SECTION EXL
EXTERIOR LIGHTING SYSTEM

CONTENTS

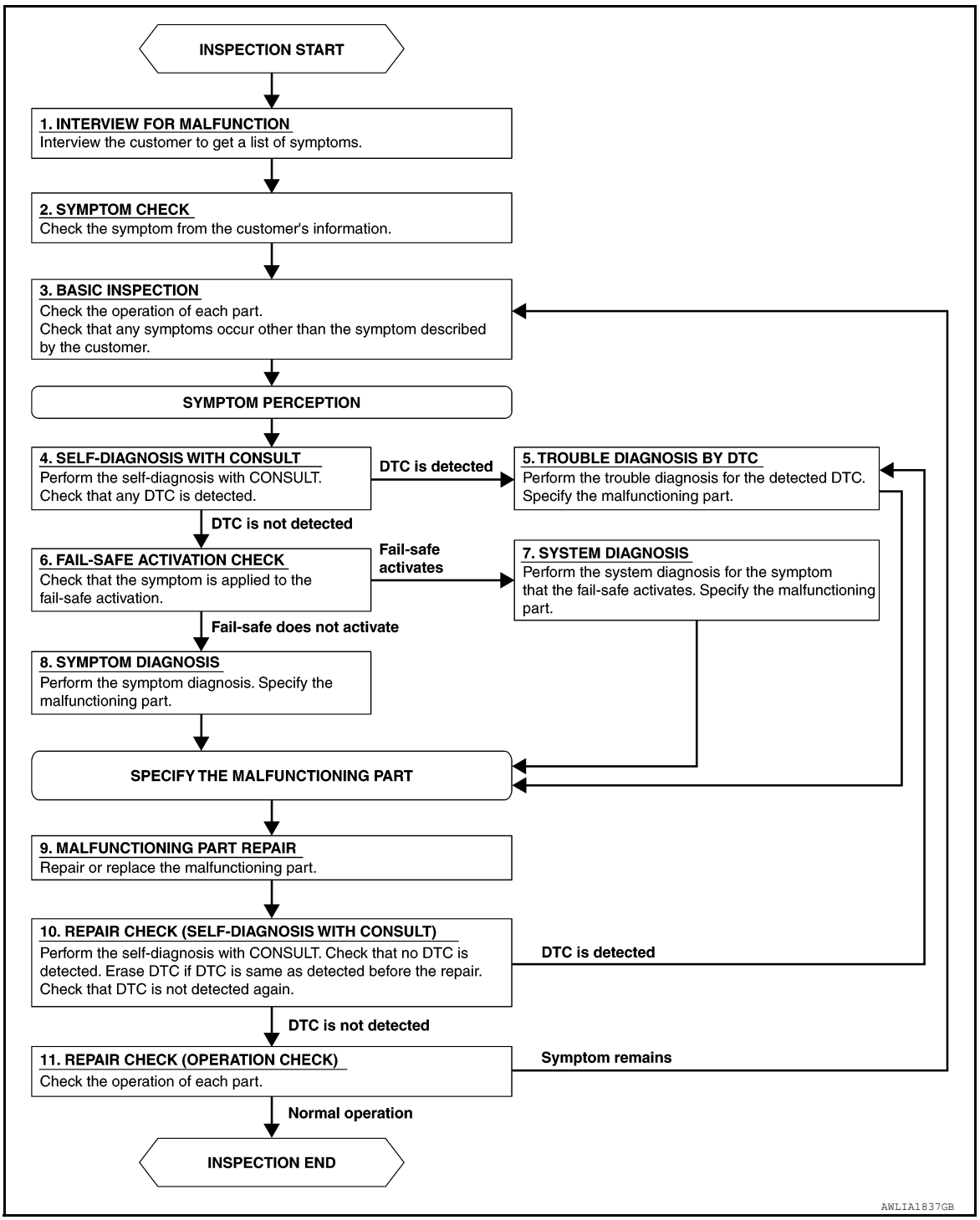
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000011288307

OVERALL SEQUENCE



DETAILED FLOW

1.INTERVIEW FOR MALFUNCTION

Find out what the customer's concerns are.

>> GO TO 2.

2.SYMPTOM CHECK

Verify the symptom from the customer's information.

>> GO TO 3.

3.BASIC INSPECTION

Check the operation of each part. Check that any concerns occur other than those mentioned in the customer interview.

>> GO TO 4.

4.SELF-DIAGNOSIS WITH CONSULT

Perform the self diagnosis with CONSULT. Check that any DTC is detected.

Is any DTC detected?

YES >> GO TO 5.
NO >> GO TO 6.

5.TROUBLE DIAGNOSIS BY DTC

Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning part.

>> GO TO 9.

6.FAIL-SAFE ACTIVATION CHECK

Determine if the customer's concern is related to fail-safe activation.

Does the fail-safe activate?

YES >> GO TO 7.
NO >> GO TO 8.

7.SYSTEM DIAGNOSIS

Perform the system diagnosis for the system in which the fail-safe activates. Specify the malfunctioning part.

>> GO TO 9.

8.SYMPTOM DIAGNOSIS

Perform the symptom diagnosis. Specify the malfunctioning part.

>> GO TO 9.

9.MALFUNCTION PART REPAIR

Repair or replace the malfunctioning part.

>> GO TO 10.

10.REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT)

Perform the self diagnosis with CONSULT. Verify that no DTCs are detected. Erase all DTCs detected prior to the repair. Verify that DTC is not detected again.

Is any DTC detected?

YES >> GO TO 5.
NO >> GO TO 11.

11. REPAIR CHECK (OPERATION CHECK)

Check the operation of each part.

Does it operate normally?

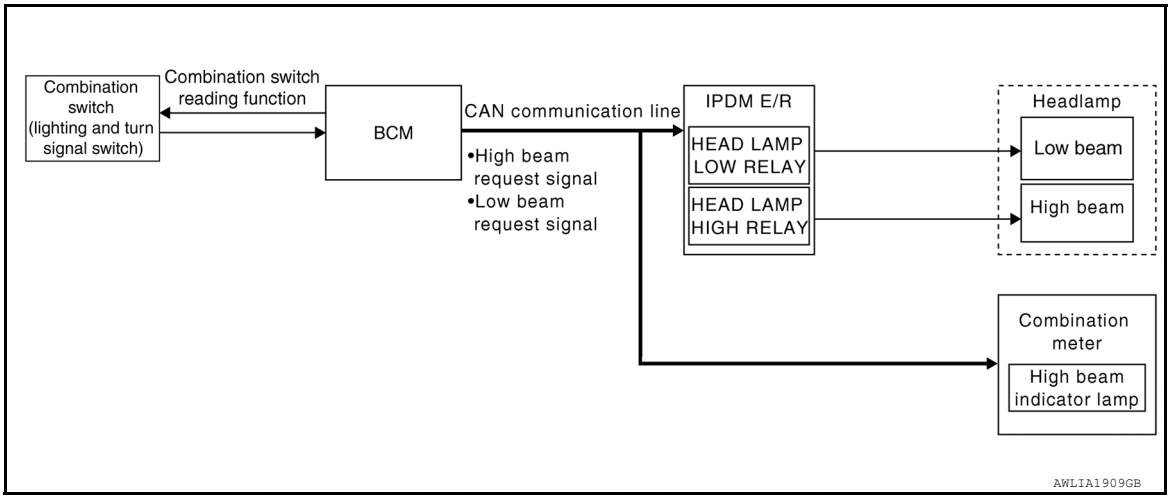
YES >> Inspection End.
NO >> GO TO 3.

SYSTEM DESCRIPTION

HEADLAMP (HALOGEN TYPE)

System Diagram

INFOID:0000000011288308



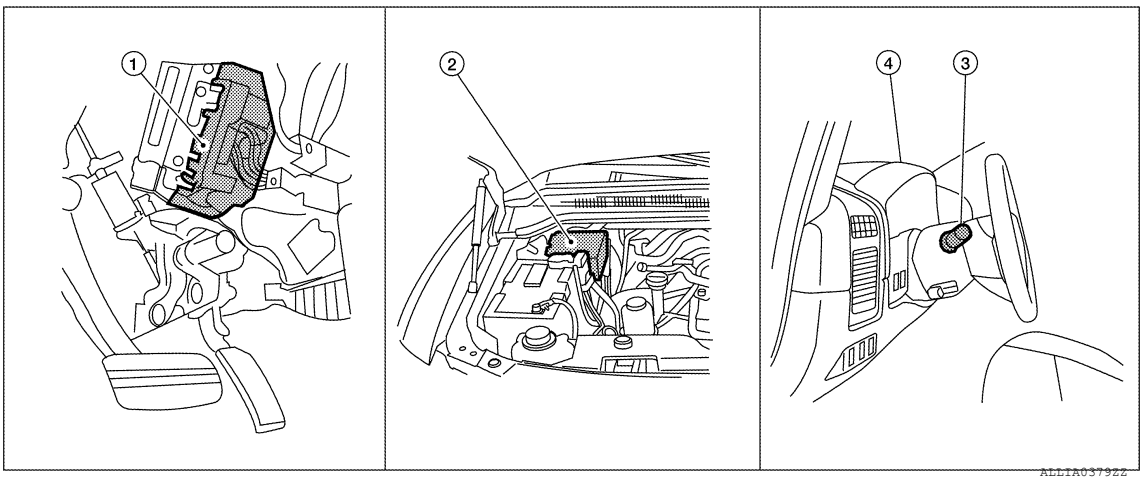
System Description

INFOID:0000000011288309

Control of the headlamp system operation is dependent upon the position of the combination switch (lighting and turn signal switch). When the combination switch (lighting and turn signal switch) is placed in the 2nd position, the BCM (body control module) receives input requesting the headlamps and park lamps to illuminate. This input is communicated to the IPDM E/R (intelligent power distribution module engine room) via 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.

Component Parts Location

INFOID:0000000011288310



1. BCM M18, M20 (view with instrument panel removed)
2. IPDM E/R E122, E123, E124
3. Combination switch (lighting and turn-signal switch) M28
4. Combination meter M24

Component Description

INFOID:0000000011288311

LOW BEAM OPERATION

When the combination switch (lighting and turn signal switch) is in 2ND position, the BCM receives input requesting the headlamps to illuminate. This input is communicated to the IPDM E/R via the CAN communication lines. The CPU of the IPDM E/R controls the headlamp low relay coil which supplies power to the low beam headlamps.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

With the combination switch (lighting and turn signal switch) in the 2ND position and placed in HIGH position, the BCM receives input requesting the headlamp high beams to illuminate. The flash to pass feature can be used any time and also sends a signal to the BCM. This input is communicated to the IPDM E/R via the CAN communication lines. The CPU of the combination meter controls the ON/OFF status off the HIGH BEAM indicator. The CPU of the IPDM E/R controls the headlamp high relay coil which supplies power to the high beam headlamps.
The combination meter receives a high beam request signal (ON) via the CAN communication lines and turns the high beam indicator lamp ON.

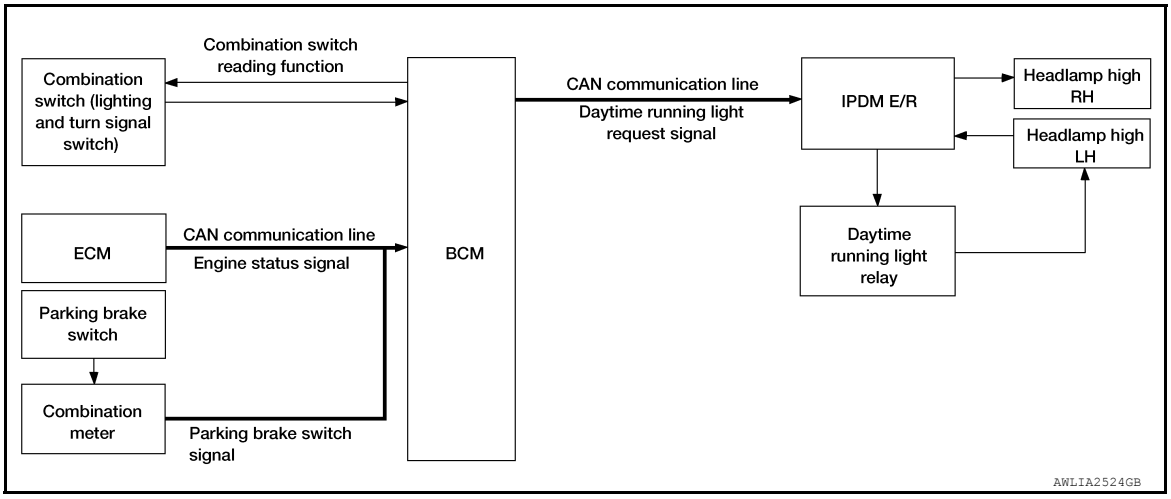
EXTERIOR LAMP BATTERY SAVER CONTROL

With the combination switch (lighting and turn signal switch) in the 2ND position and the ignition switch is turned from ON or ACC to OFF, the battery saver feature is activated.
Under this condition, the headlamps remain illuminated for 45 seconds unless the lighting switch position is changed. If the lighting switch position is changed, then the headlamps are turned off.
This setting can be changed by CONSULT. Refer to BCS-25, "BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)".

DAYTIME RUNNING LIGHT SYSTEM

System Diagram

INFOID:0000000011288312



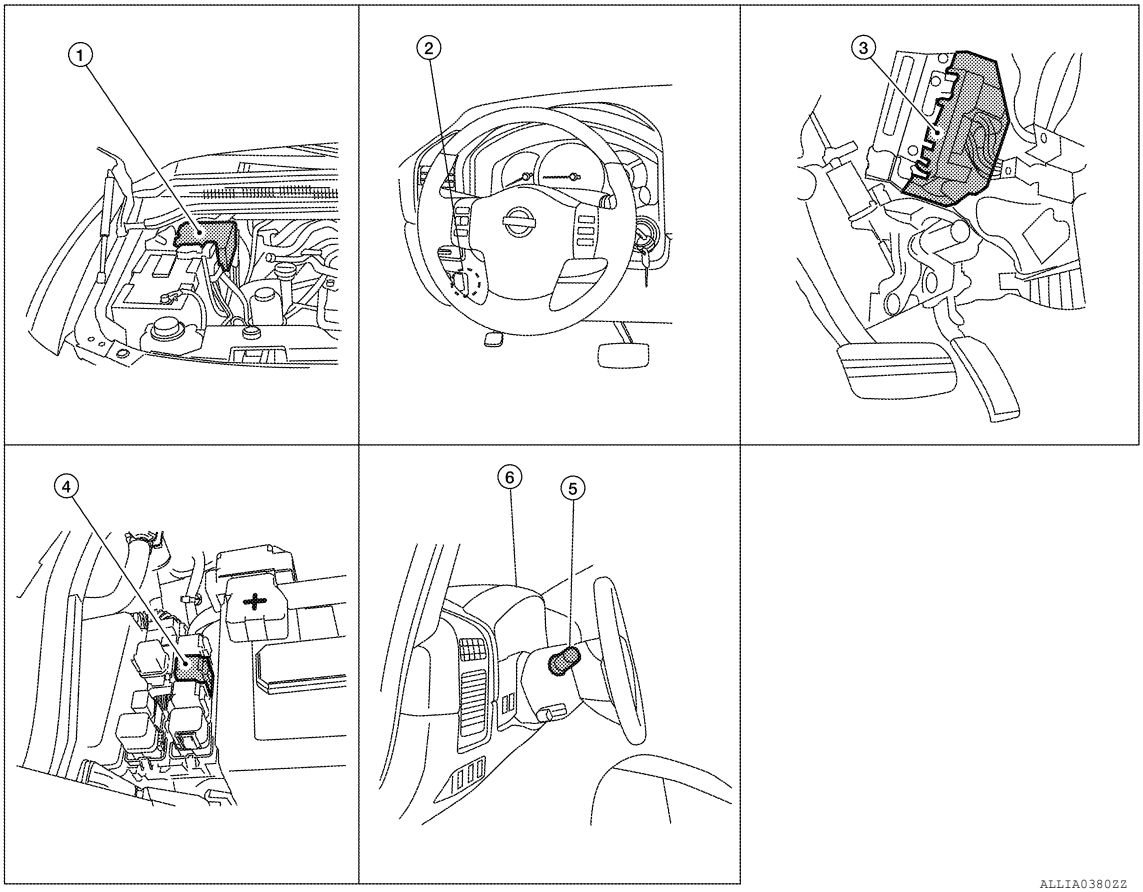
System Description

INFOID:0000000011288313

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

Component Parts Location

INFOID:0000000011288314



1. IPDM E/R E119, E122, E123, E124
2. Parking brake switch M11
3. BCM M18, M20 (view with instrument panel removed)
4. Daytime running light relay E103
5. Combination switch (lighting and turn signal switch) M28
6. Combination meter M24

Component Description

INFOID:0000000011288315

After starting the engine with the parking brake released and the combination switch (lighting and turn signal switch) in the OFF or 1ST position, the headlamp high beam automatically turns on at a reduced intensity. With the combination switch (lighting and turn signal switch) in the 2nd position or with autolamps ON, the headlamps function the same as conventional light systems.

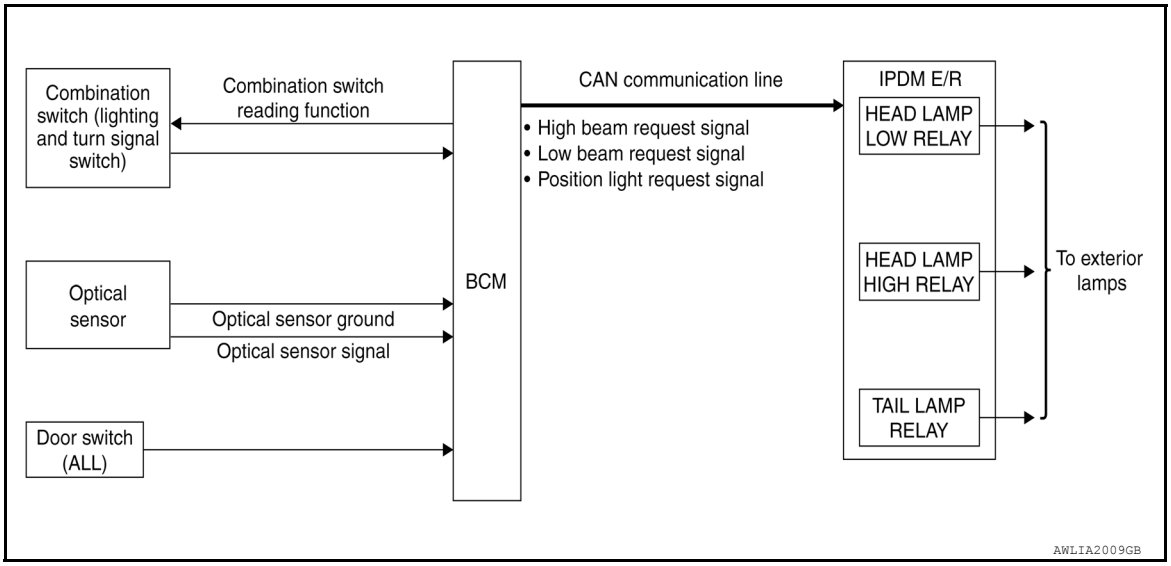
OPERATION

The BCM monitors inputs from the parking brake switch and the combination switch (lighting and turn signal switch) to determine when to activate the daytime running light system. The BCM sends a daytime running light request to the IPDM E/R via the CAN communication lines. The IPDM E/R grounds the daytime running light relay which in turn, provides power to the ground side of the LH high beam lamp. Power flows backward through the LH high beam lamp to the IPDM E/R, through the high beam fuses, through the RH high beam lamp circuit to the RH high beam lamp and on to ground. The high beam lamps are wired in series which causes them to illuminate at a reduced intensity.

AUTO LIGHT SYSTEM

System Diagram

INFOID:0000000011288316



System Description

INFOID:0000000011288317

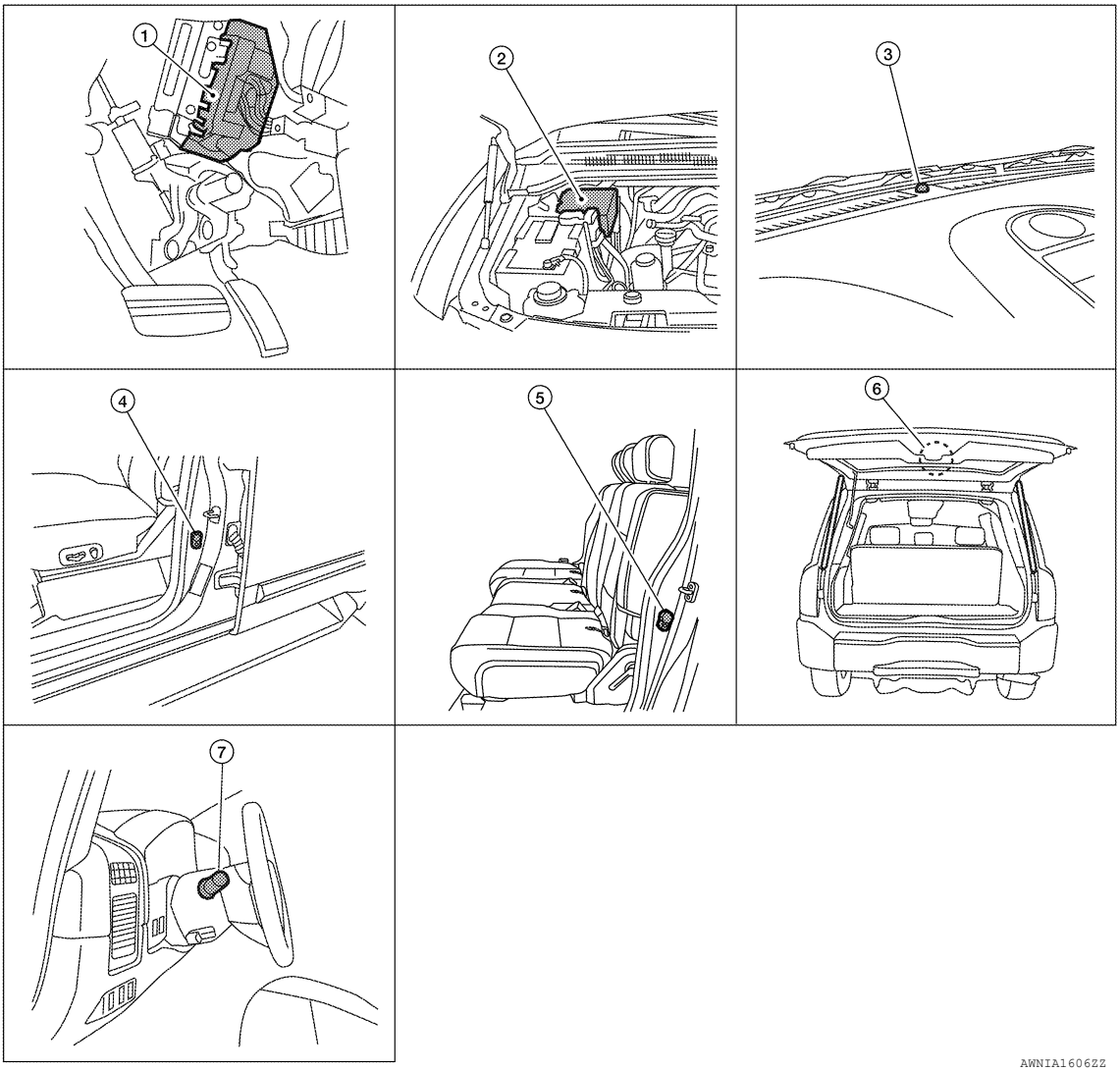
- BCM (Body Control Module) controls auto light operation according to signals from optical sensor, combination switch (lighting and turn signal switch) and ignition switch.
- IPDM E/R (Intelligent Power Distribution Module Engine Room) operates parking, license plate, tail and headlamps according to CAN communication signals from BCM.
- Optical sensor detects ambient brightness of 800 to 2,500 lux. And optical sensor converts light (lux) to voltage, then sends the optical sensor signal to BCM.

OUTLINE

The auto light control system has an optical sensor that detects outside brightness.
When the combination switch (lighting and turn signal switch) is in AUTO position, it automatically turns ON/OFF the parking, license plate, tail and headlamps in accordance with the ambient light. Sensitivity can be adjusted in four steps. For the details of the setting, Refer to BCS-25, "BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)".

Component Parts Location

INFOID:0000000011288318



1. BCM M18, M19, M20 (view with instrument panel removed)
2. IPDM E/R E122, E123, E124
3. Optical sensor M302
4. Front door switch
   LH B8
   RH B108
5. Rear door switch
   LH B18
   RH B116
6. Back door switch
   D407 (without power back door)
   Back door latch (door ajar switch)
   D503 (with power back door)
7. Combination switch (lighting and turn signal switch) M28

Component Description

INFOID:0000000011288319

AUTO LIGHT OPERATION

The auto light system operates the low beam and high beam headlamps, parking lamps, tail lamps and license plate lamps. The BCM monitors the combination switch (lighting and turn signal switch) position as a part of the BCM combination switch reading function. When the combination switch (lighting and turn signal switch) is in the AUTO position, the BCM automatically turns the lamps ON/OFF according to ambient light brightness.

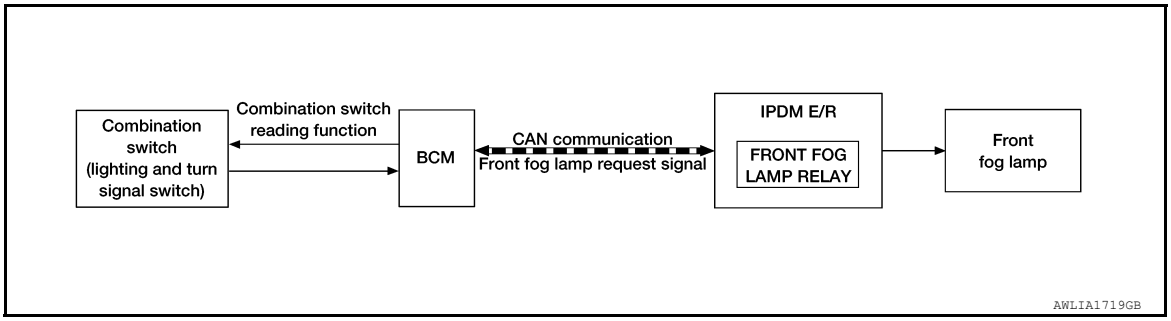
NOTE:

Timing for when lamps turn ON/OFF can be changed by the function setting of CONSULT. Refer to BCS-25, "BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)".

FRONT FOG LAMP

System Diagram

INFOID:0000000011288320



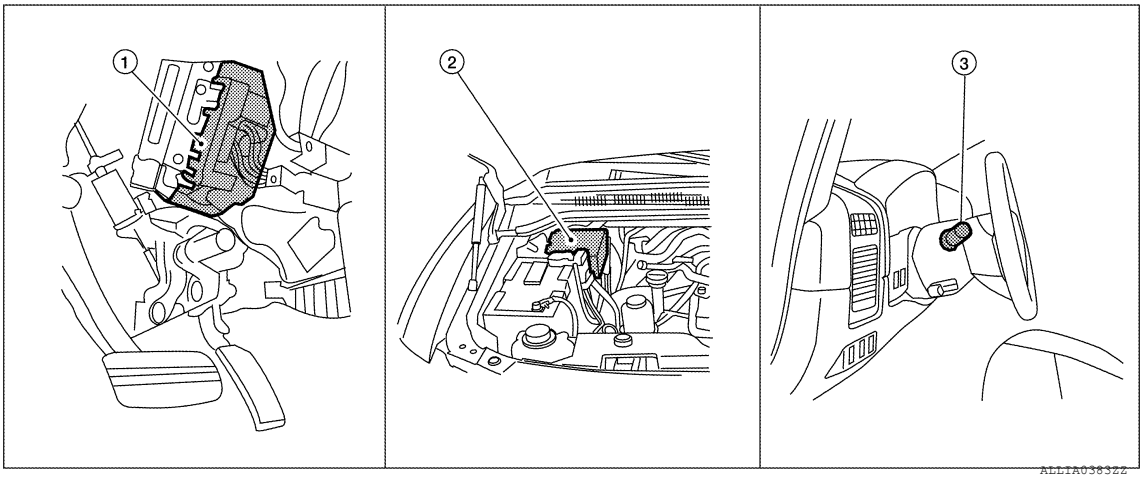
System Description

INFOID:0000000011288321

The front fog lamps are activated with the combination switch (lighting and turn signal switch). The combination switch (lighting and turn signal switch) signal to the BCM is monitored with the BCM combination switch reading function. When the fog lamps are turned ON with the combination switch (lighting and turn signal switch), the BCM sends a front fog lamp request signal via CAN communication lines to the IPDM E/R. The IPDM E/R grounds the front fog lamp relay coil to activate the front fog lamps.

Component Parts Location

INFOID:0000000011288322



1. BCM M18, M20 (view with instrument panel removed)
2. IPDM E/R E122, E123, E124
3. Combination switch (lighting and turn signal switch) M28

Component Description

INFOID:0000000011288323

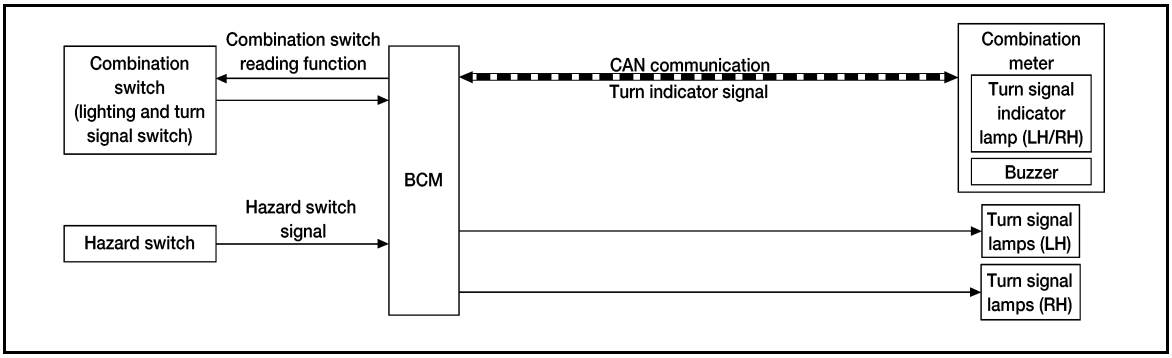
FRONT FOG LAMP OPERATION

When the combination switch (lighting and turn signal switch) is in front fog lamp ON position and also in 1ST or 2ND position or AUTO position (headlamp is ON), the BCM detects FR FOG ON and the HEAD LAMP1, 2 ON or the AUTO LIGHT ON. The BCM sends a front fog lamp request ON signal via the CAN communication lines to the IPDM E/R. The IPDM E/R then turns ON the front fog lamp relay sending power to the front fog lamps.

TURN SIGNAL AND HAZARD WARNING LAMPS

System Diagram

INFOID:0000000011288324



System Description

INFOID:0000000011288325

TURN SIGNAL OPERATION

When the combination switch (lighting and turn signal switch) is in LH or RH position with the ignition switch in ON position, the BCM detects the TURN RH or TURN LH ON request. The BCM outputs the flasher signal to the respective turn signal lamp. The BCM also sends a turn indicator signal ON request via the CAN communication lines to the combination meter. The combination meter then activates the appropriate turn signal indicator and audible buzzer.

HAZARD LAMP OPERATION

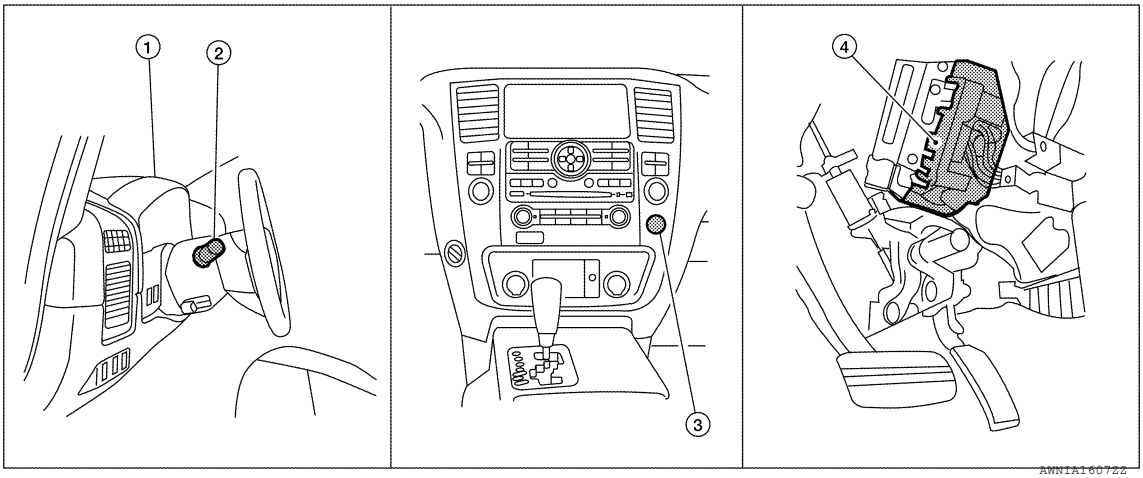
When the hazard switch is in ON position, the BCM detects the hazard switch signal ON. The BCM outputs the flasher signal (right and left). The BCM sends a hazard indicator signal ON request via the CAN communication lines to the combination meter. The combination meter then activates the hazard indicator and audible buzzer.

REMOTE KEYLESS ENTRY OPERATION

The remote keyless entry receiver transmits a hazard request signal to the BCM, then BCM controls hazard lamps.
Refer to SEC-11, "System Description".

Component Parts Location

INFOID:0000000011288326



1. Combination meter M24
2. Combination switch (lighting and turn signal switch) M28
3. Hazard switch M55
4. BCM M18, M20 (view with instrument panel removed)

Component Description

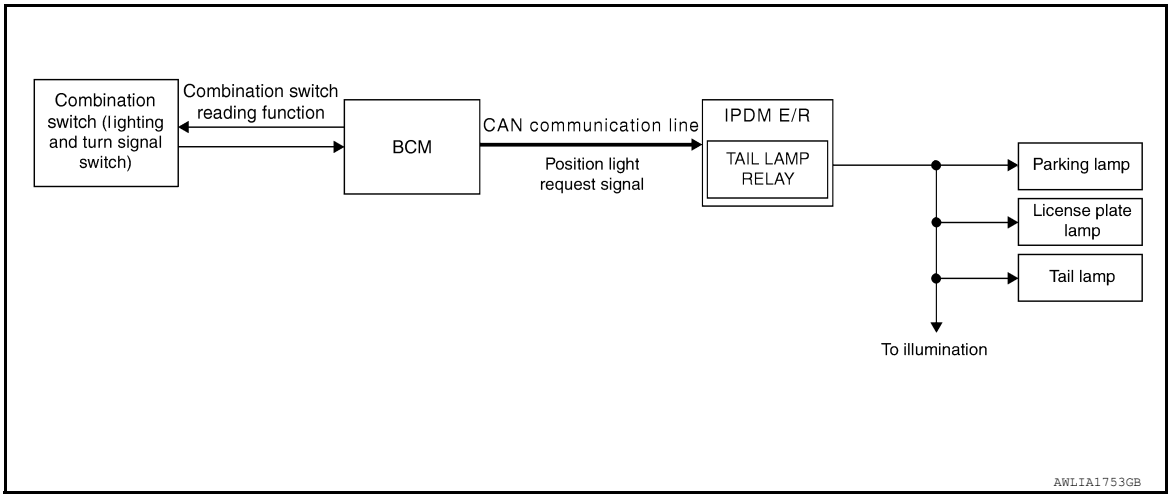
INFOID:0000000011288327

Part name	Description
BCM	Controls turn signal and hazard flasher operation.
Combination switch (lighting and turn signal switch)	Lighting and turn signal switch requests are output to the BCM.
Hazard switch	Hazard flasher request signal is output to the BCM.
Combination meter	Outputs turn and hazard indicator as requested by the BCM.

PARKING, LICENSE PLATE AND TAIL LAMPS

System Diagram

INFOID:0000000011288328



System Description

INFOID:0000000011288329

PARKING, LICENCE PLATE AND TAIL LAMPS OPERATION

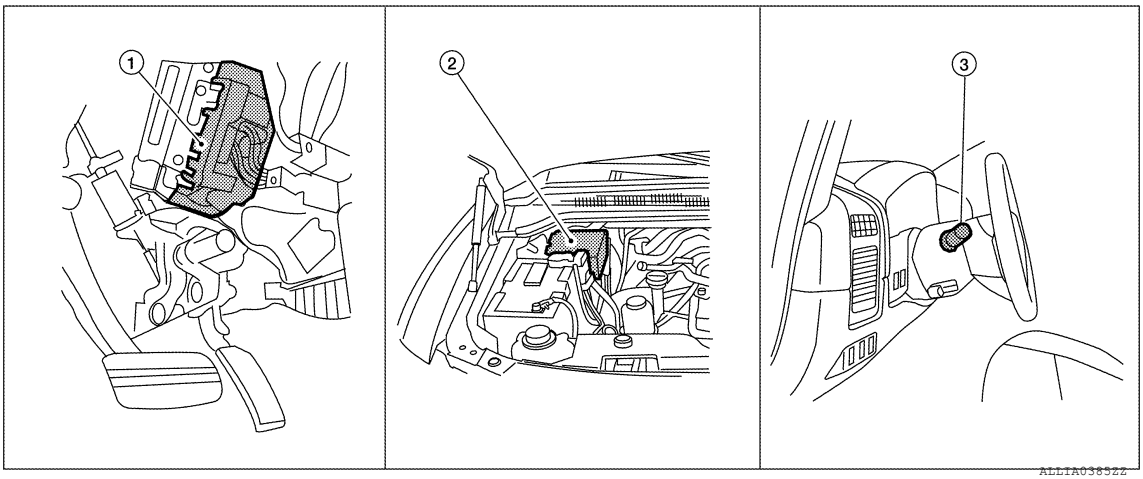
When the combination switch (lighting and turn signal switch) is in 1ST position, BCM detects the LIGHTING SWITCH 1ST POSITION ON. The BCM sends a parking light ON request via the CAN communication lines to the IPDM E/R. The IPDM E/R then activates the tail lamp relay which sends power to the parking and instrument illumination circuits.

