SECTION LT
LIGHTING SYSTEM

CONTENTS

SERVICE INFORMATION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000003533330

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:

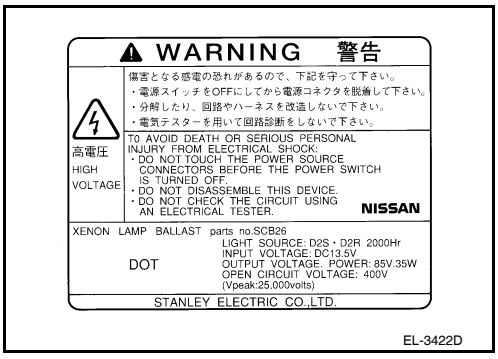
- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal 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

INFOID:0000000003533331

- 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.

WKIA0460E

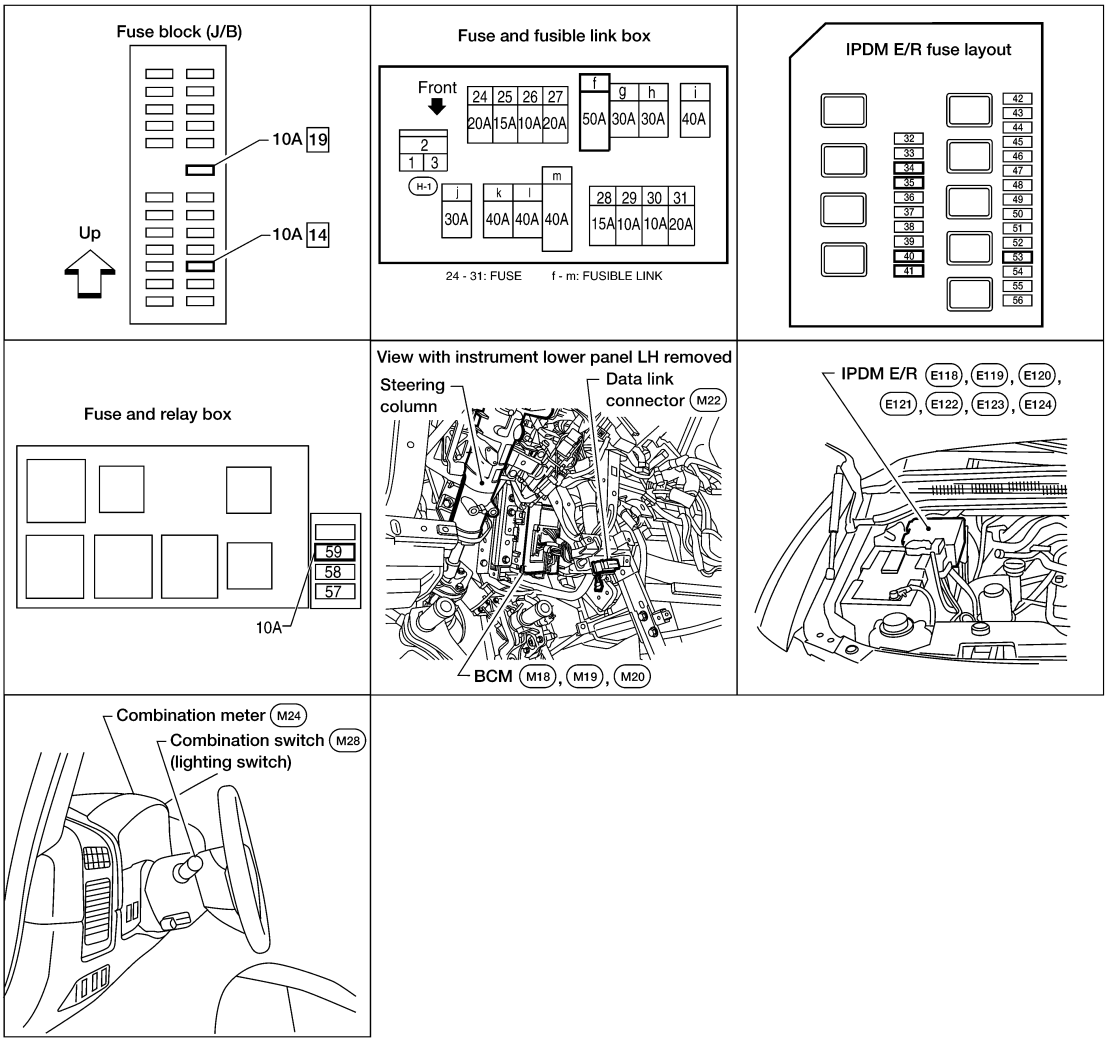


EL-3422D

HEADLAMP (FOR USA)

Component Parts and Harness Connector Location

INFOID:0000000003533332



WKIA3463E

System Description

INFOID:0000000003533333

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 requesting the headlamps (and tail lamps) illuminate. This input 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. When energized, these relays direct power to the respective headlamps, which then illuminate.

OUTLINE

Power is supplied at all times
- to ignition relay, located in the IPDM E/R,
- to headlamp high relay, located in the IPDM E/R,
- to headlamp low relay, located in the IPDM E/R,
- through 20A fuse (No. 53, located in the IPDM E/R)
- to CPU of the IPDM E/R, and
- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 70.

With the ignition switch in the ON or START position, power is supplied
- to ignition relay, located in the IPDM E/R, and
- through 10A fuse (No. 59, located in the fuse and relay box)

• to BCM terminal 38.
Ground is supplied
• to BCM terminal 67
• through grounds M57, M61 and M79, and
• to IPDM E/R terminals 38 and 59
• through grounds E9, E15 and E24.

Low Beam Operation
With the lighting switch in 2ND position, the BCM receives input requesting the headlamps to illuminate. This input is communicated to the IPDM E/R across the CAN communication lines. The CPU of the IPDM E/R controls the headlamp low relay coil. When energized, this relay directs power
• through 15A fuse (No. 41, located in the IPDM E/R)
• through IPDM E/R terminal 54
• to front combination lamp RH terminal 5, and
• through 15A fuse (No. 40, located in the IPDM E/R)
• through IPDM E/R terminal 52
• to front combination lamp LH terminal 5.
Ground is supplied
• to front combination lamp LH and RH terminal 1
• through grounds E9, 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 requesting the headlamp high beams to illuminate. This input is communicated to the IPDM E/R across the CAN communication lines. The CPU of the combination meter controls the ON/OFF status of the HIGH BEAM indicator. The CPU of the IPDM E/R controls the headlamp high relay coil. When energized, this relay directs power
• through 10A fuse (No. 34, located in the IPDM E/R)
• through IPDM E/R terminal 56
• to front combination lamp RH terminal 6, and
• through 10A fuse (No. 35, located in the IPDM E/R)
• through IPDM E/R terminal 55
• to front combination lamp LH terminal 6.
Ground is supplied
• to front combination lamp LH and RH terminal 2
• through grounds E9, E15 and E24.
With power and ground supplied, the high beam headlamps illuminate.

XENON HEADLAMP

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

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 feature is activated.
Under this condition, the headlamps remain illuminated for 5 minutes, unless the combination switch (lighting switch) position is changed. If the combination switch (lighting switch) position is changed, then the headlamps are turned off.

AUTO LIGHT OPERATION

Refer to LT-34, "System Description" for auto light operation.

VEHICLE SECURITY SYSTEM (PANIC ALARM)

The vehicle security system (panic alarm) will flash the high beams if the system is triggered. Refer to BL-61, "System Description".

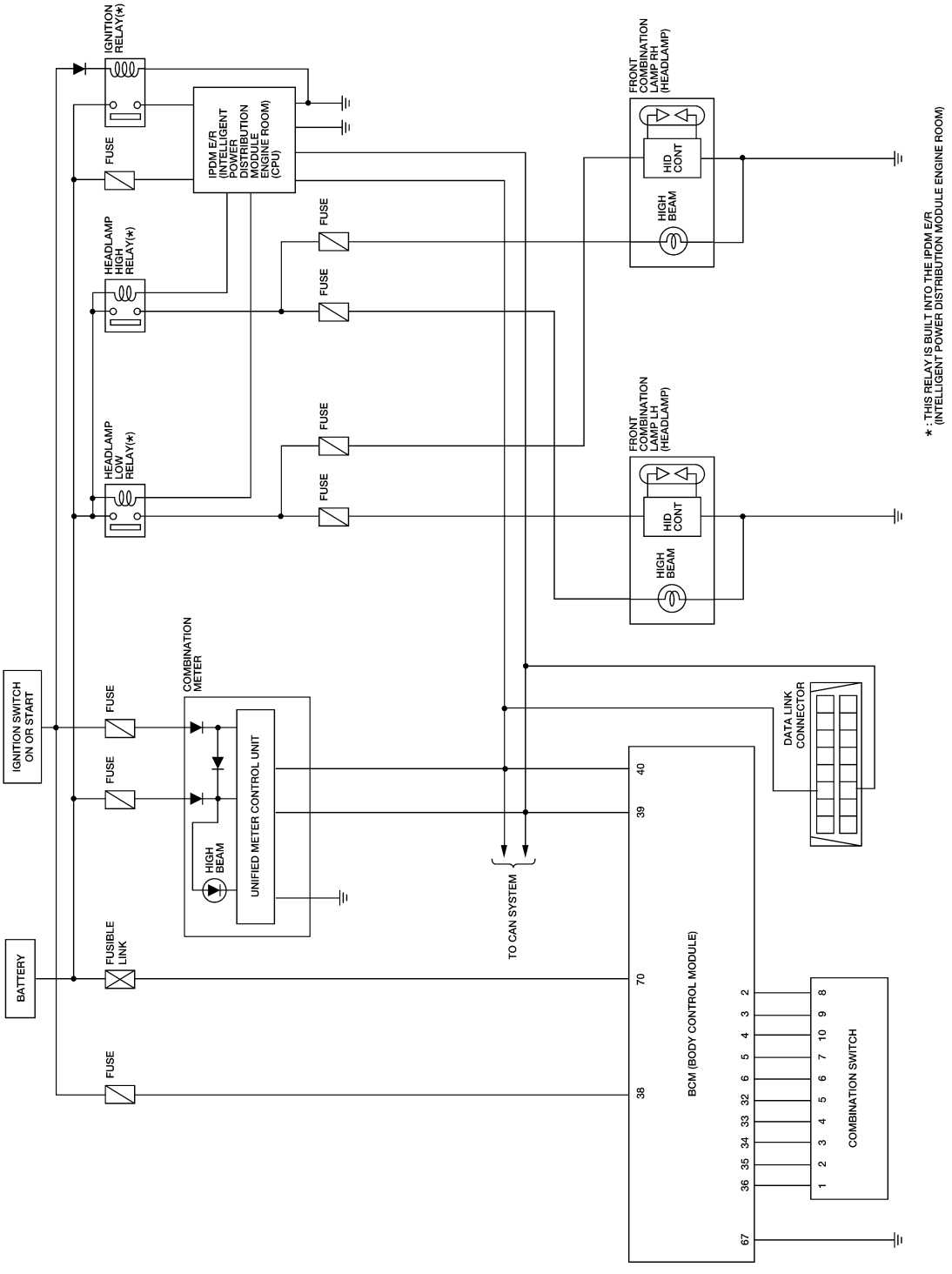
CAN Communication System Description

INFOID:0000000003533334

Refer to LAN-4, "CAN Communication System".

Schematic

INFOID:0000000003533335

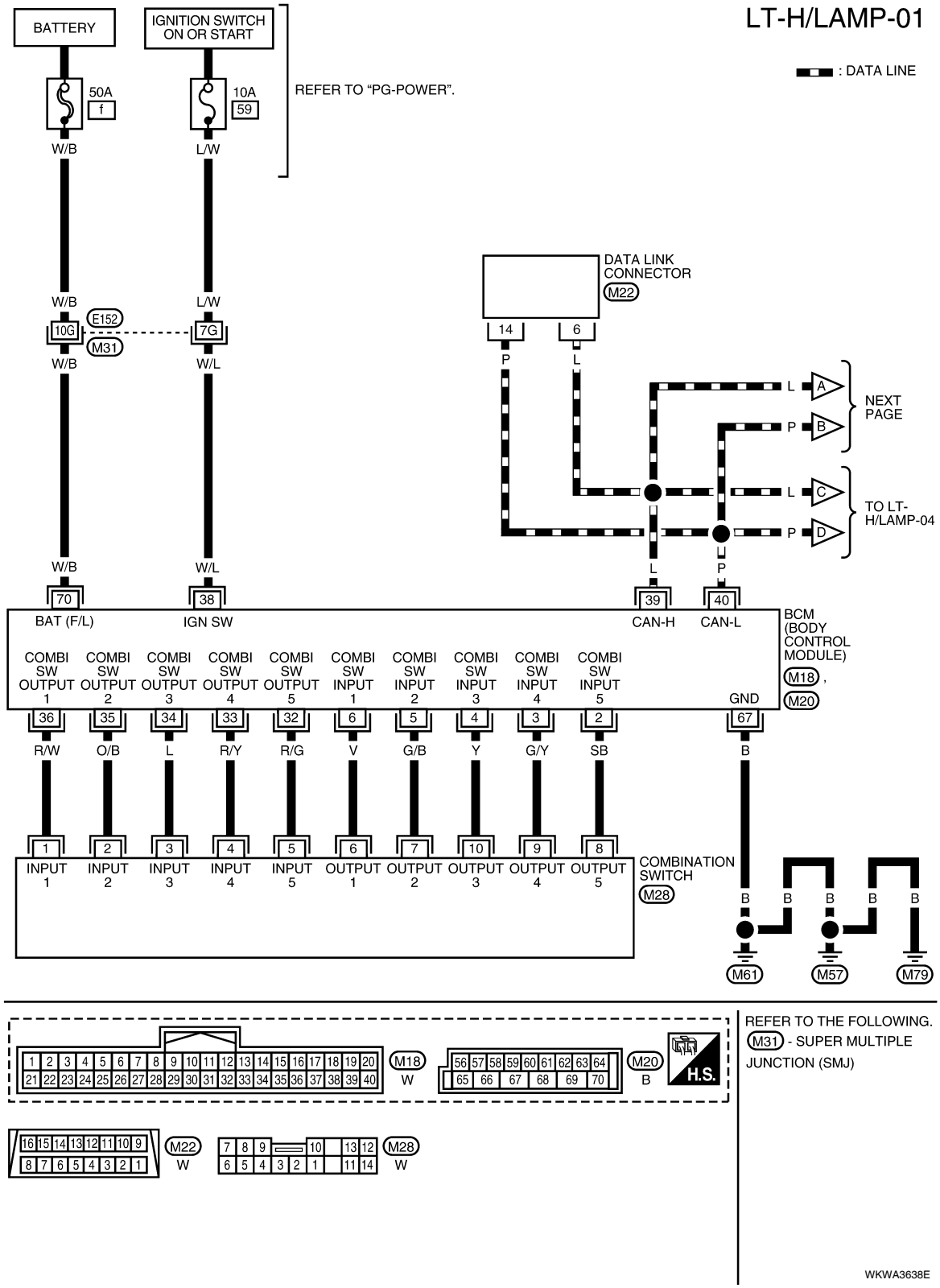


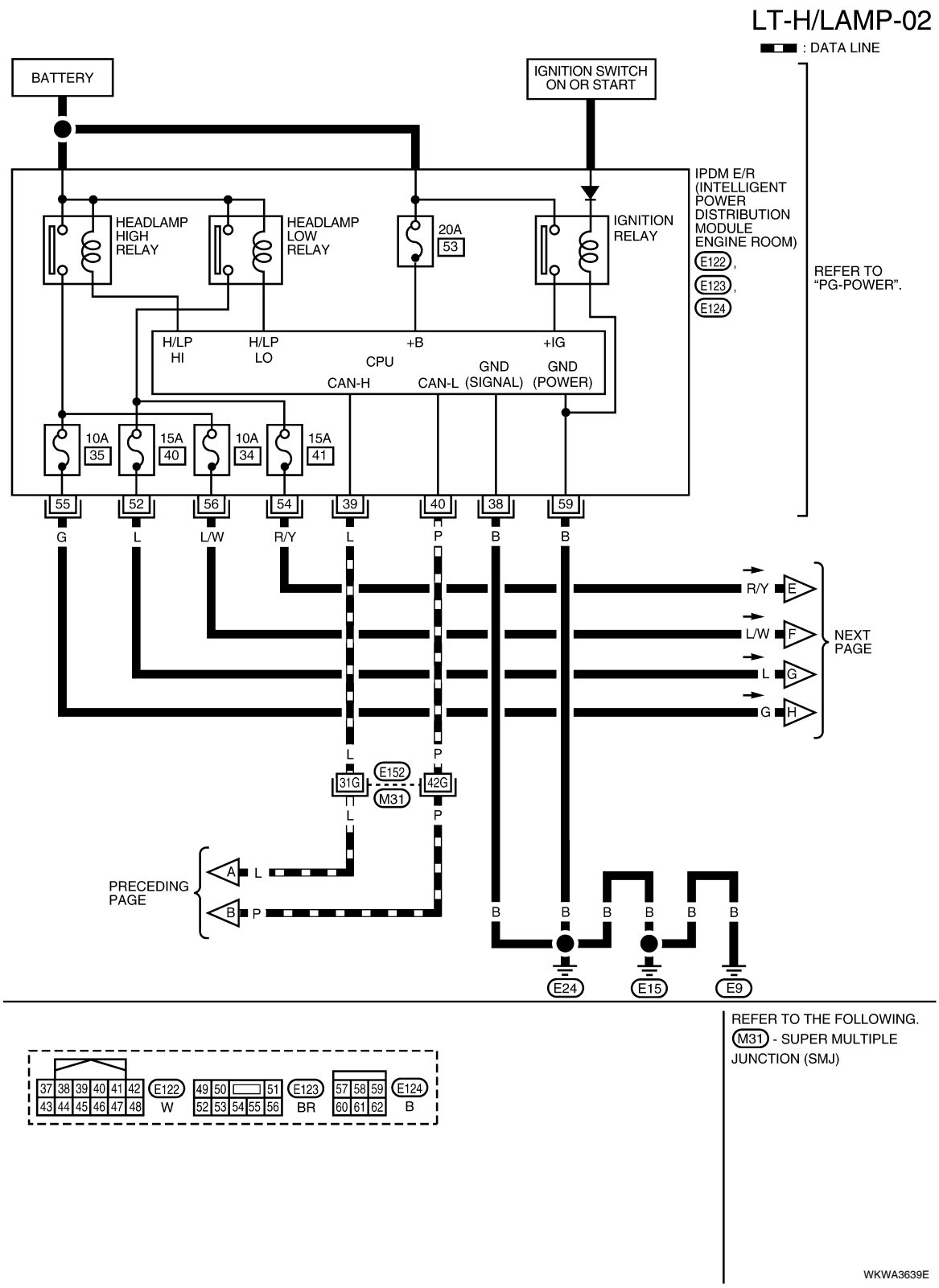
WKWA3637E

Wiring Diagram - H/LAMP -

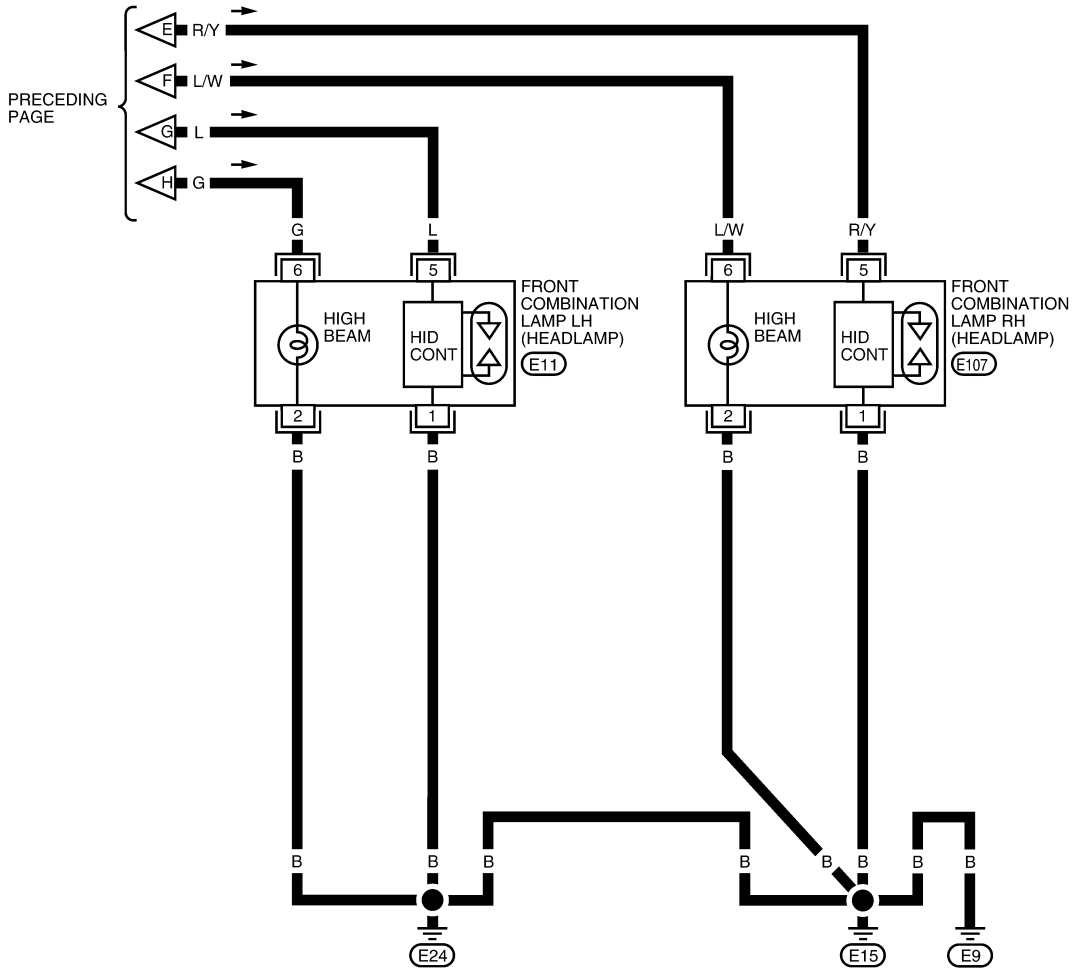
INFOID:0000000003533336

LT-H/LAMP-01



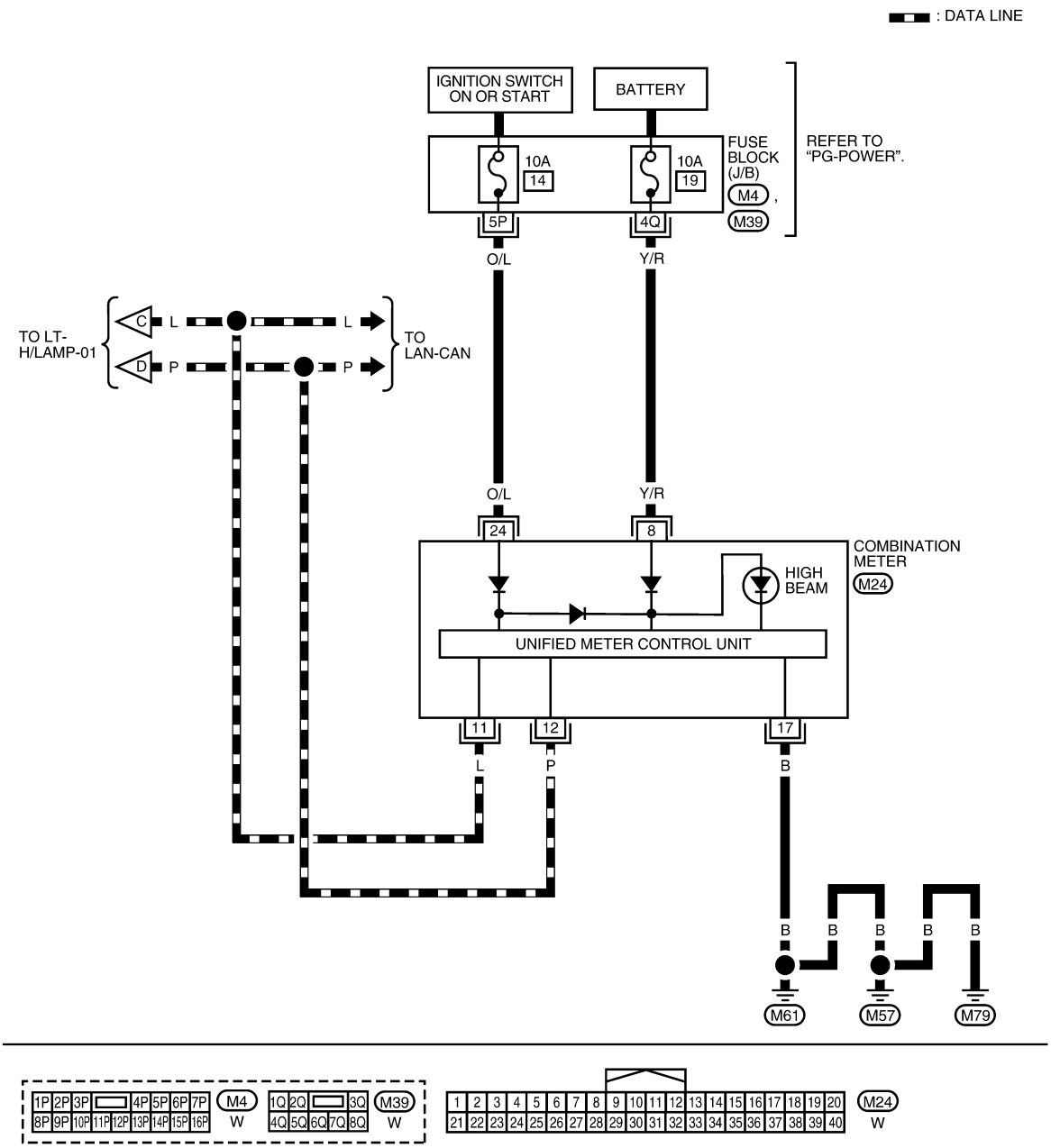

LT-H/LAMP-02
: DATA LINE
BATTERY
IGNITION SWITCH ON OR START
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E122, E123, E124
REFER TO "PG-POWER".
HEADLAMP HIGH RELAY
HEADLAMP LOW RELAY
20A 53
IGNITION RELAY
H/LP HI
H/LP LO
CPU
+B
+IG
CAN-H
CAN-L
GND (SIGNAL)
GND (POWER)
10A 35
15A 40
10A 34
15A 41
55 52 56 54 39 40 38 59
G L L/W R/Y L P B B
R/Y E
L/W F
L G
G H
NEXT PAGE
L P
31G E152 M31 42G
L P
PRECEDING PAGE
A L
B P
B B B B B B
E24 E15 E9
37 38 39 40 41 42 43 44 45 46 47 48 E122 W
49 50 51 52 53 54 55 56 E123 BR
57 58 59 60 61 62 E124 B
REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)
WKWA3639E

LT-H/LAMP-03



WKWA2482E

LT-H/LAMP-04



WKWA3640E

Terminal and Reference Value for BCM

INFOID:0000000003533337

Refer to BCS-11, "Terminal and Reference Value for BCM".

Terminal and Reference Value for IPDM E/R

INFOID:0000000003533338

Refer to PG-22, "Terminal and Reference Value for IPDM E/R".

How to Proceed with Trouble Diagnosis

INFOID:0000000003533339

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

Preliminary Check

INFOID:0000000003533340

CHECK POWER SUPPLY AND GROUND CIRCUIT FOR BCM

Refer to BCS-15, "BCM Power Supply and Ground Circuit Inspection" .

CHECK POWER SUPPLY AND GROUND CIRCUIT FOR IPDM E/R

Refer to PG-26, "IPDM E/R Power/Ground Circuit Inspection" .

CONSULT-II Function (BCM)

INFOID:0000000003533341

Refer to BCS-16, "CONSULT-II Function (BCM)" .

CONSULT-II START PROCEDURE

Refer to GI-36, "CONSULT-II Start Procedure" .

WORK SUPPORT

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

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 front door LH as judged from the front door LH switch signal. (Door is open: ON/Door is closed: OFF)
DOOR SW-AS	"ON/OFF"	Displays status of the front door RH as judged from the front door RH switch signal. (Door is open: ON/Door is closed: OFF)

Monitor item		Contents
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.
CARGO LAMP SW	"ON/OFF"	Displays status of cargo lamp switch.
OPTICAL SENSOR	[0 - 5V]	Displays "ambient light (close to 5V when dark/close to 0V when light)" judged from optical sensor signal.

ACTIVE TEST

Display Item List

Test item	Description
TAIL LAMP	Allows tail lamp relay to operate by switching ON-OFF.
HEAD LAMP	Allows headlamp relay (HI, LO) to operate by switching ON-OFF.
FR FOG LAMP	Allows fog lamp relay to operate by switching ON-OFF.
CARGO LAMP	Allows cargo lamp to operate by switching ON-OFF.
CORNERING LAMP	Not used.

SELF-DIAGNOSTIC RESULTS

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)

INFOID:0000000003533342

Refer to PG-18, "CONSULT-II Function (IPDM E/R)" .

CONSULT-II START PROCEDURE

Refer to GI-36, "CONSULT-II Start Procedure".

DATA MONITOR

All Items, Main Items, Select Item Menu

Item name	CONSULT-II screen display	Display or unit	Monitor item selection			Description
			ALL SIGNALS	MAIN SIGNALS	SELECTION FROM MENU	
Parking, license plate and tail lamps 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
Daytime lights request	DTRL REQ	ON/OFF	×	–	×	Signal status input from BCM
Front fog lamps 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.

Test item	CONSULT-II screen display	Description
Headlamp relay (HI, LO) output	EXTERNAL LAMPS	Allows headlamp relay (HI, LO) to operate by switching operation (OFF, HI, LO) at your option (Headlamp 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		Allows tail lamp relay to operate by switching operation ON-OFF at your option.

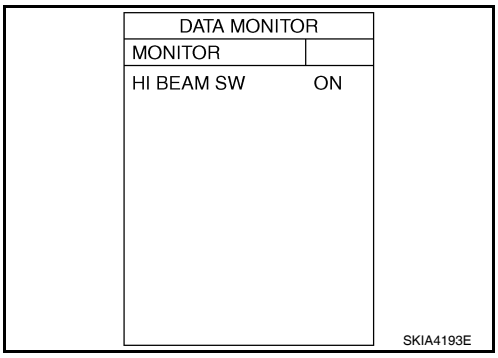
Headlamp HI Does Not Illuminate (Both Sides)

INFOID:0000000003533343

1.CHECK COMBINATION SWITCH INPUT SIGNAL

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 in HIGH position : HI BEAM SW ON



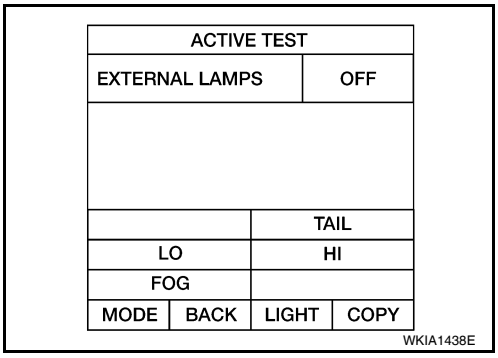
OK or NG

OK >> GO TO 2.
NG >> Check lighting switch. Refer to LT-73, "Combination Switch Inspection" .

2.HEADLAMP ACTIVE TEST

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

Headlamp high beam should operate.



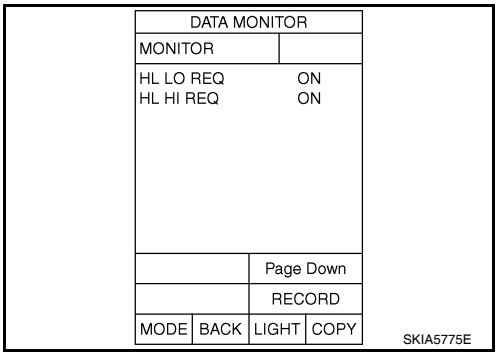
OK or NG

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 HIGH position.

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



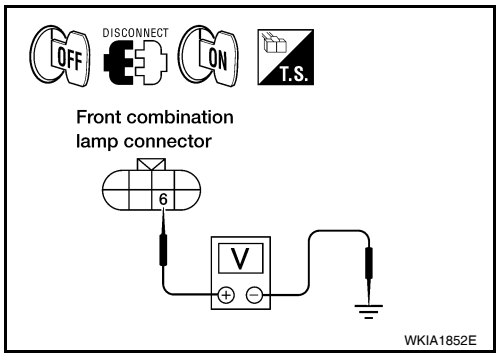
OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .
NG >> Replace BCM. Refer to BCS-24, "BCM" .

4.CHECK HEADLAMP INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connectors.
3. Turn ignition switch ON.
4. Select "IPDM E/R" on CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
5. Select "EXTERNAL LAMPS" on "SELECT TEST ITEM" screen.

6. Touch "HI" on "ACTIVE TEST" screen.
7. When headlamp high beam is operating, check voltage between front combination lamp RH and LH harness connector and ground.



Front combination lamp			(–)	Voltage
(+)				
Connector		Terminal		
RH	E107	6	Ground	Battery voltage
LH	E11			

OK or NG

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

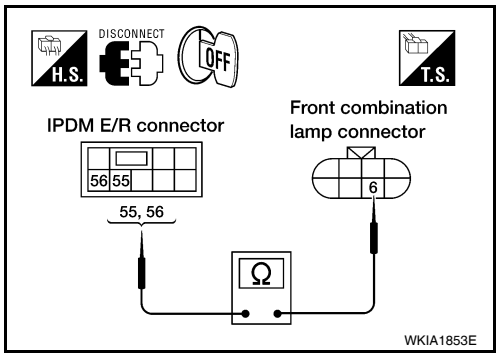
5.CHECK HEADLAMP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector E123 terminal 56 and front combination lamp RH harness connector E107 terminal 6.

56 - 6 : Continuity should exist.

4. Check continuity between IPDM E/R harness connector E123 terminal 55 and front combination lamp LH harness connector E11 terminal 6.

55 - 6 : Continuity should exist.



OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .
NG >> Repair harness or connector.

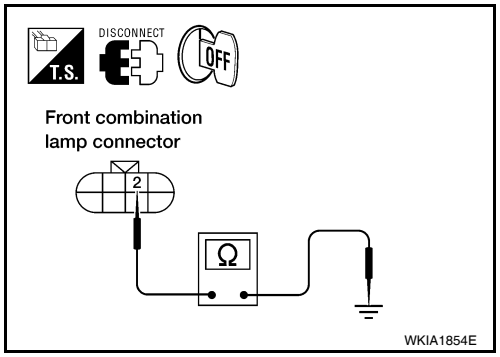
6.CHECK HEADLAMP GROUND

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

2 - Ground : Continuity should exist.

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

2 - Ground : Continuity should exist.



OK or NG

OK >> Check front combination lamp connector for damage or poor connection. Repair as necessary.
NG >> Repair harness or connector.

Headlamp HI Does Not Illuminate (One Side)

INFOID:0000000003533344

1.BULB INSPECTION

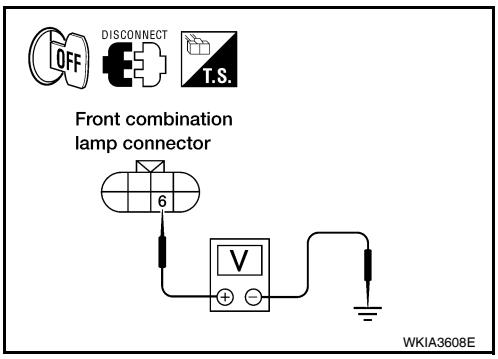
Inspect inoperative headlamp bulb.

OK or NG

OK >> GO TO 2.
NG >> Replace headlamp bulb. Refer to LT-21, "Bulb Replacement" .

2.CHECK POWER TO HEADLAMP

1. Disconnect inoperative front combination lamp connector.
2. Turn the high beam headlamps ON.
3. Check voltage between inoperative front combination lamp terminal and ground.



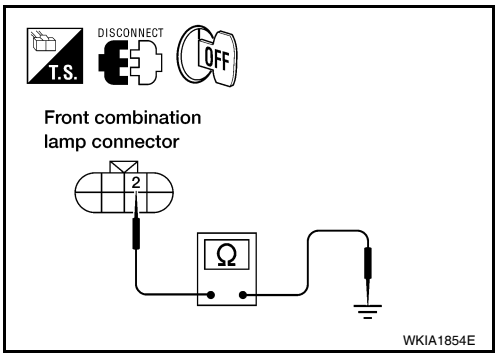
Terminals		(–)	Voltage (Approx.)
(+)			
Connector	Terminal		
RH E107 / LH E11	6	Ground	Battery voltage

OK or NG

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

3.CHECK HEADLAMP GROUND

1. Turn the high beam headlamps OFF.
2. Check continuity between inoperative front combination lamp connector and ground.



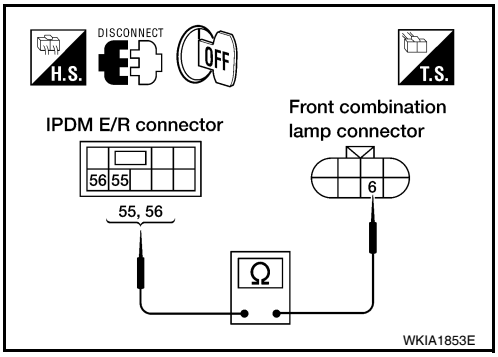
Terminals			Continuity
Connector	Terminal		
RH E107 / LH E11	2	Ground	Yes

OK or NG

OK >> Check front combination lamp connector for damage or poor connection. Repair as necessary.
NG >> Repair open circuit in harness between inoperative front combination lamp and ground.

4.INSPECTION BETWEEN IPDM E/R AND HEADLAMPS

1. Disconnect IPDM E/R connector and inoperative front combination lamp connector.
2. Check continuity between harness connector terminal of IPDM E/R and harness connector terminal of inoperative front combination lamp.



IPDM E/R		Front combination lamp		Continuity
Connector	Terminal	Connector	Terminal	
E123	56	RH E107	6	Yes
	55	LH E11		

OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .
NG >> Check for short and open circuits in harness between IPDM E/R and headlamps. Repair as necessary.

High Beam Indicator Lamp Does Not Illuminate

INFOID:0000000003533345

1.BULB INSPECTION

Inspect CAN communication system. Refer to LAN-4, "CAN Communication System" .

OK or NG

OK >> Replace combination meter. Refer to DI-21, "Removal and Installation of Combination Meter" .
NG >> Repair as necessary.

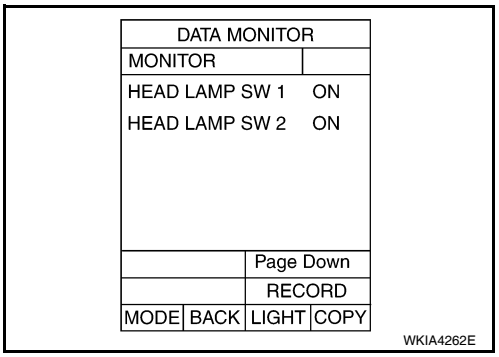
Headlamp LO Does Not Illuminate (Both Sides)

INFOID:0000000003533346

1.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 in 2ND position : HEAD LAMP SW 1 ON
: HEAD LAMP SW 2 ON



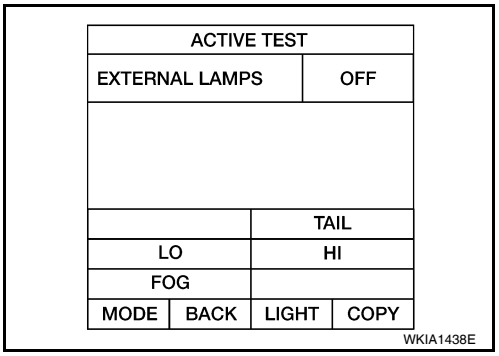
OK or NG

OK >> GO TO 2.
NG >> Check lighting switch. Refer to LT-73, "Combination Switch Inspection" .

2.HEADLAMP ACTIVE TEST

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

Headlamp low beam should operate.



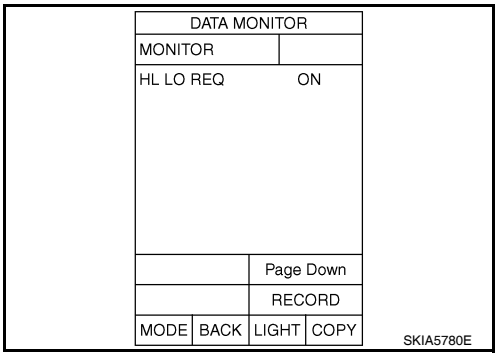
OK or NG

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 in 2ND position : HL LO REQ ON



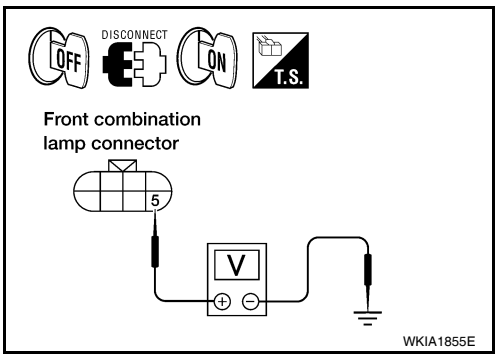
OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .
NG >> Replace BCM. Refer to BCS-24, "BCM" .

4.CHECK HEADLAMP INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Turn ignition switch ON.
4. Select "IPDM E/R" on CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
5. Select "EXTERNAL LAMPS" on "SELECT TEST ITEM" screen.
6. Touch "LO" on "ACTIVE TEST" screen.

7. When headlamp low beam is operating, check voltage between front combination lamp RH and LH harness connector and ground.



(+)			(–)	Voltage
Connector		Terminal		
RH	E107	5	Ground	Battery voltage
LH	E11			

OK or NG

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

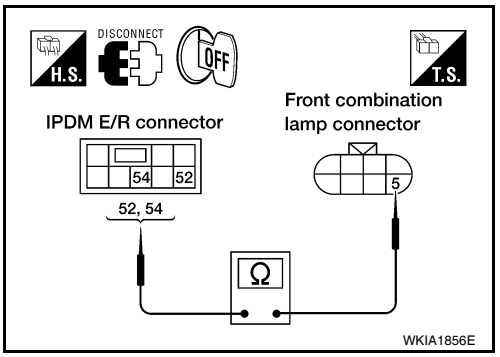
5. CHECK HEADLAMP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector E123 terminal 54 and front combination lamp RH harness connector E107 terminal 5.

54 - 5 : Continuity should exist.

4. Check continuity between IPDM E/R harness connector E123 terminal 52 and front combination lamp LH harness connector E11 terminal 5.

52 - 5 : Continuity should exist.



OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .
NG >> Repair harness or connector.

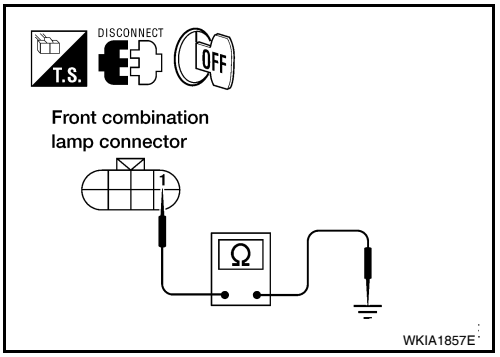
6. CHECK HEADLAMP GROUND

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

1 - Ground : Continuity should exist.

3. Check continuity between front combination lamp LH harness connector E11 terminal 1 and ground.

1 - Ground : Continuity should exist.



OK or NG

OK >> Check front combination lamp connector for damage or poor connection, ballasts (HID control unit) and xenon bulbs. Repair as necessary.
NG >> Repair harness or connector.

Headlamp LO Does Not Illuminate (One Side)

INFOID:0000000003533347

1. BULB INSPECTION

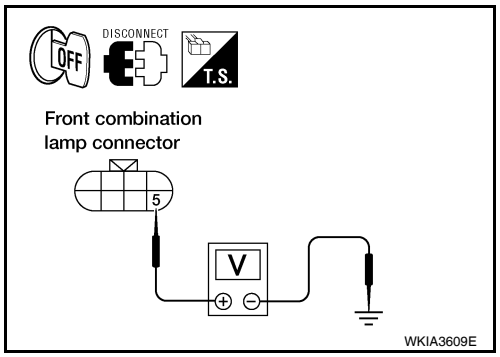
Inspect ballasts (HID control unit) and xenon bulb of inoperative headlamp bulb.

OK or NG

OK >> GO TO 2.
NG >> • (step1) Replace xenon bulb with other side bulb or new one. (If lamp illuminates correctly, replace the xenon bulb).
• (step2) Replace ballast (HID control unit) with other side ballast or new one. (If lamp illuminates correctly, replace the ballast).

2.CHECK POWER TO HEADLAMP

1. Disconnect inoperative front combination lamp connector.
2. Turn the low beam headlamps ON.
3. Check voltage between inoperative front combination lamp connector terminal and ground.



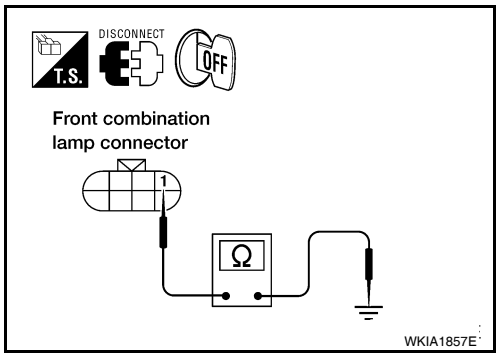
(+)			(–)	Voltage (Approx.)
Connector		Terminal		
RH	E107	5	Ground	Battery voltage
LH	E11			

OK or NG

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

3.CHECK HEADLAMP GROUND

1. Turn the low beam headlamps OFF.
2. Check continuity between inoperative front combination lamp connector terminal and ground.



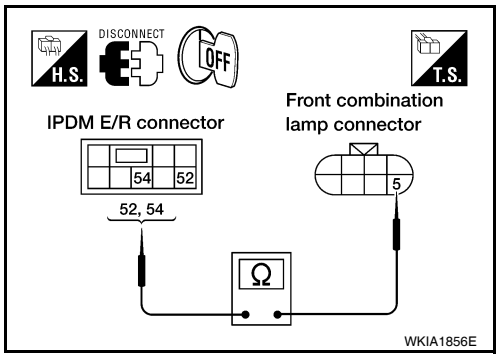
Connector		Terminal		Continuity
RH	E107	1	Ground	Yes
LH	E11			

OK or NG

OK >> Check front combination lamp and IPDM E/R connector. Repair as necessary.
NG >> Repair open circuit in harness between inoperative front combination lamp and ground.

4.INSPECTION BETWEEN IPDM E/R AND HEADLAMPS

1. Disconnect IPDM E/R connector.
2. Check continuity between harness connector terminals of IPDM E/R and harness connector terminals of inoperative front combination lamp.



IPDM E/R		Front combination lamp			Continuity
Connector	Terminal	Connector		Terminal (Wire color)	
E123	54	RH	E107	5	Yes
	52	LH	E11		

OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .
NG >> Check for short circuits and open circuits in harness between IPDM E/R and front combination lamps. Repair as necessary.

Headlamps Do Not Turn OFF

INFOID:0000000003533348

1.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 in OFF position
: HEAD LAMP SW 1 OFF
: HEAD LAMP SW 2 OFF

DATA MONITOR	
MONITOR	
HEAD LAMP SW 1	OFF
HEAD LAMP SW 2	OFF

SKIA5200E

OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .
NG >> GO TO 2.

2.CHECK LIGHTING SWITCH

Check lighting switch. Refer to LT-73, "Combination Switch Inspection" .

OK or NG

OK >> GO TO 3.
NG >> Replace lighting switch. Refer to LT-76, "Removal and Installation" .

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

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

Display of self-diagnosis results

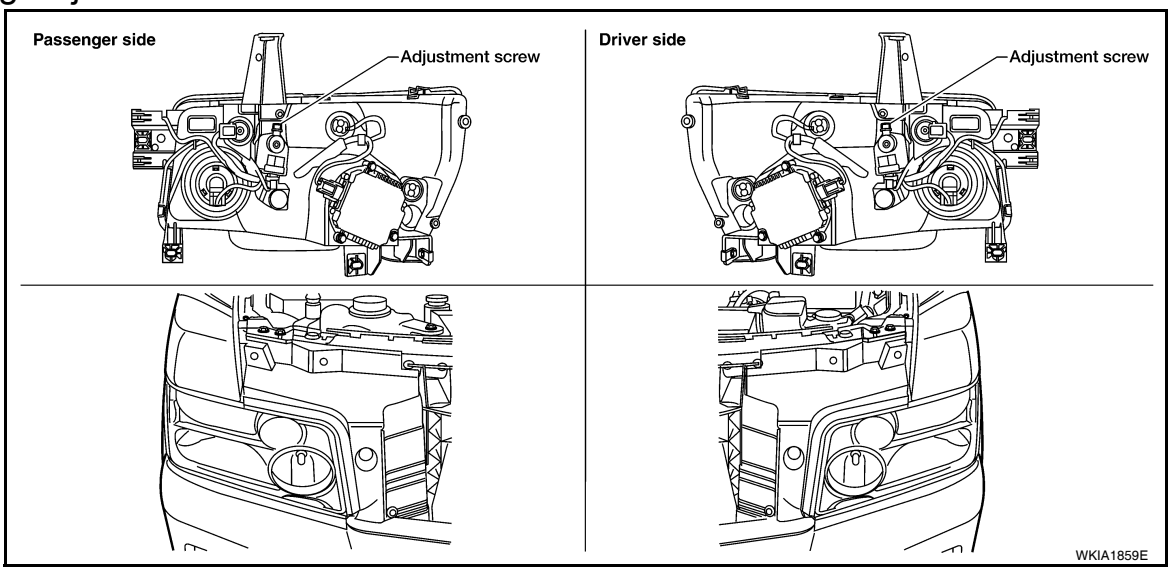
NO DTC>> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .
CAN COMM CIRCUIT>> Refer to BCS-18, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)" .

SELF-DIAG RESULTS			
DTC RESULTS		TIME	
CAN COMM CIRCUIT [U1000]		PAST	
ERASE		PRINT	
MODE	BACK	LIGHT	COPY

SKIA1039E

Aiming Adjustment

INFOID:0000000003533349

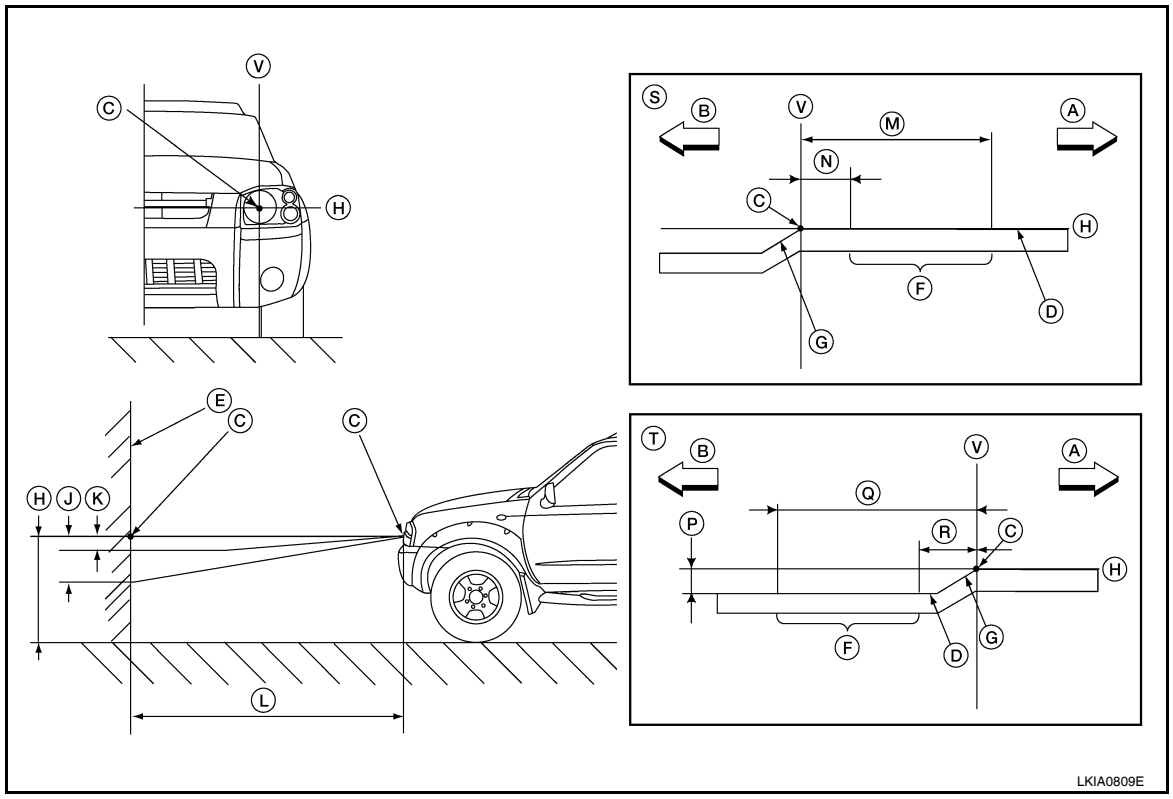


NOTE:
- For details, refer to the regulations in your area.
- If vehicle front body has been repaired and /or the headlamp assembly has been replaced, check headlamp aiming.

