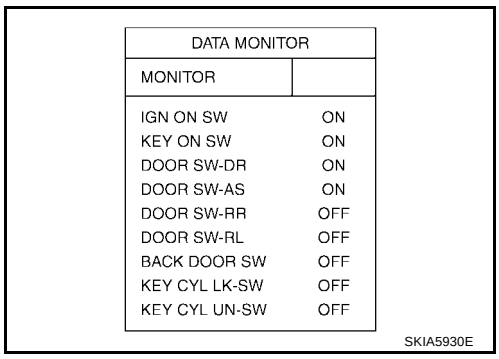
EKS005B7

1. CHECK EACH SWITCH

Select "BCM" on CONSULT-II. With "INT LAMP" data monitor, make sure switches listed in display item list turn ON-OFF linked with switch operation. Refer to LT-168, "Display Item List" for switches and their functions.

OK or NG

OK >> GO TO 2.
NG >> Inspect malfunctioning switch system.

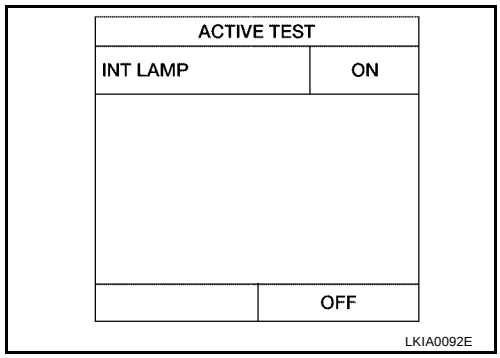


2. ACTIVE TEST

1. Select "BCM" on CONSULT-II. Select "INT LAMP" active test.
2. When interior room lamp switch is in “AUTO” position, use active test to make sure interior room lamp operates.

OK or NG

OK >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .
NG >> GO TO 3.



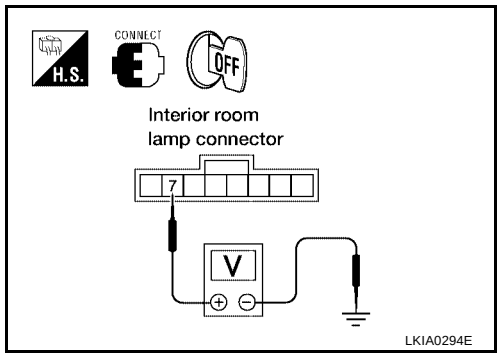
3. CHECK INTERIOR ROOM LAMP INPUT

1. Turn ignition switch OFF.
2. Check voltage between interior room lamp harness connector R14 terminal 7 (R/G) and ground.

Battery voltage should exist.

OK or NG

OK >> GO TO 4.
NG >> GO TO 6.



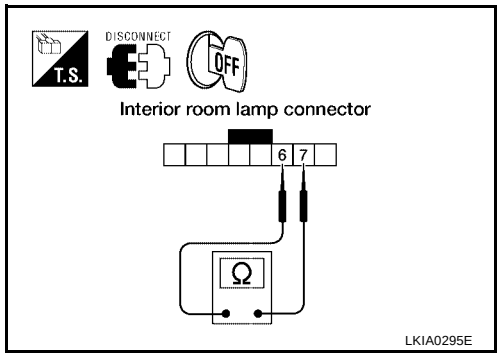
4. CHECK INTERIOR ROOM LAMP

1. Disconnect interior room lamp connector.
2. Check continuity between interior room lamp.

Terminal		Condition	Continuity
Interior room lamp			
7	6	Interior room lamp switch is AUTO	Yes
		Interior room lamp switch is OFF	No

OK or NG

OK >> GO TO 5.
NG >> Replace Interior room lamp.



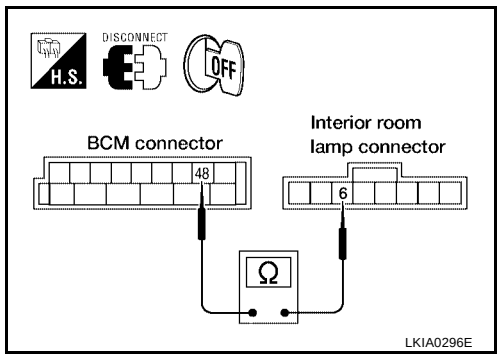
5. CHECK INTERIOR ROOM LAMP CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector M19 terminal 48 (R) and interior room lamp harness connector R14 terminal 6 (Y/R).

Continuity should exist.

OK or NG

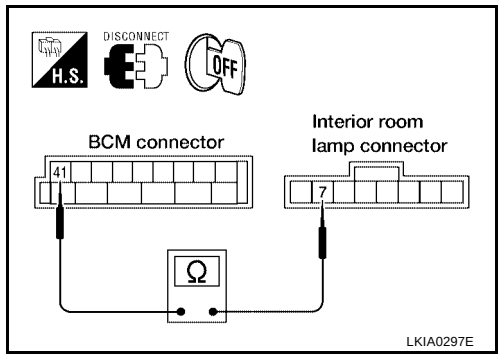
OK >> Replace BCM if interior lamp does not work after setting the connector again. Refer to BCS-19, "Removal and Installation of BCM" .
NG >> Repair harness or connector.



6. CHECK INTERIOR ROOM LAMP CIRCUIT

1. Disconnect BCM connector and interior room lamp connector.
2. Check continuity between BCM harness connector M19 terminal 41 (R/G) and interior room lamp harness connector R14 terminal 7 (R/G).

Continuity should exist.



OK or NG

OK >> Replace BCM if interior lamp does not work after setting the connector again. Refer to BCS-19, "Removal and Installation of BCM" .

NG >> Repair harness or connector.

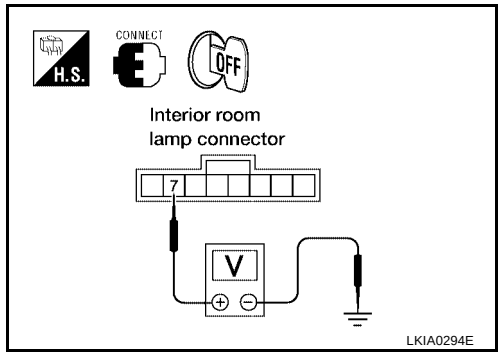
Map Lamp Control Does Not Operate

EKS005B8

1. CHECK MAP LAMP INPUT

1. Turn ignition switch OFF.
2. Check voltage between map lamp harness connector R14 terminal 7 (R/G) and ground.

Battery voltage should exist.



OK or NG

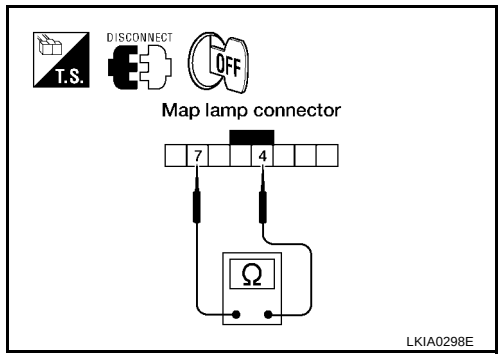
OK >> GO TO 2.

NG >> GO TO 4.

2. CHECK MAP LAMP

1. Disconnect map lamp connector.
2. Check continuity between map lamp.

Terminal		Condition	Continuity
Map lamp			
4	7	Map lamp switch is ON	Yes
		Map lamp switch is OFF	No



OK or NG

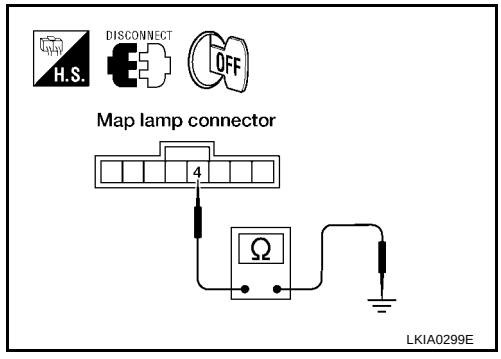
OK >> GO TO 3.

NG >> Replace map lamp.

3. CHECK MAP LAMP CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between map lamp harness connector R14 terminal 4 (B) and ground.

Continuity should exist.



OK or NG

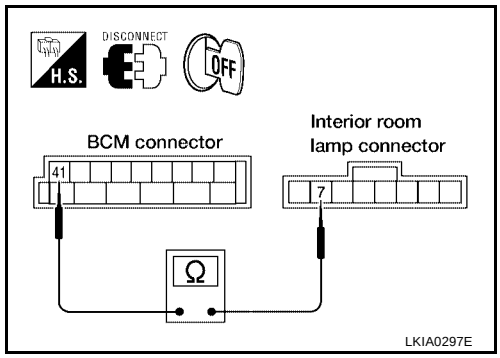
OK >> Check connector for proper connection. Repair as necessary.

NG >> Repair harness or connector.

4. CHECK MAP LAMP CIRCUIT

1. Disconnect BCM connector and map lamp connector.
2. Check continuity between BCM harness connector M19 terminal 41 (R/G) and map lamp harness connector R14 terminal 7 (R/G).

Continuity should exist.



OK or NG

OK >> Replace BCM if map lamp does not work after setting the connector again. Refer to BCS-19, "Removal and Installation of BCM" .