EXTERIOR LAMP BATTERY SAVER CONTROL

With the combination switch (lighting and turn signal switch) in the 2nd position and the ignition switch is turned from ON or ACC to OFF, the battery saver feature is activated.
Under this condition, the headlamps remain illuminated for 45 seconds unless the combination switch (lighting and turn signal switch) position is changed. If the combination switch (lighting and turn signal switch) position is changed, then the headlamps are turned off.
This setting can be changed by CONSULT. Refer to BCS-25, "BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)".

Component Parts Location

INFOID:0000000011288330



1. BCM M18, M20 (view with instrument panel removed)
2. IPDM E/R E122, E124
3. Combination switch (lighting and turn signal switch) M28

Component Description

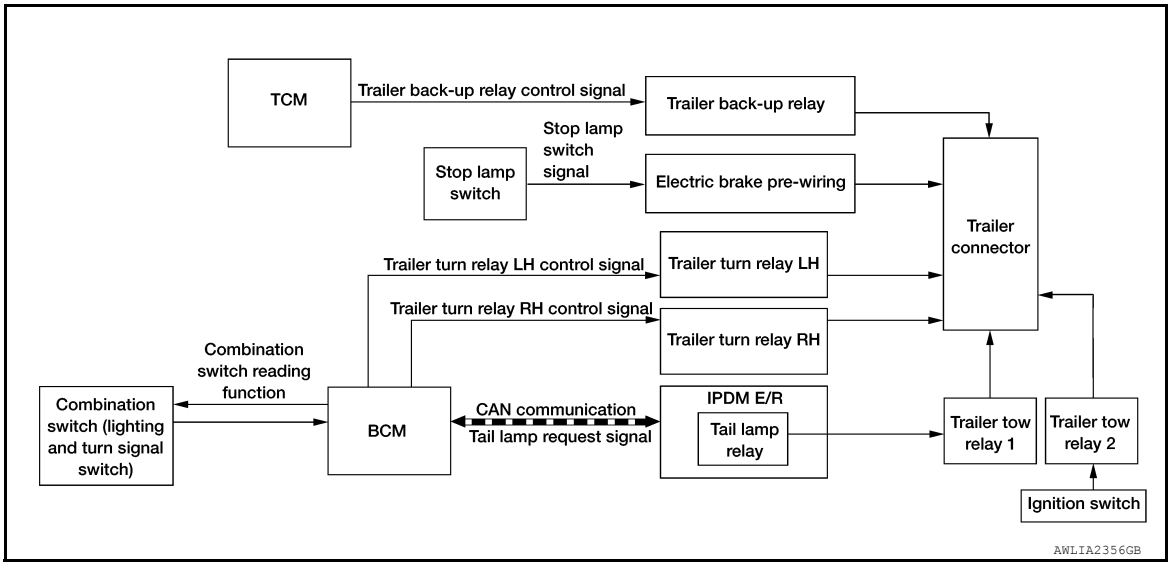
INFOID:0000000011288331

Part name	Description
BCM	• Receives lighting switch requests via BCM combination switch reading function. • Sends parking light request signal to the IPDM E/R.
IPDM E/R	Activates the tail lamp relay upon request of the BCM.
Combination switch (lighting and turn signal switch)	Outputs lighting requests to the BCM.

TRAILER TOW

System Diagram

INFOID:0000000011288332



System Description

INFOID:0000000011288333

TRAILER TAIL LAMP OPERATION

The trailer tail lamps are controlled by the trailer tow relay 1 located behind the left side of the instrument panel (IP). With the combination switch (lighting and turn signal switch) in the 1st position, the BCM detects the LIGHTING SWITCH 1ST POSITION ON. The BCM sends a parking light ON request via the CAN communication lines to the IPDM E/R. The IPDM E/R then activates the tail lamp relay which activates the trailer tow relay 1 and sends power to the trailer connector.

TRAILER TURN SIGNAL LAMP OPERATION

The trailer turn signal lamps are controlled by the BCM. When the turn signal switch is in the LH or RH position with the ignition switch ON, the combination switch (lighting and turn signal switch) sends a signal to the BCM. The BCM detects the TURN RH or TURN LH ON request. The BCM sends a control signal to the respective trailer turn relay which sends power to the trailer connector.

TRAILER HAZARD LAMP OPERATION

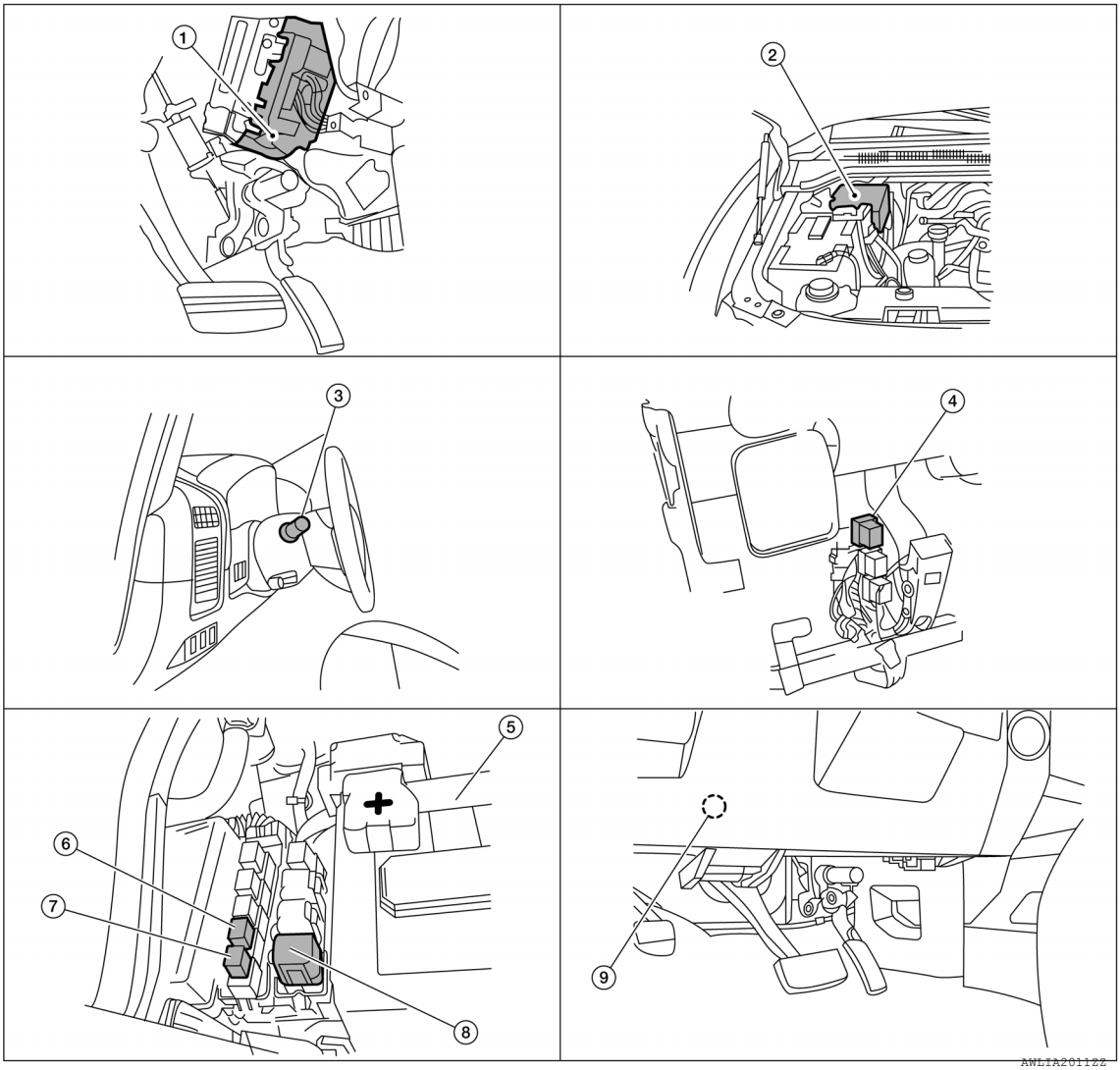
The trailer hazard lamps are controlled by the BCM. When the hazard switch is pressed, the BCM detects the the hazard ON request. The BCM then sends a control signal to both trailer turn relays which sends power to the trailer connector.

TRAILER BRAKE LAMP OPERATION

The trailer brake lamps are controlled by the BCM. When the brake pedal is depressed, the stop lamp switch sends the brake signal to the BCM. The BCM then sends a control signal to both trailer turn relays which sends power to the trailer connector.

Component Parts Location

INFOID:0000000011288334



1. BCM M18, M19, M20 (view with instrument panel removed)
2. IPDM E/R E119, E122, E123, E124
3. Combination switch (lighting and turn signal switch) M28
4. Trailer tow relay 1 M51 (view with steering member removed)
5. Battery
6. Trailer turn relay LH E156
7. Trailer turn relay RH E157
8. Trailer tow relay 2 E140
9. Stop lamp switch E38

Component Description

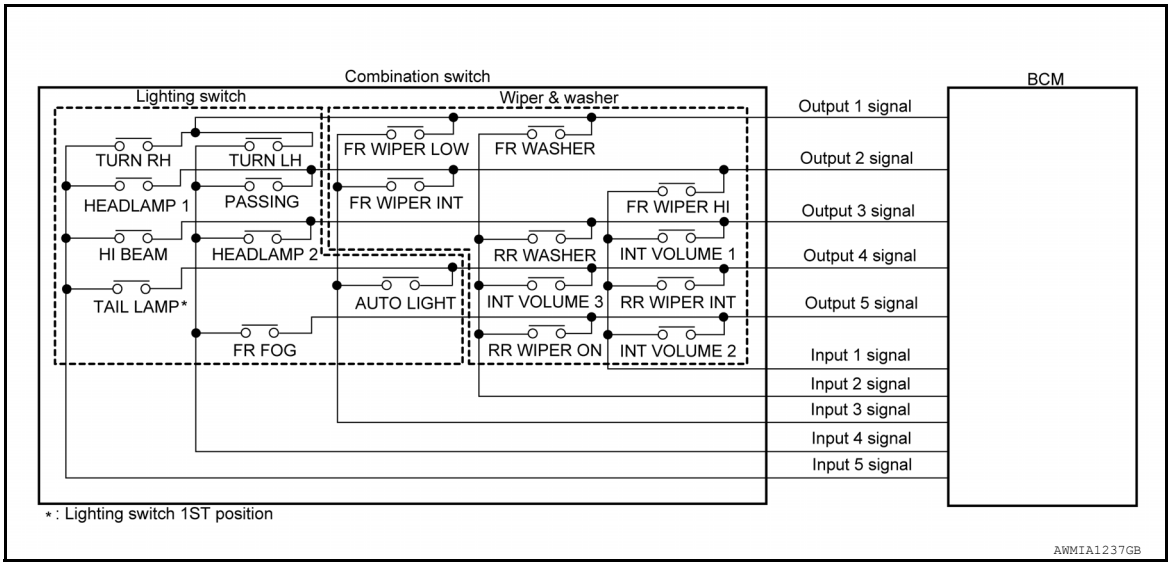
INFOID:0000000011288335

Part name	Description
BCM	• Receives lighting and turn signal requests from combination switch. • Receives stop lamp signal requests from stop lamp switch. • Sends lighting signal request to the IPDM E/R to control the tail lamp relay via CAN communication. • Sends turn/hazard/brake control signal to the trailer turn relays.
IPDM E/R	Activates the tail lamp relay upon request from the BCM via CAN communication.
Combination switch (lighting and turn signal switch)	Outputs lighting and turn signal requests to the BCM.

COMBINATION SWITCH READING SYSTEM

System Diagram

INFOID:0000000011540618



System Description

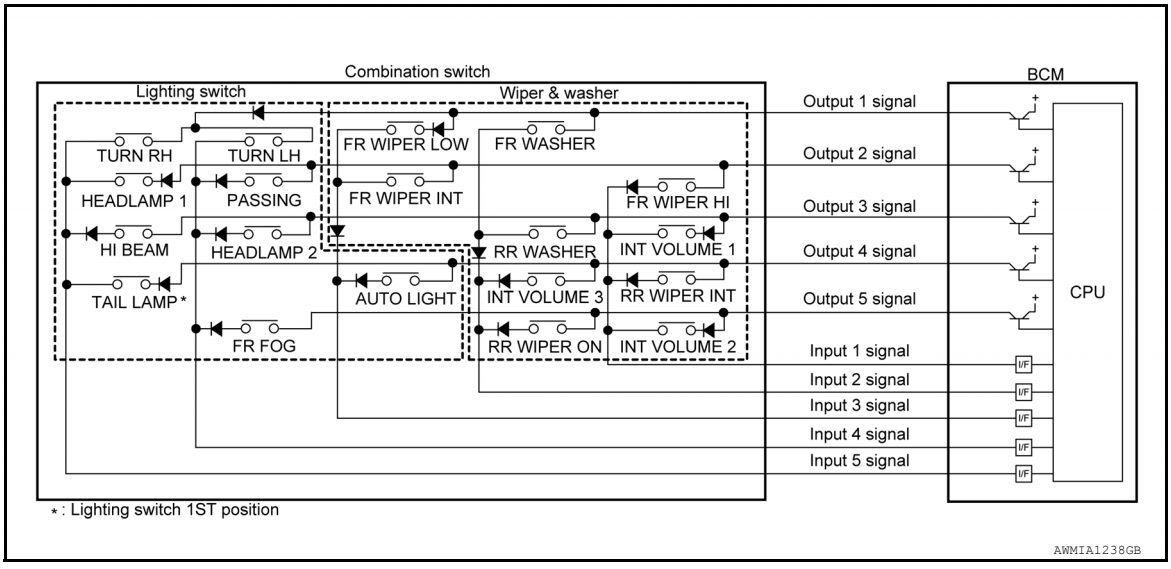
INFOID:0000000011540619

OUTLINE

- BCM reads the status of the combination switch (light, turn signal, wiper and washer) and recognizes the status of each switch.
- BCM has a combination of 5 output terminals (OUTPUT 1 - 5) and 5 input terminals (INPUT 1 - 5) and reads a maximum of 20 switch states.

COMBINATION SWITCH MATRIX

Combination switch circuit



Combination switch INPUT-OUTPUT system list

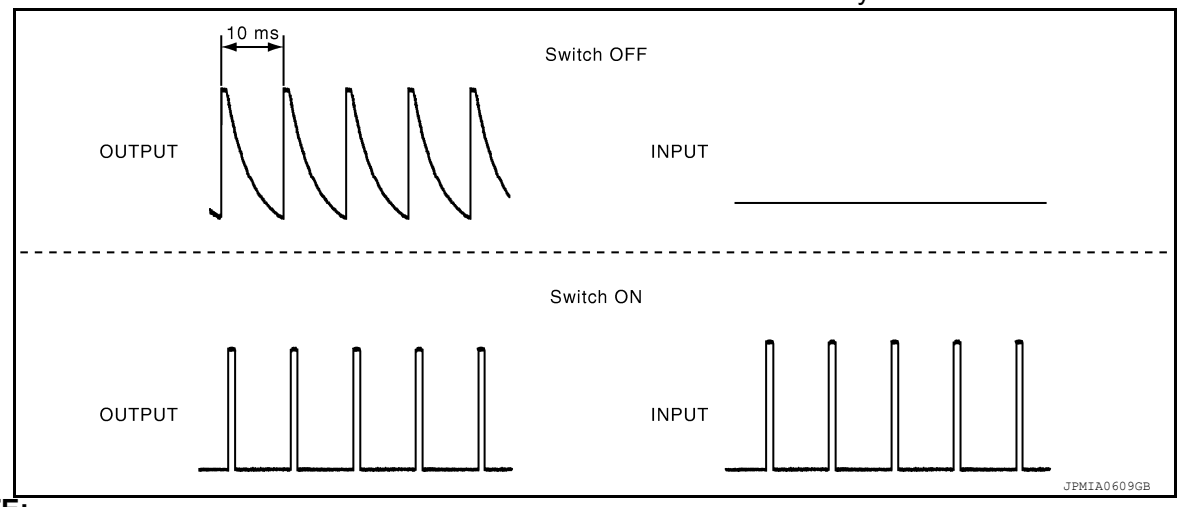
System	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
OUTPUT 1	—	FR WASHER	FR WIPER LOW	TURN LH	TURN RH
OUTPUT 2	FR WIPER HI	—	FR WIPER INT	PASSING	HEADLAMP 1
OUTPUT 3	INT VOLUME 1	RR WASHER	—	HEADLAMP 2	HI BEAM

System	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
OUTPUT 4	RR WIPER INT	INT VOLUME 3	AUTO LIGHT	—	TAIL LAMP
OUTPUT 5	INT VOLUME 2	RR WIPER ON	—	FR FOG	—

COMBINATION SWITCH READING FUNCTION

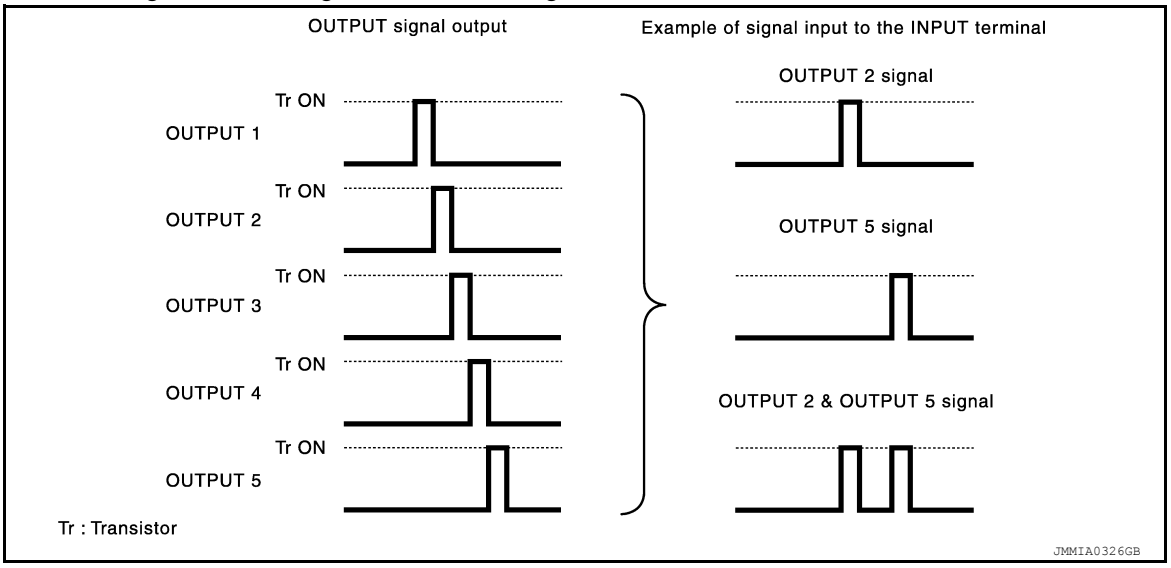
Description

- BCM reads the status of the combination switch at 10 ms intervals normally.



NOTE:
BCM reads the status of the combination switch at 60 ms intervals when BCM is controlled at low power consumption control mode.

- BCM operates as follows and judges the status of the combination switch.
- It operates the transistor on OUTPUT side in the following order: OUTPUT 1 → 2 → 3 → 4 → 5, and outputs voltage waveform.
- The voltage waveform of OUTPUT corresponding to the formed circuit is input into the interface on INPUT side if any (1 or more) switches are ON.
- It reads this change of the voltage as the status signal of the combination switch.

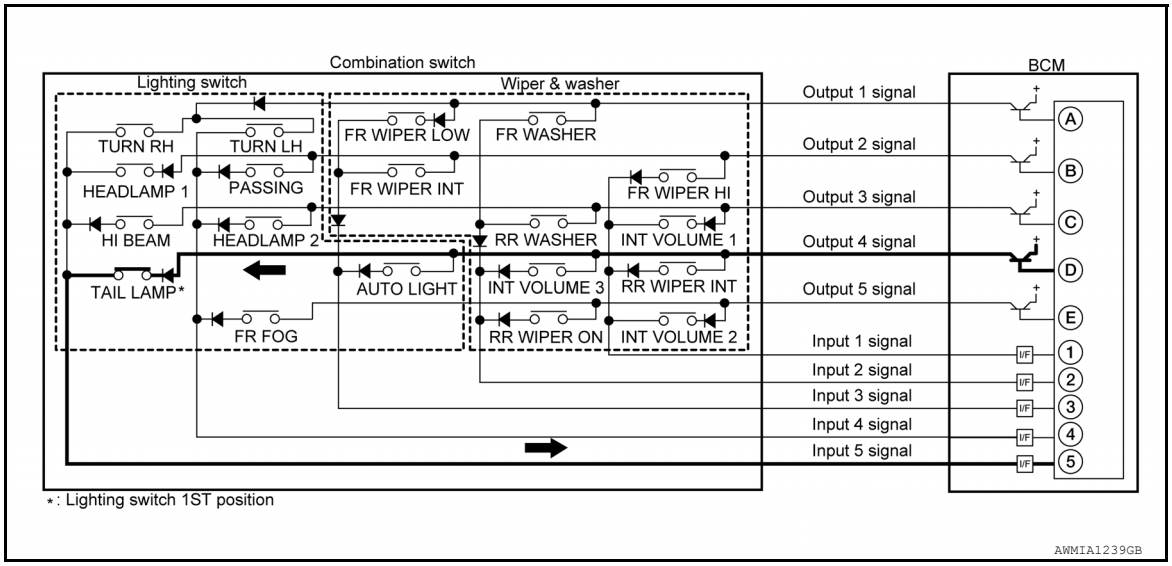


Operation Example

In the following operation example, the combination of the status signals of the combination switch is replaced as follows: INPUT 1 - 5 to “1 - 5” and OUTPUT 1 - 5 to “A - E”.

Example 1: When a switch (TAIL LAMP) is turned ON

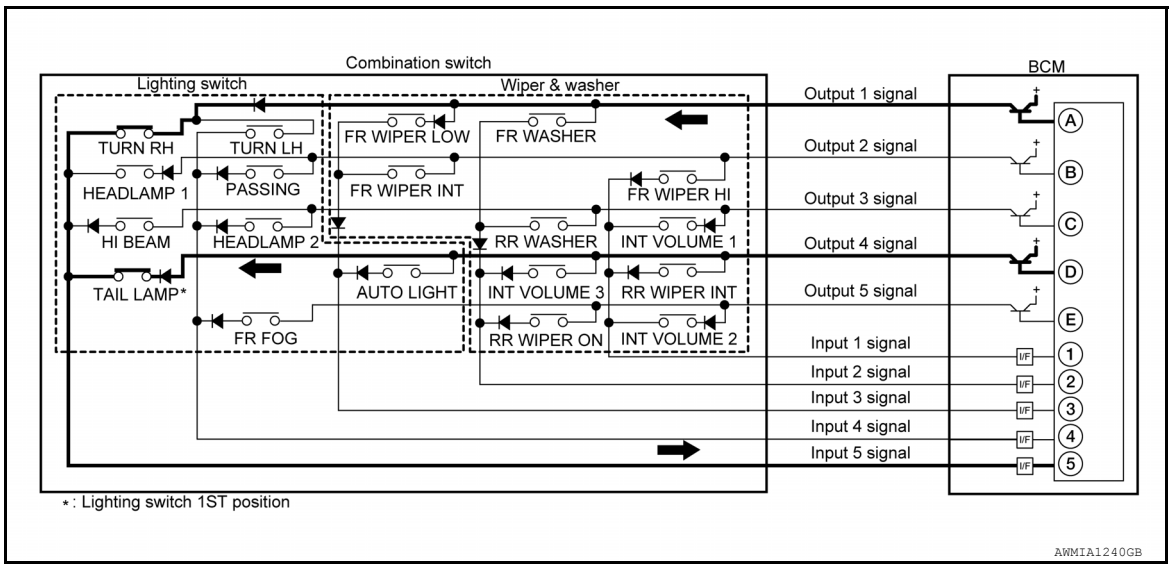
• The circuit between OUTPUT 4 and INPUT 5 is formed when the TAIL LAMP switch is turned ON.



• BCM detects the combination switch status signal “5D” when the signal of OUTPUT 4 is input to INPUT 5.
• BCM judges that the TAIL LAMP switch is ON when the signal “5D” is detected.

Example 2: When some switches (TURN RH, TAIL LAMP) are turned ON

• The circuits between OUTPUT 1 and INPUT 5 and between OUTPUT 4 and INPUT 5 are formed when the TURN RH switch and TAIL LAMP switch are turned ON.



• BCM detects the combination switch status signal “5AD” when the signals of OUTPUT 1 and OUTPUT 4 are input to INPUT 5.
• BCM judges that the TURN RH switch and TAIL LAMP switch are ON when the signal “5AD” is detected.

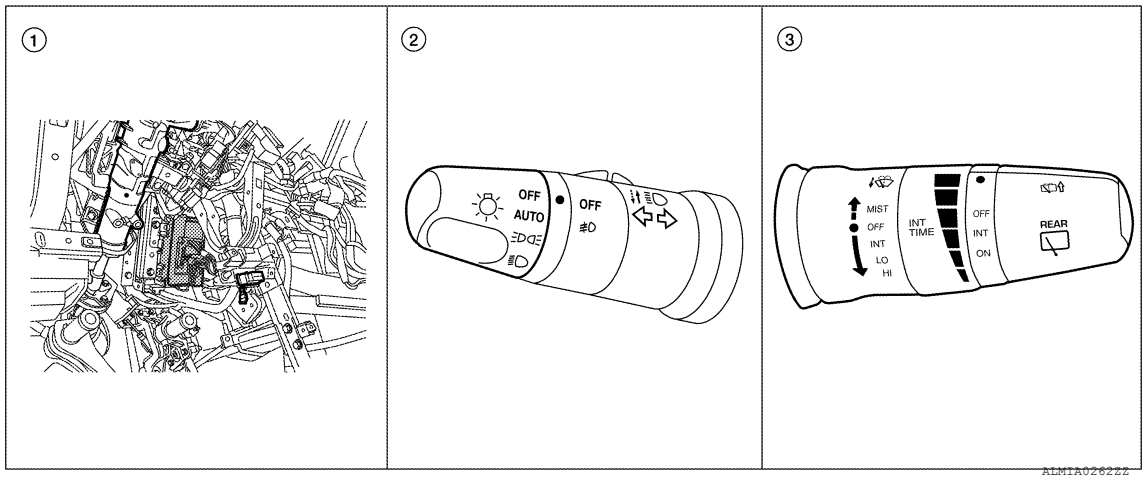
WIPER INTERMITTENT DIAL POSITION SETTING (FRONT WIPER INTERMITTENT OPERATION)

BCM judges the wiper intermittent dial 1 - 7 by the status of INT VOLUME 1, 2, and 3 switches.

Wiper intermittent dial position	Intermittent operation delay interval	INT VOLUME switch ON/OFF status		
		INT VOLUME 1	INT VOLUME 2	INT VOLUME 3
1	Short ↑	ON	ON	ON
2		ON	ON	OFF
3		ON	OFF	OFF
4		OFF	OFF	OFF
5		OFF	OFF	ON
6	↓ Long	OFF	ON	ON
7		OFF	ON	OFF

Component Parts Location

INFOID:0000000011540620



1. BCM M18, M19, M20 (view with instrument panel removed)
2. Combination switch (lighting and turn signal switch) M28
3. Combination switch (wiper and washer switch) M28

DIAGNOSIS SYSTEM (BCM)
COMMON ITEM
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000011517933

APPLICATION ITEM
CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description
ECU Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION
BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY			×				
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Back door open	TRUNK			×	×			
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×	×	×		
Signal buffer system	SIGNAL BUFFER			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×	×		
Panic alarm system	PANIC ALARM				×			

BUZZER

BUZZER : CONSULT Function (BCM - BUZZER)

INFOID:0000000011517934

DATA MONITOR

Monitor Item [Unit]	Description
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
LIGHT SW 1ST [On/Off]	Indicates condition of combination switch.
BUCKLE SW [On/Off]	Indicates condition of seat belt buckle switch.

ACTIVE TEST

Test Item	Description
SEAT BELT WARN TEST	This test is able to check seat belt warning operation [On/Off].
LIGHT WARN ALM	This test is able to check light reminder warning operation [On/Off].
IGN KEY WARN ALM	This test is able to check key warning chime operation [On/Off].

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

INFOID:0000000011540621

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.
HI BEAM SW [On/Off]	Indicates condition of combination switch.
HEAD LAMP SW 1 [On/Off]	
HEAD LAMP SW 2 [On/Off]	
LIGHT SW 1ST [On/Off]	
AUTO LIGHT SW [On/Off]	
PASSING SW [On/Off]	
FR FOG SW [On/Off]	
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
BACK DOOR SW [On/Off]	Indicates condition of back door switch.
TURN SIGNAL R [On/Off]	Indicates condition of combination switch.
TURN SIGNAL L [On/Off]	
CARGO LAMP SW [ON/OFF]	Indicates condition of cargo lamp switch.
OPTICAL SENSOR [V]	Indicates voltage signal from optical sensor.

ACTIVE TEST

Test Item	Description
TAIL LAMP	This test is able to check tail lamp operation [Off/On].
HEAD LAMP	This test is able to check head lamp operation [Off/Lo/Hi].

Test Item	Description
FR FOG LAMP	This test is able to check front fog lamp operation [Off/On].
DAYTIME RUNNING LIGHT	This test is able to check daytime running light operation [Off/On].
CARGO LAMP	This test is able to check cargo lamp operation [Off/On].
CORNERING LAMP	This test is able to check turn signal lamp operation [Off/LH/RH].

WORK SUPPORT

Support Item	Setting		Description
BATTERY SAVER SET	Off		Exterior lamp battery saver function OFF.
	On*		Exterior lamp battery saver function ON.
CUSTOM A/LIGHT SETTING	MODE4		Less sensitive setting than normal setting (Turns ON later than normal operation).
	MODE3		More sensitive setting than MODE 2 (Turns ON earlier than MODE 2).
	MODE2		More sensitive setting than normal setting (Turns ON earlier than normal operation).
	MODE1*		Normal.
ILL DELAY SET	MODE8	180 sec	Sets delay timer function operation time (All doors closed).
	MODE7	150 sec	
	MODE6	120 sec	
	MODE5	90 sec	
	MODE4	60 sec	
	MODE3	30 sec	
	MODE2	OFF	
	MODE1*	45 sec	

*: Initial setting

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:0000000011540622

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
HAZARD SW [On/Off]	Indicates condition of hazard switch.
TURN SIGNAL R [On/Off]	Indicates condition of turn signal function of combination switch.
TURN SIGNAL L [On/Off]	
BRAKE SW [On/Off]	Indicates condition of brake switch.

ACTIVE TEST

Test Item	Description
FLASHER	This test is able to check turn signal lamp operation [Off/LH/RH].

COMB SW

COMB SW : CONSULT Function (BCM - COMB SW)

INFOID:0000000011540623

DATA MONITOR

Monitor Item [Unit]	Description
TURN SIGNAL R [On/Off]	Indicates condition of turn signal operation of combination switch.
TURN SIGNAL L [On/Off]	
HI BEAM SW [On/Off]	Indicates condition of hi beam operation of combination switch.
HEAD LAMP SW 1 [On/Off]	Indicates condition of headlamp operation of combination switch.
HEAD LAMP SW 2 [On/Off]	
LIGHT SW 1ST [On/Off]	Indicates condition of lighting operation of combination switch.
PASSING SW [On/Off]	Indicates condition of passing switch operation of combination switch.
AUTO LIGHT SW [On/Off]	Indicates condition of auto light operation of combination switch.
FR FOG SW [On/Off]	Indicates condition of front fog light operation of combination switch.
FR WIPER HI [On/Off]	Indicates condition of front wiper operation of combination switch.
FR WIPER LOW [On/Off]	
FR WIPER INT [On/Off]	
FR WASHER SW [On/Off]	Indicates condition of front washer operation of combination switch.
INT VOLUME [1 - 7]	Indicates condition of intermittent wiper operation of combination switch.
RR WIPER ON [On/Off]	Indicates condition of rear wiper operation of combination switch.
RR WIPER INT [On/Off]	
RR WASHER SW [On/Off]	Indicates condition of rear washer operation of combination switch.

BCM

BCM : CONSULT Function (BCM - BCM)

INFOID:0000000011540624

ECU IDENTIFICATION

The BCM part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to BCS-44, "DTC Index".

WORK SUPPORT

Support Item	Setting	Description
RESET SETTING VALUE	Reset	Returns BCM to initial value in factory shipment.
	Cancel	Cancels the reset function.

CONFIGURATION

Refer to BCS-4, "CONFIGURATION (BCM) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-49, "CAN Diagnostic Support Monitor".

BATTERY SAVER

BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)

INFOID:0000000011540625

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
BACK DOOR SW [On/Off]	Indicates condition of back door switch.
KEY CYL LK SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
I-KEY LOCK* [On/Off]	Indicates condition of lock signal from Intelligent Key.
I-KEY UNLOCK* [On/Off]	Indicates condition of unlock signal from Intelligent Key.
KEYLESS LOCK** [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK** [On/Off]	Indicates condition of unlock signal from keyfob.

* : with Intelligent Key

** : without Intelligent Key

ACTIVE TEST

Test item	Description
BATTERY SAVER	This test is able to check battery saver operation [On/Off].

WORK SUPPORT

Support Item	Setting		Description
ROOM LAMP TIMER SET	MODE2	60 min	Sets the interior room lamp battery saver timer operating time.
	MODE1*	10 min	

*: Initial setting

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

INFOID:0000000011517946

AUTO ACTIVE TEST

Description

In auto active test mode, the IPDM E/R sends a drive signal to the following systems to check their operation.

- Oil pressure low/coolant pressure high warning indicator
- Oil pressure gauge
- Rear window defogger
- Front wipers (HI, LO)
- Tail, license and parking lamps
- Front fog lamps (if equipped)
- Headlamps (HI, LO)
- A/C compressor (magnetic clutch)
- Cooling fan

Operation Procedure

1. Close the hood and front door RH, and lift the wiper arms from the windshield (to prevent windshield damage due to wiper operation).
   NOTE:
   When auto active test is performed with hood opened, sprinkle water on windshield before hand.
2. Turn ignition switch OFF.
3. Turn the ignition switch ON and, within 20 seconds, press the front door switch LH 10 times. Then turn the ignition switch OFF.
4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
5. After a series of the following operations is repeated 3 times, auto active test is completed.

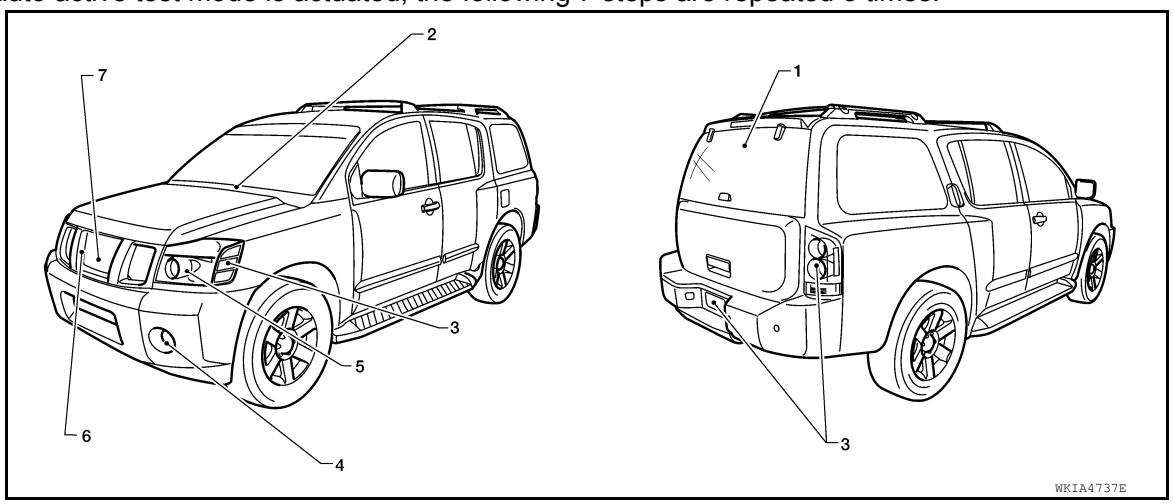
NOTE:
When auto active test mode has to be cancelled halfway through test, turn ignition switch OFF.