HEADLAMP AIMING

NOTE:
- Before performing aiming adjustment, check the following:
- Confirm headlamp aiming switch is set to "0" (zero) position.
- Ensure all tires are inflated to correct pressure.

- Place vehicle and screen on level surface.
- 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.
- Confirm spare tire, jack and tools are properly stowed.
- Aim each headlamp individually and ensure other headlamp beam pattern is blocked from screen.
- Use adjusting screw to perform aiming adjustment



A.	Right	B.	Left	C.	Center of headlamp bulb (H-V point)
D.	Cutoff line	E.	Screen	F.	Aim evaluation segment
G.	Step	H.	Horizontal center line of headlamp	J.	103 mm (4.06 in.)
K.	37 mm (1.46 in.)	L.	7.62 m (25 ft.)	M.	399 mm (15.71 in.)
N.	133 mm (5.24 in.)	P.	53.2 mm (2.09 in.)	Q.	466 mm (18.35 in.)
R.	200 mm (7.87 in.)	S.	RH headlamp aiming screen	T.	LH headlamp aiming screen

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

LOW BEAM AND HIGH BEAM

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

Bulb Replacement

INFOID:0000000003533350

CAUTION:
- **Disconnect battery negative terminal before touching xenon bulb or headlamp wiring harness assembly.**
- **Turn headlamp switch OFF before disconnecting headlamp harness connector.**
- **Do not touch bulb by hand right after being turned off. Burning may result.**
- **Do not touch the glass of bulb directly by hand. Keep grease and other oily substances away from it.**
- **Do not turn xenon bulb ON when xenon bulb is removed from front combination lamp assembly.**
- **After installing the bulb, be sure to install the bulb socket securely to ensure watertightness.**

- **Do not leave bulb out of front combination lamp assembly for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp. When replacing bulb, be sure to replace it with a new one.**

HEADLAMP (OUTER SIDE), FOR LOW BEAM

Removal

1. Position fender protector aside.
2. Turn headlamp switch OFF.
3. Disconnect battery negative terminal.
4. Remove ballast.
5. Disconnect headlamp electrical connector.
6. Release bulb retaining spring and pull bulb straight out.

Installation
Installation is in the reverse order of removal.

HEADLAMP (INNER SIDE), FOR HIGH BEAM

Removal

1. Turn headlamp switch OFF.
2. Disconnect headlamp electrical connector.
3. Turn the bulb counterclockwise to remove it.

Installation
Installation is in the reverse order of removal.

FRONT PARKING LAMP (INNER OR OUTER)

Removal

1. Turn the bulb socket counterclockwise to unlock it.
2. Pull the bulb to remove it from the socket.

Installation
Installation is in the reverse order of removal.

SIDE MARKER LAMP (FRONT)

Removal

1. Position fender protector aside.
2. Turn the side marker lamp (front) bulb socket counterclockwise and remove side marker lamp (front) bulb socket.
3. Pull to remove side marker lamp (front) from the side marker lamp (front) bulb socket.

Installation
Installation is in the reverse order of removal.

Removal and Installation

INFOID:0000000003533351

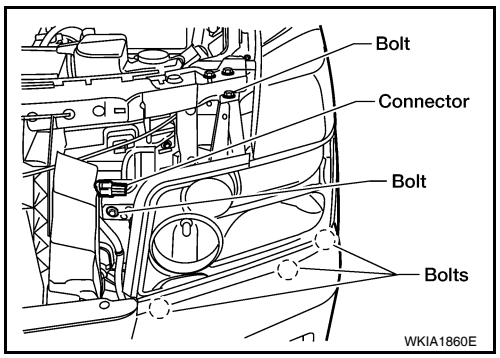
FRONT COMBINATION LAMP ASSEMBLY

CAUTION:

- **Disconnect battery negative terminal before touching xenon bulb or headlamp wiring harness assembly.**
- **Turn headlamp switch OFF before disconnecting headlamp harness connector.**
- **Do not touch bulb by hand right after being turned off. Burning may result.**
- **Do not touch the glass of bulb directly by hand. Keep grease and other oily substances away from it.**
- **Do not turn xenon bulb ON when xenon bulb is removed from front combination lamp assembly.**
- **After installing the bulb, be sure to install the bulb socket securely to ensure watertightness.**
- **Do not leave bulb out of front combination lamp assembly for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp. When replacing bulb, be sure to replace it with a new one.**

Removal

1. Disconnect battery negative terminal.
2. Disconnect front combination lamp assembly.
3. Remove front fascia. Refer to EI-12.
4. Remove front combination lamp assembly bolts.
5. Remove front combination lamp assembly.

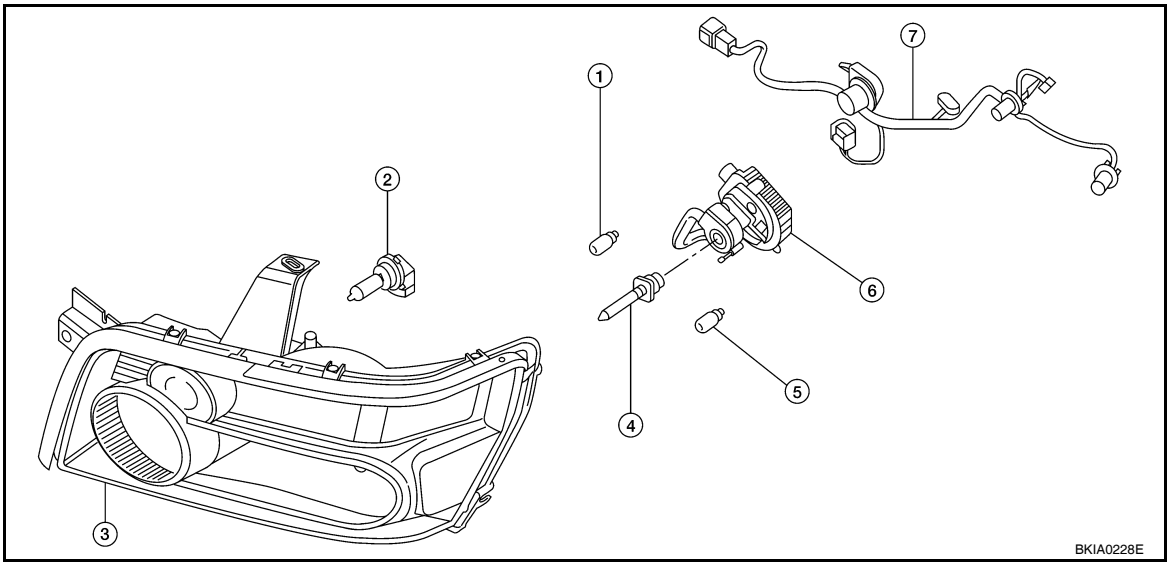


Installation
Installation is in the reverse order of removal.

Disassembly and Assembly

INFOID:0000000003533352

FRONT COMBINATION LAMP ASSEMBLY



1. Parking lamp bulb (outer)
2. Headlamp bulb (high beam)
3. Headlamp assembly
4. Xenon bulb (low beam)
5. Side marker lamp (front) bulb
6. Ballast
7. Wiring harness assembly

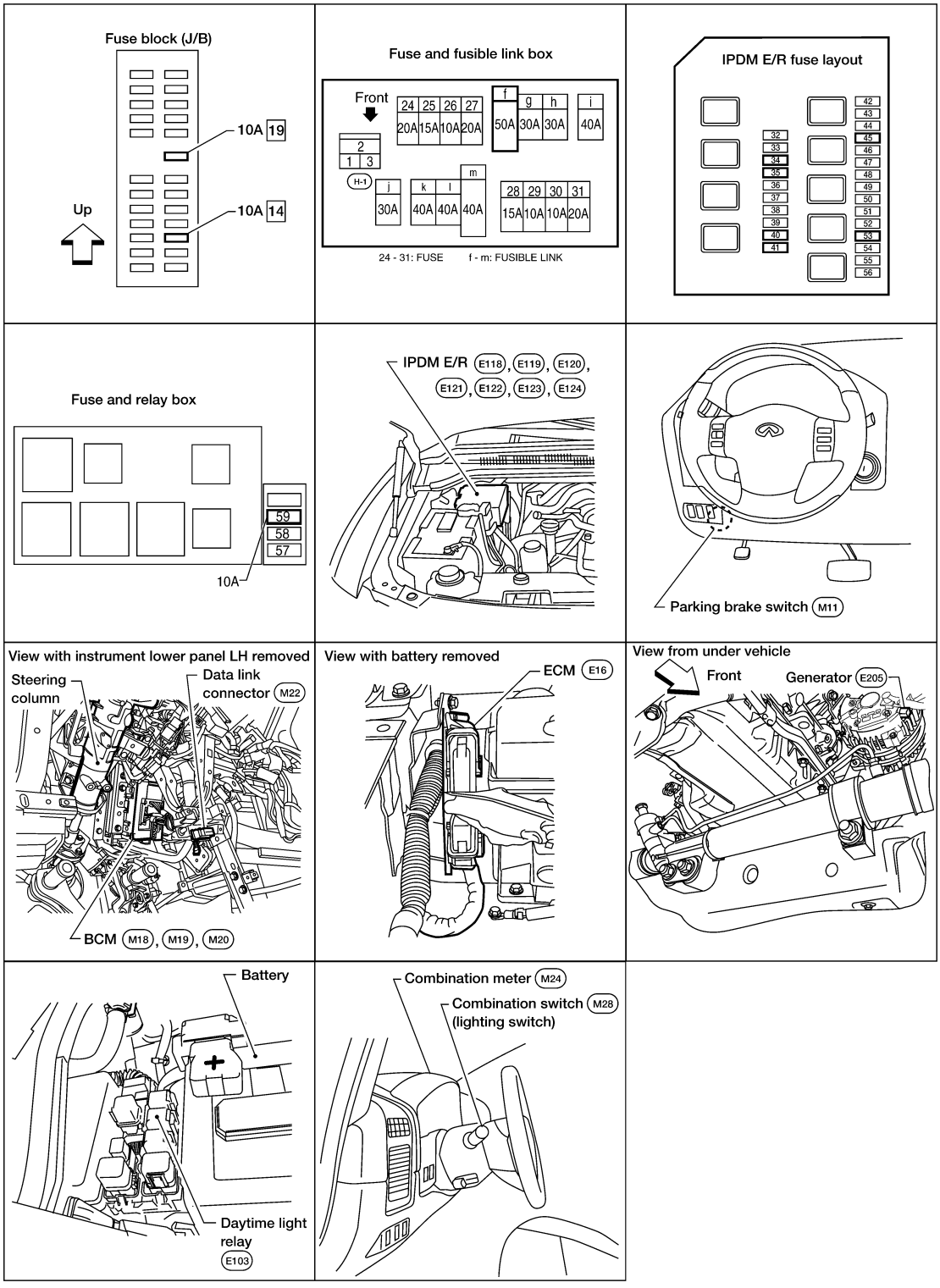
Disassembly
1. Remove ballast.
2. Release xenon bulb retaining spring and remove xenon bulb.
3. Turn high beam bulb counterclockwise to unlock and remove high beam bulb.
4. Turn parking lamp bulb (inner) socket counterclockwise to unlock and remove parking lamp bulb.
5. Turn parking lamp bulb (outer) socket counterclockwise to unlock and remove parking lamp bulb.
6. Turn side marker lamp (front) bulb socket counterclockwise to unlock and remove side marker lamp (front) bulb.

Assembly
Assembly is in the reverse order of disassembly.

HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -

Component Parts and Harness Connector Location

INFOID:0000000003533353



WKIA3551E

System Description

INFOID:0000000003533354

Daytime light system turns on daytime light lamps while driving. Daytime light lamps are not turned on if engine is activated with parking brake applied. Release parking brake to turn on daytime light lamps. The

lamps turn off when lighting switch is in the 2ND position or AUTO position (Headlamp 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.

OUTLINE

Power is supplied at all times
- to ignition relay, located in the IPDM E/R (intelligent power distribution module engine room),
- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 70,
- through 20A fuse (No. 53, located in the IPDM E/R)
- to CPU (central processing unit) of the IPDM E/R,
- through 10A fuse [No. 19, located in the fuse block (J/B)]
- to combination meter terminal 8, and
- through 10A fuse (No. 45, located in the IPDM E/R)
- to daytime light relay terminals 2 and 5.

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. 59, located in the fuse and relay box)
- to BCM terminal 38, and
- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to combination meter terminal 24.

Ground is supplied
- to BCM terminal 67 and
- to combination meter terminal 17
- 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, the IPDM E/R receives input requesting the daytime lights illuminate. This input is communicated across the CAN communication lines. The CPU of the IPDM E/R controls the daytime light relay coil. When energized, this relay directs power
- through daytime light relay terminal 3
- to front combination lamp LH terminal 2
- through front combination lamp LH terminal 6
- to IPDM E/R terminal 55
- through 10A fuse (No. 35, located in the IPDM E/R)
- through 10A fuse (No. 34, located in the IPDM E/R)
- through IPDM E/R terminal 56
- to front combination lamp RH terminal 6.

Ground is supplied
- to front combination lamp RH terminal 2
- through grounds E9, E15 and E24.

With power and ground supplied, the daytime lights illuminate. The high beam headlamps are now wired in series and illuminate at a reduced intensity.

COMBINATION SWITCH READING FUNCTION

Refer to BCS-3, "System Description" .

AUTO LIGHT OPERATION

Refer to LT-34, "System Description" .

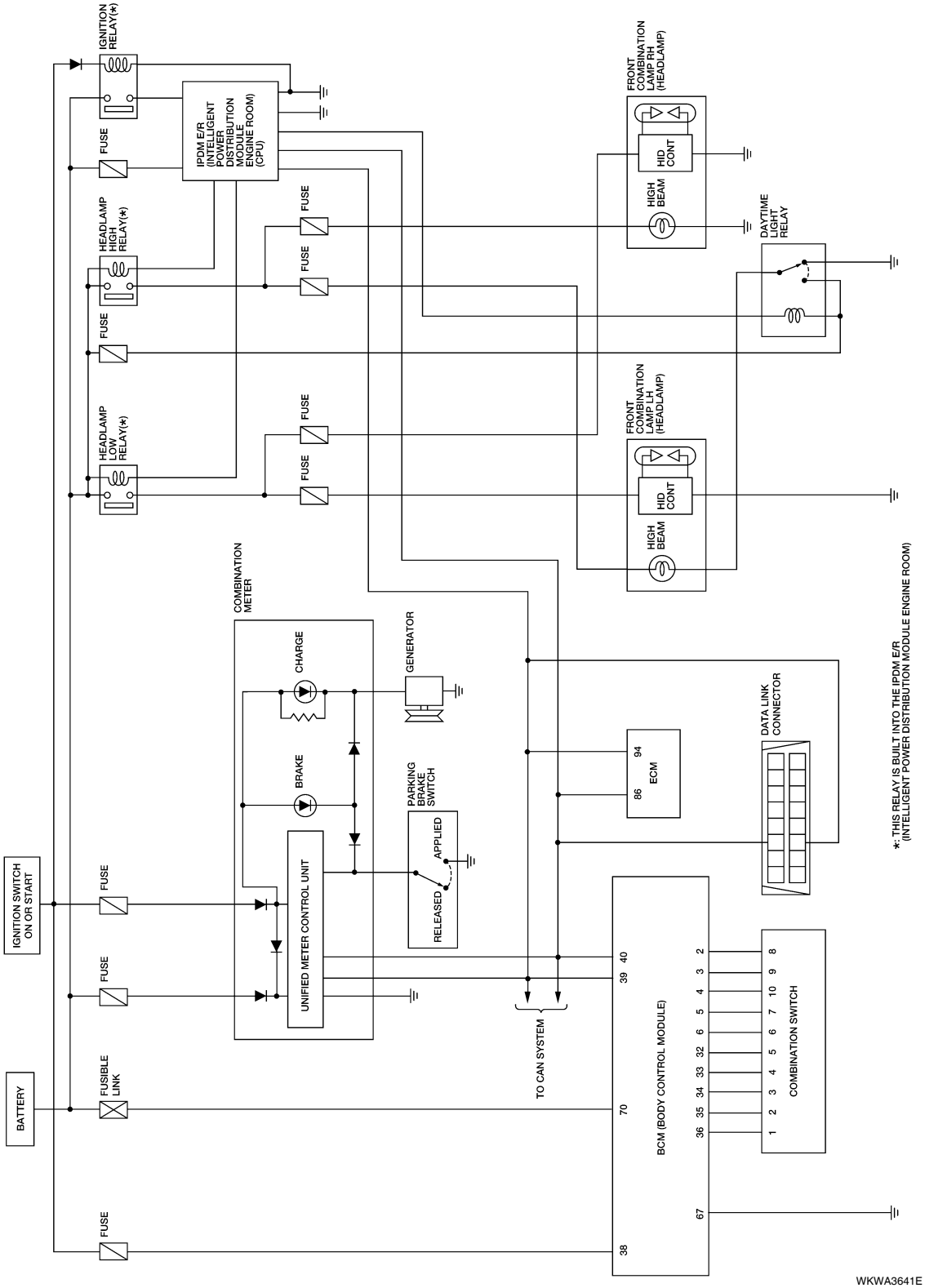
CAN Communication System Description

INFOID:0000000003533355

Refer to LAN-4, "CAN Communication System" .

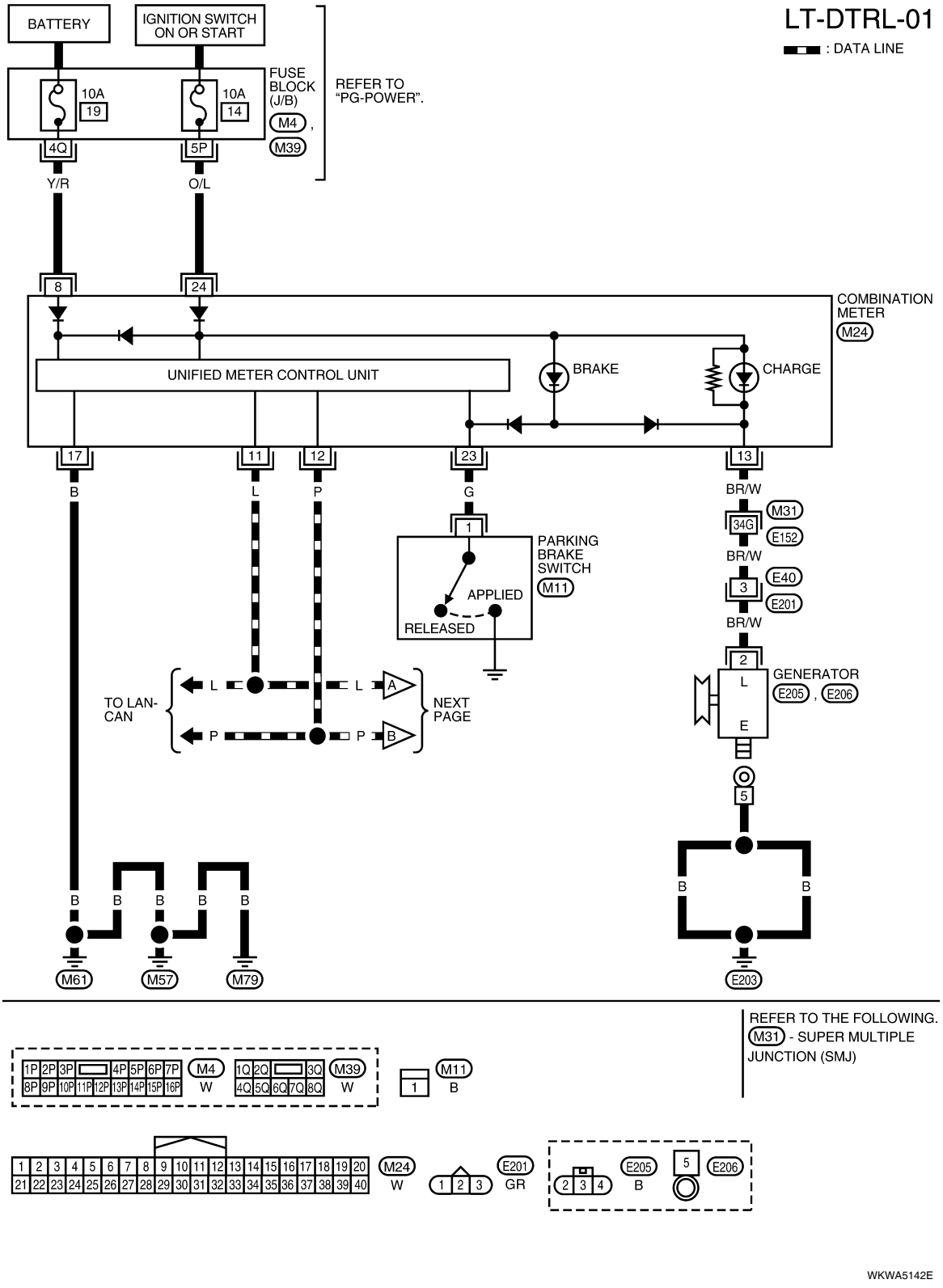
Schematic

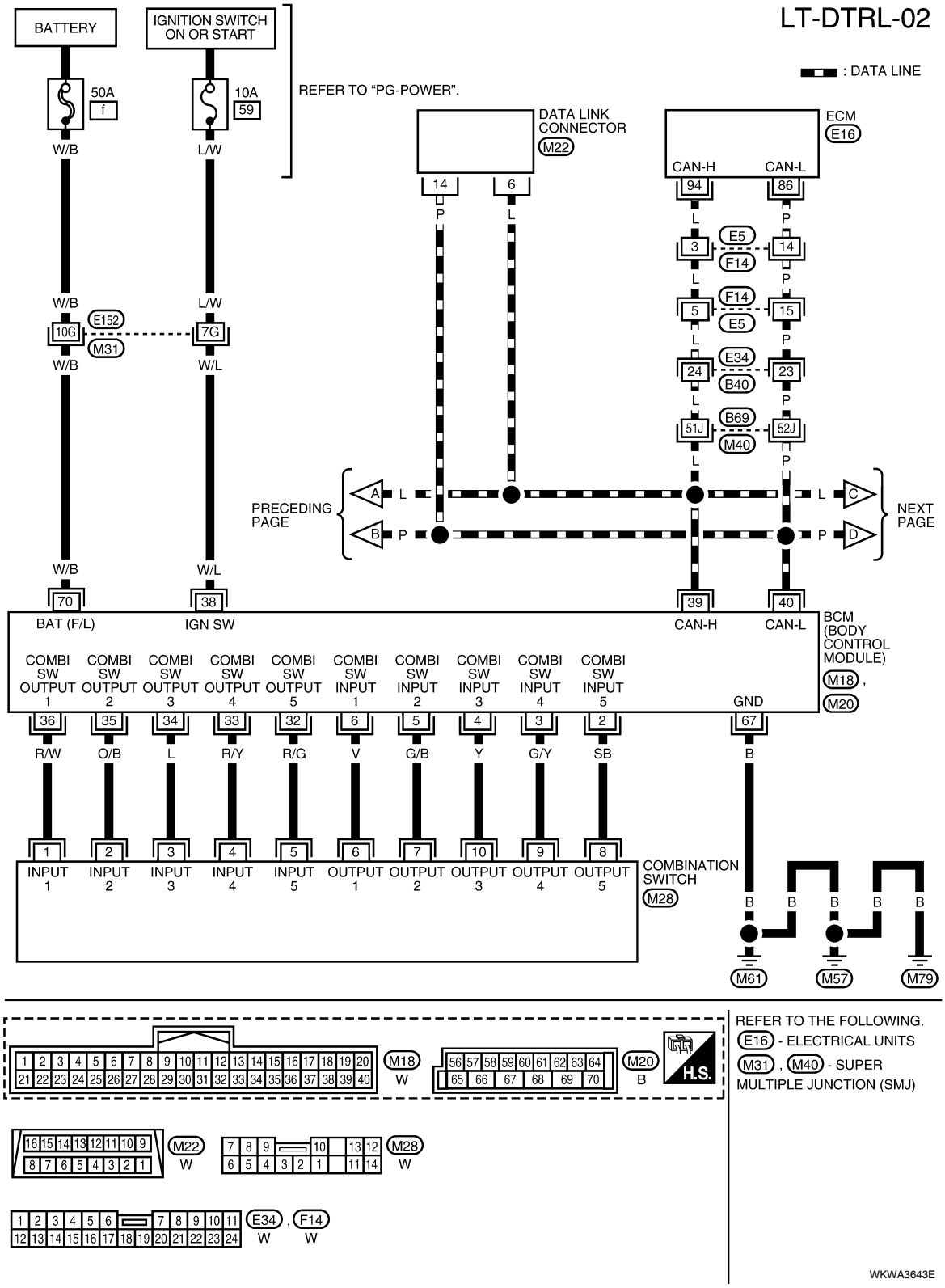
INFOID:0000000003533356

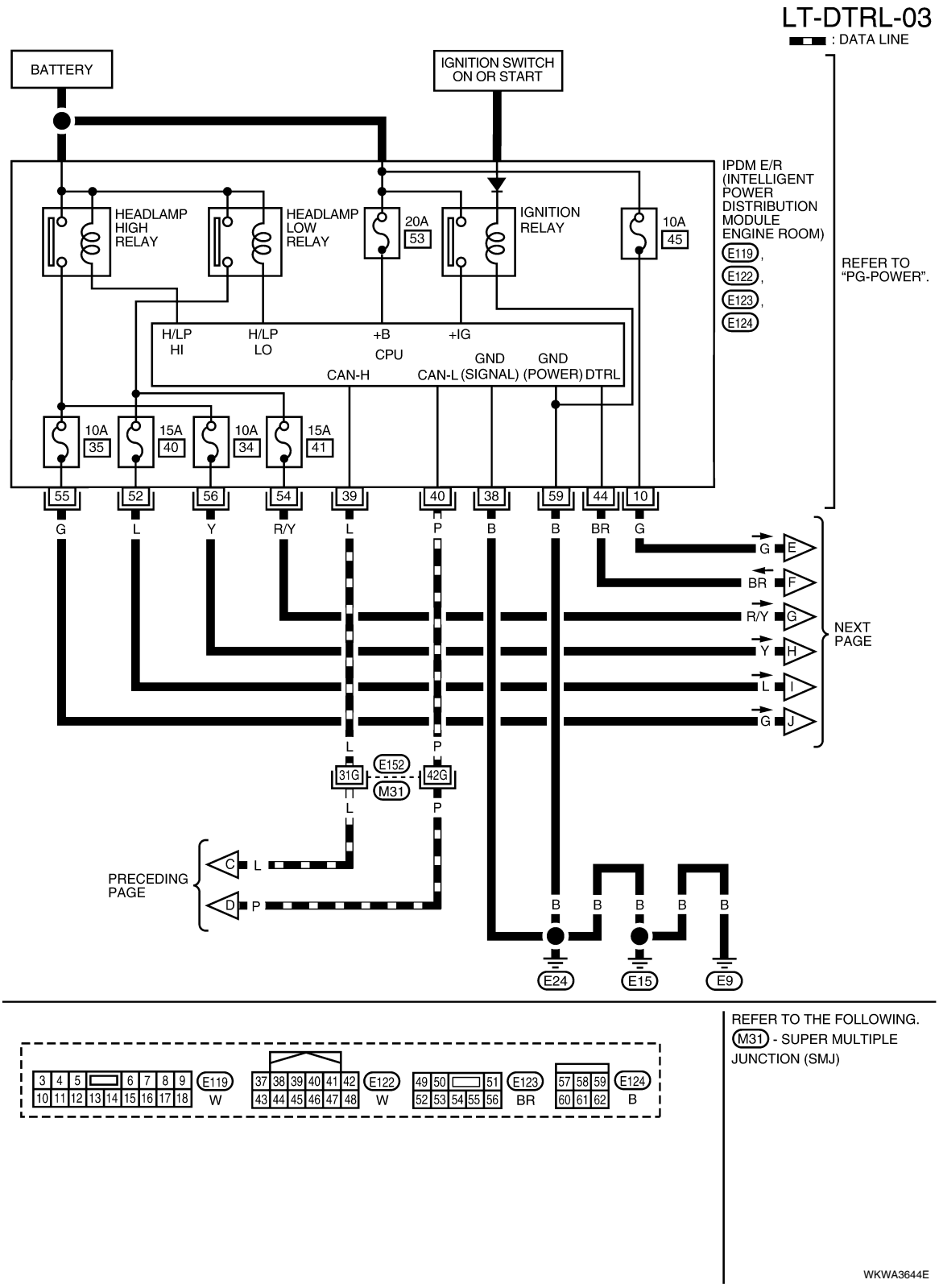


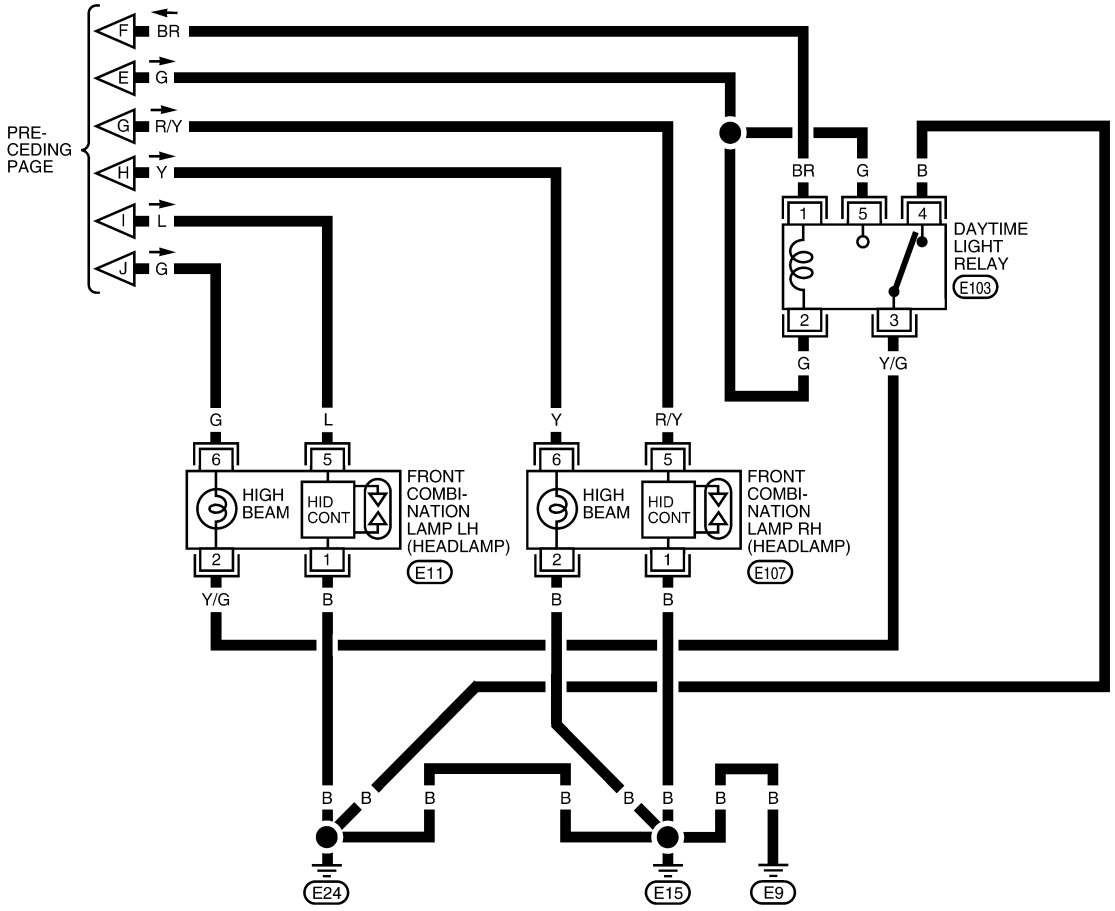
Wiring Diagram - DTRL -

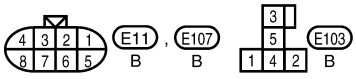
INFOID:0000000003533357




LT-DTRL-02
: DATA LINE
BATTERY
IGNITION SWITCH ON OR START
50A f
10A 59
REFER TO "PG-POWER".
DATA LINK CONNECTOR M22
ECM E16
CAN-H CAN-L
14 6
94 86
W/B L/W
E152 M31
10G 7G
W/L
E5 F14 E34 B40 B69 M40
3 14 5 15 24 23 51J 52J
PRECEDING PAGE
NEXT PAGE
A B C D
70 38 39 40
BAT (F/L) IGN SW CAN-H CAN-L
BCM (BODY CONTROL MODULE) M18, M20
COMBI SW OUTPUT 1 COMBI SW OUTPUT 2 COMBI SW OUTPUT 3 COMBI SW OUTPUT 4 COMBI SW OUTPUT 5
COMBI SW INPUT 1 COMBI SW INPUT 2 COMBI SW INPUT 3 COMBI SW INPUT 4 COMBI SW INPUT 5
GND
36 35 34 33 32 6 5 4 3 2 67
R/W O/B L R/Y R/G V G/B Y G/Y SB B
1 2 3 4 5 6 7 10 9 8
INPUT 1 INPUT 2 INPUT 3 INPUT 4 INPUT 5 OUTPUT 1 OUTPUT 2 OUTPUT 3 OUTPUT 4 OUTPUT 5
COMBINATION SWITCH M28
M61 M57 M79
M18 W
M20 B
H.S.
M22 W
M28 W
E34, F14 W W
REFER TO THE FOLLOWING.
E16 - ELECTRICAL UNITS
M31, M40 - SUPER MULTIPLE JUNCTION (SMJ)
WKWA3643E


LT-DTRL-03
: DATA LINE
BATTERY
IGNITION SWITCH ON OR START
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E119, E122, E123, E124
REFER TO "PG-POWER".
HEADLAMP HIGH RELAY
HEADLAMP LOW RELAY
20A 53
IGNITION RELAY
10A 45
H/LP HI
H/LP LO
+B
CPU
+IG
CAN-H
CAN-L
GND (SIGNAL)
GND (POWER)
DTRL
10A 35
15A 40
10A 34
15A 41
55 52 56 54 39 40 38 59 44 10
G L Y R/Y L P B B BR G
G E
BR F
R/Y G
Y H
L I
G J
NEXT PAGE
L P
E152
31G
M31
42G
L P
PRECEDING PAGE
C L
D P
B B B B B
E24 E15 E9
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 E119 W
37 38 39 40 41 42 43 44 45 46 47 48 E122 W
49 50 51 52 53 54 55 56 E123 BR
57 58 59 60 61 62 E124 B
REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)
WKWA3644E





WKWA3645E

Terminal and Reference Value for BCM

INFOID:0000000003533358

Refer to BCS-11, "Terminal and Reference Value for BCM" .

How to Proceed with Trouble Diagnosis

INFOID:0000000003533359

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-24, "System Description" .

3. Perform the Preliminary Check. Refer to LT-31, "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

INFOID:0000000003533360

CHECK BCM CONFIGURATION

1.CHECK BCM CONFIGURATION

Confirm BCM configuration for "DTRL" is set to "WITH". Refer to BCS-18, "Configuration" .

OK or NG

OK >> Continue preliminary check. Refer to BCS-15, "BCM Power Supply and Ground Circuit Inspection" .
NG >> Change BCM configuration for "DTRL" to "WITH". Refer to BCS-18, "Configuration" .

INSPECT POWER SUPPLY AND GROUND CIRCUIT FOR BCM

Refer to BCS-15, "BCM Power Supply and Ground Circuit Inspection".

INSPECTION PARKING BRAKE SWITCH CIRCUIT

1.CHECK BRAKE INDICATOR

1. Turn ignition switch ON.
2. Apply parking brake.
3. Release parking brake.

Brake indicator in combination meter should illuminate when parking brake is applied and turn OFF when released.

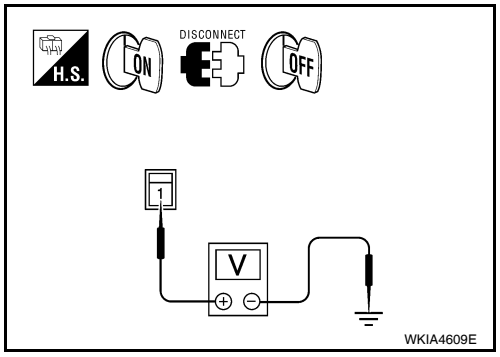
OK or NG

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

2.CHECK PARKING BRAKE SWITCH SIGNAL

1. Turn ignition switch OFF.
2. Disconnect parking brake switch connector.
3. Turn ignition switch ON.
4. Check voltage between parking brake switch connector M11 terminal 1 and ground.

1 - Ground : Battery voltage should exist.



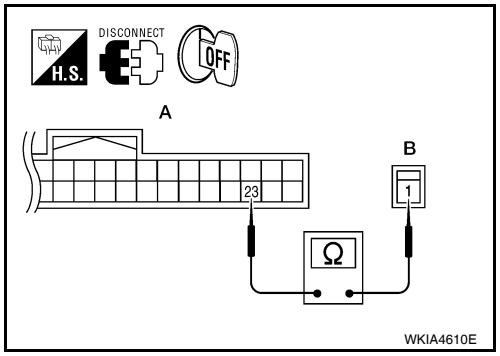
OK or NG

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 connector M24 (A) terminal 23 and parking brake switch connector M11 (B) terminal 1.

1 - 23 : Continuity should exist.



OK or NG

OK >> Replace combination meter. Refer to DI-21, "Removal and Installation of Combination Meter" .
NG >> Repair harness or connector.

CONSULT-II Function for BCM

INFOID:0000000003533361

Refer to BCS-16, "CONSULT-II Function (BCM)" .

CONSULT-II Function for IPDM E/R

INFOID:0000000003533362

Refer to PG-18, "CONSULT-II Function (IPDM E/R)" .

Daytime Light Control Does Not Operate Properly (Normal Headlamps Operate Properly)

INFOID:0000000003533363

1.CHECK FUSE

Inspect 10A fuse (No. 45, located in the IPDM E/R).

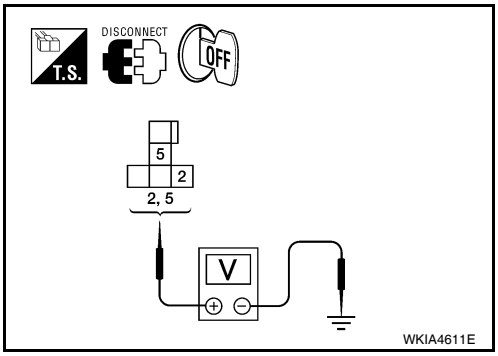
OK or NG

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

2.CHECK DAYTIME LIGHT RELAY POWER SUPPLY CIRCUIT

1. Remove daytime light relay.
2. Check voltage between daytime light relay connector E103 terminals 2, 5 and ground.

2, 5 - Ground : Battery voltage should exist.



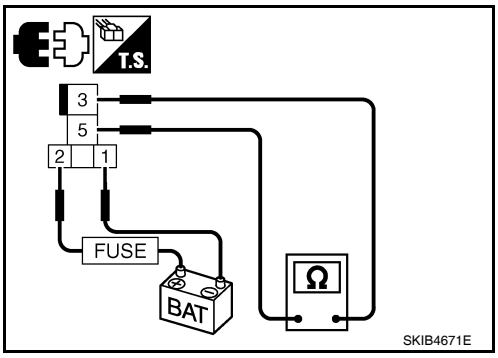
OK or NG

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

3.CHECK DAYTIME LIGHT RELAY

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

3 - 5 : Continuity should exist.



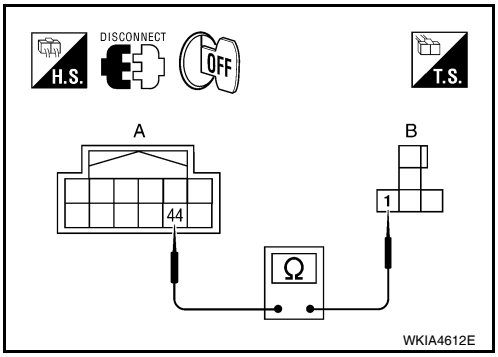
OK or NG

OK >> GO TO 4.
NG >> Replace daytime light relay.

4.CHECK DAYTIME LIGHT RELAY CIRCUIT

1. Disconnect IPDM E/R connector E122.
2. Check continuity between daytime light relay connector E103 (B) terminal 1 and front combination lamp LH connector E122 (A) terminal 44.

44 - 1 : Continuity should exist.



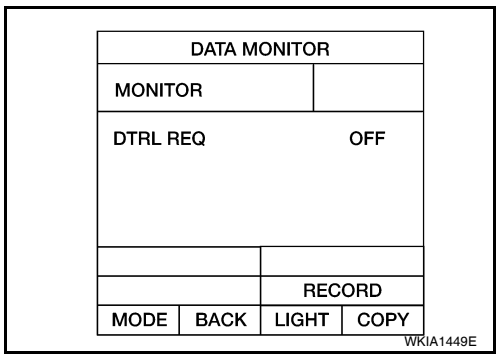
OK or NG

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

5.CHECK INPUT SIGNAL

1. Connect daytime light relay and IPDM E/R connector.
2. Apply parking brake and start engine. Headlamp switch OFF.
3. Select "IPDM E/R" on CONSULT-II. With data monitor, make sure "DTRL REQ" turns OFF-ON linked with operation of parking brake switch.

Parking brake ON : DTRL REQ OFF
Parking brake OFF : DTRL REQ ON



OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .

NG >> GO TO 6.

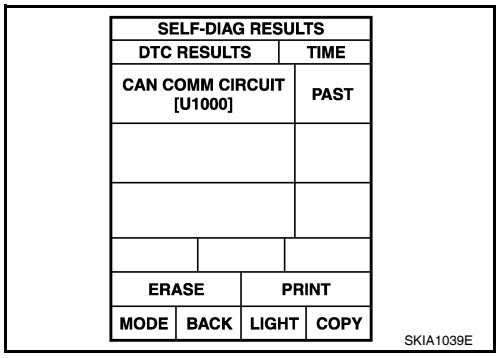
6. CHECKING CAN COMMUNICATIONS

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

Displayed self-diagnosis results

NO DTC>> Replace BCM. Refer to BCS-24, "BCM" .

CAN COMM CIRCUIT>> Check BCM CAN communication system. Refer to BCS-18, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)" .



Aiming Adjustment

INFOID:0000000003533364

Refer to LT-20, "Aiming Adjustment".

Bulb Replacement

INFOID:0000000003533365

Refer to LT-21, "Bulb Replacement".

Removal and Installation

INFOID:0000000003533366

Refer to LT-22, "Removal and Installation".

Disassembly and Assembly

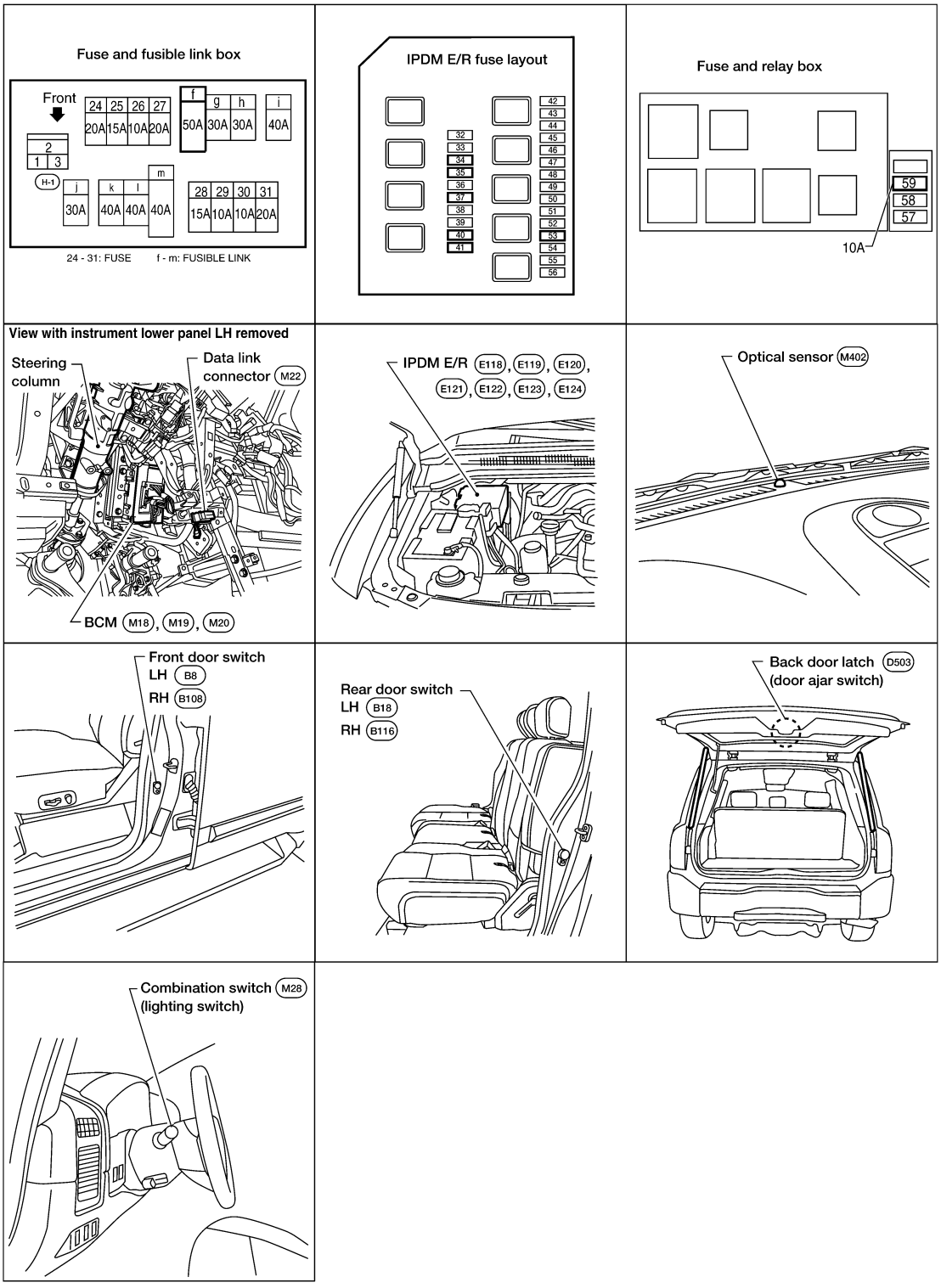
INFOID:0000000003533367

Refer to LT-23, "Disassembly and Assembly".

AUTO LIGHT SYSTEM

Component Parts and Harness Connector Location

INFOID:0000000003533368



WKIA3552E

System Description

INFOID:0000000003533369

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-40, "Preliminary Check" .
Optical sensor ground is supplied
- to optical sensor terminal 3
- through BCM (body control module) terminal 18.

When ignition switch is turned to “ON” position and when outside brightness is darker than prescribed level, input is supplied
- to BCM terminal 58
- through optical sensor terminal 4.

The headlamps will then illuminate. For a description of headlamp operation, refer to LT-5, "System Description" .

COMBINATION SWITCH READING FUNCTION

Refer to BCS-3, "System Description" .

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 headlamps 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 (LH), front door switch (RH), 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

INFOID:0000000003533370

Refer to LAN-4, "CAN Communication System" .

