SECTION EXL
EXTERIOR LIGHTING SYSTEM

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000012519653

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 for Work

INFOID:0000000012519654

- 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.

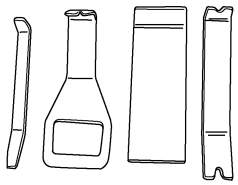
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000012519655

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

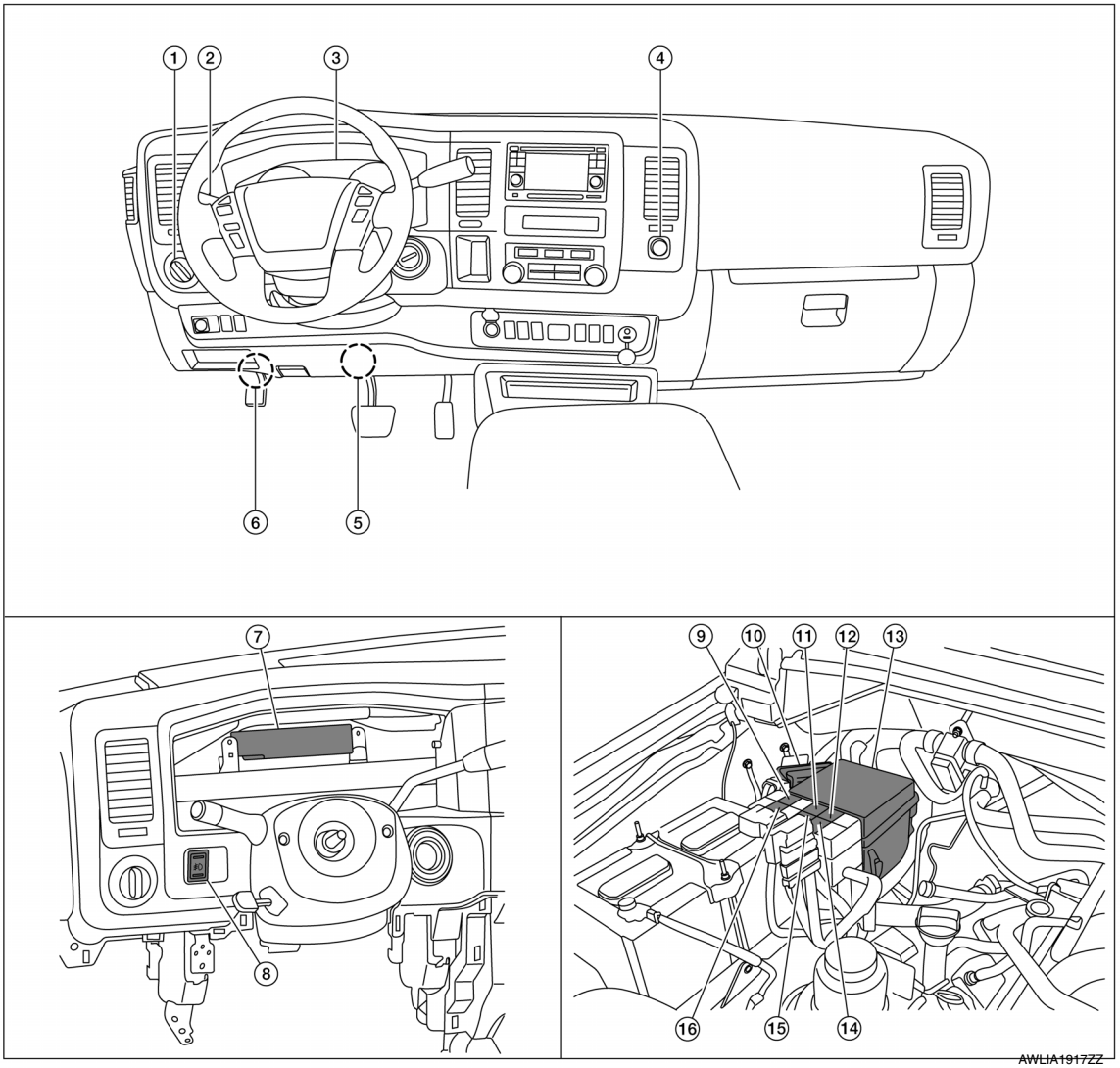
SYSTEM DESCRIPTION

COMPONENT PARTS

EXTERIOR LIGHTING SYSTEM

EXTERIOR LIGHTING SYSTEM : Component Parts Location

INFOID:0000000012519656



1. Lighting switch
2. Combination switch (high beam and turn signal switch)
3. Combination meter
4. Hazard switch
5. Stop lamp switch
6. Parking brake switch
7. BCM (view with instrument panel removed)
8. Front fog lamp switch (passenger van, if equipped)
9. Daytime running light relay 1
10. ECM
11. Trailer tow relay 1
12. Trailer tow relay 2
13. IPDM E/R
14. Trailer turn relay RH
15. Trailer turn relay LH
16. Daytime running light relay 2

EXTERIOR LIGHTING SYSTEM : Component Description

INFOID:0000000012519657

Part name	Description
BCM	Controls the exterior lighting system.