CAUTION:

- **If auto active test mode cannot be actuated, check door switch system. Refer to DLK-74, "Description" (with Intelligent Key system), DLK-273, "Description" (without Intelligent Key system).**
- **Do not start the engine.**

Inspection in Auto Active Test Mode

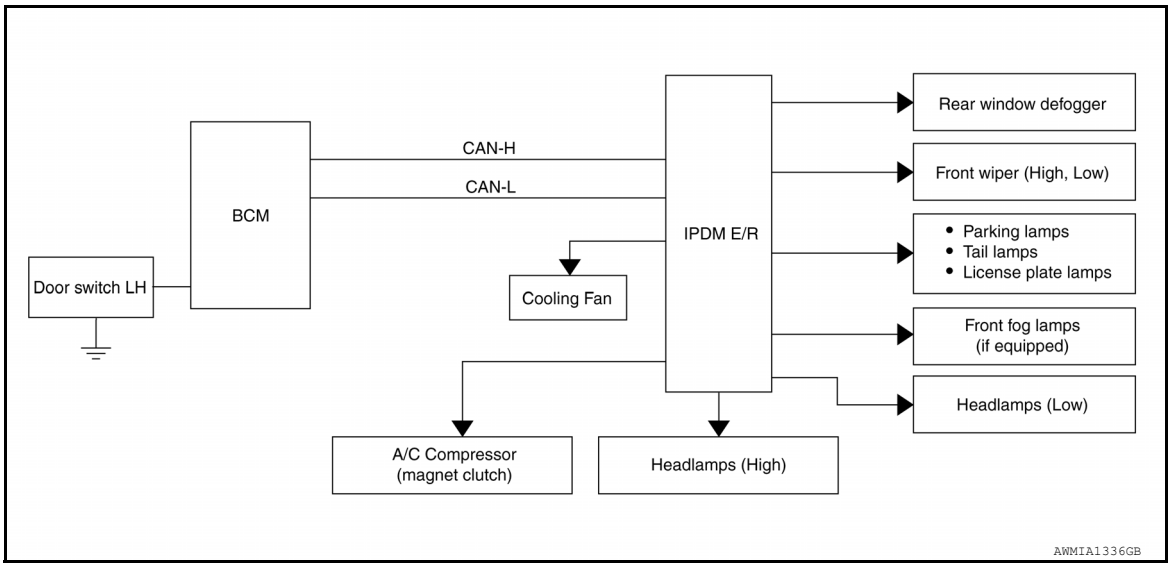
When auto active test mode is actuated, the following 7 steps are repeated 3 times.



Operation sequence	Inspection Location	Operation
1	Rear window defogger	10 seconds
2	Front wipers	LO for 5 seconds → HI for 5 seconds

Operation sequence	Inspection Location	Operation
3	Tail, license and parking lamps	10 seconds
4	Front fog lamps (if equipped)	10 seconds
5	Headlamps	LO for 10 seconds → HI on-off for 5 seconds
6	A/C compressor	ON ⇔ OFF 5 times
7	Cooling fan	10 seconds

Concept of auto active test



- IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.
- The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause
Oil pressure low/coolant temperature high warning indicator does not operate	Perform auto active test. Does the oil pressure low/ coolant temperature high warning indicator operate?	YES	• IPDM E/R signal input circuit • ECM signal input circuit • CAN communication signal between ECM and combination meter
		NO	• CAN communication signal between IPDM E/R, BCM and combination meter
Oil pressure gauge does not operate	Perform auto active test. Does the oil pressure gauge operate?	YES	IPDM E/R signal input circuit
		NO	• CAN communication signal between IPDM E/R, BCM and combination meter
Rear window defogger does not operate	Perform auto active test. Does the rear window defogger operate?	YES	BCM signal input circuit
		NO	• Harness or connector between A/C and AV switch assembly and AV control unit • CAN communication signal between BCM and IPDM E/R

Symptom	Inspection contents		Possible cause
Any of the following components do not operate • Front wipers • Tail lamps • License plate lamps • Parking lamps • Front fog lamps (if equipped) • Headlamps (HI, LO)	Perform auto active test. Does the applicable system operate?	YES	BCM signal input system
		NO	• Lamp or front wiper motor malfunction • Lamp or front wiper motor ground circuit • Harness or connector between IPDM E/R and applicable system • IPDM E/R (integrated relay malfunction)
A/C compressor does not operate	Perform auto active test. Does the A/C compressor operate?	YES	• BCM signal input circuit • CAN communication signal between BCM and ECM • CAN communication signal between ECM and IPDM E/R
		NO	• Magnetic clutch malfunction • Harness or connector between IPDM E/R and magnetic clutch • IPDM E/R (integrated relay malfunction)
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	YES	• ECM signal input circuit • CAN communication signal between ECM and IPDM E/R
		NO	• Cooling fan motor malfunction • Harness or connector between IPDM E/R and cooling fan • IPDM E/R (integrated relay malfunction)

CONSULT Function (IPDM E/R)

INFOID:0000000011517947

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with IPDM E/R.

Direct Diagnostic Mode	Description
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.
Data Monitor	The IPDM E/R input/output data is displayed in real time.
Active Test	The IPDM E/R activates outputs to test components.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-24, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Main Signals	Description
MOTOR FAN REQ [1/2/3/4]	×	Indicates cooling fan speed signal received from ECM on CAN communication line
AC COMP REQ [On/Off]	×	Indicates A/C compressor request signal received from ECM on CAN communication line

Monitor Item [Unit]	Main Signals	Description
TAIL&CLR REQ [On/Off]	×	Indicates position light request signal received from BCM on CAN communication line
HL LO REQ [On/Off]	×	Indicates low beam request signal received from BCM on CAN communication line
HL HI REQ [On/Off]	×	Indicates high beam request signal received from BCM on CAN communication line
FR FOG REQ [On/Off]	×	Indicates front fog light request signal received from BCM on CAN communication line
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communication line
WIP AUTO STOP [STOP P/ACT P]	×	Indicates condition of front wiper auto stop signal
WIP PROT [Off/BLOCK]	×	Indicates condition of front wiper fail-safe operation
ST RLY REQ [On/Off]		Indicates starter request signal received from ECM on CAN communication line
IGN RLY [On/Off]	×	Indicates condition of ignition relay
RR DEF REQ [On/Off]	×	Indicates rear defogger request signal received from AV control unit on CAN communication line
OIL P SW [Open/Close]		Indicates condition of oil pressure switch
DTRL REQ [Off]		Indicates daytime light request signal received from BCM on CAN communication line
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN communication line
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line

ACTIVE TEST

Test item	Description
REAR DEFOGGER	This test is able to check rear defogger operation [On/Off].
FRONT WIPER	This test is able to check wiper motor operation [Hi/Lo/Off].
MOTOR FAN	This test is able to check cooling fan operation [4/3/2/1].
EXTERNAL LAMPS	This test is able to check external lamp operation [Fog/Hi/Lo/TAIL/Off].
HORN	This test is able to check horn operation [On].

CAN DIAG SUPPORT MNTR

Refer to LAN-49, "CAN Diagnostic Support Monitor".

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:0000000011517949

Regarding Wiring Diagram information, refer to BCS-46, "Wiring Diagram".

1. CHECK FUSES AND FUSIBLE LINK

Check that the following fuses and fusible link are not blown.

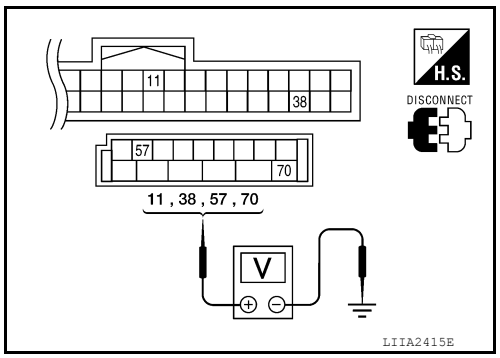
Terminal No.	Signal name	Fuses and fusible link No.
57	Battery power supply	22 (15A)
70		F (50A)
11	Ignition ACC or ON	4 (10A)
38	Ignition ON or START	59 (10A)

Is the fuse blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

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



Connector	Terminals (+)	Terminals (-)	Power source	Condition	Voltage (V) (Approx.)
M18	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage
	38	Ground	Ignition power supply	Ignition switch ON or START	Battery voltage
M20	57	Ground	Battery power supply	Ignition switch OFF	Battery voltage
	70	Ground	Battery power supply	Ignition switch OFF	Battery voltage

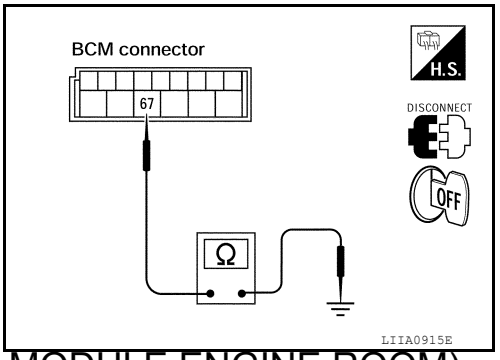
Is the measurement value normal?

YES >> GO TO 3
NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M20	67		Yes



Does continuity exist?

YES >> Inspection End.
NO >> Repair or replace harness.

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) : Diagnosis Procedure

INFOID:0000000011517948

Regarding Wiring Diagram information, refer to PCS-25, "Wiring Diagram".

1. CHECK FUSES AND FUSIBLE LINK

Check that the following IPDM E/R fuses or fusible link are not blown.

Terminal No.	Signal name	Fuses and fusible link No.
1	Battery	A, D
2	Battery	C
12	Ignition switch ON or START	59
22	Battery	A, E, L, N

Is the fuse blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2

2. CHECK BATTERY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R.
3. Check voltage between IPDM E/R harness connectors and ground.

Terminals			Ignition switch position		
(+)		(−)	OFF	ON	START
Connector	Terminal				
E118	1	Ground	Battery voltage	Battery voltage	Battery voltage
	2		Battery voltage	Battery voltage	Battery voltage
E119	12		0V	Battery voltage	Battery voltage
E120	22		Battery voltage	Battery voltage	Battery voltage

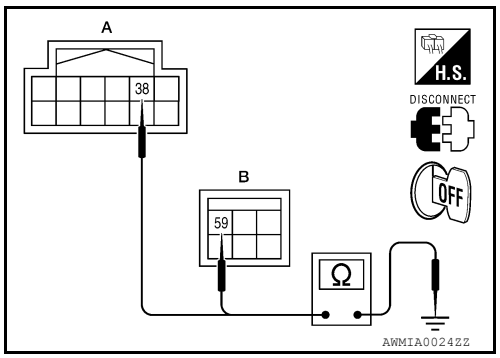
Is the measurement value normal?

YES >> GO TO 3
NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Check continuity between IPDM E/R harness connectors (A, B) and ground.



IPDM E/R		Ground	Continuity
Connector	Terminal		
E122 (A)	38		Yes
E124 (B)	59		

Does continuity exist?

YES >> Inspection End.
NO >> Repair or replace harness.

HEADLAMP (HI) CIRCUIT

Description

INFOID:0000000011288350

The IPDM E/R (intelligent power distribution module engine room) controls the headlamp high relay based on inputs from the BCM via the CAN communication lines. When the headlamp high relay is energized, power flows through fuses 34 and 35, located in the IPDM E/R. Power then flows to the front combination lamps to the headlamp high beam.

Component Function Check

INFOID:0000000011288351

1.CHECK HEADLAMP (HI) OPERATION

WITHOUT CONSULT

1. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
2. Check that the headlamp switches to the high beam.

NOTE:
HI/LO is repeated 1 second each when using the IPDM E/R auto active test.

WITH CONSULT

1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
2. With the test item operating, check that the headlamp switches to high beam.

Hi : Headlamp switches to the high beam.
Off : Headlamp OFF

Does the headlamp switch to high beam?

YES >> Headlamp (HI) circuit is normal.
NO >> Refer to EXL-36, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000011288352

Regarding Wiring Diagram information, refer to EXL-70, "Wiring Diagram" (without DTRL) or EXL-75, "Wiring Diagram" (with DTRL).

1.CHECK HEADLAMP (HI) FUSES

1. Turn the ignition switch OFF.
2. Check that the following fuses are not open.

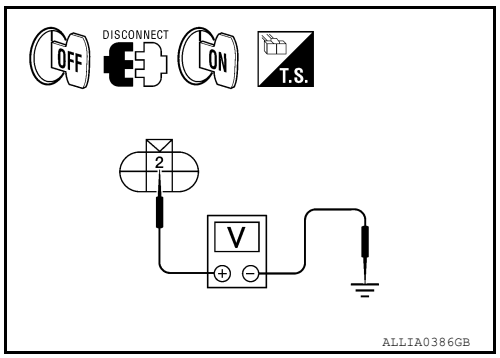
Unit	Location	Fuse No.	Capacity
Headlamp HI (LH)	IPDM E/R	35	10A
Headlamp HI (RH)	IPDM E/R	34	10A

Is the fuse open?

YES >> Repair the harness and replace the fuse.
NO >> GO TO 2.

2.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

1. Turn the ignition switch OFF.
2. Disconnect the front combination lamp connector.
3. Turn the ignition switch ON.
4. Turn the high beam headlamps ON.
5. With the high beam headlamps ON, check the voltage between the combination lamp connector and ground.



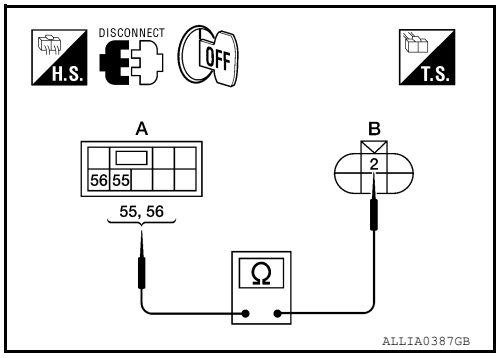
(+)			(–)	Voltage
Connector		Terminal		
LH	E11 (without DTRL)	2	Ground	Battery voltage
	E6 (with DTRL)			
RH	E107 (without DTRL)			
	E108 (with DTRL)			

Are the voltage readings as specified?

YES >> GO TO 4.
NO >> GO TO 3.

3.CHECK HEADLAMP (HI) CIRCUIT FOR OPEN

1. Turn the ignition switch OFF.
2. Disconnect IPDM E/R connector E123.
3. Check continuity between the IPDM E/R harness connector (A) and the front combination lamp harness connector (B).



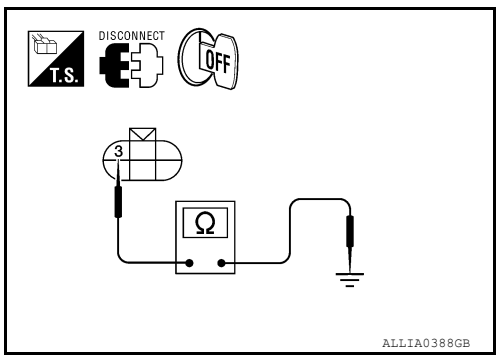
A			B		Continuity
Connector		Terminal	Connector	Terminal	
LH	E123	55	E11 (without DTRL)	2	Yes
			E6 (with DTRL)		
RH		56	E107 (without DTRL)	2	
			E108 (with DTRL)		

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation of IPDM E/R".
NO >> Repair the harnesses or connectors.

4.CHECK FRONT COMBINATION LAMP (HI) GROUND CIRCUIT

Check continuity between the front combination lamp harness connector terminal and ground.



Connector		Terminal	—	Continuity
LH	E11 (without DTRL)	3	Ground	Yes
	E6 (with DTRL)			
RH	E107 (without DTRL)			
	E108 (with DTRL)			

Does continuity exist?

YES >> Inspect the headlamp bulb.
NO (Except LH with DTRL)>> Repair the harness.
NO (LH with DTRL)>> GO TO 5.

5.CHECK CONTINUITY BETWEEN FRONT COMBINATION LAMP LH (HI) AND DAYTIME RUNNING LIGHT RELAY

1. Disconnect daytime running light relay connector.
2. Check continuity between front combination lamp LH harness connector and daytime running light relay harness connector.

Front combination lamp LH		Daytime running light relay		Continuity
Connector	Terminal	Connector	Terminal	
E6	3	E103	3	Yes

Does continuity exist?

YES >> GO TO 6.
NO >> Repair the harness or connector.

6. CHECK DAYTIME RUNNING LIGHT RELAY GROUND CIRCUIT

Check continuity between daytime running light relay harness connector and ground.

Daytime running light relay		Ground	Continuity
Connector	Terminal		
E103	4		Yes

Does continuity exist?

YES >> GO TO 7.
NO >> Repair the harness or connector.

7. CHECK DAYTIME RUNNING LIGHT RELAY

Check daytime running light relay. Refer to EXL-38, "Component Inspection".

Is the inspection result normal?

YES >> Inspect daytime running light relay circuit for short. If OK, replace IPDM E/R. Refer to PCS-31, "Removal and Installation of IPDM E/R".
NO >> Replace daytime running light relay.

Component Inspection

INFOID:0000000011288353

1. CHECK DAYTIME RUNNING LIGHT RELAY

1. Turn ignition switch OFF.
2. Remove daytime running light relay.
3. Check the continuity between daytime running light relay terminals under the following conditions.

Terminals	Condition	Continuity
3 and 5	12V direct current supply between terminals 1 and 2	Yes
	No current supply	No
3 and 4	12V direct current supply between terminals 1 and 2	No
	No current supply	Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace daytime running light relay.

HEADLAMP (LO) CIRCUIT

Description

INFOID:0000000011288354

The IPDM E/R (intelligent power distribution module engine room) controls the headlamp low relay based on inputs from the BCM via the CAN communication lines. When the headlamp low relay is energized, power flows through fuses 40 and 41, located in the IPDM E/R. Power then flows to the front combination lamps to the headlamp low beam.

Component Function Check

INFOID:0000000011288355

1.CHECK HEADLAMP (LO) OPERATION

WITHOUT CONSULT

1. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
2. Check that the headlamp is turned ON.

NOTE:
HI/LO is repeated 1 second each when using the IPDM E/R auto active test.

WITH CONSULT

1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
2. With the test items operating, check that the headlamp is turned ON.

Lo : Headlamp ON
Off : Headlamp OFF

Is the headlamp turned ON?

YES >> Headlamp (LO) is normal.
NO >> Refer to EXL-39, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000011288356

Regarding Wiring Diagram information, refer to EXL-70, "Wiring Diagram" (without DTRL) or EXL-75, "Wiring Diagram" (with DTRL).

1.CHECK HEADLAMP (LO) FUSES

1. Turn the ignition switch OFF.
2. Check that the following fuses are not open.

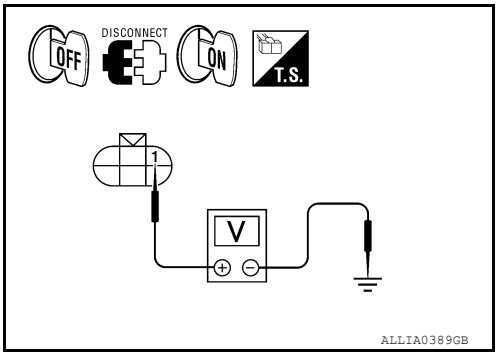
Unit	Location	Fuse No.	Capacity
Headlamp LO (LH)	IPDM E/R	40	15A
Headlamp LO (RH)	IPDM E/R	41	15A

Is the fuse open?

YES >> Repair the harness and replace the fuse.
NO >> GO TO 2.

2.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

1. Turn the ignition switch OFF.
2. Disconnect the front combination lamp connector.
3. Turn the ignition switch ON.
4. Turn the low beam headlamps ON.
5. With the low beam headlamps ON, check the voltage between the combination lamp connector and ground.



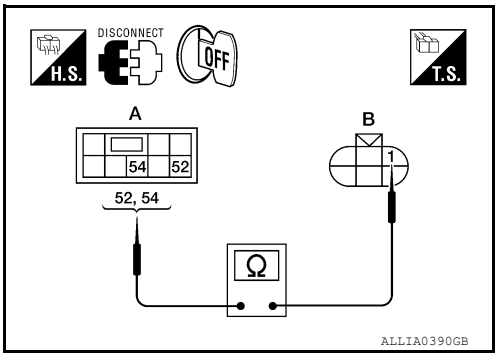
(+)			(–)	Voltage
Connector		Terminal		
LH	E11 (without DTRL)	1	Ground	Battery voltage
	E6 (with DTRL)			
RH	E107 (without DTRL)			
	E108 (with DTRL)			

Is voltage reading as specified?

YES >> GO TO 4.
NO >> GO TO 3.

3. CHECK HEADLAMP (LO) CIRCUIT FOR OPEN

1. Turn the ignition switch OFF.
2. Disconnect IPDM E/R connector E123.
3. Check continuity between the IPDM E/R harness connector (A) and the front combination lamp harness connector (B).



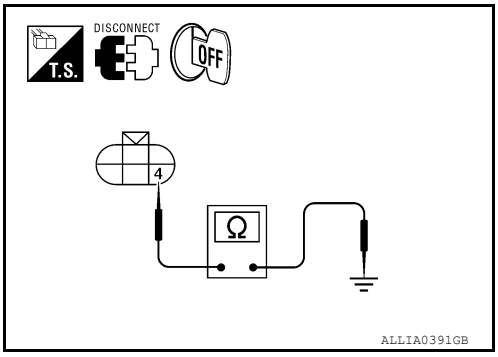
A			B		Continuity
Connector		Terminal	Connector	Terminal	
LH	E123	52	E11 (without DTRL)	1	Yes
			E6 (with DTRL)		
RH		54	E107 (without DTRL)	1	
			E108 (with DTRL)		

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation of IPDM E/R".
NO >> Repair the harnesses or connectors.

4. CHECK FRONT COMBINATION LAMP (LO) GROUND CIRCUIT

Check continuity between the front combination lamp harness connector terminal and ground.



Connector		Terminal	—	Continuity
LH	E11 (without DTRL)	4	Ground	Yes
	E6 (with DTRL)			
RH	E107 (without DTRL)			
	E108 (with DTRL)			

Does continuity exist?

YES >> Inspect the headlamp bulb.
NO >> Repair the harness.

FRONT FOG LAMP CIRCUIT

Description

INFOID:0000000011288357

The IPDM E/R (intelligent power distribution module engine room) controls the front fog lamp relay based on inputs from the BCM via the CAN communication lines. When the front fog lamp relay is energized, power flows from the front fog lamp relay in the IPDM E/R to the front fog lamps.

Component Function Check

INFOID:0000000011288358

1.CHECK FRONT FOG LAMP OPERATION

WITHOUT CONSULT
1. Activate IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
2. Check that the front fog lamp is turned ON.

WITH CONSULT
1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
2. With operating the test items, Check that the front fog lamp is turned ON.

Fog : Front fog lamp ON
Off : Front fog lamp OFF

Is the front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.
NO >> Refer to EXL-41, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000011288359

Regarding Wiring Diagram information, refer to EXL-90, "Wiring Diagram".

1.CHECK FRONT FOG LAMP FUSE

1. Turn the ignition switch OFF.
2. Check that the following fuse is not open.

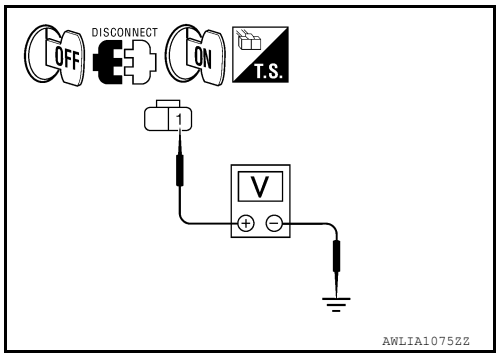
Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	56	15A

Is the fuse open?

YES >> Repair the harness and replace the fuse.
NO >> GO TO 2.

2.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

1. Turn the ignition switch OFF.
2. Disconnect the front fog lamp connector.
3. Turn the ignition switch ON.
4. Turn the front fog lamps ON.
5. Check the voltage between the fog lamp connector and ground.



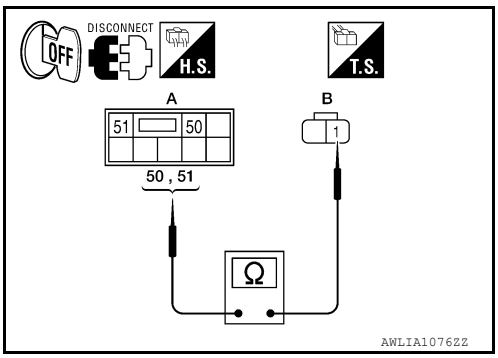
(+)			(–)	Voltage
Connector		Terminal		
LH	E101	1	Ground	Battery voltage
RH	E102	1		

Are the voltage readings as specified?

YES >> GO TO 4.
NO >> GO TO 3.

3.CHECK FRONT FOG LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect IPDM E/R connector E123.
3. Check continuity between the IPDM E/R harness connector (A) and the front fog lamp harness connector (B).



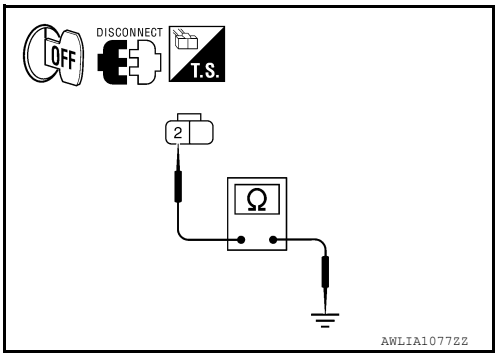
A			B		Continuity
Connector		Terminal	Connector	Terminal	
LH	E123	50	E101	1	Yes
RH		51	E102	1	

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation of IPDM E/R".
NO >> Repair the harnesses or connectors.

4.CHECK FRONT FOG LAMP GROUND CIRCUIT

1. Disconnect the front fog lamp connector.
2. Check continuity between the front fog lamp harness connector and ground.



Connector		Terminal	—	Continuity
LH	E101	2	Ground	Yes
RH	E102	2		

Does continuity exist?

YES >> Inspect the fog lamp bulb.
NO >> Repair the harness.

PARKING LAMP CIRCUIT

Description

INFOID:0000000011288360

The IPDM E/R (intelligent power distribution module engine room) controls the tail lamp relay based on inputs from the BCM via the CAN communication lines. When the tail lamp relay is energized, power flows through fuse 37, located in the IPDM E/R. Power then flows to the front and rear combination lamps, license plate lamps.

Component Function Check

INFOID:0000000011288361

1.CHECK PARKING LAMP OPERATION

WITHOUT CONSULT
1. Activate IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
2. Check that the parking lamp is turned ON.

WITH CONSULT
1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
2. With operating the test items, check that the parking lamp is turned ON.

TAIL : Parking lamp ON
Off : Parking lamp OFF

Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal.
NO >> Refer to EXL-43, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000011288362

Regarding Wiring Diagram information, refer to EXL-101, "Wiring Diagram".

1.CHECK PARKING LAMP FUSES

1. Turn the ignition switch OFF.
2. Check that the following fuse is not open.

Unit	Location	Fuse No.	Capacity
Parking lamps	IPDM E/R	37	10A

Is the fuse open?

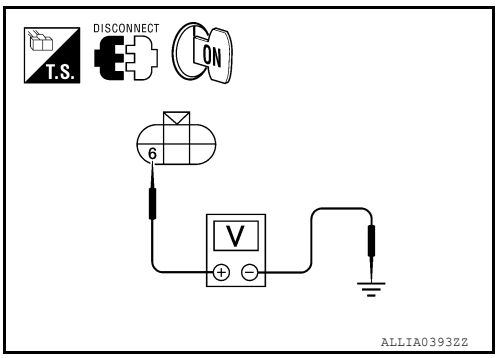
YES >> Repair the harness and replace the fuse.
NO >> GO TO 2.

2.CHECK TAIL LAMP RELAY OUTPUT (VOLTAGE)

1. Turn the ignition switch OFF.
2. Disconnect the front combination lamp connector, rear combination lamp connector and license plate lamp connector.
3. Turn the ignition switch ON.
4. Turn the parking lamps ON.

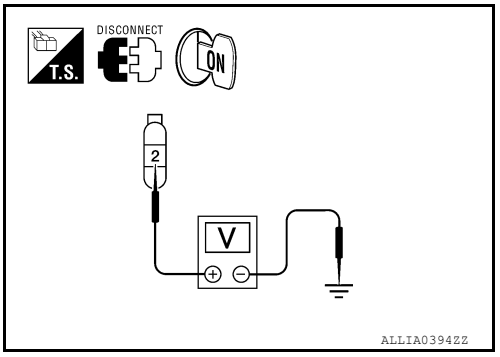
5. With the parking lamps ON, check voltage between the front combination lamp connectors and ground.

(+)			(–)	Voltage
Connector		Terminal		
With DTRL	LH	E6	Ground	Battery voltage
	RH	E108		
Without DTRL	LH	E11		
	RH	E107		



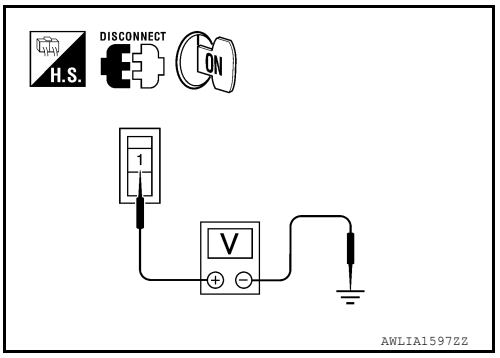
6. With the parking lamps ON, check voltage between the rear combination lamp connectors and ground.

(+)			(–)	Voltage
Connector		Terminal		
LH	B70	2	Ground	Battery voltage
RH	B130			



7. With the parking lamps ON, check voltage between the license plate lamp connector and ground

(+)			(–)	Voltage
Connector		Terminal		
LH	C106	1	Ground	Battery voltage
RH	C107			



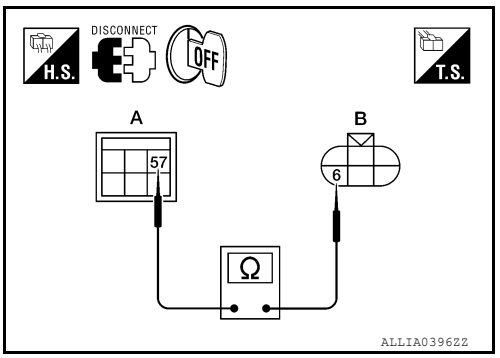
Are voltage readings as specified?

YES >> GO TO 4.
NO >> GO TO 3.

3. CHECK PARKING, LICENSE PLATE AND TAIL LAMP CIRCUIT (OPEN)

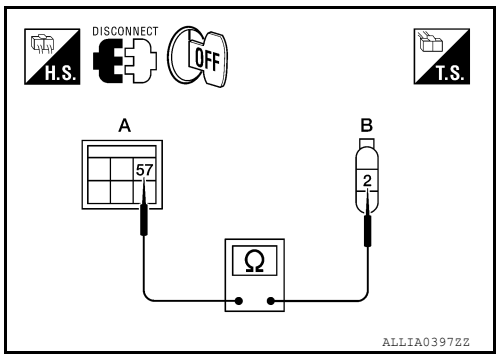
1. Turn the ignition switch OFF.
2. Disconnect IPDM E/R connector E124.
3. Check continuity between the IPDM E/R harness connector (A) and the front combination lamp harness connector (B).

A			B			Continuity
Connector		Terminal	Connector		Terminal	
LH	E124	57	With DTRL	E6	6	Yes
RH				E108		
LH	E124	57	Without DTRL	E11		
RH				E107		



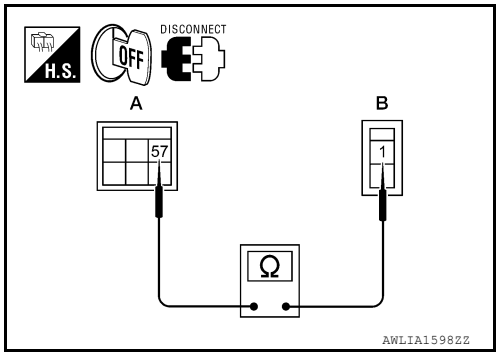
4. Check continuity between the IPDM E/R harness connector (A) and the rear combination lamp harness connector (B).

A			B		Continuity
Connector		Terminal	Connector	Terminal	
LH	E124	57	B70	2	Yes
RH			B130		



5. Check continuity between the IPDM E/R harness connector (A) and license plate lamp connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
E124	57	C106	1	Yes
		C107		



Are continuity test results as specified?

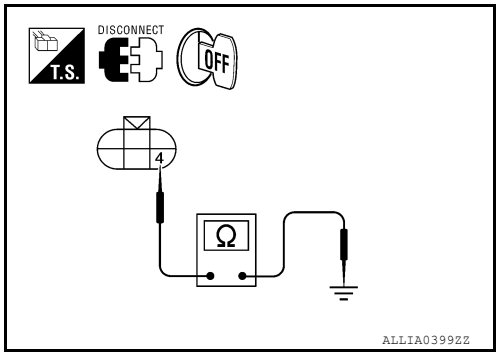
YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation of IPDM E/R".

NO >> Repair the harnesses or connectors.

4. CHECK PARKING, LICENSE AND TAIL LAMP GROUND CIRCUITS

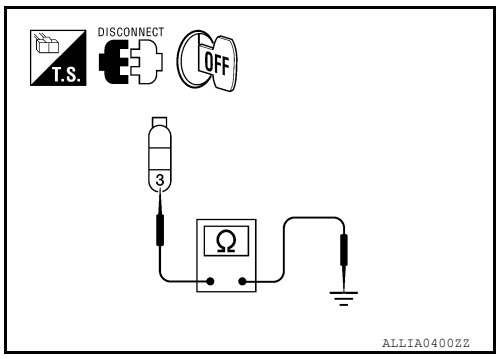
1. Check continuity between the front combination lamp harness connectors E11 and E107 terminal 4 and ground.

Connector			Terminal	—	Continuity
With DTRL	LH	E6	4	Ground	Yes
	RH	E108			
Without DTRL	LH	E11			
	RH	E107			



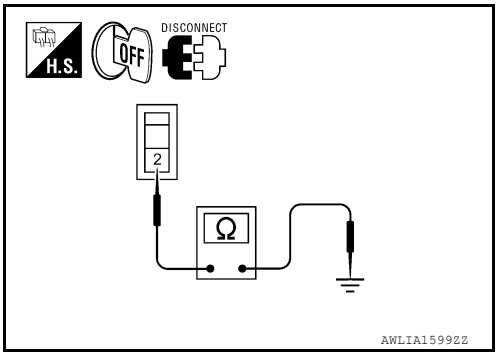
2. Check continuity between the rear combination lamp harness connectors B70 and B130 terminal 3 and ground.

Connector		Terminal	—	Continuity
LH	B70	3	Ground	Yes
RH	B130			



3. Check continuity between the license plate lamp harness connectors and ground.

Connector	Terminal	—	Continuity
C106	2	Ground	Yes
C107			



Does continuity exist?

YES >> Inspect the parking lamp bulb.
NO >> Repair the harness.

TURN SIGNAL LAMP CIRCUIT

Description

INFOID:0000000011288363

The BCM monitors inputs from the combination switch (lighting and turn signal switch) to determine when to activate the turn signals. The BCM outputs voltage direction to the left and right turn signals during turn signal operation or both during hazard warning operation. The BCM sends a turn signal indicator request to the combination meter via the CAN communication lines.
The BCM performs the fast flasher operation (fail-safe) if any bulb or harness of the turn signal lamp circuit is open.
NOTE:
Turn signal lamp blinks at normal speed when using the hazard warning lamp.

Component Function Check

INFOID:0000000011288364

1.CHECK TURN SIGNAL LAMP

WITH CONSULT
1. Select "FLASHER" of BCM (FLASHER) active test item.
2. With operating the test items, check that the turn signal lamp blinks.

LH : Turn signal lamp LH blinking
RH : Turn signal lamp RH blinking
Off : The turn signal lamp OFF

Does the turn signal lamp blink?

YES >> Turn signal lamp circuit is normal.
NO >> Refer to EXL-47, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000011288365

Regarding Wiring Diagram information, refer to EXL-94, "Wiring Diagram".

1.CHECK TURN SIGNAL LAMP BULB

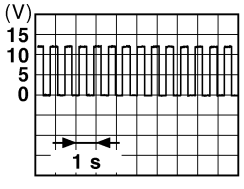
Check the applicable lamp bulb to be sure the proper bulb standard is in use and the bulb is not open.

Is the bulb OK?

YES >> GO TO 2.
NO >> Replace the bulb.

2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

While operating the turn signal switch, check the voltage between the BCM harness connector M20 and ground.

(+)			(–)	Voltage
Connector		Terminal		
M20	LH	60	Ground	
	RH	61		

Is voltage reading as specified?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-54, "Removal and Installation".

3.CHECK TURN SIGNAL LAMP CIRCUIT FOR OPEN

1. Turn the ignition switch OFF.
2. Disconnect BCM connector M20, front combination lamp connector, door mirror connector (if equipped with turn signal in the mirrors) and the rear combination lamp connector.
3. Check continuity between the BCM harness connector (A) and the front combination lamp connector (B).

A			B			Continuity
Connector		Terminal	Connector		Terminal	
Front LH	M20	60	Without DTRL	E11	5	Yes
Front RH		61		E107		
Front LH		60	With DTRL	E6		
Front RH		61		E108		

4. Check continuity between the BCM harness connector (A) and the rear combination lamp connector (B).

A			B		Continuity
Connector		Terminal	Connector	Terminal	
Rear LH	M20	60	B35	4	Yes
Rear RH		61	B105	4	

5. Check continuity between the BCM harness connector (A) and the door mirror connector (B) (if equipped with turn signals in the mirrors).