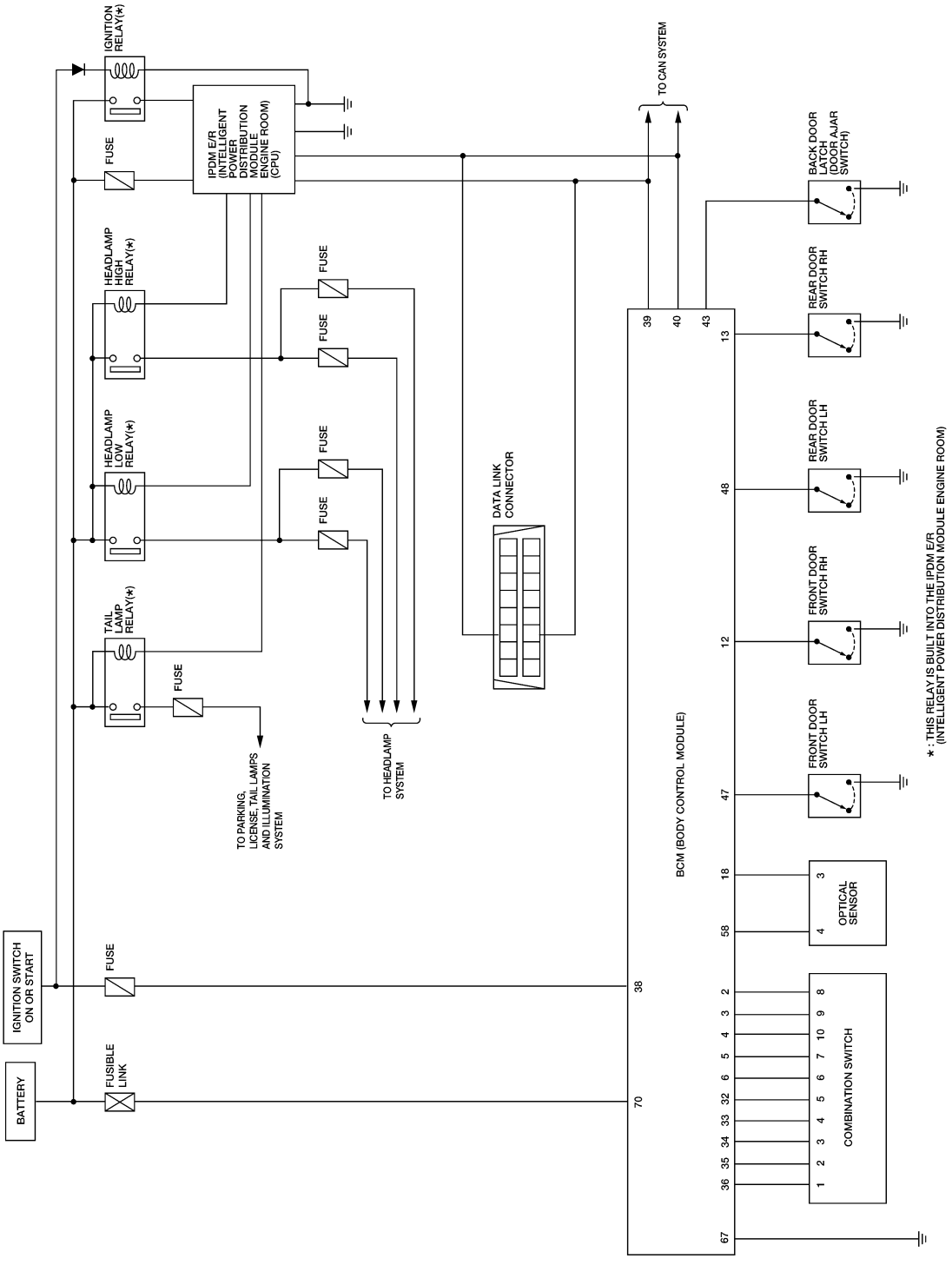
Major Component and Functions

INFOID:0000000003533371

Components	Functions
BCM	• Turns on/off circuits of tail light and headlamp according to signals from light sensor, lighting switch (AUTO), front door switch LH, front door switch RH, rear door switch, back door latch (door ajar 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

INFOID:0000000003533372

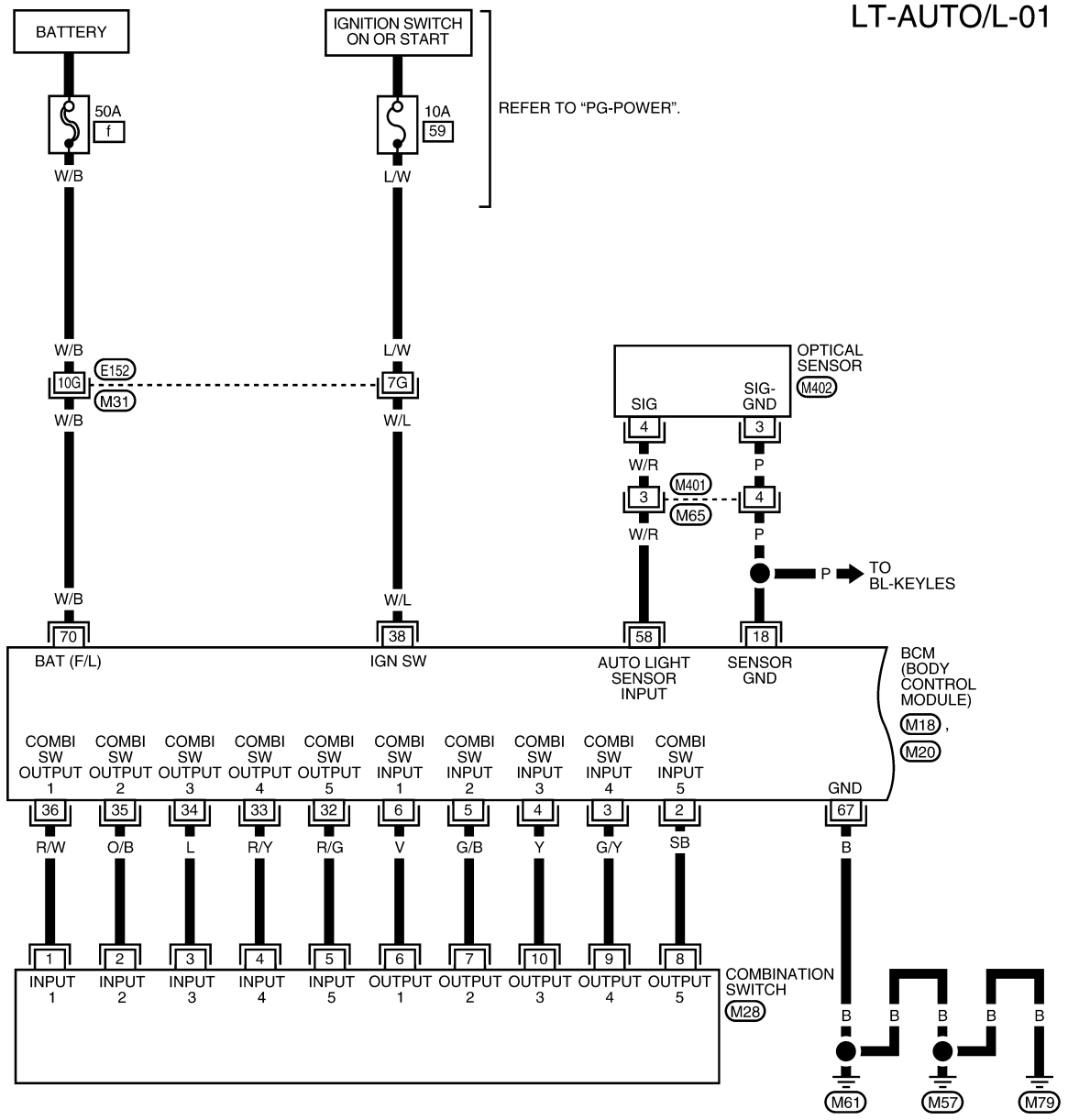


WKWA3646E

Wiring Diagram - AUTO/L -

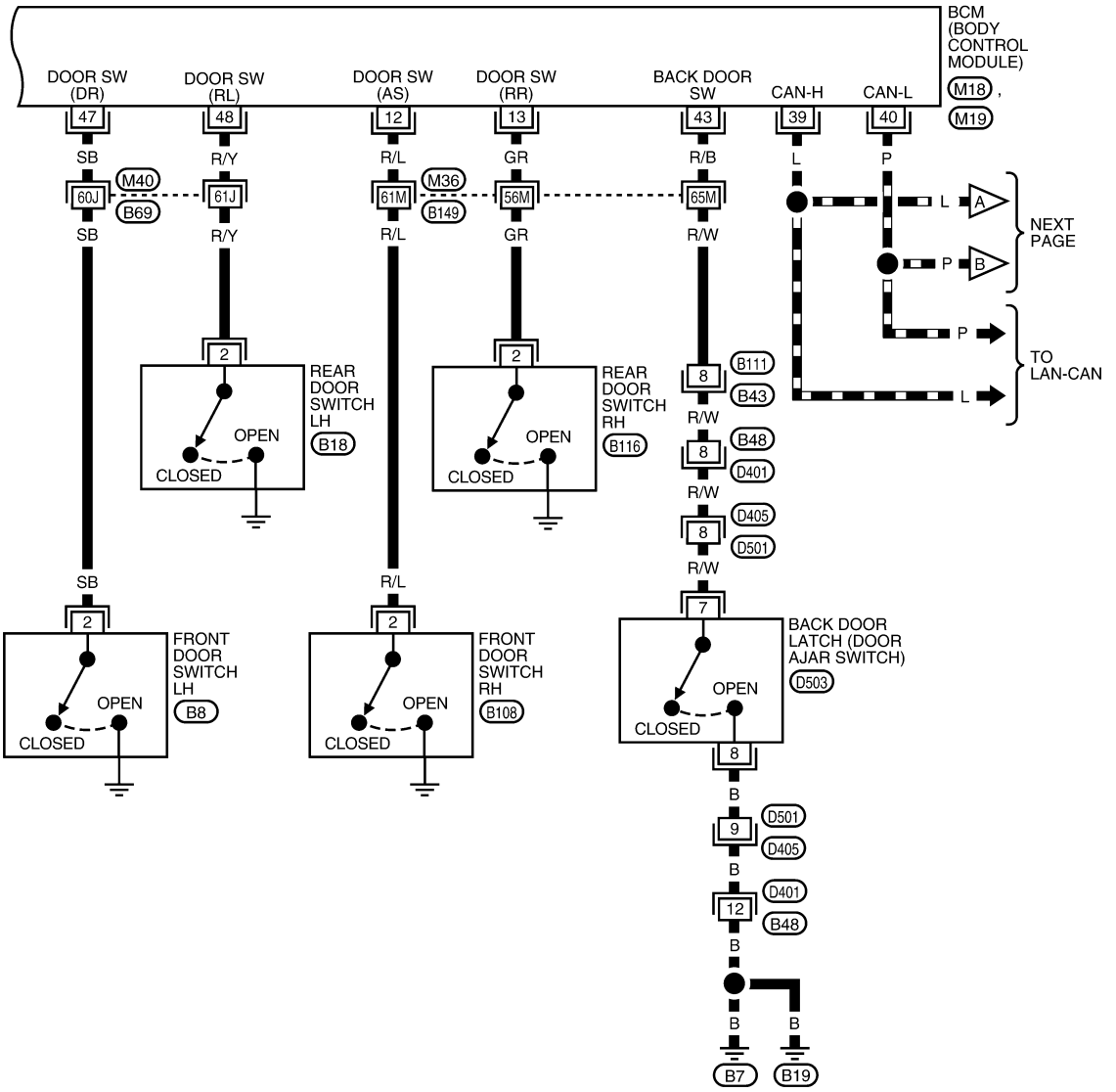
INFOID:0000000003533373

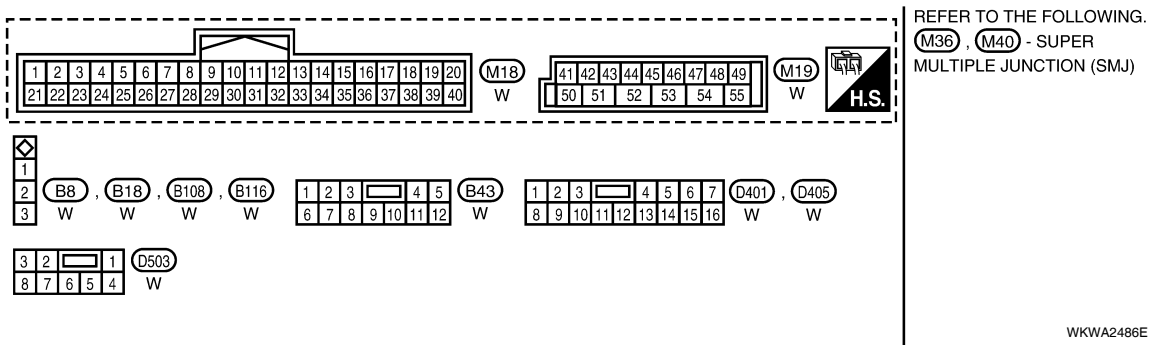
LT-AUTO/L-01

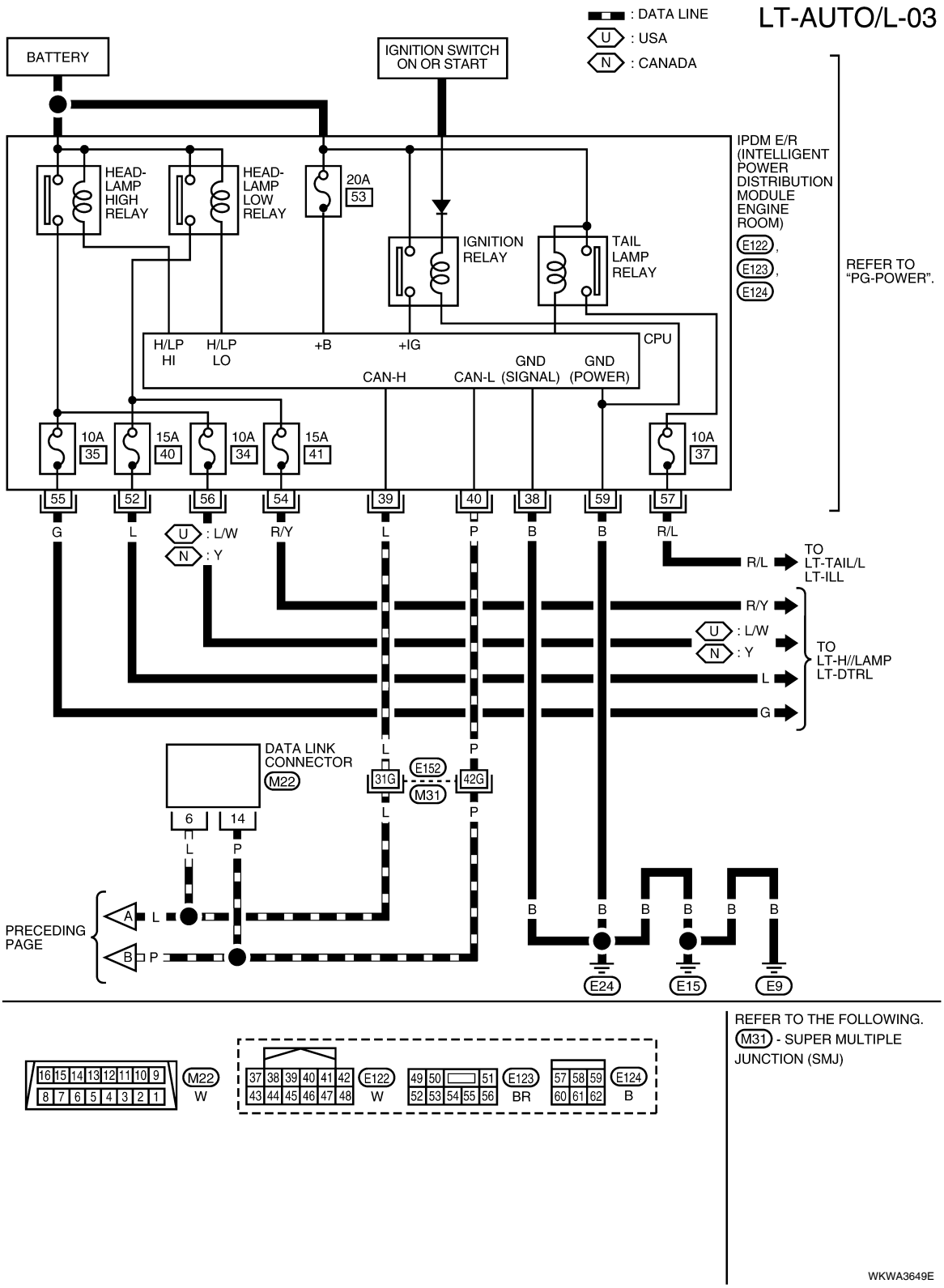


LT-AUTO/L-02

: DATA LINE







Terminal and Reference Value for BCM

INFOID:0000000003533374

Refer to BCS-11, "Terminal and Reference Value for BCM"

Terminal and Reference Value for IPDM E/R

INFOID:0000000003533375

Refer to PG-22, "Terminal and Reference Value for IPDM E/R"

How to Proceed with Trouble Diagnosis

INFOID:0000000003533376

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-34, "System Description" .
3. Carry out the Preliminary Check. Refer to LT-40, "Preliminary Check" .
4. Check symptom and repair or replace the component. Refer to LT-42, "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

INFOID:0000000003533377

SETTING CHANGE FUNCTIONS

- Sensitivity of auto light system can be adjusted using CONSULT-II. Refer to LT-40, "CONSULT-II Function (BCM)" .

CHECK POWER SUPPLY AND GROUND CIRCUIT FOR BCM

Refer to BCS-15, "BCM Power Supply and Ground Circuit Inspection" .

CHECK POWER SUPPLY AND GROUND CIRCUIT FOR IPDM E/R

Refer to PG-26, "IPDM E/R Power/Ground Circuit Inspection" .

CONSULT-II Function (BCM)

INFOID:0000000003533378

Refer to BCS-16, "CONSULT-II Function (BCM)".

CONSULT-II START PROCEDURE

Refer to GI-36, "CONSULT-II Start Procedure" .

WORK SUPPORT

Work Support Setting Item

- Delay timer setting can be selected and set from eight modes.
- 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-default)/ MODE 2 (Desensitized)/MODE 3 (Sensitive)/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

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.

Monitor item		Contents
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 front door LH as judged from the front door switch LH signal. (Door is open: ON/Door is closed: OFF)
DOOR SW-AS	"ON/OFF"	Displays status of the front door RH as judged from the front door switch RH 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 latch (door ajar 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.
CARGO LAMP SW	"ON/OFF"	Displays status of cargo lamp.
OPTICAL SENSOR	[0 - 5V]	Displays "ambient light (close to 5V when dark/close to 0V when light)" judged from optical sensor signal.

ACTIVE TEST

Display Item List

Test item	Description
TAIL LAMP	Allows tail lamp relay to operate by switching ON-OFF.
HEAD LAMP	Allows headlamp relay (HI, LO) to operate by switching ON-OFF.
FR FOG LAMP	Allows fog lamp relay to operate by switching ON-OFF.
CARGO LAMP	Allows cargo lamp to operate by switching ON-OFF.

SELF-DIAGNOSTIC RESULTS

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)

INFOID:0000000003533379

Refer to PG-18, "CONSULT-II Function (IPDM E/R)" .

CONSULT-II START PROCEDURE

Refer to GI-36, "CONSULT-II Start Procedure" .

DATA MONITOR

All Items, Main Items, Select Item Menu

Item name	CONSULT-II screen display	Display or unit	Monitor item selection			Description
			ALL SIGNALS	MAIN SIGNALS	SELECTION FROM MENU	
Parking, license plate and tail lamps 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 lamps 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

Test item	CONSULT-II screen display	Description
Tail lamp relay output	TAIL LAMP	Allows tail lamp relay to operate by switching operation ON-OFF at your option.
Headlamp relay (HI, LO) output	LAMPS	Allows headlamp relay (HI, LO) to operate by switching operation (OFF, HI, LO) 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.

Trouble Diagnosis Chart by Symptom

INFOID:0000000003533380

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-40, "CONSULT-II Function (BCM)" . • Refer to LT-73, "Combination Switch Inspection" . • Refer to LT-43, "Optical Sensor System Inspection" . If above systems are normal, replace BCM. Refer to BCS-24, "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-40, "CONSULT-II Function (BCM)" . • Refer to LT-43, "Optical Sensor System Inspection" . If above systems are normal, replace BCM. Refer to BCS-24, "BCM" .
Auto light adjustment system will not operate. (Lighting switch AUTO, 1st position and 2nd position operate normally.)	• Refer to LT-43, "Optical Sensor System Inspection" . If above system is normal, replace BCM. Refer to BCS-24, "BCM" .
Auto light adjustment system will not operate.	• CAN communication line to BCM inspection. Refer to BCS-18, "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-18, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)" . • Refer toBL-25, "Door Switch Check" . If above system is normal, replace BCM. Refer to BCS-24, "BCM" .

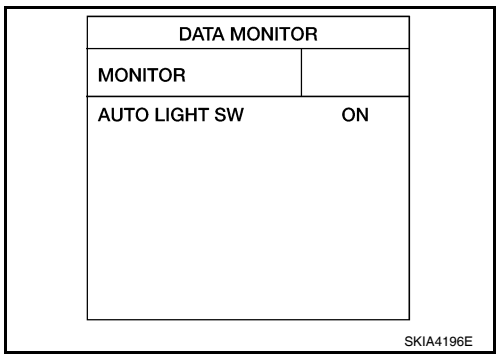
Lighting Switch Inspection

INFOID:0000000003533381

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-73, "Combination Switch Inspection" .

OK or NG

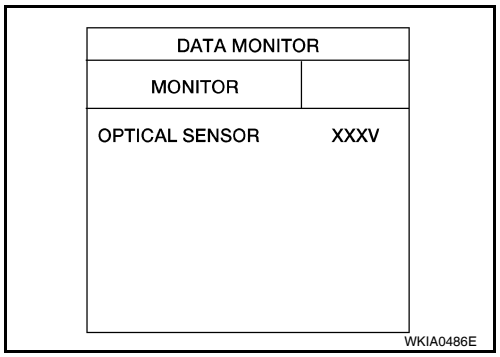
OK >> Inspection End.
NG >> Check lighting switch. Refer to LT-73, "Combination Switch Inspection" .

Optical Sensor System Inspection

INFOID:0000000003533382

1.CHECK OPTICAL SENSOR INPUT SIGNAL

With CONSULT-II
Select "BCM" on CONSULT-II. With "OPTICAL SENSOR" data monitor, 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

NOTE:
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.

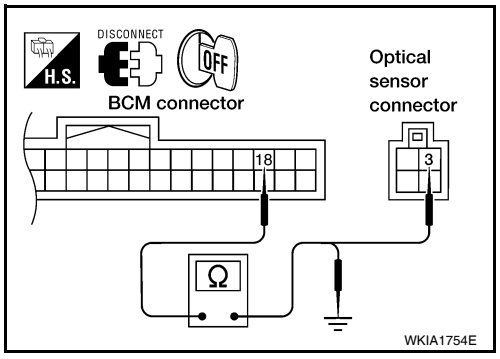
2.CHECK OPTICAL SENSOR SIGNAL GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connectors and optical sensor connector.
3. Check continuity (open circuit) between BCM harness connector M18 terminal 18 and optical sensor harness connector M402 terminal 3.

18 - 3 : Continuity should exist.

4. Check continuity (short circuit) between BCM harness connector M18 terminal 18 and ground.

18 - Ground : Continuity should not exist.



OK or NG

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

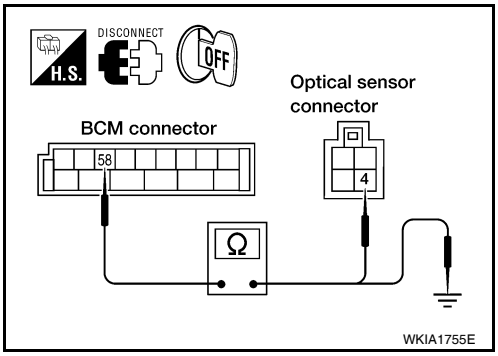
3.CHECK OPTICAL SENSOR SIGNAL CIRCUIT

1. Check continuity (open circuit) between BCM harness connector M20 terminal 58 and optical sensor harness connector M402 terminal 4.

58 - 4 : Continuity should exist.

2. Check continuity (short circuit) between BCM harness connector M20 terminal 58 and ground.

58 - Ground : Continuity should not exist.



OK or NG

OK >> Replace optical sensor. Refer to LT-44, "Optical Sensor" . Recheck sensor output with CONSULT-II. If NG, replace BCM. Refer to BCS-24, "BCM" .

NG >> Repair harness or connector.

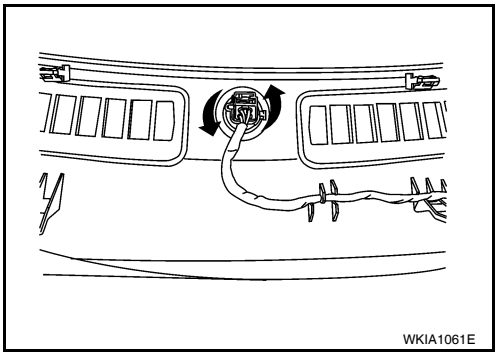
Optical Sensor

INFOID:0000000003533383

REMOVAL AND INSTALLATION

Removal

1. Remove defrost grille. Refer to IP-10.
2. Disconnect the connector.
3. Turn the optical sensor counterclockwise to remove it from defroster grille.



Installation

Installation is in the reverse order of removal.

HEADLAMP AIMING CONTROL

System Description

INFOID:0000000003533384

The headlamp aiming system is controlled by the headlamp aiming switch.
Power is supplied at all times
- to ignition relay, located in the IPDM E/R (intelligent power distribution module engine room), and
- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM (body control module) terminal 70, and
- to headlamp low relay, located in the IPDM E/R (intelligent power distribution module engine room), and
- through 20A fuse (No. 53, located in the IPDM E/R)
- to CPU (central processing unit) of the IPDM E/R.

With the ignition switch in the ON or START position, power is supplied
- to ignition relay, located in the IPDM E/R, and
- through 10A fuse (No. 59, located in the fuse and relay box)
- to BCM terminal 38.

When the ignition switch is in the ACC or ON position, power is supplied
- through 10A fuse [No. 4, located in the fuse block (J/B)]
- to BCM terminal 11.

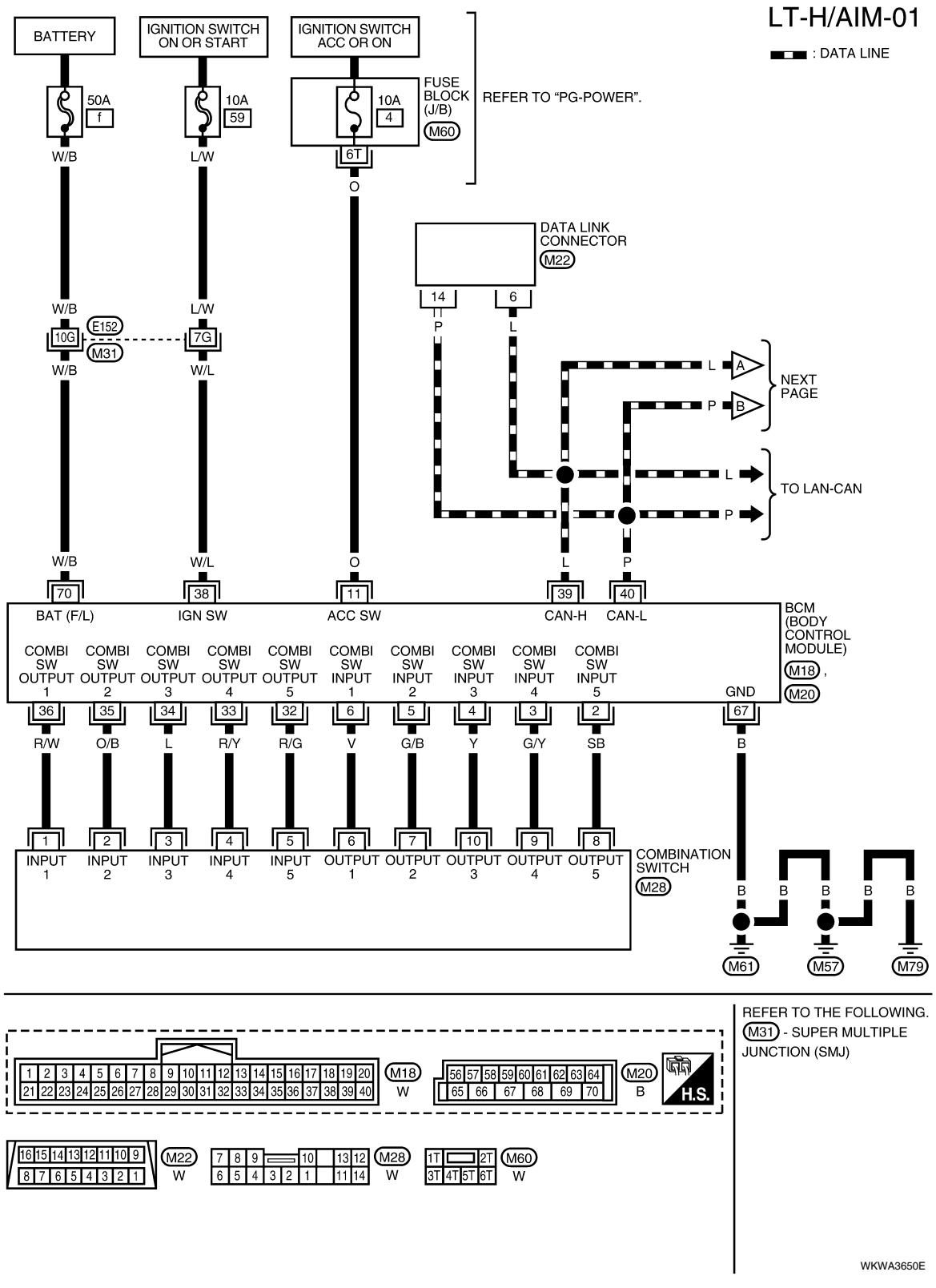
When the lighting switch is in the 2ND position or AUTO position (auto lights ON), the headlamp low relay (located in the IPDM E/R) is energized. When energized, power is supplied
- through 15A fuse (No. 41, located in the IPDM E/R)
- through IPDM E/R terminal 26
- to front combination lamp LH and RH (headlamp aiming motor) terminal 8.

Ground is supplied
- to front combination lamp LH and RH (headlamp aiming motor) terminal 4
- through grounds E9, E15 and E24, and
- to front combination lamp LH and RH (headlamp aiming motor) terminal 7
- through headlamp aiming switch terminal 1
- through headlamp aiming switch terminal 2
- through grounds M57, M61 and M79.

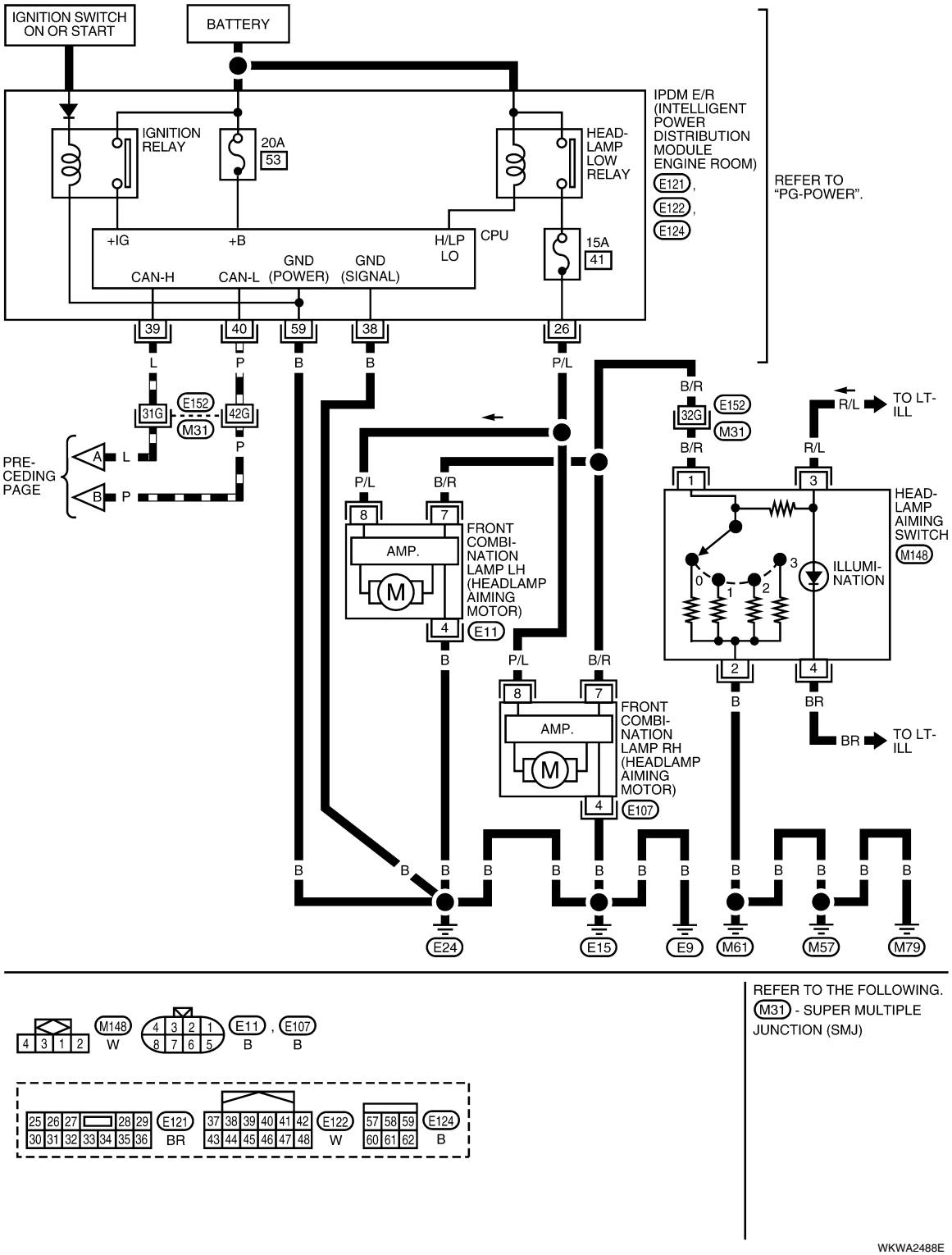
With power and ground supplied, headlamp aiming motors operate according to the aiming switch position.

Wiring Diagram - H/AIM -

INFOID:0000000003533385



LT-H/AIM-02



WKWA2488E

Headlamp Aiming Switch

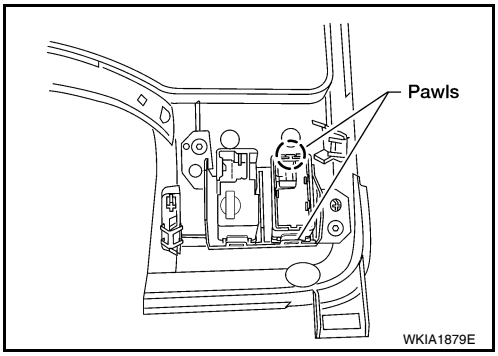
INFOID:0000000003533386

REMOVAL AND INSTALLATION

Removal

1. Remove cluster lid A. Refer to IP-10.

2. Carefully release the headlamp aiming switch retaining pawls and remove the switch.



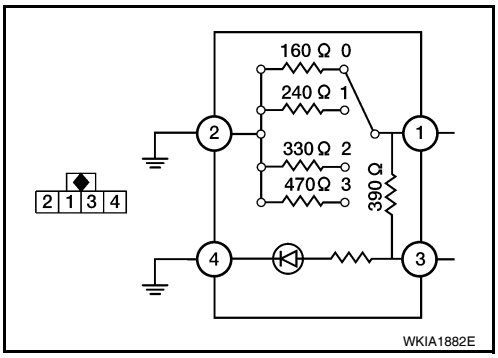
Installation
Installation is in the reverse order of removal.

Switch Circuit Inspection

INFOID:0000000003533387

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

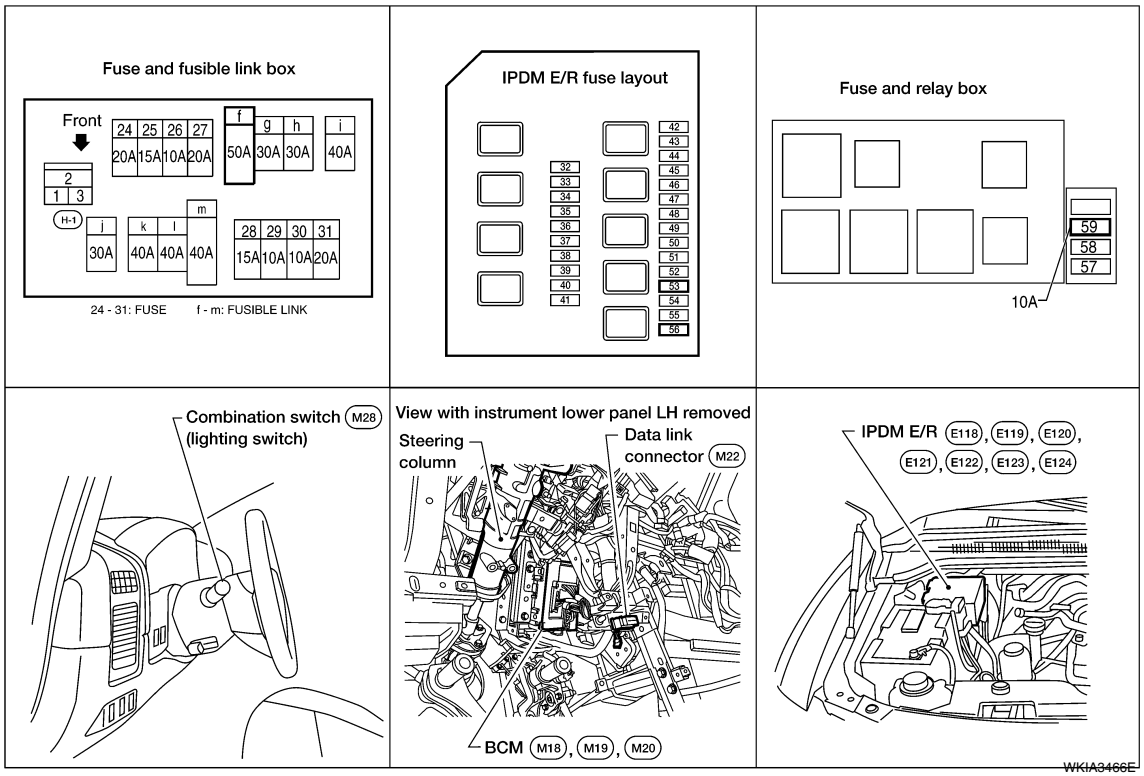
Resistor tolerance : ±5%



FRONT FOG LAMP

Component Parts and Harness Connector Location

INFOID:0000000003533388



System Description

INFOID:0000000003533389

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
- to ignition relay, located in the IPDM E/R,
- to front fog lamp relay, located in the IPDM E/R,
- through 20A fuse (No. 53, located in the IPDM E/R)
- to CPU of the IPDM E/R, and
- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 70.

When the ignition switch is in ON or START position, power is supplied
- to ignition relay, located in the IPDM E/R, and
- through 10A fuse (No. 59, located in the fuse and relay box)
- to BCM terminal 38.

Ground is supplied
- to BCM terminal 67
- through grounds M57, M61 and M79, and
- to IPDM E/R terminals 38 and 59
- through grounds E9, 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 20A fuse (No. 56, located in the IPDM E/R)
- through IPDM E/R terminal 50
- to front turn/fog lamp LH terminal 1, and
- through IPDM E/R terminal 51
- to front turn/fog lamp RH terminal 1.

Ground is supplied
- to front turn/fog lamp LH and RH terminal 3
- through grounds E9, E15 and E24.

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

COMBINATION SWITCH READING FUNCTION

Refer to BCS-3, "System Description" .

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.

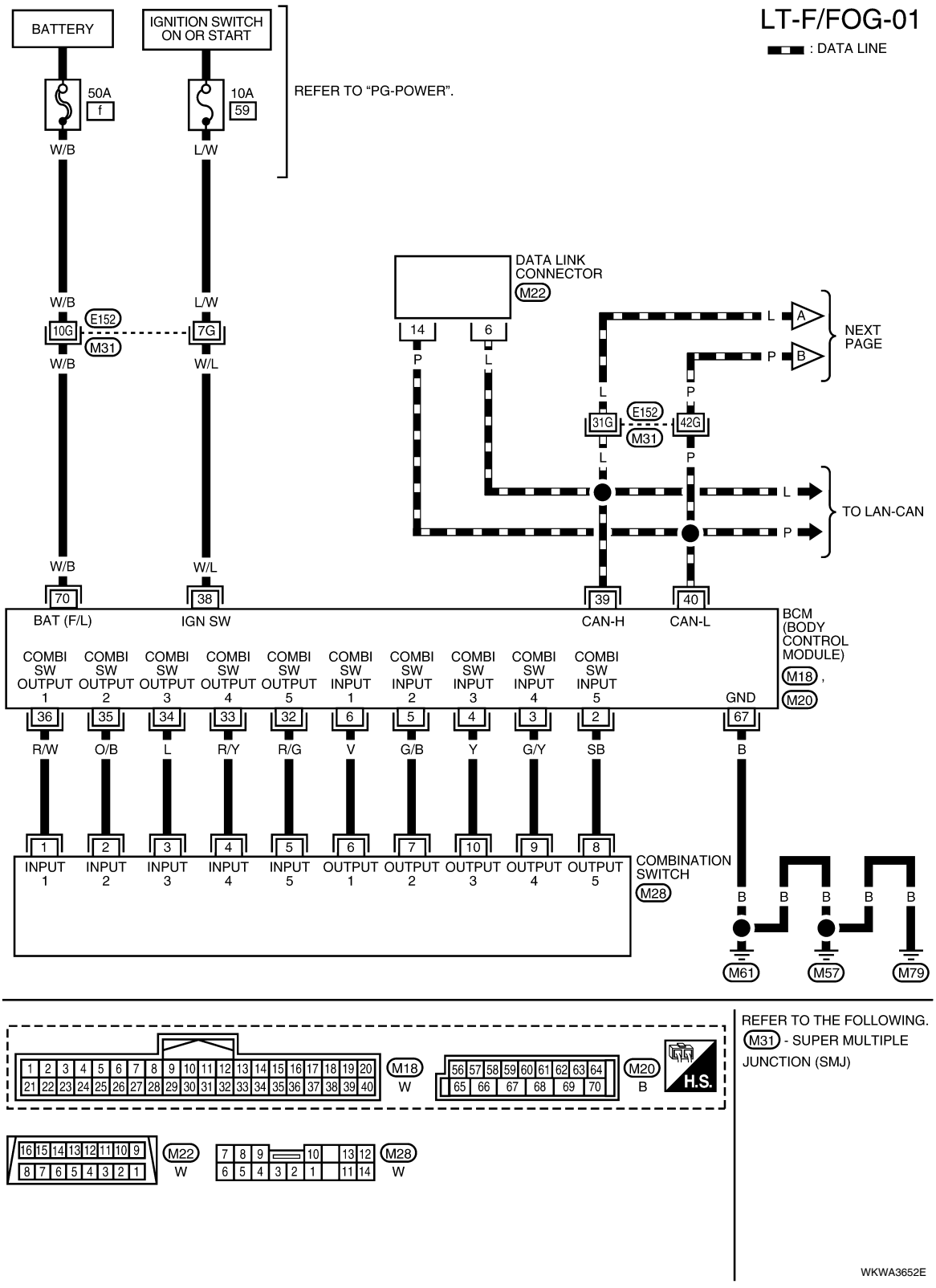
CAN Communication System Description

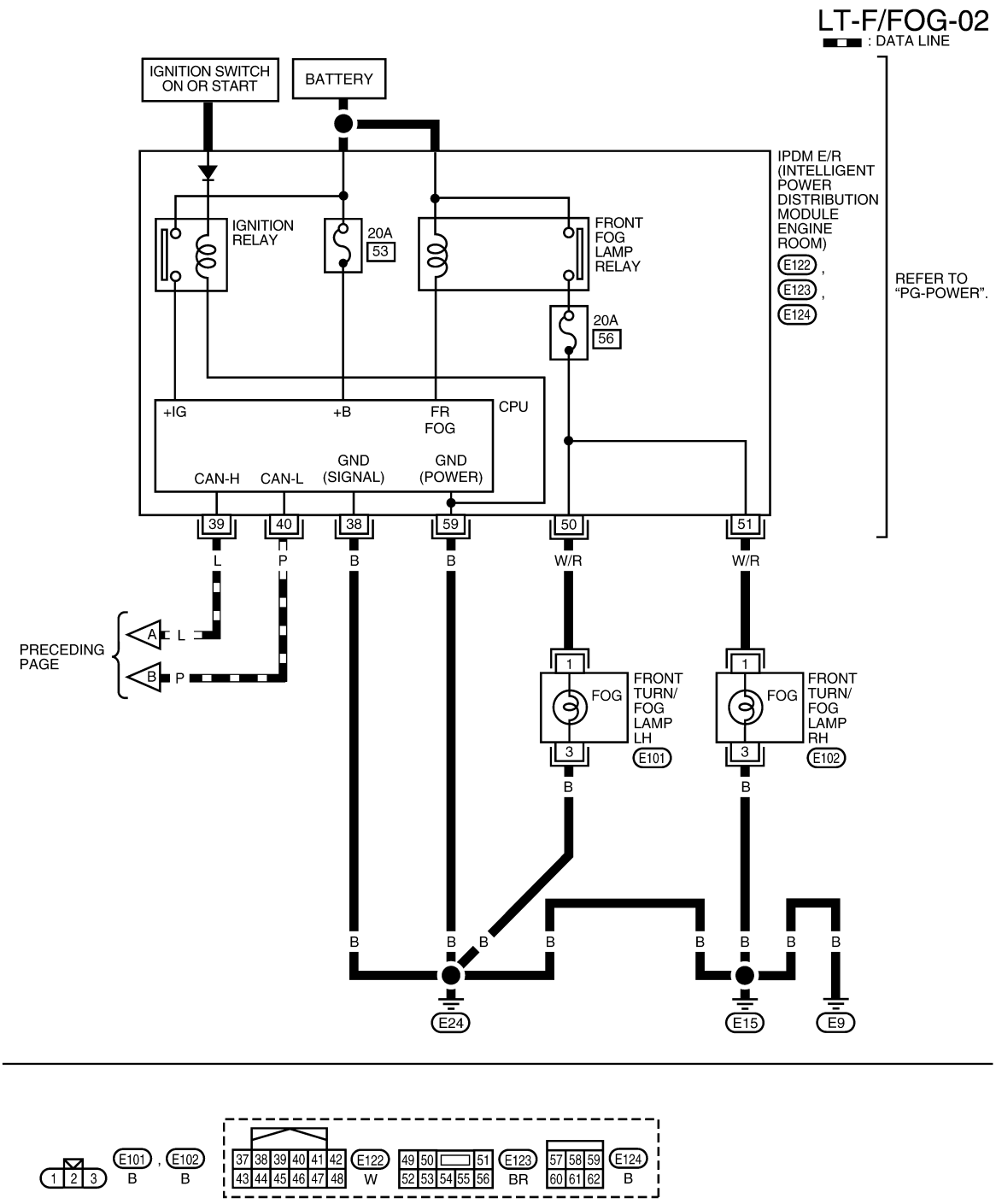
INFOID:0000000003533390

Refer to LAN-4, "CAN Communication System" .

Wiring Diagram - F/FOG -

INFOID:0000000003533391





WKWA3653E

Terminal and Reference Value for BCM

INFOID:0000000003533392

Refer to BCS-11, "Terminal and Reference Value for BCM" .

Terminal and Reference Value for IPDM E/R

INFOID:0000000003533393

Refer to PG-22, "Terminal and Reference Value for IPDM E/R" .

How to Proceed with Trouble Diagnosis

INFOID:0000000003533394

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-49, "System Description" .
3. Perform the Preliminary Check. Refer toLT-53, "Preliminary Check" .
4. Check symptom and repair or replace the component.
5. Does the front fog lamp operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. Inspection End.

Preliminary Check

INFOID:0000000003533395

CHECK POWER SUPPLY AND GROUND CIRCUIT FOR BCM
Refer to BCS-15, "BCM Power Supply and Ground Circuit Inspection" .

CHECK POWER SUPPLY AND GROUND CIRCUIT FOR IPDM E/R
Refer to PG-26, "IPDM E/R Power/Ground Circuit Inspection" .

CONSULT-II Function for BCM

INFOID:0000000003533396

Refer to BCS-16, "CONSULT-II Function (BCM)" .

CONSULT-II Function for IPDM E/R

INFOID:0000000003533397

Refer to PG-18, "CONSULT-II Function (IPDM E/R)" .

Front Fog Lamps Do Not Illuminate (Both Sides)

INFOID:0000000003533398

1.CHECK FUSE

Inspect 20A fuse (No. 56, located in the IPDM E/R).

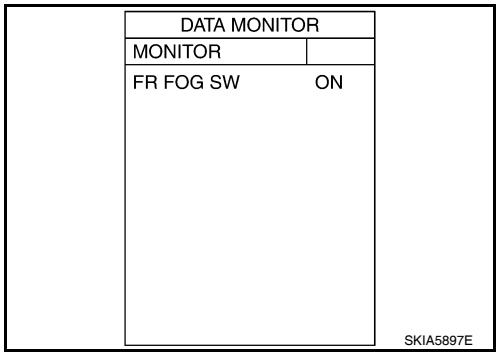
OK or NG

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

2.CHECK COMBINATION SWITCH INPUT SIGNAL

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 in FOG position : FR FOG SW ON



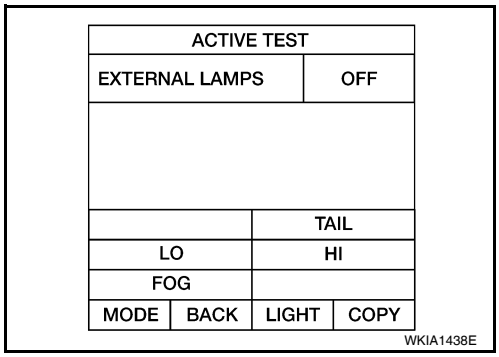
OK or NG

OK >> GO TO 3.
NG >> Check lighting switch. Refer to LT-73, "Combination Switch Inspection".

3.FOG LAMP ACTIVE TEST

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

Fog lamps should operate.



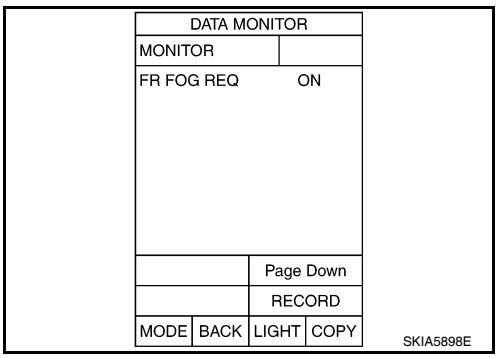
OK or NG

OK >> GO TO 4.
NG >> GO TO 5.

4.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 in FOG position : FR FOG REQ ON

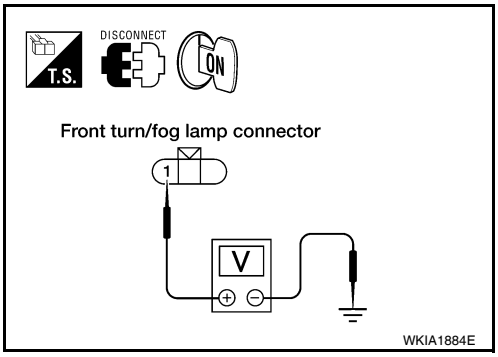


OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R".
NG >> Replace BCM. Refer to BCS-24, "BCM".

5.IPDM E/R INSPECTION

1. Disconnect front turn/fog lamp connectors
2. Start auto active test. Refer to PG-20, "Auto Active Test". When front fog lamp relay is operating, check voltage between left/right front turn/fog lamp connector terminal and ground.



Front turn/fog lamp (+)			(–)	Voltage (Approx.)
Connector		Terminal		
LH	E101	1	Ground	Battery voltage
RH	E102	1		

OK or NG

OK >> Check front fog lamp bulbs and replace as necessary.
NG >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R".

Front Fog Lamp Does Not Illuminate (One Side)

INFOID:0000000003533399

1.BULB INSPECTION

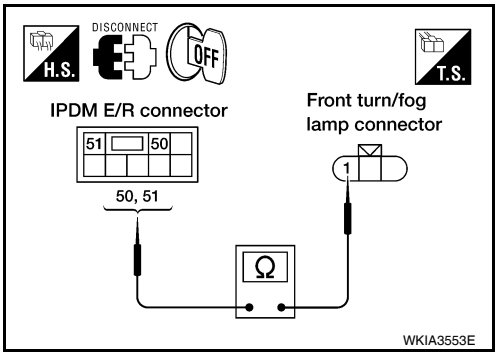
Inspect bulbs of lamps which do not illuminate.

OK or NG

OK >> GO TO 2.
NG >> Replace lamp bulb. Refer to LT-55, "Bulb Replacement".

2.INSPECTION BETWEEN IPDM E/R AND FRONT FOG LAMPS

1. Disconnect IPDM E/R connector and inoperative front fog lamp connector.
2. Check continuity between harness connector terminals of IPDM E/R and harness connector terminal of front turn/fog lamps.



IPDM E/R		Front turn/fog lamp			Continuity
Connector	Terminal	Connector		Terminal	
E123	50	LH	E101	1	Yes
	51	RH	E102	1	

OK or NG

OK >> Check ground circuit. If OK, replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R". If NG, repair harness or connector.
NG >> Check for short circuits and open circuits in harness between IPDM E/R and front turn/fog lamps.

Aiming Adjustment

INFOID:0000000003533400

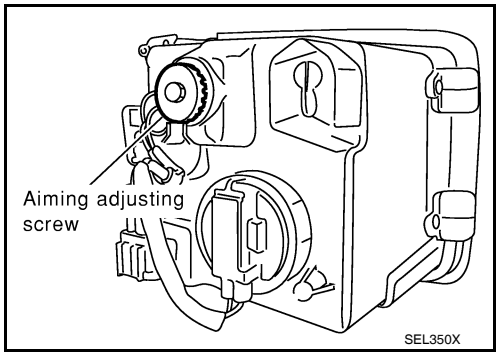
The fog lamp is a semi-sealed beam type which uses a replaceable halogen bulb. Before performing aiming adjustment, make sure of the following.

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

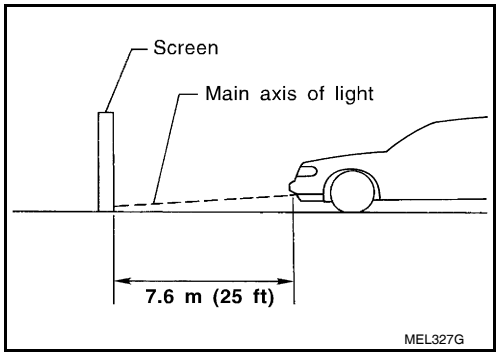
Adjust aiming in the vertical direction by turning the adjustment screw.

NOTE:

Access adjustment screw from underneath front bumper. Turn screw clockwise to raise pattern and counterclockwise to lower pattern.