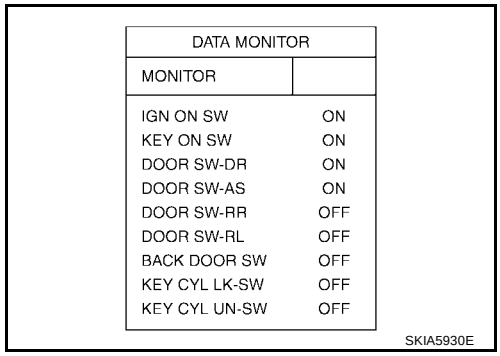
NG >> Repair harness or connector.

Personal Lamp Control Does Not Operate

EKS005B9

1. CHECK EACH DOOR SWITCH

Select "BCM" on CONSULT-II. With "INT LAMP" data monitor, make sure switches listed in display item list turn ON-OFF linked with switch operation. Refer to LT-152, "SWITCH OPERATION" for switches and their function.



OK or NG

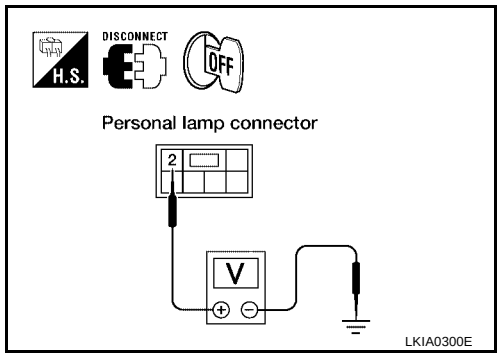
OK >> GO TO 2.

NG >> Inspect malfunctioning door switch.

2. CHECK PERSONAL LAMP INPUT

1. Turn ignition switch OFF.
2. Disconnect personal lamp connector.
3. Open the rear door.
4. Check voltage between personal lamp harness connector R13 terminal 2 (R/G) and ground.

Battery voltage should exist.



OK or NG

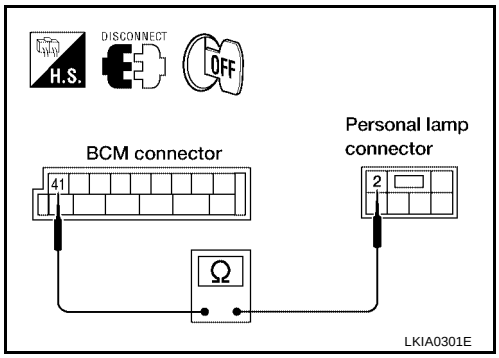
OK >> GO TO 4.

NG >> GO TO 3.

3. CHECK PERSONAL LAMP CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector M19 terminal 41 (R/G) and personal lamp harness connector R13 terminal 2 (R/G).

Continuity should exist.



OK or NG

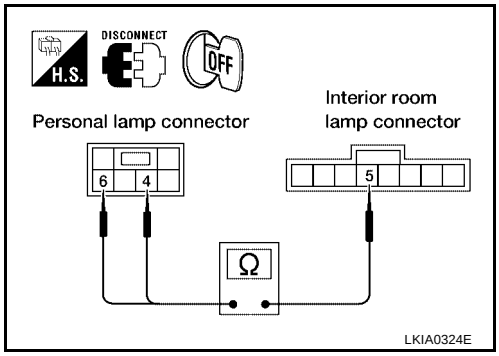
OK >> Replace BCM if personal lamp does not work after setting the connector again. Refer to BCS-19, "Removal and Installation of BCM" .

NG >> Repair harness or connector.

4. CHECK PERSONAL LAMP AND INTERIOR ROOM LAMP CIRCUIT

1. Disconnect interior room lamp connector.
2. Check continuity between personal lamp harness connector R13 terminals 4 (W/B) and 6 (Y/O) and interior room lamp harness connector R14 terminal 5 (Y/V).

Continuity should exist.



OK or NG

OK >> Replace personal lamp.

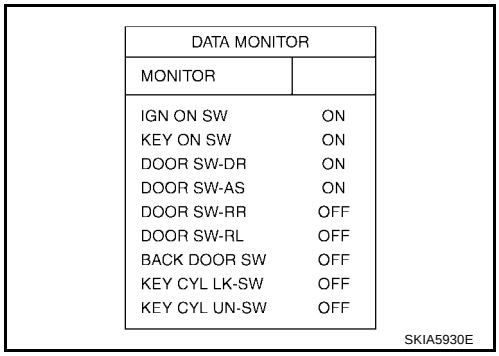
NG >> Repair harness or connector.

Ignition Keyhole Illumination Control Does Not Operate

EKS005BA

1. CHECK EACH SWITCH

Select "BCM" on CONSULT-II. With "INT LAMP" data monitor, make sure switches listed in display item list turn ON-OFF linked with switch operation. Refer to LT-168, "Display Item List" for switches and their functions.



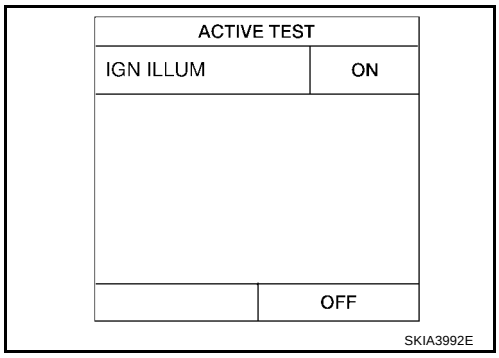
OK or NG

OK >> GO TO 2.

NG >> Inspect malfunctioning switch system.

2. ACTIVE TEST

1. Select "BCM" on CONSULT-II. Select "INT LAMP".
2. Select "IGN ILLUM" active test to make sure lamp operates.



OK or NG

OK >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

NG >> GO TO 3.

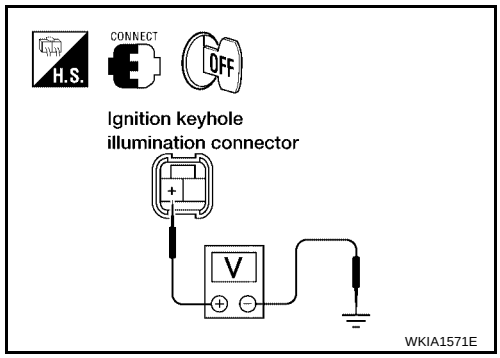
3. CHECK IGNITION KEYHOLE ILLUMINATION INPUT

1. Check voltage between ignition keyhole illumination harness connector M25 terminal + (R/G) and ground.

Battery voltage should exist.

OK or NG

OK >> GO TO 4.
NG >> GO TO 6.



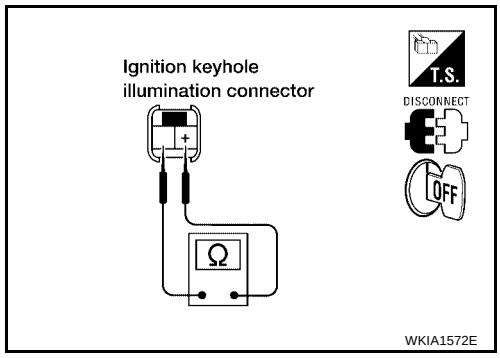
4. CHECK IGNITION KEYHOLE ILLUMINATION BULB

1. Disconnect ignition keyhole illumination connector.
2. Check continuity between ignition keyhole illumination terminals + and -.

Continuity should exist.

OK or NG

OK >> GO TO 5.
NG >> Replace ignition keyhole illumination.



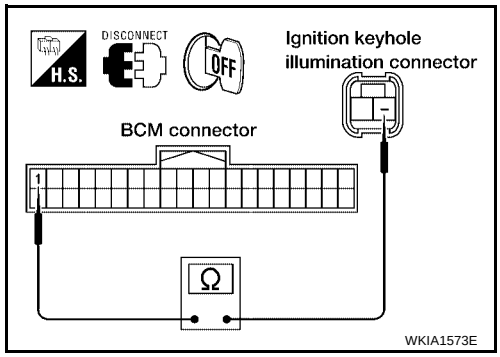
5. CHECK IGNITION KEYHOLE ILLUMINATION CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector M18 terminal 1 (Y/G) and keyhole illumination harness connector M25 terminal - (Y/G).

Continuity should exist.

OK or NG

OK >> Replace BCM if ignition keyhole illumination does not work after setting the connector again. Refer to BCS-19, "Removal and Installation of BCM" .
NG >> Repair harness or connector.



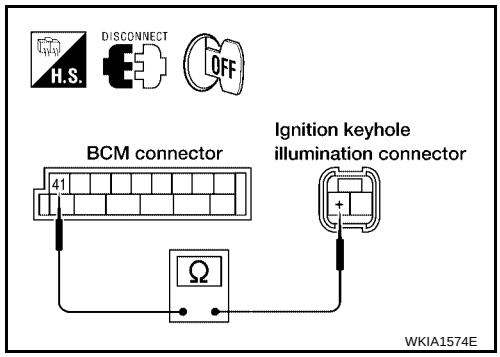
6. CHECK IGNITION KEYHOLE ILLUMINATION CIRCUIT

1. Disconnect BCM connector and keyhole illumination connector.
2. Check continuity between BCM harness connector M19 terminal 41 (R/G) and keyhole illumination harness connector M25 terminal + (R/G).

Continuity should exist.

OK or NG

OK >> Replace BCM if ignition keyhole illumination does not work after setting the connector again. Refer to BCS-19, "Removal and Installation of BCM" .
NG >> Repair harness or connector.