A			B		Continuity
Connector		Terminal	Connector	Terminal	
Door mirror LH	M20	60	D4	15	Yes
Door mirror RH		61	D107	15	

Are continuity test results as specified?

YES >> GO TO 4.
NO >> Repair the harnesses or connectors.

4.CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between the BCM harness connector M20 and ground.

Connector		Terminal	—	Continuity
LH	M20	60	Ground	No
RH		61		

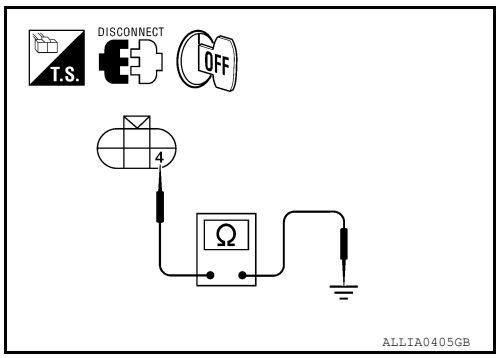
Does continuity exist?

YES >> Repair the harnesses or connectors.
NO >> GO TO 5.

5.CHECK TURN SIGNAL LAMP GROUND CIRCUIT

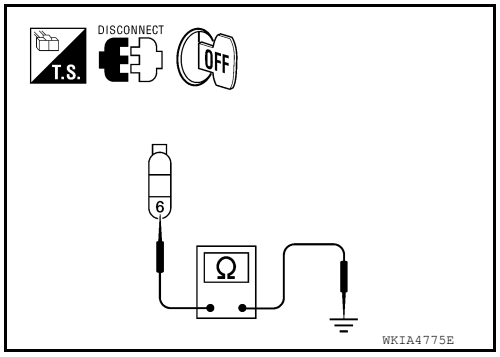
1. Check continuity between the front combination lamp harness connector and ground.

Connector			Terminal	—	Continuity
Without DTRL	Front LH	E11	4	Ground	Yes
	Front RH	E107			
With DTRL	Front LH	E6			
	Front RH	E108			



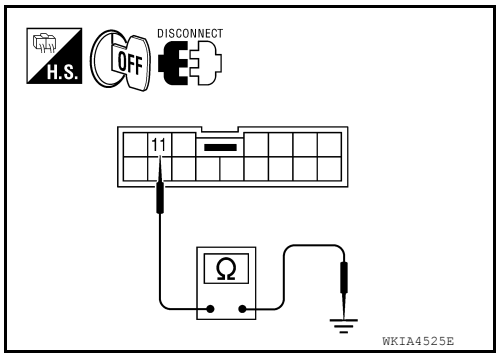
2. Check continuity between the rear combination lamp harness connector and ground.

Connector		Terminal	—	Continuity
Rear LH	B35	6	Ground	Yes
Rear RH	B105			



3. Check continuity between the door mirrors and ground (if equipped with turn signals in the mirrors).

Connector		Terminal	—	Continuity
Door mirror RH	D107	11	Ground	Yes
Door mirror LH	D4			



Are continuity test results as specified?

YES >> Replace the malfunctioning lamp.
NO >> Repair the harnesses or connectors.

OPTICAL SENSOR

Description

INFOID:0000000011288366

The optical sensor converts the outside brightness (lux) to voltage and transmits the optical sensor signal to the BCM.

Component Function Check

INFOID:0000000011288367

1.CHECK OPTICAL SENSOR SIGNAL BY CONSULT

WITH CONSULT
1. Turn the ignition switch ON.
2. Select "OPTICAL SENSOR" of BCM (HEAD LAMP) DATA MONITOR item.
3. Turn the lighting switch to AUTO.
4. With the optical sensor illuminating, check the monitor status.

Monitor item	Condition	Voltage
OPTICAL SENSOR	When illuminating	3.1V or more *
	When shutting off light	0.6V or less

*: Illuminates the optical sensor. The value may be less than the standard value if brightness is weak.

Is the item status normal?

YES >> Optical sensor is normal.
NO >> Refer to EXL-50, "Diagnosis Procedure".

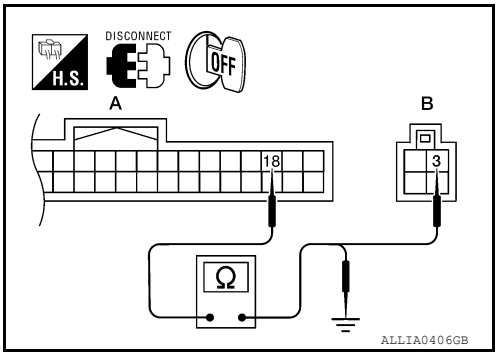
Diagnosis Procedure

INFOID:0000000011288368

Regarding Wiring Diagram information, refer to EXL-81, "Wiring Diagram".

1.CHECK OPTICAL SENSOR GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect BCM connector M18 and optical sensor connector M302.
3. Check continuity between BCM harness connector M18 (A) terminal 18 and optical sensor harness connector M302 (B) terminal 3.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M18	18	M302	3	Yes

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

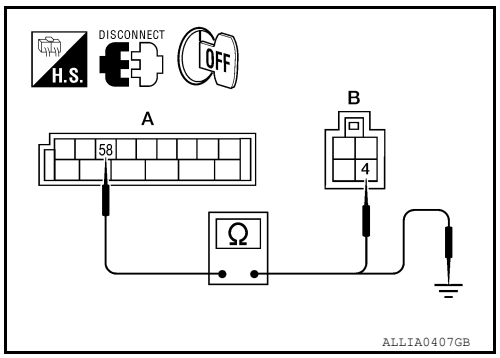
A		—	Continuity
Connector	Terminal		
M18	18	Ground	No

Are continuity test results as specified?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK OPTICAL SENSOR SIGNAL CIRCUIT

1. Check continuity between BCM harness connector M20 (A) terminal 58 and optical sensor harness connector M302 (B) terminal 4.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M20	58	M302	4	Yes

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

A		—	Continuity
Connector	Terminal		
M20	58	Ground	No

Are the continuity test results as specified?

YES >> Replace the optical sensor. Refer to EXL-137, "Removal and Installation".
NO >> Repair harness or connector.

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000011517950

NOTE:
The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs
- Check Intelligent Key relative signal strength
- Confirm vehicle Intelligent Key antenna signal strength
- Test remote keyless entry keyfob relative signal strength

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF or ON	Off
	Ignition switch ACC	On
AIR COND SW	A/C switch OFF	Off
	A/C switch ON	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS RR	Rear right tire air pressure value	kPa, kg/cm^2, psi
AUTO LIGHT SW	Lighting switch OFF	Off
	Lighting switch AUTO	On
BACK DOOR SW	Back door closed	Off
	Back door opened	On
BRAKE SW	Brake pedal released	Off
	Brake pedal applied	On
BUCKLE SW	Seat belt buckle unfastened	Off
	Seat belt buckle fastened	On
BUZZER	Buzzer in combination meter OFF	Off
	Buzzer in combination meter ON	On
CARGO LAMP SW	Cargo lamp switch OFF	Off
	Cargo lamp switch ON	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the LOCK side	On
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the UNLOCK side	On
DOOR SW-AS	Front door RH closed	Off
	Front door RH opened	On
DOOR SW-DR	Front door LH closed	Off
	Front door LH opened	On
DOOR SW-RL	Rear door LH closed	Off
	Rear door LH opened	On

Monitor Item	Condition	Value/Status
DOOR SW-RR	Rear door RH closed	Off
	Rear door RH opened	On
FAN ON SIG	Blower motor fan switch OFF	Off
	Blower motor fan switch ON	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
FR WIPER LOW	Front wiper switch OFF	Off
	Front wiper switch LO	On
FR WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On
FR WIPER INT	Front wiper switch OFF	Off
	Front wiper switch INT	On
FR WIPER STOP	Any position other than front wiper stop position	Off
	Front wiper stop position	On
HAZARD SW	When hazard switch is not pressed	Off
	When hazard switch is pressed	On
HEAD LAMP SW1	Headlamp switch OFF	Off
	Headlamp switch 1st	On
HEAD LAMP SW2	Headlamp switch OFF	Off
	Headlamp switch 1st	On
HI BEAM SW	High beam switch OFF	Off
	High beam switch HI	On
ID REGST FL1	ID registration of front left tire incomplete	YET
	ID registration of front left tire complete	DONE
ID REGST FR1	ID registration of front right tire incomplete	YET
	ID registration of front right tire complete	DONE
ID REGST RL1	ID registration of rear left tire incomplete	YET
	ID registration of rear left tire complete	DONE
ID REGST RR1	ID registration of rear right tire incomplete	YET
	ID registration of rear right tire complete	DONE
IGN ON SW	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
IGN SW CAN	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
I-KEY LOCK[1]	LOCK button of Intelligent Key is not pressed	Off
	LOCK button of Intelligent Key is pressed	On
I-KEY PANIC[1]	PANIC button of Intelligent Key is not pressed	Off
	PANIC button of Intelligent Key is pressed	On
I-KEY PW DWN[1]	UNLOCK button of Intelligent Key is not pressed	Off
	UNLOCK button of Intelligent Key is pressed for greater than 3 seconds and driver's window operating in DOWN direction	On

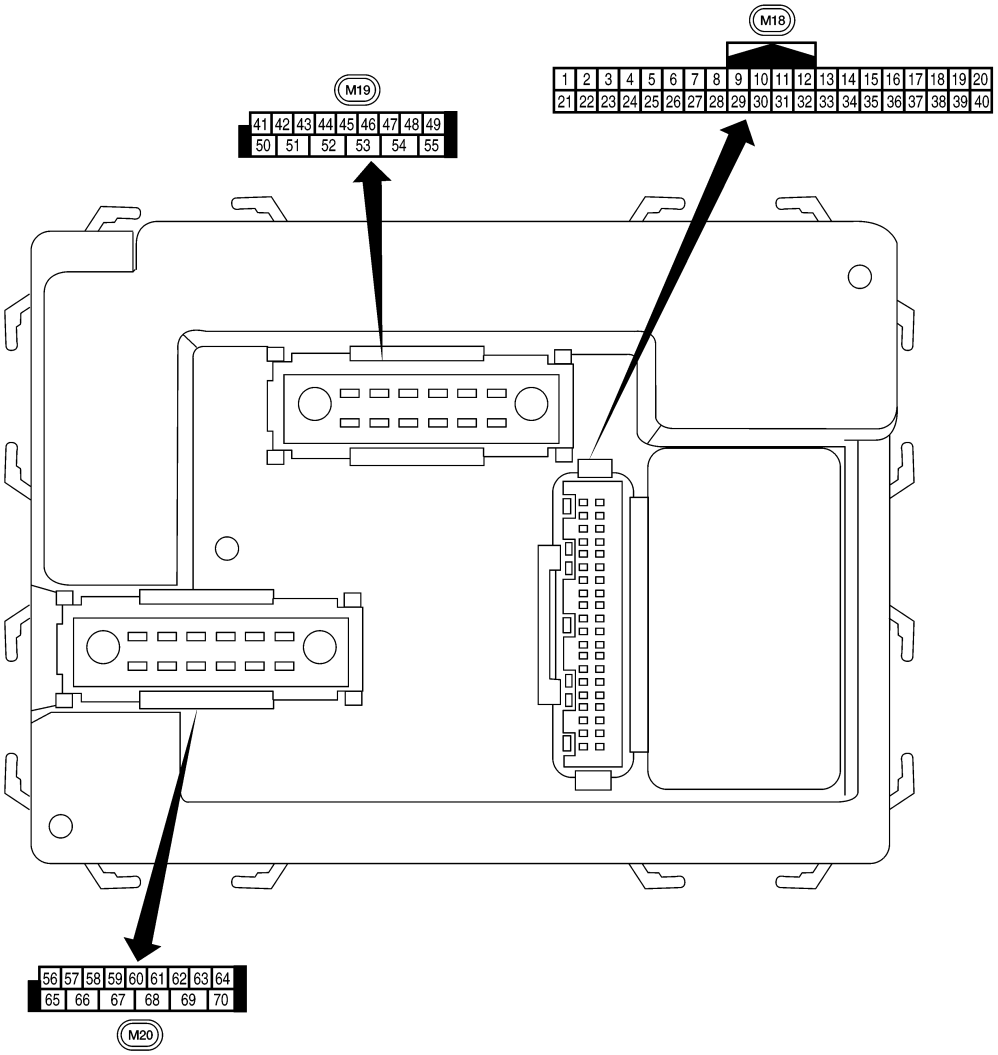
Monitor Item	Condition	Value/Status
I-KEY UNLOCK[1]	UNLOCK button of Intelligent Key is not pressed	Off
	UNLOCK button of Intelligent Key is pressed	On
KEY CYL LK-SW	Door key cylinder LOCK position	On
	Door key cylinder other than LOCK position	Off
KEY CYL UN-SW	Door key cylinder UNLOCK position	On
	Door key cylinder other than UNLOCK position	Off
KEY ON SW	Mechanical key is removed from key cylinder	Off
	Mechanical key is inserted to key cylinder	On
KEYLESS LOCK[2]	LOCK button of key fob is not pressed	Off
	LOCK button of key fob is pressed	On
KEYLESS PANIC[2]	PANIC button of key fob is not pressed	Off
	PANIC button of key fob is pressed	On
KEYLESS UNLOCK[2]	UNLOCK button of key fob is not pressed	Off
	UNLOCK button of key fob is pressed	On
LIGHT SW 1ST	Lighting switch OFF	Off
	Lighting switch 1st	On
OIL PRESS SW	• Ignition switch OFF or ACC • Engine running	Off
	Ignition switch ON	On
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5V
	Dark outside of the vehicle	Close to 0V
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
PUSH SW[1]	Return to ignition switch to LOCK position	Off
	Press ignition switch	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
RR WASHER SW	Rear washer switch OFF	Off
	Rear washer switch ON	On
RR WIPER INT	Rear wiper switch OFF	Off
	Rear wiper switch INT	On
RR WIPER ON	Rear wiper switch OFF	Off
	Rear wiper switch ON	On
RR WIPER STOP	Rear wiper stop position	Off
	Other than rear wiper stop position	On
RR WIPER STP2	Rear wiper stop position	Off
	Other than rear wiper stop position	On
TURN SIGNAL L	Turn signal switch OFF	Off
	Turn signal switch LH	On
TURN SIGNAL R	Turn signal switch OFF	Off
	Turn signal switch RH	On
VEHICLE SPEED	While driving	Equivalent to speedometer reading
WARNING LAMP	Low tire pressure warning lamp in combination meter OFF	Off
	Low tire pressure warning lamp in combination meter ON	On

1: With Intelligent Key

2: With remote keyless entry system

Terminal Layout

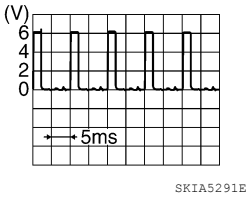
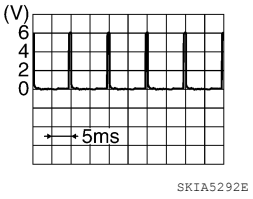
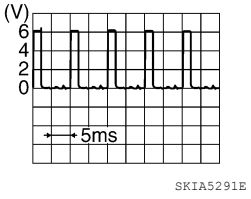
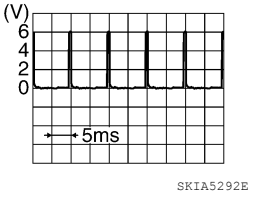
INFOID:0000000011517951

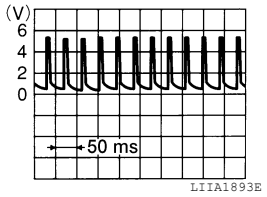
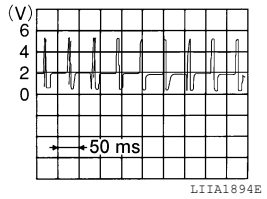
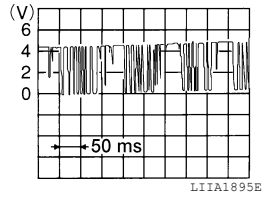
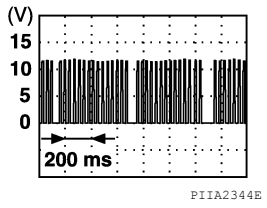


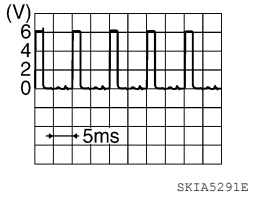
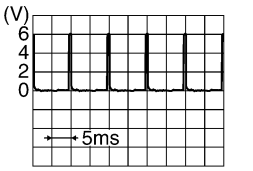
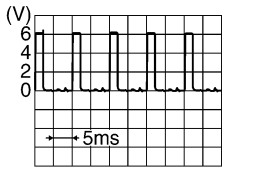
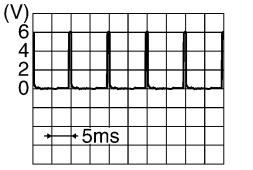
AWMIA1542ZZ

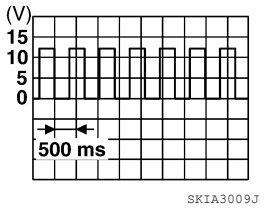
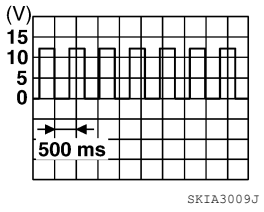
Physical Values

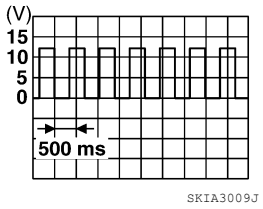
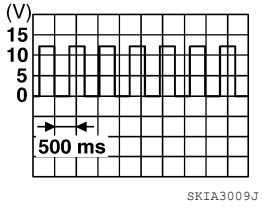
INFOID:0000000011517952

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
1	BR/W	Ignition keyhole illumination	Output	OFF	Door is locked (SW OFF)	Battery voltage
					Door is unlocked (SW ON)	0V
2	SB	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	G/Y	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	Y	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	G/B	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	V	Combination switch input 1				
9	R/G	Stop lamp switch	Input	OFF	Brake pedal depressed	Battery voltage
					Brake pedal released	0V
10	G	Hazard lamp flash	Input	OFF	ON (opening or closing)	0V
					OFF (other than above)	Battery voltage
11	O	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	R/L	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
15	L/W	Tire pressure warning check connector	Input	OFF	—	5V
18	P	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	—	0V

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
19	V/W	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	
20	G/W	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons released)	
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	
21	G	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
22	G	BUS	—	—	Ignition switch ON or power window timer operates	
23	G/O	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
26	Y/L	Rear wiper auto stop switch 2	Input	ON	Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	0V
					Forward sweep (counterclockwise direction)	Fluctuating
					B Position (full counterclockwise stop position)	Battery voltage
					Reverse sweep (clockwise direction)	Fluctuating
27	W/R	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
28	L/R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	W/B	Hazard switch	Input	OFF	ON	0V
					OFF	5V
32	R/G	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	R/Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	L	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
35	O/B	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	R/W	Combination switch output 1				
37[1]	B/R	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage
					Intelligent Key removed	0V
37[2]	B/R	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key removed	0V
38	W/L	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
41	GR/R	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
42	GR	Glass hatch ajar switch	Input	ON	Glass hatch open	0
					Glass hatch closed	Battery

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
43	R/B	Back door switch (without power back door) or back door latch (door ajar switch) (with power back door)	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
44	O	Rear wiper auto stop switch 1	Input	ON	Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	Battery voltage
					Forward sweep (counterclockwise direction)	Fluctuating
					B Position (full counterclockwise stop position)	0V
					Reverse sweep (clockwise direction)	Fluctuating
47	SB	Front door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
48	R/Y	Rear door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
49	R	Cargo lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage
51	Y/B	Trailer turn signal (right)	Output	ON	Turn right ON	
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	
54	Y	Rear wiper output circuit 2	Input	ON	Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	0V
					Forward sweep (counterclockwise direction)	0V
					B Position (full counterclockwise stop position)	Battery voltage
					Reverse sweep (clockwise direction)	Battery voltage
55	SB	Rear wiper output circuit 1	Output	ON	OFF	0
					ON	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
56	R/G	Battery saver output	Output	OFF	10 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	Y/R	Battery power supply	Input	OFF	—	Battery voltage
58	W/R	Optical sensor	Input	ON	When optical sensor is illuminated	3.1V or more
					When optical sensor is not illuminated	0.6V or less
59	G	Front door lock assembly LH actuator (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	G/B	Turn signal (left)	Output	ON	Turn left ON	
61	G/Y	Turn signal (right)	Output	ON	Turn right ON	
62	R/W	Foot lamp LH and RH	Output	OFF	ON (any door open)	0V
					OFF (all doors closed)	Battery voltage
63	L	Interior room/map lamp	Output	OFF	Any door switch: ON (open)	0V
					Any door switch: OFF (closed)	Battery voltage
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66	G/Y	Front door lock actuator RH, rear door lock actuators LH/RH and back door lock actuator (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
67	B	Ground	Input	ON	—	0V
68	W/L	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
69	W/R	Power window power supply	Output	—	—	Battery voltage
70	W/B	Battery power supply	Input	OFF	—	Battery voltage

1: With Intelligent Key system

2: With remote keyless entry system

Fail Safe

INFOID:0000000011517953

Fail-safe index

BCM performs fail-safe control when any DTC listed below is detected.

Display contents of CONSULT	Fail-safe	Cancellation
U1000: CAN COMM CIRCUIT	Inhibit engine cranking	When the BCM re-establishes communication with the other modules.

DTC Inspection Priority Chart

INFOID:0000000011517954

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	• U1000: CAN COMM CIRCUIT
2	• B2190: NATS ANTENNA AMP • B2191: DIFFERENCE OF KEY • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM • B2013: STRG COMM 1 • B2552: INTELLIGENT KEY • B2590: NATS MALFUNCTION
3	• C1729: VHCL SPEED SIG ERR • C1735: IGNITION SIGNAL
4	• C1708: [NO DATA] FL • C1709: [NO DATA] FR • C1710: [NO DATA] RR • C1711: [NO DATA] RL • C1712: [CHECKSUM ERR] FL • C1713: [CHECKSUM ERR] FR • C1714: [CHECKSUM ERR] RR • C1715: [CHECKSUM ERR] RL • C1716: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL • C1720: [CODE ERR] FL • C1721: [CODE ERR] FR • C1722: [CODE ERR] RR • C1723: [CODE ERR] RL • C1724: [BATT VOLT LOW] FL • C1725: [BATT VOLT LOW] FR • C1726: [BATT VOLT LOW] RR • C1727: [BATT VOLT LOW] RL

DTC Index

INFOID:0000000011517955

NOTE:

Details of time display

- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.
- 1 - 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch OFF → ON after returning to the normal condition if the malfunction is detected again.

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	—	—	—	BCS-29
B2013: STRG COMM 1	—	—	—	SEC-30
B2190: NATS ANTENNA AMP	—	—	—	SEC-33 (with I-Key), SEC-143 (without I-Key)
B2191: DIFFERENCE OF KEY	—	—	—	SEC-36 (with I-Key), SEC-146 (without I-Key)
B2192: ID DISCORD BCM-ECM	—	—	—	SEC-37 (with I-Key), SEC-147 (without I-Key)
B2193: CHAIN OF BCM-ECM	—	—	—	SEC-39 (with I-Key), SEC-149 (without I-Key)
B2552: INTELLIGENT KEY	—	—	—	SEC-41
B2590: NATS MALFUNCTION	—	—	—	SEC-42
C1708: [NO DATA] FL	—	—	—	WT-15
C1709: [NO DATA] FR	—	—	—	WT-17
C1710: [NO DATA] RR	—	—	—	WT-17
C1711: [NO DATA] RL	—	—	—	WT-17
C1712: [CHECKSUM ERR] FL	—	—	—	WT-17
C1713: [CHECKSUM ERR] FR	—	—	—	WT-17
C1714: [CHECKSUM ERR] RR	—	—	—	WT-17
C1715: [CHECKSUM ERR] RL	—	—	—	WT-17
C1716: [PRESSDATA ERR] FL	—	—	—	WT-19
C1717: [PRESSDATA ERR] FR	—	—	—	WT-17
C1718: [PRESSDATA ERR] RR	—	—	—	WT-17
C1719: [PRESSDATA ERR] RL	—	—	—	WT-17
C1720: [CODE ERR] FL	—	—	—	WT-17
C1721: [CODE ERR] FR	—	—	—	WT-17
C1722: [CODE ERR] RR	—	—	—	WT-17
C1723: [CODE ERR] RL	—	—	—	WT-17
C1724: [BATT VOLT LOW] FL	—	—	—	WT-17
C1725: [BATT VOLT LOW] FR	—	—	—	WT-17
C1726: [BATT VOLT LOW] RR	—	—	—	WT-17
C1727: [BATT VOLT LOW] RL	—	—	—	WT-17
C1729: VHCL SPEED SIG ERR	—	—	—	WT-21
C1735: IGN_CIRCUIT_OPEN	—	—	—	WT-22

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Reference Value

INFOID:0000000011517956

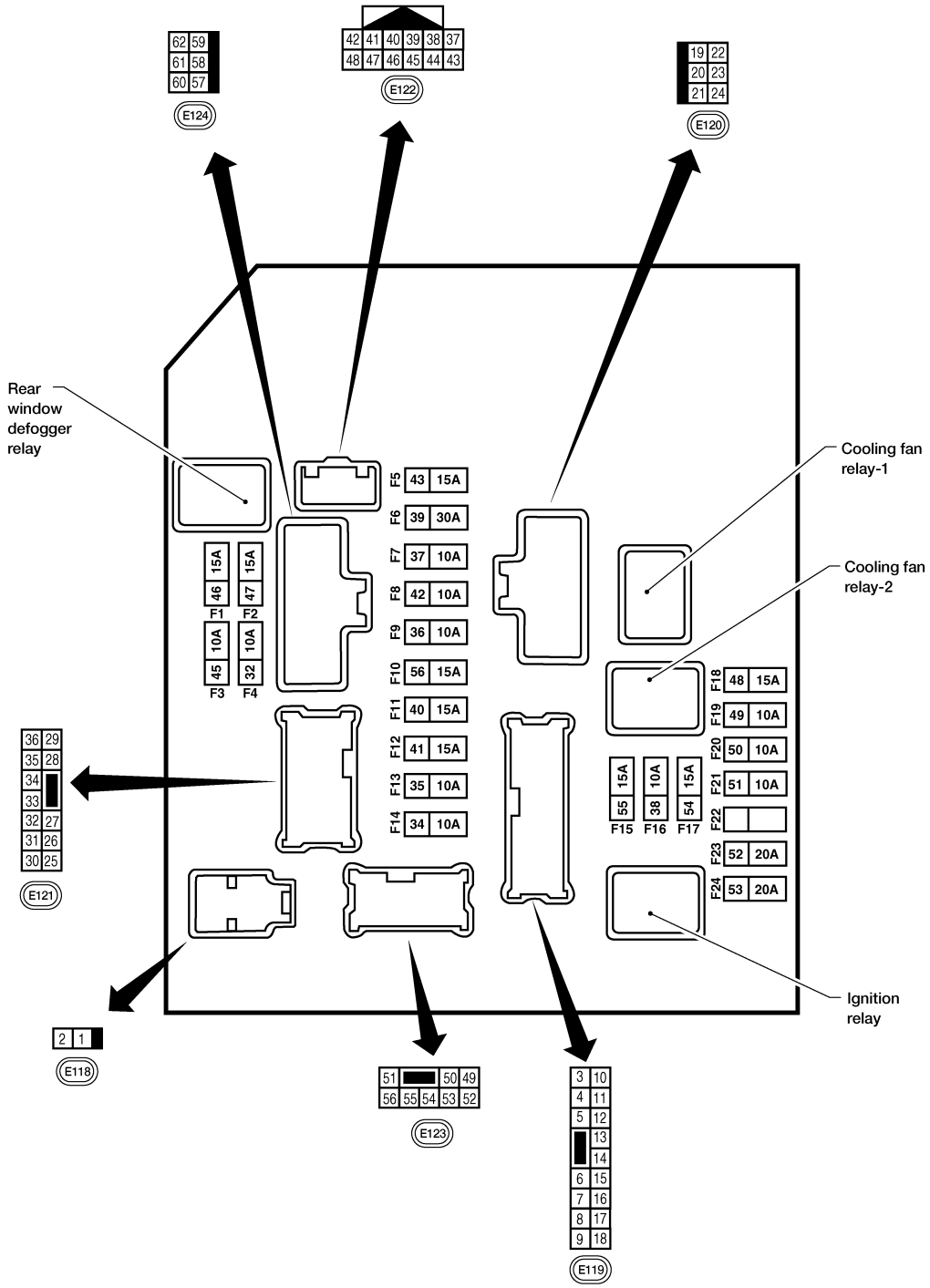
VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition		Value/Status
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	1, 2, 3, 4
AC COMP REQ	A/C switch OFF		Off
	A/C switch ON		On
TAIL&CLR REQ	Lighting switch OFF		Off
	Lighting switch 1ST, 2ND, HI or AUTO (Light is illuminated)		On
HL LO REQ	Lighting switch OFF		Off
	Lighting switch 2ND HI or AUTO (Light is illuminated)		On
HL HI REQ	Lighting switch OFF		Off
	Lighting switch HI		On
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	Front fog lamp switch OFF	Off
		• Front fog lamp switch ON • Daytime light activated (Canada only)	On
FR WIP REQ	Ignition switch ON	Front wiper switch OFF	Stop
		Front wiper switch INT	1LOW
		Front wiper switch LO	Low
		Front wiper switch HI	Hi
WIP AUTO STOP	Ignition switch ON	Front wiper stop position	STOP P
		Any position other than front wiper stop position	ACT P
WIP PROT	Ignition switch ON	Front wiper operates normally	Off
		Front wiper stops at fail-safe operation	BLOCK
ST RLY REQ	Ignition switch OFF or ACC		Off
	Ignition switch START		On
IGN RLY	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
RR DEF REQ	Rear defogger switch OFF		Off
	Rear defogger switch ON		On
OIL P SW	Ignition switch OFF, ACC or engine running		Open
	Ignition switch ON		Close
DTRL REQ	Not operated		Off
	Daytime Running Lights ON		On
THFT HRN REQ	Not operated		Off
	• Panic alarm is activated • Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM		On

Monitor Item	Condition	Value/Status
HORN CHIRP	Not operated	Off
	Door locking with keyfob or Intelligent Key (if equipped) (horn chirp mode)	On

Terminal Layout

INFOID:0000000011517957



AWMIA1631GB

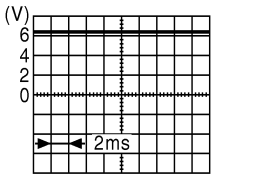
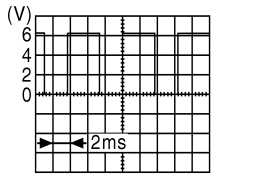
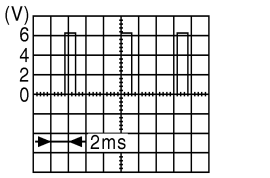
NOTE:
Numbers preceded by an "F" represent the fuse numbers imprinted on the IPDM E/R. The other numbers represent the fuse numbers as they appear in the wiring diagrams.

Physical Values

INFOID:0000000011517958

PHYSICAL VALUES

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value (Approx.)
				Ignition switch	Operation or condition	
1	B/Y	Battery power supply	Input	OFF	—	Battery voltage
2	R	Battery power supply	Input	OFF	—	Battery voltage
3	BR	ECM relay	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
4	W/L	ECM relay	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
6	L	Throttle control motor relay	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
7	W/B	ECM relay control	Input	—	Ignition switch ON or START	0V
					Ignition switch OFF or ACC	Battery voltage
8	R/B	Fuse 54	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
10	G	Fuse 45 (Canada only)	Output	ON	Daytime light system active	0V
					Daytime light system inactive	Battery voltage
11	Y/B	A/C compressor	Output	ON or START	A/C switch ON or defrost A/C switch	Battery voltage
					A/C switch OFF or defrost A/C switch	0V
12	L/W	Ignition switch supplied power	Input	—	OFF or ACC	0V
					ON or START	Battery voltage
13	B/Y	Fuel pump relay	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
14	Y/R	Fuse 49	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
15	LG/B	Fuse 50	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
16	G	Fuse 51	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
17	W	Fuse 55	Output	—	Ignition switch ON or START	Battery voltage
					Ignition switch OFF or ACC	0V
19	W/R	Starter motor	Output	START	—	Battery voltage
21	BR	Ignition switch supplied power	Input	—	OFF or ACC	0V
					START	Battery voltage
22	G	Battery power supply	Output	OFF	—	Battery voltage
23	GR/W	Door mirror defogger output signal	Output	—	When rear defogger switch is ON	Battery voltage
					When rear defogger switch is OFF	0V

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition			Reference value (Approx.)
				Ignition switch	Operation or condition		
24	L	Cooling fan relay	Output	—	Conditions correct for cooling fan operation		Battery voltage
					Conditions not correct for cooling fan operation		0V
27	W/B	Fuse 38	Output	—	Ignition switch ON or START		Battery voltage
					Ignition switch OFF or ACC		0V
30	W	Fuse 53	Output	—	Ignition switch ON or START		Battery voltage
					Ignition switch OFF or ACC		0V
32	L	Wiper low speed signal	Output	ON or START	Wiper switch	OFF	0V
						LO or INT	Battery voltage
35	L/B	Wiper high speed signal	Output	ON or START	Wiper switch	OFF, LO, INT	0V
						HI	Battery voltage
37	Y	Power generation command signal	Output	—	Ignition switch ON		 JPMIA0001GB 6.3 V
					40% is set on "Active test," "ALTERNATOR DUTY" of "ENGINE"		 JPMIA0002GB 3.8 V
					40% is set on "Active test," "ALTERNATOR DUTY" of "ENGINE"		 JPMIA0003GB 1.4 V
38	B	Ground	Input	—	—		0V
39	L	CAN-H	—	ON	—		—
40	P	CAN-L	—	ON	—		—
42	GR	Oil pressure switch	Input	—	Engine running		Battery voltage
					Engine stopped		0V
43	L/Y	Wiper auto stop signal	Input	ON or START	Wiper switch	OFF, LO, INT	Battery voltage
44	BR	Daytime light relay control (Canada only)	Input	ON	Daytime light system active		0V
					Daytime light system inactive		Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition			Reference value (Approx.)
				Ignition switch	Operation or condition		
45	G/W	Horn relay control	Input	ON	When door locks are operated using keyfob or Intelligent Key (if equipped) (OFF → ON)*		Battery voltage → 0V
46	GR	Fuel pump relay control	Input	—	Ignition switch ON or START		0V
					Ignition switch OFF or ACC		Battery voltage
47	O	Throttle control motor relay control	Input	—	Ignition switch ON or START		0V
					Ignition switch OFF or ACC		Battery voltage
48	B/R	Starter relay (inhibit switch)	Input	ON or START	Selector lever in "P" or "N"		0V
					Selector lever any other position		Battery voltage
49	R/L	Trailer tow relay Illumination	Output	ON	Lighting switch must be in the 1st position	OFF	0V
						ON	Battery voltage
50	W/R	Front fog lamp (LH)	Output	ON or START	Lighting switch must be in the 2nd position (LOW beam is ON) and the front fog lamp switch	OFF	0V
						ON	Battery voltage
51	W/R	Front fog lamp (RH)	Output	ON or START	Lighting switch must be in the 2nd position (LOW beam is ON) and the front fog lamp switch	OFF	0V
						ON	Battery voltage
52	L	LH low beam headlamp	Output	—	Lighting switch in 2nd position		Battery voltage
54	R/Y	RH low beam headlamp	Output	—	Lighting switch in 2nd position		Battery voltage
55	G	LH high beam headlamp	Output	—	Lighting switch in 2nd position and placed in HIGH or PASS position		Battery voltage
56	Y (With DTRL)	RH high beam headlamp	Output	—	Lighting switch in 2nd position and placed in HIGH or PASS position		Battery voltage
56	L/W (Without DTRL)	RH high beam headlamp	Output	—	Lighting switch in 2nd position and placed in HIGH or PASS position		Battery voltage
57	R/L	Parking, license, and tail lamp	Output	ON	Lighting switch 1st position	OFF	0V
						ON	Battery voltage
59	B	Ground	Input	—	—		0V
60	B	Rear window defogger relay	Output	ON or START	Rear defogger switch ON		Battery voltage
					Rear defogger switch OFF		0V
61	BR	Fuse 32	Output	OFF	—		Battery voltage

*: When horn reminder is ON

Fail Safe

INFOID:0000000011517959

CAN COMMUNICATION CONTROL

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

Control part	Fail-safe in operation
Cooling fan	• Turns ON the cooling fan relay when the ignition switch is turned ON • Turns OFF the cooling fan relay when the ignition switch is turned OFF

If No CAN Communication Is Available With BCM

Control part	Fail-safe in operation
Headlamp	• Turns ON the headlamp low relay when the ignition switch is turned ON • Turns OFF the headlamp low relay when the ignition switch is turned OFF • Headlamp high relay OFF
• Parking lamps • License plate lamps • Tail lamps	• Turns ON the tail lamp relay when the ignition switch is turned ON • Turns OFF the tail lamp relay when the ignition switch is turned OFF
Front wiper	• The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. • The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.
Rear window defogger	Rear window defogger relay OFF
A/C compressor	A/C relay OFF
Front fog lamps (if equipped)	Front fog lamp relay OFF

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

Ignition switch	Ignition relay	Tail lamp relay
ON	ON	—
OFF	OFF	—

NOTE:

The tail lamp turns OFF when the ignition switch is turned ON.

FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper auto stop signal.
When a front wiper auto stop signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 seconds activation and 20 seconds stop five times.

Ignition switch	Front wiper switch	Auto stop signal
ON	OFF	Front wiper stop position signal cannot be input 10 seconds.
	ON	The signal does not change for 10 seconds.

NOTE:

This operation status can be confirmed on the IPDM E/R “DATA MONITOR” that displays “Block” for the item “WIP PROT” while the wiper is stopped.

STARTER MOTOR PROTECTION FUNCTION

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

DTC Index

INFOID:0000000011517960

CONSULT display	Fail-safe	TIME[NOTE]		Refer to
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	×	CRNT	1 – 39	PCS-16

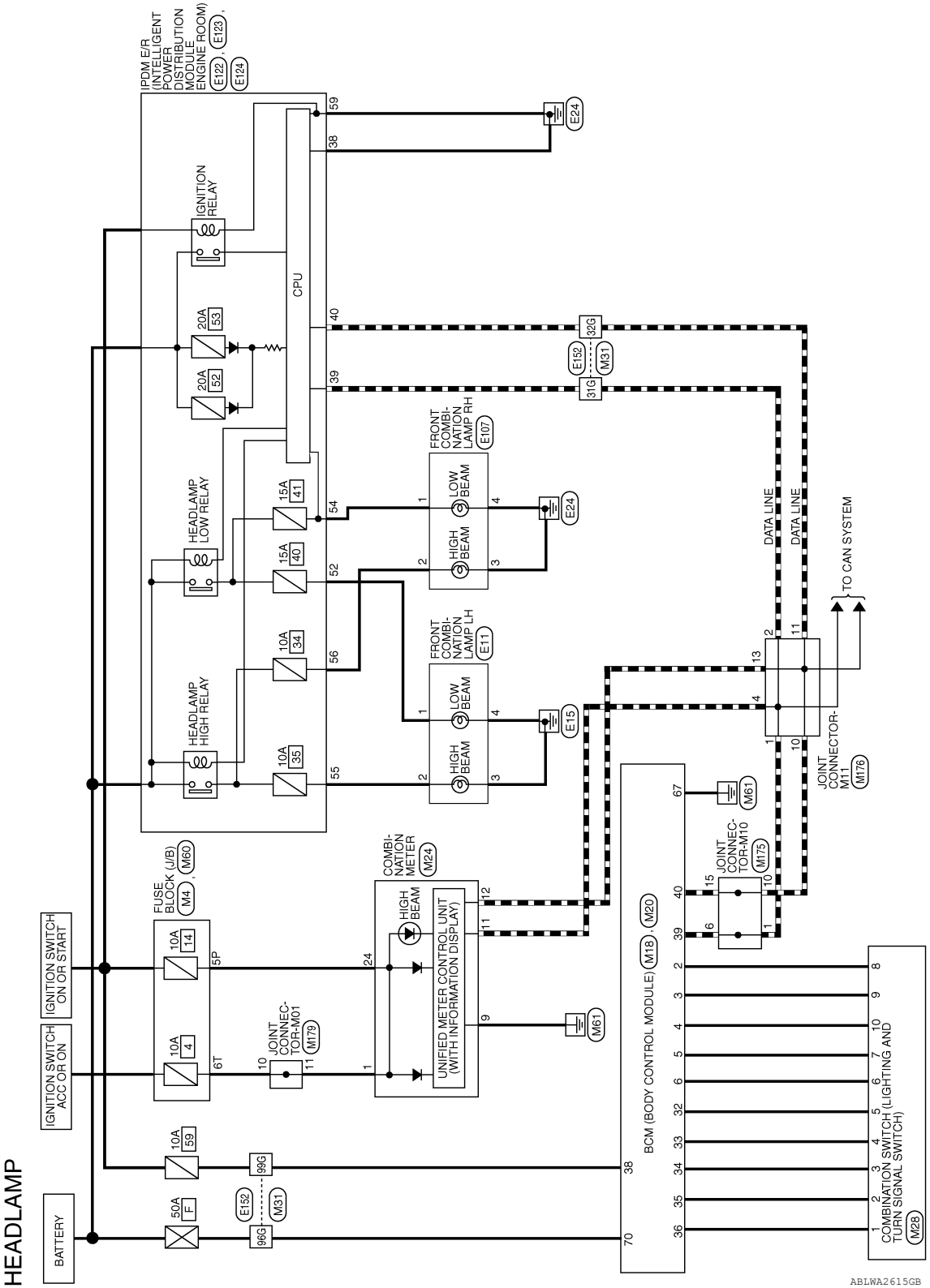
NOTE:
The details of TIME display are as follows.
- CRNT: The malfunctions that are detected now
- 1 - 39: The number is indicated when it is normal at present and a malfunction was detected in the past. It increases like 0 → 1 → 2 · · · 38 → 39 after returning to the normal condition whenever IGN OFF → ON. It is fixed to 39 until the self-diagnosis results are erased if it is over 39. It returns to 0 when a malfunction is detected again in the process.

WIRING DIAGRAM

HEADLAMP

Wiring Diagram

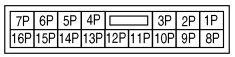
INFOID:0000000011288380



HEADLAMP CONNECTORS

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

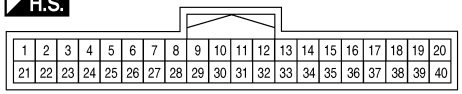
H.S.



Terminal No.	Color of Wire	Signal Name
5P	O/L	–

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

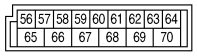
H.S.



Terminal No.	Color of Wire	Signal Name
2	SB	INPUT 5
3	G/Y	INPUT 4
4	Y	INPUT 3
5	G/B	INPUT 2
6	V	INPUT 1
32	R/G	OUTPUT 5
33	R/Y	OUTPUT 4
34	L	OUTPUT 3
35	O/B	OUTPUT 2
36	R/W	OUTPUT 1
38	W/L	IGN SW
39	L	CAN-H
40	P	CAN-L

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

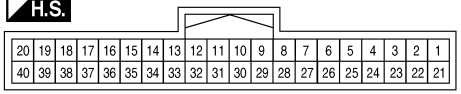
H.S.



Terminal No.	Color of Wire	Signal Name
67	B	GND (POWER)
70	W/B	BAT (F/L)

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

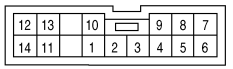
H.S.



Terminal No.	Color of Wire	Signal Name
1	O	ACCESSORY
9	B	GND
11	L	CAN-H
12	P	CAN-L
24	O/L	RUN/START

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	R/W	–
2	O/B	–
3	L	–
4	R/Y	–
5	R/G	–
6	V	–
7	G/B	–
8	SB	–
9	G/Y	–
10	Y	–

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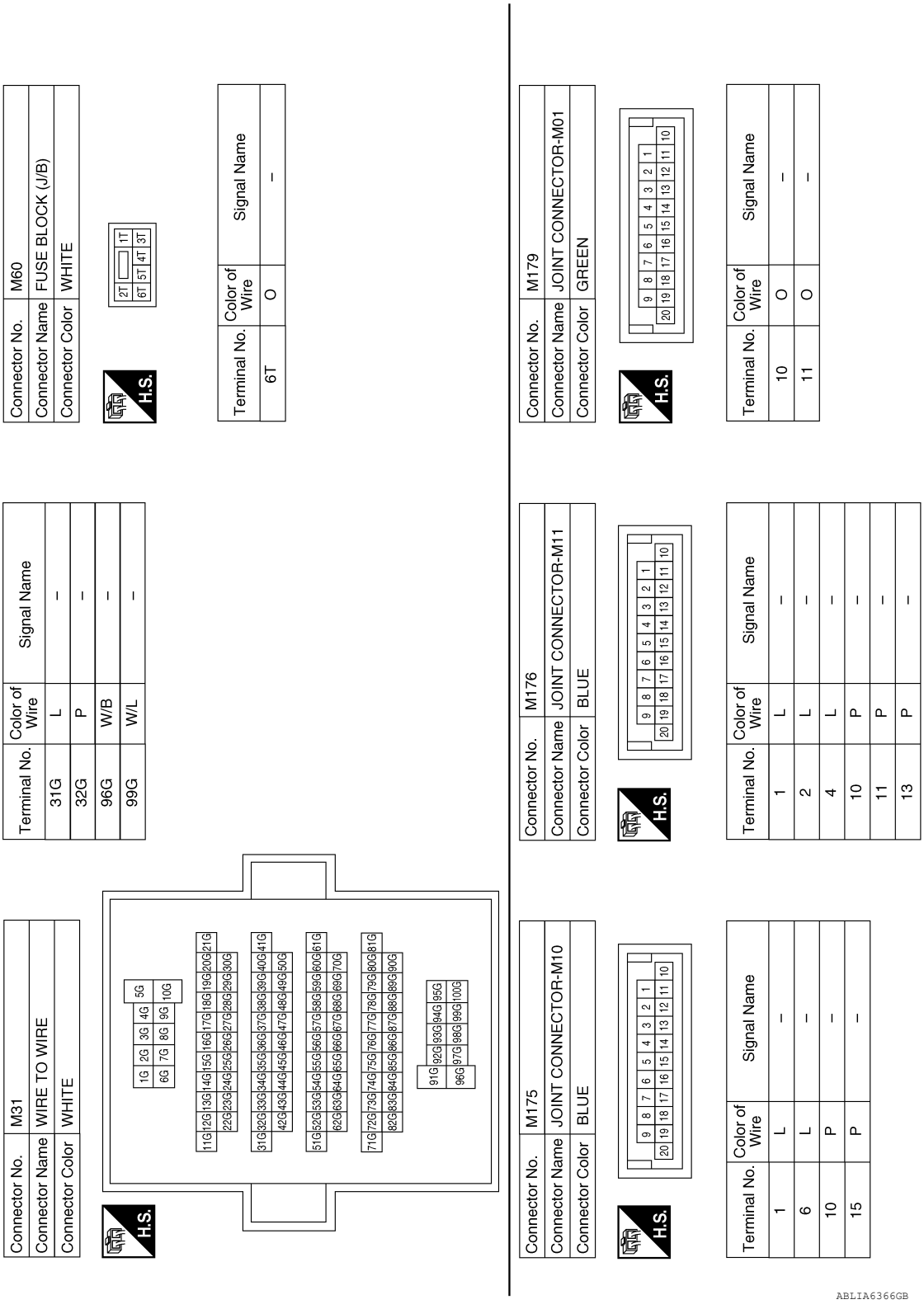

Connector No. M31
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1G 2G 3G 4G 5G
6G 7G 8G 9G 10G
11G 12G 13G 14G 15G 16G 17G 18G 19G 20G 21G
22G 23G 24G 25G 26G 27G 28G 29G 30G
31G 32G 33G 34G 35G 36G 37G 38G 39G 40G 41G
42G 43G 44G 45G 46G 47G 48G 49G 50G
51G 52G 53G 54G 55G 56G 57G 58G 59G 60G 61G
62G 63G 64G 65G 66G 67G 68G 69G 70G
71G 72G 73G 74G 75G 76G 77G 78G 79G 80G 81G
82G 83G 84G 85G 86G 87G 88G 89G 90G
91G 92G 93G 94G 95G
96G 97G 98G 99G 100G
Terminal No. Color of Wire Signal Name
31G L –
32G P –
96G W/B –
99G W/L –
Connector No. M60
Connector Name FUSE BLOCK (J/B)
Connector Color WHITE
H.S.
2T 1T
6T 5T 4T 3T
Terminal No. Color of Wire Signal Name
6T O –
Connector No. M175
Connector Name JOINT CONNECTOR-M10
Connector Color BLUE
H.S.
9 8 7 6 5 4 3 2 1
20 19 18 17 16 15 14 13 12 11 10
Terminal No. Color of Wire Signal Name
1 L –
6 L –
10 P –
15 P –
Connector No. M176
Connector Name JOINT CONNECTOR-M11
Connector Color BLUE
H.S.
9 8 7 6 5 4 3 2 1
20 19 18 17 16 15 14 13 12 11 10
Terminal No. Color of Wire Signal Name
1 L –
2 L –
4 L –
10 P –
11 P –
13 P –
Connector No. M179
Connector Name JOINT CONNECTOR-M01
Connector Color GREEN
H.S.
9 8 7 6 5 4 3 2 1
20 19 18 17 16 15 14 13 12 11 10
Terminal No. Color of Wire Signal Name
10 O –
11 O –
ABLIA6366GB

Connector No.	E11
Connector Name	FRONT COMBINATION LAMP LH (WITHOUT DAYTIME LIGHT SYSTEM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	G	–
3	B	–
4	B	–

Connector No.	E107
Connector Name	FRONT COMBINATION LAMP RH (WITHOUT DAYTIME LIGHT SYSTEM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	R/Y	–
2	L/W	–
3	B	–
4	B	–

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L

Connector No.	E123
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
52	L	H/LAMP LO LH
54	R/Y	H/LAMP LO RH
55	G	H/LAMP HI LH
56	L/W	H/LAMP HI RH (WITHOUT DAYTIME LIGHT SYSTEM)

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

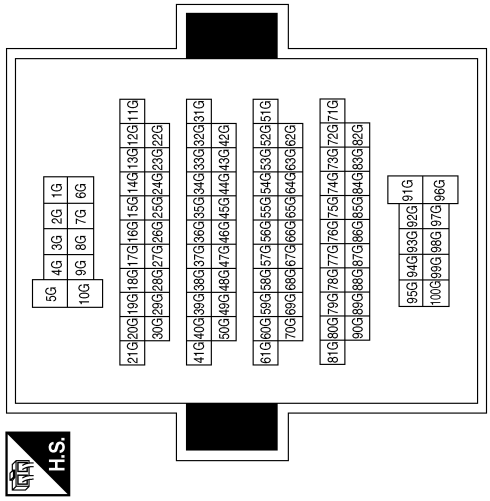
H.S.

Terminal No.	Color of Wire	Signal Name
59	B	GND (POWER)

ABLIA6367GB

Terminal No.	Color of Wire	Signal Name
31G	L	–
32G	P	–
96G	W/B	–
99G	L/W	–

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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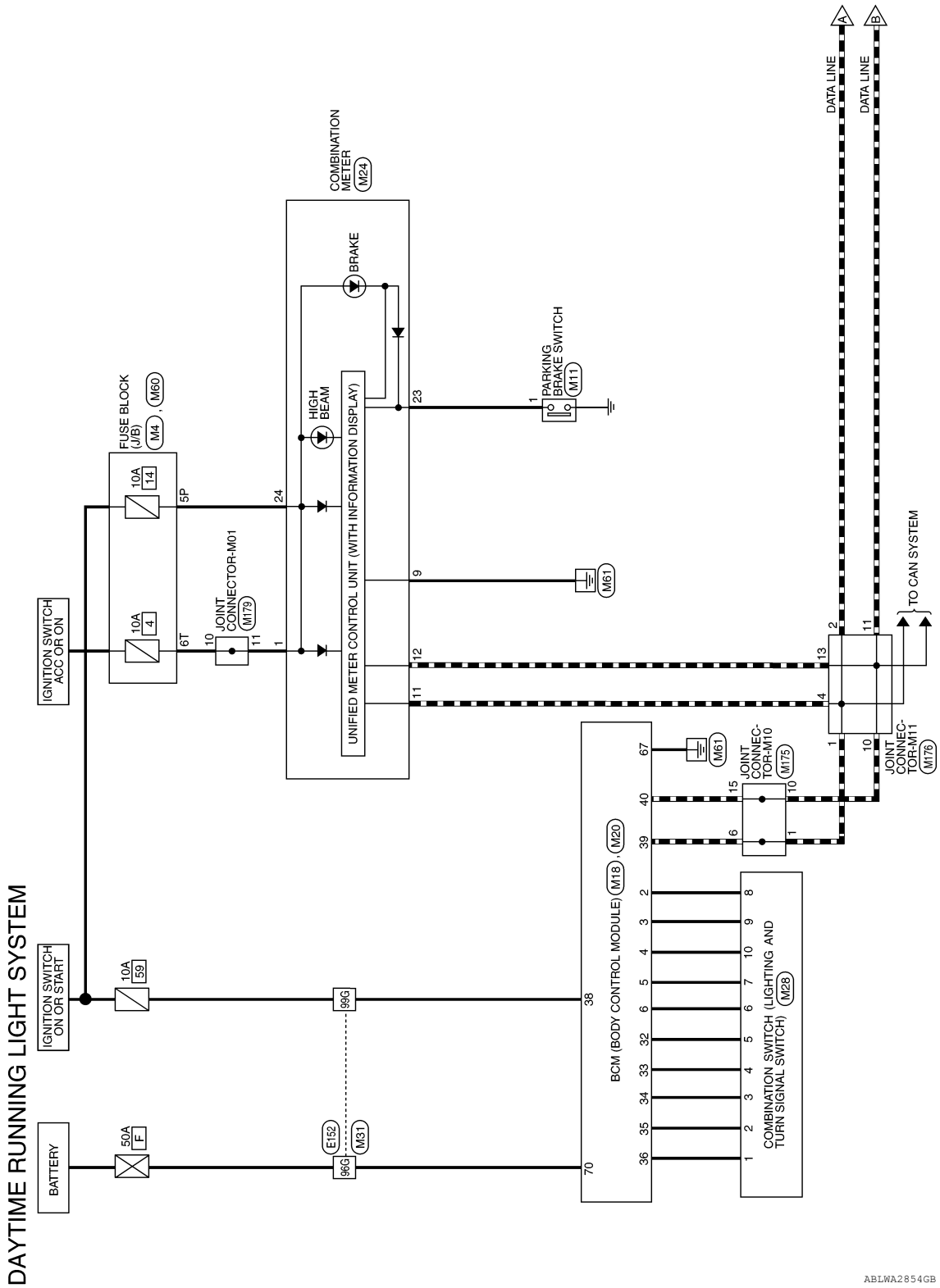
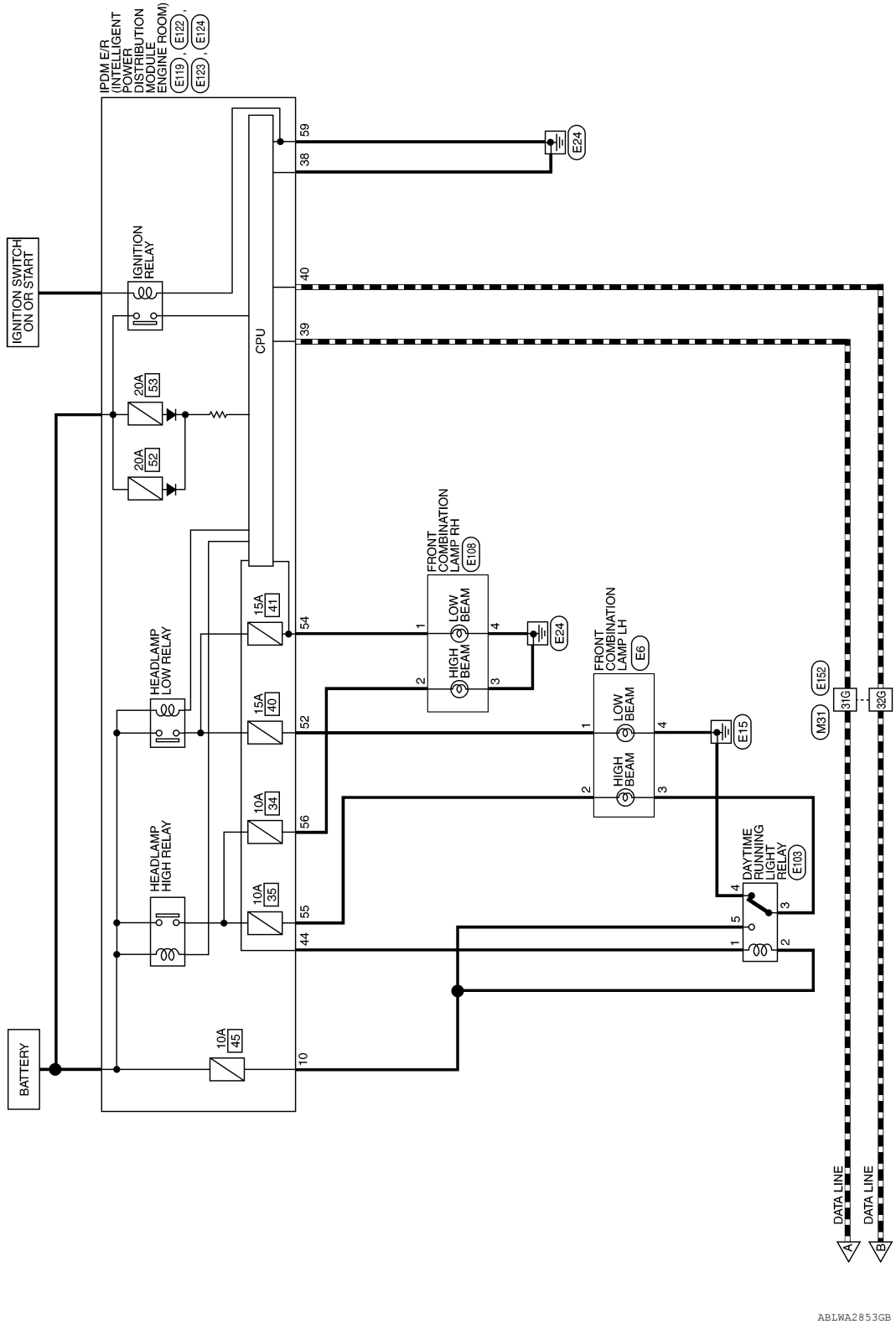
DAYTIME RUNNING LIGHT SYSTEM

Wiring Diagram

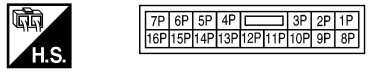
INFOID:0000000011288381




IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E119, E122, E123, E124
CPU
IGNITION SWITCH ON OR START
IGNITION RELAY
20A 53
20A 52
15A 41
15A 40
10A 34
10A 35
10A 45
HEADLAMP LOW RELAY
HEADLAMP HIGH RELAY
BATTERY
59
38
40
39
54
52
56
55
44
10
E24
FRONT COMBINATION LAMP RH E108
FRONT COMBINATION LAMP LH E6
LOW BEAM
HIGH BEAM
E15
DAYTIME RUNNING LIGHT RELAY E103
E152
M31
31G
32G
DATA LINE
A
B
ABLWA2853GB

DAYTIME RUNNING LIGHT SYSTEM CONNECTORS

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

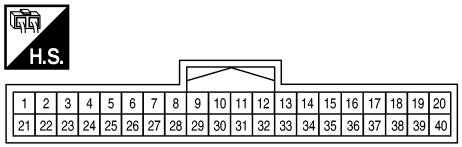


Terminal No.	Color of Wire	Signal Name
5P	O/L	–

Connector No.	M11
Connector Name	PARKING BRAKE SWITCH
Connector Color	BLACK

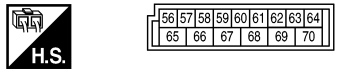
Terminal No.	Color of Wire	Signal Name
1	G	–

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	SB	INPUT 5
3	G/Y	INPUT 4
4	Y	INPUT 3
5	G/B	INPUT 2
6	V	INPUT 1
32	R/G	OUTPUT 5
33	R/Y	OUTPUT 4
34	L	OUTPUT 3
35	O/B	OUTPUT 2
36	R/W	OUTPUT 1
38	W/L	IGN SW
39	L	CAN-H
40	P	CAN-L

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
67	B	GND (POWER)
70	W/B	BAT (F/L)

ABLIA6949GB

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
1	O	ACCESSORY
9	B	GND
11	L	CAN-H
12	P	CAN-L
23	G	PARK BRAKE
24	O/L	RUN/START

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	R/W	–
2	O/B	–
3	L	–
4	R/Y	–
5	R/G	–

Terminal No.	Color of Wire	Signal Name
6	V	–
7	G/B	–
8	SB	–
9	G/Y	–
10	Y	–

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1G	2G	3G	4G	5G
6G	7G	8G	9G	10G

11G	12G	13G	14G	15G	16G	17G	18G	19G	20G	21G
22G	23G	24G	25G	26G	27G	28G	29G	30G		

31G	32G	33G	34G	35G	36G	37G	38G	39G	40G	41G
42G	43G	44G	45G	46G	47G	48G	49G	50G		

51G	52G	53G	54G	55G	56G	57G	58G	59G	60G	61G
62G	63G	64G	65G	66G	67G	68G	69G	70G		

71G	72G	73G	74G	75G	76G	77G	78G	79G	80G	81G
82G	83G	84G	85G	86G	87G	88G	89G	90G		

91G	92G	93G	94G	95G
96G	97G	98G	99G	100G

Terminal No.	Color of Wire	Signal Name
31G	L	–
32G	P	–
96G	W/B	–
99G	W/L	–

Connector No.	M60
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

2T	1T
6T	5T	4T	3T

Terminal No.	Color of Wire	Signal Name
6T	O	–

ABLIA4121GB

Connector No.	M175
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
6	L	–
10	P	–
15	P	–

Connector No.	M176
Connector Name	JOINT CONNECTOR-M11
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
4	L	–
10	P	–
11	P	–
13	P	–

Connector No.	M179
Connector Name	JOINT CONNECTOR-M01
Connector Color	GREEN

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	O	–
11	O	–

Connector No.	E6
Connector Name	FRONT COMBINATION LAMP LH (WITH DAYTIME LIGHT SYSTEM)
Connector Color	BLACK

H.S.

1	2	3
4	5	6

Terminal No.	Color of Wire	Signal Name
1	L	–
2	G	–
3	Y/G	–
4	B	–

Connector No.	E103
Connector Name	DAYTIME RUNNING LIGHT RELAY
Connector Color	BLACK

H.S.

3		
	5	
2	4	1

Terminal No.	Color of Wire	Signal Name
1	BR	–
2	G	–
3	Y/G	–
4	B	–
5	G	–

Connector No.	E108
Connector Name	FRONT COMBINATION LAMP RH (WITH DAYTIME LIGHT SYSTEM)
Connector Color	BLACK

H.S.

1	2	3
4	5	6

Terminal No.	Color of Wire	Signal Name
1	R/Y	–
2	Y	–
3	B	–
4	B	–

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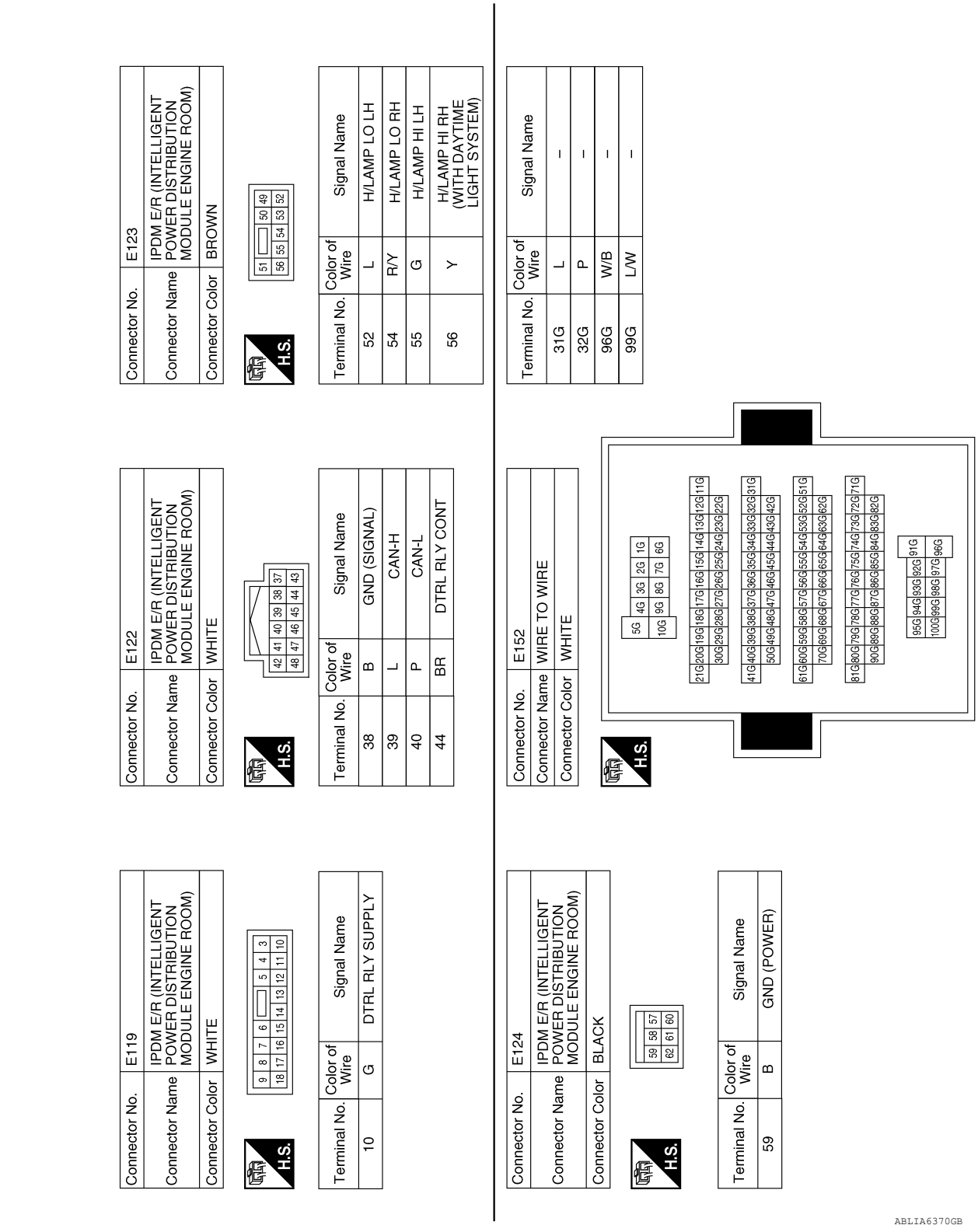
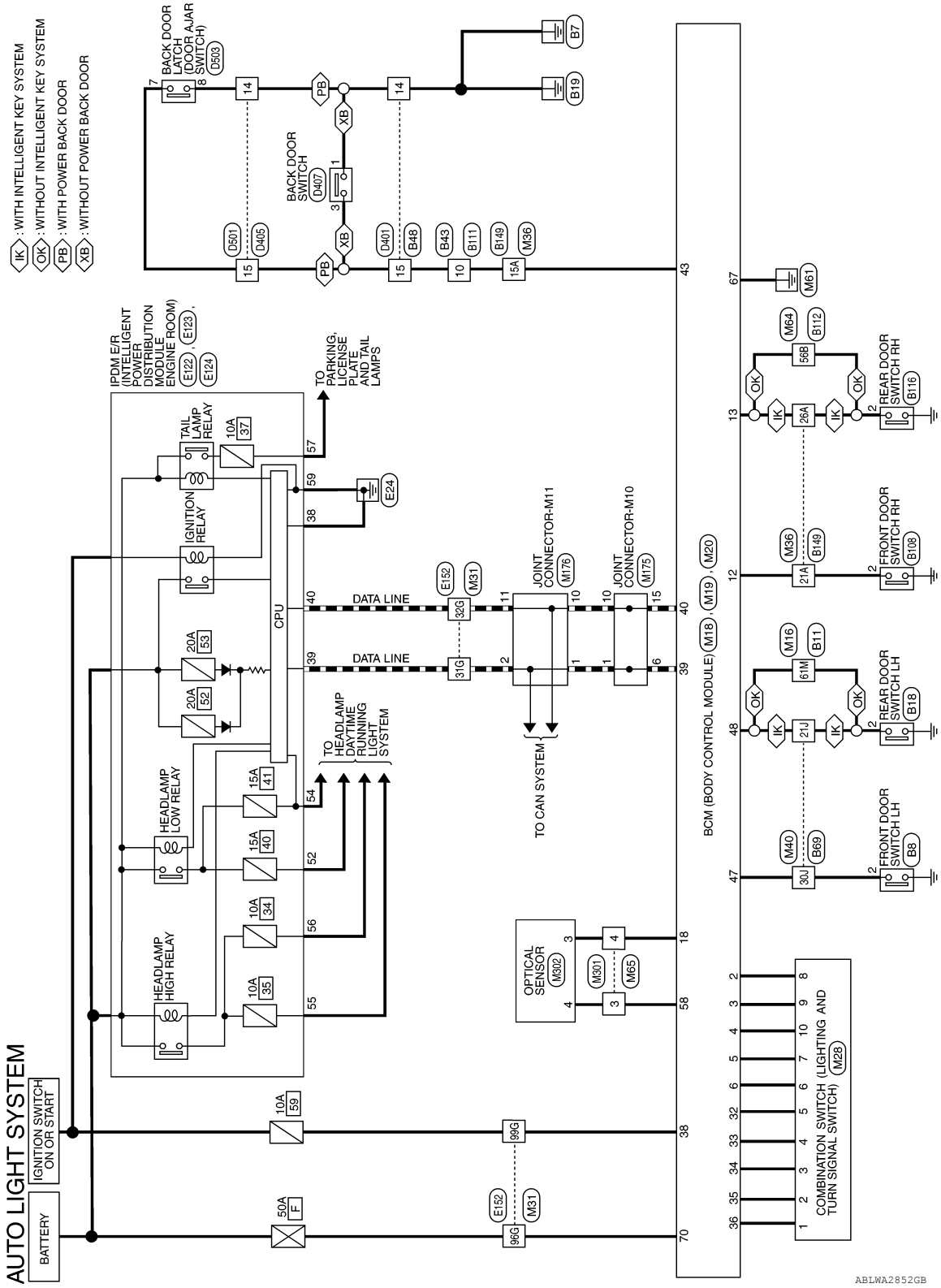

Connector No. E119
Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE
H.S.
9 8 7 6 5 4 3
18 17 16 15 14 13 12 11 10
Terminal No. Color of Wire Signal Name
10 G DTRL RLY SUPPLY
Connector No. E122
Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE
H.S.
42 41 40 39 38 37
48 47 46 45 44 43
Terminal No. Color of Wire Signal Name
38 B GND (SIGNAL)
39 L CAN-H
40 P CAN-L
44 BR DTRL RLY CONT
Connector No. E123
Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color BROWN
H.S.
51 50 49
56 55 54 53 52
Terminal No. Color of Wire Signal Name
52 L H/LAMP LO LH
54 R/Y H/LAMP LO RH
55 G H/LAMP HI LH
56 Y H/LAMP HI RH (WITH DAYTIME LIGHT SYSTEM)
Connector No. E124
Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color BLACK
H.S.
59 58 57
62 61 60
Terminal No. Color of Wire Signal Name
59 B GND (POWER)
Connector No. E152
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
5G 4G 3G 2G 1G
10G 9G 8G 7G 6G
21G 20G 19G 18G 17G 16G 15G 14G 13G 12G 11G
30G 29G 28G 27G 26G 25G 24G 23G 22G
41G 40G 39G 38G 37G 36G 35G 34G 33G 32G 31G
50G 49G 48G 47G 46G 45G 44G 43G 42G
61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G
70G 69G 68G 67G 66G 65G 64G 63G 62G
81G 80G 79G 78G 77G 76G 75G 74G 73G 72G 71G
90G 89G 88G 87G 86G 85G 84G 83G 82G
95G 94G 93G 92G 91G
100G 99G 98G 97G 96G
Terminal No. Color of Wire Signal Name
31G L –
32G P –
96G W/B –
99G L/W –
ABLIA6370GB

AUTO LIGHT SYSTEM

Wiring Diagram

INFOID:0000000011288382



AUTO LIGHT SYSTEM CONNECTORS

Connector No.	M16
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

5M	4M	3M	2M	1M
	9M	8M	7M	6M
10M				

21M	20M	19M	18M	17M	16M	15M	14M	13M	12M	11M
30M	29M	28M	27M	26M	25M	24M	23M	22M		

41M	40M	39M	38M	37M	36M	35M	34M	33M	32M	31M
50M	49M	48M	47M	46M	45M	44M	43M	42M		

61M	60M	59M	58M	57M	56M	55M	54M	53M	52M	51M
70M	69M	68M	67M	66M	65M	64M	63M	62M		

75M	74M	73M	72M	71M
80M	79M	78M	77M	76M

Terminal No.	Color of Wire	Signal Name
61M	R/Y	–

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
2	SB	INPUT 5
3	G/Y	INPUT 4
4	Y	INPUT 3
5	G/B	INPUT 2
6	V	INPUT 1
12	R/L	DOOR SW (AS)
13	GR	DOOR SW (RR)
18	P	KEYLESS AND AUTO LIGHT SENSOR GND

Terminal No.	Color of Wire	Signal Name
32	R/G	OUTPUT 5
33	R/Y	OUTPUT 4
34	L	OUTPUT 3
35	O/B	OUTPUT 2
36	R/W	OUTPUT 1
38	W/L	IGN SW
39	L	CAN-H
40	P	CAN-L

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

41	42	43	44	45	46	47	48	49
50	51	52	53	54	55			

Terminal No.	Color of Wire	Signal Name
43	R/B	BACK DOOR SW
47	SB	DOOR SW (DR)
48	R/Y	DOOR SW (RL)

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

56	57	58	59	60	61	62	63	64
65	66	67	68	69	70			

Terminal No.	Color of Wire	Signal Name
58	W/R	AUTO LIGHT SENSOR INPUT 2
67	B	GND (POWER)
70	W/B	BAT (F/L)