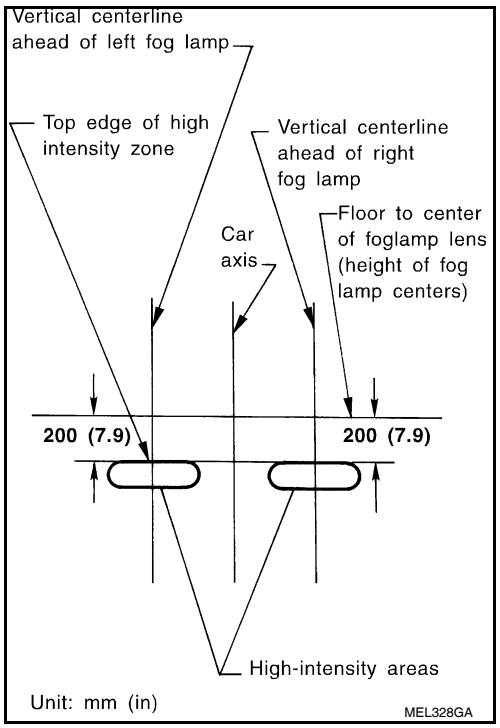


1. Set the distance between the screen and the center of the fog lamp lens as shown.
2. Turn front fog lamps ON.



3. Adjust front fog lamps using adjusting screw so that the top edge of the high intensity zone is 200 mm (7.9 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

INFOID:0000000003533401

FRONT FOG LAMP

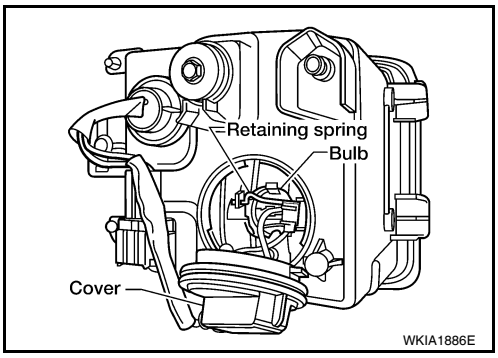
Removal

1. Remove the front turn/fog lamp assembly. Refer to LT-49.

2. Turn the bulb cover counterclockwise to remove it.
3. Unlatch retaining spring.
4. Remove bulb and disconnect the connector.

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.**



Installation

Installation is in the reverse order of removal.

Removal and Installation

INFOID:0000000003533402

FRONT FOG LAMP

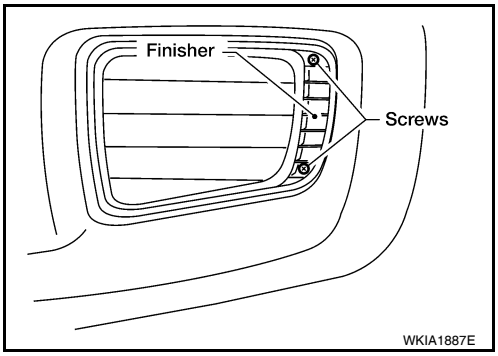
The fog lamp is a semi-sealed beam type which uses a replaceable halogen bulb.

CAUTION:

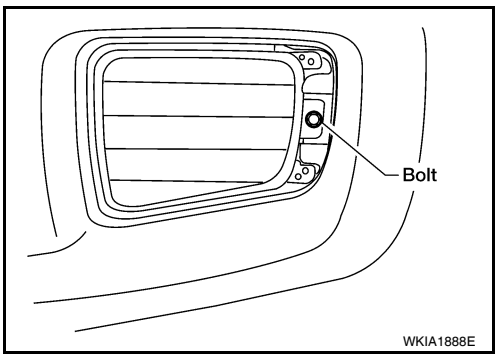
- **Do not leave fog lamp assembly without bulb for a long period of time. Dust, moisture, smoke, etc. entering the fog lamp body may affect the performance. Remove the bulb from the headlamp assembly just before replacement bulb is installed.**
- **Grasp only the plastic base when handling the bulb. Never touch the glass envelope. Touching the glass could significantly affect the bulb life and/or fog lamp performance.**

Removal

1. Remove the front turn/fog lamp finisher.



2. Remove bolt and pull fog lamp out of front fascia.
3. Disconnect electrical connector.



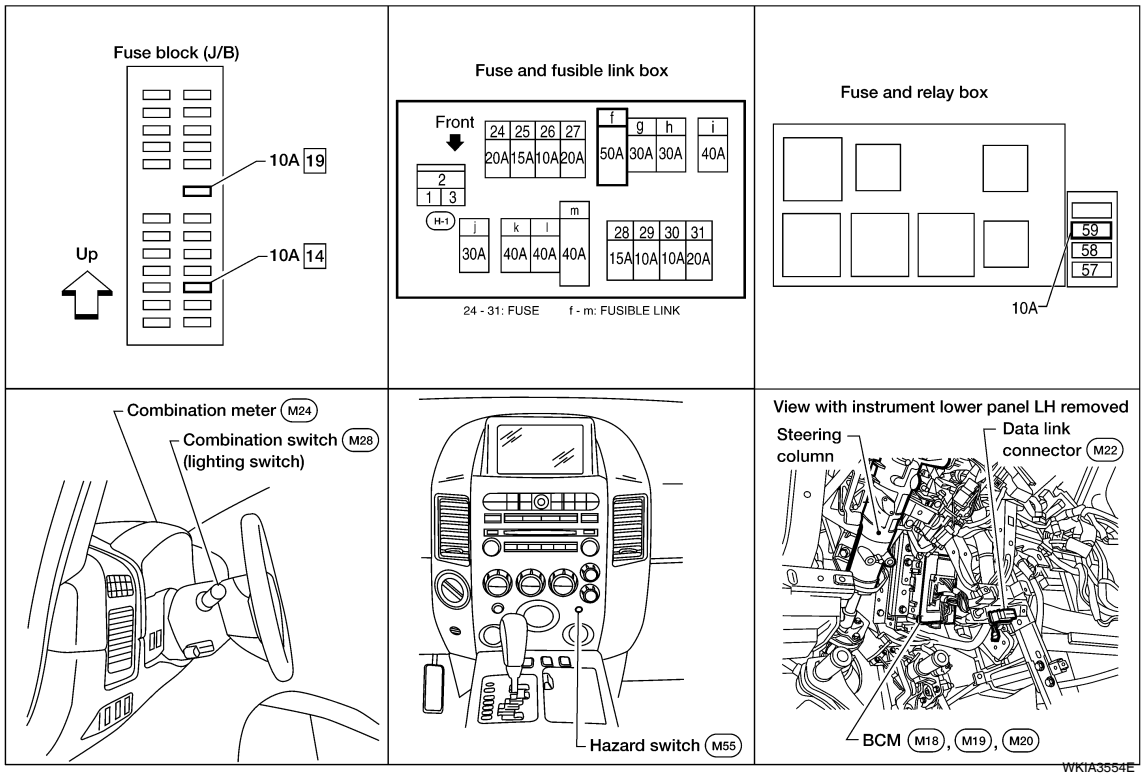
Installation

Installation is in the reverse order of removal.

TURN SIGNAL AND HAZARD WARNING LAMPS

Component Parts and Harness Connector Location

INFOID:0000000003533403



System Description

INFOID:0000000003533404

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 70, and
- through 10A fuse [No. 19, located in the fuse block (J/B)]
- to combination meter terminal 8.

TURN SIGNAL OPERATION

When the ignition switch is in the ON or START position, power is supplied
- through 10A fuse (No. 59, located in the fuse and relay box)
- to BCM terminal 38, and
- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to combination meter terminal 24.

Ground is supplied
- to BCM terminal 67 and
- to combination meter terminal 17
- through grounds M57, M61 and M79.

LH Turn

When the turn signal switch is moved to the left position, the BCM, interpreting it as turn signal is ON, outputs turn signal from BCM terminal 60.

The BCM supplies power
- through BCM terminal 60
- to front turn/fog lamp LH terminal 2
- through front turn/fog lamp LH terminal 3
- to grounds E9, E15 and E24,
- to door mirror LH terminal 15
- through door mirror LH terminal 11
- to grounds M57, M61 and M79 and

• to rear combination lamp LH terminal 4
• through rear combination signal lamp LH terminal 6
• to grounds B7 and B19.

BCM sends signal to combination meter 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, the BCM, interpreting it as turn signal is ON, outputs turn signal from BCM terminal 61.

The BCM supplies power
• through BCM terminal 61
• to front turn/fog lamp RH terminal 2
• through front turn/fog lamp RH terminal 3
• to grounds E9, E15 and E24,
• to door mirror RH terminal 15
• through door mirror RH terminal 11
• to grounds M57, M61 and M79 and
• to rear combination lamp RH terminal 4
• through rear combination lamp terminal 6
• to grounds B117 and B132.

BCM sends signal to combination meter 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 70, and
• through 10A fuse [No. 19, located in the fuse block (J/B)]
• to combination meter terminal 8.

Ground is supplied
• to BCM terminal 67 and
• to combination meter terminal 17
• through 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, the BCM, interpreting it as hazard warning lamps are ON, outputs turn signal from BCM terminals 60 and 61.

The BCM supplies power
• through BCM terminals 60 and 61
• to front turn/fog lamp LH and RH terminal 2
• through front turn/fog lamp LH and RH terminal 3
• to grounds E9, E15 and E24,
• to door mirror LH and RH terminal 15
• through door mirror LH and RH terminal 11
• to grounds M57, M61 and M79,
• to rear turn signal lamp LH terminal 1
• through rear turn signal lamp LH terminal 3
• to grounds B7 and B19, and
• to rear turn signal lamp RH terminal 4
• through rear turn signal lamp RH terminal 6
• to grounds B117 and B132.

BCM sends signal to combination meter through CAN communication lines, and turns on turn signal indicator lamps 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 70, and
• through 10A fuse [No. 19, located in the fuse block (J/B)]

• to combination meter terminal 8.
Ground is supplied
• to BCM terminal 67 and
• to combination meter terminal 17
• through grounds M57, M61 and M79.
When the remote keyless entry system is triggered by input from the keyfob, the BCM, interpreting it as turn signal is ON, outputs turn signal from BCM terminals 60 and 61.
The BCM supplies power
• through BCM terminals 60 and 61
• to front turn/fog lamp LH and RH terminal 2
• through front turn/fog lamp LH and RH terminal 3
• to grounds E9, E15 and E24,
• to door mirror LH and RH terminal 15
• through door mirror LH and RH terminal 11
• to grounds M57, M61 and M79,
• to rear turn signal lamp LH terminal 1
• through rear turn signal lamp LH terminal 3
• to grounds B7 and B19, and
• to rear turn signal lamp RH terminal 4
• through rear turn signal lamp RH terminal 6
• to grounds B117 and B132.
BCM sends signal to combination meter through CAN communication lines, and turns on turn signal indicator lamps within combination meter.
With power and input supplied, the BCM controls the flashing of the hazard warning lamps when keyfob is used to activate the remote keyless entry system.

COMBINATION SWITCH READING FUNCTION

Refer to BCS-3, "System Description".

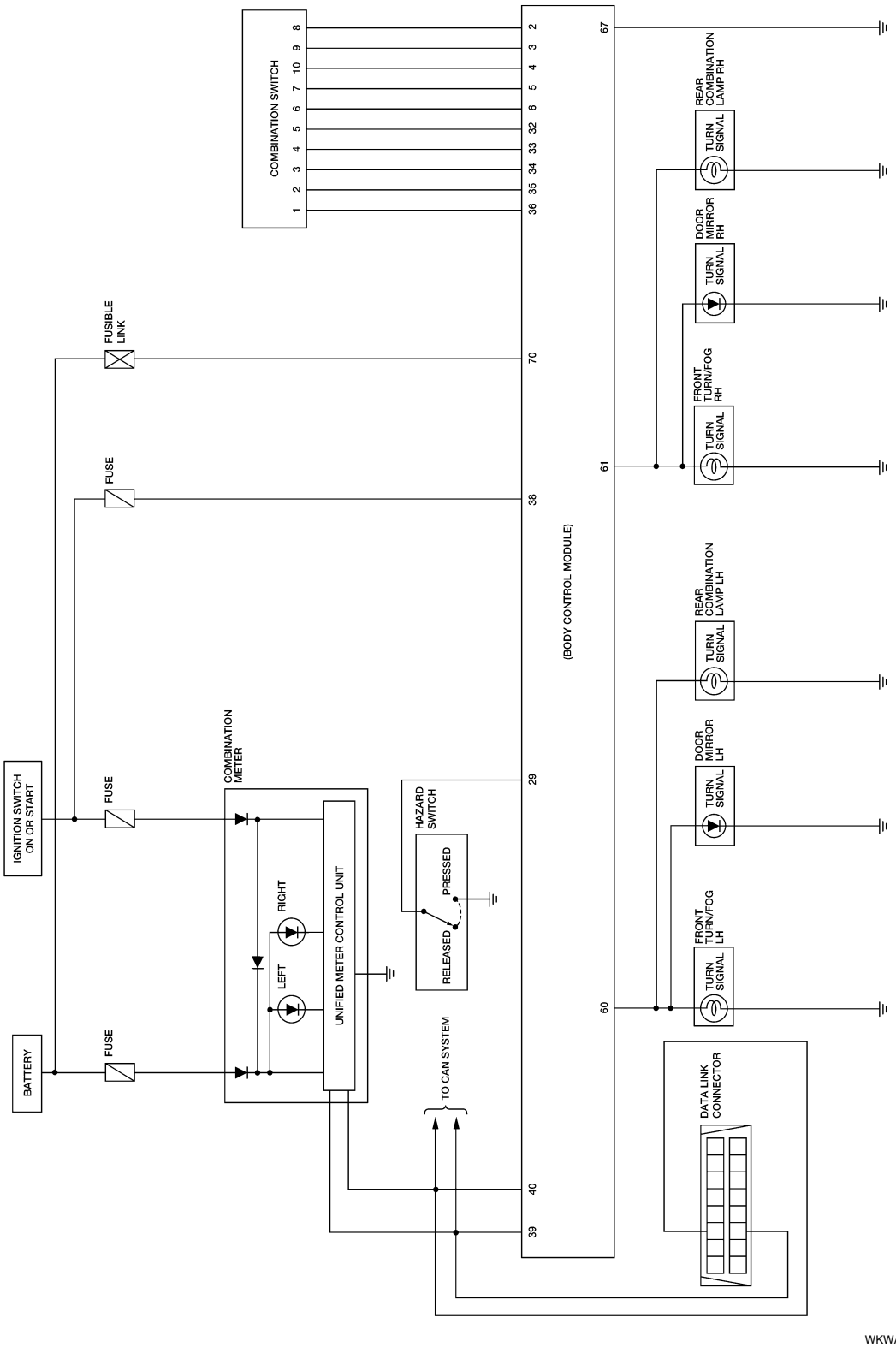
CAN Communication System Description

INFOID:0000000003533405

Refer to LAN-4, "CAN Communication System".

Schematic

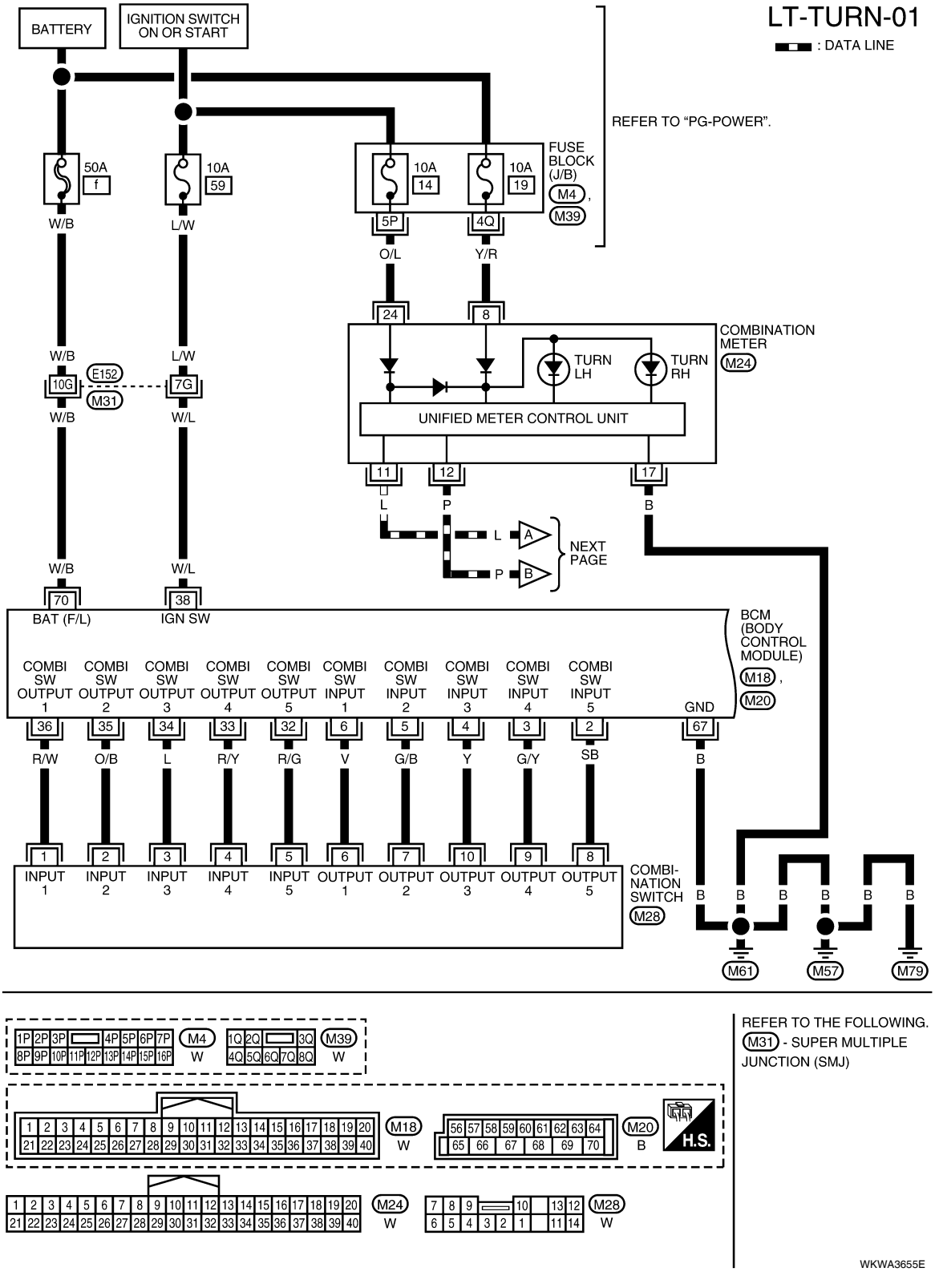
INFOID:0000000003533406

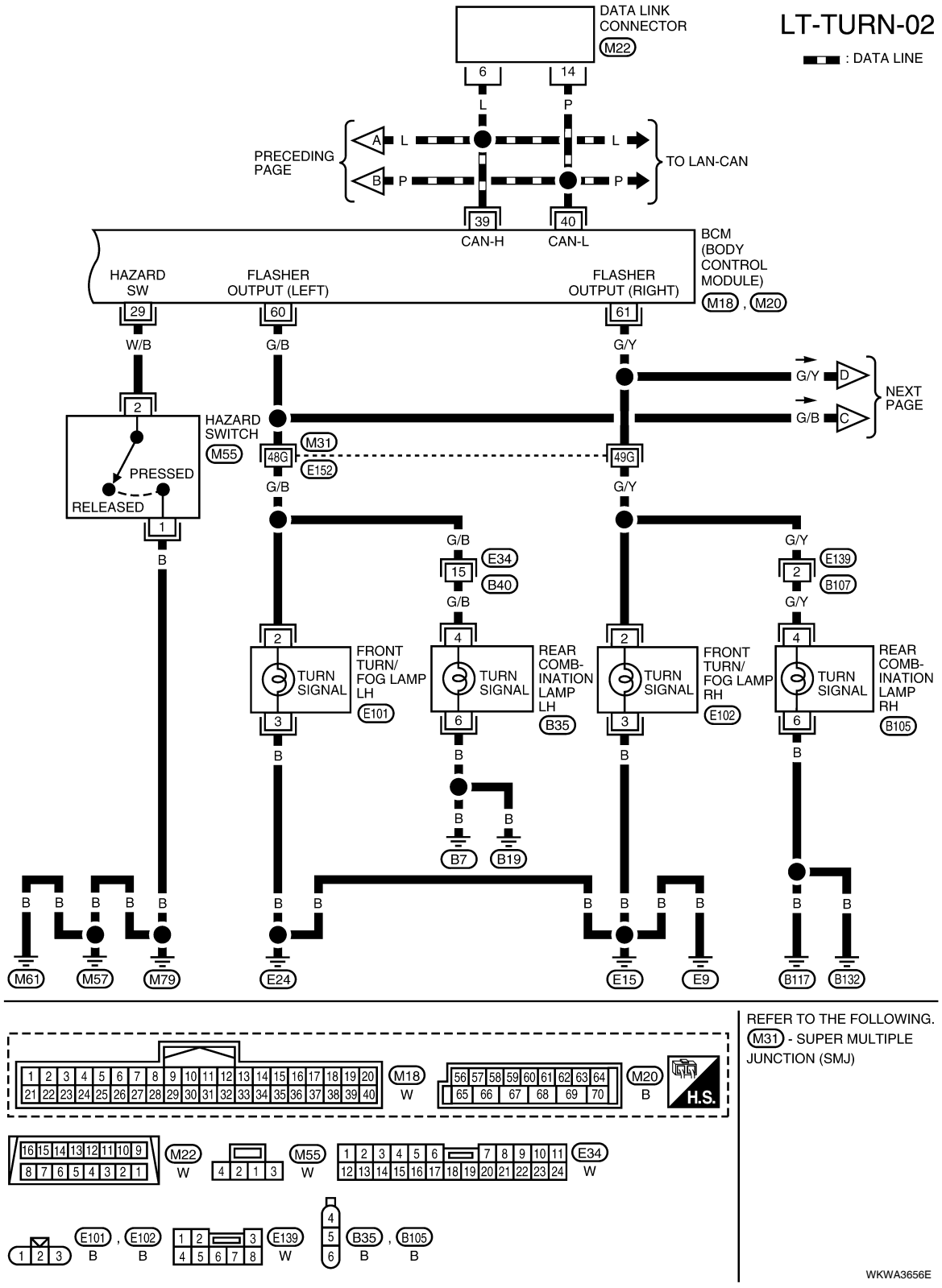


WKWA3654E

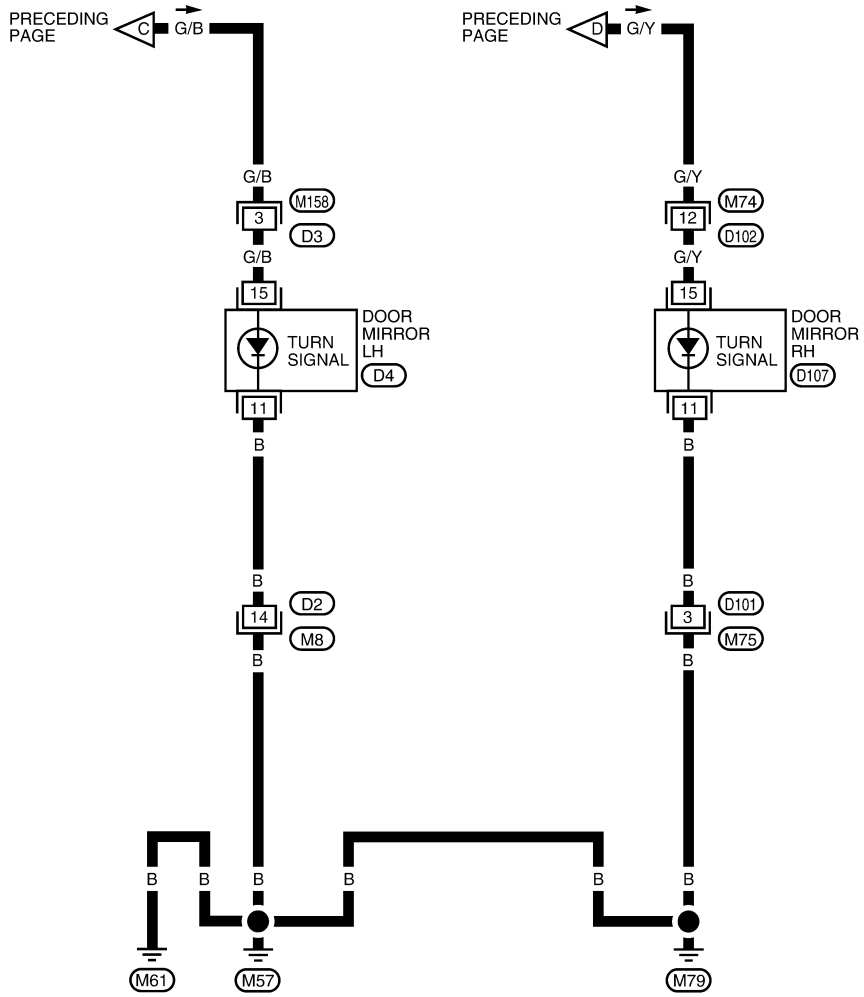
Wiring Diagram - TURN -

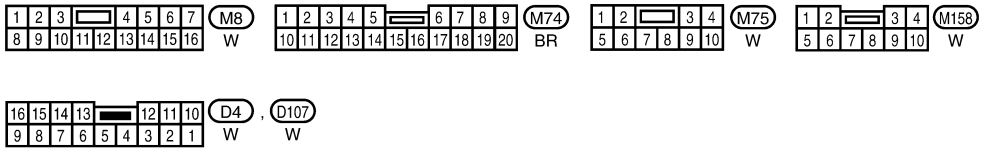
INFOID:0000000003533407




LT-TURN-02
: DATA LINE
DATA LINK CONNECTOR
M22
6
14
L
P
PRECEDING PAGE
A
B
L
P
TO LAN-CAN
39
40
CAN-H
CAN-L
BCM (BODY CONTROL MODULE)
M18 , M20
HAZARD SW
FLASHER OUTPUT (LEFT)
FLASHER OUTPUT (RIGHT)
29
60
61
W/B
G/B
G/Y
G/Y
D
G/B
C
NEXT PAGE
2
HAZARD SWITCH
M55
PRESSED
RELEASED
1
B
M31
48G
E152
49G
G/B
G/Y
G/B
15
E34
B40
G/Y
2
E139
B107
G/B
G/Y
2
4
TURN SIGNAL
FRONT TURN/ FOG LAMP LH
E101
REAR COMB-INATION LAMP LH
B35
FRONT TURN/ FOG LAMP RH
E102
REAR COMB-INATION LAMP RH
B105
3
6
B
B7
B19
M61
M57
M79
E24
E15
E9
B117
B132
REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)
M18
W
M20
B
H.S.
M22
W
M55
W
E34
W
E101 , E102
B
B
E139
W
B35 , B105
B
B
WKWA3656E

LT-TURN-03





WKWA5143E

Terminal and Reference Value for BCM

INFOID:0000000003533408

Refer to BCS-11, "Terminal and Reference Value for BCM".

How to Proceed with Trouble Diagnosis

INFOID:0000000003533409

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-57, "System Description" .

3. Perform preliminary check. Refer to LT-64, "Preliminary Check" .
4. Check symptom and repair or replace the component.
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

INFOID:0000000003533410

CHECK POWER SUPPLY AND GROUND CIRCUIT FOR BCM
Refer to BCS-15, "BCM Power Supply and Ground Circuit Inspection".

CONSULT-II Function (BCM)

INFOID:0000000003533411

Refer to BCS-16, "CONSULT-II Function (BCM)".

CONSULT-II START PROCEDURE
Refer to GI-36, "CONSULT-II Start Procedure".

DATA MONITOR

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	"ON/OFF"	Displays status of stop lamp switch.

ACTIVE TEST

Display Item List

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

Front Turn Signal Lamp Does Not Operate

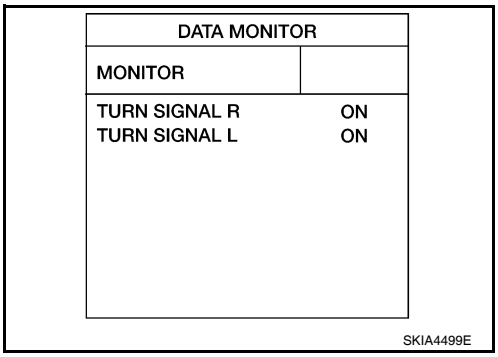
INFOID:0000000003533412

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 in TURN RH position : TURN SIGNAL R ON

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



Without CONSULT-II
Refer to LT-73, "Combination Switch Inspection" .

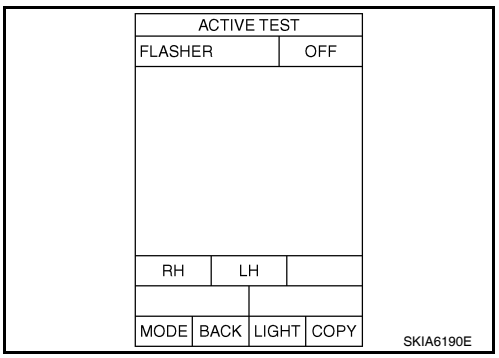
OK or NG

OK >> GO TO 2.
NG >> Check lighting switch. Refer to LT-73, "Combination Switch Inspection".

2.ACTIVE TEST

With CONSULT-II

1. Select "FLASHER" during active test. Refer to LT-64, "CONSULT-II Function (BCM)" .
2. Make sure "FLASHER RH" and "FLASHER LH" operate.



Without CONSULT-II
GO TO 3.

OK or NG

OK >> Replace BCM. Refer to BCS-24, "BCM".
NG >> GO TO 3.

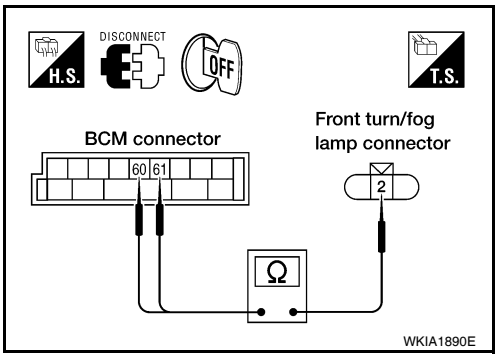
3. CHECK TURN SIGNAL LAMPS CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and front turn/fog lamp LH and RH connectors.
3. Check continuity between BCM harness connector M20 terminal 60 and front turn/fog lamp LH harness connector E101 terminal 2.

60 - 2 : Continuity should exist.

4. Check continuity between BCM harness connector M20 terminal 61 and front turn/fog lamp RH harness connector E102 terminal 2.

61 - 2 : Continuity should exist.



OK or NG

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

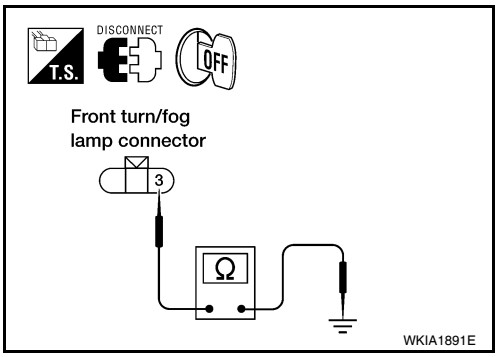
4. CHECK GROUND

1. Check continuity between front turn/fog lamp LH harness connector E101 terminal 3 and ground.

3 - Ground : Continuity should exist.

2. Check continuity between front turn/fog lamp RH harness connector E102 terminal 3 and ground.

3 - Ground : Continuity should exist.



OK or NG

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

5. CHECK BULB

Check bulb standard of each turn signal lamp is correct. Refer to LT-138, "Exterior Lamp".

OK or NG

OK >> Replace BCM if turn signal lamps do not work after setting the connector again. Refer to BCS-24, "BCM".
NG >> Replace turn signal lamp bulb. Refer to LT-69, "Bulb Replacement" .

Door Mirror Turn Signal Lamp Does Not Operate

INFOID:0000000003533413

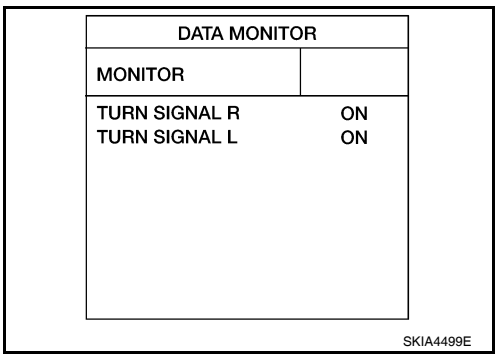
1. CHECK COMBINATION SWITCH INPUT SIGNAL

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 in TURN RH position : TURN SIGNAL R ON

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



Without CONSULT-II
Refer to LT-73, "Combination Switch Inspection".

OK or NG

OK >> GO TO 2.
NG >> Check lighting switch. Refer to LT-73, "Combination Switch Inspection".

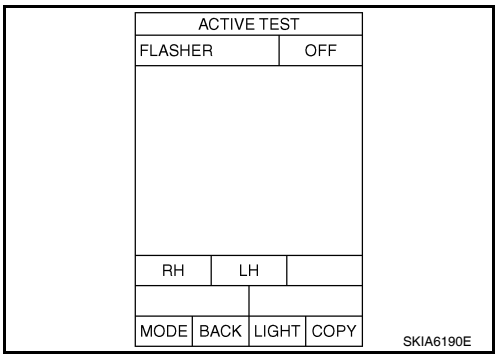
2.ACTIVE TEST

With CONSULT-II
1. Select "FLASHER" during active test. Refer to LT-64, "CONSULT-II Function (BCM)".
2. Make sure "FLASHER RH" and "FLASHER LH" operate.

Without CONSULT-II
GO TO 3.

OK or NG

OK >> Replace BCM. Refer to BCS-24, "BCM".
NG >> GO TO 3.



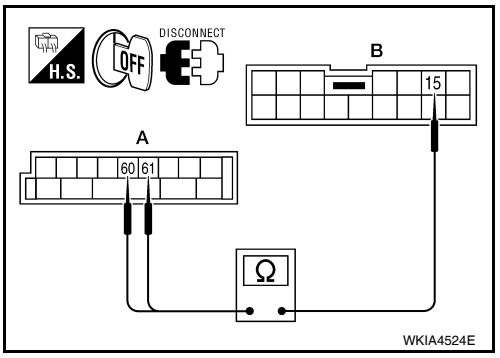
3.CHECK TURN SIGNAL LAMPS CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and door mirror LH/RH connector.
3. Check continuity between BCM harness connector M20 (A) terminal 60 (LH), 61 (RH) and door mirror harness connector (LH D4), (RH D107) (B) terminal 15.

60, 61 - 15 : Continuity should exist.

OK or NG

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



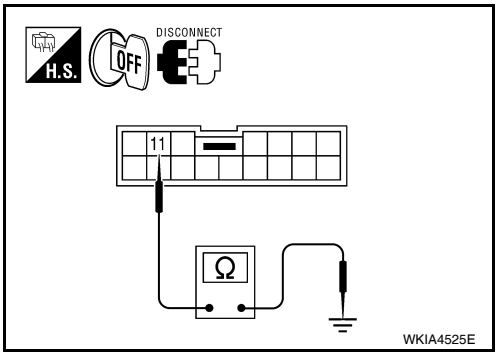
4.CHECK GROUND

1. Check continuity between door mirror harness connector (LH D4), (RH D107) terminal 11 and ground.

11 - Ground : Continuity should exist.

OK or NG

OK >> Replace door mirror turn signal.
NG >> Repair harness or connector.



Rear Turn Signal Lamp Does Not Operate

INFOID:0000000003533414

1.CHECK BULB

Check bulb standard of each turn signal lamp is correct. Refer to LT-138, "Exterior Lamp" .

OK or NG

OK >> GO TO 2.
NG >> Replace turn signal lamp bulb. Refer to LT-69, "Bulb Replacement" .

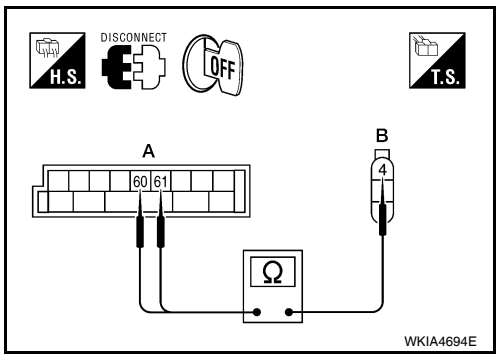
2.CHECK TURN SIGNAL LAMPS CIRCUIT

1. Disconnect BCM connector and rear combination lamp connector.
2. Check continuity between BCM harness connector M20 (A) terminal 61 and rear combination lamp RH harness connector B105 (B) terminal 4.

61 - 4 : Continuity should exist.

3. Check continuity between BCM harness connector M20 (A) terminal 60 and rear combination lamp LH harness connector B35 (B) terminal 4.

60 - 4 : Continuity should exist.



OK or NG

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

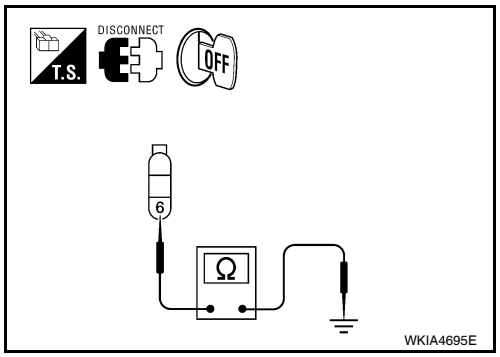
3.CHECK GROUND CIRCUIT

Check continuity between rear combination lamp harness connector B35 LH and B105 RH terminal 6 and ground.

6 - 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 Lamp Operatess

INFOID:0000000003533415

1.CHECK BULB

Make sure bulb standard of each turn signal lamp is correct. Refer to LT-138, "Exterior Lamp" .

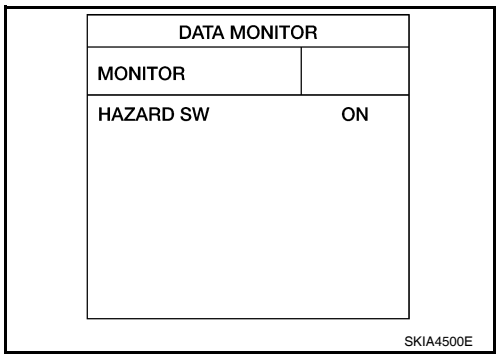
OK or NG

OK >> GO TO 2.
NG >> Replace turn signal lamp bulb. Refer to LT-69, "Bulb Replacement" for front turn signal bulb. Refer to LT-69, "Bulb Replacement" for rear turn signal bulb.

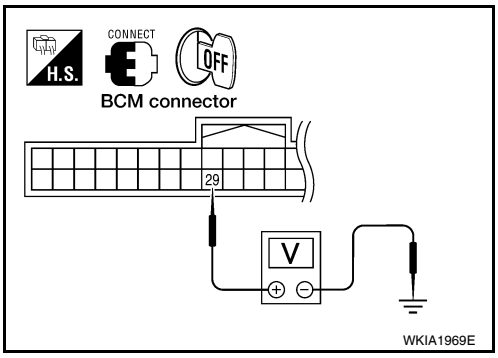
2.CHECK HAZARD SWITCH INPUT SIGNAL

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 in ON position : HAZARD SW ON



Without CONSULT-II
Check voltage between BCM harness connector M18 terminal 29 and ground.



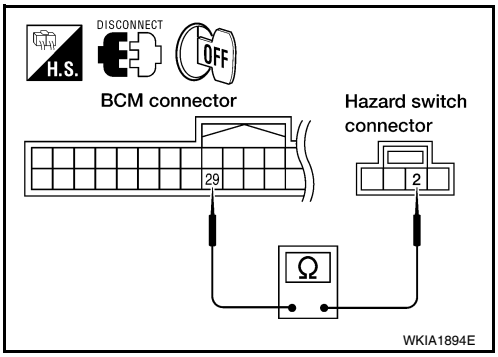
Terminals			Condition	Voltage (Approx.)
(+)		(–)		
Connector	Terminal			
M18	29	Ground	Hazard switch is ON	0V
			Hazard switch is OFF	5V

OK or NG
OK >> Replace BCM. Refer to BCS-24, "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 between BCM harness connector M18 terminal 29 and hazard switch harness connector M55 terminal 2.

29 - 2 : Continuity should exist.

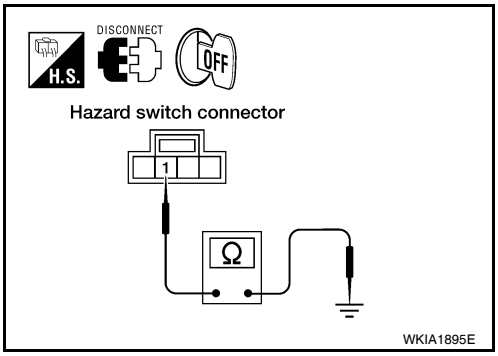


OK or NG
OK >> GO TO 4.
NG >> Repair harness or connector.

4. CHECK GROUND

Check continuity between hazard switch harness connector M55 terminal 1 and ground.

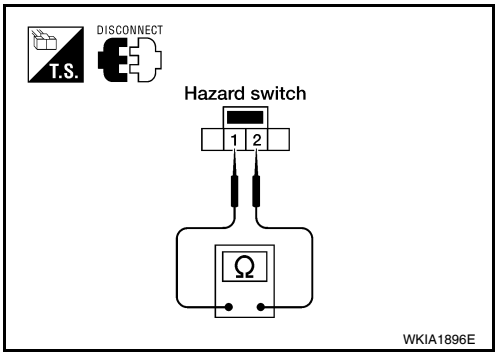
1 - Ground : Continuity should exist.



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.



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

OK or NG
OK >> Replace BCM if hazard warning lamps do not work after setting the connector again. Refer to BCS-24, "BCM".
NG >> Replace hazard switch. Refer to LT-71, "Removal and Installation".

Turn Signal Indicator Lamp Does Not Operate

INFOID:0000000003533416

1. CHECK CAN COMMUNICATION SYSTEM

Check CAN communication. Refer to LAN-4, "CAN Communication System".

OK or NG

OK >> Replace combination meter. Refer to DI-21, "Removal and Installation of Combination Meter" .
NG >> Repair as necessary.

Bulb Replacement

INFOID:0000000003533417

TURN SIGNAL LAMP (FRONT)

Removal

1. Remove front fog lamp. Refer to LT-56, "Removal and Installation".
2. Twist turn signal socket and remove from front fog lamp.
3. Remove turn signal bulb from socket.

Installation

Installation is in the reverse order of removal.

TURN SIGNAL LAMP (REAR)

Refer to LT-93, "Bulb Replacement".

Removal and Installation

INFOID:0000000003533418

FRONT TURN SIGNAL LAMP

Refer to LT-22, "Removal and Installation".

REAR TURN SIGNAL LAMP

Refer to LT-93, "Removal and Installation".

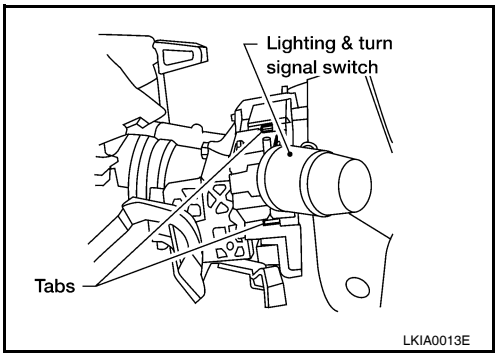
LIGHTING AND TURN SIGNAL SWITCH

Removal and Installation

INFOID:0000000003533419

Removal

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



Installation

Installation is in the reverse order of removal.

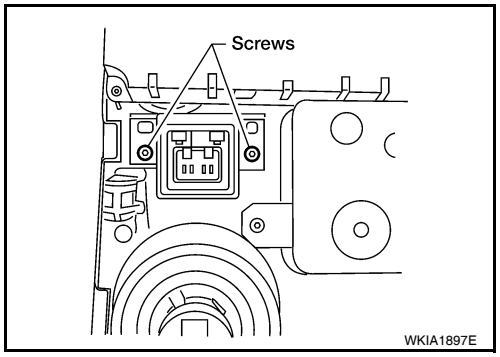
HAZARD SWITCH

Removal and Installation

INFOID:0000000003533420

Removal

1. Remove cluster lid C. Refer to IP-10.
2. Remove screws and remove the hazard switch.



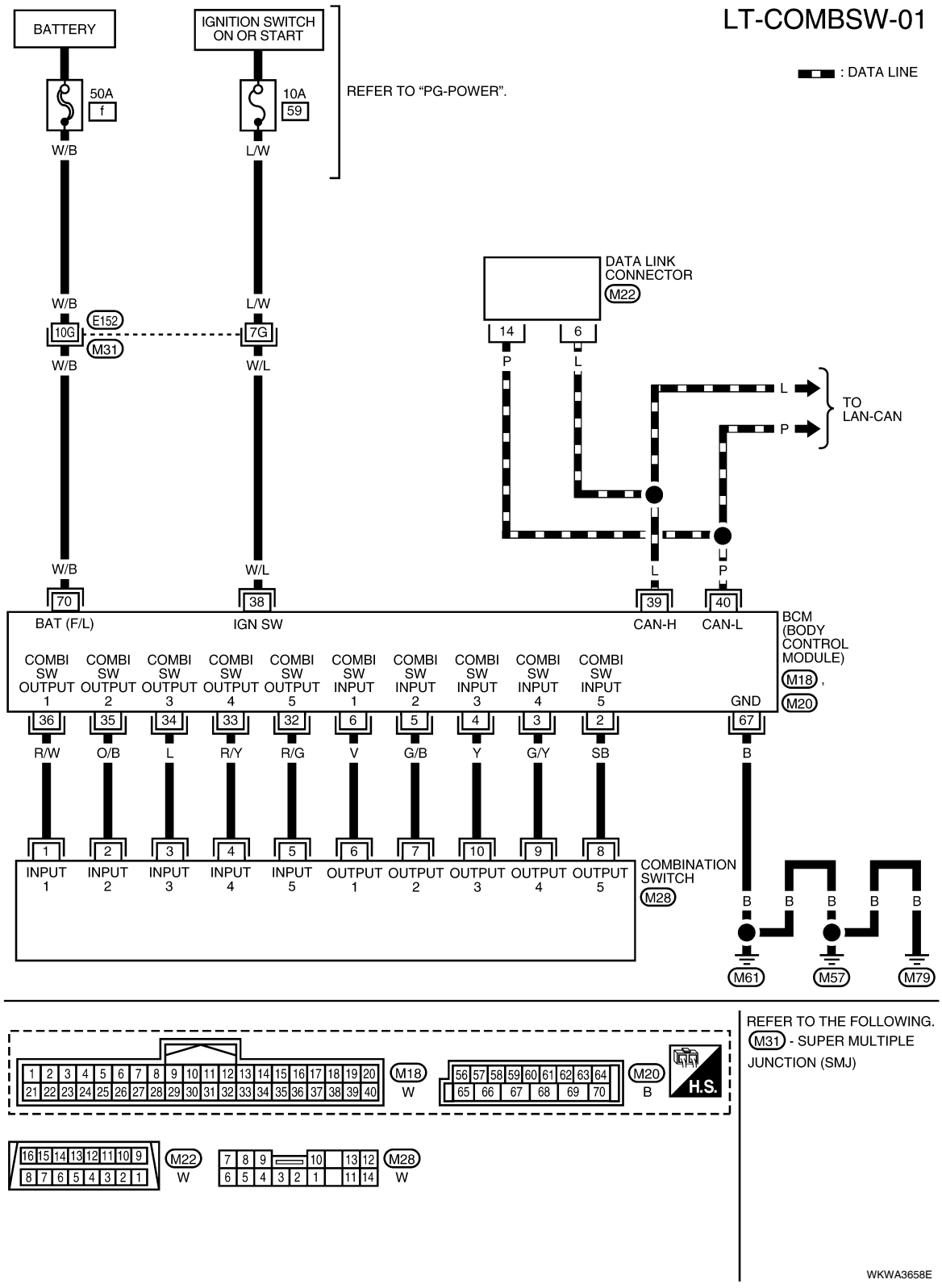
Installation

Installation is in the reverse order of removal.

COMBINATION SWITCH

Wiring Diagram - COMBSW -

INFOID:0000000003533421



Combination Switch Reading Function

INFOID:0000000003533422

For details, refer to BCS-3, "System Description" .

CONSULT-II Function (BCM)

INFOID:0000000003533423

Refer to BCS-16, "CONSULT-II Function (BCM)" .

CONSULT-II START PROCEDURE

Refer to GI-36, "CONSULT-II Start Procedure" .

DATA MONITOR

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.
RR WIPER ON	"ON/OFF"	Displays "Rear Wiper (ON)/(OFF)" status, determined from wiper switch signal.
RR WIPER INT	"ON/OFF"	Displays "Rear Wiper INT (ON)/(OFF)" status, determined from wiper switch signal.
RR WASHER SW	"ON/OFF"	Displays "Rear Washer (ON)/(OFF)" status, determined from wiper switch signal.

Combination Switch Inspection

INFOID:0000000003533424

1.SYSTEM CHECK

1. Referring to table below, check 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	RR WASHER	—	HEAD LAMP2	HI BEAM
RR WIPER INT	INT VOLUME 3	AUTO LIGHT	—	TAIL LAMP
INT VOLUME 2	RR WIPER ON	—	FR FOG	—

>> GO TO 2.

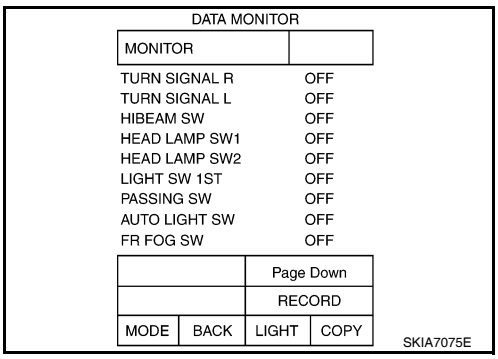
2.SYSTEM CHECK

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.

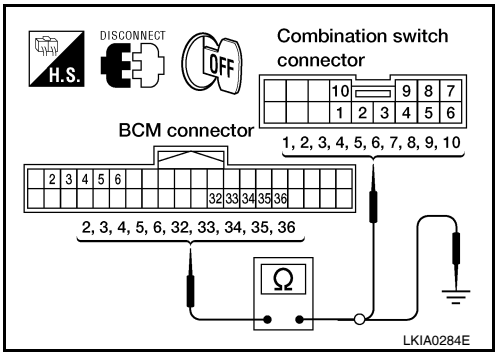
Check results

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. Turn ignition switch OFF.
2. Disconnect BCM and combination switch connectors.
3. 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		Connector	Terminal	
1	M18	Input 1	6	M28	6	Yes
		Output 1	36		1	
2		Input 2	5		7	
		Output 2	35		2	
3		Input 3	4		10	
		Output 3	34		3	
4		Input 4	3		9	
		Output 4	33		4	
5		Input 5	2		8	
		Output 5	32		5	



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

Suspect system	Terminals				Continuity
	BCM				
	Connector	Terminal			
1	M18	Input 1	6	Ground	No
		Output 1	36		
2		Input 2	5		
		Output 2	35		
3		Input 3	4		
		Output 3	34		
4		Input 4	3		
		Output 4	33		
5		Input 5	2		
		Output 5	32		

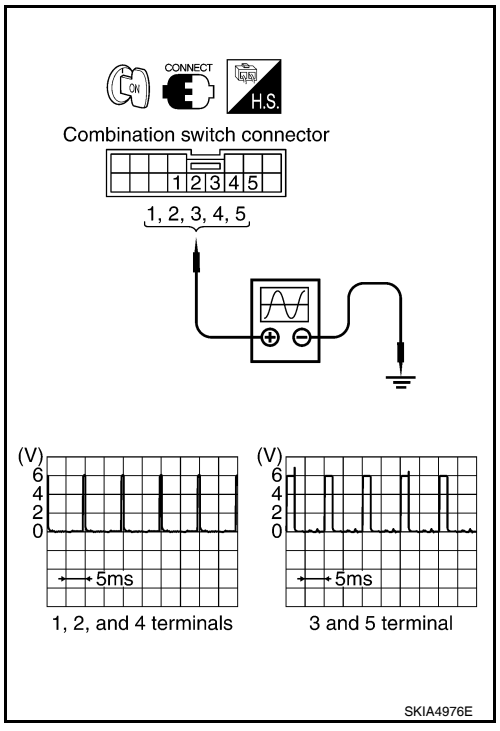
OK or NG

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.
4. Turn ignition switch on.
5. Check BCM output terminal voltage waveform of suspect malfunctioning system.