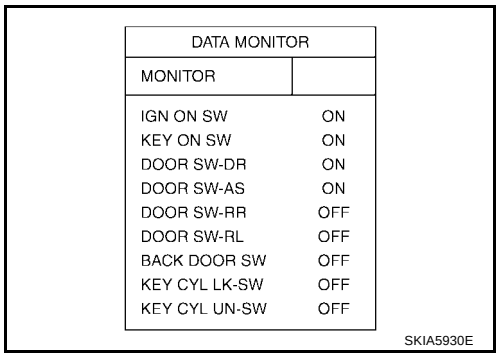
All Step Lamps Do Not Operate

EKS005BB

1. CHECK EACH DOOR SWITCH

Select "BCM" on CONSULT-II. With "INT LAMP" data monitor, make sure switches listed below turn ON-OFF linked with switch operation.

Switch name	CONSULT screen
Driver side door switch	DOOR SW - DR
Passenger side door switch	DOOR SW - AS
Rear RH side door switch	DOOR SW - RR
Rear LH side door switch	DOOR SW - RL



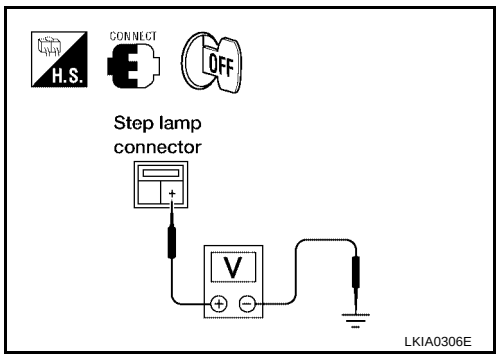
OK or NG

OK >> GO TO 2.
NG >> Inspect malfunctioning switch system.

2. CHECK STEP LAMP INPUT

1. Turn ignition switch OFF.
2. Check voltage between front step lamp LH harness connector D11 terminal + (R/G) and ground.

Battery voltage should exist.



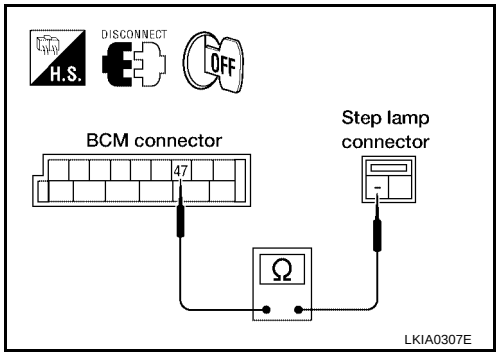
OK or NG

OK >> GO TO 3.
NG >> GO TO 4.

3. CHECK STEP LAMP CIRCUIT

1. Disconnect BCM connector and front step lamp LH connector.
2. Check continuity between BCM harness connector M19 terminal 47 (R/W) and front step lamp LH harness connector D11 terminal - (R/W).

Continuity should exist.



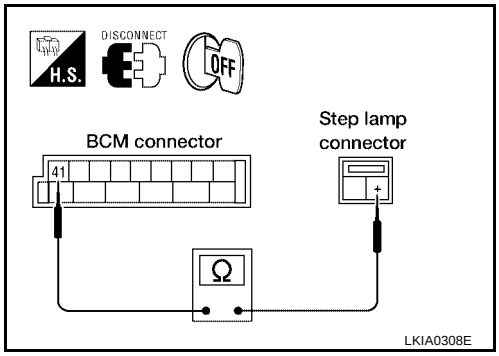
OK or NG

OK >> Replace BCM if step lamp does not work after setting the connector again. Refer to BCS-19, "Removal and Installation of BCM" .
NG >> Repair harness or connector.

4. CHECK STEP LAMP CIRCUIT

1. Disconnect BCM connector and step lamp LH connector.
2. Check continuity between BCM harness connector M19 terminal 41 (R/G) and front step lamp LH harness connector D11 terminal + (R/G).

Continuity should exist.



OK or NG

OK >> Replace BCM if step lamp does not work after setting the connector again. Refer to BCS-19, "Removal and Installation of BCM" .
NG >> Repair harness or connector.

All Foot Lamps Do Not Operate

EKS005H8

1. CHECK INTERIOR ROOM LAMP OPERATION

Check interior room lamp operation.

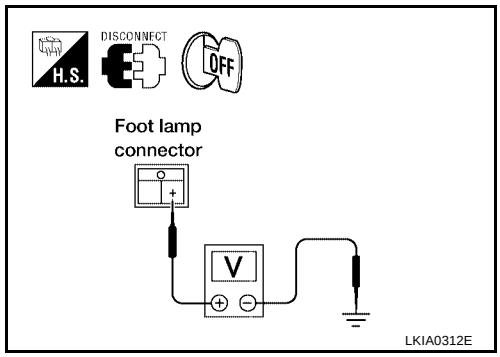
OK or NG

OK >> GO TO 2.
NG >> Inspect malfunction. Refer to LT-175, "All Interior Room Lamps Do Not Operate" .

2. CHECK FOOT LAMP POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect foot lamp connector.
3. Open door.
4. Check voltage between foot lamp harness connector M99 (LH) or M100 (RH) terminal + (R/G) and ground.

Battery voltage should exist.



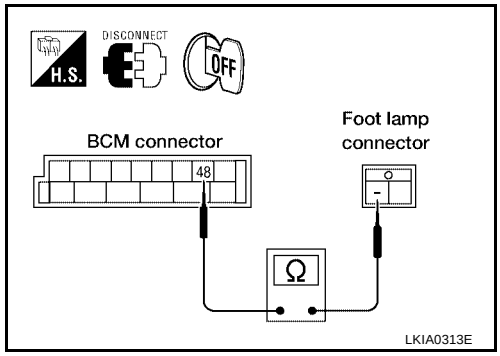
OK or NG

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

3. CHECK FOOT LAMP CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector M19 terminal 48 (R) and foot lamp harness connector M99 (LH) and M100 (RH) terminal - (R).

Continuity should exist.



OK or NG

OK >> Replace foot lamp.
NG >> Repair harness or connector.

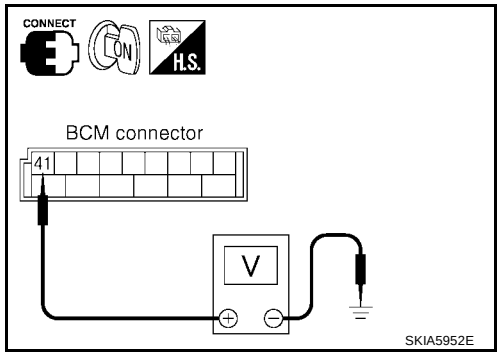
All Interior Room Lamps Do Not Operate

EKS005BC

1. CHECK POWER SUPPLY CIRCUIT

1. All interior room lamps switch are OFF.
2. Turn ignition switch ON.
3. Check voltage between BCM harness connector M19 terminal 41 (R/G) and ground.

Battery voltage should exist.



OK or NG

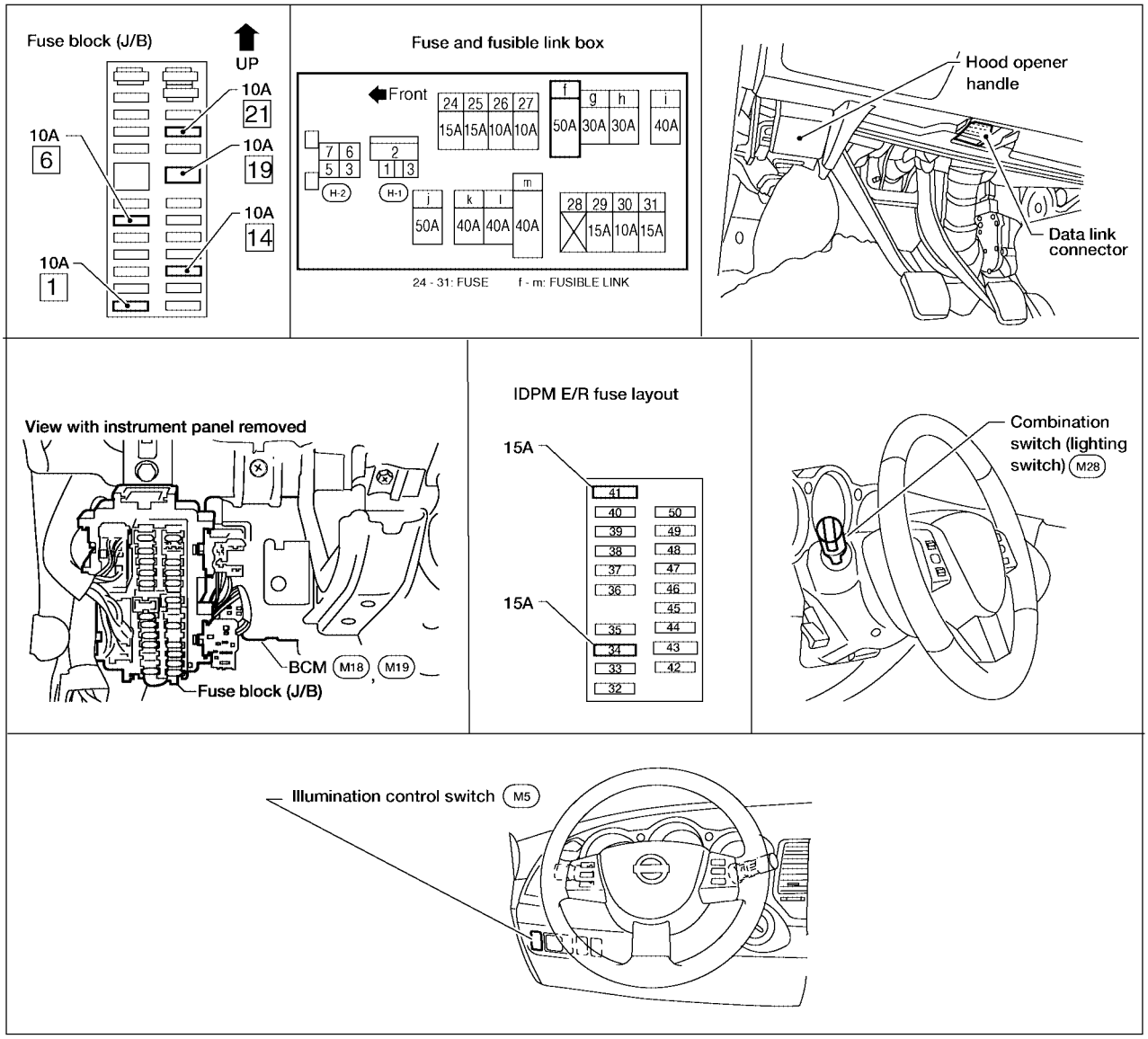
OK >> Repair harness or connector. In a case of making a short circuit, be sure to disconnect battery negative cable after repairing harness, and then reconnect.
NG >> Replace BCM. Refer to BCS-19, "Removal and Installation of BCM" .