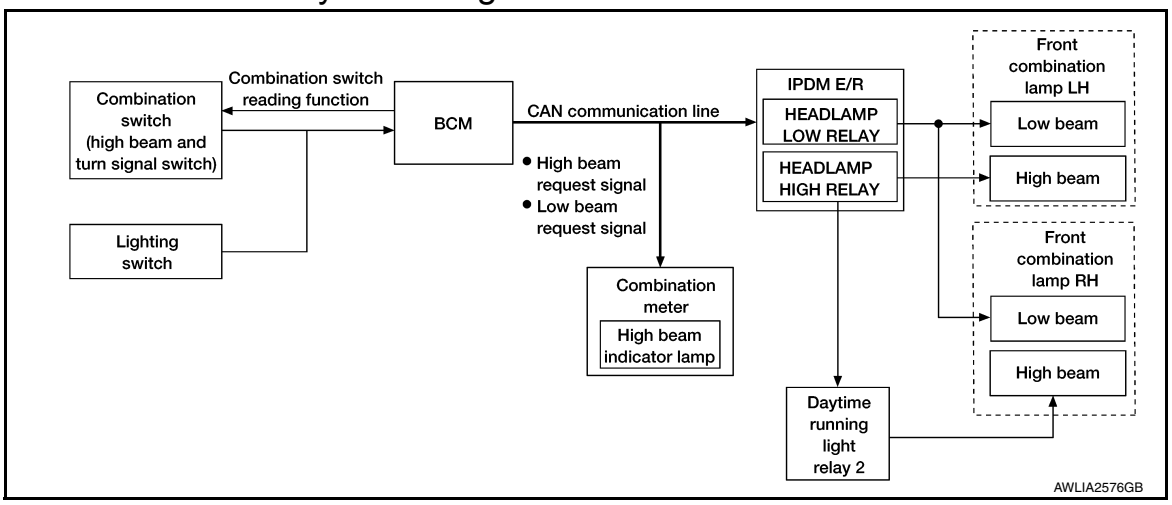
Combination meter	• Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM (via CAN communication). • Turns the tail lamp indicator lamp and high beam indicator lamp ON according to the request from BCM (via CAN communication).
Combination switch (high beam and turn signal switch)	Refer to BCS-7, "COMBINATION AND LIGHTING SWITCH READING SYSTEM : System Description".
Hazard switch	Hazard flasher request signal is output to the BCM.
IPDM E/R	Controls the integrated relays, and supplies voltage to the load according to the request from BCM (via CAN communication).
Lighting switch	Refer to BCS-7, "COMBINATION AND LIGHTING SWITCH READING SYSTEM : System Description".
Stop lamp switch	Stop lamp signal is output to the rear combination lamps and high-mounted stop lamp.
Parking brake switch	Parking brake request signal is output to the combination meter.
Front fog lamp switch	Front fog lamp switch signal input to BCM.

SYSTEM

HEADLAMP SYSTEM

HEADLAMP SYSTEM : System Diagram - For USA

INFOID:0000000012519658



HEADLAMP SYSTEM : System Description - For USA

INFOID:0000000012519659

LOW BEAM OPERATION

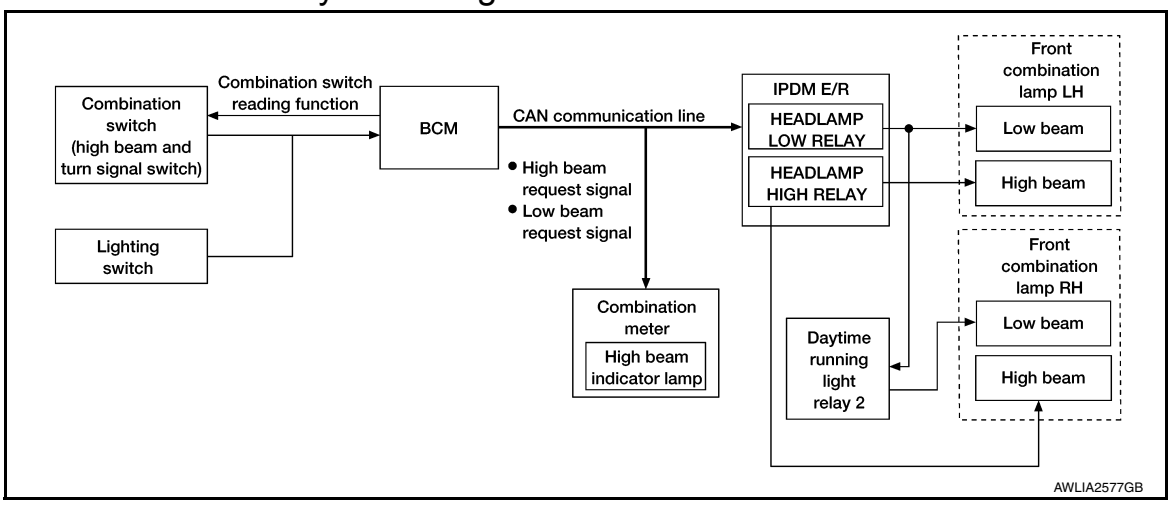
When the lighting switch is in 2ND position, the BCM receives input requesting the headlamps to illuminate. This input is communicated to the IPDM E/R via the CAN communication lines.
The CPU of the IPDM E/R controls the headlamp low relay coil which supplies power to the LH and RH low beam headlamps.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

With the lighting switch in the 2ND position and the combination switch (high beam and turn signal switch) 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 LH high beam headlamp and the daytime running light relay 2 which then supplies power to the RH high beam headlamp.
The combination meter receives a high beam request signal (ON) via the CAN communication lines and turns the high beam indicator lamp ON.