Suspect system	Terminals		
	Combination switch (+)		
	Connector	Terminal	
1	M28	Input 1	1
2		Input 2	2
3		Input 3	3
4		Input 4	4
5		Input 5	5



OK or NG

OK >> Open circuit in combination switch, GO TO 5.
NG >> Replace BCM. Refer to BCS-24, "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

INFOID:0000000003533425

Refer to LT-70, "Removal and Installation".

Switch Circuit Inspection

INFOID:0000000003533426

Refer to "Switch Circuit Inspection".

STOP LAMP

System Description

INFOID:0000000003533427

Power is supplied at all times
- through 10A fuse [No. 20, located in fuse block (J/B)]
- to stop lamp switch terminal 3, and
- to stop lamp relay terminal 1.

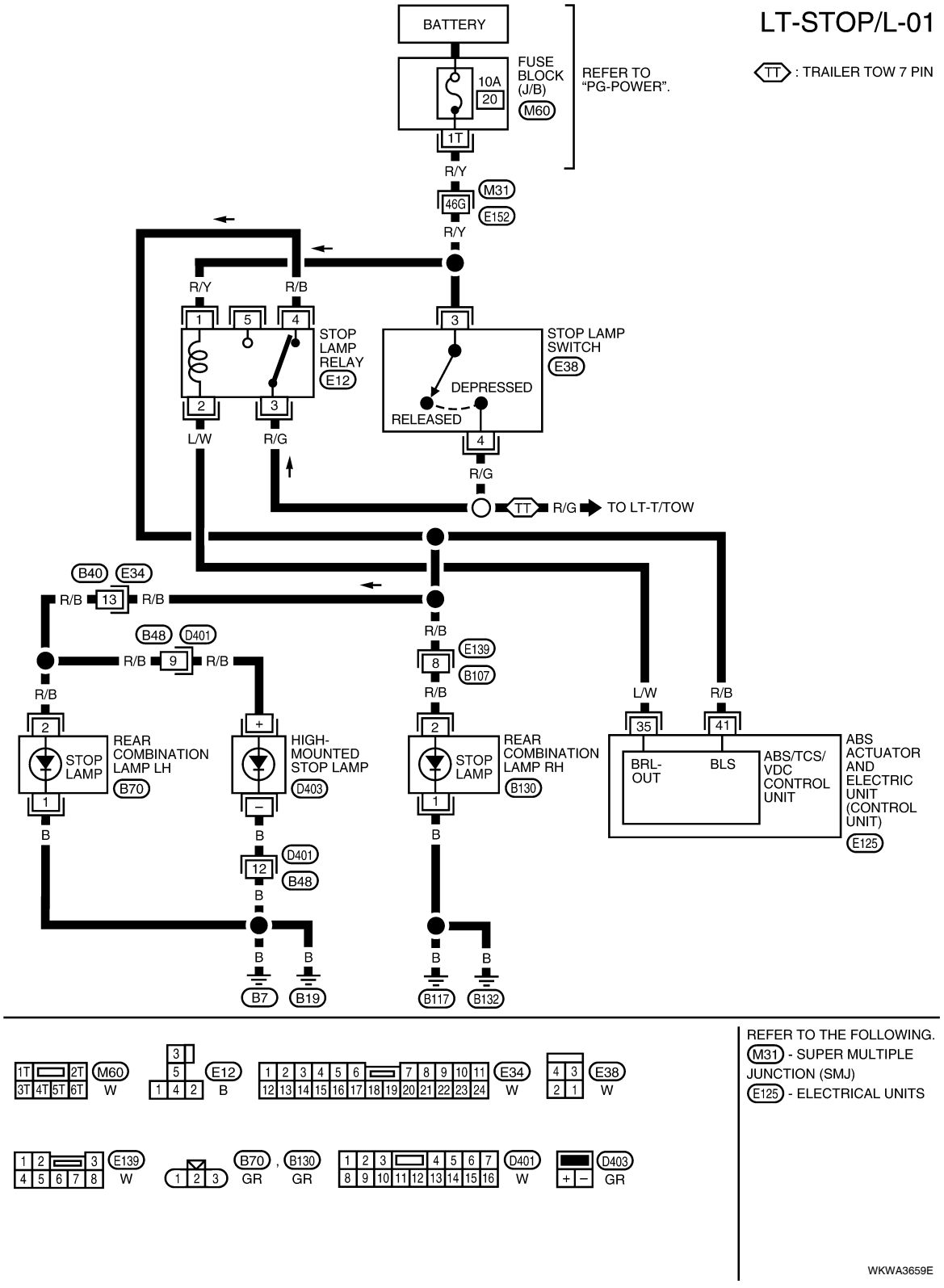
When the brake pedal is pressed, the stop lamp switch is closed and power is supplied
- through stop lamp switch terminal 4
- to stop lamp relay terminal 3
- through stop lamp relay terminal 4
- to rear combination lamp LH and RH terminal 2, and
- to high-mounted stop lamp terminal 1.

Ground is supplied
- to rear combination lamp LH terminal 1,
- to high-mounted stop lamp terminal 2
- through grounds B7 and B19, and
- to rear combination lamp RH terminal 1
- through grounds B117 and B132.

With power and ground supplied, the stop lamps illuminate.

Wiring Diagram - STOP/L -

INFOID:0000000003533428



Bulb Replacement

INFOID:0000000003533429

HIGH-MOUNTED STOP LAMP

The high-mounted stop lamp bulbs are not serviceable.

STOP LAMP

The stop lamp bulbs are not serviceable separately. Replace rear combination lamp. Refer to LT-93, "Removal and Installation".

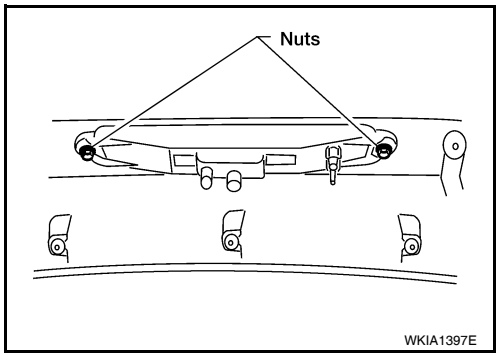
Removal and Installation

INFOID:0000000003533430

HIGH-MOUNTED STOP LAMP

Removal

1. Remove back door upper finisher. Refer to EI-39.
2. Remove two nuts and remove high-mounted stop lamp.



Installation

Installation is in the reverse order of removal.

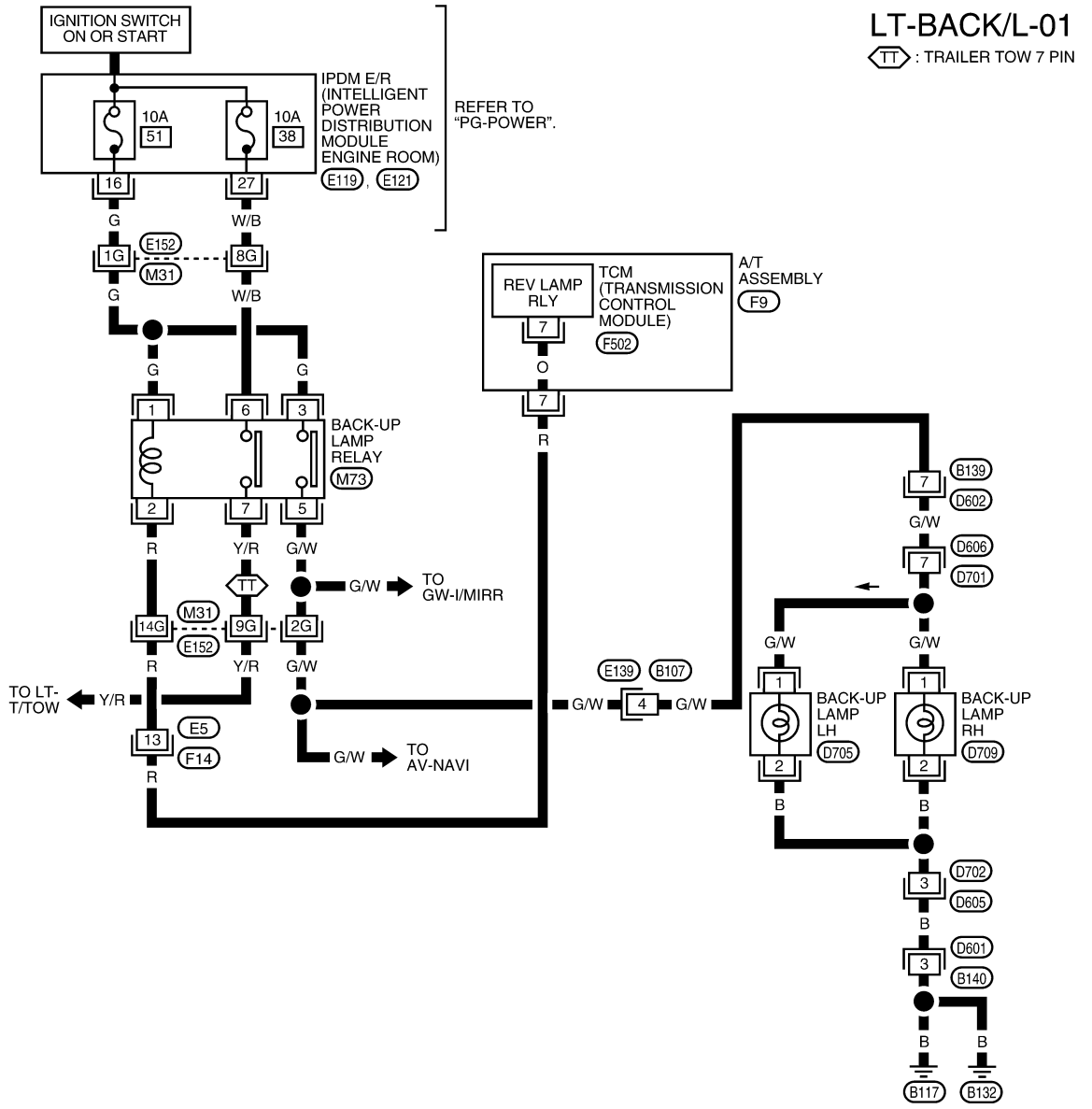
STOP LAMP

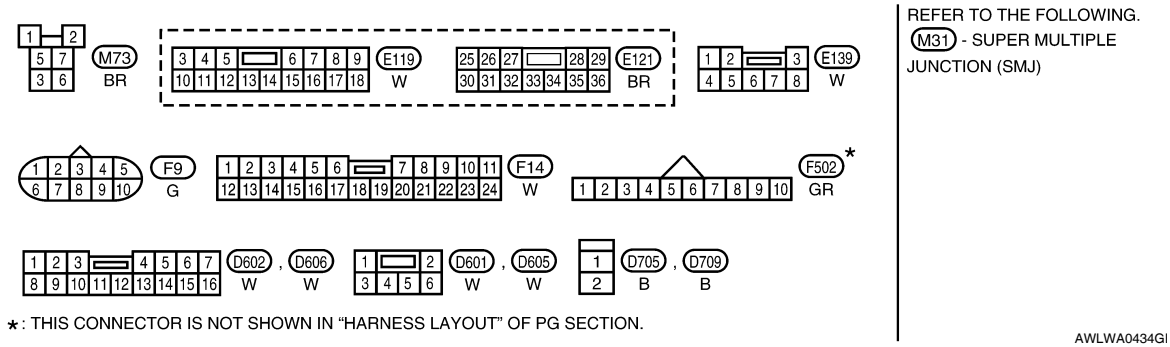
Refer to LT-93, "Removal and Installation".

BACK-UP LAMP

Wiring Diagram - BACK/L -

INFOID:0000000003533431





Bulb Replacement

INFOID:0000000003533432

BACK-UP LAMP

Removal

1. Remove back door lower finisher. Refer to EI-39.
2. Turn bulb socket counterclockwise and remove it from the lamp housing.
3. Pull bulb from socket.

Installation
Installation is in the reverse order of removal.

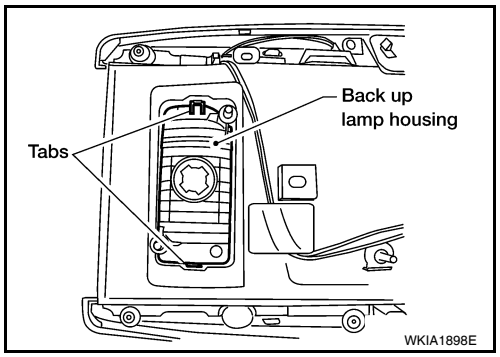
Removal and Installation

INFOID:0000000003533433

BACK-UP LAMP

Removal

1. Remove license lamp finisher. Refer to EI-23.
2. Carefully release tabs to remove back up lamp housing from license plate finisher.

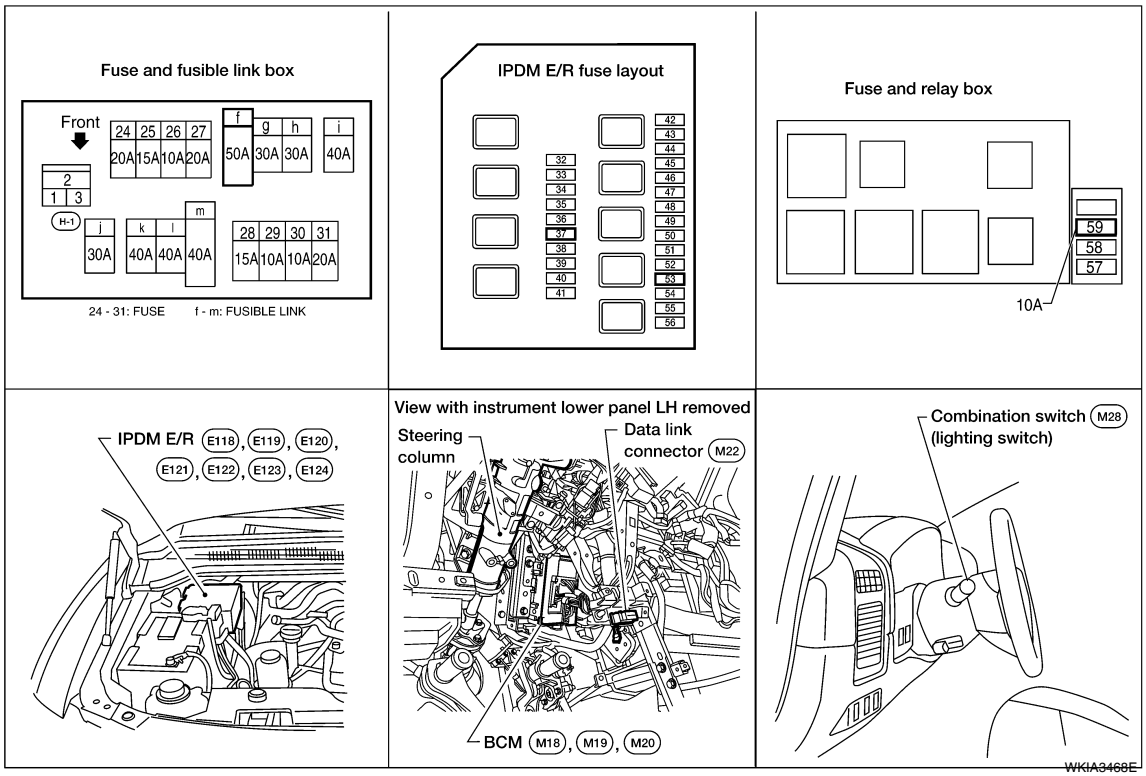


Installation
Installation is in the reverse order of removal.

PARKING, LICENSE PLATE AND TAIL LAMPS

Component Parts and Harness Connector Location

INFOID:0000000003533434



System Description

INFOID:0000000003533435

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 and tail lamps, which then illuminate.

Power is supplied at all times
- to ignition relay, located in the IPDM E/R,
- to tail lamp relay, located in the IPDM E/R,
- through 20A fuse (No. 53, located in the IPDM E/R)
- to CPU of the IPDM E/R, and
- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 70.

With the ignition switch in the ON or START position, power is supplied
- through 10A fuse (No. 59, located in the fuse and relay box)
- to BCM terminal 38
- to ignition relay, located in the IPDM E/R, and

Ground is supplied
- to BCM terminal 67
- through grounds M57, M61 and M79, and
- to IPDM E/R terminals 38 and 59
- through grounds E9, 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 of the IPDM E/R controls the tail lamp relay coil, which when energized, directs power

- through 10 A fuse (No. 37, located in the IPDM E/R)
- through IPDM E/R terminal 57
- to front combination lamp LH and RH terminal 3
- to license plate lamps terminal 1 and
- to rear combination lamp LH and RH terminal 3.

Ground is supplied

- to front combination lamp LH and RH terminal 4
- through grounds E9, E15 and E24,
- to rear combination lamp LH terminal 1
- through grounds B7 and B19,
- to rear combination lamp RH terminal 1 and
- to license plate lamps terminal 2
- through grounds B117 and B132.

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

COMBINATION SWITCH READING FUNCTION

Refer to BCS-3, "System Description" .

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 and tail lamps remain illuminated for 5 minutes, then the parking, license plate and tail lamps are turned off.
Exterior lamp battery saver control mode can be changed by the function setting of CONSULT-II.

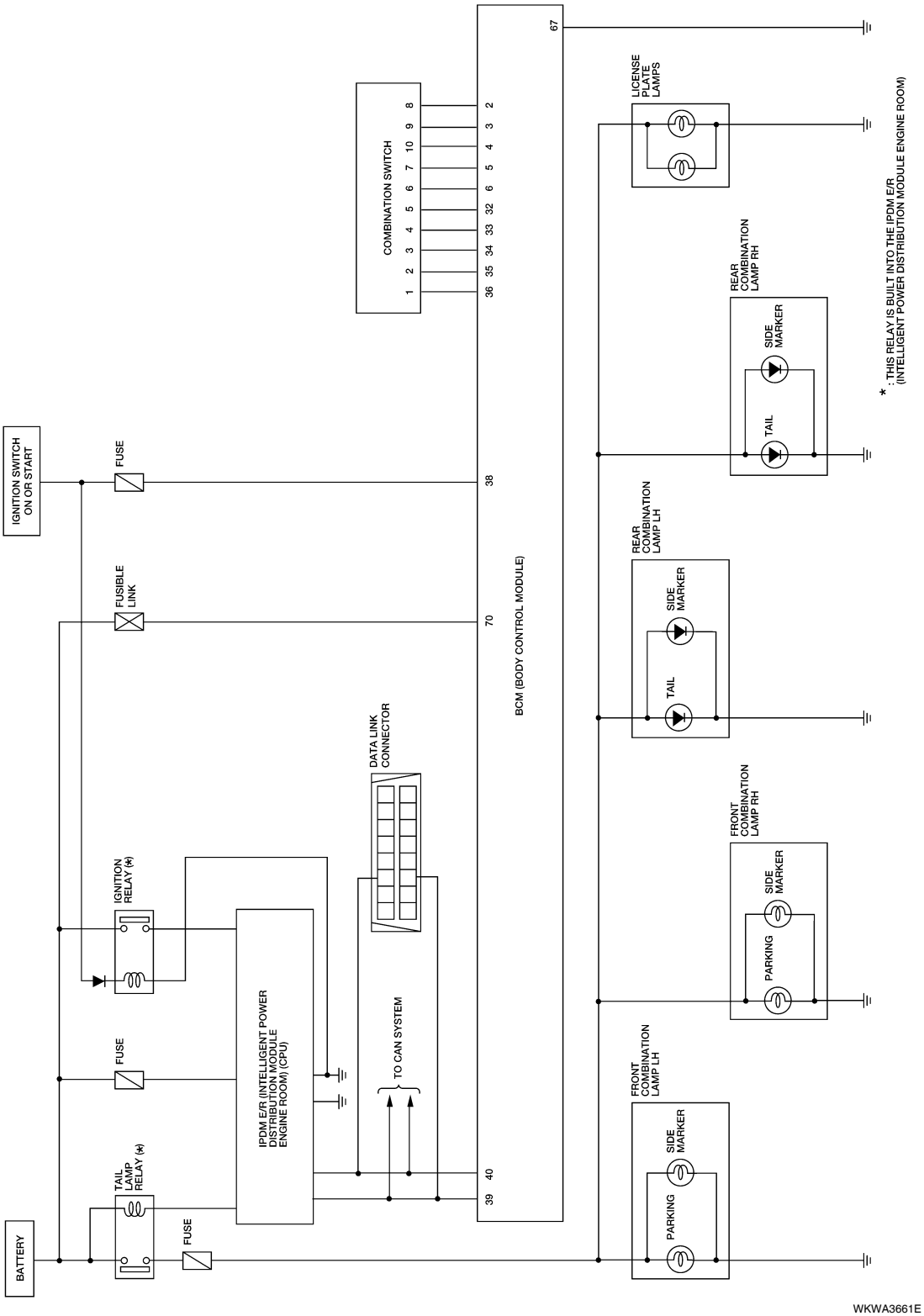
CAN Communication System Description

INFOID:0000000003533436

Refer to LAN-4, "CAN Communication System".

Schematic

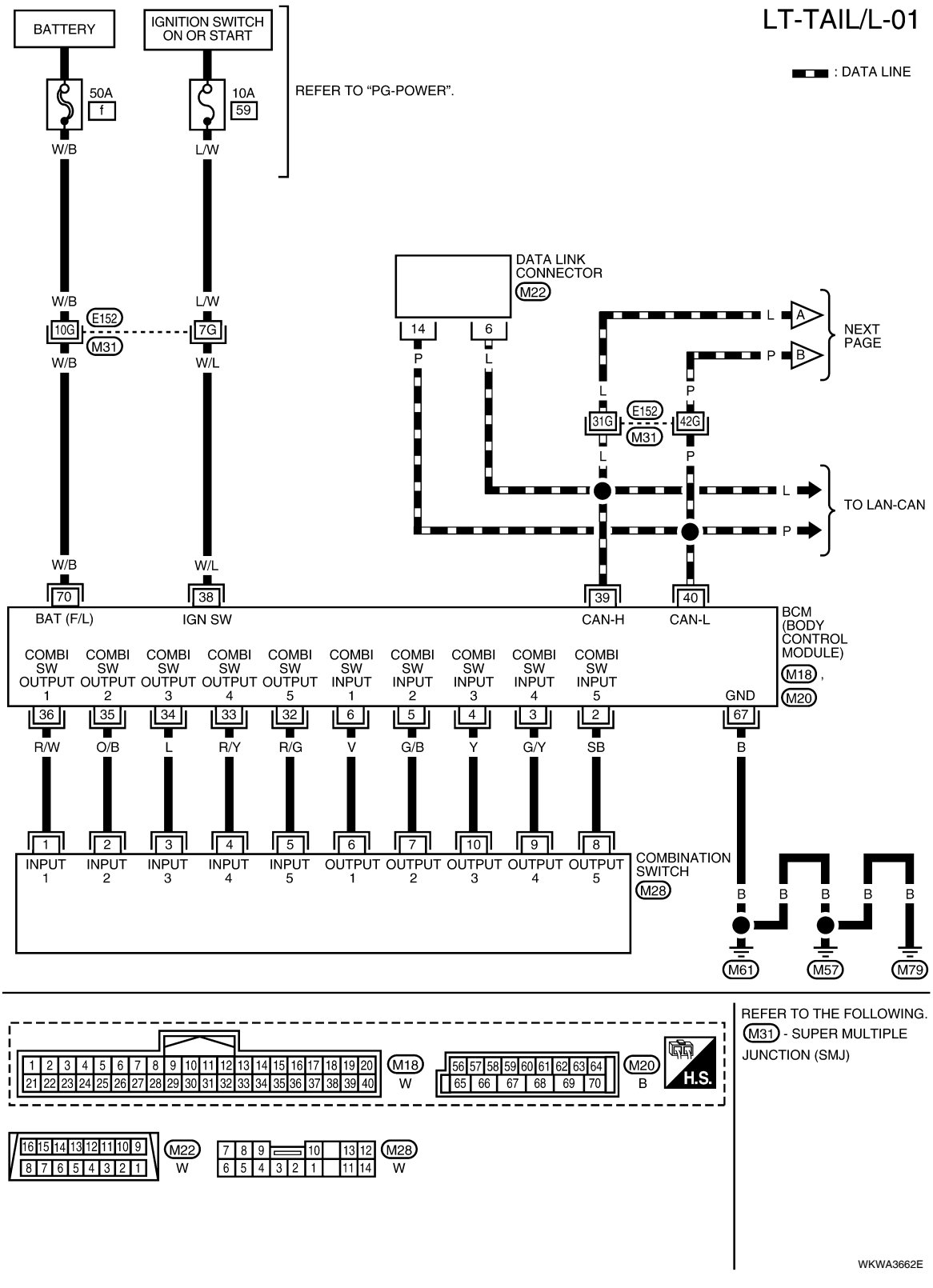
INFOID:0000000003533437

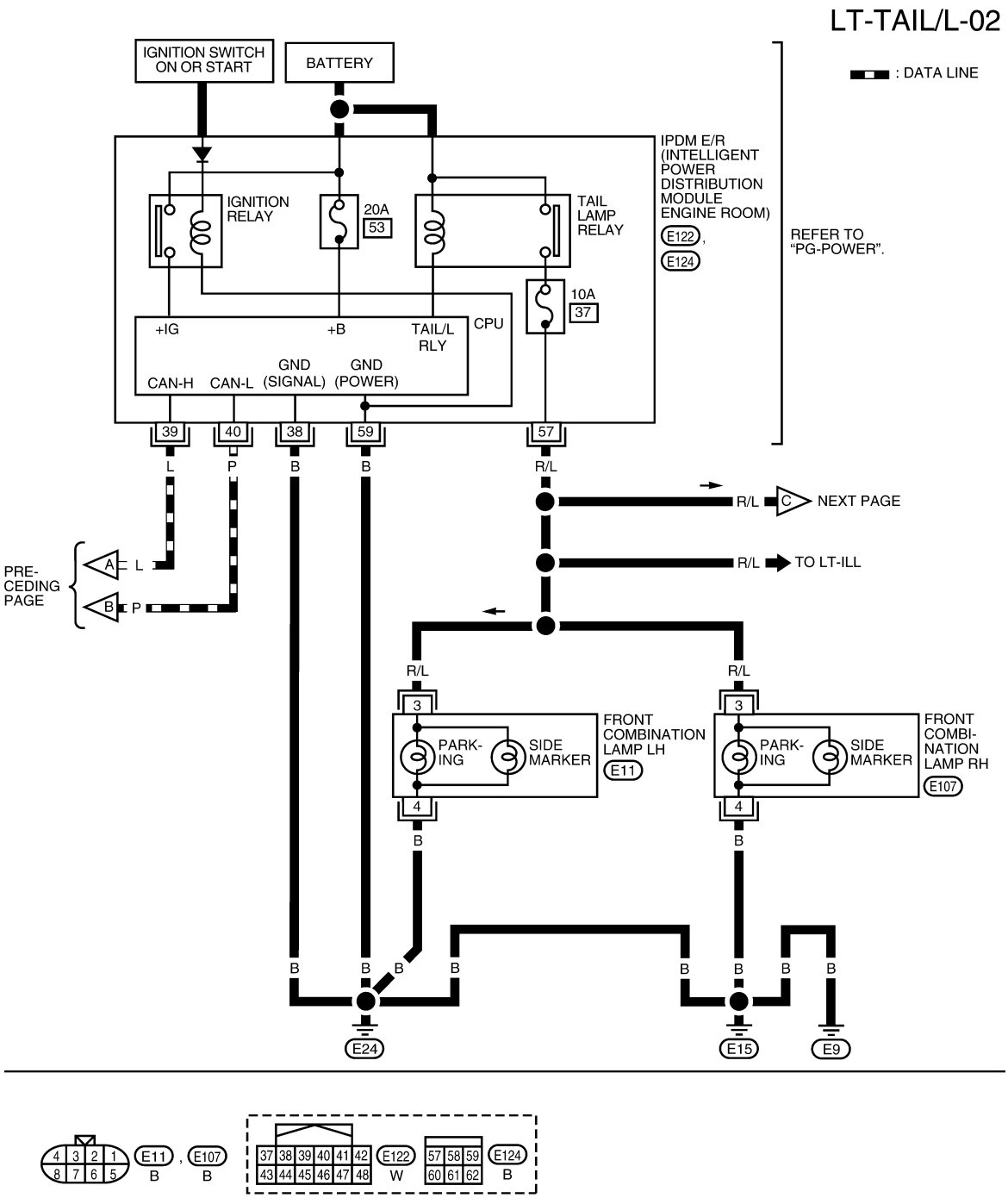


WKWA3661E

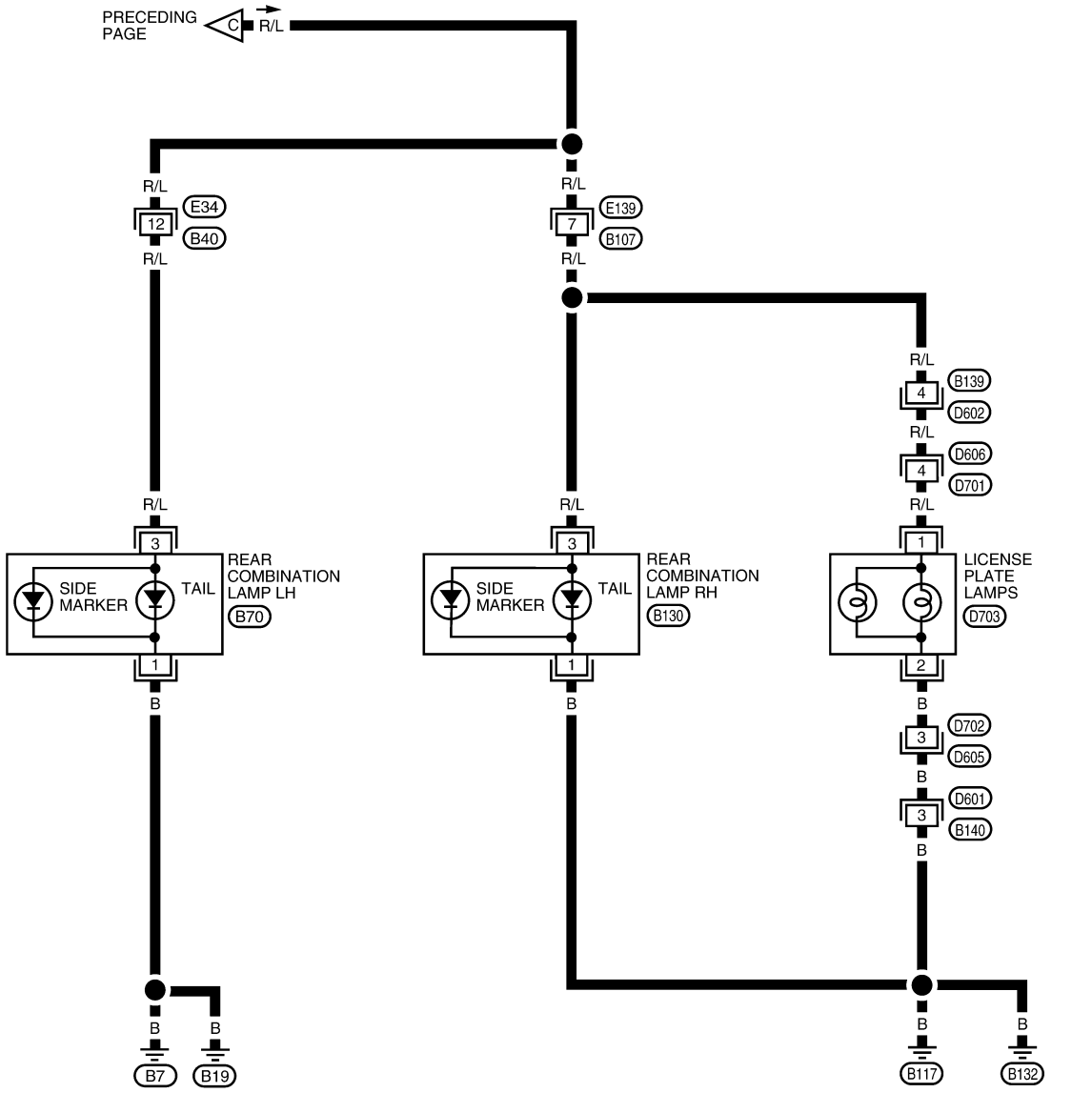
Wiring Diagram - TAIL/L -

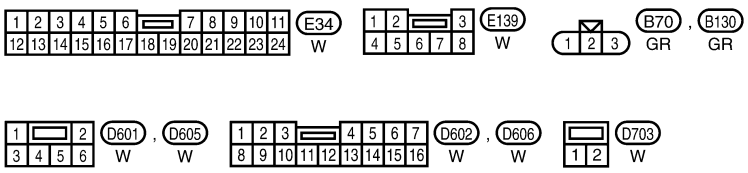
INFOID:0000000003533438




LT-TAIL/L-02
: DATA LINE
IGNITION SWITCH ON OR START
BATTERY
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E122, E124
REFER TO "PG-POWER".
IGNITION RELAY
20A 53
TAIL LAMP RELAY
10A 37
+IG
+B
TAIL/L RLY
CPU
CAN-H
CAN-L
GND (SIGNAL)
GND (POWER)
39
40
38
59
57
L
P
B
B
R/L
R/L C NEXT PAGE
R/L TO LT-ILL
PRE-CEDING PAGE
A L
B P
R/L
R/L
3
4
PARK-ING
SIDE MARKER
FRONT COMBINATION LAMP LH
E11
FRONT COMBI-NATION LAMP RH
E107
B
B
B B B B B B B B
E24
E15
E9
4 3 2 1
8 7 6 5
E11, E107
B B
37 38 39 40 41 42
43 44 45 46 47 48
E122
W
57 58 59
60 61 62
E124
B
WKWA2494E

LT-TAIL/L-03





WKWA3663E

Terminal and Reference Value for BCM

INFOID:0000000003533439

Refer to BCS-11, "Terminal and Reference Value for BCM" .

Terminal and Reference Value for IPDM E/R

INFOID:0000000003533440

Refer to PG-22, "Terminal and Reference Value for IPDM E/R" .

How to Proceed with Trouble Diagnosis

INFOID:0000000003533441

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-82, "System Description" .
3. Carry out the Preliminary Check. Refer to LT-88, "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

INFOID:0000000003533442

CHECK POWER SUPPLY AND GROUND CIRCUIT FOR BCM
Refer to BCS-15, "BCM Power Supply and Ground Circuit Inspection" .

CHECK POWER SUPPLY AND GROUND CIRCUIT FOR IPDM E/R
Refer to PG-26, "IPDM E/R Power/Ground Circuit Inspection" .

CONSULT-II Function for BCM

INFOID:0000000003533443

Refer to BCS-16, "CONSULT-II Function (BCM)" .

CONSULT-II Function for IPDM E/R

INFOID:0000000003533444

Refer to PG-18, "CONSULT-II Function (IPDM E/R)" .

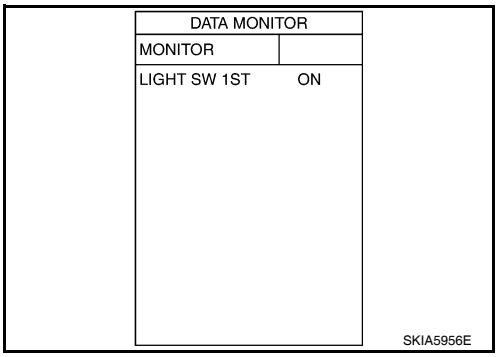
Parking, License Plate and/or Tail Lamps Do Not Illuminate

INFOID:0000000003533445

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 in 1ST position	**: LIGHT SW 1ST ON**



Without CONSULT-II
Refer toLT-73, "Combination Switch Inspection" .

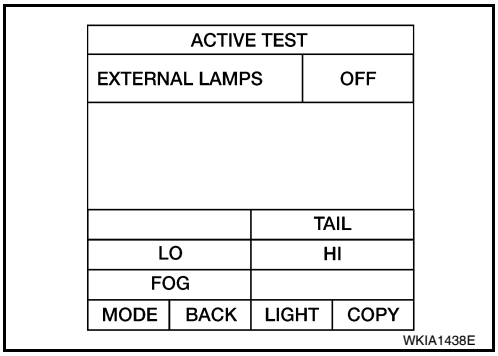
OK or NG

OK >> GO TO 2.
NG >> Check lighting switch. Refer to LT-73, "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 "EXTERNAL LAMPS" on "SELECT TEST ITEM" screen.
3. Touch "TAIL" on "ACTIVE TEST" screen.
4. Make sure parking, license plate and tail lamp operation.

Parking, license plate 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 and tail lamp operation.

Parking, license plate and tail lamp should operate

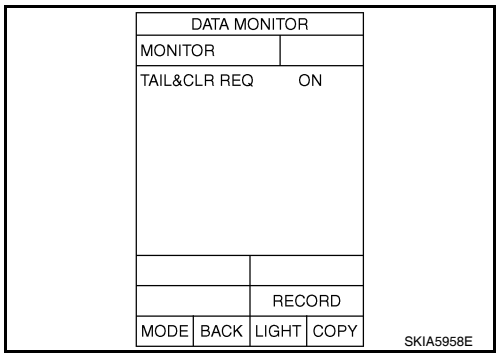
OK or NG

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 in 1ST position : TAIL&CLR REQ ON



OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .
NG >> Replace BCM. Refer to BCS-24, "BCM" .

4. CHECK INPUT SIGNAL

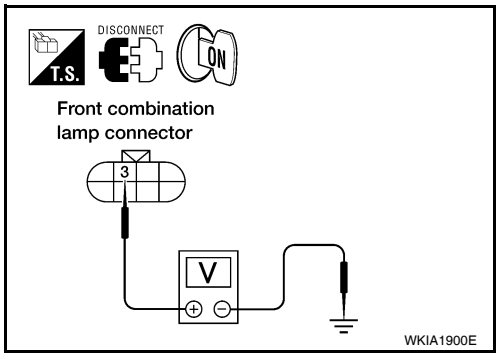
With CONSULT-II

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

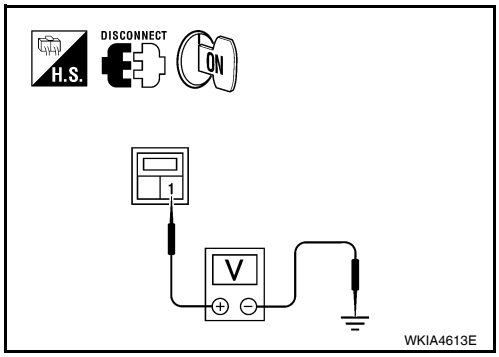
Without CONSULT-II

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

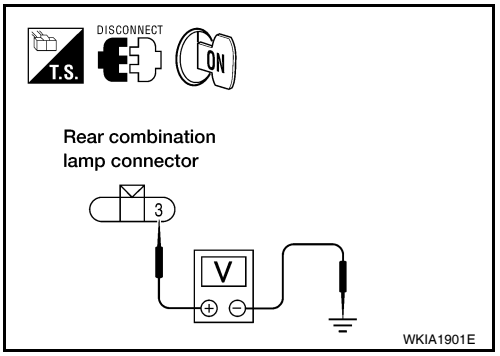
Front combination lamp (+)		(–)	Voltage
Connector	Terminal		
RH E107	3	Ground	Battery voltage
LH E11			



License plate lamps (+)		(–)	Voltage
Connector	Terminal		
D703	1	Ground	Battery voltage



Rear combination lamp (+)			(–)	Voltage
Connector		Terminal		
RH	B130	3	Ground	Battery voltage
LH	B70			



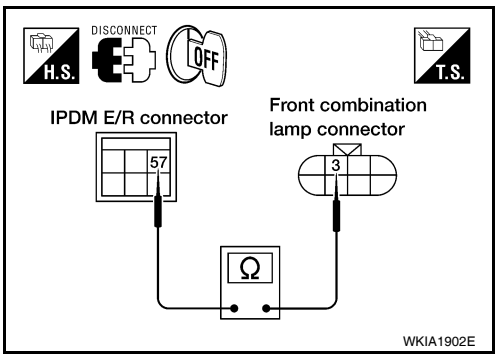
OK or NG

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

5. CHECK PARKING, LICENSE PLATE AND TAIL LAMP CIRCUIT

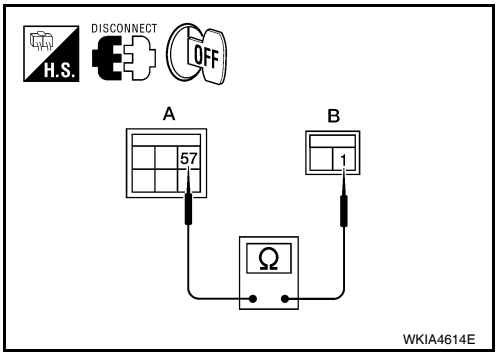
1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector and front combination lamp harness connector.

IPDM E/R		Front combination lamp			Continuity
Connector	Terminal	Connector		Terminal	
E124	57	RH	E107	3	Yes
		LH	E11		



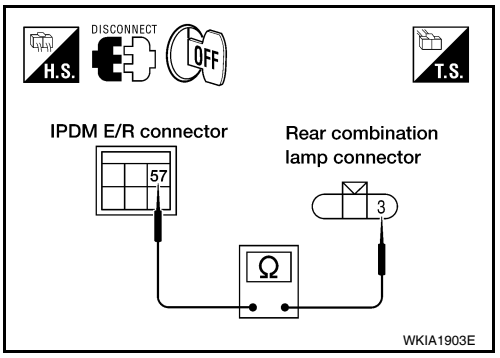
4. Check continuity between IPDM E/R connector E124 (A) and license plate lamps connector D703 (B).

IPDM E/R		License plate lamps		Continuity
Connector	Terminal	Connector	Terminal	
A: E124	57	B: D703	1	Yes



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

IPDM E/R		Rear combination lamp			Continuity
Connector	Terminal	Connector		Terminal	
E124	57	RH	B130	3	Yes
		LH	B70		



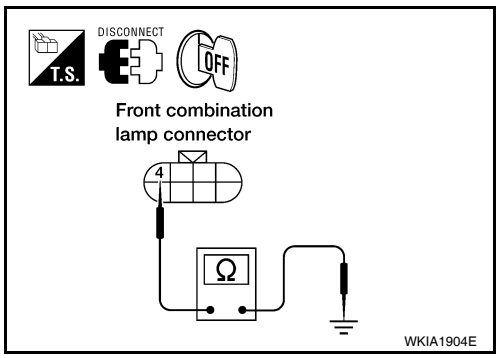
OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .
NG >> Repair harness or connector.

6. CHECK GROUND

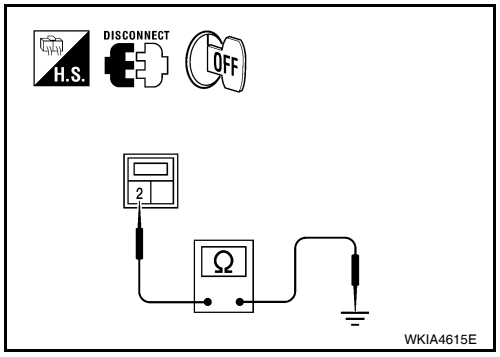
1. Check continuity between front combination lamp harness connector and ground.

Front combination lamp				Continuity
Connector		Terminal		
RH	E107	4	Ground	Yes
LH	E11			



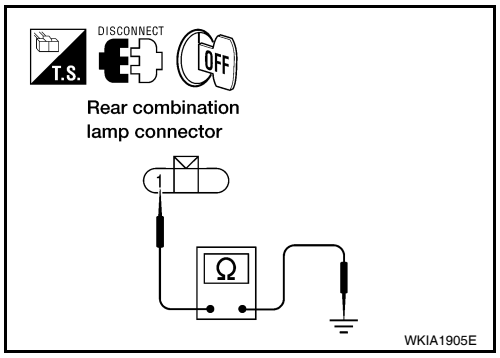
2. Check continuity between license lamps plate connector and ground.

License plate lamps			Continuity
Connector	Terminal		
D703	2	Ground	Yes



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

Rear combination lamp				Continuity
Connector		Terminal		
RH	B130	1	Ground	Yes
LH	B70			



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)

INFOID:0000000003533446

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-18, "Function of Detecting Ignition Relay Malfunction" .
NG >> Inspection End.

Bulb Replacement

INFOID:0000000003533447

FRONT PARKING LAMP

Refer to LT-21, "Bulb Replacement".

LICENSE PLATE LAMP

Removal

1. Remove back door lower finisher. Refer to EI-23, "Removal and Installation".
2. Turn bulb socket counterclockwise to remove it.
3. Pull bulb from socket.

Installation
Installation is in the reverse order of removal.

SIDE MARKER LAMP (FRONT)
Refer to LT-21, "Bulb Replacement".

TAIL LAMP
The tail lamp bulbs are not serviceable separately. Replace rear combination lamp. Refer to LT-93, "Removal and Installation".

Removal and Installation

INFOID:0000000003533448

FRONT PARKING LAMP
Refer to LT-22, "Removal and Installation".

LICENSE PLATE LAMP

Removal

1. Remove back door lower finisher. Refer to EI-23, "Removal and Installation".
2. Remove license plate lamp screws.
3. Remove license plate lamp.

Installation
Installation is in the reverse order of removal.

SIDE MARKER LAMP (REAR)
Refer to LT-93, "Removal and Installation".

TAIL LAMP
Refer to LT-93, "Removal and Installation".

REAR COMBINATION LAMP

Bulb Replacement

INFOID:0000000003533449

SIDE MARKER LAMP (REAR)

Side marker lamps (rear) are LED's and are not serviceable separately. Replace rear combination lamp. Refer to LT-93, "Removal and Installation".

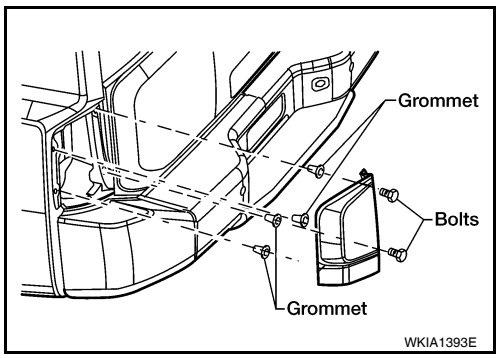
TAIL LAMP

Tail lamps are LED's and are not serviceable separately. Replace rear combination lamp. Refer to LT-93, "Removal and Installation" .

TURN SIGNAL

Removal

1. Remove rear combination lamp bolts.
2. Pull rear combination lamp to remove from the vehicle.
3. Turn bulb socket counterclockwise and remove turn signal socket.
4. Remove turn signal lamp bulb.



Installation

Installation is in the reverse order of removal.

STOP LAMP

Stop lamps are LED's and are not serviceable separately. Replace rear combination lamp. Refer to LT-93, "Removal and Installation".

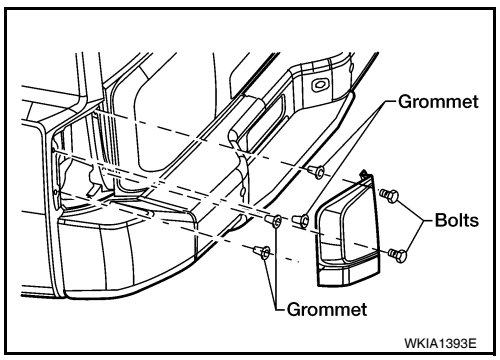
Removal and Installation

INFOID:0000000003533450

REAR COMBINATION LAMP

Removal

1. Remove rear combination lamp mounting bolts.
2. Pull rear combination lamp to remove from the vehicle.
3. Disconnect rear combination lamp connectors.



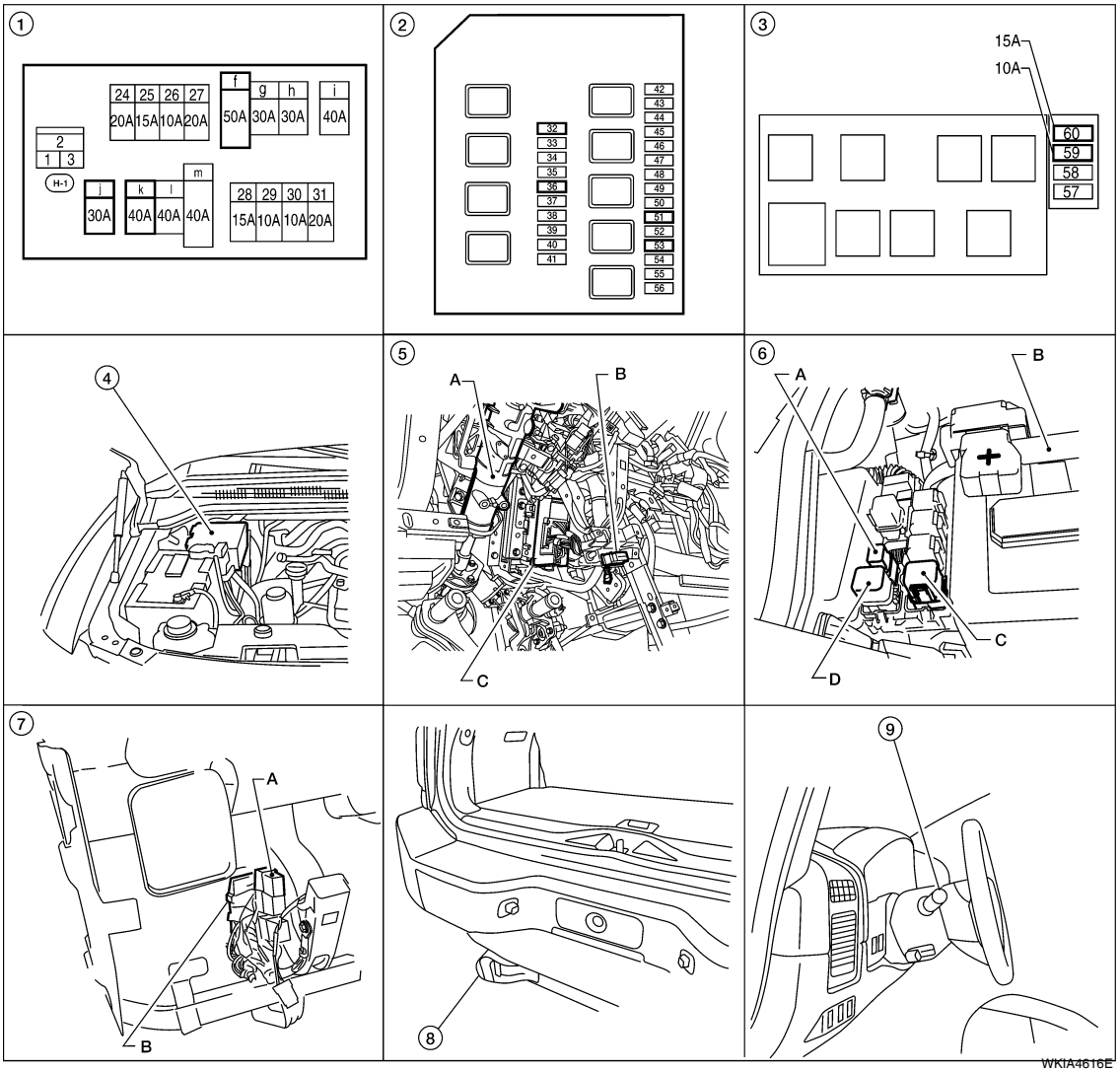
Installation

Installation is in the reverse order of removal.

TRAILER TOW

Component Parts and Harness Connector Location

INFOID:0000000003533451



1. Fuse and fusible link box
2. IPDM E/R fuse layout
3. Fuse and relay box
4. IPDM E/R E118, E119, E120, E121, E122, E123, E124
5. A. Steering column
   B. Data link connector M22
   C. BCM M18, M19, M20
   (view with instrument lower panel LH removed)
6. A. Trailer turn relay LH E156
   B. Battery
   C. Trailer tow relay 2 E140
   D. Trailer turn relay RH E157
7. A. Trailer tow relay 1 M51
   B. Electric brake (pre-wiring) M76
   (view with instrument lower panel LH removed)
8. Trailer connector C2
9. Combination switch (lighting switch) M28

System Description

INFOID:0000000003533452

Power is supplied at all times
- to ignition relay, located in the IPDM E/R (intelligent power distribution module engine room),
- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM (body control module) terminal 70,
- through 10A fuse (No. 32, located in the IPDM E/R)
- through IPDM E/R terminal 61

- to trailer tow relay 1 terminal 3,
- through 20A fuse (No. 53, located in the IPDM E/R)
- to CPU (central processing unit) of the IPDM E/R,
- through 30A fusible link (letter **j** , located in the fuse and fusible link box)
- to trailer tow relay 2 terminals 3 and 6, and
- through 40A fusible link (letter **k** , located in the fuse and fusible link box)
- to electric brake (pre-wiring) terminal 5.