ILLUMINATION

PFP:27545

Component Parts and Harness Connector Location

EKS005K6



WKIA3131E

System Description

EKS005BF

Control of the illumination lamps operation is dependent upon the position of the lighting switch (combination switch). When the lighting switch is placed in the 1ST or 2ND position (or if the auto light system is activated) the BCM (body control module) receives input signal requesting the illumination lamps to illuminate. This input signal is communicated to the IPDM E/R (intelligent power distribution module engine room) across the CAN communication lines. The CPU (central processing unit) of the IPDM E/R controls the tail lamp relay coil. This relay, when energized, directs power to the illumination lamps, which then illuminate.

Power is supplied at all times

- to tail lamp relay, located in the IPDM E/R
- through 15A fuse (No. 41, located in the IPDM E/R).
- to BCM terminal 55
- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 42
- through 10A fuse [No.21, located in fuse block (J/B)]
- to CPU in the IPDM E/R

- through 15A fuse (No. 34, located in the IPDM E/R)
- to combination meter terminal 24
- through 10A fuse [No.19, located in fuse block (J/B)]
- to ignition relay, located in the IPDM E/R, from battery
- through BCM terminal 54 (with front only power window anti-pinch system)
- to front power window switch RH terminal 10
- through BCM terminal 54 (with front and rear power window anti-pinch system)
- to front power window switch RH terminal 10
- to rear power window switch (LH and RH) terminal 10
- through BCM terminal 53 (with front only power window anti-pinch system)
- to front power window switch LH terminal 10
- to rear power window switch (LH and RH) terminal 6
- through BCM terminal 53 (with front and rear power window anti-pinch system)
- to front power window switch LH terminal 10
- to rear power window switch (LH and RH) terminal 6.

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

- to BCM terminal 38
- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to ignition relay, located in the IPDM E/R
- to combination meter terminal 23
- through 10A fuse [No. 14, located in the fuse block (J/B)].

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

- to BCM terminal 11
- through 10A fuse [No. 6, located in the fuse block (J/B)].

Ground is supplied at all times

- to BCM terminals 49 (early production) and 52
- to combination meter terminals 10, 11 and 12
- through grounds M57, M61 and M79
- to IPDM E/R terminals 38 and 60
- through grounds E15 and E24.

ILLUMINATION OPERATION BY LIGHTING SWITCH

With the lighting switch in the 1ST or 2ND position (or if the auto light system is activated), the BCM receives input signal requesting the illumination lamps to illuminate. This input signal is communicated to the IPDM E/R across the CAN communication lines. The CPU of the IPDM E/R controls the tail lamp relay coil which, when energized, directs power

- through IPDM E/R terminal 22
- to illumination control switch terminal 1
- to glove box lamp terminal +
- to A/T device (illumination) terminal +
- to TCS ON/OFF switch (illumination) terminal 3 (TCS models)
- to VDC ON/OFF switch (illumination) terminal 3 (with VDC)
- to hazard switch (illumination) terminal 3
- to front heated seat switch LH (illumination) terminal 5 (with heated seat)
- to front heated seat switch RH (illumination) terminal 5 (with heated seat)
- to AV switch (illumination) terminal 3
- to unified meter and A/C amp. terminal 23
- to audio unit terminal 8
- to heated steering wheel switch terminal 3 (with heated steering wheel)
- to interior room lamp (console box illumination) terminal 2

- to rear sunshade switch (front and rear) terminal 5 (with rear sunshade)
- to rear heated seat switch (LH and RH) terminal 5 (with rear heated seats).

Illumination control

- through illumination control switch terminal 2
- to A/T device (illumination) terminal -
- to TCS ON/OFF switch (illumination) terminal 4 (TCS models)
- to VDC ON/OFF switch (illumination) terminal 4 (with VDC)
- to audio unit terminal 7
- to hazard switch (illumination) terminal 4
- to front heated seat switch LH (illumination) terminal 6 (with heated seat)
- to front heated seat switch RH (illumination) terminal 6 (with heated seat)
- to AV switch (illumination) terminal 4
- to heated steering wheel switch (illumination) terminal 4 (with heated steering wheel)
- to interior room lamp (console box illumination) terminal 3
- to rear sunshade switch (front and rear) terminal 6 (with rear sunshade)
- to rear heated seat switch (LH and RH) terminal 6 (with rear heated seats)
- to unified meter and A/C amp. terminal 31.

Ground is supplied at all times

- to illumination control switch terminal 3
- to glove box lamp terminal -
- to front power window switch LH terminal 17
- to front power window switch RH terminal 11
- through grounds M57, M61 and M79
- to rear power window switch LH (illumination) terminal 7 (with front only power window anti-pinch system) or terminal 11 (with front and rear power window anti-pinch system)
- through grounds B7 and B19
- to rear power window switch RH (illumination) terminal 7 (with front only power window anti-pinch system) or terminal 11 (with front and rear power window anti-pinch system)
- through grounds B117 and B132.

With power and ground supplied, illumination lamps illuminate.

EXTERIOR LAMP BATTERY SAVER CONTROL

When the combination switch (lighting switch) is in the 1ST or 2ND position (or if auto light system is activated), and the ignition switch is turned from ON or ACC to OFF, the battery saver control function is activated. Under this condition, the illumination lamps remain illuminated for 5 minutes, then the illumination lamps are turned off.
When the lighting switch is turned from OFF to 1ST or 2ND position (or if auto light system is activated) after illumination lamps are turned off by the battery saver control, the illumination lamps illuminate again.
Exterior lamp battery saver control mode can be changed by the function setting of CONSULT-II.