HEADLAMP SYSTEM : System Diagram - For Canada

INFOID:0000000012519660



HEADLAMP SYSTEM : System Description - For Canada

INFOID:0000000012519661

LOW BEAM OPERATION

When the lighting 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 LH low beam headlamp and the daytime running light relay 2 which then supplies power to the RH low beam headlamp.

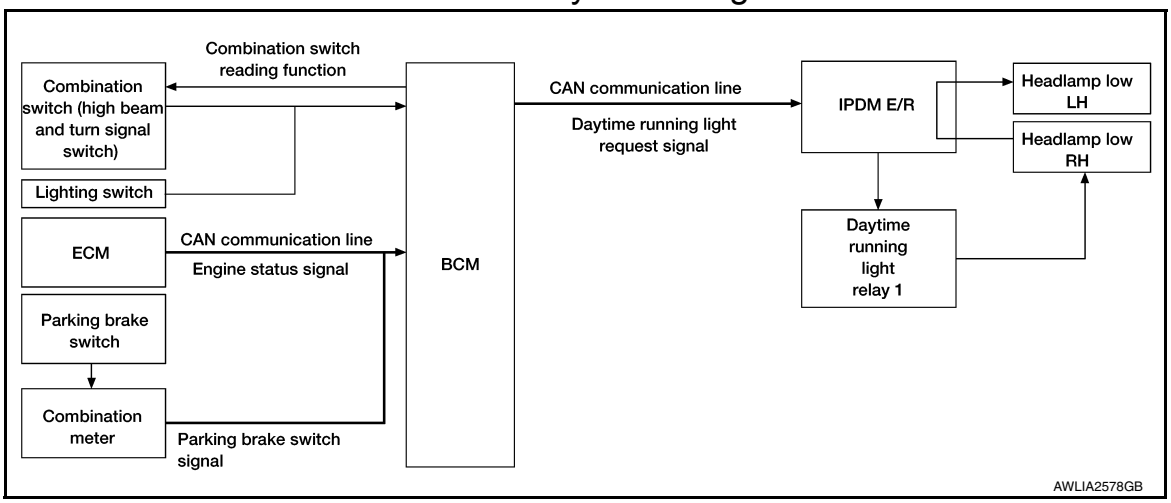
HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

With the lighting switch in the 2ND position and the combination switch (high beam and turn signal switch) 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 LH and RH 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.

DAYTIME RUNNING LIGHT SYSTEM

DAYTIME RUNNING LIGHT SYSTEM : System Diagram - For USA

INFOID:0000000012519662



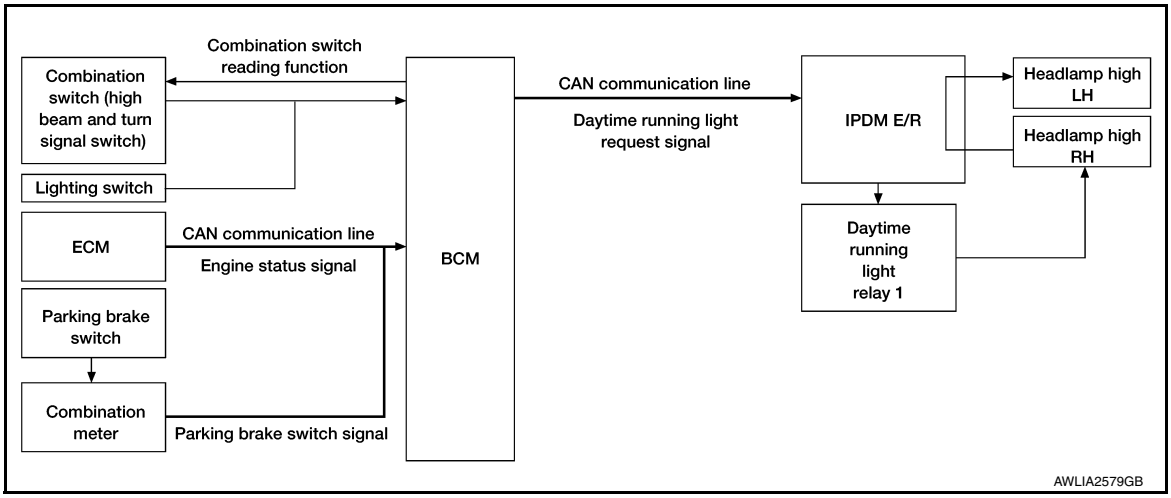
DAYTIME RUNNING LIGHT SYSTEM : System Description - For USA

INFOID:0000000012519663

The headlamp system is equipped with a daytime running light relay 1 that activates the low beam headlamps at approximately half illumination whenever the engine is operating and the lighting switch is in the OFF position. 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. With the lighting switch in the 2nd position the headlamps function the same as conventional light systems.
The BCM monitors inputs from the parking brake switch and the lighting 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 1 which in turn, provides power to the ground side of the RH low beam lamp. Power flows backward through the RH low beam lamp to the IPDM E/R, through fuse 41, through fuse 40 and to the LH low beam lamp and on to ground. The low beam lamps are wired in series which causes them to illuminate at a reduced intensity.