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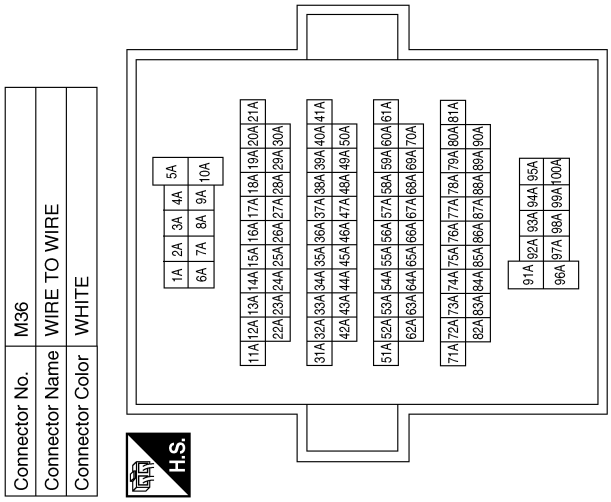
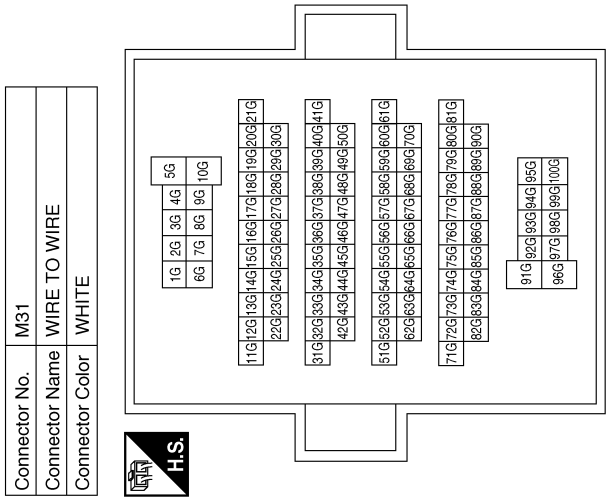
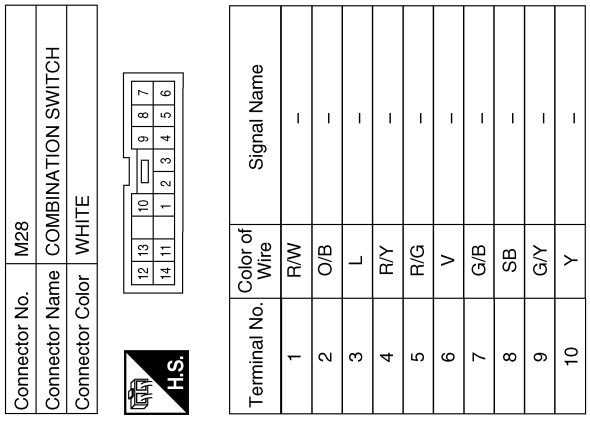


Terminal No.	Color of Wire	Signal Name
15A	R/B	–
21A	R/L	–
26A	GR	–

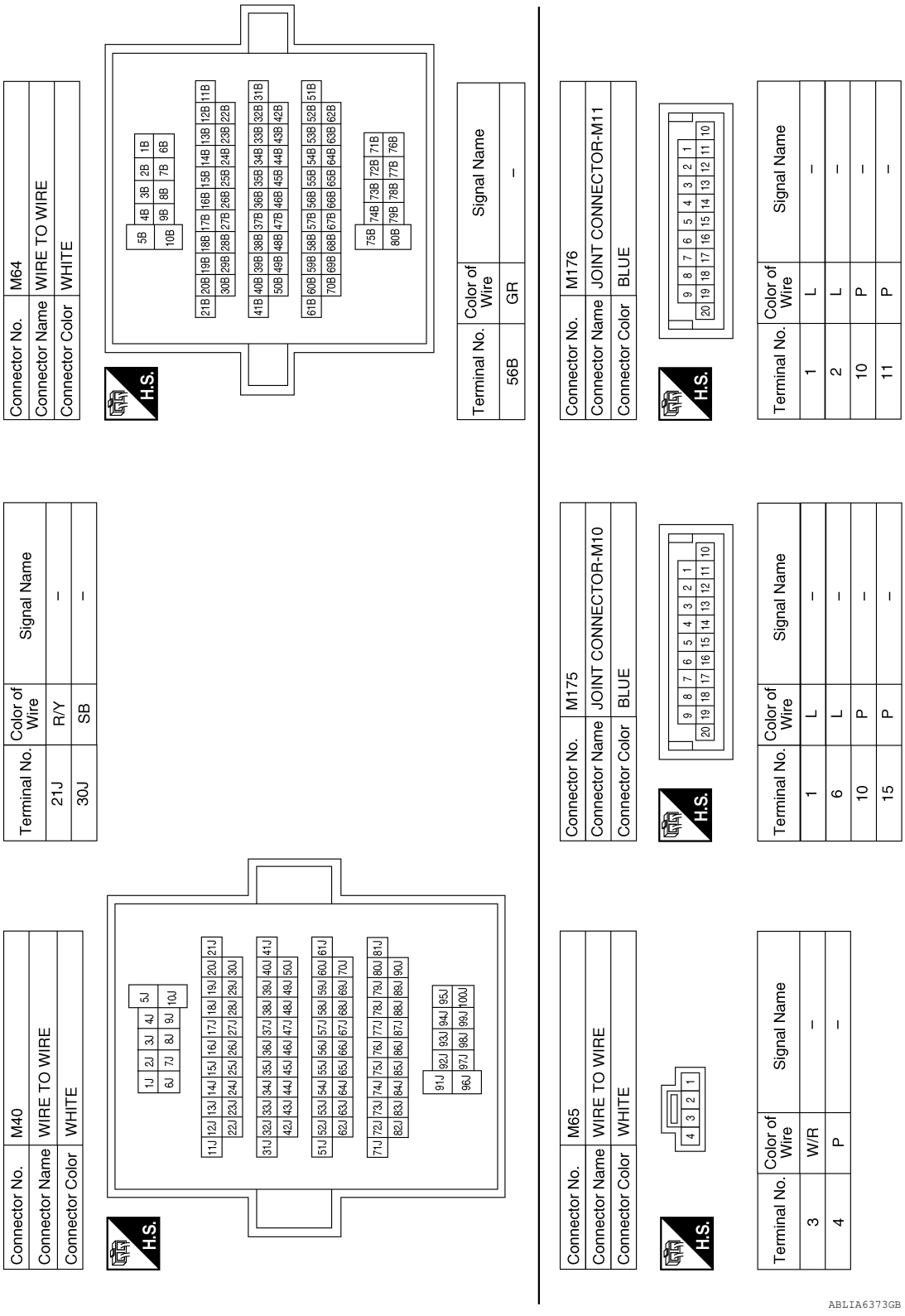


Terminal No.	Color of Wire	Signal Name
31G	L	–
32G	P	–
96G	W/B	–
99G	W/L	–



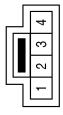
Terminal No.	Color of Wire	Signal Name
1	R/W	–
2	O/B	–
3	L	–
4	R/Y	–
5	R/G	–
6	V	–
7	G/B	–
8	SB	–
9	G/Y	–
10	Y	–

ABLIA6372GB


Connector No. M64
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
56B GR –
Connector No. M176
Connector Name JOINT CONNECTOR-M11
Connector Color BLUE
H.S.
Terminal No. Color of Wire Signal Name
1 L –
2 L –
10 P –
11 P –
Terminal No. Color of Wire Signal Name
21J R/Y –
30J SB –
Connector No. M40
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Connector No. M175
Connector Name JOINT CONNECTOR-M10
Connector Color BLUE
H.S.
Terminal No. Color of Wire Signal Name
1 L –
6 L –
10 P –
15 P –
Connector No. M65
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
3 W/R –
4 P –
ABLIA6373GB

Connector No.	M301
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
3	W/R	–
4	P	–

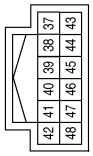
Connector No.	M302
Connector Name	OPTICAL SENSOR
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	P	–
4	W/R	–

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

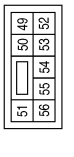
H.S.



Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L

Connector No.	E123
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.



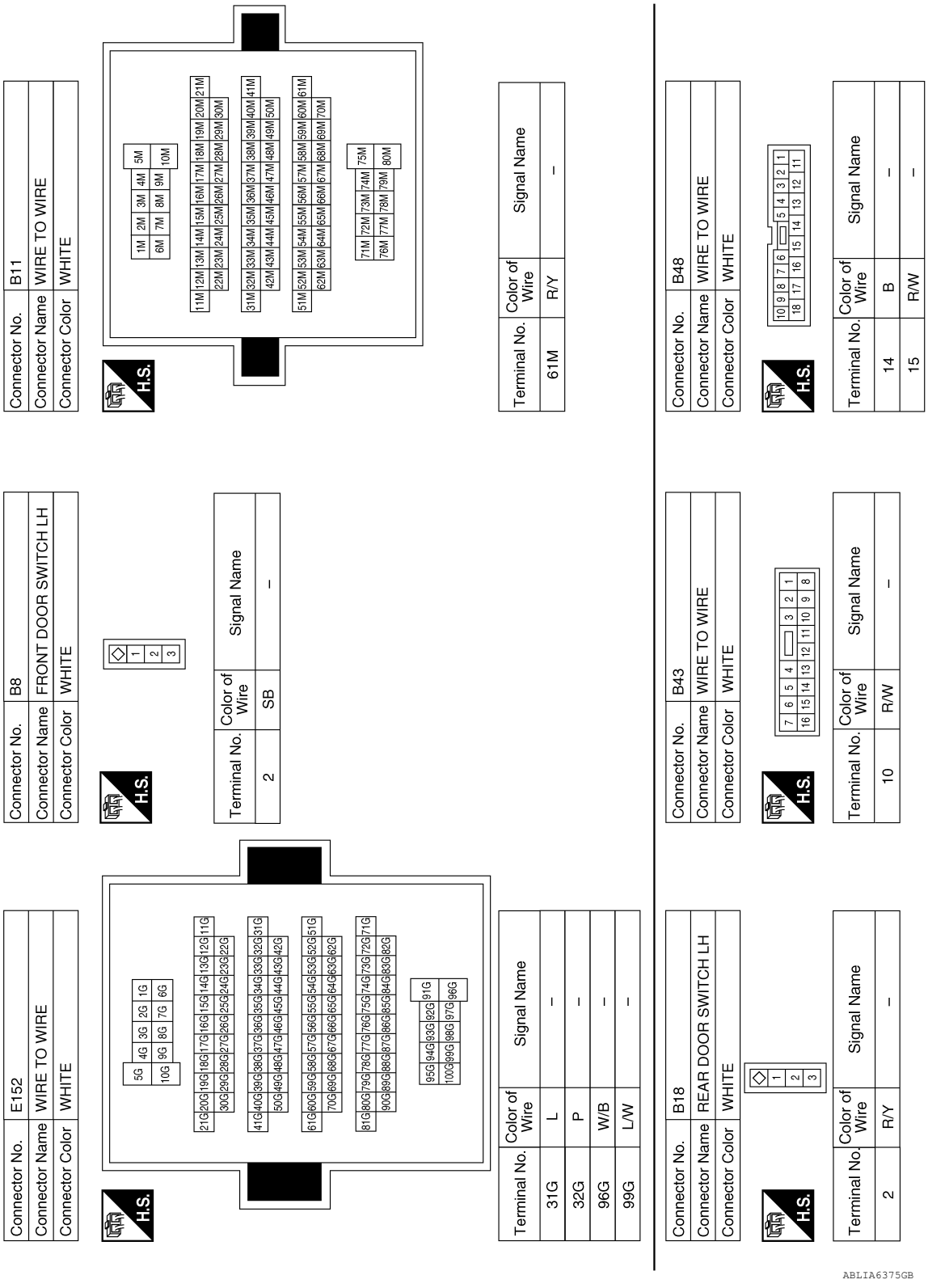
Terminal No.	Color of Wire	Signal Name
52	L	H/LAMP LO LH
54	R/Y	H/LAMP LO RH
55	G	H/LAMP HI LH
56	L/W	H/LAMP HI RH (WITHOUT DAYTIME LIGHT SYSTEM)
56	Y	H/LAMP HI RH (WITH DAYTIME LIGHT SYSTEM)

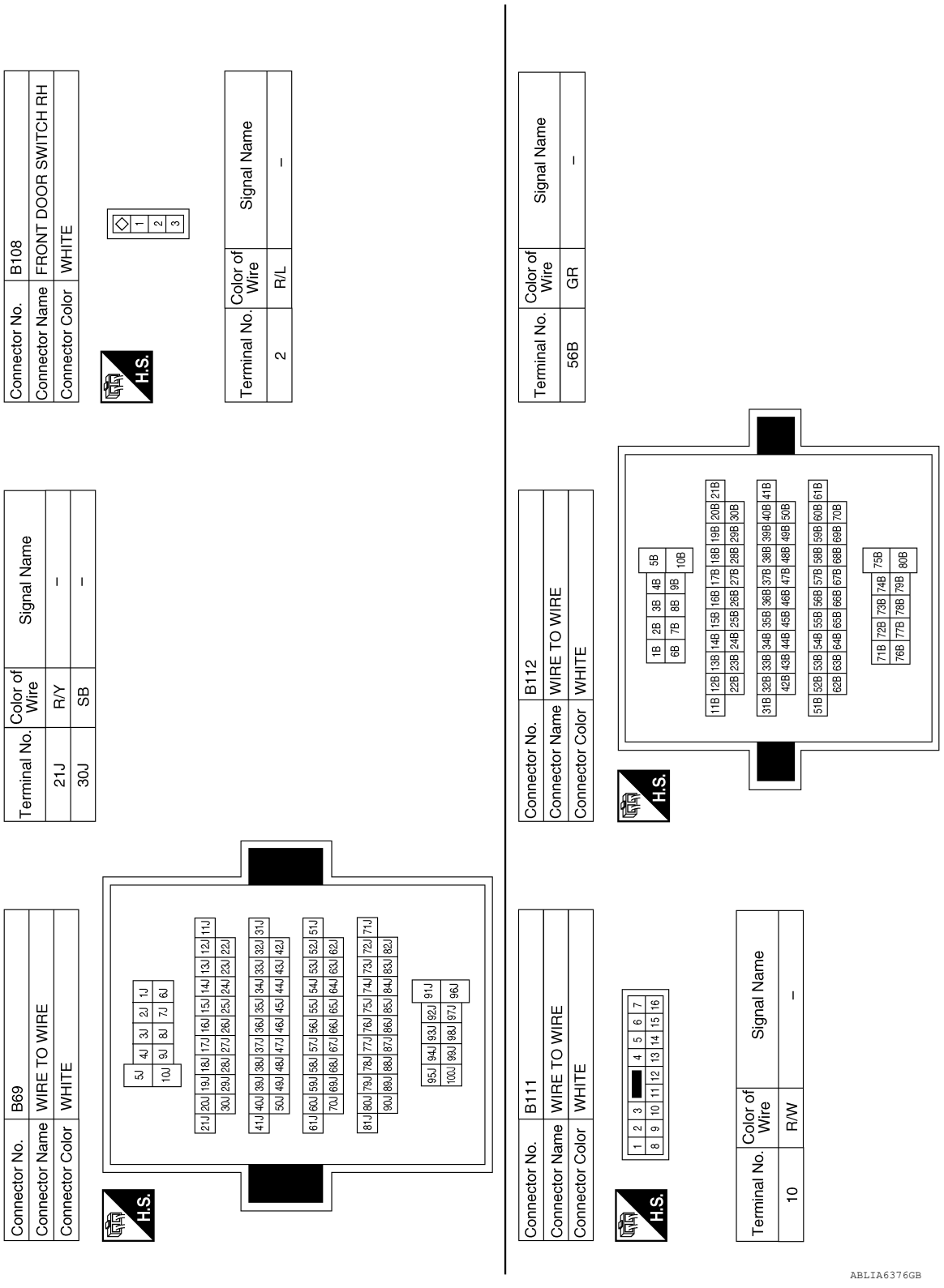
Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

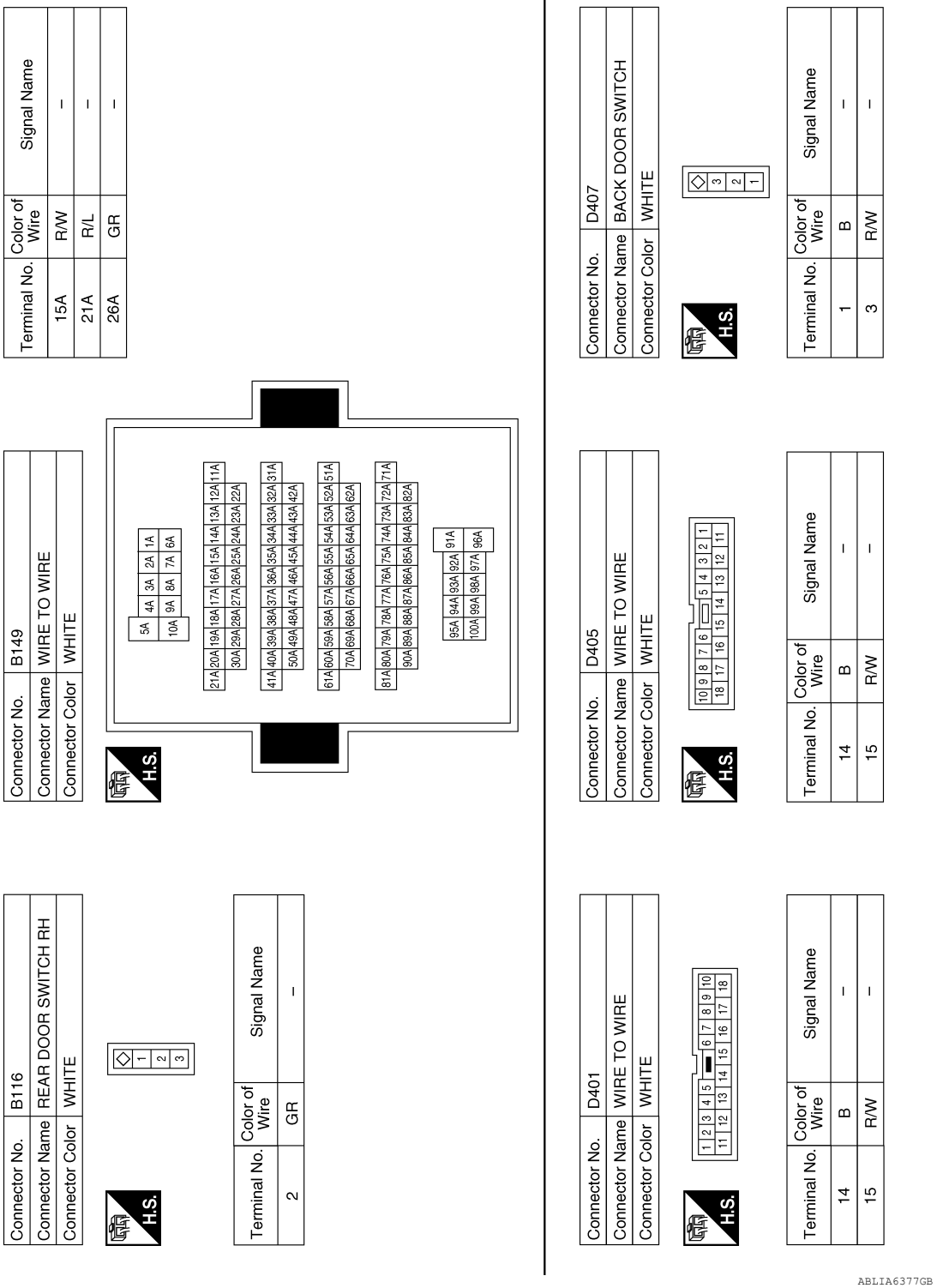
H.S.

Terminal No.	Color of Wire	Signal Name
57	R/L	TAIL LAMP
59	B	GND (POWER)

ABLIA6374GB

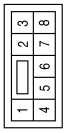

Connector No. B11
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
61M R/Y –
Connector No. B8
Connector Name FRONT DOOR SWITCH LH
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 SB –
Connector No. E152
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
31G L –
32G P –
96G W/B –
99G L/W –
Connector No. B48
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
14 B –
15 R/W –
Connector No. B43
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
10 R/W –
Connector No. B18
Connector Name REAR DOOR SWITCH LH
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 R/Y –
ABLIA6375GB


Connector No. B108
Connector Name FRONT DOOR SWITCH RH
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 R/L –
Terminal No. Color of Wire Signal Name
21J R/Y –
30J SB –
Connector No. B69
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Connector No. B112
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
56B GR –
Connector No. B111
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
10 R/W –
ABLIA6376GB


Connector No. B116
Connector Name REAR DOOR SWITCH RH
Connector Color WHITE
H.S.
1 2 3
Terminal No. Color of Wire Signal Name
2 GR –
Connector No. B149
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
5A 4A 3A 2A 1A
10A 9A 8A 7A 6A
21A 20A 19A 18A 17A 16A 15A 14A 13A 12A 11A
30A 29A 28A 27A 26A 25A 24A 23A 22A
41A 40A 39A 38A 37A 36A 35A 34A 33A 32A 31A
50A 49A 48A 47A 46A 45A 44A 43A 42A
61A 60A 59A 58A 57A 56A 55A 54A 53A 52A 51A
70A 69A 68A 67A 66A 65A 64A 63A 62A
81A 80A 79A 78A 77A 76A 75A 74A 73A 72A 71A
90A 89A 88A 87A 86A 85A 84A 83A 82A
95A 94A 93A 92A 91A
100A 99A 98A 97A 96A
Terminal No. Color of Wire Signal Name
15A R/W –
21A R/L –
26A GR –
Connector No. D401
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18
Terminal No. Color of Wire Signal Name
14 B –
15 R/W –
Connector No. D405
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
10 9 8 7 6 5 4 3 2 1
18 17 16 15 14 13 12 11
Terminal No. Color of Wire Signal Name
14 B –
15 R/W –
Connector No. D407
Connector Name BACK DOOR SWITCH
Connector Color WHITE
H.S.
3 2 1
Terminal No. Color of Wire Signal Name
1 B –
3 R/W –
ABLIA6377GB

Connector No.	D503
Connector Name	BACK DOOR LATCH
Connector Color	WHITE

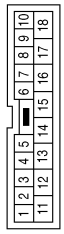
H.S.



Terminal No.	Color of Wire	Signal Name
7	R/W	–
8	B	–

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



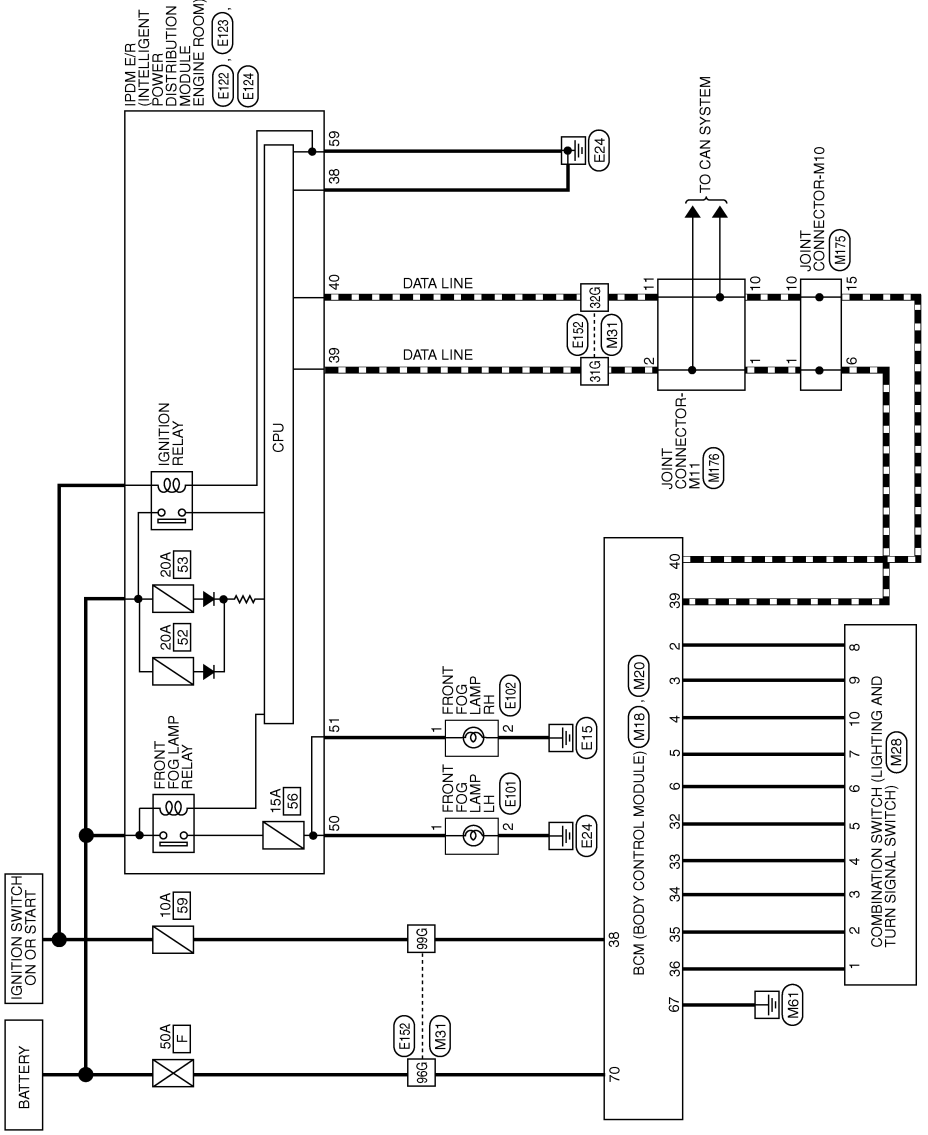
Terminal No.	Color of Wire	Signal Name
14	B	–
15	R/W	–

ABLIA6432GB

FRONT FOG LAMP SYSTEM

Wiring Diagram

INFOID:0000000011288383



ABLWA2619GB

FRONT FOG LAMP CONNECTORS

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
2	SB	INPUT 5
3	G/Y	INPUT 4
4	Y	INPUT 3
5	G/B	INPUT 2
6	V	INPUT 1
32	R/G	OUTPUT 5
33	R/Y	OUTPUT 4
34	L	OUTPUT 3
35	O/B	OUTPUT 2
36	R/W	OUTPUT 1
38	W/L	IGN SW
39	L	CAN-H
40	P	CAN-L

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

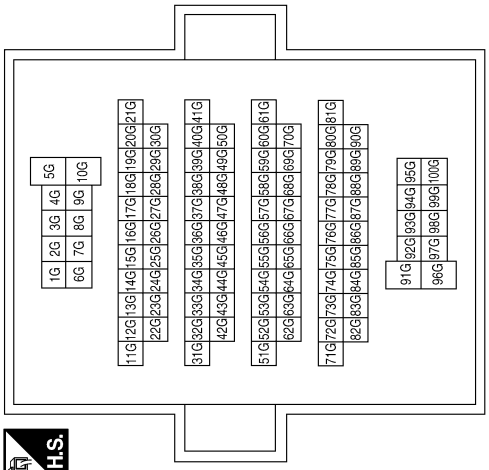
H.S.

56	57	58	59	60	61	62	63	64
65	66	67	68	69	70			

Terminal No.	Color of Wire	Signal Name
67	B	GND (POWER)
70	W/B	BAT (F/L)

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
31G	L	–
32G	P	–
96G	W/B	–
99G	W/L	–

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	R/W	–
2	O/B	–
3	L	–
4	R/Y	–
5	R/G	–
6	V	–
7	G/B	–
8	SB	–
9	G/Y	–
10	Y	–

ABLIA4124GB

Connector No.	M175
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
6	L	–
10	P	–
15	P	–

Connector No.	M176
Connector Name	JOINT CONNECTOR-M11
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
10	P	–
11	P	–

Connector No.	E101
Connector Name	FRONT FOG LAMP LH
Connector Color	BLACK

H.S.

1	2

Terminal No.	Color of Wire	Signal Name
1	W/R	–
2	B	–

Connector No.	E102
Connector Name	FRONT FOG LAMP RH
Connector Color	BLACK

H.S.

1	2

Terminal No.	Color of Wire	Signal Name
1	W/R	–
2	B	–

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

42	41	40	39	38	37
48	47	46	45	44	43

Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L

Connector No.	E123
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

51		50	49
56	55	54	53	52

Terminal No.	Color of Wire	Signal Name
50	W/R	FR FOG LAMP LH
51	W/R	FR FOG LAMP RH

ABLIA3274GB

Terminal No.	Color of Wire	Signal Name
31G	L	–
32G	P	–
96G	W/B	–
99G	L/W	–

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

5G	4G	3G	2G	1G	21G	20G	19G	18G	17G	16G	15G	14G	13G	12G	11G	41G	40G	39G	38G	37G	36G	35G	34G	33G	32G	31G
10G	9G	8G	7G	6G	30G	29G	28G	27G	26G	25G	24G	23G	22G			50G	49G	48G	47G	46G	45G	44G	43G	42G		
					61G	60G	59G	58G	57G	56G	55G	54G	53G	52G	51G	81G	80G	79G	78G	77G	76G	75G	74G	73G	72G	71G
					70G	69G	68G	67G	66G	65G	64G	63G				90G	89G	88G	87G	86G	85G	84G	83G	82G		
																95G	94G	93G	92G	91G						
																100G	99G	98G	97G	96G						

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

59	58	57	
62	61	60	

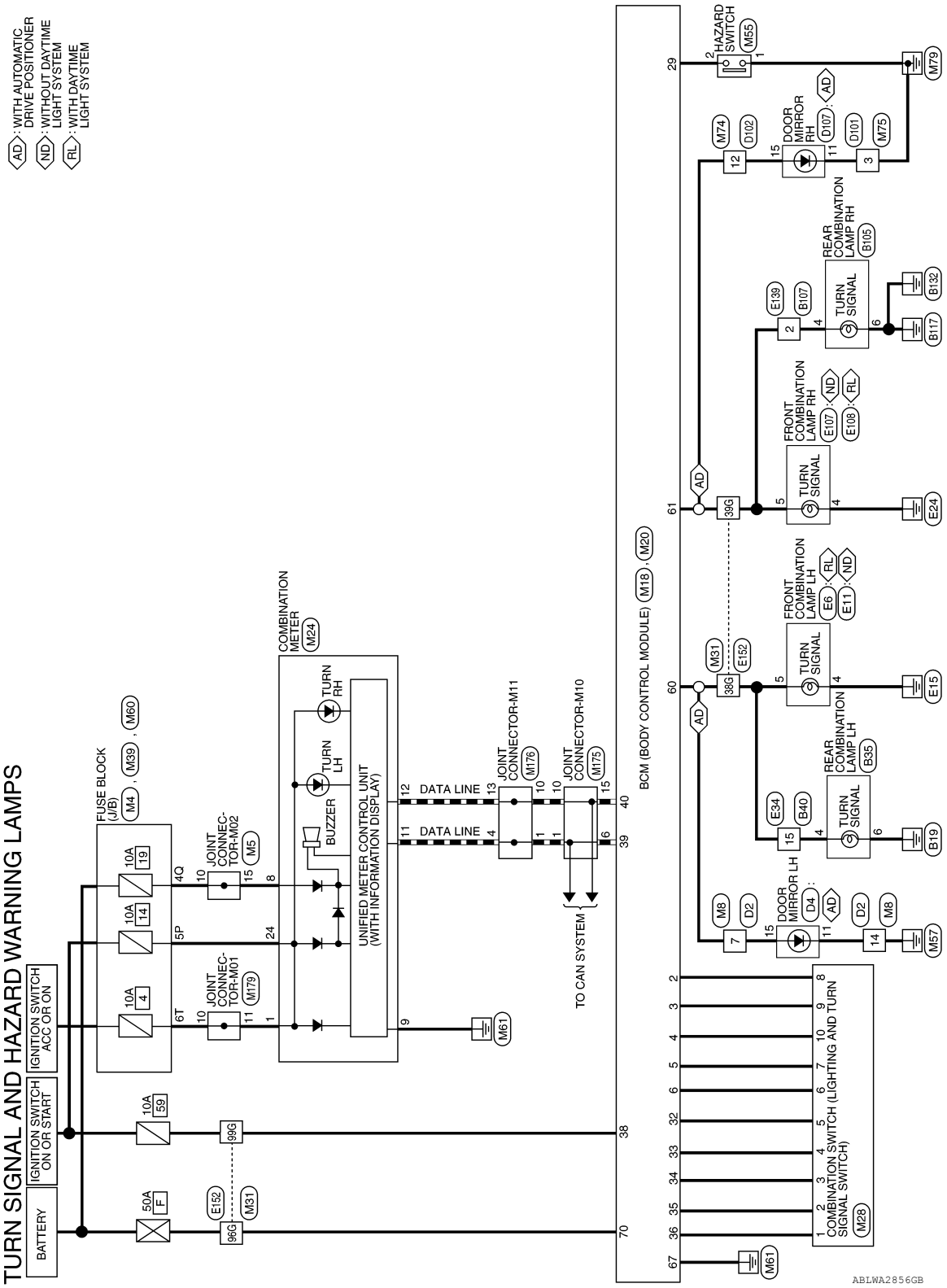
Terminal No.	Color of Wire	Signal Name
59	B	GND (POWER)

ABLIA4126GB

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

Wiring Diagram

INFOID:0000000011288384



TURN SIGNAL AND HAZARD WARNING LAMPS CONNECTORS

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5P	O/L	–

Connector No.	M5
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	Y/R	–
15	Y/R	–

Connector No.	M8
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
7	G/B	–
14	B	–

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
2	SB	INPUT 5
3	G/Y	INPUT 4
4	Y	INPUT 3
5	G/B	INPUT 2
6	V	INPUT 1
29	W/B	HAZARD SW
32	R/G	OUTPUT 5
33	R/Y	OUTPUT 4
34	L	OUTPUT 3
35	O/B	OUTPUT 2
36	R/W	OUTPUT 1
38	W/L	IGN SW
39	L	CAN-H
40	P	CAN-L

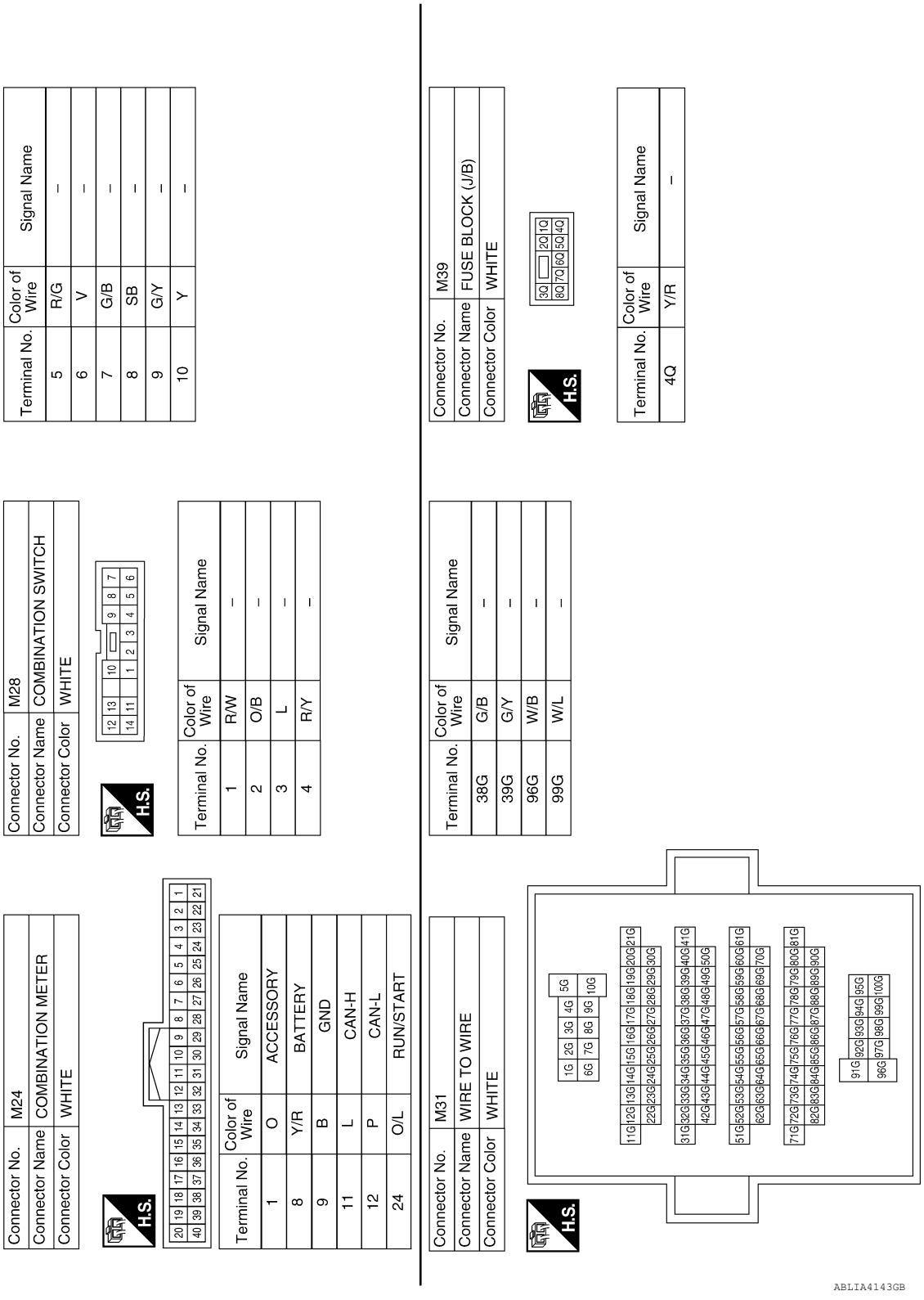
Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

56	57	58	59	60	61	62	63	64
65	66	67	68	69	70			

Terminal No.	Color of Wire	Signal Name
60	G/B	FLASHER OUTPUT (LEFT)
61	G/Y	FLASHER OUTPUT (RIGHT)
67	B	GND (POWER)
70	W/B	BAT (F/L)

ABLIA6951GB


Connector No. M24
Connector Name COMBINATION METER
Connector Color WHITE
H.S.
20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21
Terminal No. Color of Wire Signal Name
1 O ACCESSORY
8 Y/R BATTERY
9 B GND
11 L CAN-H
12 P CAN-L
24 O/L RUN/START
Connector No. M28
Connector Name COMBINATION SWITCH
Connector Color WHITE
H.S.
12 13 10 9 8 7
14 11 1 2 3 4 5 6
Terminal No. Color of Wire Signal Name
1 R/W –
2 O/B –
3 L –
4 R/Y –
Terminal No. Color of Wire Signal Name
5 R/G –
6 V –
7 G/B –
8 SB –
9 G/Y –
10 Y –
Connector No. M31
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1G 2G 3G 4G 5G
6G 7G 8G 9G 10G
11G 12G 13G 14G 15G 16G 17G 18G 19G 20G 21G
22G 23G 24G 25G 26G 27G 28G 29G 30G
31G 32G 33G 34G 35G 36G 37G 38G 39G 40G 41G
42G 43G 44G 45G 46G 47G 48G 49G 50G
51G 52G 53G 54G 55G 56G 57G 58G 59G 60G 61G
62G 63G 64G 65G 66G 67G 68G 69G 70G
71G 72G 73G 74G 75G 76G 77G 78G 79G 80G 81G
82G 83G 84G 85G 86G 87G 88G 89G 90G
91G 92G 93G 94G 95G
96G 97G 98G 99G 100G
Terminal No. Color of Wire Signal Name
38G G/B –
39G G/Y –
96G W/B –
99G W/L –
Connector No. M39
Connector Name FUSE BLOCK (J/B)
Connector Color WHITE
H.S.
3Q 2Q 1Q
8Q 7Q 6Q 5Q 4Q
Terminal No. Color of Wire Signal Name
4Q Y/R –
ABLIA4143GB

Connector No.	M55
Connector Name	HAZARD SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	W/B	–

Connector No.	M60
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
6T	O	–

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
12	G/Y	–

Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	B	–

Connector No.	M175
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
6	L	–
10	P	–
15	P	–

Connector No.	M176
Connector Name	JOINT CONNECTOR-M11
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
4	L	–
10	P	–
13	P	–

ABLIA6952GB

Connector No.	M179
Connector Name	JOINT CONNECTOR-M01
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
10	O	–
11	O	–

Connector No.	E6
Connector Name	FRONT COMBINATION LAMP LH (WITH DAYTIME LIGHT SYSTEM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–
5	G/B	–

Connector No.	E11
Connector Name	FRONT COMBINATION LAMP LH (WITHOUT DAYTIME LIGHT SYSTEM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–
5	G/B	–

Connector No.	E34
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
15	G/B	–

Connector No.	E107
Connector Name	FRONT COMBINATION LAMP RH (WITHOUT DAYTIME LIGHT SYSTEM)
Connector Color	BLACK

H.S.