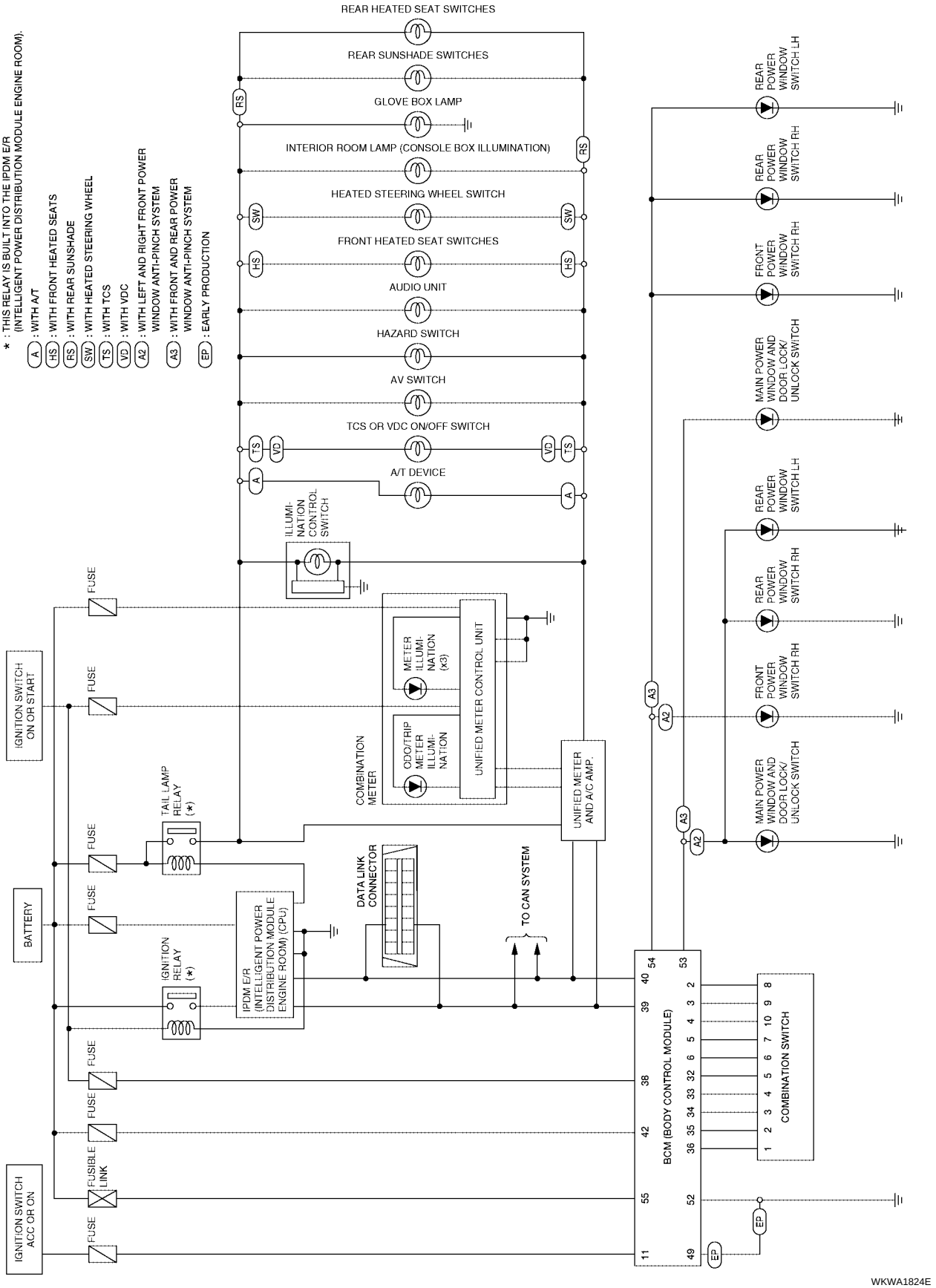
CAN Communication System Description

EKS005BG

Refer to LAN-8, "CAN COMMUNICATION" .