DAYTIME RUNNING LIGHT SYSTEM : System Diagram - For Canada

INFOID:0000000012519664



DAYTIME RUNNING LIGHT SYSTEM : System Description - For Canada

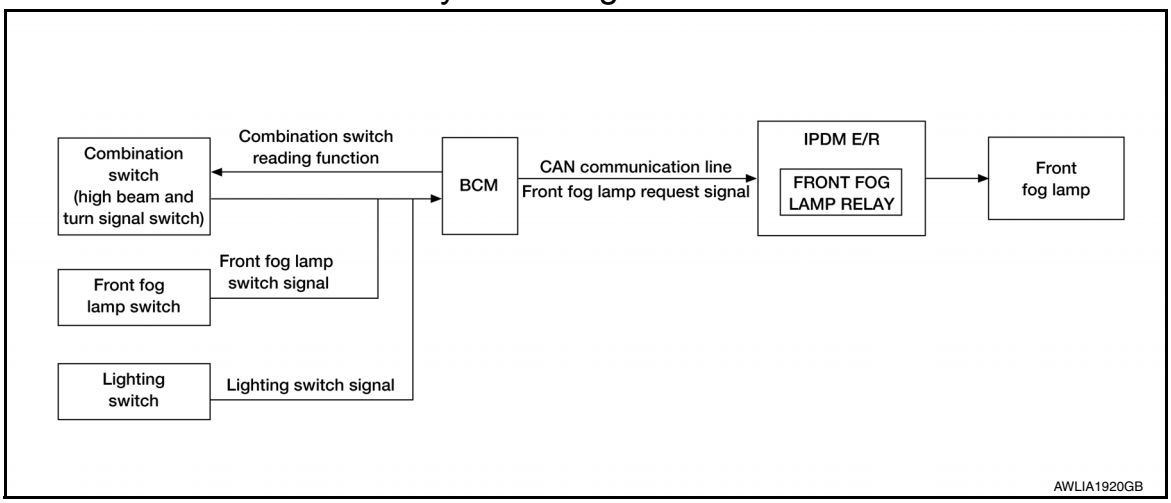
INFOID:0000000012519665

The headlamp system is equipped with a daytime running light relay 1 that activates the high beam headlamps at approximately half illumination whenever the engine is operating and the lighting switch is in the OFF position. 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. With the lighting switch in the 2nd position the headlamps function the same as conventional light systems.
The BCM monitors inputs from the parking brake switch and the lighting 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 1 which in turn, provides power to the ground side of the RH high beam lamp. Power flows backward through the RH high beam lamp to the IPDM E/R, through fuse 34, fuse 35 and to the LH high beam lamp and on to ground. The high beam lamps are wired in series which causes them to illuminate at a reduced intensity.

FRONT FOG LAMP SYSTEM

FRONT FOG LAMP SYSTEM : System Diagram

INFOID:0000000012519666



FRONT FOG LAMP SYSTEM : System Description

INFOID:0000000012519667

FRONT FOG LAMP OPERATION

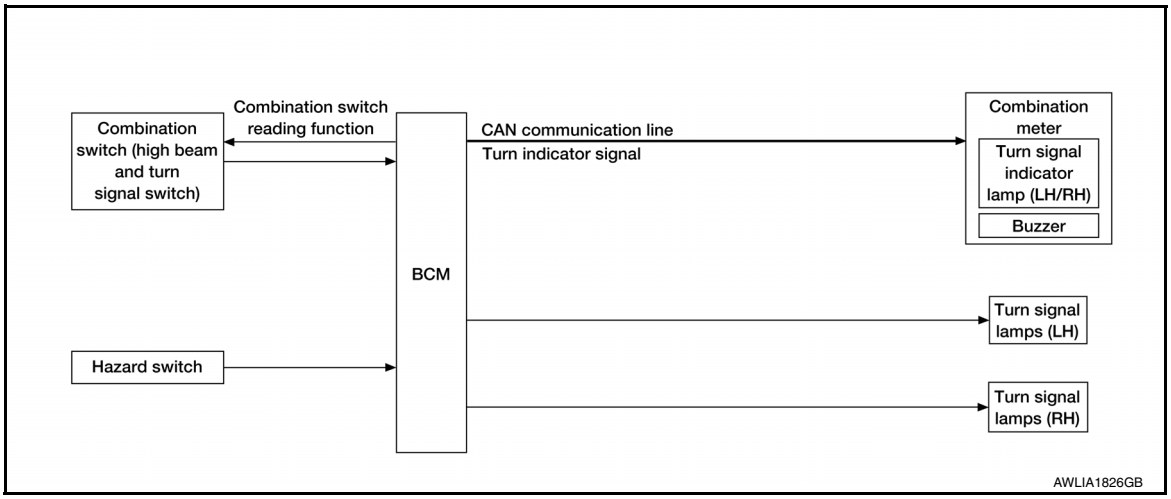
The lighting switch must be in the 2ND position (low beam headlamps ON) for front fog lamp operation.With the front fog lamp switch in the ON position, the front fog lamp switch signal to the BCM is monitored with the BCM combination switch reading function. The BCM sends a front fog lamp request signal via CAN communication lines to the IPDM E/R.

The IPDM E/R grounds the front fog lamp relay coil sending power to the front fog lamps.