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. 59, located in the fuse and relay box)
- to BCM terminal 38, and
- through 10A fuse (No. 51, located in the IPDM E/R)
- to trailer tow relay 2 terminal 1.

Ground is supplied
- to BCM terminal 67
- to electric brake (pre-wiring) terminal 1,
- through grounds M57, M61 and M79,
- to IPDM E/R terminals 38 and 59
- to trailer tow relay 1 terminal 2
- to trailer tow relay 2 terminal 2, and
- to trailer connector terminal 2
- to trailer turn relay LH and RH terminal 2
- through grounds E9, E15 and E24.

TRAILER TAIL LAMP OPERATION

The trailer tail lamps are controlled by the trailer tow relay 1.
With the lighting switch in the parking and tail lamp ON (1ST) position, AUTO position (and the auto light system is activated) or headlamp ON (2ND) position, power is supplied
- through the tail lamp relay, located in the IPDM E/R
- through 10A fuse (No. 36, located in the IPDM E/R)
- through IPDM E/R terminal 49
- to trailer tow relay 1 terminal 1.

When energized, trailer tow relay 1 supplies tail lamp power to trailer connector terminal 6.

TRAILER TURN SIGNAL AND HAZARD LAMP OPERATION

The trailer turn signal and hazard lamps are controlled by the BCM through trailer turn relays (LH and RH). If either turn signal or the hazard lamps are turned on, the BCM supplies voltage to the trailer turn relays (LH and RH) to make them cycle on and off.
Trailer turn relay LH output is supplied
- through BCM terminal 52
- to trailer turn relay LH terminal 1.

Trailer turn relay RH output is supplied
- through BCM terminal 51
- to trailer turn relay RH terminal 1.

Left turn signal and hazard lamp output is supplied
- through trailer turn relay LH terminal 3
- to trailer connector terminal 1.

Right turn signal and hazard lamp output is supplied
- through trailer turn relay RH terminal 3
- to trailer connector terminal 4.

TRAILER STOP LAMP OPERATION

The trailer stop lamps are controlled by the electric brake. The electric brake receives stop lamp switch signal when the brake pedal is pressed.
When the brake pedal is pressed, power is supplied
- through electric brake (pre-wiring) terminal 3
- to trailer connector terminal 3.

TRAILER POWER SUPPLY OPERATION

The trailer power supply is controlled by the trailer tow relay 2.
When the ignition switch is in the ON or START position, power is supplied
- through 10A fuse (No. 51, located in the IPDM E/R)

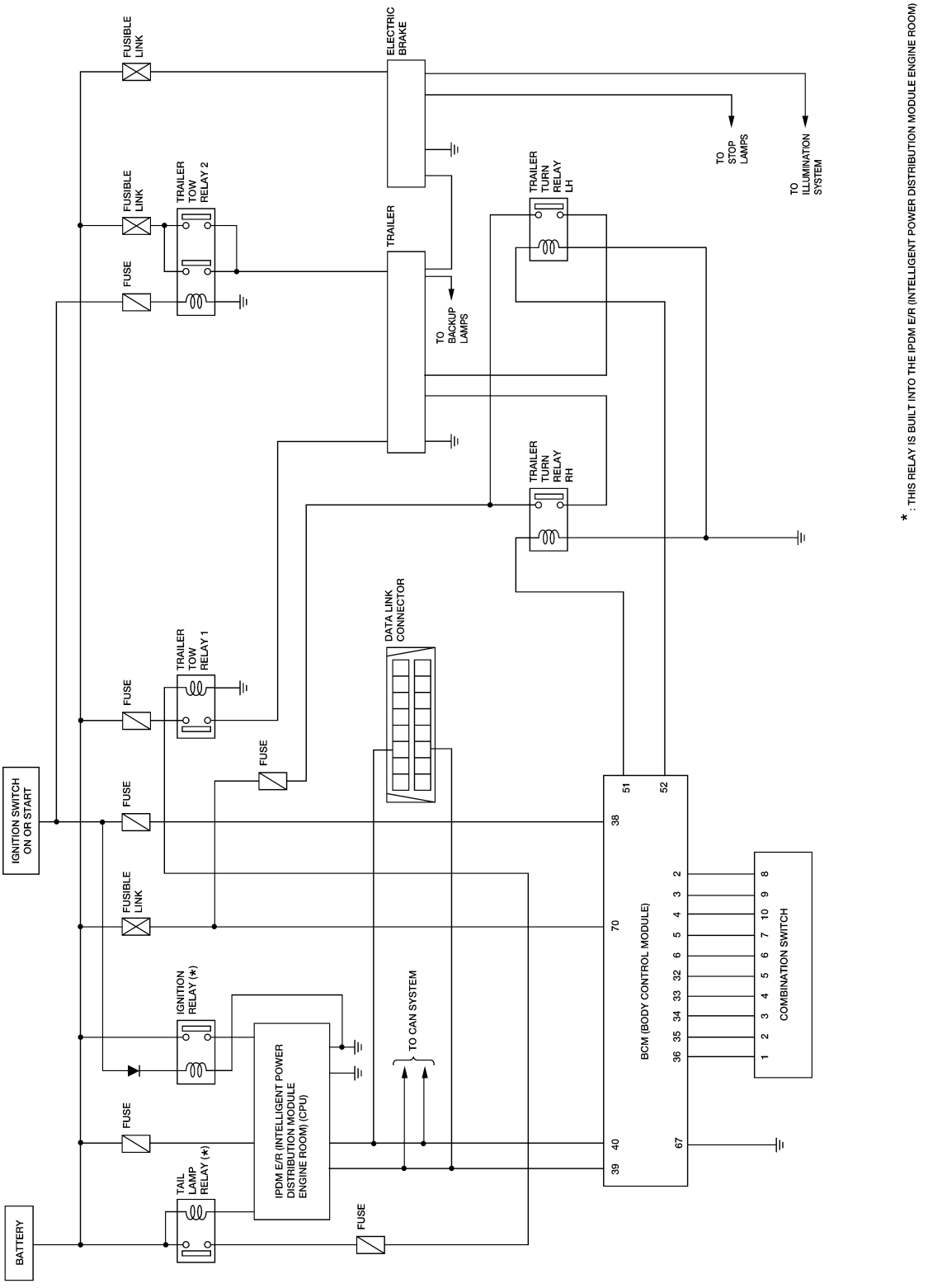
- through IPDM E/R terminal 16
- to trailer tow relay 2 terminal 1.

When energized, the trailer tow relay 2 supplies power

- through trailer tow relay 2 terminals 5 and 7
- to trailer connector terminal 5.

Schematic

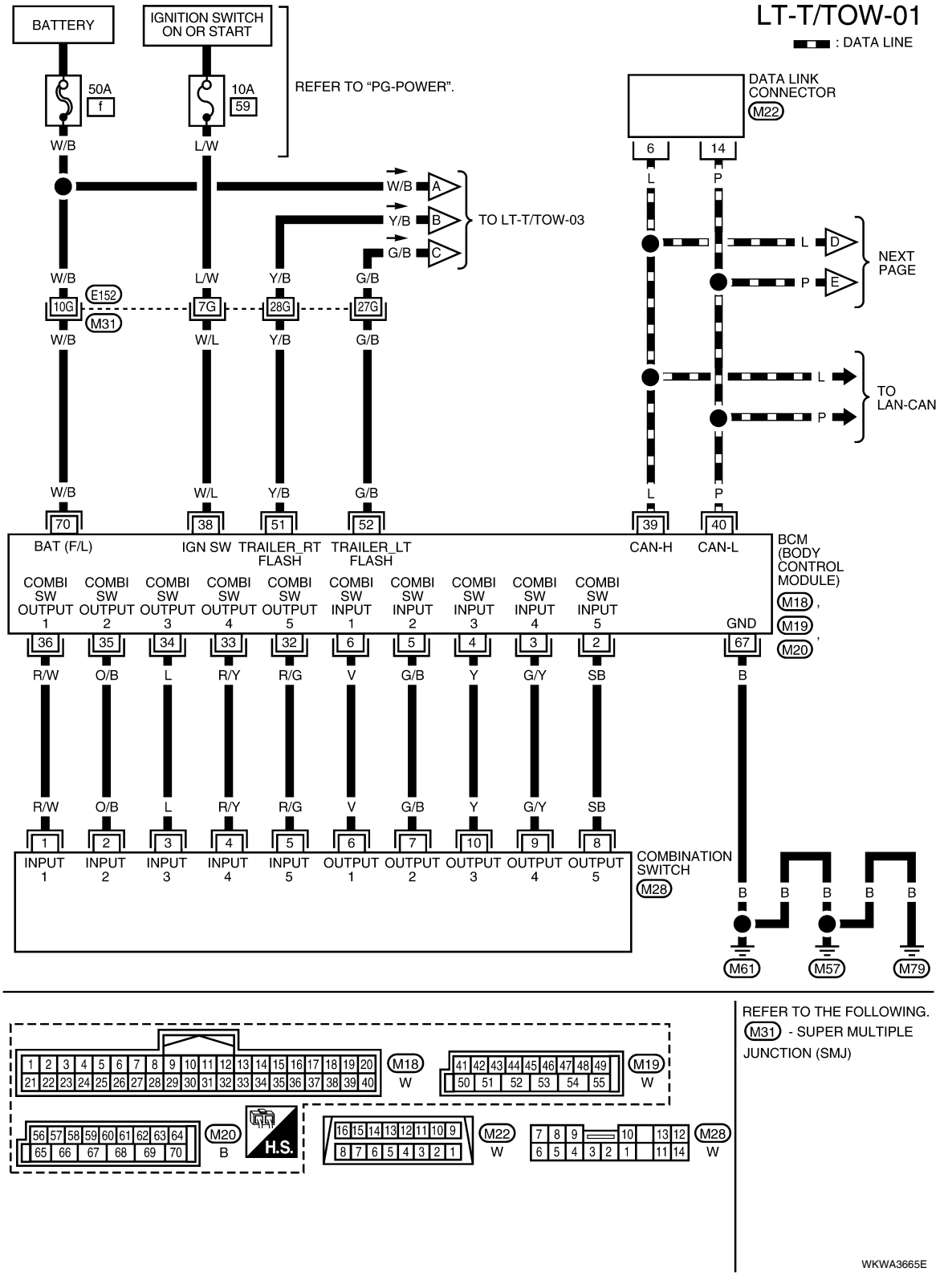
INFOID:0000000003533453

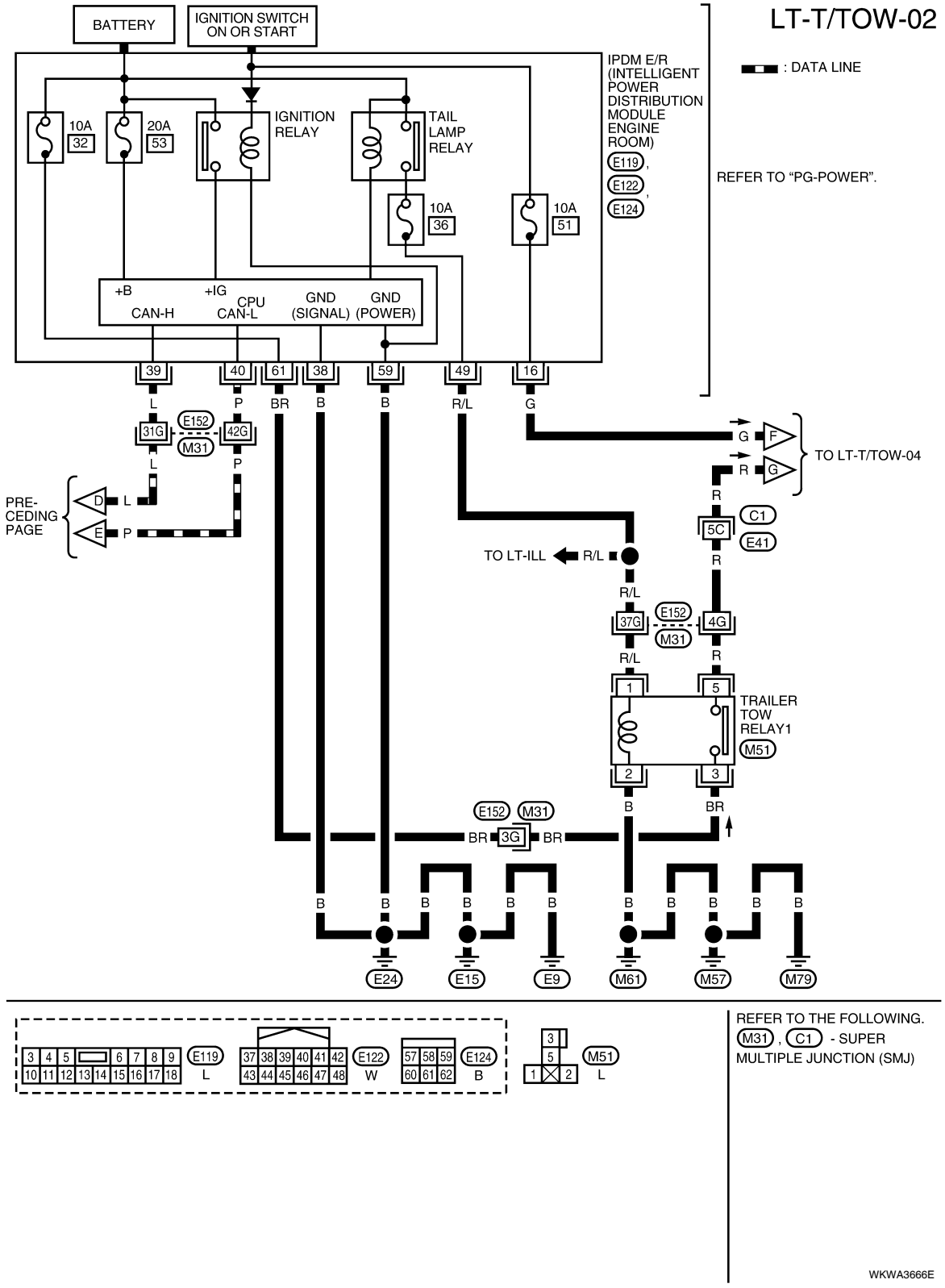


WKWA3664E

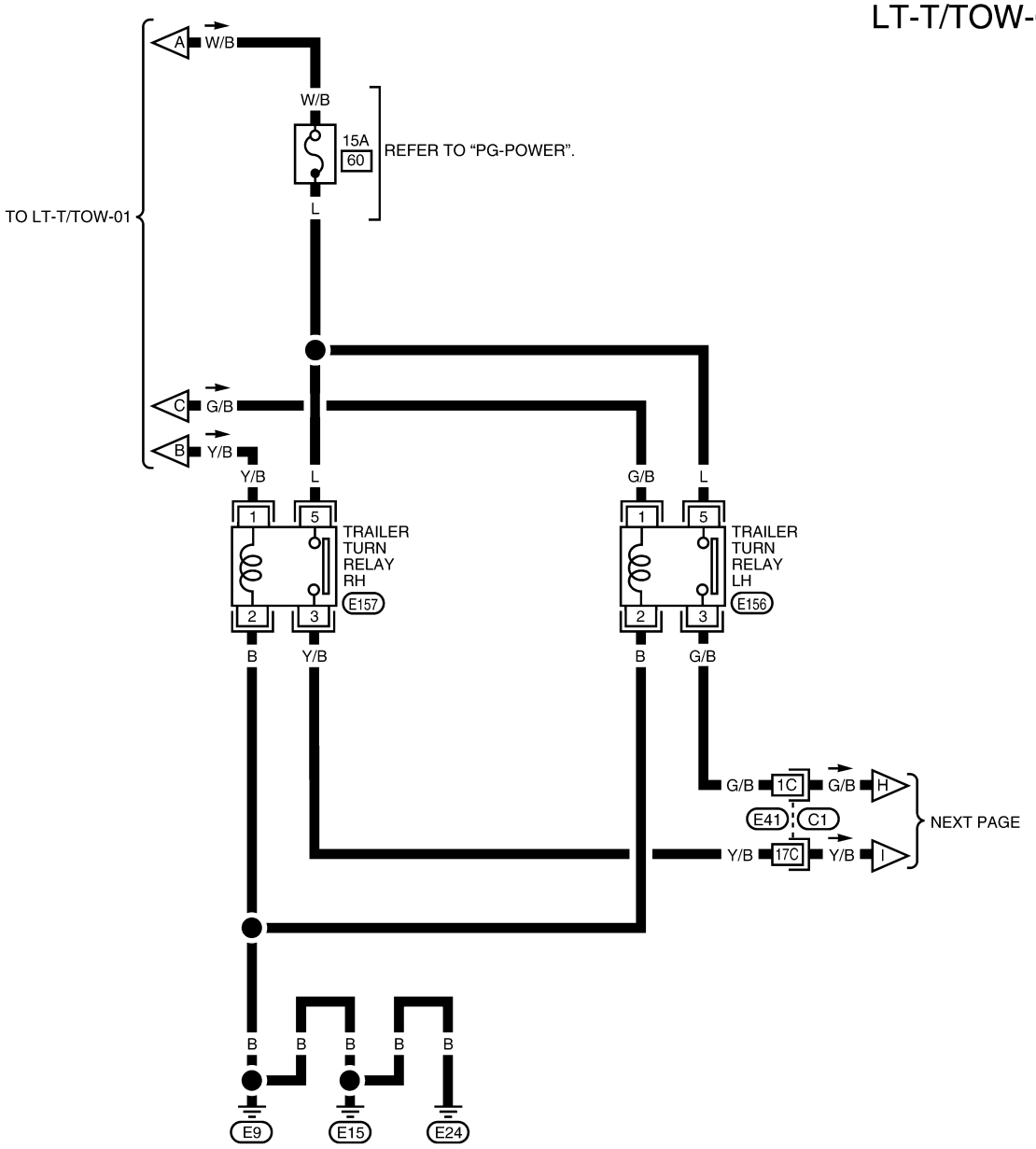
Wiring Diagram - T/TOW -

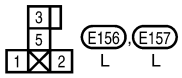
INFOID:0000000003533454




LT-T/TOW-02
BATTERY
IGNITION SWITCH ON OR START
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E119, E122, E124
: DATA LINE
REFER TO "PG-POWER".
10A 32
20A 53
IGNITION RELAY
TAIL LAMP RELAY
10A 36
10A 51
+B
+IG
CPU
CAN-H
CAN-L
GND (SIGNAL)
GND (POWER)
39 40 61 38 59 49 16
L P BR B B R/L G
E152 M31
31G 42G
PRE-CEDING PAGE
D L
E P
TO LT-T/TOW-04
G F
R G
C1 E41
5C
TO LT-ILL
R/L
37G 4G
1 5
TRAILER TOW RELAY1
M51
2 3
E152 M31 3G
E24 E15 E9 M61 M57 M79
E119 L
E122 W
E124 B
M51 L
REFER TO THE FOLLOWING.
M31, C1 - SUPER MULTIPLE JUNCTION (SMJ)
WKWA3666E

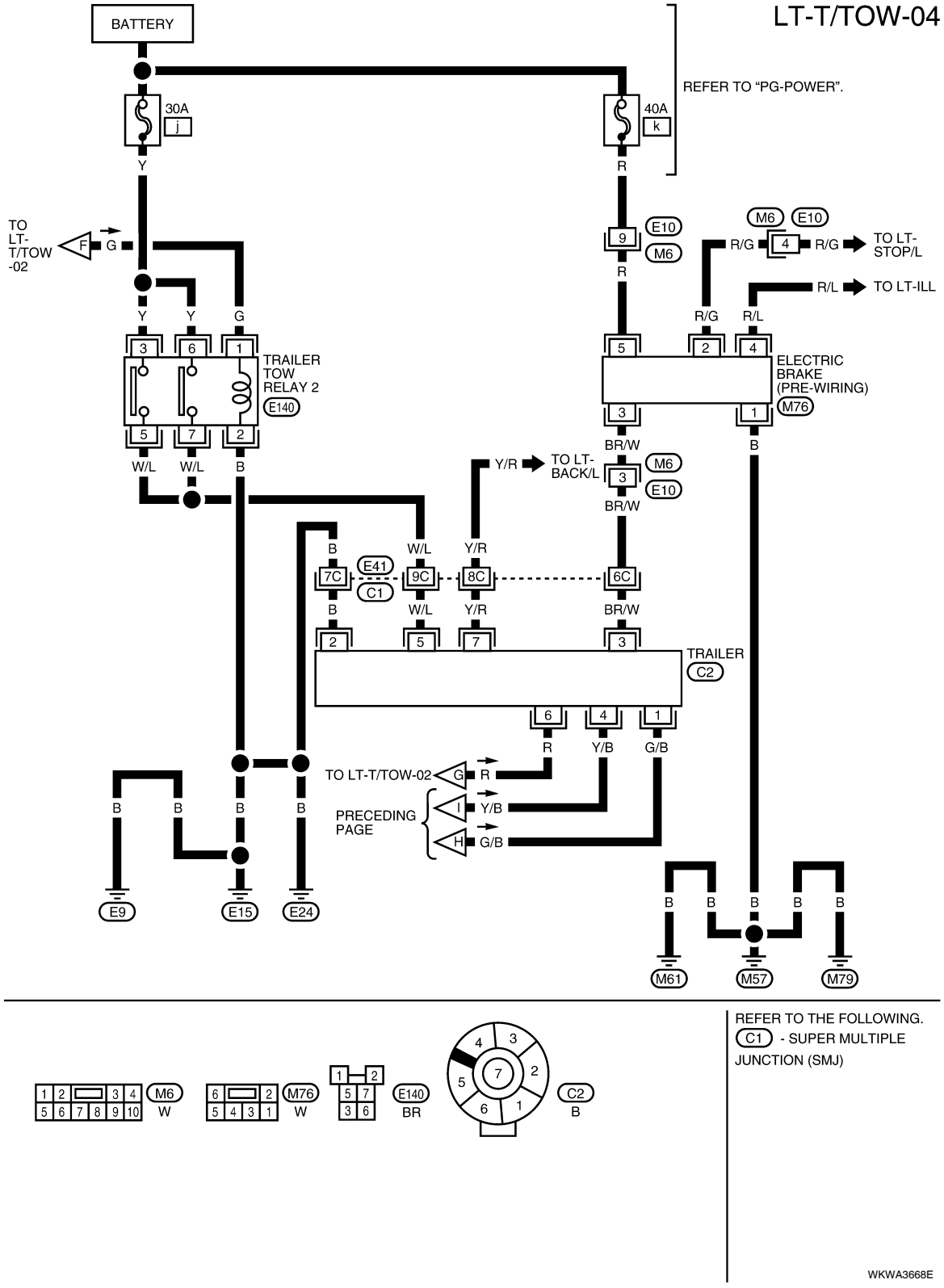
LT-T/TOW-03





REFER TO THE FOLLOWING.
C1 - SUPER MULTIPLE JUNCTION (SMJ)

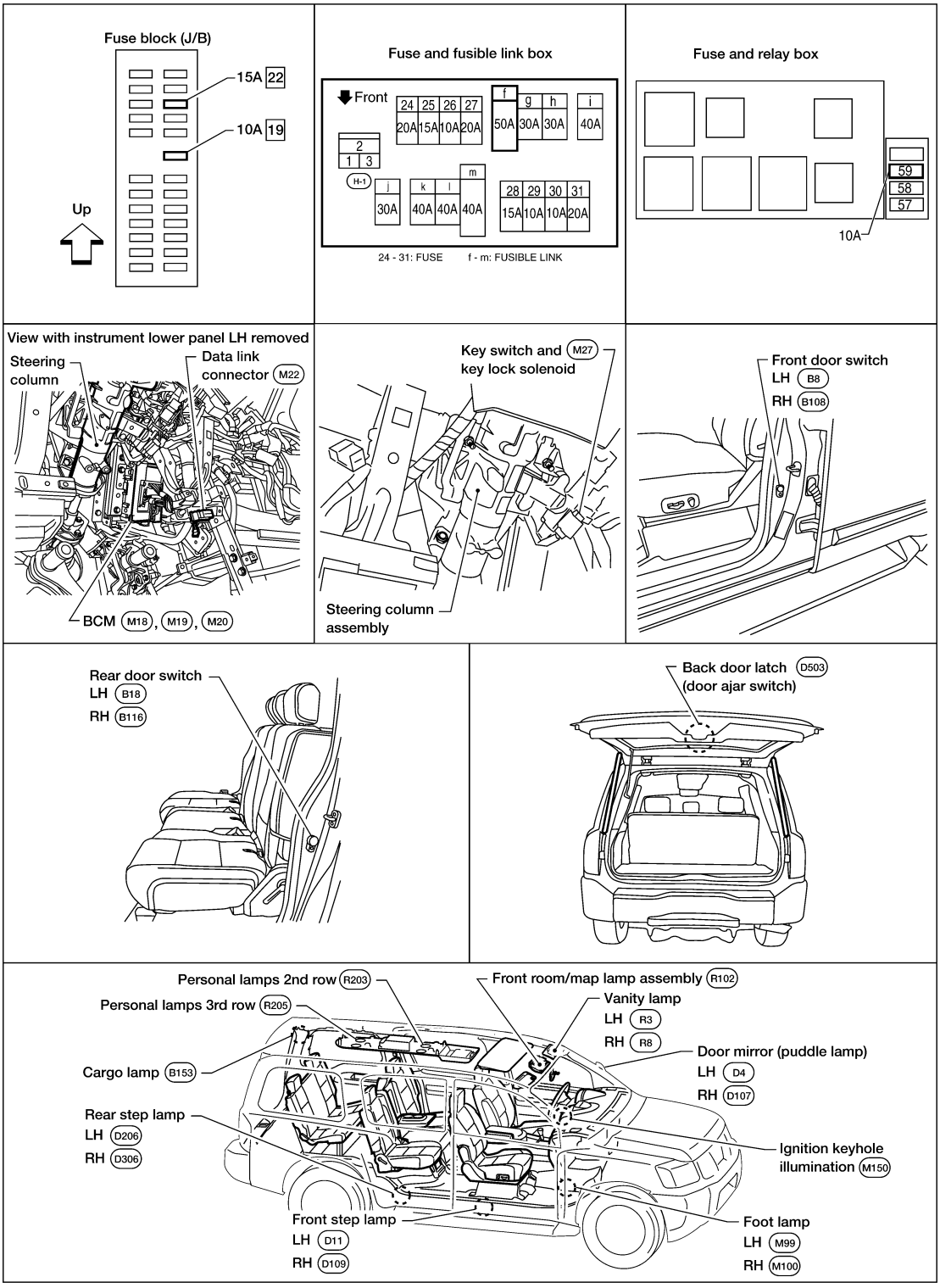
WKWA3667E


LT-T/TOW-04
BATTERY
30A
j
40A
k
REFER TO "PG-POWER".
TO LT-T/TOW -02
F
G
E10
M6
TO LT-STOP/L
TO LT-ILL
TRAILER TOW RELAY 2
E140
ELECTRIC BRAKE (PRE-WIRING)
M76
TO LT-BACK/L
E41
C1
TRAILER
C2
TO LT-T/TOW-02
PRECEDING PAGE
E9
E15
E24
M61
M57
M79
REFER TO THE FOLLOWING.
C1 - SUPER MULTIPLE JUNCTION (SMJ)
WKWA3668E

INTERIOR ROOM LAMP

Component Parts and Harness Connector Location

INFOID:0000000003533455



WKIA3555E

System Description

INFOID:0000000003533456

When room lamp and personal lamp switch is in DOOR position, room lamp and personal lamp ON/OFF is controlled by timer according to signals from switches including key switch and key lock solenoid, front door

switch LH, unlock signal from keyfob, door lock and unlock switch, front door lock assembly LH (key cylinder switch), ignition switch, and glass hatch ajar switch.
When room lamp and personal lamp turns ON, there is a gradual brightening over 1 second. When room lamp and personal lamp turns 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 front door LH is opened (door switch ON) or key is removed from key cylinder. Illumination turns OFF when front door LH is closed (door switch OFF).
Step and foot lamps turn ON when front or rear doors are opened (door switch ON). Lamps turn OFF when front and rear doors are closed (all door switches OFF).

POWER SUPPLY AND GROUND

Power is supplied at all times
- through 10A fuse [No. 19, located in the fuse block (J/B)]
- to key switch and key lock solenoid terminal 3,
- through 15A fuse [No. 22, located in the fuse block (J/B)]
- to BCM terminal 57, and
- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 70.

When the key is inserted in key switch and key lock solenoid, power is supplied
- through the key switch and key lock solenoid terminal 4
- to BCM terminal 37.

With the ignition switch in the ON or START position, power is supplied
- through 10A fuse (No. 59, located in the fuse and relay box)
- to BCM terminal 38.

Ground is supplied
- to BCM terminal 67
- through grounds M57, M61 and M79.

When the front door LH is opened, ground is supplied
- to BCM terminal 47
- through case ground of front door switch LH.

When the front door RH is opened, ground is supplied
- to BCM terminal 12
- through case ground of front door switch RH.

When the rear door LH is opened, ground is supplied
- to BCM terminal 48
- through case ground of rear door switch LH.

When the rear door RH is opened, ground is supplied
- to BCM terminal 13
- through case ground of rear door switch RH.

When the liftgate is opened, ground is supplied
- to BCM terminal 43
- through back door latch (door ajar switch) terminal 7
- through back door latch (door ajar switch) terminal 8
- through grounds B7 and B19.

When the glass hatch is opened, ground is supplied
- to BCM terminal 42
- through case ground of glass hatch ajar switch.

When the front door LH or front door RH door is unlocked by the door lock and unlock switch, BCM receives serial data
- to BCM terminal 22
- through main power window and door lock/unlock switch terminal 14 or power window and door lock/unlock switch RH terminal 16
- through main power window and door lock/unlock switch terminal 17 or power window and door lock/unlock switch RH terminal 11
- through grounds M57, M61 and M79.

When the front door LH is unlocked by the key, the BCM receives serial data
- to BCM terminal 22
- through main power window and door lock/unlock switch terminal 14
- through main power window and door lock/unlock switch terminal 6
- through front door lock assembly LH (key cylinder switch) terminal 6
- through front door lock assembly LH (key cylinder switch) terminal 5

• through grounds M57, M61 and M79.
When a signal, or combination of signals is received by BCM, ground is supplied
• through BCM terminal 63
• to door mirror LH and RH terminal 13
• to front room/map lamp assembly terminal 1
• through front room/map lamp assembly terminal 2
• to personal lamps terminal 1, and
• through BCM terminal 49
• to cargo lamp terminal 1.
With power and ground supplied, the lamps illuminate.

SWITCH OPERATION

When any door switch is ON (door is opened), ground is supplied
• to front and rear step lamps LH and RH and foot lamp LH and RH terminal –
• through BCM terminal 62.
And power is supplied
• through BCM terminal 56
• to front and rear step lamps LH and RH terminal +
• to ignition keyhole illumination terminal +
• to door mirror LH and RH terminal 12
• to front room/map lamp assembly terminal 6
• to vanity lamp LH and RH terminal 1
• to personal lamp 2nd row and 3rd row terminal 3
• to cargo lamp terminal 2, and
• to foot lamp LH and RH terminal +.
When map lamp switch is ON, ground is supplied
• to front room/map lamp assembly terminal 5
• through grounds M57, M61 and M79.
When vanity lamp (LH and RH) is ON, ground is supplied
• to vanity lamp (LH and RH) terminal 2
• through grounds M57, M61 and M79.
When cargo lamp is ON, ground is supplied through cargo lamp case ground.

ROOM LAMP TIMER OPERATION

When lamp switch is in DOOR position and all conditions below are met, BCM performs timer control (maximum 30 seconds) for interior room lamp and map lamp ON/OFF.
Power is supplied
• through 10A fuse [No. 19, located in the fuse block (J/B)]
• to key switch and key lock solenoid terminal 3.
Key is removed from ignition key cylinder (key switch OFF), power will not be supplied to BCM terminal 37.
Serial data is supplied
• to BCM terminal 22
• through main power window and door lock/unlock switch terminal 14.
At the time that front door LH is opened, BCM detects that front door LH is unlocked. It determines that interior room lamp and map lamp timer operation conditions are met, and turns the interior room lamps ON for 30 seconds.
Key is in ignition key cylinder (key switch ON), power is supplied
• through key switch and key lock solenoid terminal 4
• to BCM terminal 37.
When key is removed from key switch and key lock solenoid (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 lamps ON for 30 seconds.
When front door LH opens → closes, and the key is not inserted in the key switch and key lock solenoid (key switch OFF), BCM terminal 47 changes between 0V (door open) → 12V (door closed). The BCM determines that conditions for interior room lamp operation are met and turns the interior room lamp ON for 30 seconds.
Timer control is canceled under the following conditions.
• Front door LH is locked [when locked by keyfob, main power window and door lock/unlock switch, or front door lock assembly LH (key cylinder switch)]
• Front door LH is opened (front door switch LH turns ON)
• Ignition switch ON.

INTERIOR LAMP BATTERY SAVER CONTROL

If interior lamp is left “ON”, it will not be turned off 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 lamp
- Room/map lamp
- Cargo lamp
- Personal lamp
- Step lamps
- Puddle lamps
- Foot lamps
- Ignition keyhole illumination

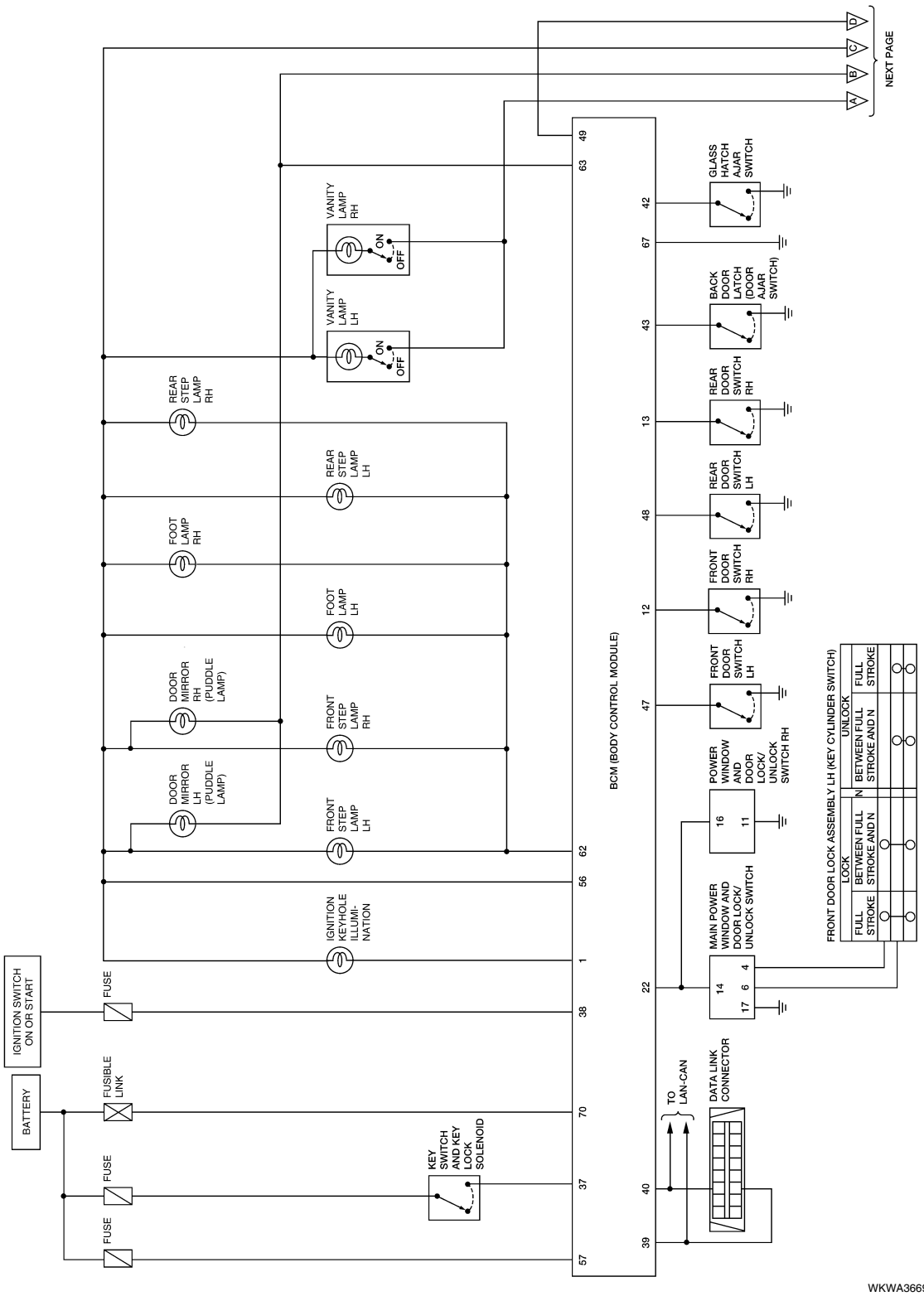
After lamps turn OFF by the battery saver system, the lamps illuminate again when

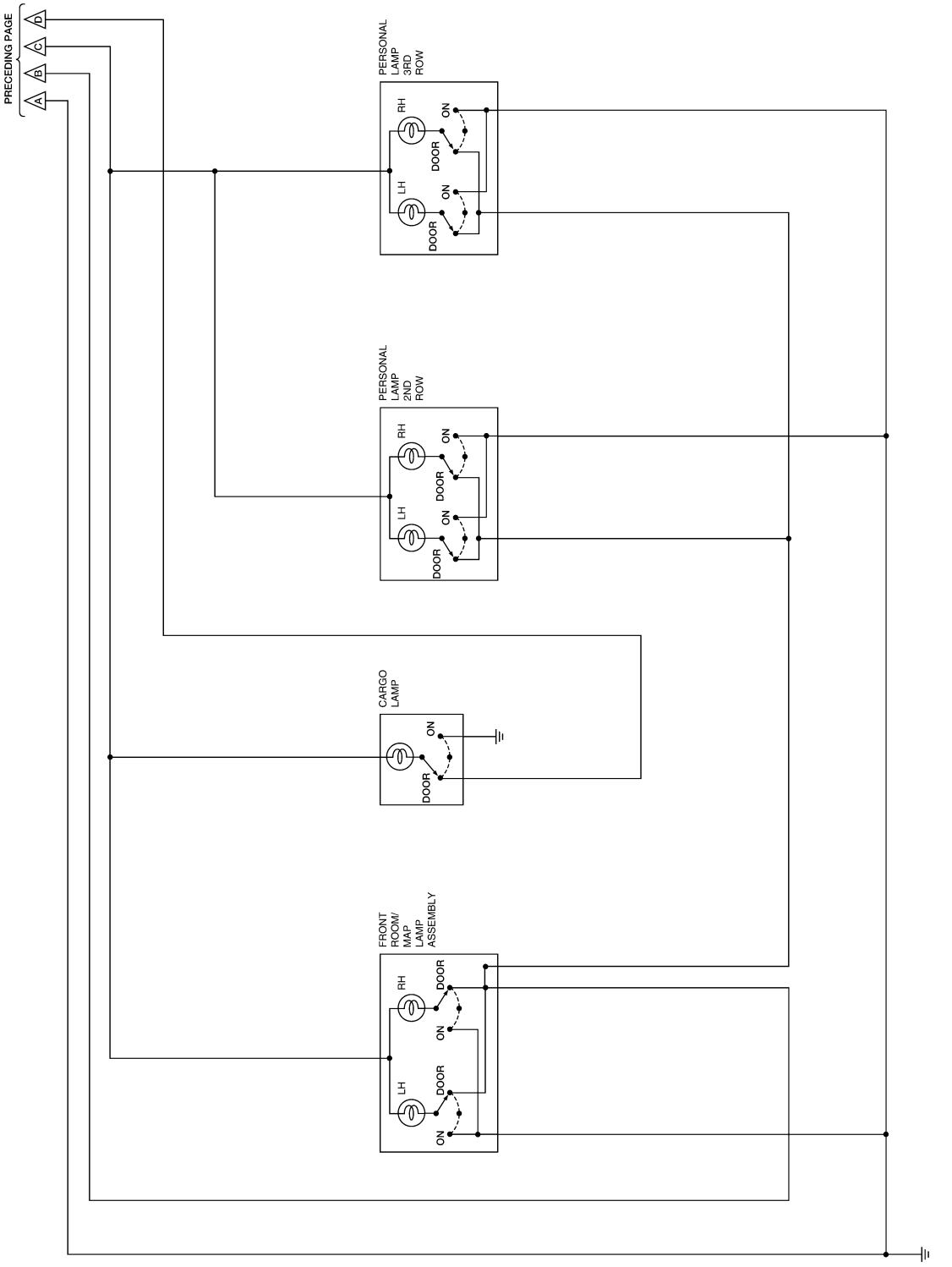
- signal received from keyfob, or main power window and door lock/unlock switch or front door lock assembly LH (key cylinder switch) is locked or unlocked
- door is opened or closed
- key is removed from ignition key cylinder (key switch OFF) or inserted in ignition key cylinder (key switch ON).

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

Schematic

INFOID:0000000003533457

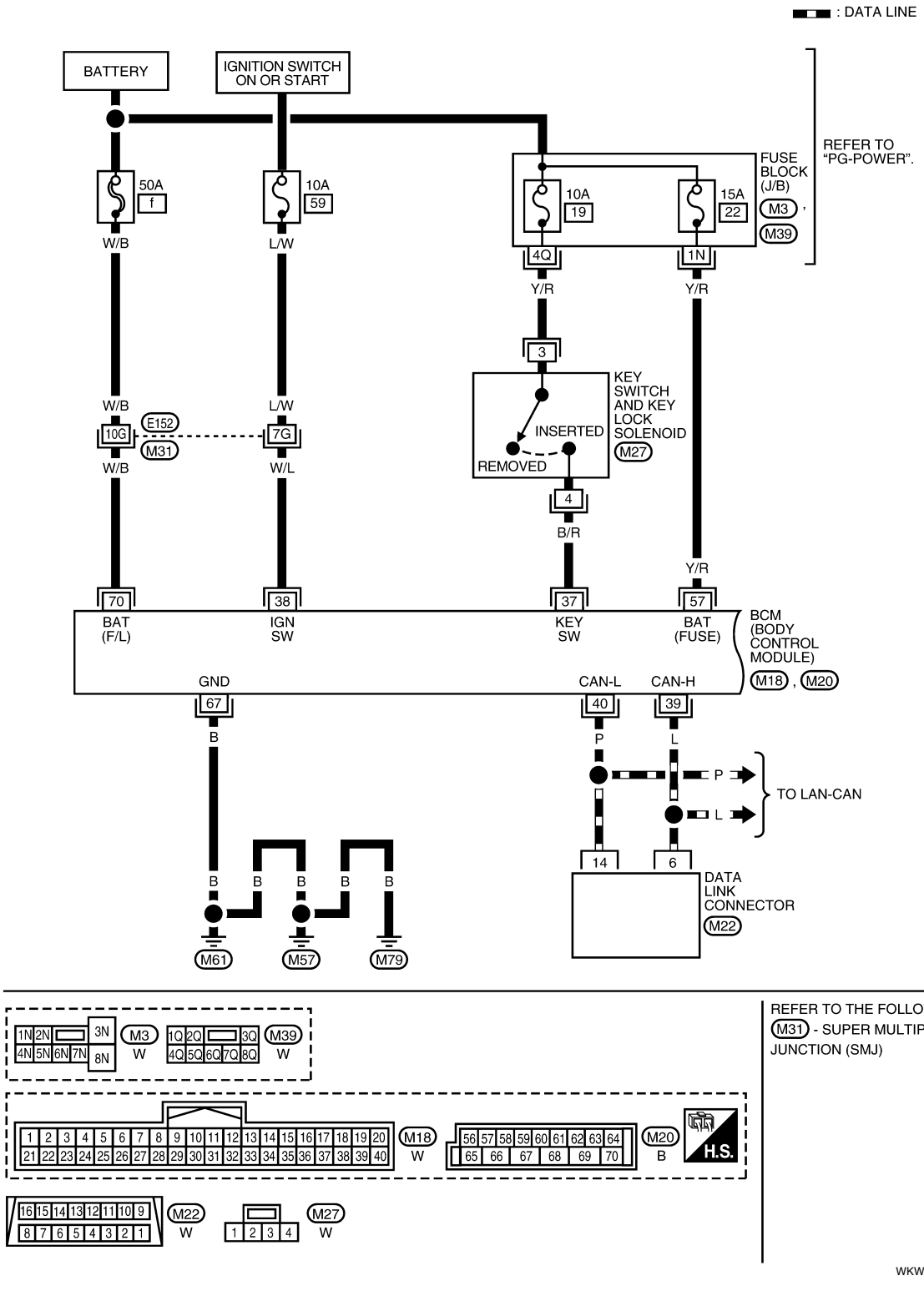



PRECEDING PAGE
A
B
C
D
PERSONAL LAMP 3RD ROW
RH
LH
ON
DOOR
PERSONAL LAMP 2ND ROW
CARGO LAMP
FRONT ROOM/ MAP LAMP ASSEMBLY
WKWA3670E

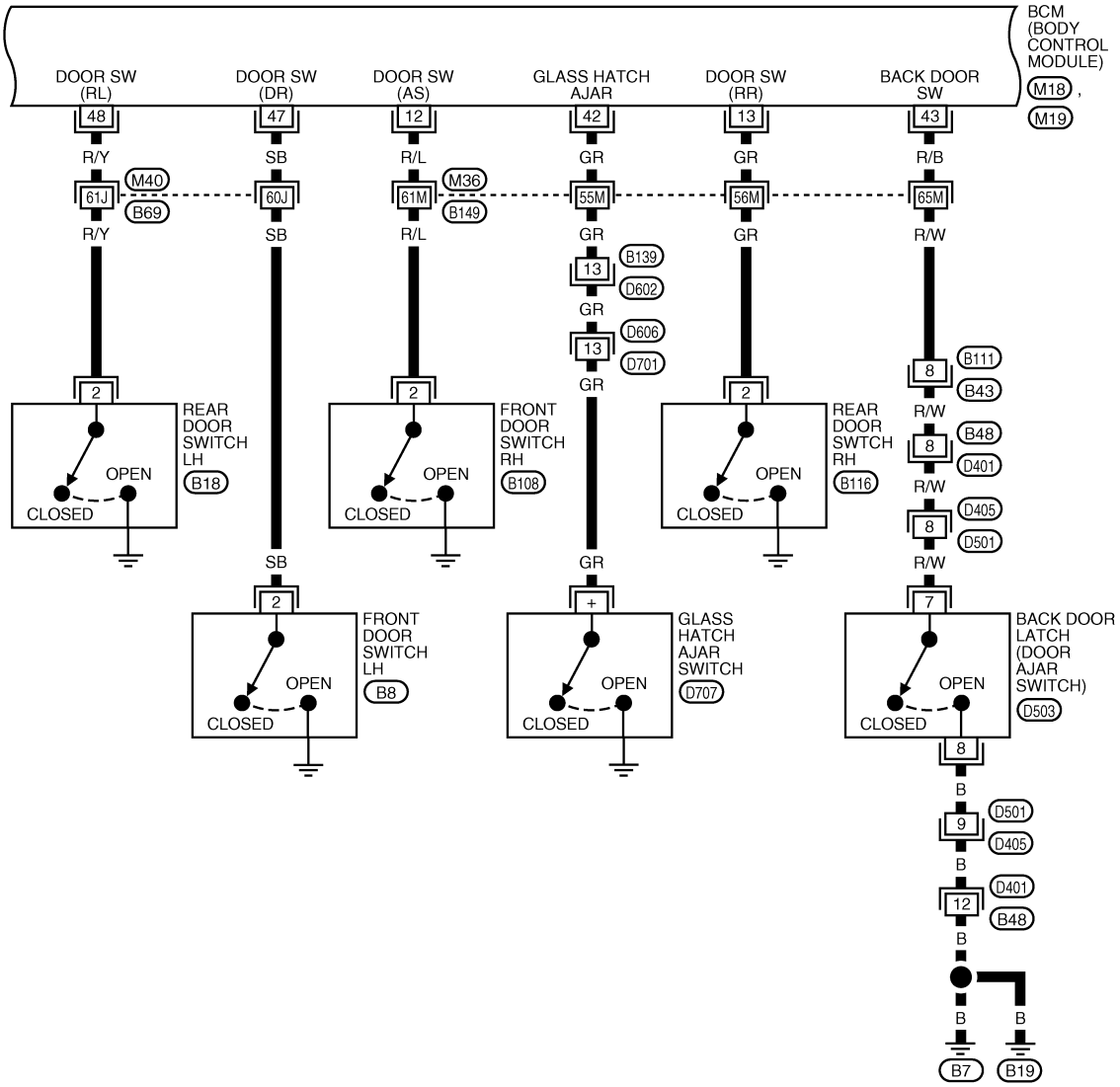
Wiring Diagram - INT/L -

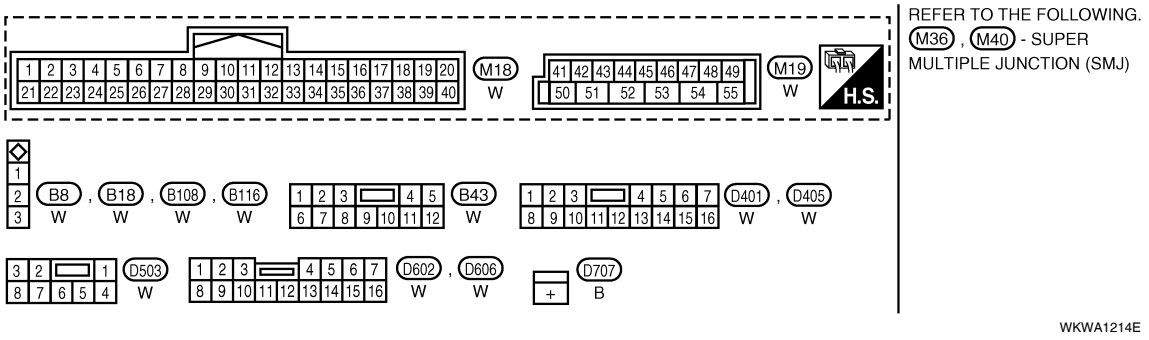
INFOID:0000000003533458

LT-INT/L-01

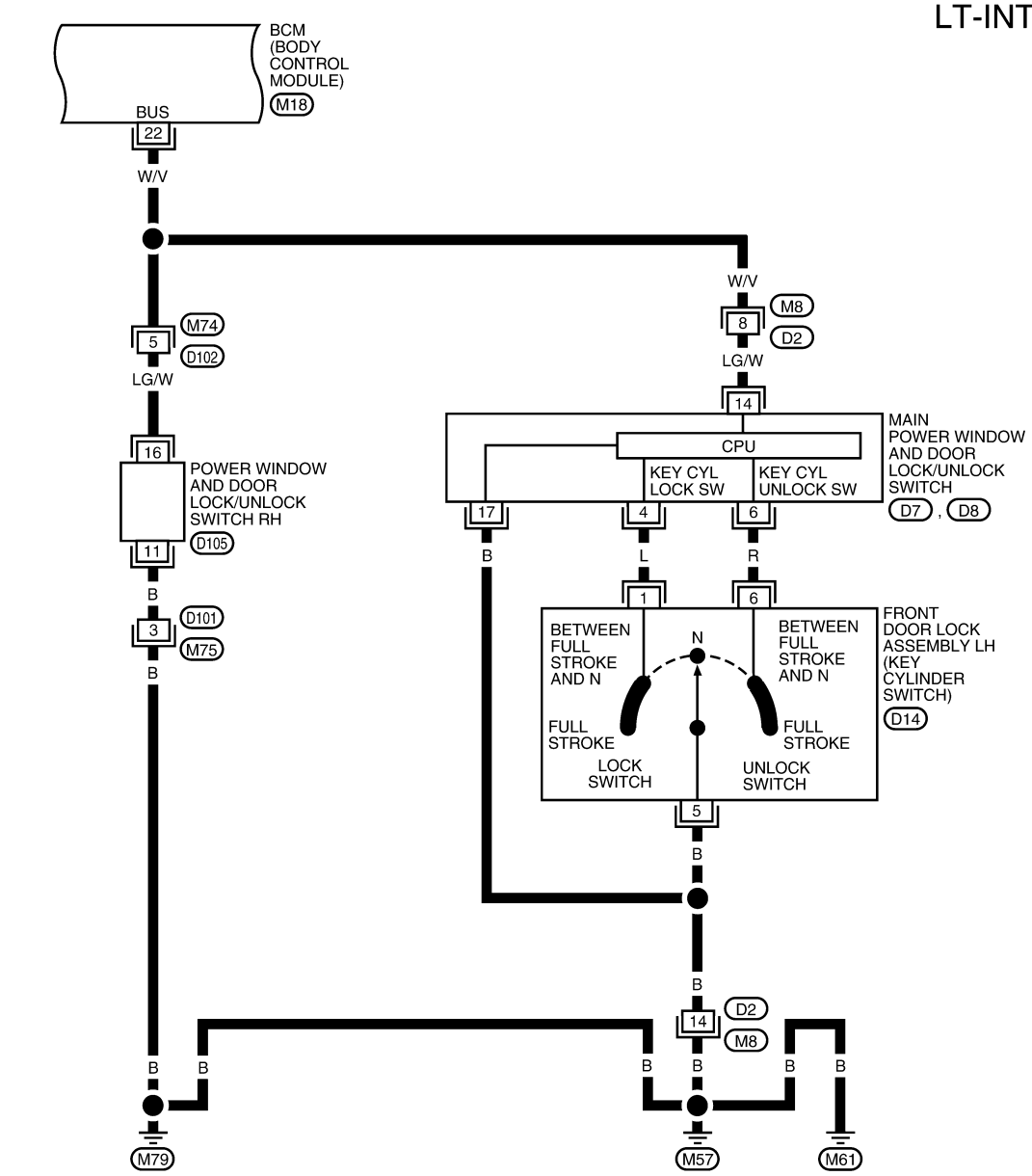


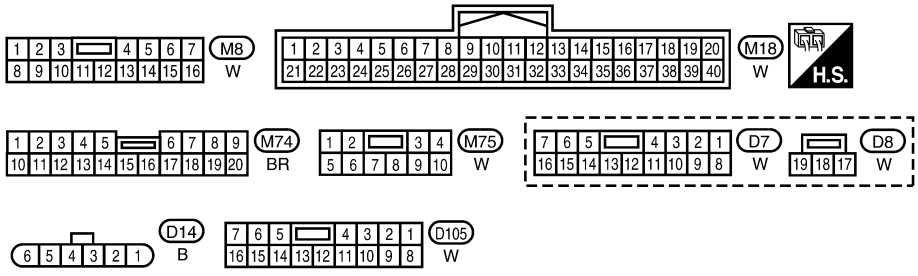
LT-INT/L-02


BCM (BODY CONTROL MODULE)
M18 , M19
DOOR SW (RL)
DOOR SW (DR)
DOOR SW (AS)
GLASS HATCH AJAR
DOOR SW (RR)
BACK DOOR SW
48
47
12
42
13
43
R/Y
SB
R/L
GR
GR
R/B
M40
M36
61J
60J
61M
55M
56M
65M
B69
B149
R/Y
SB
R/L
GR
GR
R/W
B139
13
D602
GR
D606
13
D701
GR
B111
8
B43
R/W
B48
8
D401
R/W
D405
8
D501
R/W
2
2
2
2
REAR DOOR SWITCH LH
B18
FRONT DOOR SWITCH RH
B108
REAR DOOR SWTCH RH
B116
OPEN
CLOSED
SB
GR
7
2
+
FRONT DOOR SWITCH LH
B8
GLASS HATCH AJAR SWITCH
D707
BACK DOOR LATCH (DOOR AJAR SWITCH)
D503
8
B
9
D501
D405
B
12
D401
B48
B
B
B
B7
B19