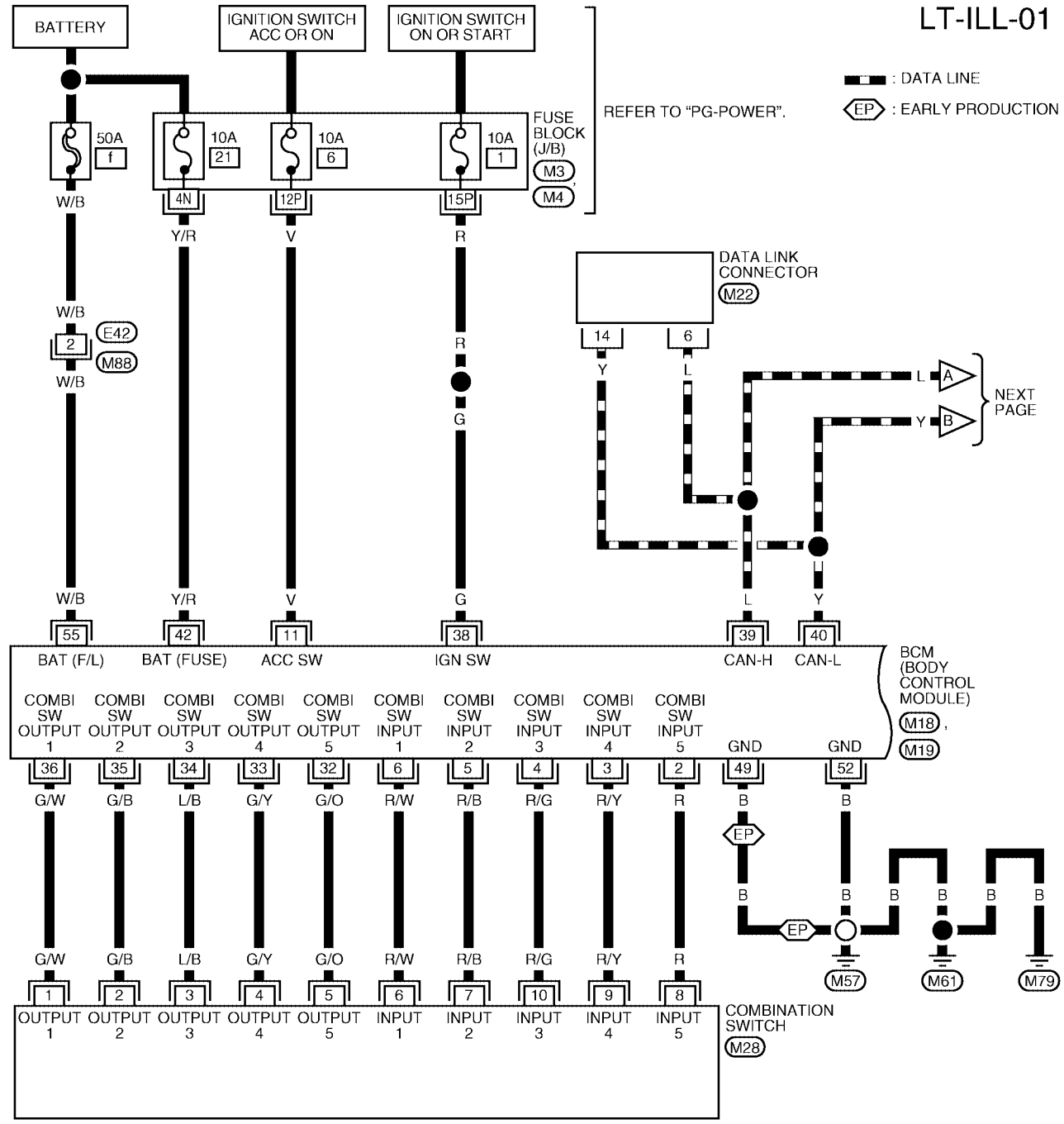
Schematic

EKS005BI

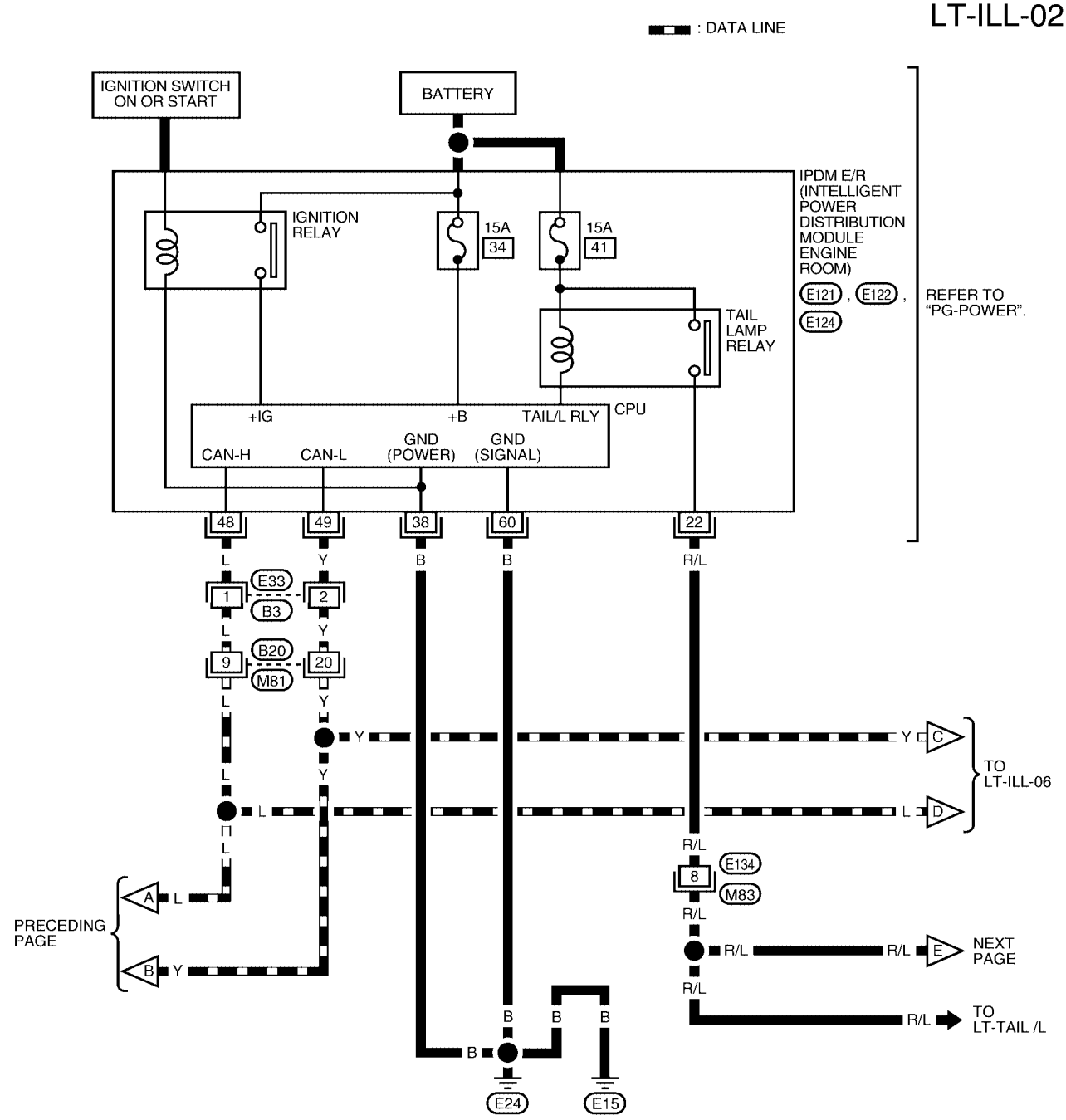


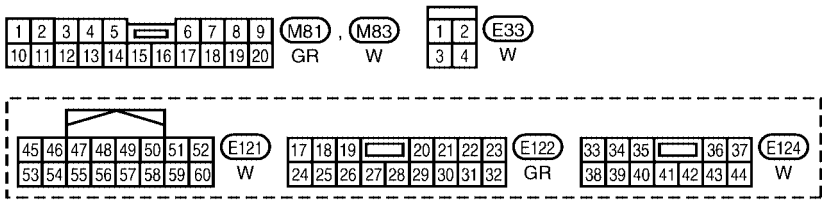
Wiring Diagram — ILL —

EKS005BJ



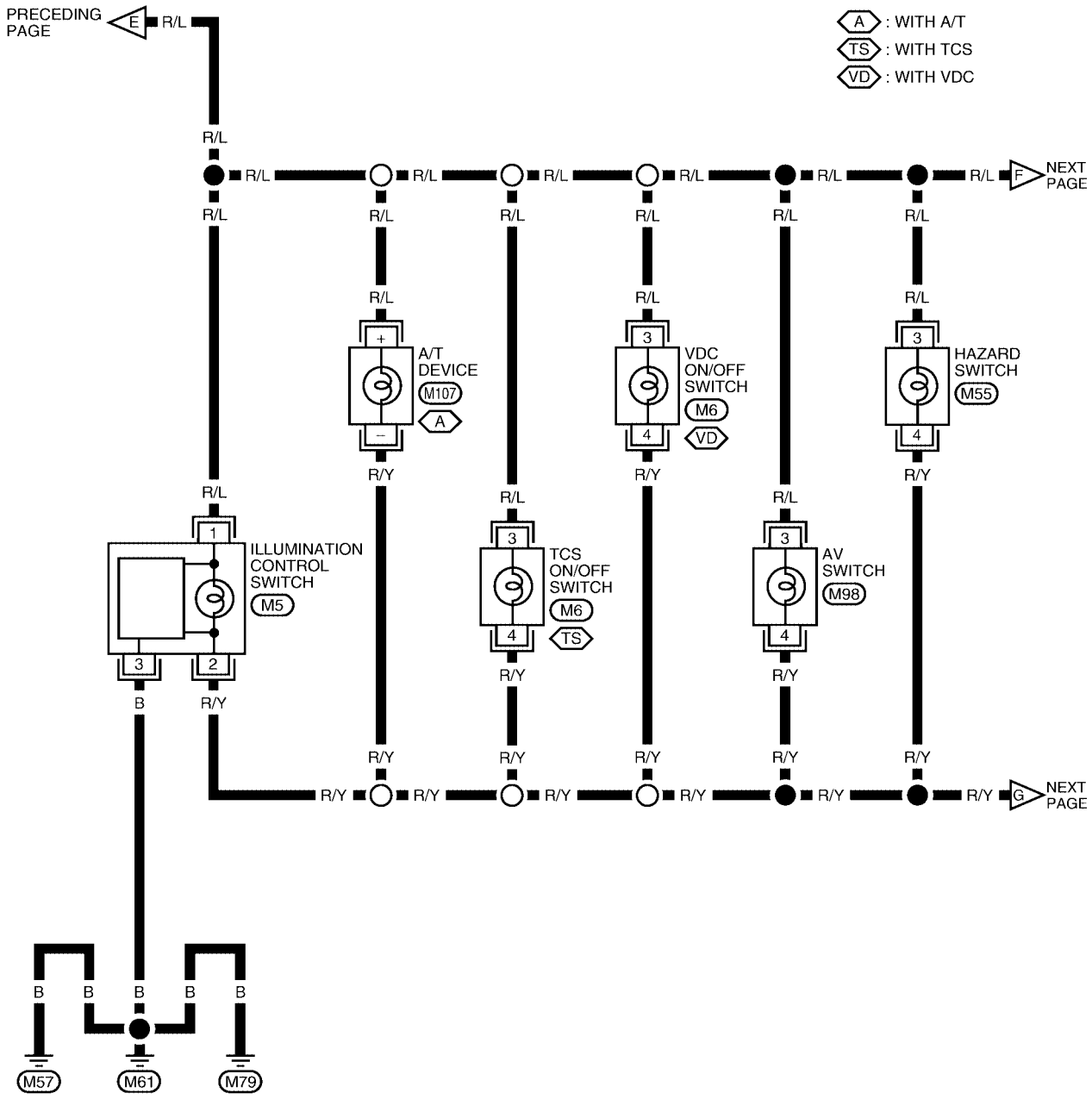
LT-ILL-02

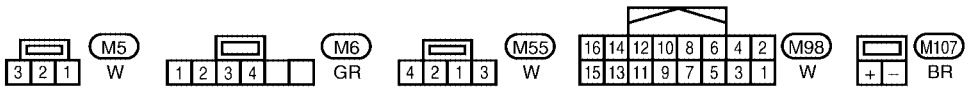




LKWA0235E

LT-ILL-03

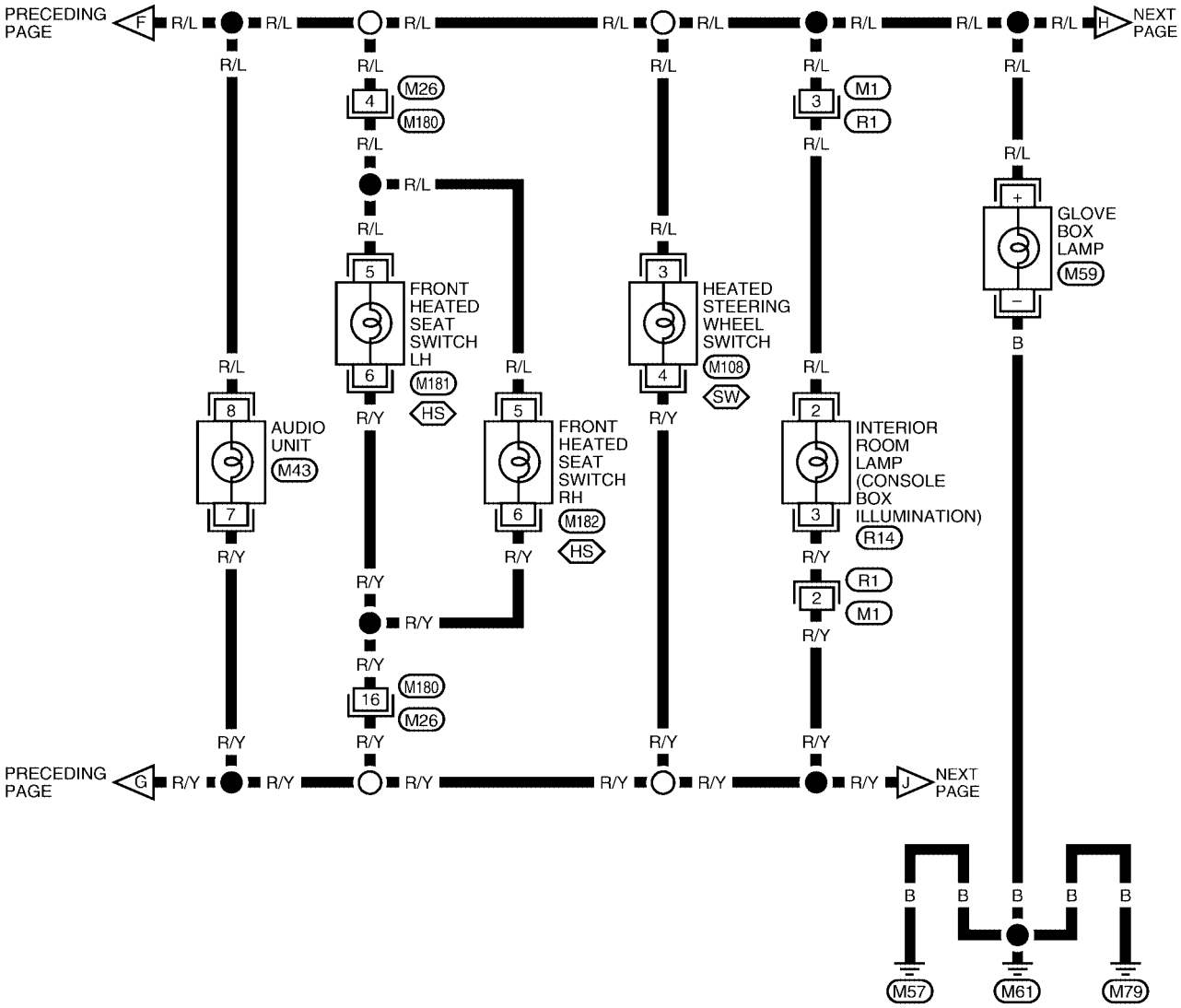


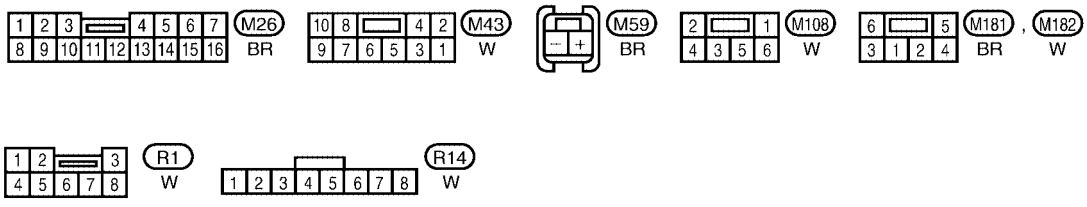


LKWA0236E

LT-ILL-04

HS : WITH FRONT HEATED SEATS
SW : WITH HEATED STEERING WHEEL

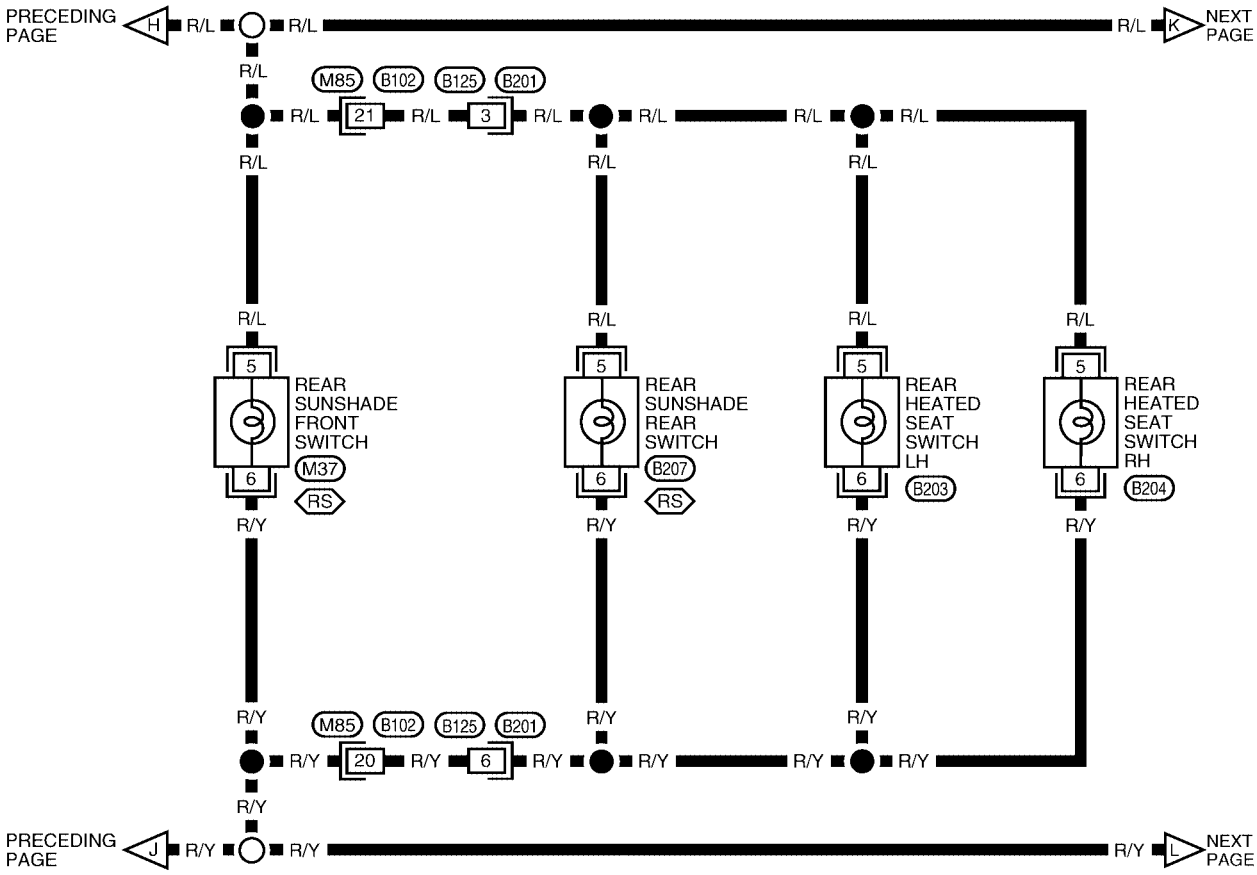


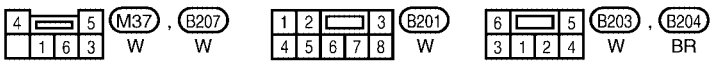


WKWA0944E

LT-ILL-05

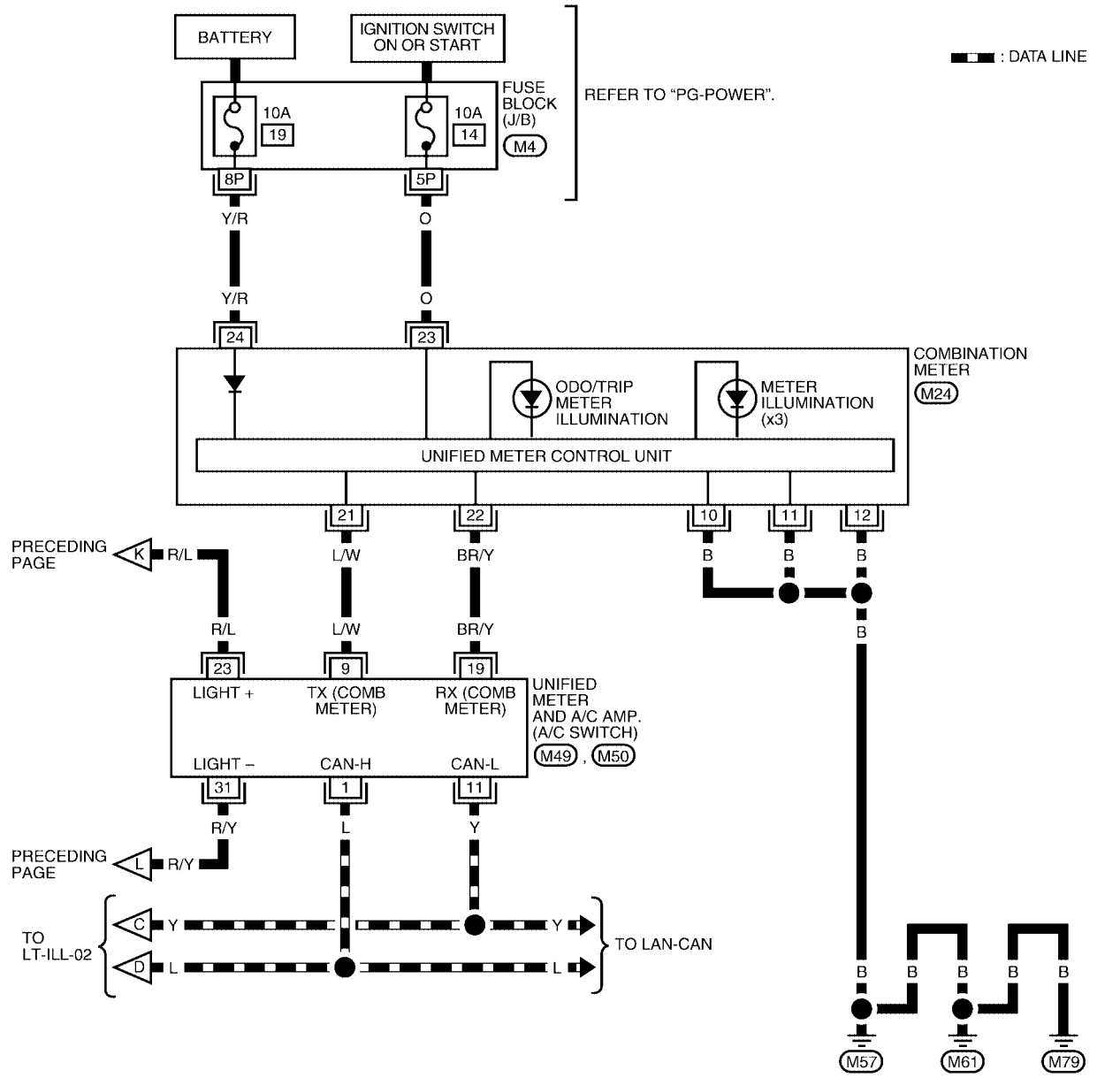
RS : WITH REAR SUNSHADE

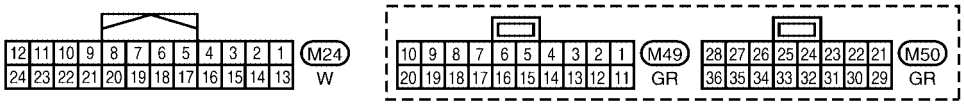




LKWA0238E

LT-ILL-06



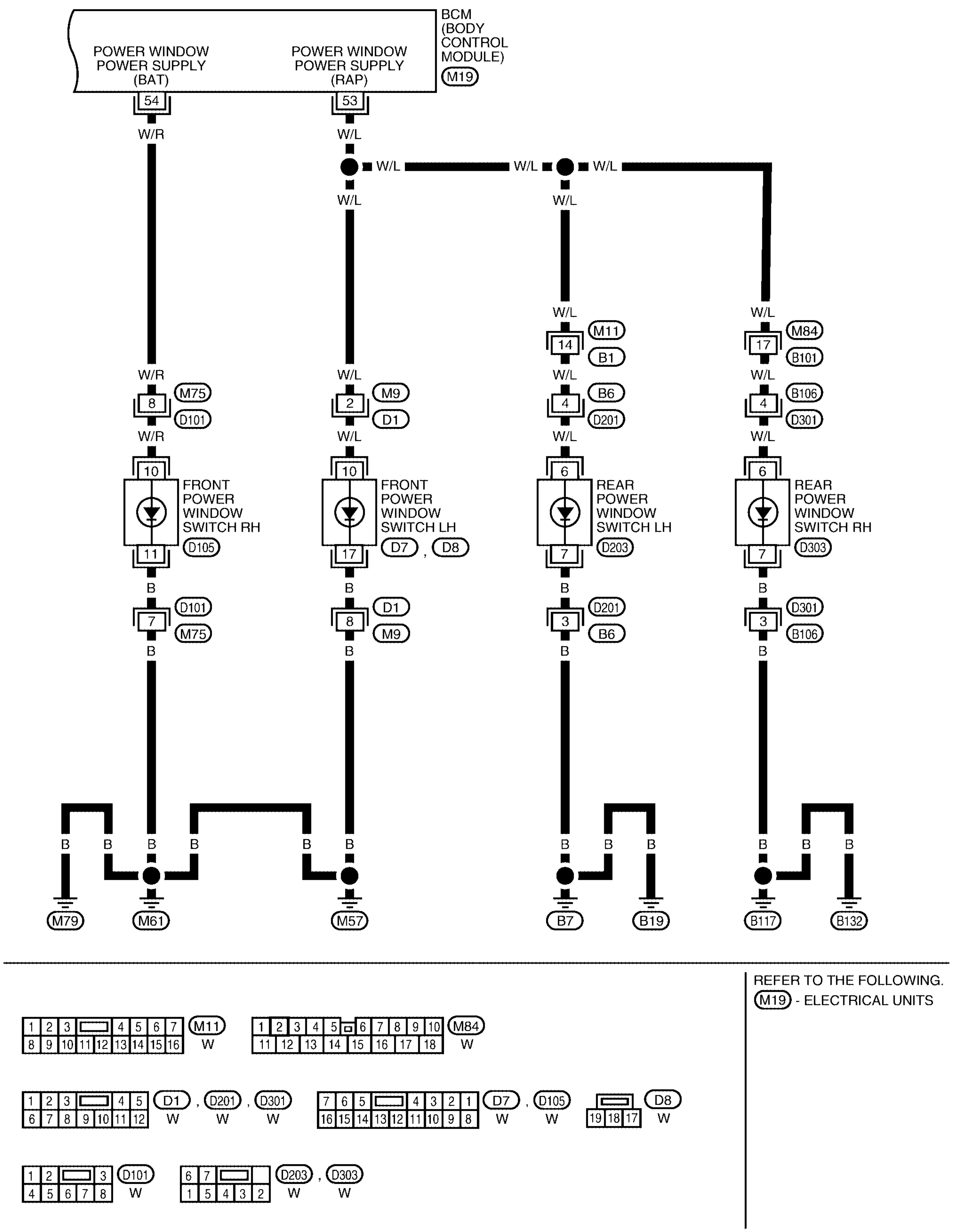


REFER TO THE FOLLOWING.
M4 - FUSE BLOCK - JUNCTION BOX (J/B)