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Diagram

INFOID:0000000012519668



TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

INFOID:0000000012519669

TURN SIGNAL OPERATION

When the combination switch (high beam 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

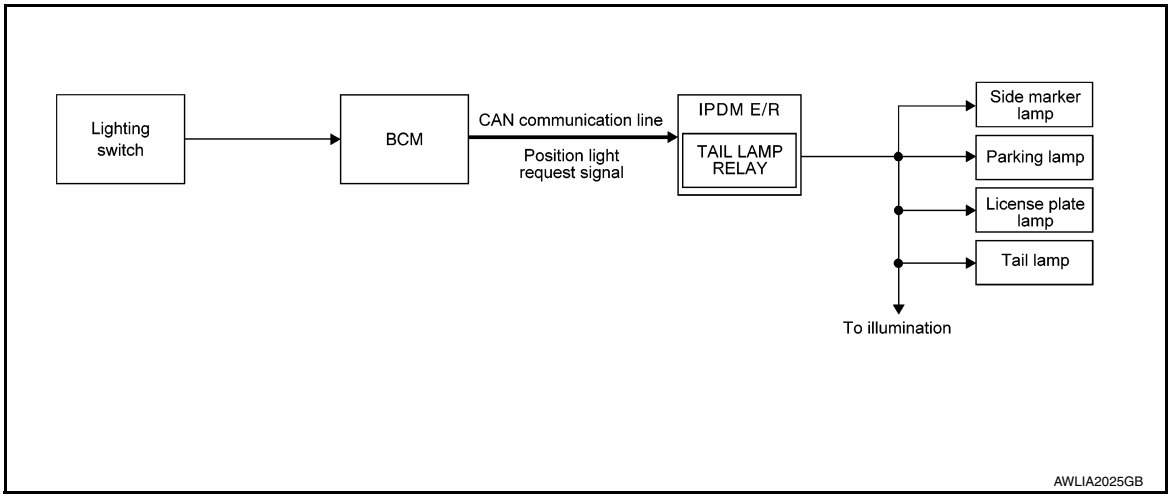
The remote keyless entry receiver transmits a hazard request signal to the BCM, then BCM controls hazard lamps.

Refer to DLK-13, "REMOTE KEYLESS ENTRY SYSTEM : System Description".

PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM

PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM : System Diagram

INFOID:0000000012519670



PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM : System Description

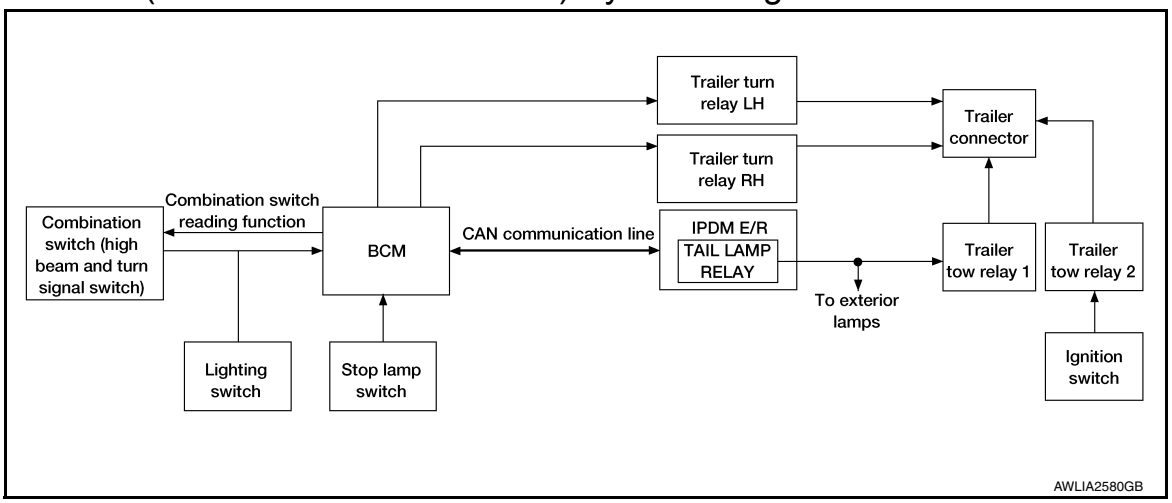
INFOID:0000000012519671

When the lighting 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.

TAIL LAMPS

TAIL LAMPS : (TRAILER TOW SYSTEM) System Diagram

INFOID:0000000012519672



TAIL LAMPS : (TRAILER TOW SYSTEM) System Description

INFOID:0000000012519673

TRAILER TAIL LAMP OPERATION

The trailer tail lamps are controlled by the trailer tow relay 1. With the lighting 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 (high beam 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 in the ON position, the BCM detects the hazard ON request. The BCM then sends a control signal to both trailer turn relays which send 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 send power to the trailer connector.

EXTERIOR LAMP BATTERY SAVER SYSTEM

EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description

INFOID:0000000012519674

With the lighting 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 5 minutes 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-24, "BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)".