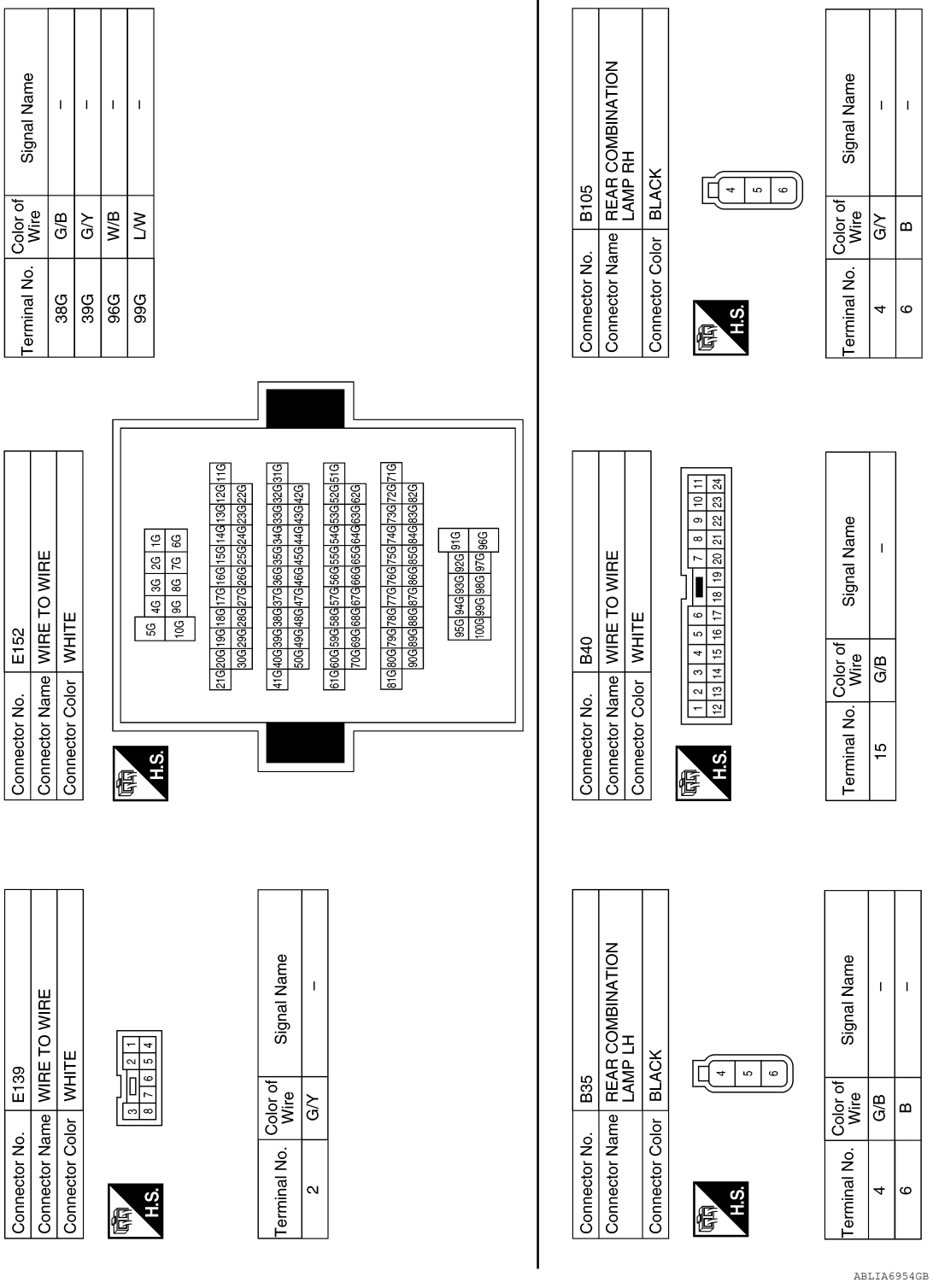
Terminal No.	Color of Wire	Signal Name
4	B	–
5	G/Y	–

Connector No.	E108
Connector Name	FRONT COMBINATION LAMP RH (WITH DAYTIME LIGHT SYSTEM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–
5	G/Y	–

ABLIA6953GB


Connector No. E139
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
3 2 1
8 7 6 5 4
Terminal No. Color of Wire Signal Name
2 G/Y –
Connector No. E152
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
5G 4G 3G 2G 1G
10G 9G 8G 7G 6G
21G 20G 19G 18G 17G 16G 15G 14G 13G 12G 11G
30G 29G 28G 27G 26G 25G 24G 23G 22G
41G 40G 39G 38G 37G 36G 35G 34G 33G 32G 31G
50G 49G 48G 47G 46G 45G 44G 43G 42G
61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G
70G 69G 68G 67G 66G 65G 64G 63G 62G
81G 80G 79G 78G 77G 76G 75G 74G 73G 72G 71G
90G 89G 88G 87G 86G 85G 84G 83G 82G
95G 94G 93G 92G 91G
100G 99G 98G 97G 96G
Terminal No. Color of Wire Signal Name
38G G/B –
39G G/Y –
96G W/B –
99G L/W –
Connector No. B35
Connector Name REAR COMBINATION LAMP LH
Connector Color BLACK
H.S.
4 5 6
Terminal No. Color of Wire Signal Name
4 G/B –
6 B –
Connector No. B40
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1 2 3 4 5 6 7 8 9 10 11
12 13 14 15 16 17 18 19 20 21 22 23 24
Terminal No. Color of Wire Signal Name
15 G/B –
Connector No. B105
Connector Name REAR COMBINATION LAMP RH
Connector Color BLACK
H.S.
4 5 6
Terminal No. Color of Wire Signal Name
4 G/Y –
6 B –
ABLIA6954GB

Connector No.	B107
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	G/Y	–

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
7	G/B	–
14	B	–

Connector No.	D4
Connector Name	DOOR MIRROR LH (WITH AUTOMATIC DRIVE POSITIONER)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
11	B	–
15	G/B	–

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	B	–

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
12	G/Y	–

Connector No.	D107
Connector Name	DOOR MIRROR RH (WITH AUTOMATIC DRIVE POSITIONER)
Connector Color	WHITE

H.S.

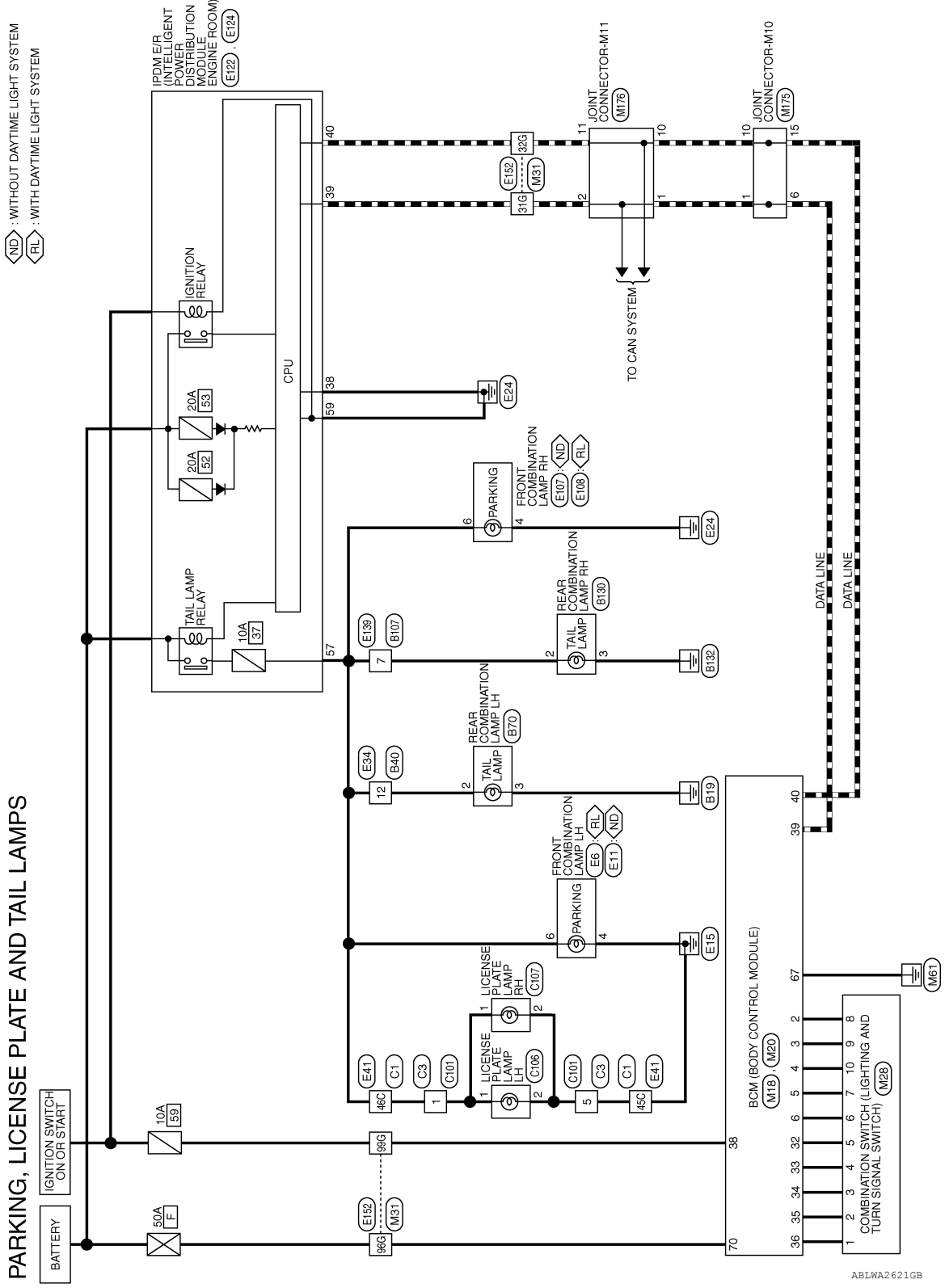
Terminal No.	Color of Wire	Signal Name
11	B	–
15	G/Y	–

ABLIA6955GB

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

Wiring Diagram

INFOID:0000000011288385



PARKING, LICENSE PLATE AND TAIL LAMPS CONNECTORS

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
2	SB	INPUT 5
3	G/Y	INPUT 4
4	Y	INPUT 3
5	G/B	INPUT 2
6	V	INPUT 1
32	R/G	OUTPUT 5
33	R/Y	OUTPUT 4
34	L	OUTPUT 3
35	O/B	OUTPUT 2
36	R/W	OUTPUT 1
38	W/L	IGN SW
39	L	CAN-H
40	P	CAN-L

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

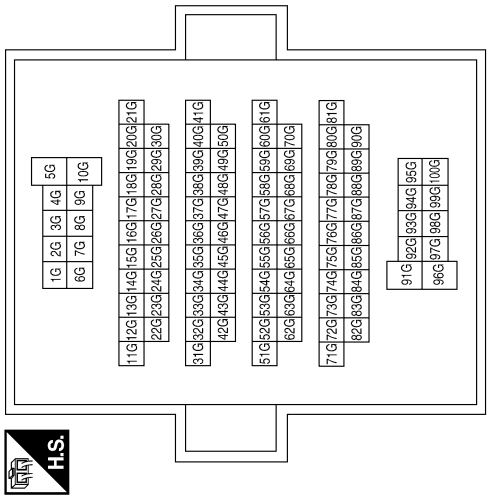
H.S.

56	57	58	59	60	61	62	63	64
65	66	67	68	69	70			

Terminal No.	Color of Wire	Signal Name
67	B	GND (POWER)
70	W/B	BAT (F/L)

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
31G	L	–
32G	P	–
96G	W/B	–
99G	W/L	–

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	R/W	–
2	O/B	–
3	L	–
4	R/Y	–
5	R/G	–
6	V	–
7	G/B	–
8	SB	–
9	G/Y	–
10	Y	–

ABLIA4130GB

Connector No.	E6
Connector Name	FRONT COMBINATION LAMP LH (WITH DAYTIME LIGHT SYSTEM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–
6	R/L	–

Connector No.	M176
Connector Name	JOINT CONNECTOR-M11
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
10	P	–
11	P	–

Connector No.	E41
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
45C	B	–
46C	R/L	–

Connector No.	E34
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
12	R/L	–

Connector No.	M175
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
6	L	–
10	P	–
15	P	–

Connector No.	E11
Connector Name	FRONT COMBINATION LAMP LH (WITHOUT DAYTIME LIGHT SYSTEM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–
6	R/L	–

ABLIA3276GB

Connector No.	E107
Connector Name	FRONT COMBINATION LAMP RH (WITHOUT DAYTIME LIGHT SYSTEM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–
6	R/L	–

Connector No.	E108
Connector Name	FRONT COMBINATION LAMP RH (WITH DAYTIME LIGHT SYSTEM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–
6	R/L	–

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
57	R/L	TAIL LAMP
59	B	GND (POWER)

Connector No.	E139
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
7	R/L	–

ABLIA2725GB

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

5G	4G	3G	2G	1G
10G	9G	8G	7G	6G

21G	20G	19G	18G	17G	16G	15G	14G	13G	12G	11G
30G	29G	28G	27G	26G	25G	24G	23G	22G		

41G	40G	39G	38G	37G	36G	35G	34G	33G	32G	31G
50G	49G	48G	47G	46G	45G	44G	43G	42G		

61G	60G	59G	58G	57G	56G	55G	54G	53G	52G	51G
70G	69G	68G	67G	66G	65G	64G	63G	62G		

81G	80G	79G	78G	77G	76G	75G	74G	73G	72G	71G
90G	89G	88G	87G	86G	85G	84G	83G	82G		

95G	94G	93G	92G	91G
100G	99G	98G	97G	96G

Terminal No.	Color of Wire	Signal Name
31G	L	–
32G	P	–
96G	W/B	–
99G	L/W	–

Connector No.	C1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

5C		4C	3C	2C						1C
11C	10C	9C						8C	7C	6C
21C	20C	19C	18C	17C	16C	15C	14C	13C	12C	
31C	30C	29C	28C	27C	26C	25C	24C	23C	22C	
41C	40C	39C	38C	37C	36C	35C	34C	33C	32C	
47C	46C	45C					44C	43C	42C	
52C					51C	50C	49C			48C

Terminal No.	Color of Wire	Signal Name
45C	B	–
46C	R/L	–

Connector No.	C106
Connector Name	LICENSE PLATE LAMP LH
Connector Color	GRAY

H.S.

1	2

Terminal No.	Color of Wire	Signal Name
1	R/L	–
2	B	–

Connector No.	C101
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

1	2	3	4
5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	R/L	–
5	B	–

Connector No.	C3
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
1	R/L	–
5	B	–

ABLIA4131GB

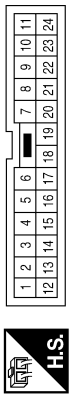
Connector No.	C107
Connector Name	LICENSE PLATE LAMP RH
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	R/L	–
2	B	–

Connector No.	B40
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
12	R/L	–

Connector No.	B70
Connector Name	REAR COMBINATION LAMP LH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
2	R/L	–
3	B	–

Connector No.	B107
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
7	R/L	–

Connector No.	B130
Connector Name	REAR COMBINATION LAMP RH
Connector Color	BLACK

H.S.

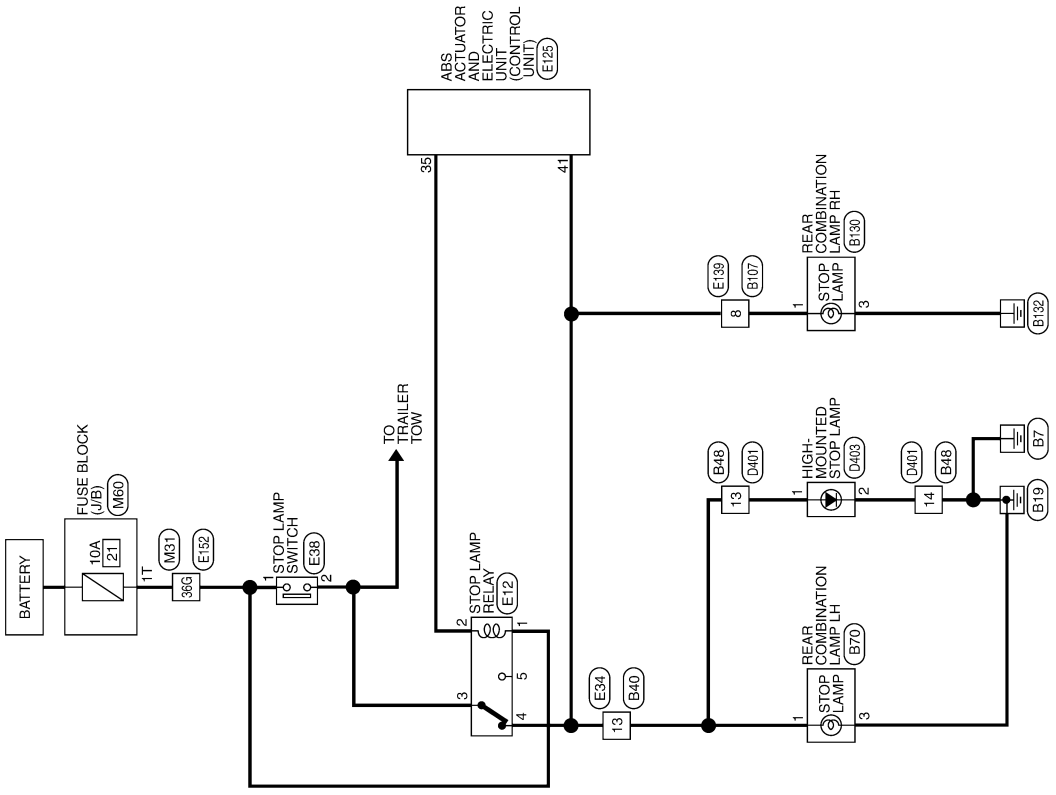
Terminal No.	Color of Wire	Signal Name
2	R/L	–
3	B	–

ABLIA4174GB

STOP LAMP

Wiring Diagram

INFOID:0000000011288386



STOP LAMP

ABLWA1912GB

STOP LAMP CONNECTORS

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1G	2G	3G	4G	5G
6G	7G	8G	9G	10G

11G	12G	13G	14G	15G	16G	17G	18G	19G	20G	21G
22G	23G	24G	25G	26G	27G	28G	29G	30G		

31G	32G	33G	34G	35G	36G	37G	38G	39G	40G	41G
42G	43G	44G	45G	46G	47G	48G	49G	50G		

51G	52G	53G	54G	55G	56G	57G	58G	59G	60G	61G
62G	63G	64G	65G	66G	67G	68G	69G	70G		

71G	72G	73G	74G	75G	76G	77G	78G	79G	80G	81G
82G	83G	84G	85G	86G	87G	88G	89G	90G		

91G	92G	93G	94G	95G
96G	97G	98G	99G	100G

Terminal No.	Color of Wire	Signal Name
36G	R/Y	–

Connector No.	M60
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

2T		1T
6T	5T	4T	3T

Terminal No.	Color of Wire	Signal Name
1T	R/Y	–

Connector No.	E12
Connector Name	STOP LAMP RELAY
Connector Color	BLACK

H.S.

	3	
	5	
2	4	1

Terminal No.	Color of Wire	Signal Name
1	R/Y	–
2	L/W	–
3	R/G	–
4	R/B	–
5	–	–

Connector No.	E34
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
13	R/B	–

Connector No.	E38
Connector Name	STOP LAMP SWITCH
Connector Color	BLACK

H.S.

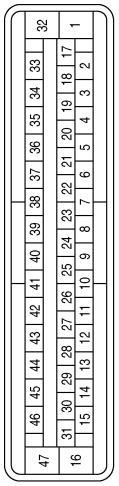
2	1

Terminal No.	Color of Wire	Signal Name
1	R/Y	–
2	R/G	–

ABLIA6956GB

Connector No.	E125
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Color	BLACK

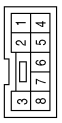
H.S.



Terminal No.	Color of Wire	Signal Name
35	L/W	BRL OUT
41	R/B	BLS

Connector No.	E139
Connector Name	WIRE TO WIRE
Connector Color	WHITE

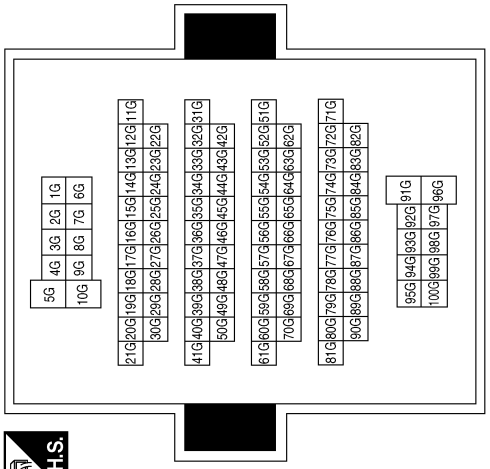
H.S.



Terminal No.	Color of Wire	Signal Name
8	R/B	–

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

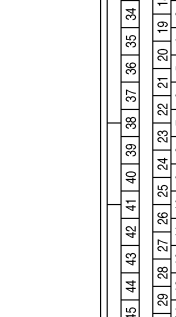
H.S.



Terminal No.	Color of Wire	Signal Name
36G	R/Y	–

Connector No.	B40
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
13	R/B	–

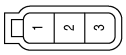
Connector No.	B48
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
13	R/B	–
14	B	–

Connector No.	B70
Connector Name	REAR COMBINATION LAMP LH
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
1	R/B	–
3	B	–

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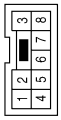
Connector No.	B107
Connector Name	WIRE TO WIRE
Connector Color	WHITE

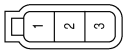
H.S.



Terminal No.	Color of Wire	Signal Name
8	R/B	–

Connector No.	B130
Connector Name	REAR COMBINATION LAMP RH
Connector Color	BLACK

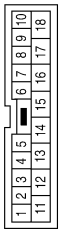
H.S.



Terminal No.	Color of Wire	Signal Name
1	R/B	–
3	B	–

Connector No.	D401
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
13	R/B	–
14	B	–

Connector No.	D403
Connector Name	HIGH-MOUNTED STOP LAMP
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	R/B	–
2	B	–

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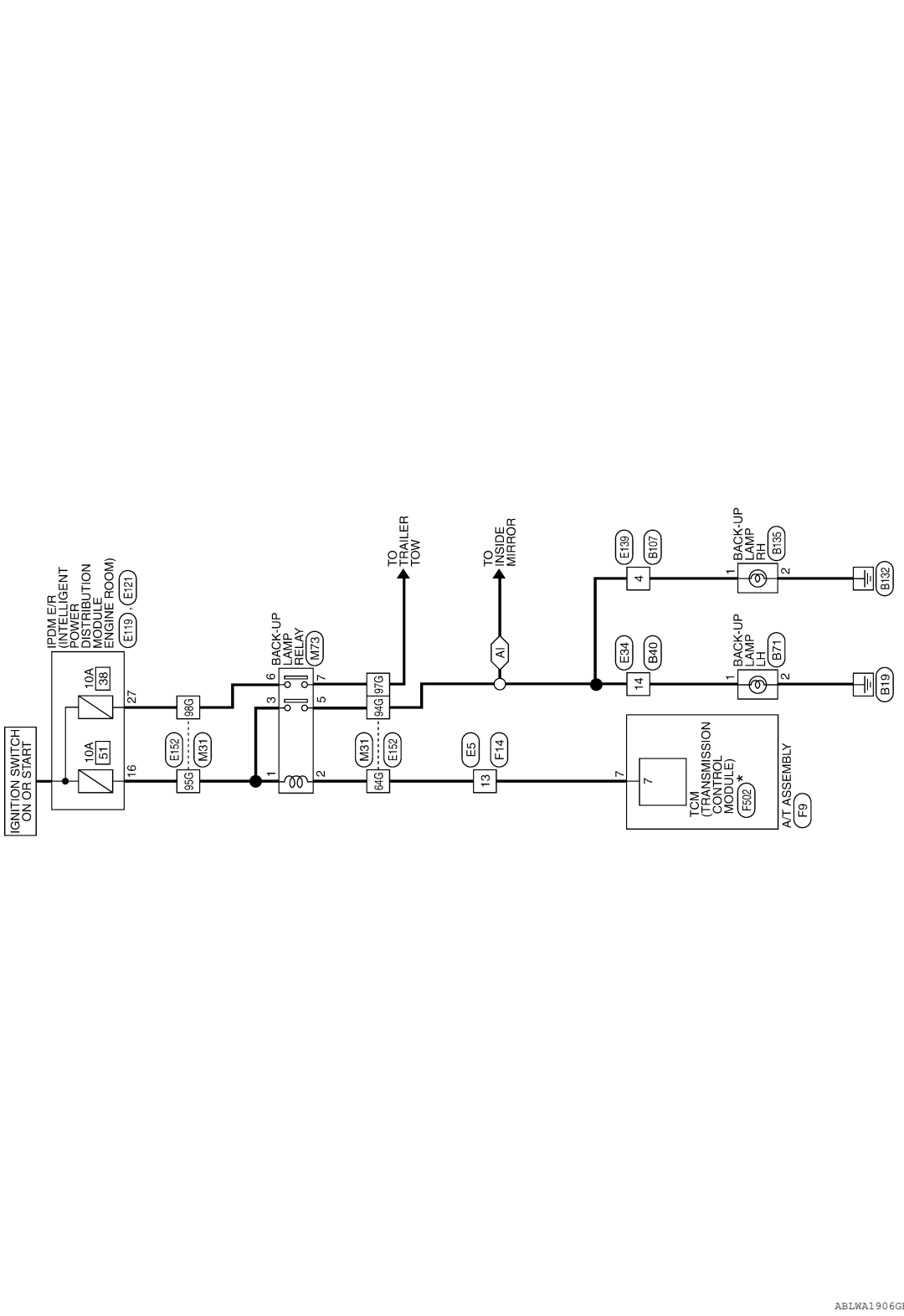
< WIRING DIAGRAM >

BACK-UP LAMP

Wiring Diagram

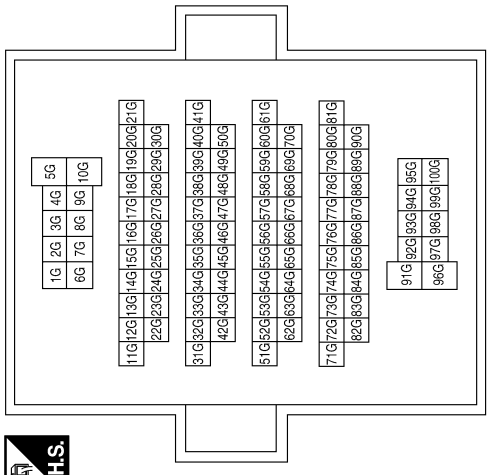
INFOID:0000000011288387



BACK-UP LAMP CONNECTORS

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
64G	R	–
94G	G/W	–
95G	G	–
97G	Y/R	–
98G	W/B	–

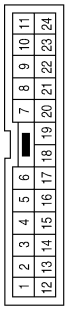
Connector No.	M73
Connector Name	BACK-UP LAMP RELAY
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	–
3	G	–
5	G/W	–
6	W/B	–
7	Y/R	–

Connector No.	E5
Connector Name	WIRE TO WIRE
Connector Color	WHITE

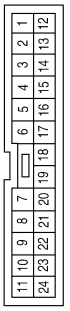
H.S.



Terminal No.	Color of Wire	Signal Name
13	R	–

Connector No.	E34
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
14	G/W	–

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
16	G	REVERSE LAMP

ABLIA4118GB

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
27	W/B	TTOW REV LAMP

Connector No.	E139
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
4	G/W	–

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
64G	R	–
94G	G/W	–
95G	G	–
97G	Y/R	–
98G	W/B	–

Connector No.	F9
Connector Name	A/T ASSEMBLY
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
7	R	–

ABLIA4119GB

Connector No.	F14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
13	R	–

Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY

H.S.

10	9	8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
7	O	REV LAMP RLY

Connector No.	B40
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	G/W	–

Connector No.	B71
Connector Name	BACK-UP LAMP LH
Connector Color	BLACK

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	G/W	–
2	B	–

Connector No.	B107
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
4	G/W	–

Connector No.	B135
Connector Name	BACK-UP LAMP RH
Connector Color	BLACK

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	G/W	–
2	B	–

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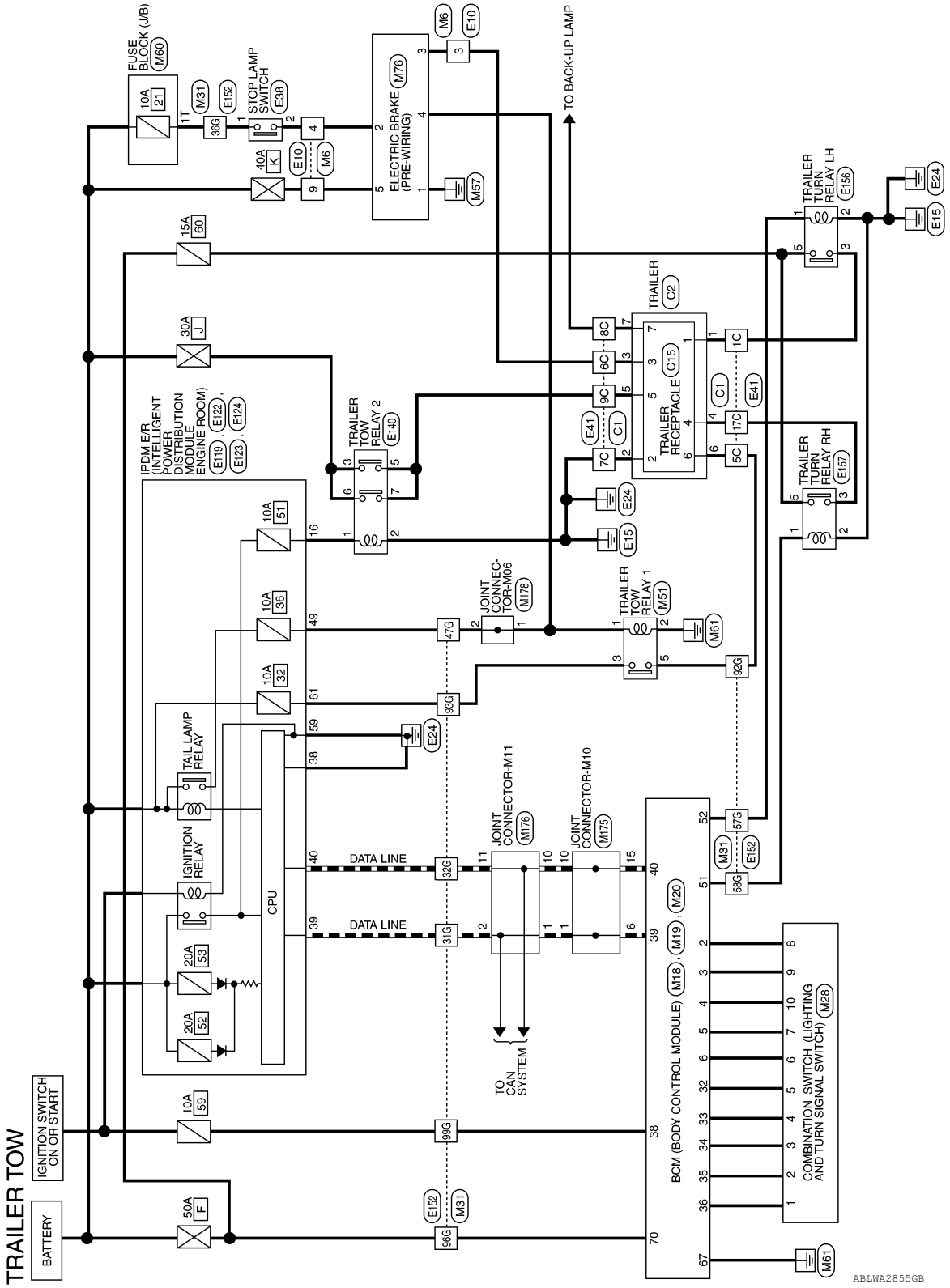
TRAILER TOW

Wiring Diagram

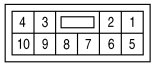
INFOID:0000000011288388



TRAILER TOW CONNECTORS

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

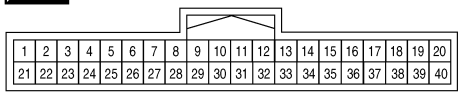
H.S.



Terminal No.	Color of Wire	Signal Name
3	BR/W	–
4	R/G	–
9	R	–

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

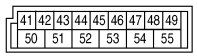
H.S.



Terminal No.	Color of Wire	Signal Name
2	SB	INPUT 5
3	G/Y	INPUT 4
4	Y	INPUT 3
5	G/B	INPUT 2
6	V	INPUT 1
32	R/G	OUTPUT 5
33	R/Y	OUTPUT 4
34	L	OUTPUT 3
35	O/B	OUTPUT 2
36	R/W	OUTPUT 1
38	W/L	IGN SW
39	L	CAN-H
40	P	CAN-L

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

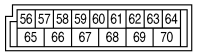
H.S.



Terminal No.	Color of Wire	Signal Name
51	Y/B	TRAILER FLASHER OUTPUT (RIGHT)
52	G/B	TRAILER FLASHER OUTPUT (LEFT)

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

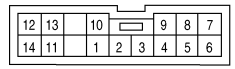
H.S.