LKWA0239E

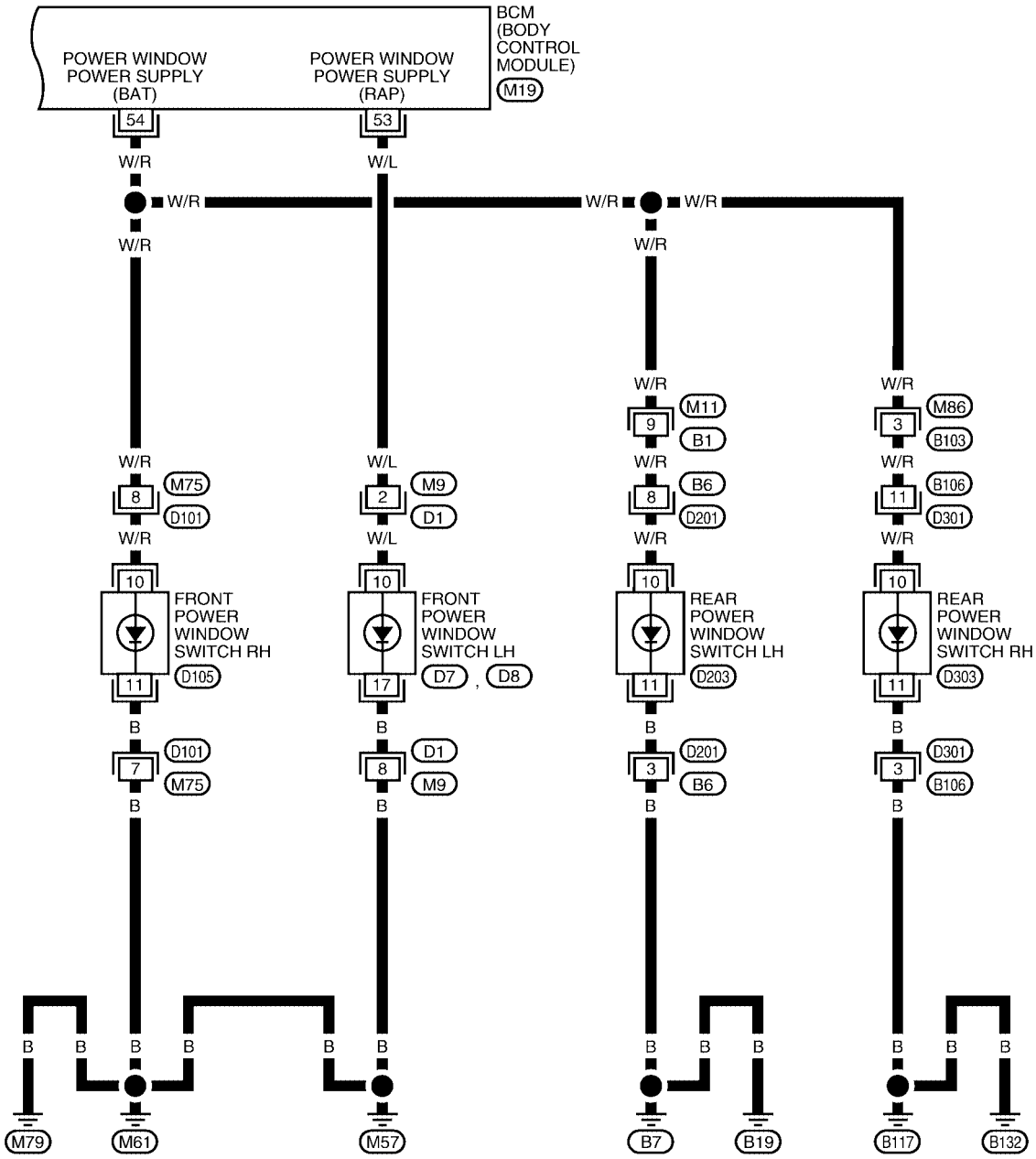
WITH LEFT AND RIGHT FRONT POWER WINDOW ANTI-PINCH SYSTEM

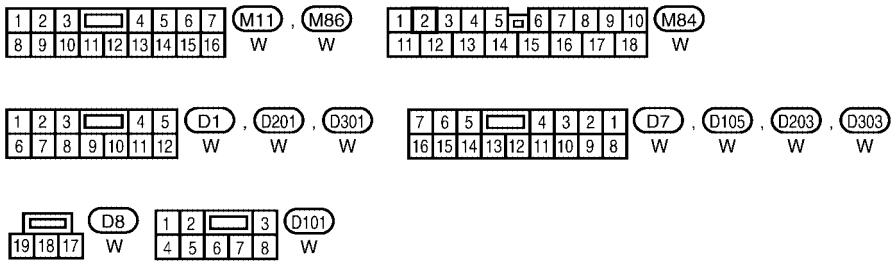
LT-ILL-07



WITH FRONT AND REAR POWER WINDOW ANTI-PINCH SYSTEM

LT-ILL-08





REFER TO THE FOLLOWING.
M19 - ELECTRICAL UNITS

LKWA0241E

Removal and Installation

EKS005BK

ILLUMINATION CONTROL SWITCH

1. Remove lower driver instrument panel. Refer to IP-14, "Lower Driver Instrument Panel" .
2. Press tabs and carefully push illumination control switch out of lower driver instrument panel.

Installation is in the reverse order of removal.

BULB SPECIFICATIONS

PFP:26297

Headlamp

EKS005BL

Item	Wattage (W)*
High/Low (Halogen type)	55 (9012)
High/Low (Xenon type)	35 (D2S)

*: Always check with the Parts Department for the latest parts information.

Exterior Lamp

EKS005BM

Item		Wattage (W)*
Front combination lamp	Front Park/Turn signal lamp	27/8 (amber)
	Daytime light (for Canada)	27
	Front fog lamp	55
Rear combination lamp	Stop/Turn/Tail lamp	27/5
	Tail lamp	5
	Rear side marker lamp	5
Cornering lamp		27
Back-up lamp		13
License plate lamp		5
High-mounted stop lamp		5

*: Always check with the Parts Department for the latest parts information.

Interior Lamp/Illumination

EKS005BN

Item	Wattage (W)*
Room/Map lamp	3.4
Personal lamp	8
Trunk room lamp	3.4
Step lamp	3.8
Foot lamp	3.4
Glove box lamp	3.4
A/T device illumination lamp	3.4
Vanity mirror lamp	2.1
Ignition keyhole illumination	0.74
Console box illumination lamp (front)	3.8
Rear console lamp (late production)	5

*: Always check with the Parts Department for the latest parts information.