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

INFOID:0000000012815310

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	HEAD LAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×		×			
Interior room lamp battery saver	BATTERY SAVER			×		×		
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×		×		
Signal buffer system	SIGNAL BUFFER			×	×			
Panic alarm system	PANIC ALARM				×			

BUZZER

BUZZER : CONSULT Function (BCM - BUZZER)

INFOID:0000000012815311

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.
REVERSE SW CAN [On/Off]	Indicates reverse switch signal received from TCM on CAN communication line.
TAIL LAMP SW [On/Off]	Indicates condition of lighting switch.
FR FOG SW [On/Off]	Indicates condition of front fog lamp switch.
BUCKLE SW [On/Off]	Indicates condition of seat belt buckle switch.
VEHICLE SPEED [km/h/mph]	Indicates vehicle speed signal received from combination meter on CAN communication line.

ACTIVE TEST

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

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEADLAMP)

INFOID:0000000012815312

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]	Indicates condition of lighting switch.
HEAD LAMP SW 2 [On/Off]	
TAIL LAMP SW [On/Off]	
PASSING SW [On/Off]	Indicates condition of combination switch.
FR FOG SW [On/Off]	Indicates condition of front fog lamp 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 back door switch.
DOOR SW-RL [On/Off]	Indicates condition of sliding door switch.
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]	
KEY ON SW [On/Off]	Indicates condition of key switch.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
PKB SW [On/Off]	Indicates parking brake switch signal received from combination meter on CAN communication line.
ENGINE RUN [On/Off]	Indicates run condition of engine.
VEHICLE SPEED [km/h/mph]	Indicates vehicle speed signal received from combination meter on CAN communication line.

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].
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].
ILL DIM SIGNAL	This test is able to check illumination dimming operation [Off/On].

WORK SUPPORT

Support Item	Setting		Description
BATTERY SAVER SET	Off		Exterior lamp battery saver function OFF.
	On*		Exterior lamp battery saver function ON.
AUTO LIGHT LOGIC SET	MODE1*	With twilight ON custom & with wiper INT, LO and HI	
	MODE2	With twilight ON custom & with wiper LO and HI	
	MODE3	With twilight ON custom & without	
	MODE4	Without twilight ON custom & with wiper INT, LO and HI	
	MODE5	Without twilight ON custom & with wiper LO and HI	
	MODE6	Without twilight ON custom & without	
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:0000000012815313

DATA MONITOR

Monitor Item [Unit]	Description
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]	

ACTIVE TEST

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

COMB SW

COMB SW : CONSULT Function (BCM - COMB SW)

INFOID:0000000012815314

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 lighting switch.
HEAD LAMP SW 2 [On/Off]	
TAIL LAMP SW [On/Off]	
PASSING SW [On/Off]	Indicates condition of passing switch operation of combination switch.
FR FOG SW [On/Off]	Indicates condition of front fog lamp 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 - 5]	Indicates condition of intermittent wiper operation of combination switch.

BCM

BCM : CONSULT Function (BCM - BCM)

INFOID:0000000012815315

ECU IDENTIFICATION

The BCM part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to BCS-39, "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-48, "CONFIGURATION (BCM) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-13, "CAN Diagnostic Support Monitor".

BATTERY SAVER

BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)

INFOID:0000000012815316

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 back door switch.
DOOR SW-RL [On/Off]	Indicates condition of sliding door switch.
BACK DOOR SW [On/Off]	Indicates condition of back door 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.

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.
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.
ACC SW [On/Off]	Indicates condition of ignition switch ACC position.

WORK SUPPORT

Support Item	Setting		Description
ROOM LAMP TIMER SET	MODE3	10 min	Sets the interior room lamp battery saver timer operating time.
	MODE2	60 min	
	MODE1*	15 min	

*: Initial setting

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

INFOID:0000000012815317

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 warning indicator
- Rear window defogger (if equipped)
- Front wipers
- Tail, license plate, side marker 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 beforehand.
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:

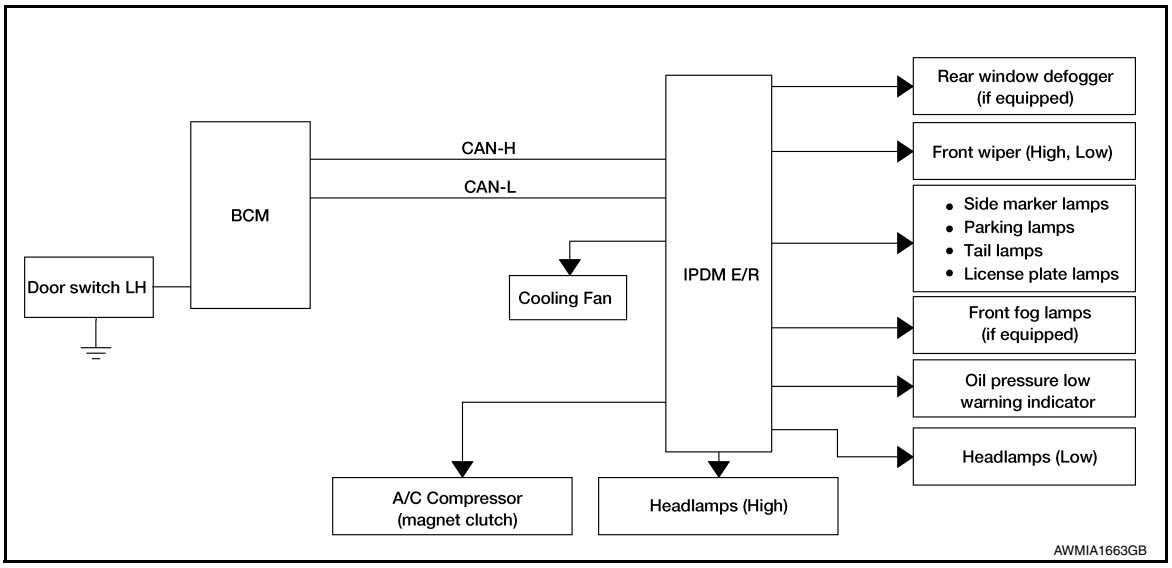
- **If auto active test mode cannot be actuated, check door switch system. Refer to DLK-50, "Description".**
- **Do not start the engine.**

Inspection in Auto Active Test Mode

When auto active test mode is actuated, the following operation sequence is repeated 3 times.