Terminal No.	Color of Wire	Signal Name
67	B	GND (POWER)
70	W/B	BAT (F/L)

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	R/W	–
2	O/B	–
3	L	–
4	R/Y	–
5	R/G	–
6	V	–
7	G/B	–
8	SB	–
9	G/Y	–
10	Y	–

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Connector No.	M51
Connector Name	TRAILER TOW RELAY 1
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R/L	–
2	B	–
3	BR	–
5	R	–

Terminal No.	Color of Wire	Signal Name
1	B	–
2	R/G	–
3	BR/W	–
4	R/L	–
5	R	–

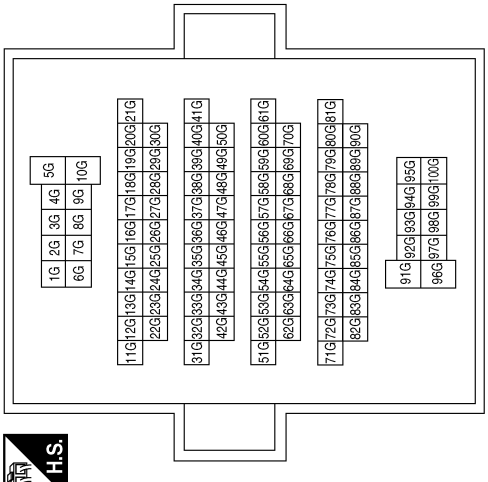
Connector No.	M76
Connector Name	ELECTRIC BRAKE (PRE-WIRING)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
31G	L	–
32G	P	–
36G	R/Y	–
47G	R/L	–
57G	G/B	–
58G	Y/B	–
92G	R	–
93G	BR	–
96G	W/B	–
99G	W/L	–

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Connector No.	M60
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1T	R/Y	–

ABLIA6386GB

Connector No.	M178
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	R/L	–
2	R/L	–

Connector No.	M176
Connector Name	JOINT CONNECTOR-M11
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
10	P	–
11	P	–

Connector No.	M175
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
6	L	–
10	P	–
15	P	–

Connector No.	E38
Connector Name	STOP LAMP SWITCH
Connector Color	BLACK

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	R/Y	–
2	R/G	–

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4
5	6	7	8	9	10

Terminal No.	Color of Wire	Signal Name
3	BR/W	–
4	R/G	–
9	R	–

ABLIA6387GB

Connector No.	E41
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1C	G/B	–
5C	R	–
6C	BR/W	–
7C	B	–
8C	Y/R	–
9C	W/L	–
17C	Y/B	–

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
16	G	REVERSE LAMP

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L

Connector No.	E123
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
49	R/L	ILLUMINATION

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
59	B	GND (POWER)
61	BR	TRAIL RLY SUPPLY

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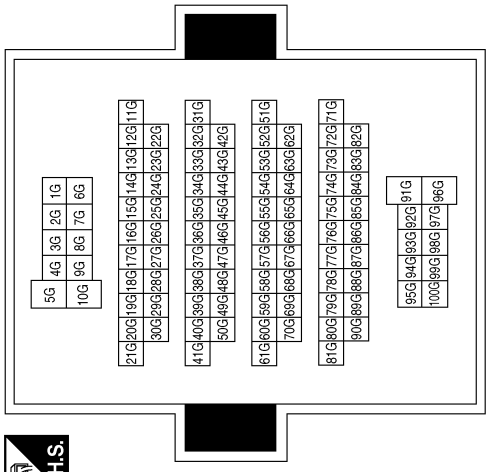
Connector No.	E140
Connector Name	TRAILER TOW RELAY 2
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	B	–
3	Y	–
5	W/L	–
6	Y	–
7	W/L	–

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
31G	L	–
32G	P	–
36G	R/Y	–
47G	R/L	–
57G	G/B	–
58G	Y/B	–
92G	R	–
93G	BR	–
96G	W/B	–
99G	L/W	–

Connector No.	E156
Connector Name	TRAILER TURN RELAY LH
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	G/B	–
2	B	–
3	G/B	–
5	L	–

Connector No.	E157
Connector Name	TRAILER TURN RELAY RH
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y/B	–
2	B	–
3	Y/B	–
5	L	–

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Connector No.	C1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1C	G/B	–
5C	R	–
6C	BR/W	–
7C	B	–
8C	Y/R	–
9C	W/L	–
17C	Y/B	–

Connector No.	C2
Connector Name	TRAILER
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	G/B	–
2	B	–
3	BR/W	–
4	Y/B	–
5	W/L	–
6	R	–
7	Y/R	–

Connector No.	C15
Connector Name	TRAILER RECEPTACLE
Connector Color	BLACK

T.S.

Terminal No.	Color of Wire	Signal Name
1	–	STOP/TURN LH
2	–	GROUND
3	–	ELECTRIC BRAKE
4	–	STOP/TURN RH
5	–	BATTERY
6	–	RUNNING LAMPS
7	–	BACK-UP LAMPS

ABLIA6390GB

SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000011288389

CAUTION:
Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Symptom		Possible cause	Inspection item
Headlamp does not switch to the high beam.	One side	• Fuse • Harness between IPDM E/R and the front combination lamp • Front combination lamp (High beam relay) • IPDM E/R	Headlamp (HI) circuit Refer to EXL-36.
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM" Refer to EXL-125.	
High beam indicator lamp is not turned ON. (Headlamp switches to the high beam.)		• Combination meter • BCM	• Combination meter. Data monitor "HI-BEAM IND" • BCM (HEAD LAMP) Active test "HEADLAMP"
Headlamp does not switch to the low beam.	One side	Front combination lamp (Low beam relay)	—
	Both sides	• Combination switch (lighting and turn signal switch) • Harness between the combination switch (lighting and turn signal switch) and BCM • BCM	Combination switch (lighting and turn signal switch) Refer to BCS-51.
		High beam request signal • BCM • IPDM E/R	IPDM E/R Data monitor "HL HI REQ"
		IPDM E/R	—
Headlamp does not turn ON.	One side	• Fuse • Bulb • Harness between IPDM E/R and the front combination lamp • Front combination lamp • IPDM E/R	Headlamp (LO) circuit Refer to EXL-39.
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-126.	
Headlamp does not turn OFF.	When the ignition switch is turned ON	• BCM • Combination switch (lighting and turn signal switch)	Combination switch (lighting and turn signal switch) Refer to BCS-51.
Headlamp is not turned ON/OFF with the lighting switch AUTO.		• Combination switch (lighting and turn signal switch) • Harness between the combination switch (lighting and turn signal switch) and BCM • BCM	Combination switch (lighting and turn signal switch) Refer to BCS-51.
		• Optical sensor • Harness between the optical sensor and BCM • BCM	Optical sensor Refer to EXL-50.

Symptom		Possible cause	Inspection item
Daytime running light system does not activate.		• Either high beam bulb • Parking brake switch • Combination switch (lighting and turn signal switch) • BCM • IPDM E/R • Daytime running light relay • Harness between IPDM E/R and daytime running light relay.	Daytime running light system description. Refer to EXL-9.
Front fog lamp is not turned ON.	One side	• Front fog lamp bulb • Harness between IPDM E/R and the front combination lamp • Front combination lamp • IPDM E/R	Front fog lamp circuit Refer to EXL-41.
	Both side	**Symptom diagnosis** "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-128.	
Parking lamp is not turned ON.	One side	• Fuse • Parking lamp bulb • Harness between IPDM E/R and the front/rear combination lamp • Front/rear combination lamp • IPDM E/R	Parking lamp circuit Refer to EXL-43.
	Both sides	**Symptom diagnosis** "PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-127.	
Turn signal lamp does not blink.	Indicator lamp is normal. (The applicable side performs the high flasher activation).	• Harness between BCM and each turn signal lamp • Turn signal lamp bulb • Door mirror (if equipped with turn signals in the door mirrors)	Turn signal lamp circuit Refer to EXL-47.
Turn signal indicator lamp does not blink.	One side	Combination meter	—
	Both sides (Always)	• Turn signal indicator lamp signal • Combination meter • BCM	• Combination meter. Data monitor "TURN IND" • BCM (FLASHER) Active test "FLASHER"
	Both sides (Does blink when activating the hazard warning lamp with the ignition switch OFF)	• The combination meter power supply and the ground circuit • Combination meter	Combination meter Power supply and the ground circuit Refer to MWI-32.

NORMAL OPERATING CONDITION

Description

INFOID:0000000011288390

AUTO LIGHT SYSTEM

The auto light system may not turn the headlamp ON/OFF immediately after passing a dark area or a bright area (short tunnel, sky bridge, shadowed area etc.). This is normal.

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

Description

INFOID:0000000011288391

The headlamps (both sides) do not switch to high beam when the combination switch (lighting and turn signal switch) is in the HI or PASS setting.

Diagnosis Procedure

INFOID:0000000011288392

1.COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) INSPECTION

Check the combination switch (lighting and turn signal switch). Refer to BCS-51, "Symptom Table".

Is the combination switch (lighting and turn signal switch) normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

CONSULT DATA MONITOR

1. Select "HL HI REQ" of IPDM E/R DATA MONITOR item.
2. With operating the combination switch (lighting and turn signal switch), check the monitor status.

Monitor item	Condition		Monitor status
HL HI REQ	Combination switch (lighting and turn signal switch) (2ND)	HI or PASS	ON
		Except for HI or PASS	OFF

Is the item status normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-54, "Removal and Installation".

3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-36, "Description".

Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation of IPDM E/R".
NO >> Repair or replace the malfunctioning part.

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description

INFOID:0000000011288393

The headlamps (both sides) do not turn ON in any combination switch (lighting and turn signal switch) setting.

Diagnosis Procedure

INFOID:0000000011288394

1.COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) INSPECTION

Check the combination switch (lighting and turn signal switch). Refer to BCS-51, "Symptom Table".

Is the combination switch (lighting and turn signal switch) normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

CONSULT DATA MONITOR

1. Select "HL LO REQ" of IPDM E/R DATA MONITOR item.
2. With operating the combination switch (lighting and turn signal switch), check the monitor status.

Monitor item	Condition		Monitor status
HL LO REQ	Combination switch (lighting and turn signal switch)	2ND	ON
		OFF	OFF

Is the item status normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-54, "Removal and Installation".

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-39, "Description".

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation of IPDM E/R".
NO >> Repair or replace the malfunctioning part.

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

Description

INFOID:0000000011288395

The parking, license plate and tail lamps do not turn ON in with any combination switch (lighting and turn signal switch) setting.

Diagnosis Procedure

INFOID:0000000011288396

1.COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) INSPECTION

Check the combination switch (lighting and turn signal switch). Refer to BCS-51, "Symptom Table".

Is the combination switch (lighting and turn signal switch) normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

CONSULT DATA MONITOR

1. Select "TAIL & CLR REQ" of IPDM E/R DATA MONITOR item.
2. With operating the combination switch (lighting and turn signal switch), check the monitor status.

Monitor item	Condition		Monitor status
TAIL & CLR REQ	Combination switch (lighting and turn signal switch)	1ST	ON
		OFF	OFF

Is the item status normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-54, "Removal and Installation".

3.PARK LAMP CIRCUIT INSPECTION

Check the parking lamp circuit. Refer to EXL-43, "Description".

Is the tail lamp circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation of IPDM E/R".
NO >> Repair or replace the malfunctioning part.

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description

INFOID:0000000011288397

The front fog lamps do not turn ON in any combination switch (lighting and turn signal switch) setting.

Diagnosis Procedure

INFOID:0000000011288398

1.COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) INSPECTION

Check the combination switch (lighting and turn signal switch). Refer to BCS-51, "Symptom Table".

Is the combination switch (lighting and turn signal switch) normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

CONSULT DATA MONITOR

1. Select "FR FOG REQ" of IPDM E/R DATA MONITOR item.
2. With operating the combination switch (lighting and turn signal switch), check the monitor status.

Monitor item	Condition		Monitor status
FR FOG REQ	Combination switch (lighting and turn signal switch) (2ND)	ON	ON
		OFF	OFF

Is the item status normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-54, "Removal and Installation".

3.FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-41, "Description".

Is the front fog lamp circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation of IPDM E/R".
NO >> Repair or replace the malfunctioning part.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000011288399

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 SR 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 SR 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.**

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- **When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.**

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000011288400

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the ″LOCK″ position.
- Always use CONSULT to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.
For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.
If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.
   NOTE:
   Supply power using jumper cables if battery is discharged.
2. Use the Intelligent Key or mechanical key to turn the ignition switch to the ″ACC″ position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.

5. When the repair work is completed, return the ignition switch to the ″LOCK″ position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT.

Precaution for Work

INFOID:0000000011288401

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

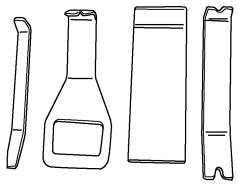
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000011288402

The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

PERIODIC MAINTENANCE

ADJUSTMENT AND INSPECTION

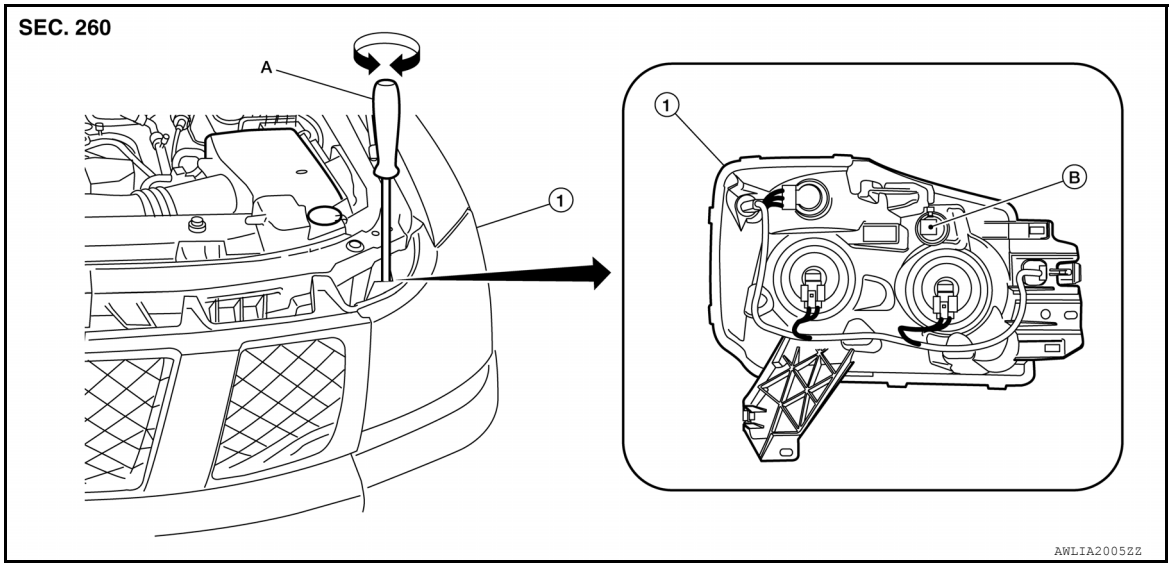
HEADLAMP

HEADLAMP : Aiming Adjustment

INFOID:0000000011288403

CAUTION:
Do not use organic solvent (thinner, gasoline etc.)
NOTE:
- For details, refer to the regulations in your own country.
- Perform aiming if the vehicle front body has been repaired and/or the headlamp assembly has been replaced.

Before performing aiming adjustment, check the following:
- Keep all tires inflated to correct pressure.
- Place vehicle on level ground.
- See that the 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 drivers seat.
- Adjust aiming in the vertical direction by turning the adjustment screw.
- When performing adjustment, if necessary, cover the opposite headlamp.



1. Front combination lamp
A. Suitable tool
B. Adjusting screw

HEADLAMP : Headlamp Aiming

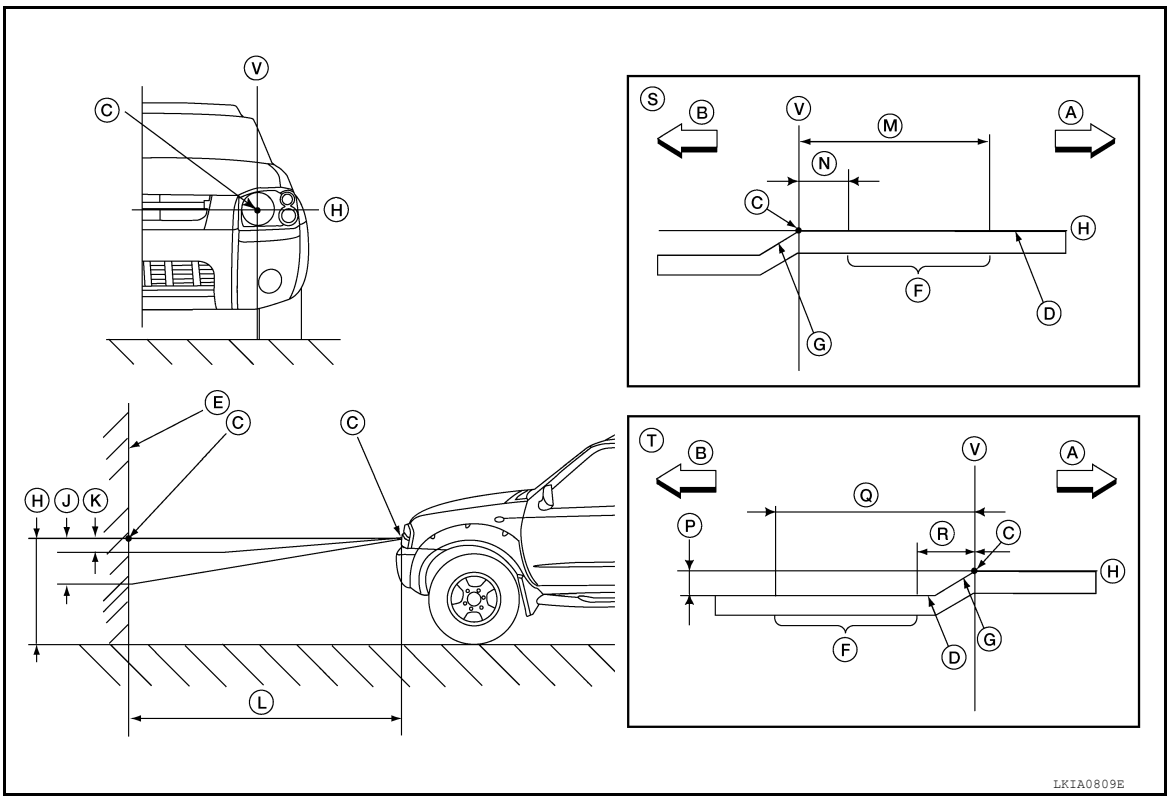
INFOID:0000000011288404

NOTE:
Set the screen so that it is perpendicular to the road.

1. Position the screen.
2. Make the distance between the headlamp center and the screen 7.62 m (25 ft).
3. Start the engine and illuminate the headlamp (LO).

CAUTION:
Do not cover the lens surface with tape, etc. because it is made of plastic.
NOTE:
Block the light from the headlamp that is not being adjusted with a thick fabric or similar object, so that it does not reach the screen.

4. Use the adjustment screw to adjust the low beams on the screen, so that it is within the aiming adjustment area.



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
V. Vertical center line of headlamp		

FRONT FOG LAMP

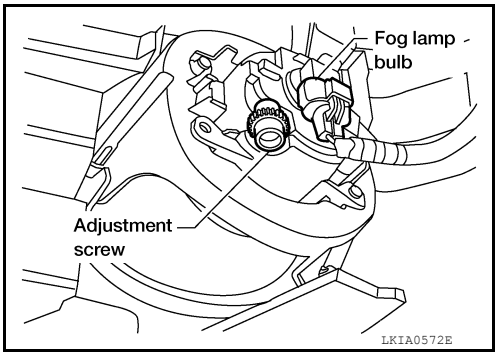
FRONT FOG LAMP : Aiming Adjustment

INFOID:0000000011288405

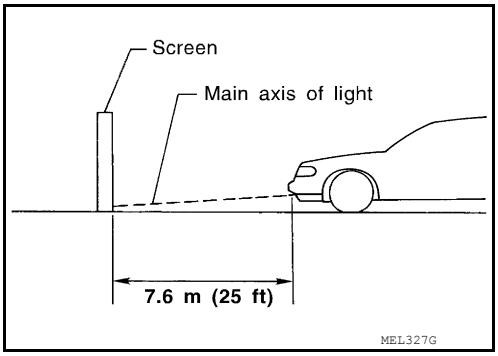
The fog lamp is a semi-sealed beam type which uses a replaceable halogen bulb.
Before performing aiming adjustment, check the following.
- Keep all tires inflated to correct pressure.
- Place vehicle on level ground.
- See that vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in driver seat.
- When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.

NOTE:

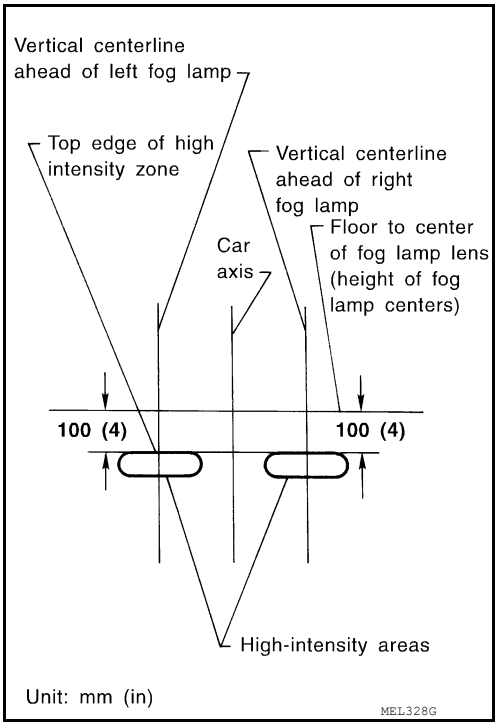
Access adjustment screw from underneath front bumper. Use a suitable tool to adjust. Turn screw clockwise to raise pattern and counterclockwise to lower pattern.



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 100 mm (4 in) below the height of the fog lamp centers as shown.



UNIT REMOVAL AND INSTALLATION

HEADLAMP

Bulb Replacement

INFOID:0000000011288406

HEADLAMP - LOW/HIGH BEAM

WARNING:
Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.
CAUTION:
- **Do not touch glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.**
- **Do not leave the bulb out of the lamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp.**

Removal

1. Remove front combination lamp. Refer to EXL-135, "Removal and Installation".
2. Disconnect the harness connector.
3. Rotate headlamp bulb counterclockwise and remove.

Installation
Installation is in the reverse order of removal.
CAUTION:
After installing, be sure to install the bulb securely to ensure watertightness.

FRONT TURN SIGNAL/PARKING LAMP

Removal

1. Remove front combination lamp. Refer to EXL-135, "Removal and Installation".
2. Rotate bulb socket counterclockwise and remove.
3. Pull bulb to remove from the socket.

Installation
Installation is in the reverse order of removal.
CAUTION:
After installing, be sure to install the bulb socket securely to ensure watertightness.

FRONT SIDE MARKER LAMP

Removal

1. Remove front combination lamp. Refer to EXL-135, "Removal and Installation".
2. Rotate the bulb socket counterclockwise and remove.
3. Pull bulb to remove from the socket.

Installation
Installation is in the reverse order of removal.
CAUTION:
After installing, be sure to install the bulb socket securely to ensure watertightness.

Removal and Installation

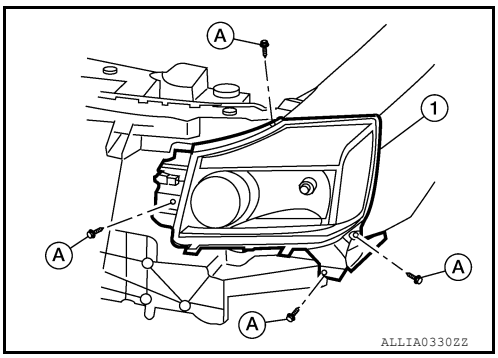
INFOID:0000000011288407

FRONT COMBINATION LAMP

Removal

1. Partially remove fender protector (front edge). Refer to EXT-27, "Removal and Installation".
2. Remove front grille. Refer to EXT-23, "Removal and Installation".

3. Remove the bolts (A), disconnect the harness connector from the front combination lamp (1) and remove.

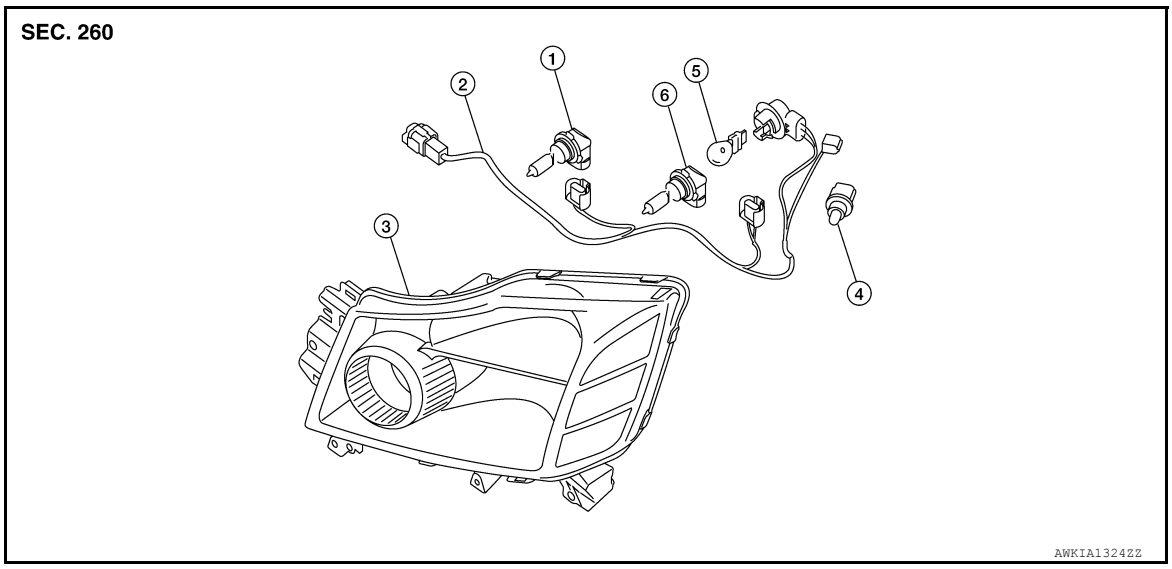


Installation
Installation is in the reverse order of removal.
NOTE:
After installation perform headlamp aiming adjustment. Refer to EXL-132, "HEADLAMP : Aiming Adjustment".

Disassembly and Assembly

INFOID:0000000011288408

FRONT COMBINATION LAMP



1. Headlamp bulb (high beam)
2. Wiring harness
3. Front combination lamp
4. Side marker lamp bulb
5. Turn signal/parking lamp bulb
6. Headlamp bulb (low beam)

Disassembly

1. Rotate high beam bulb counterclockwise and remove.
2. Rotate low beam bulb counterclockwise and remove.
3. Rotate turn signal/parking lamp bulb socket counterclockwise and remove.
4. Rotate side marker lamp bulb socket counterclockwise and remove.

Assembly
Assembly is in the reverse order of disassembly.
CAUTION:
After installing, be sure to install the bulb sockets securely to ensure watertightness.

AUTO LIGHT SYSTEM

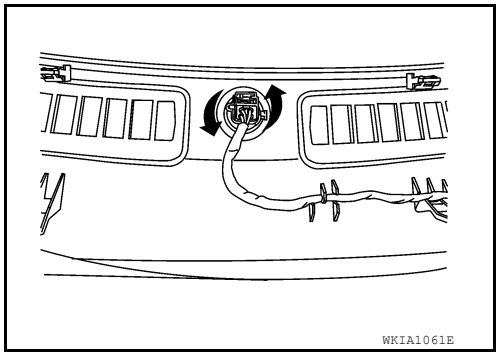
Removal and Installation

INFOID:0000000011288409

OPTICAL SENSOR

Removal

1. Remove defroster grille. Refer to IP-11, "Exploded View".
2. Disconnect the harness connector from the optical sensor.
3. Rotate the optical sensor counterclockwise and remove from defroster grille.



Installation

Installation is in the reverse order of removal.

FRONT FOG LAMP

Bulb Replacement

INFOID:0000000011288410

FRONT FOG LAMP

Removal

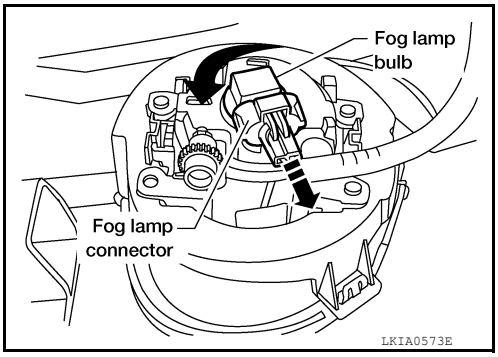
WARNING:

Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.

CAUTION:

- **Do not touch glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.**
- **Do not leave the bulb out of the lamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp.**

1. Disconnect the harness connector from the front fog lamp bulb.
2. Rotate front fog lamp bulb counterclockwise and remove.



Installation

Installation is in the reverse order of removal.

CAUTION:

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

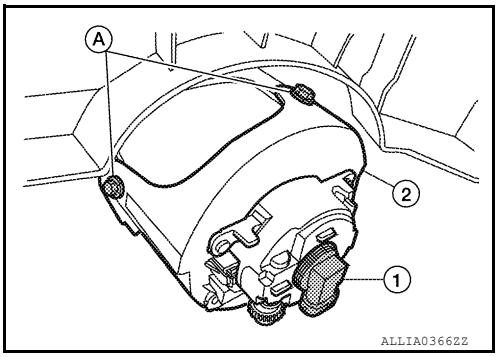
Removal and Installation

INFOID:0000000011288411

FRONT FOG LAMP

Removal

1. Disconnect the harness connector from the front fog lamp bulb (1).
2. Remove the bolts (A) and the front fog lamp (2).



Installation

Installation is in the reverse order of removal.

NOTE:

After installing, perform fog lamp aiming adjustment. Refer to EXL-133, "FRONT FOG LAMP : Aiming Adjustment".

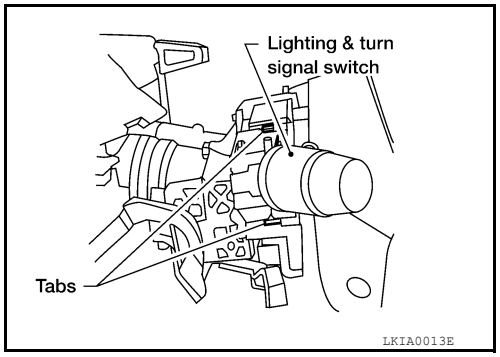
LIGHTING & TURN SIGNAL SWITCH

Removal and Installation

INFOID:0000000011288412

REMOVAL

1. Remove steering column cover. Refer to IP-14, "Removal and Installation".
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.

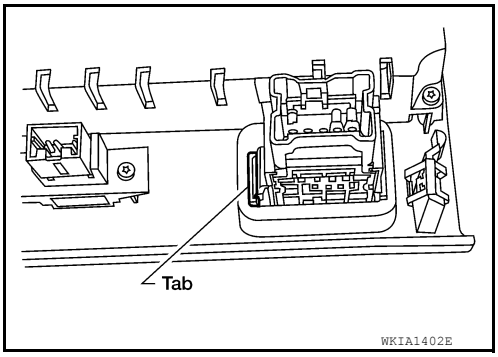
HAZARD SWITCH

Removal and Installation

INFOID:0000000011288413

REMOVAL

1. Remove cluster lid C. Refer to IP-15, "Removal and Installation".
2. While pressing the tab, push out the hazard switch.



INSTALLATION

Installation is in the reverse order of removal.

LICENSE PLATE LAMP

Bulb Replacement

INFOID:0000000011288414

LICENSE PLATE LAMP

Removal

WARNING:
Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.
CAUTION:
- **Do not touch glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.**
- **Do not leave the bulb out of the lamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp.**

1. Remove license plate lamp. Refer to EXL-141, "Removal and Installation".
2. Rotate bulb socket counterclockwise and remove.
3. Pull bulb from socket.

Installation
Installation is in the reverse order of removal.

Removal and Installation

INFOID:0000000011288415

LICENSE PLATE LAMP

Removal

1. Using a suitable tool, first release the tab which is forward in vehicle, then pry outward to release the second tab.
2. Disconnect the harness connector and remove the license plate lamp from the rear bumper.

Installation
Installation is in the reverse order of removal.

PUDDLE LAMP

Removal and Installation

INFOID:0000000011288416

REMOVAL

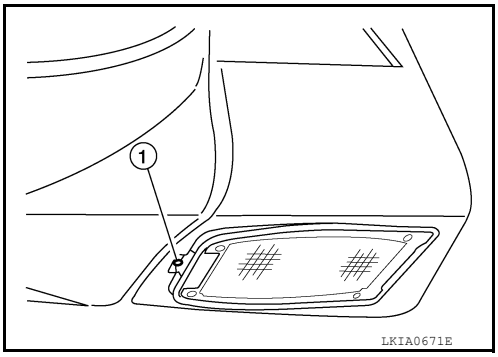
WARNING:

Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.

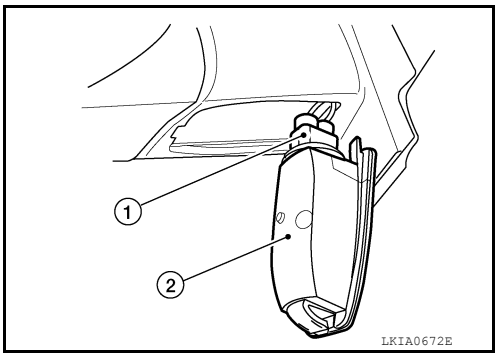
CAUTION:

- **Do not touch glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.**
- **Do not leave the bulb out of the lamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp.**

1. Release pawl (1) on outer edge of puddle lamp housing.



2. Lower outer edge and slide puddle lamp housing out of door mirror.
3. Rotate puddle lamp socket (1) counterclockwise to remove from puddle lamp housing (2).



INSTALLATION

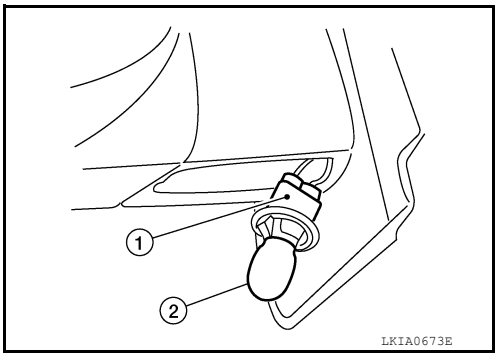
Installation is in the reverse order of removal.

Bulb Replacement

INFOID:0000000011288417

REMOVAL

1. Remove puddle lamp. Refer to EXL-142, "Removal and Installation".
2. Pull puddle lamp bulb (2) straight out from puddle lamp socket (1) to remove.



INSTALLATION

Installation is in the reverse order of removal.

HIGH-MOUNTED STOP LAMP

Bulb Replacement

INFOID:0000000011288418

REMOVAL AND INSTALLATION

NOTE:

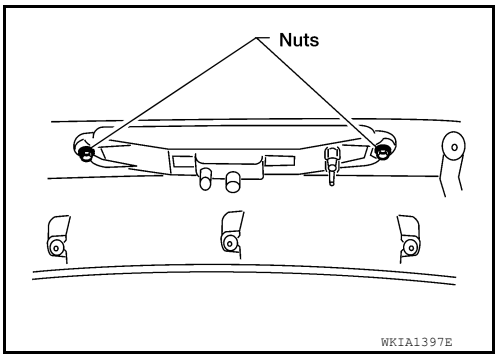
High-mounted stop lamp bulbs are not serviceable.

Removal and Installation

INFOID:0000000011288419

REMOVAL

1. Remove back door upper finisher. Refer to INT-27, "Removal and Installation".
2. Remove nuts and high-mounted stop lamp assembly.



INSTALLATION

Installation is in the reverse order of removal.

REAR COMBINATION LAMP

Bulb Replacement

INFOID:0000000011288420

REMOVAL

WARNING:

Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.

CAUTION:

- **Do not touch glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.**
- **Do not leave the bulb out of the lamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp.**

1. Remove rear combination lamp. Refer to EXL-145, "Removal and Installation".
2. Rotate bulb socket counterclockwise and remove.
3. Pull bulb from socket.

INSTALLATION

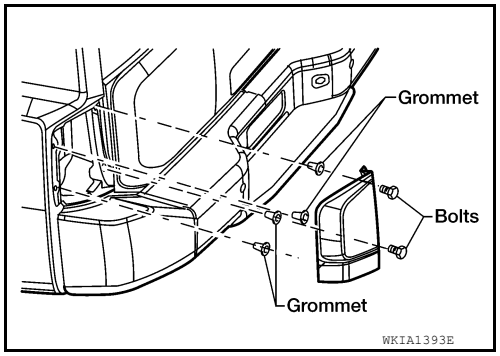
Installation is in the reverse order of removal.

Removal and Installation

INFOID:0000000011288421

REMOVAL

1. Remove rear combination lamp bolts.
2. Pull rear combination lamp to remove.
3. Disconnect the harness connector from the rear combination lamp.



INSTALLATION

Installation is in the reverse order of removal.

SERVICE DATA AND SPECIFICATIONS (SDS)

BULB SPECIFICATIONS

Bulb Specifications

INFOID:0000000011288422

Item		Wattage (W)*
Front combination lamp	Headlamp (HI/LO)	65/55
	Parking lamp/Turn lamp	28/8
	Side marker lamp	3.8
Front fog lamp (if equipped)		55
Side turn signal lamp (if equipped)		-
Puddle lamp (if equipped)		9
Rear combination lamp	Stop lamp/Tail lamp	27/8
	Rear turn signal lamp	18
	Back-up lamp	18
License plate lamp		5
High-mounted stop lamp		-

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