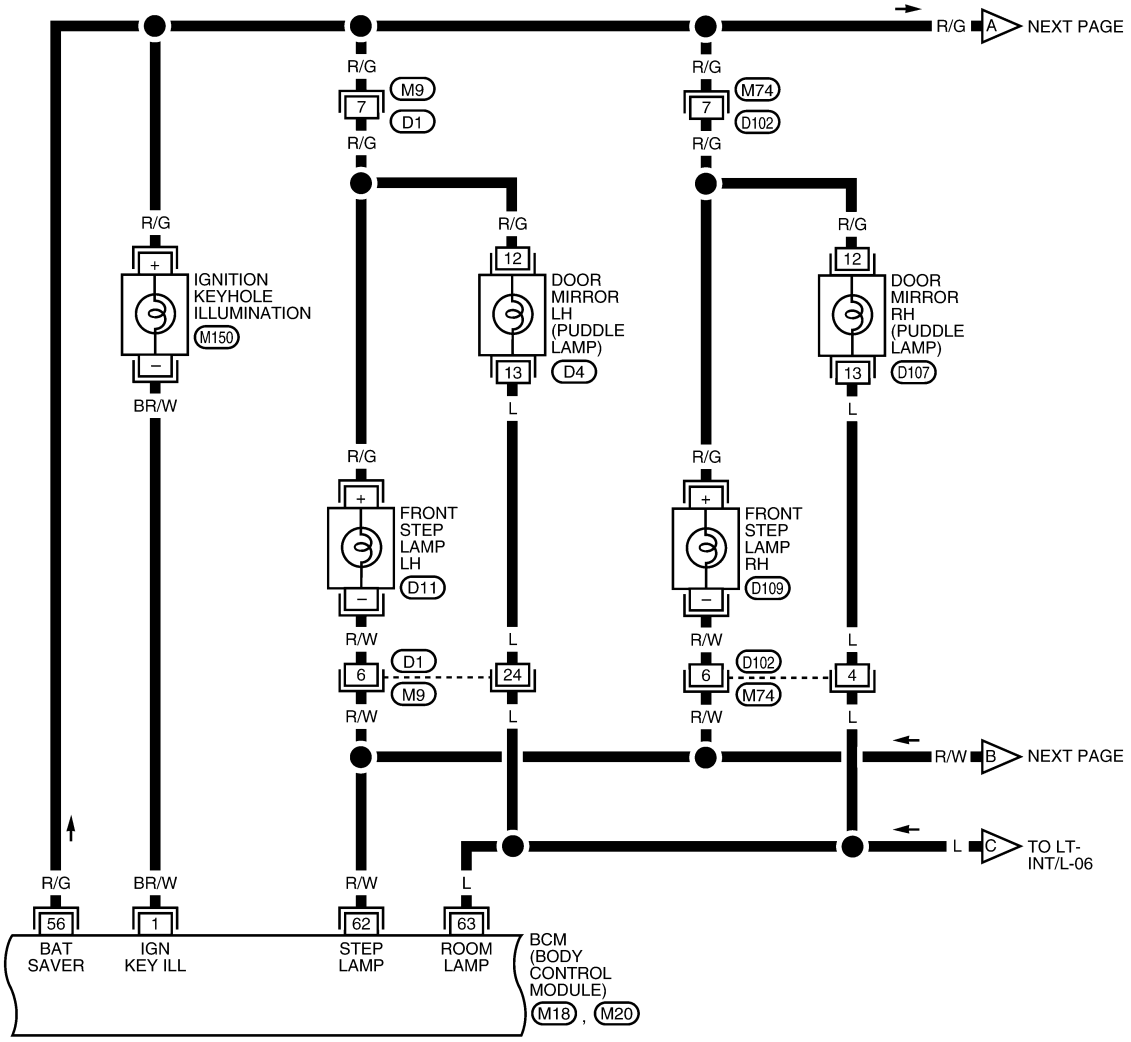

M18
W
M19
W
H.S.
B8 , B18 , B108 , B116
W W W W
B43
W
D401 , D405
W W
D503
W
D602 , D606
W W
D707
B
REFER TO THE FOLLOWING.
M36 , M40 - SUPER MULTIPLE JUNCTION (SMJ)
WKWA1214E

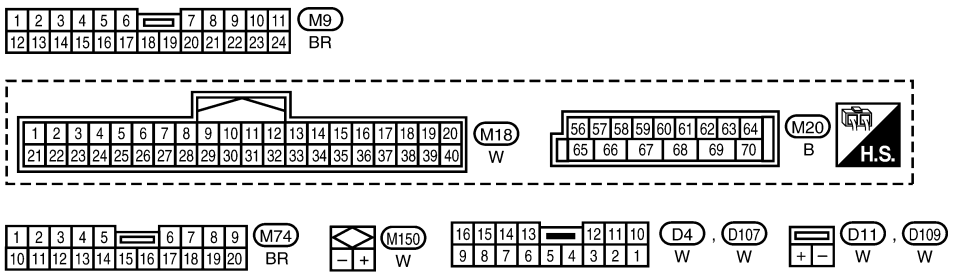
LT-INT/L-03





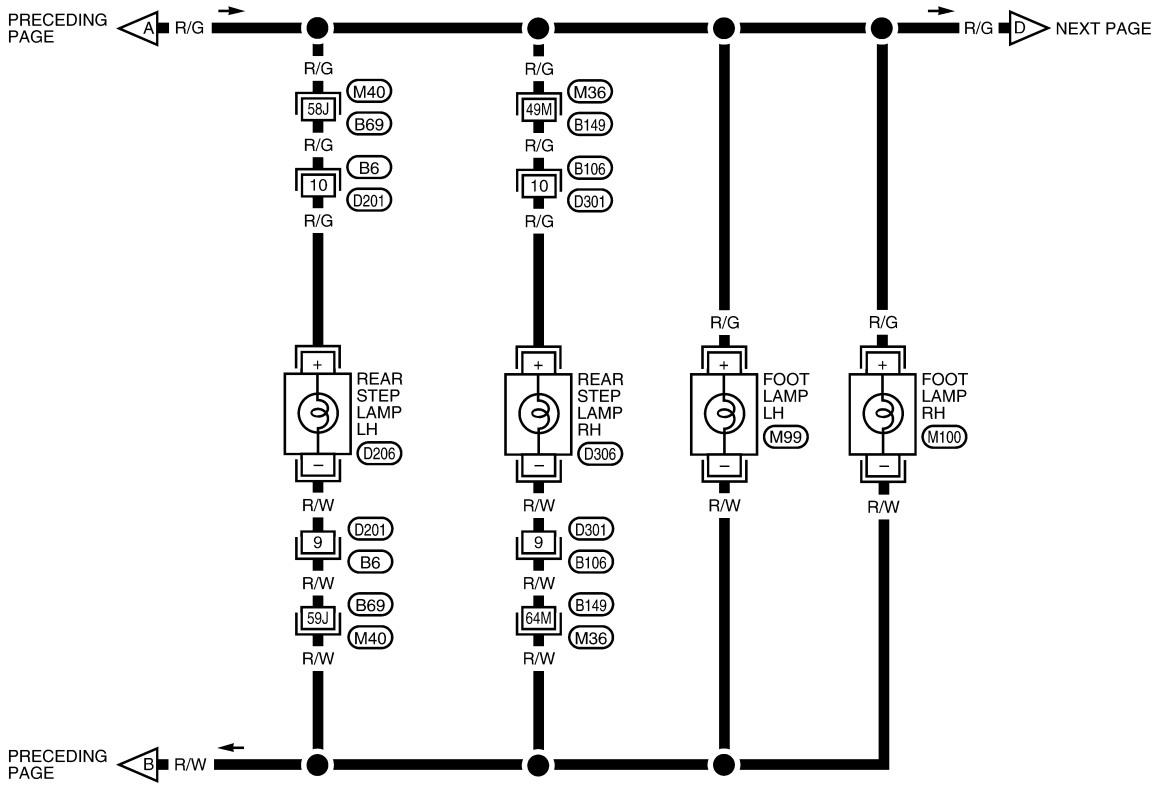
WKWA5145E

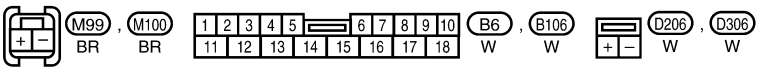

R/G
A
NEXT PAGE
M9
7
D1
M74
D102
IGNITION KEYHOLE ILLUMINATION
M150
BR/W
DOOR MIRROR LH (PUDDLE LAMP)
12
13
D4
DOOR MIRROR RH (PUDDLE LAMP)
D107
FRONT STEP LAMP LH
D11
FRONT STEP LAMP RH
D109
R/W
6
24
4
B
NEXT PAGE
L
C
TO LT-INT/L-06
56
1
62
63
BAT SAVER
IGN KEY ILL
STEP LAMP
ROOM LAMP
BCM (BODY CONTROL MODULE)
M18
M20


M9
BR
M18
W
M20
B
H.S.
M74
BR
M150
W
D4
W
D107
W
D11
W
D109
W

WKWA2496E

LT-INT/L-05

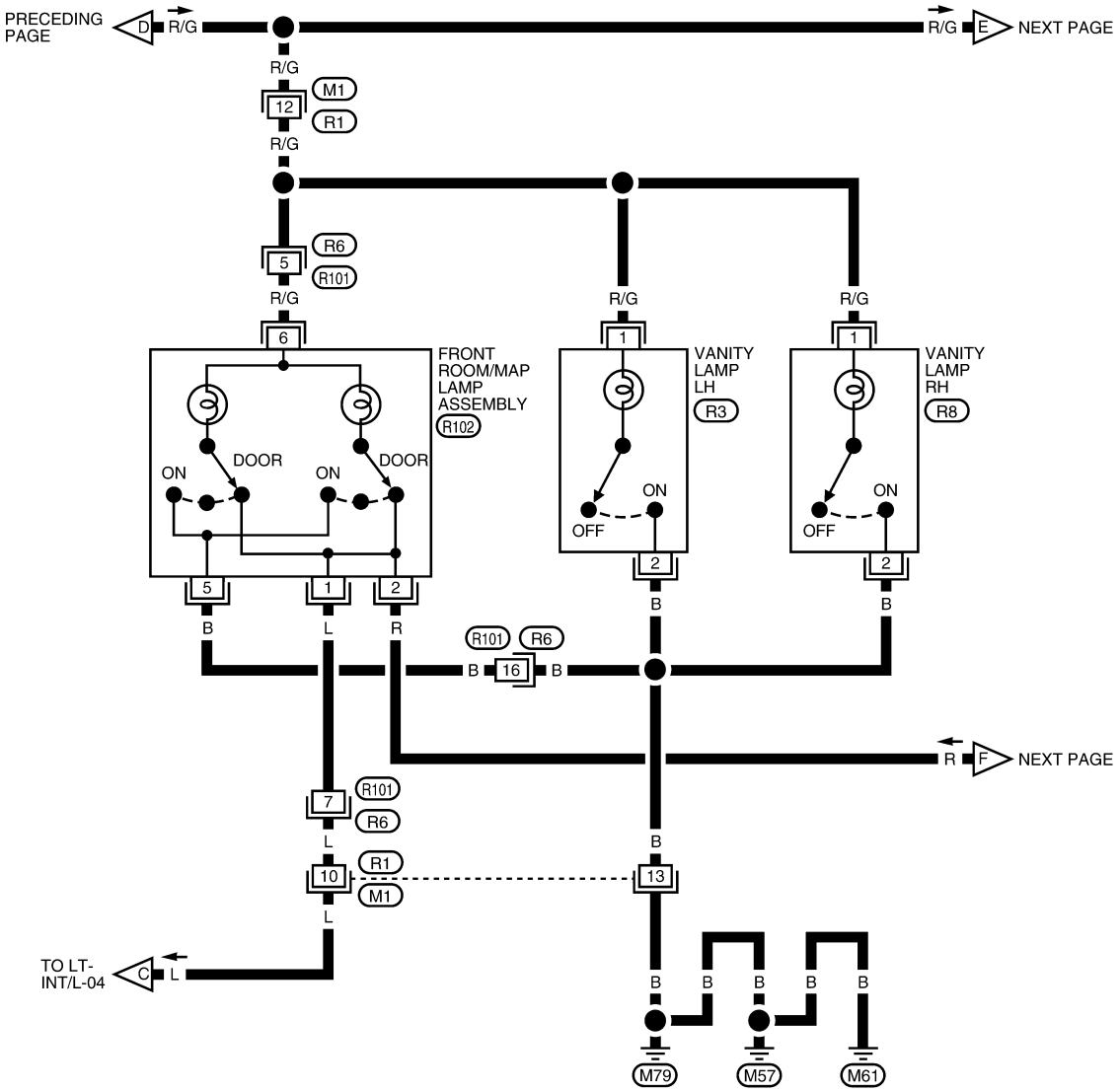


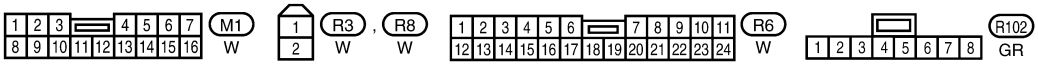


REFER TO THE FOLLOWING.
M36 , M40 - SUPER MULTIPLE JUNCTION (SMJ)

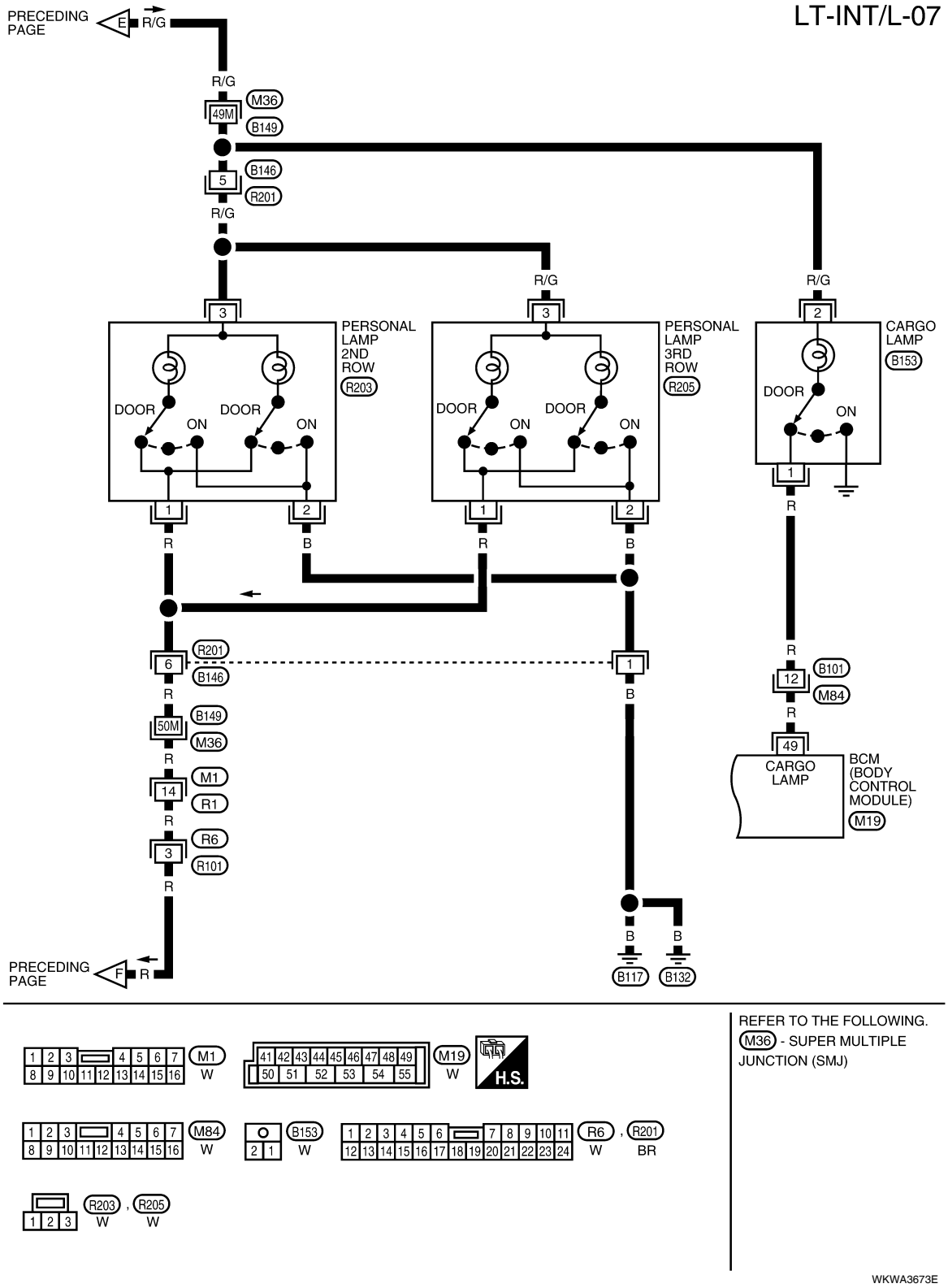
WKWA2497E

LT-INT/L-06





WKWA3672E



Terminal and Reference Value for BCM

INFOID:0000000003533459

Refer to BCS-11, "Terminal and Reference Value for BCM" .

How to Proceed with Trouble Diagnosis

INFOID:0000000003533460

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-101, "System Description" .

3. Carry out the Preliminary Check. Refer to LT-114, "Preliminary Check" .
4. Check symptom and repair or replace the component.
5. Does the interior room lamp operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. Inspection End.

Preliminary Check

INFOID:0000000003533461

INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT FOR BCM

Refer to BCS-15, "BCM Power Supply and Ground Circuit Inspection" .

CONSULT-II Function (BCM)

INFOID:0000000003533462

Refer to BCS-16, "CONSULT-II Function (BCM)" .

CONSULT-II START PROCEDURE

Refer to GI-36, "CONSULT-II Start Procedure" .

WORK SUPPORT

Display Item List

Item	Description	CONSULT-II
SET I/L D-UNLCK INTCON	The 30 seconds operating function of the interior room lamps and the ignition keyhole illumination can be selected when front door LH is released (unlocked).	ON/OFF
ROOM LAMP ON TIME SET	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
ROOM LAMP OFF TIME SET	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

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 front door LH as judged from the front door switch LH signal. (Door is open: ON/Door is closed: OFF)
DOOR SW-AS	"ON/OFF"	Displays "Door open (ON)/Door closed (OFF)" status, determined from front door switch RH 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 latch (door ajar switch) signal.
KEY CYL LK-SW	"ON/OFF"	Displays "Door locked (ON)" status, determined from front door lock assembly LH (key cylinder switch) in front door LH.
KEY CYL UN-SW	"ON/OFF"	Displays "Door unlocked (OFF)" status, determined from front door lock assembly LH (key cylinder switch) in front door LH.
CDL LOCK SW	"ON/OFF"	Displays "Door locked (ON)/Door unlocked (OFF)" status, determined from locking detection switch in front door LH.

Monitor item		Contents
CDL UNLOCK SW	"ON/OFF"	Displays "Door unlocked (OFF)" status, determined from locking detection switch in front door RH.
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

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.

Room/Map Lamp Control Does Not Operate

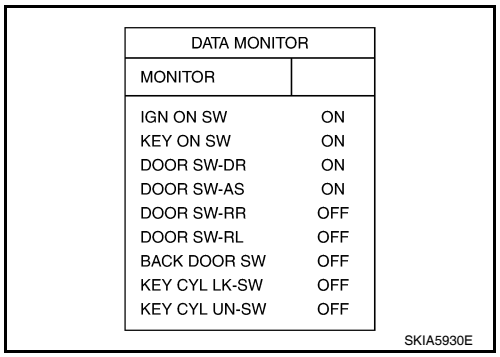
INFOID:0000000003533463

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-114, "CONSULT-II Function (BCM)" for switches and their functions.

OK or NG

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



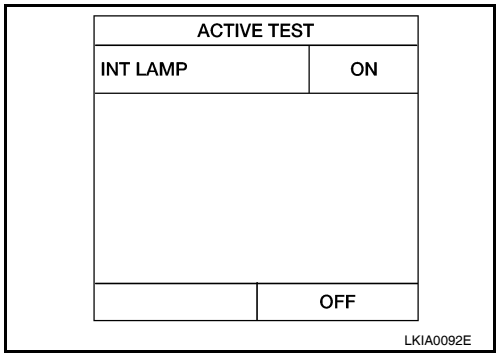
2.ACTIVE TEST

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

Room lamps should turn ON.

OK or NG

OK >> Replace BCM. Refer to BCS-24, "BCM" .
NG >> GO TO 3.



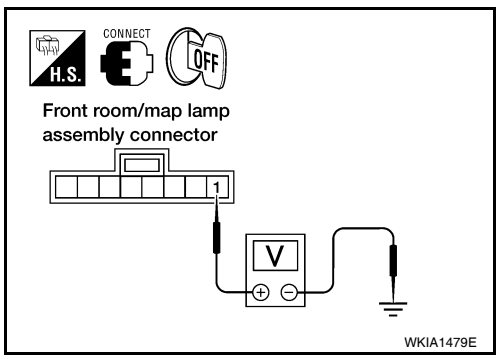
3.CHECK INTERIOR ROOM LAMP INPUT

1. Turn ignition switch OFF.
2. Check voltage between front room/map lamp assembly harness connector R102 terminal 1 and ground.

1 - Ground : Battery voltage should exist.

OK or NG

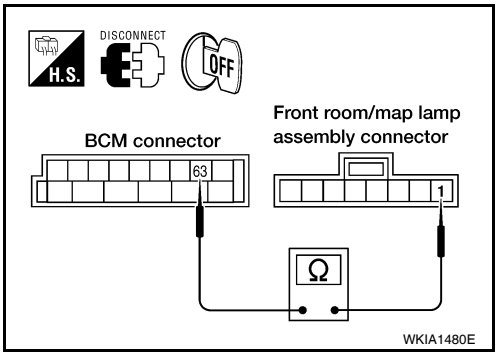
OK >> GO TO 4.
NG >> GO TO 5.



4.CHECK INTERIOR ROOM LAMP CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector M20 terminal 63 and front room/map lamp assembly harness connector R102 terminal 1.

63 - 1 : Continuity should exist.



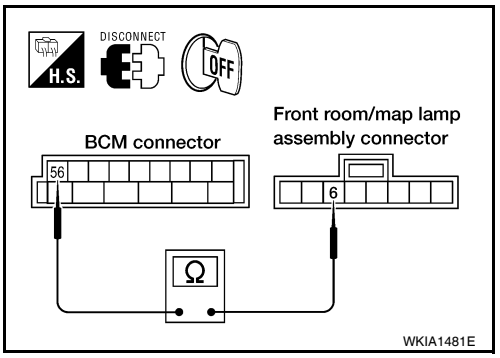
OK or NG

OK >> Replace BCM if interior lamp does not work after setting the connector again. Refer to BCS-24, "BCM" .
NG >> Repair harness or connector.

5. CHECK INTERIOR ROOM LAMP CIRCUIT

1. Disconnect BCM connector and interior room lamp connector.
2. Check continuity between BCM harness connector M20 terminal 56 and front room/map lamp assembly harness connector R102 terminal 6.

56 - 6 : Continuity should exist.



OK or NG

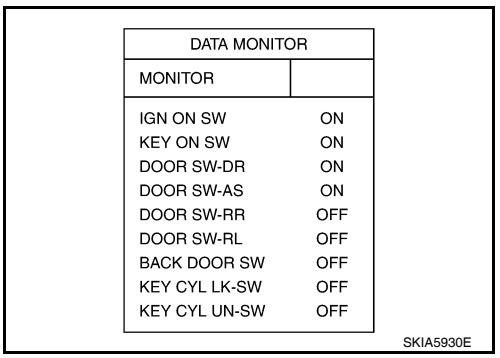
OK >> Replace BCM if interior lamp does not work after setting the connector again. Refer to BCS-24, "BCM" .
NG >> Repair harness or connector between BCM and room/map lamp.

Personal Lamp Control Does Not Operate (Room/Map Lamps Operate)

INFOID:0000000003533464

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-101, "System Description" for switches and their function.



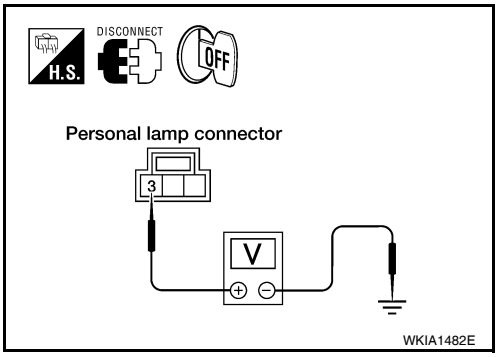
OK or NG

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

2. CHECK PERSONAL LAMP OUTPUT

1. Turn ignition switch OFF.
2. Confirm lamp switch is in the DOOR position.
3. Disconnect personal lamp connector.
4. Open any door.
5. Check voltage between personal lamp harness connector terminal 3 and ground.

3 - Ground : Battery voltage should exist.



OK or NG

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

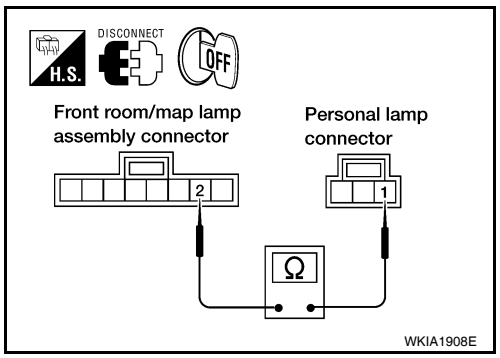
3. CHECK PERSONAL LAMP CONTROL CIRCUIT

1. Disconnect front room/map lamp assembly connector.
2. Check continuity between front room/map lamp assembly harness connector R102 terminal 2 and personal lamp harness connector terminal 1.

2 - 1 : Continuity should exist.

OK or NG

OK >> Replace personal lamp.
NG >> Repair harness or connector.



All Step/Foot/Puddle Lamps Do Not Operate

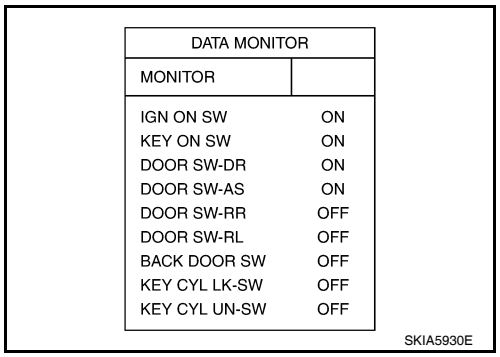
INFOID:0000000003533465

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-114, "CONSULT-II Function (BCM)" for switches and their functions.

OK or NG

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



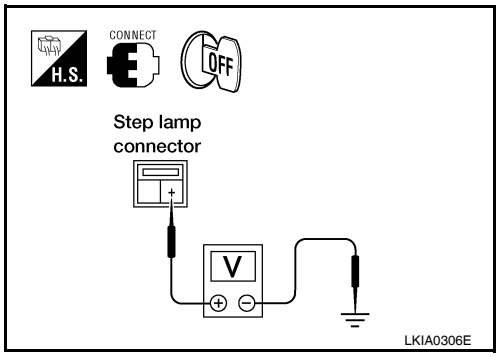
2.CHECK STEP LAMP POWER SUPPLY

1. Turn ignition switch OFF.
2. Check voltage between front step lamp LH harness connector D11 terminal + and ground.

+ - Ground : Battery voltage should exist.

OK or NG

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



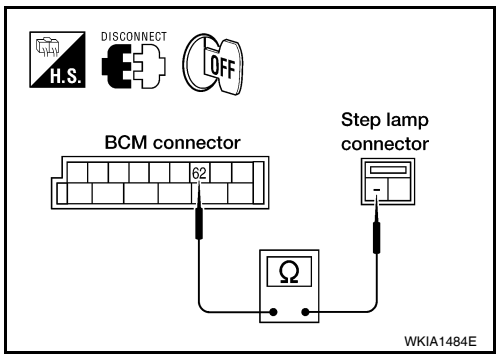
3.CHECK STEP LAMP CONTROL CIRCUIT

1. Disconnect BCM connector and front step lamp LH connector.
2. Check continuity between BCM harness connector M20 terminal 62 and front step lamp LH harness connector D11 terminal –.

– - 62 : Continuity should exist.

OK or NG

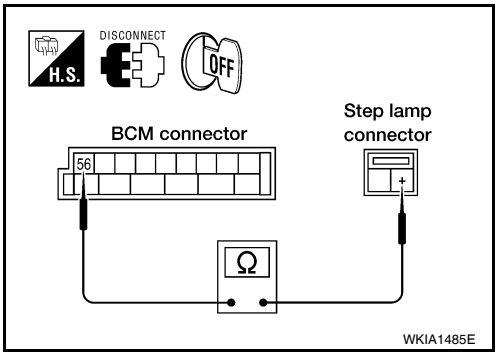
OK >> Replace BCM if front step lamp does not work after setting the connector again. Refer to BCS-24, "BCM" .
NG >> Repair harness or connector.



4.CHECK STEP LAMP CIRCUIT

1. Disconnect BCM connector and front step lamp LH connector.
2. Check continuity between BCM harness connector M20 terminal 56 and front step lamp LH harness connector D11 terminal +.

+ - 56 : Continuity should exist.



OK or NG

OK >> Replace BCM if front step lamp does not work after setting the connector again. Refer to BCS-24, "BCM" .
NG >> Repair harness or connector.

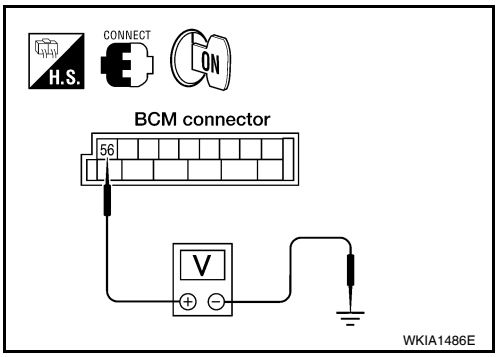
All Interior Room Lamps Do Not Operate

INFOID:0000000003533466

1.CHECK POWER SUPPLY CIRCUIT

1. All interior room lamp switches are OFF.
2. Turn ignition switch ON.
3. Check voltage between BCM harness connector M20 terminal 56 and ground.

56 - Ground : Battery voltage should exist.



OK or NG

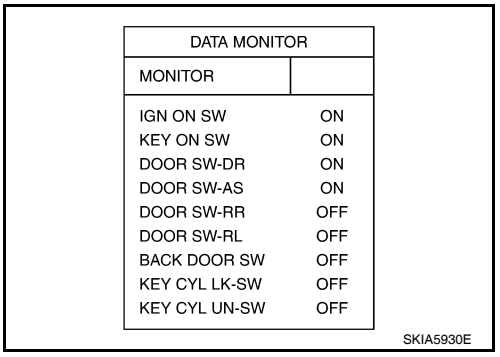
OK >> Repair harness or connector. To prevent making a short circuit, be sure to disconnect battery negative cable after repairing harness, and then reconnect.
NG >> Replace BCM. Refer to BCS-24, "BCM" .

Ignition Keyhole Illumination Control Does Not Operate

INFOID:0000000003533467

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-114, "CONSULT-II Function (BCM)" for switches and their functions.



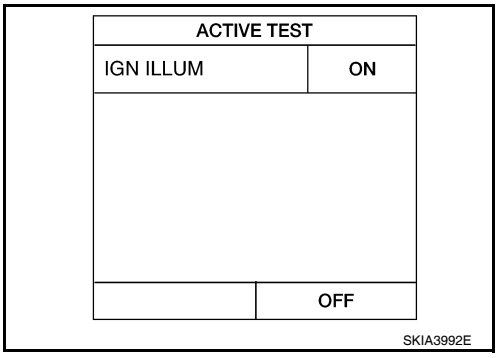
OK or NG

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.

Ignition keyhole illumination should turn ON.



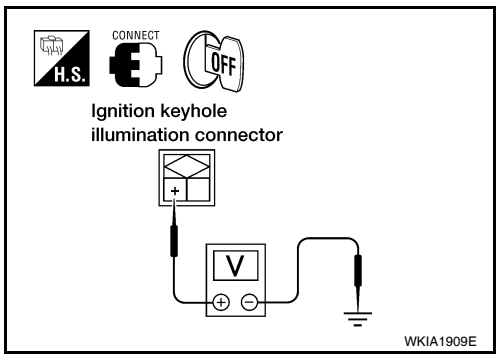
OK or NG

OK >> Replace BCM. Refer to BCS-24, "BCM".
NG >> GO TO 3.

3.CHECK IGNITION KEYHOLE ILLUMINATION INPUT

1. Check voltage between ignition keyhole illumination harness connector M150 terminal + and ground.

+ - Ground : Battery voltage should exist.



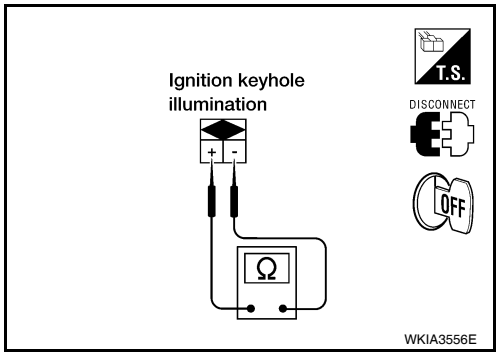
OK or NG

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

4. CHECK IGNITION KEYHOLE ILLUMINATION BULB

1. Turn ignition switch OFF.
2. Disconnect ignition keyhole illumination connector.
3. Check continuity between ignition keyhole illumination terminals + and –.

+ - – : Continuity should exist.



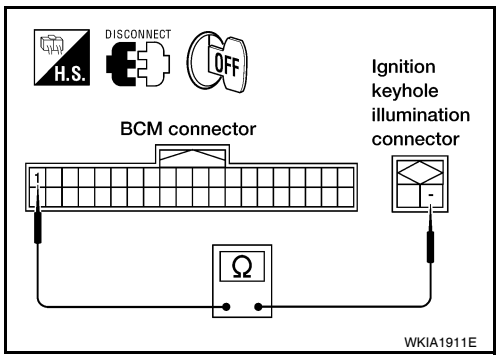
OK or NG

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 and ignition keyhole illumination harness connector M150 terminal –.

– - 1 : Continuity should exist.



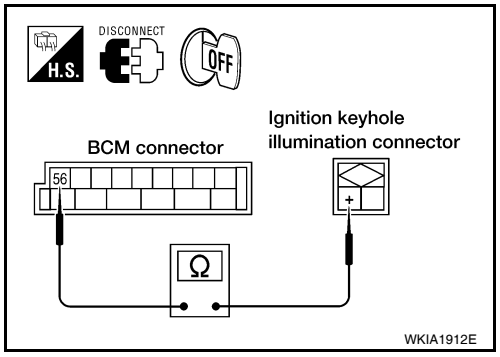
OK or NG

OK >> Replace BCM if ignition keyhole illumination does not work after setting the connector again. Refer to BCS-24, "BCM" .
NG >> Repair harness or connector.

6. CHECK IGNITION KEYHOLE ILLUMINATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and keyhole illumination connector.
3. Check continuity between BCM harness connector M20 terminal 56 and ignition keyhole illumination harness connector M150 terminal +.

+ - 56 : Continuity should exist.



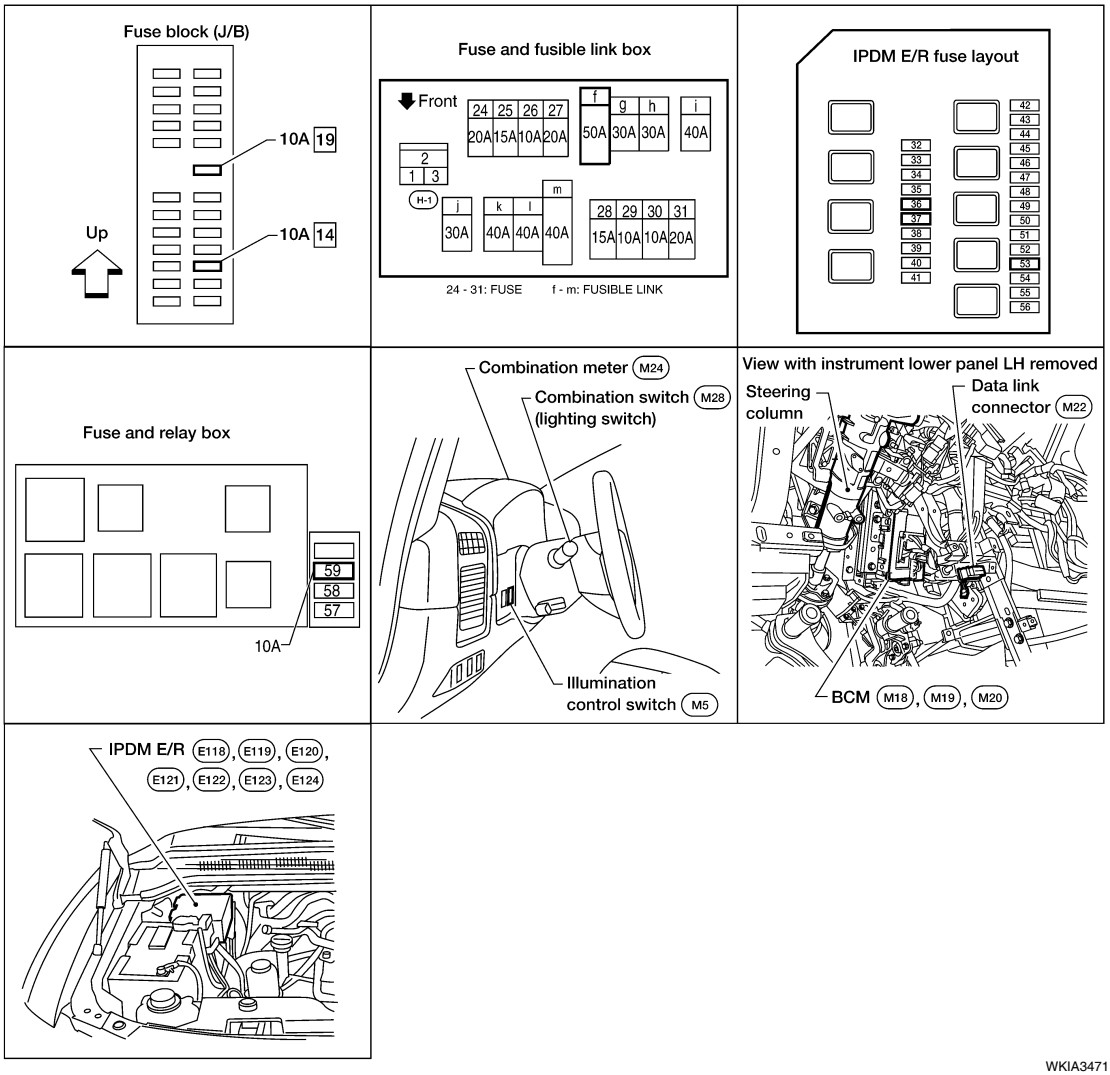
OK or NG

OK >> Replace BCM if ignition keyhole illumination does not work after setting the connector again. Refer to BCS-24, "BCM" .
NG >> Repair harness or connector.

ILLUMINATION

Component Parts and Harness Connector Location

INFOID:0000000003533468



WKIA3471E

System Description

INFOID:0000000003533469

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 ignition relay, located in the IPDM E/R,
- to tail lamp relay, located in the IPDM E/R,
- through 50A fusible link (letter **f** , located in the fuse and fusible link box)
- to BCM terminal 70,
- through 20A fuse (No. 53, located in the IPDM E/R)
- to CPU of the IPDM E/R, and
- through 10A fuse [No.19, located in fuse block (J/B)]
- to combination meter terminal 8

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. 59, located in the fuse and relay box)

- to BCM terminal 38, and
- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to combination meter terminal 24.

Ground is supplied
- to BCM terminal 67
- to combination meter terminal 17
- through grounds M57, M61 and M79, and
- to IPDM E/R terminals 38 and 59
- through grounds E9, 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 10A fuse (No. 36, located in the IPDM E/R)
- through IPDM E/R terminal 49
- to illumination control switch terminal 1
- to power liftgate switch terminal 3
- to front room/map lamp assembly (console box illumination) terminal 7
- to hazard switch terminal 3
- to rear sonar system OFF switch terminal 3
- to glove box lamp terminal 1
- to door mirror remote control switch terminal 16
- to display control unit terminal 14
- to power window and door lock/unlock switch RH terminal 5 (early production)
- to main power window and door lock/unlock switch LH terminal 16 (early production)
- to 4WD shift switch terminal 7 (with 4-wheel drive)
- to front air control terminal 23
- to rear power vent window switch terminal 5
- to DVD player terminal 12 (with DVD entertainment system)
- to NAVI control unit terminal 61
- to pedal adjusting switch terminal 5
- to electric brake (pre-wiring) terminal 4 (with trailer tow)
- to front and rear heated seat switch LH and RH terminal 5
- to A/T device terminal 11
- to VDC OFF switch terminal 3
- to tow mode switch terminal 3
- to headlamp aiming switch terminal 3
- to clock terminal 3, and
- through 10A fuse (No. 37, located in the IPDM E/R)
- through IPDM E/R terminal 57
- to AV switch terminal 3
- to audio unit terminal 8
- to rear air control terminal 1 and
- to rear audio remote control unit terminal 6.

The illumination control switch controls illumination intensity by varying the ground to the following
- through illumination control switch terminal 2
- to power liftgate switch terminal 4
- to front room/map lamp assembly (console box illumination) terminal 8
- to AV switch terminal 4
- to hazard switch terminal 4
- to audio unit terminal 7
- to rear sonar system OFF switch terminal 4
- to power window and door lock/unlock switch RH terminal 1 (early production)
- to main power window and door lock/unlock switch LH terminal 12 (early production)
- to 4WD switch terminal 8 (with 4-wheel drive)
- to front air control terminal 24
- to rear power vent window switch terminal 6
- to DVD player terminal 10 (with DVD entertainment system)
- to pedal adjusting switch terminal 6
- to A/T device terminal 12

- to front heated seat switch LH and RH terminal 6
- to VDC OFF switch terminal 4
- to tow mode switch terminal 4
- to headlamp aiming switch terminal 4
- to clock terminal 4 and
- to combination meter terminal 18.

Ground is supplied

- to illumination control switch terminal 3
- to glove box lamp terminal 2
- to door mirror remote control switch terminal 15
- to display control unit terminal 3
- to rear heated seat switches terminal 6
- to electric brake (pre-wiring) terminal 1 (with trailer tow)
- to combination meter terminal 17
- through grounds M57, M61 and M79, and
- to NAVI control unit terminal 1
- to rear air control terminal 3
- to rear audio remote control unit terminal 15
- 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.