Operation sequence	Inspection Location	Operation
1	Oil pressure low warning indicator	Blinks continuously during operation of auto active test
2	Rear window defogger (if equipped)	10 seconds
3	Front wipers	LO for 5 seconds → HI for 5 seconds
4	Tail, license plate, side marker, parking lamps and 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 warning indicator does not operate	Perform auto active test. Does the oil pressure low warning indicator blink?	YES	• IPDM E/R signal input circuit • CAN communication signal between ECM and combination meter • Oil pressure switch wiring • Oil pressure switch
		NO	• CAN communication signal between IPDM E/R, BCM and combination meter
Rear window defogger (if equipped) does not operate	Perform auto active test. Does the rear window defogger operate?	YES	BCM signal input circuit
		NO	• Harness or connector between front air control • CAN communication signal between BCM and IPDM E/R • Rear window defogger • Rear window defogger ground • IPDM E/R
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) • Side marker lamps	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

Symptom	Inspection contents		Possible cause
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:0000000012815318

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-17, "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
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 fog lamp 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

Monitor Item [Unit]	Main Signals	Description
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 [On/Off]		Indicates daytime running 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 [Hi/Lo/TAIL/Fog/Off].
HORN	This test is able to check horn operation [On].

CAN DIAG SUPPORT MNTR

Refer to LAN-13, "CAN Diagnostic Support Monitor".

ECU DIAGNOSIS INFORMATION

BCM, IPDM E/R

List of ECU Reference

INFOID:0000000012519684

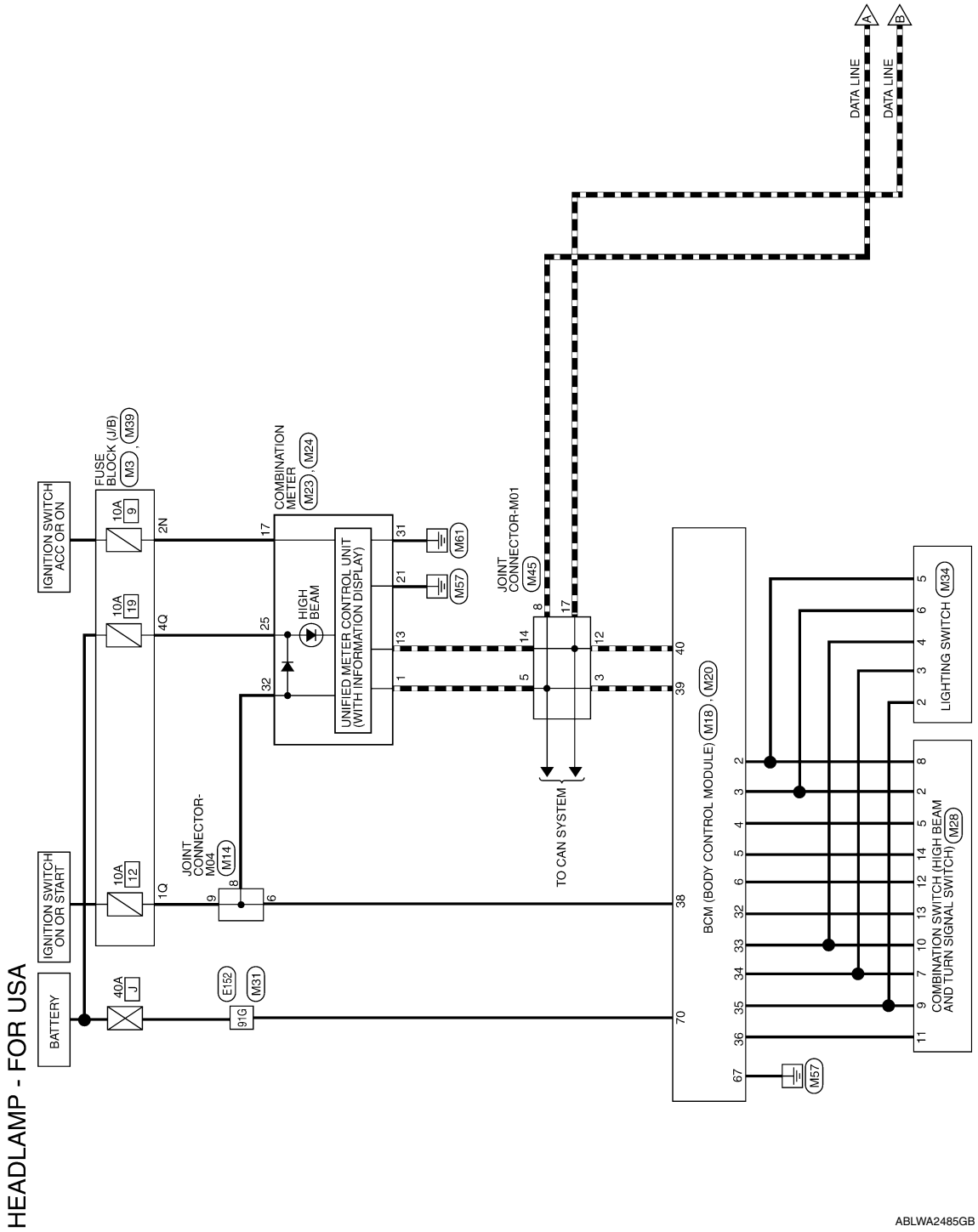
ECU	Reference
BCM	BCS-28, "Reference Value"
	BCS-39, "Fail-safe"
	BCS-39, "DTC Inspection Priority Chart"
	BCS-39, "DTC Index"
IPDM E/R	PCS-12, "Reference Value"
	PCS-16, "Fail Safe"
	PCS-17, "DTC Index"