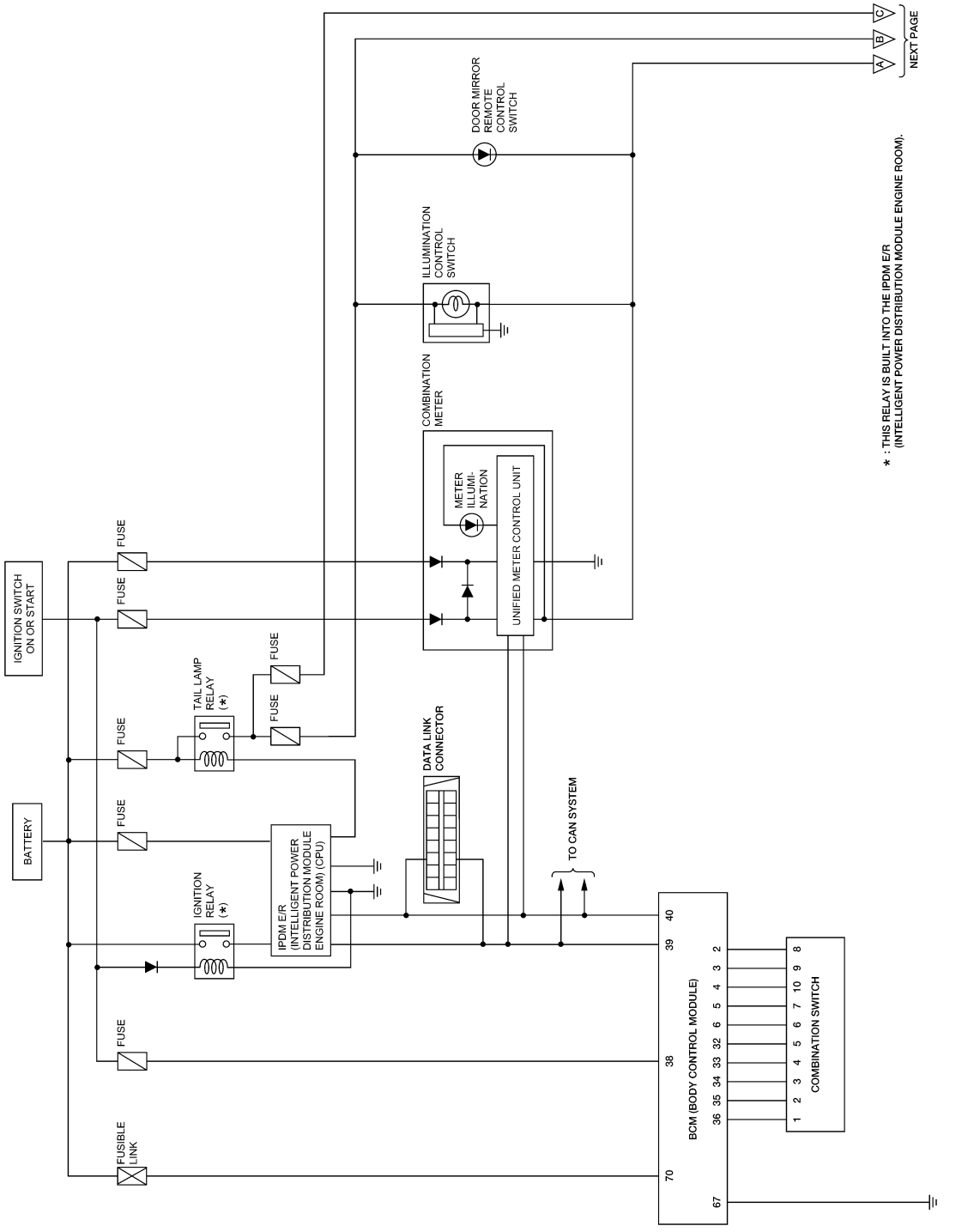
CAN Communication System Description

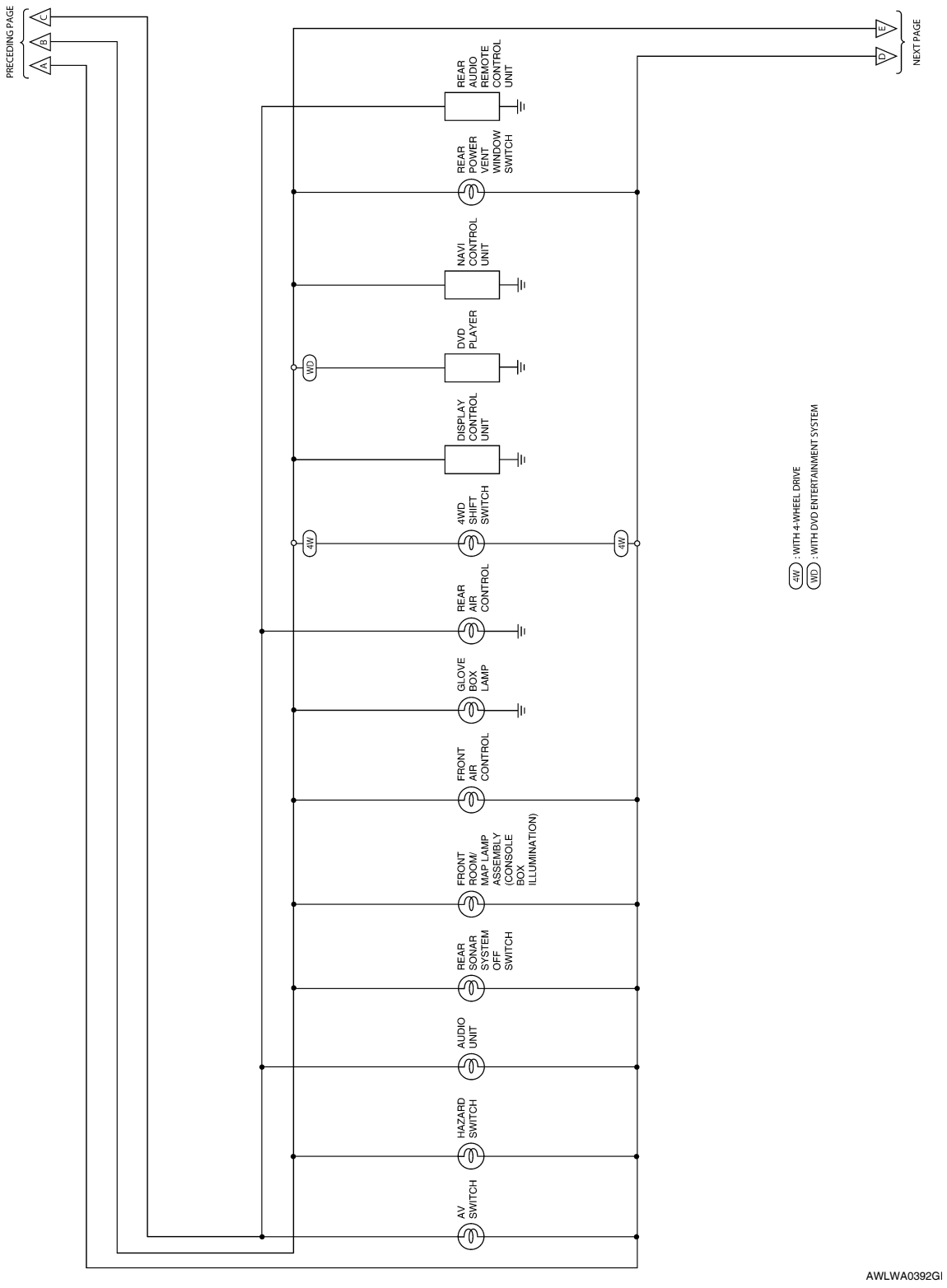
INFOID:0000000003533470

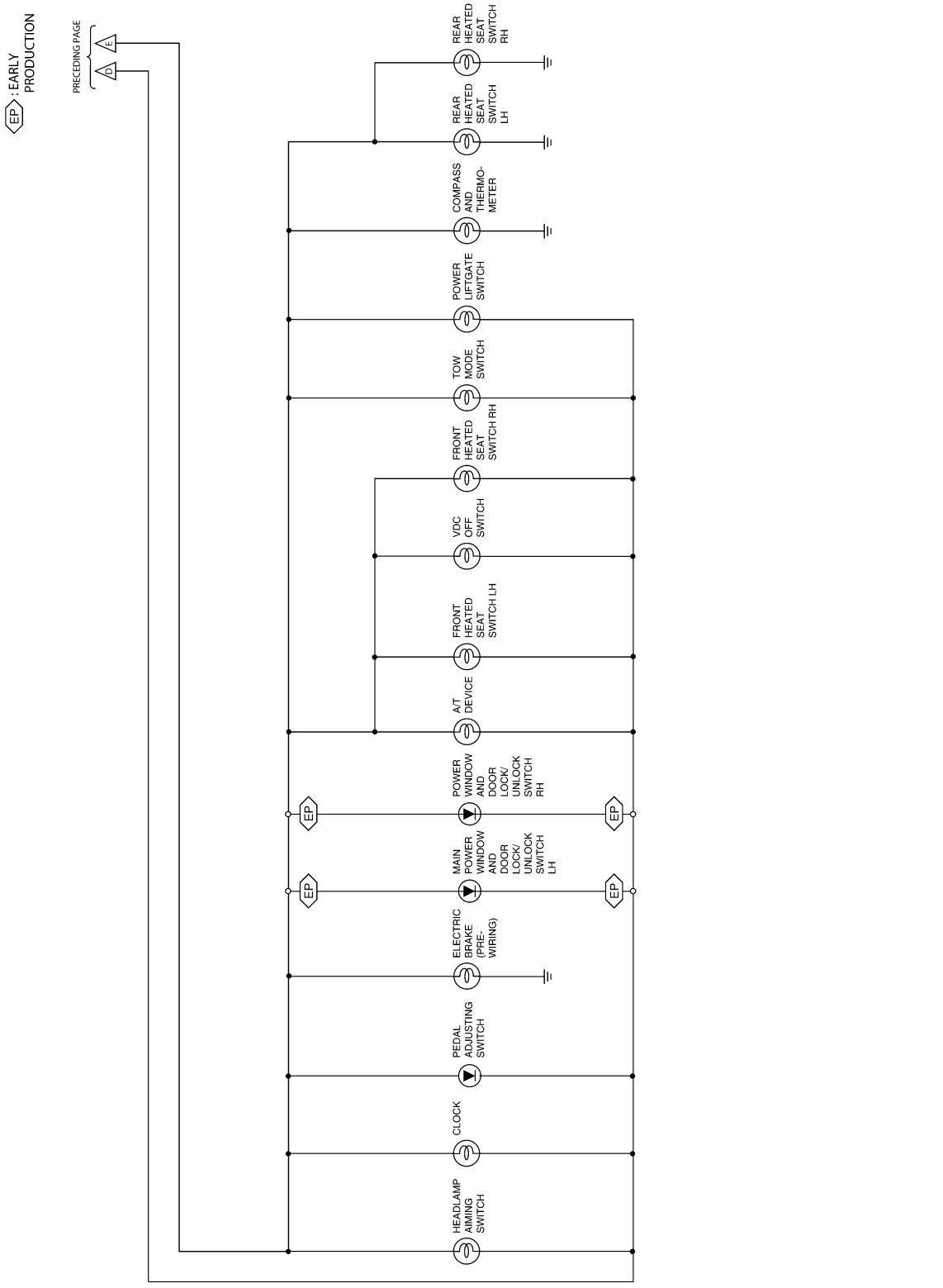
Refer to LAN-4, "CAN Communication System" .

Schematic

INFOID:0000000003533471



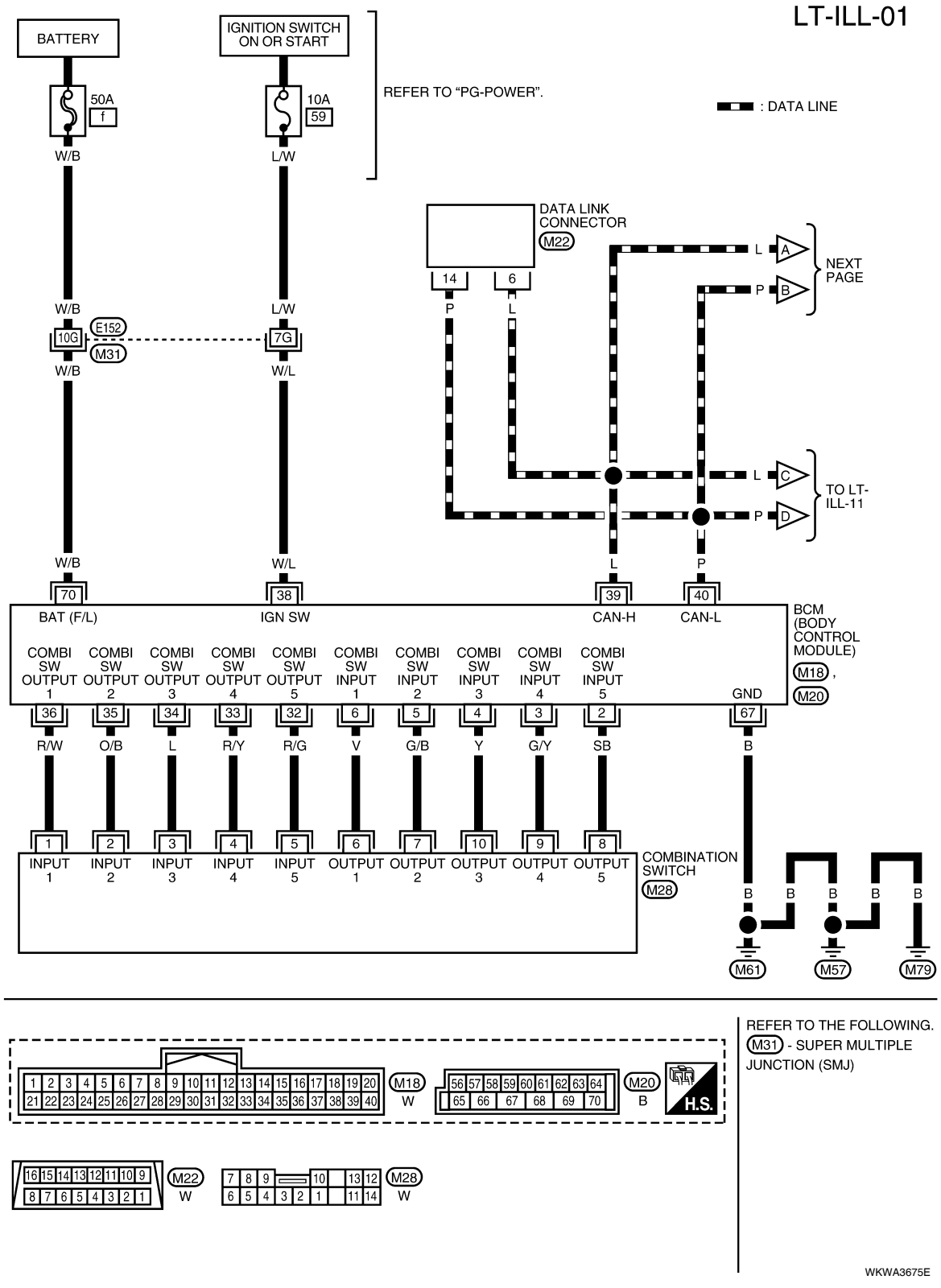

PRECEDING PAGE
C
B
A
E
D
NEXT PAGE
REAR AUDIO REMOTE CONTROL UNIT
REAR POWER VENT WINDOW SWITCH
NAVI CONTROL UNIT
DVD PLAYER
WD
DISPLAY CONTROL UNIT
4WD SHIFT SWITCH
4W
4W
REAR AIR CONTROL
GLOVE BOX LAMP
FRONT AIR CONTROL
FRONT ROOM/ MAP LAMP ASSEMBLY (CONSOLE BOX ILLUMINATION)
REAR SONAR SYSTEM OFF SWITCH
AUDIO UNIT
HAZARD SWITCH
AV SWITCH
4W : WITH 4-WHEEL DRIVE
WD : WITH DVD ENTERTAINMENT SYSTEM
AWLWA0392GI



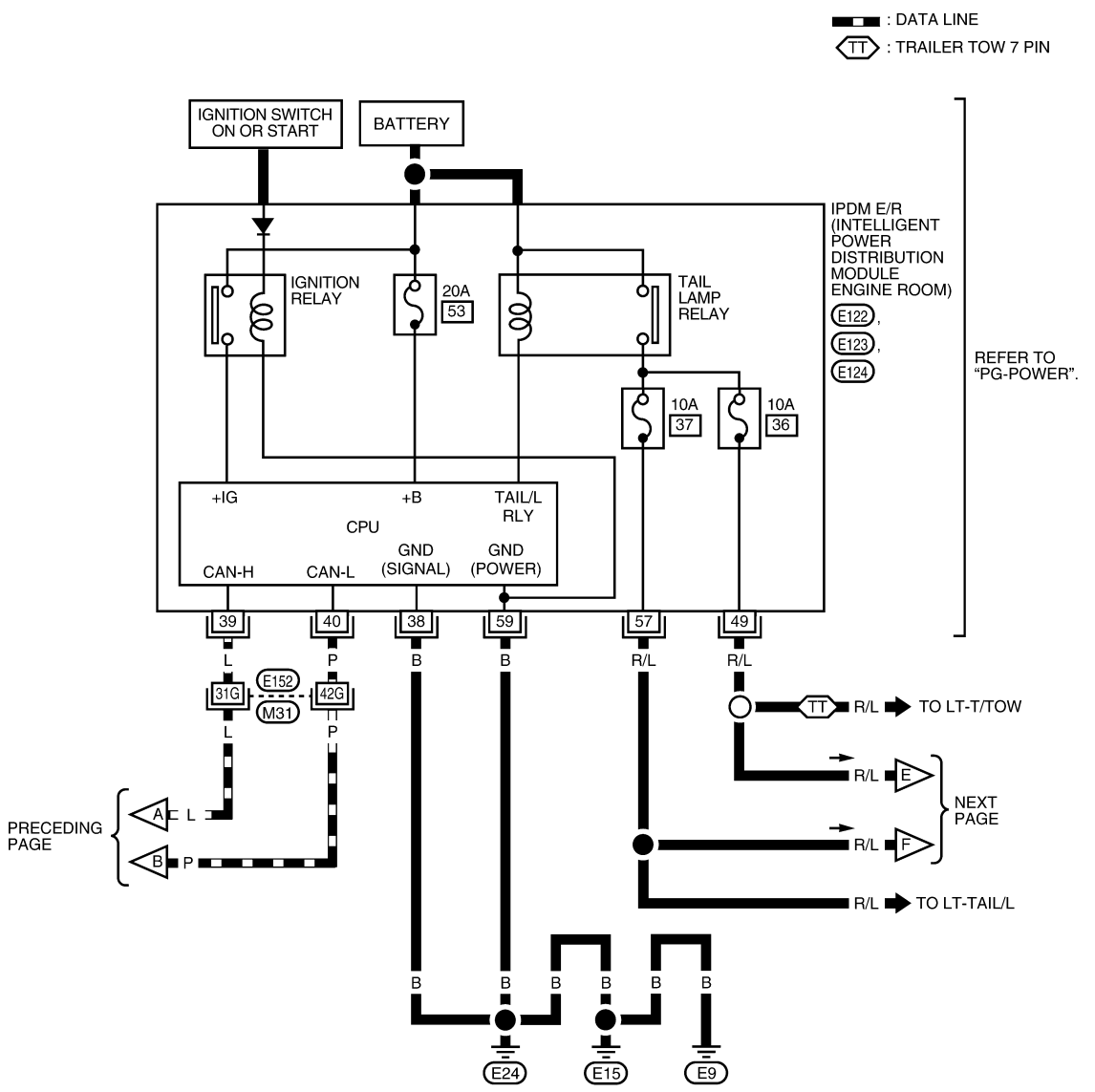
AWLWA0393GI

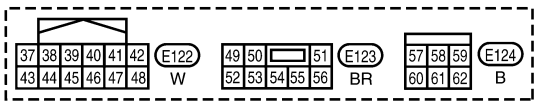
Wiring Diagram - ILL -

INFOID:0000000003533472



LT-ILL-02

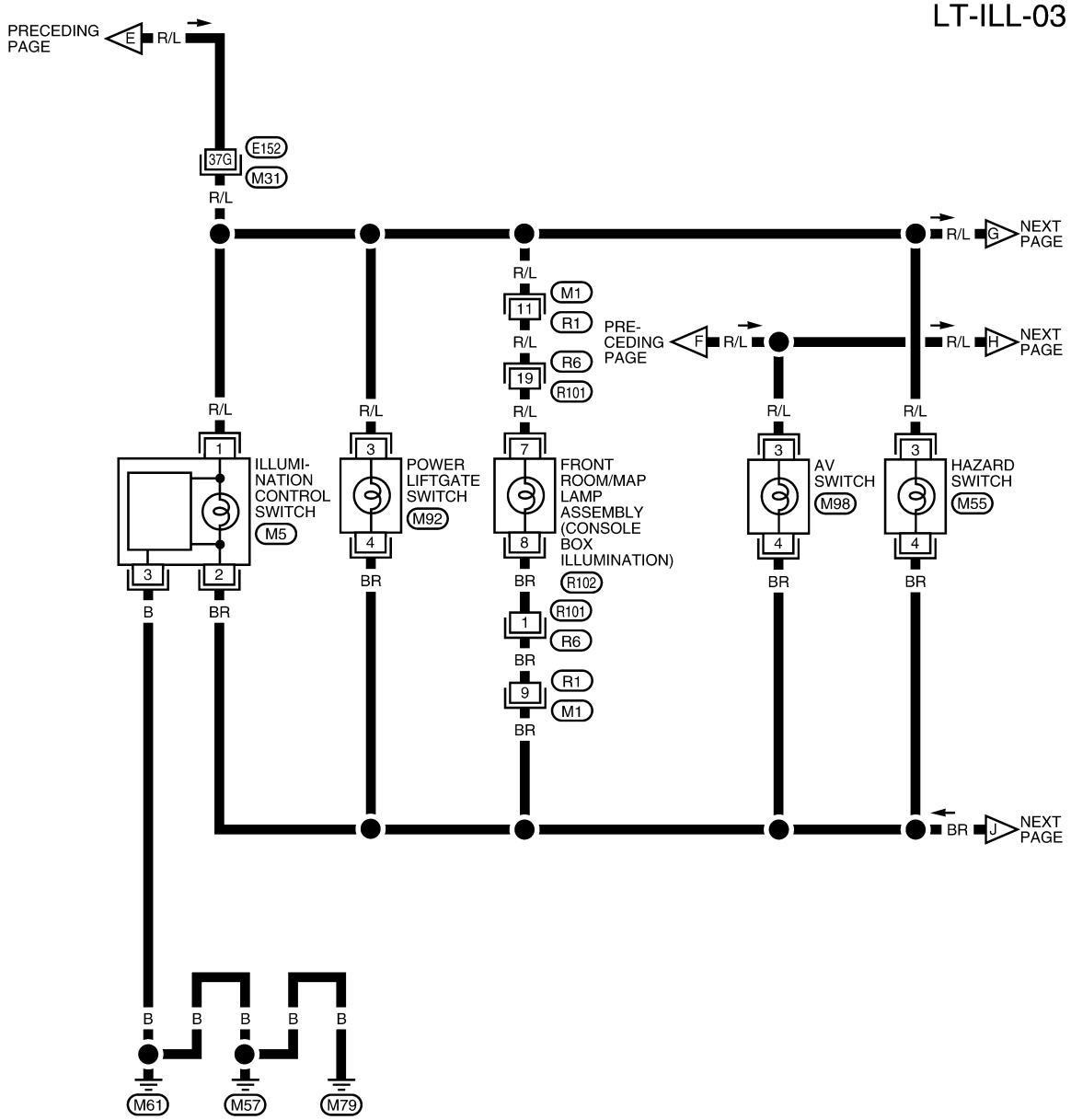


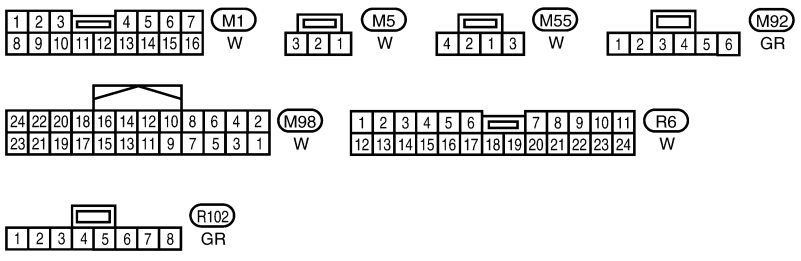


REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

WKWA3676E

LT-ILL-03

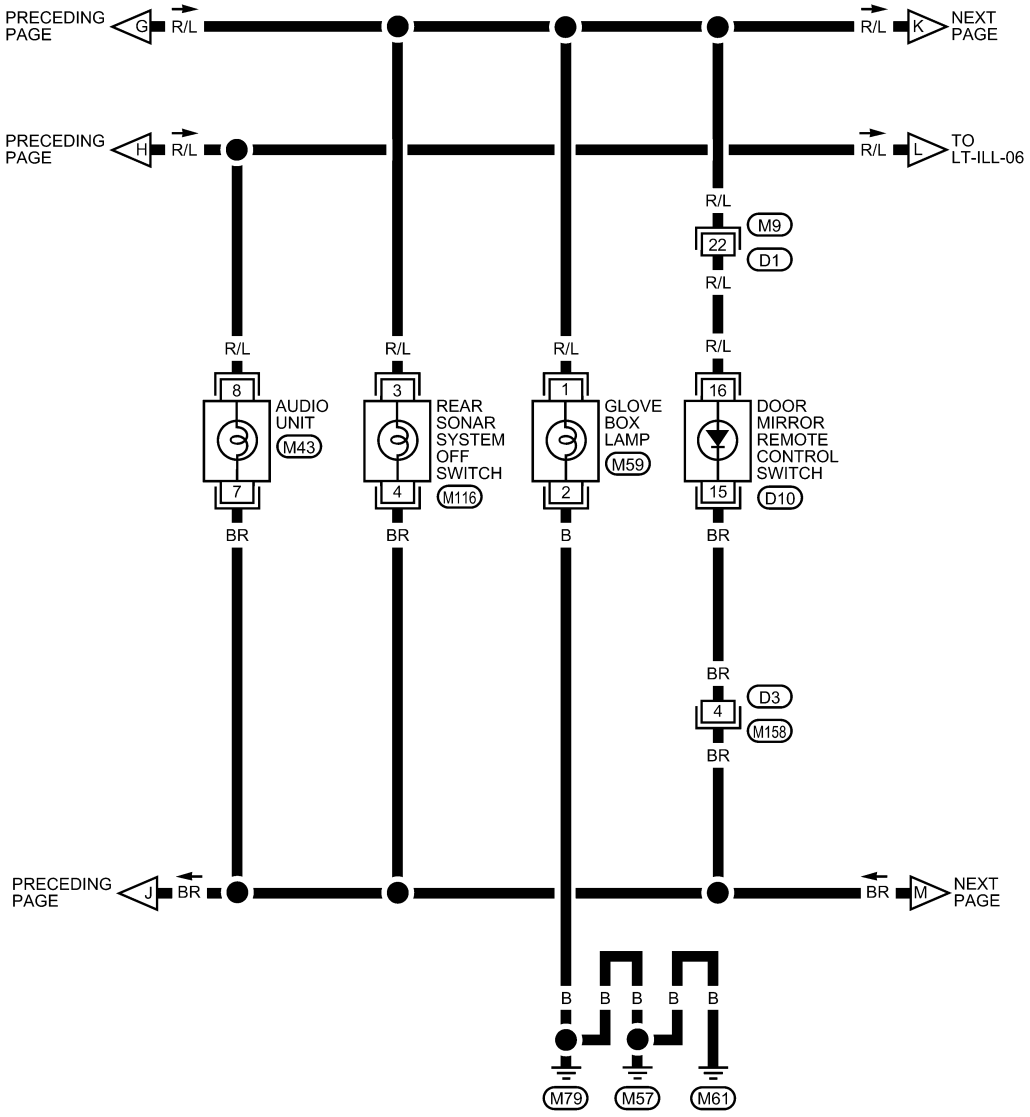


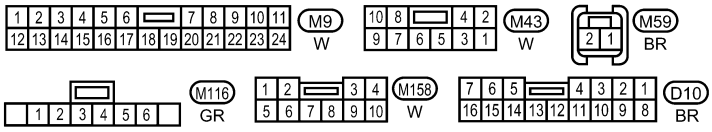


REFER TO THE FOLLOWING.
M31 - SUPER MULTIPLE JUNCTION (SMJ)

WKWA2499E

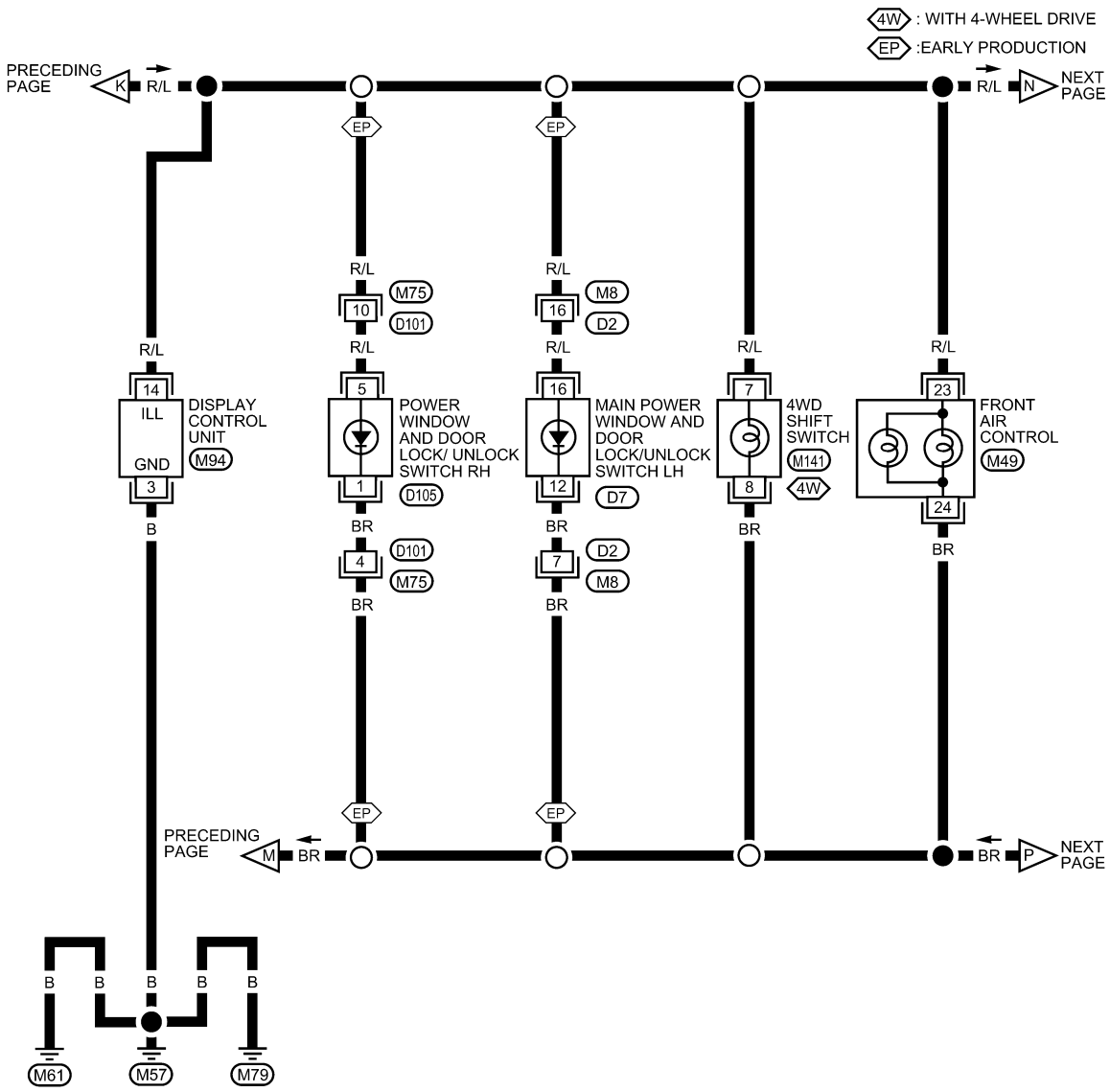
LT-ILL-04

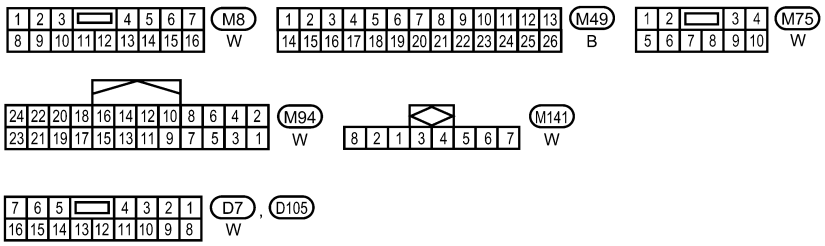




AWLWA0394GI

LT-ILL-05

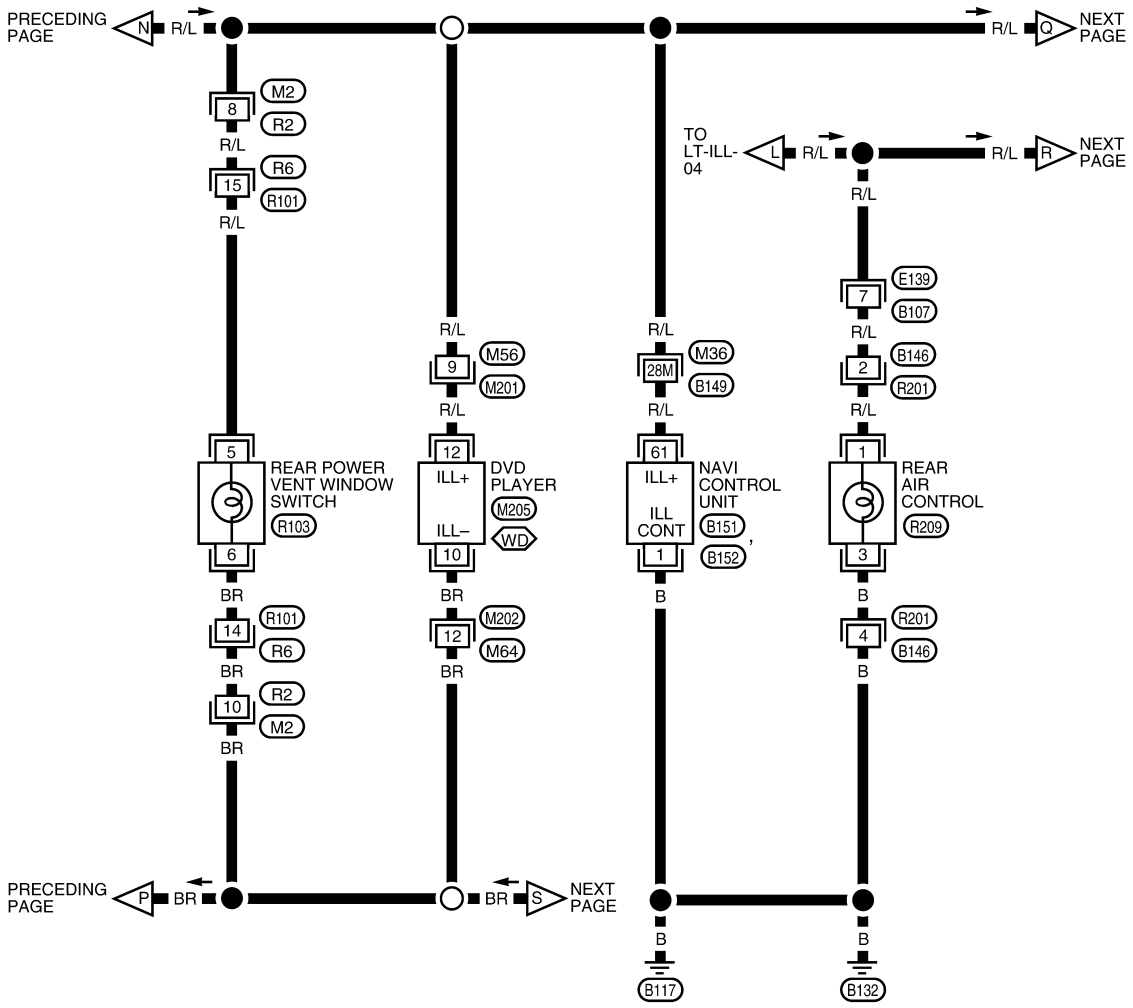


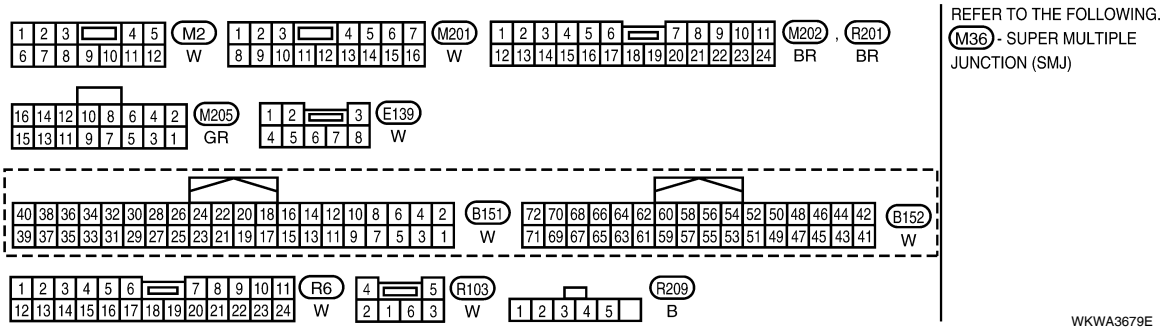


AWLWA0395GI

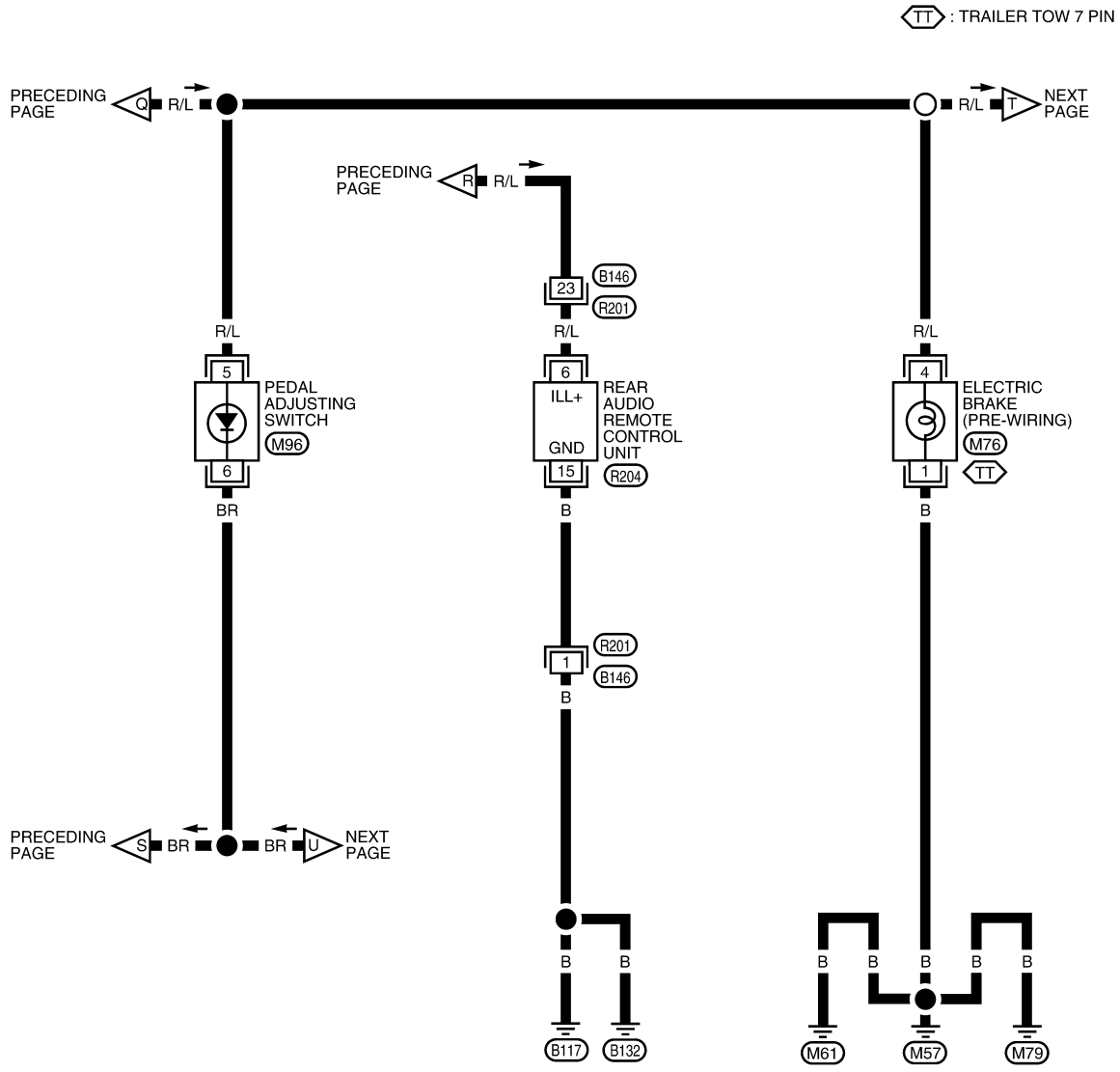
LT-ILL-06

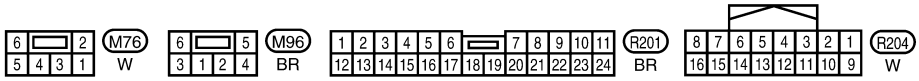
WD : WITH DVD ENTERTAINMENT SYSTEM



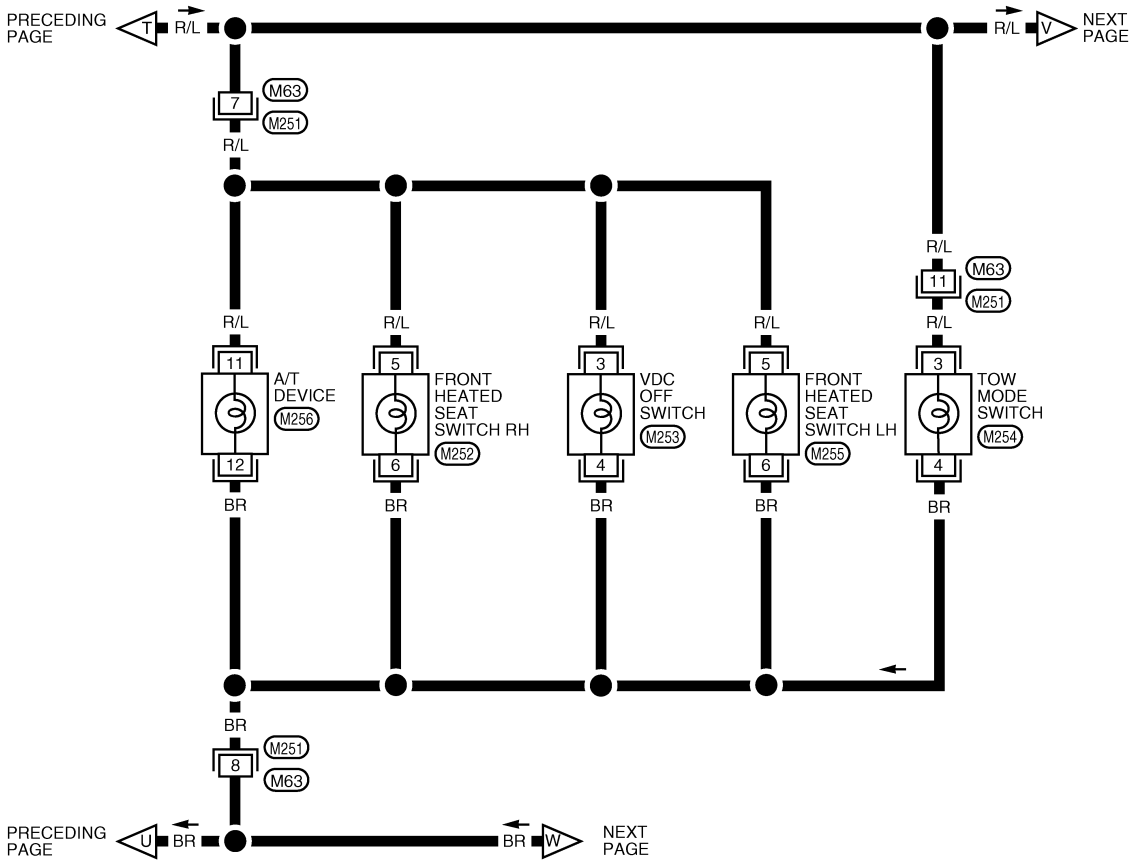


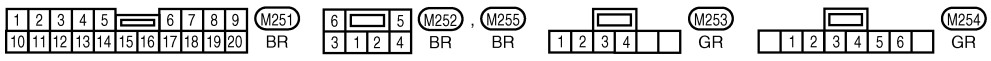
LT-ILL-07





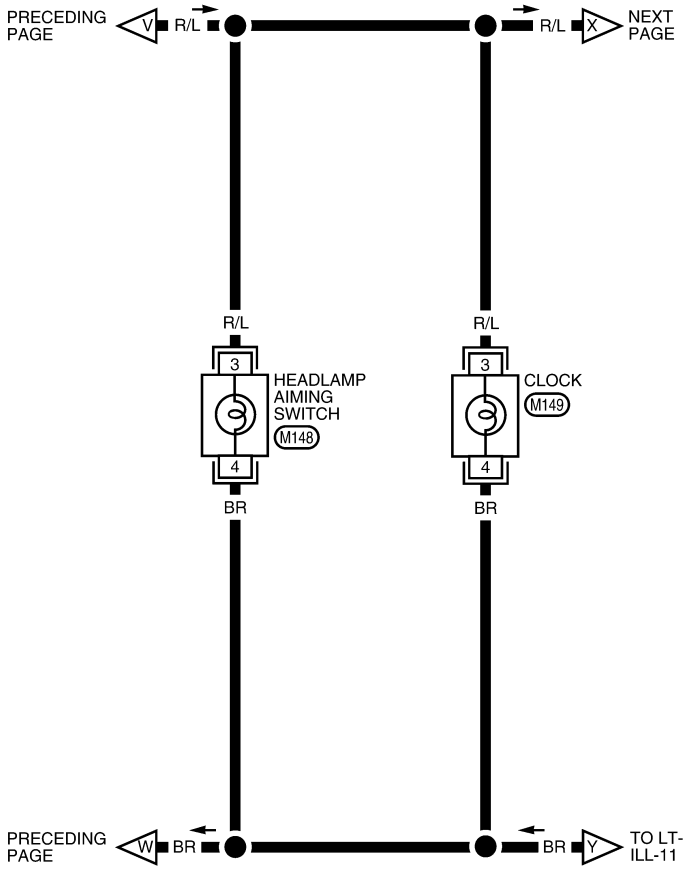
WKWA3809E

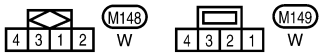

PRECEDING PAGE
T
R/L
R/L
V
NEXT PAGE
7
M63
M251
R/L
R/L
11
M63
M251
R/L
R/L
R/L
R/L
R/L
11
A/T DEVICE
M256
12
BR
5
FRONT HEATED SEAT SWITCH RH
M252
6
BR
3
VDC OFF SWITCH
M253
4
BR
5
FRONT HEATED SEAT SWITCH LH
M255
6
BR
3
TOW MODE SWITCH
M254
4
BR
BR
8
M251
M63
PRECEDING PAGE
U
BR
BR
W
NEXT PAGE


1 2 3 4 5 6 7 8 9
10 11 12 13 14 15 16 17 18 19 20
M251
BR
6 5
3 1 2 4
M252 , M255
BR BR
1 2 3 4
M253
GR
1 2 3 4 5 6
M254
GR

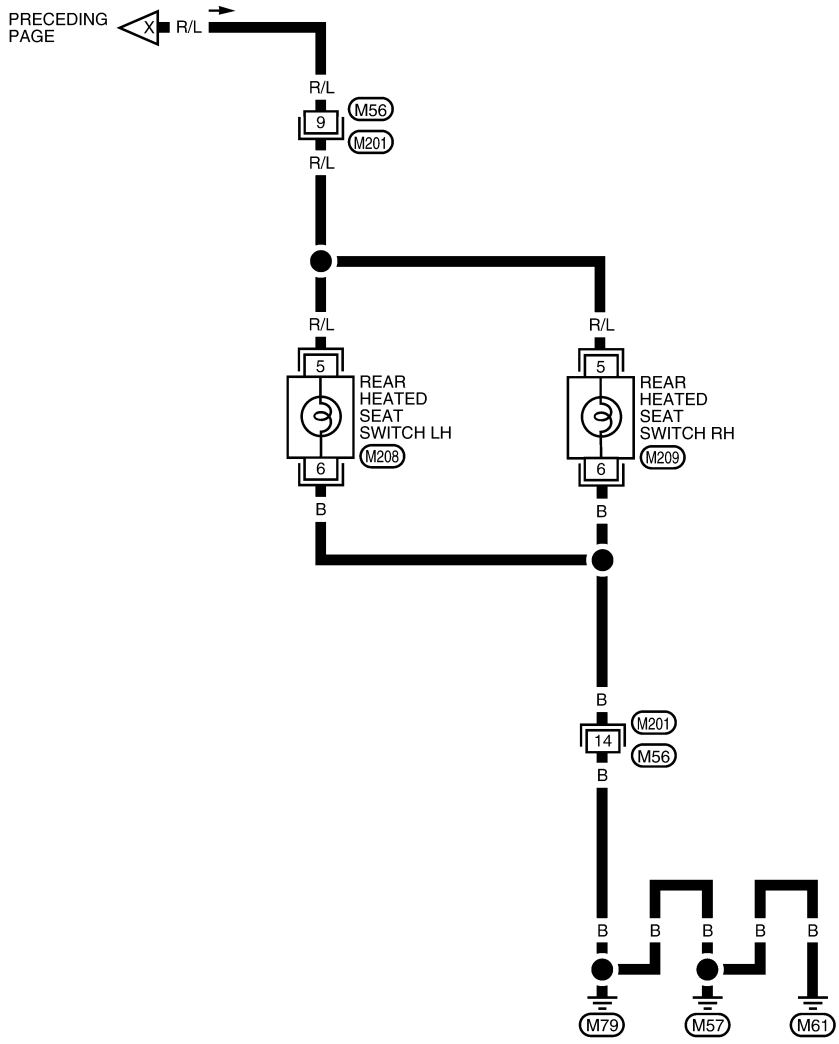

12 11
M256
B

WKWA1230E


PRECEDING PAGE
V
R/L
R/L
X
NEXT PAGE
R/L
R/L
3
HEADLAMP AIMING SWITCH
M148
4
3
CLOCK
M149
4
BR
BR
PRECEDING PAGE
W
BR
BR
Y
TO LT-ILL-11

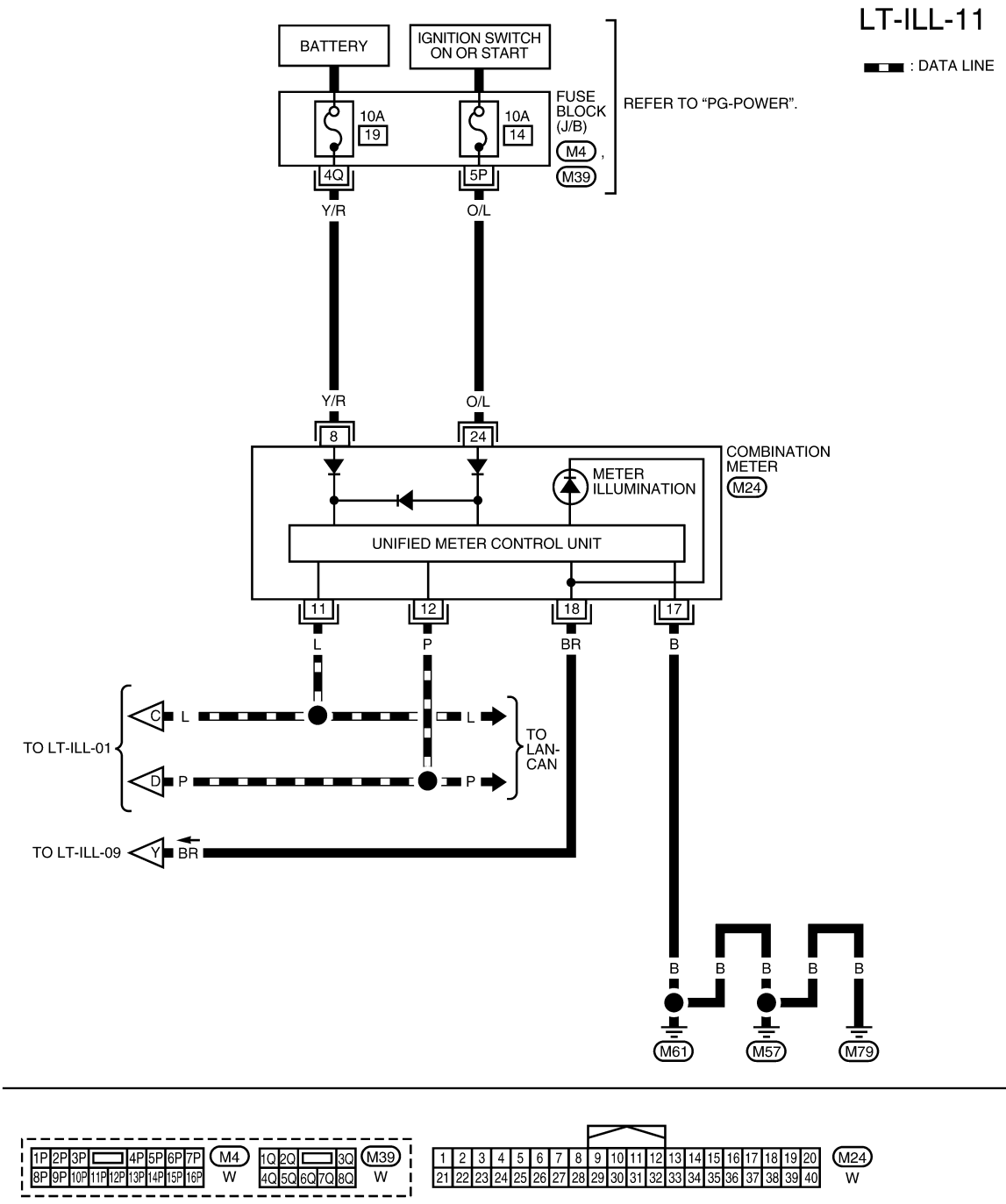

M148
4 3 1 2
W
M149
4 3 2 1
W

WKWA3680E


PRECEDING PAGE
X
R/L
R/L
M56
9
M201
R/L
R/L
R/L
5
REAR HEATED SEAT SWITCH LH
M208
6
B
5
REAR HEATED SEAT SWITCH RH
M209
6
B
B
M201
14
M56
B
B B B B B
M79
M57
M61


1 2 3 4 5 6 7
8 9 10 11 12 13 14 15 16
M201
W
6 5
3 1 2 4
M208 , M209
BR BR

WKWA3681E



WKWA3682E

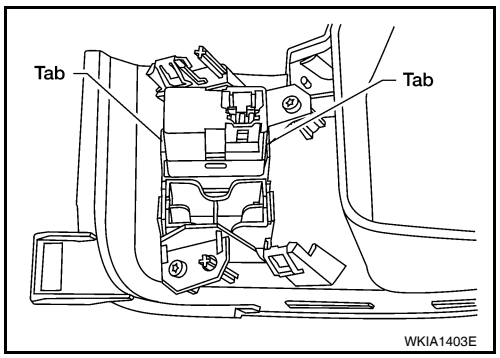
Removal and Installation of Illumination Control Switch

INFOID:0000000003533473

Removal

1. Remove cluster lid A. Refer to IP-10.

2. Carefully pry tabs and remove illumination control switch from cluster lid A.



Installation

Installation is in the reverse order of removal.

BULB SPECIFICATIONS

Headlamp

INFOID:0000000003533474

Item	Wattage (W)*
Low	35 (D2R)
High	60 (HB3)

*: Always check with the Parts Department for the latest parts information.

Exterior Lamp

INFOID:0000000003533475

Item		Wattage (W)*
Front combination lamp	Parking lamp (inner)	7
	Parking lamp (outer)	7
	Side marker lamp (front)	7
Rear combination lamp	Stop/Tail lamp	*
	Side marker lamp (rear)	*
	Turn signal lamp	27
Back-up lamp		*
Turn/fog lamp	Fog	55 (H3)
	Turn	21
License plate lamp		5
High-mounted stop lamp		*

*: Always check with the Parts Department for the latest parts information.

Interior Lamp/Illumination

INFOID:0000000003533476

Item	Wattage (W)*
Glove box lamp	3.4
Room/Map lamp	8
Console box illumination lamp	*
A/T device lamp	2
Foot lamp	3.4
Step lamp	3.8
Cargo lamp	7
Vanity lamp	1.32
Personal lamp	5
Puddle lamp	8
Ignition keyhole illumination lamp	0.74

*: Always check with the Parts Department for the latest parts information.