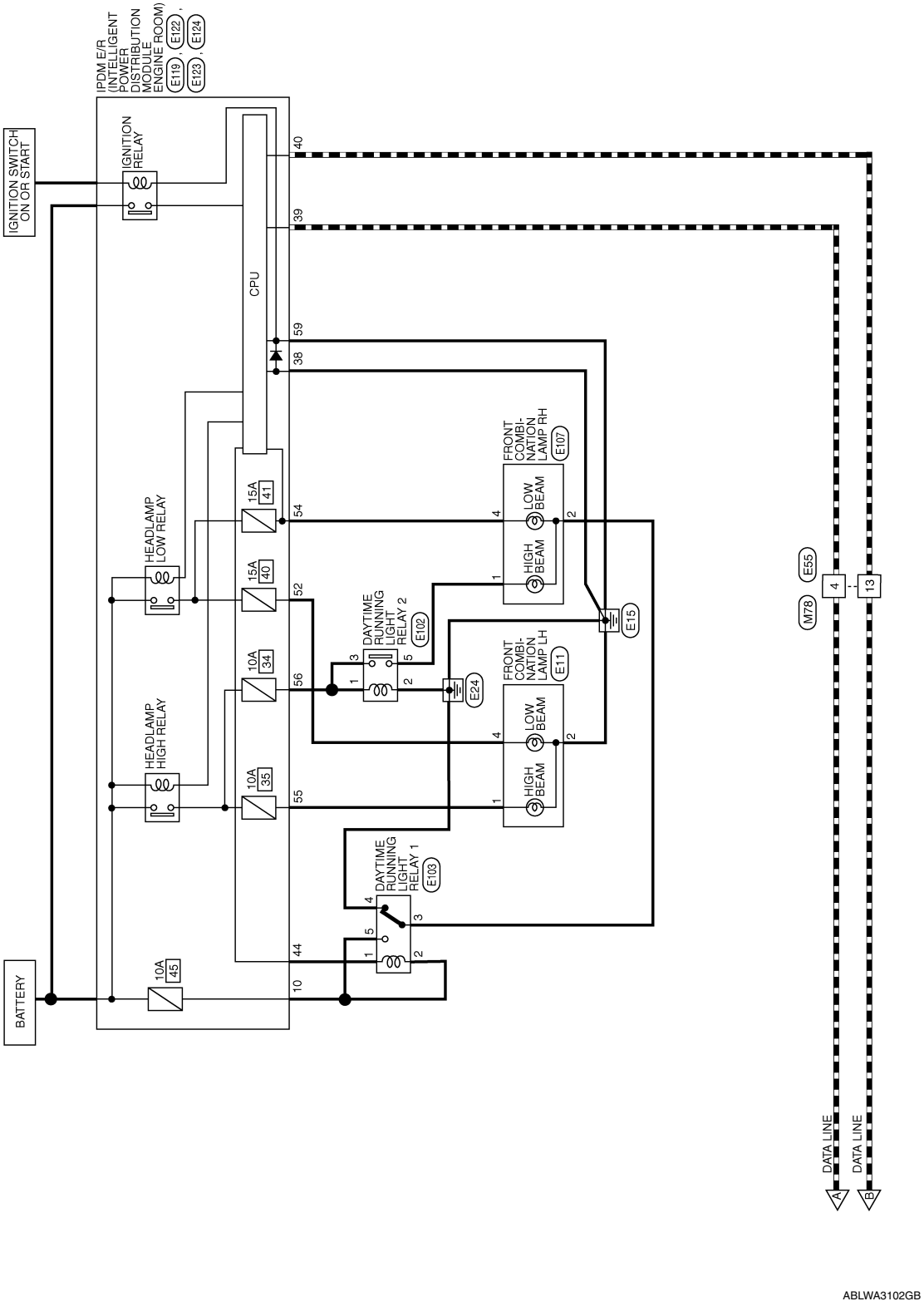
WIRING DIAGRAM

HEADLAMP

Wiring Diagram -For USA

INFOID:0000000012519685

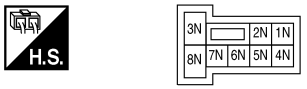




ABLWA3102GB

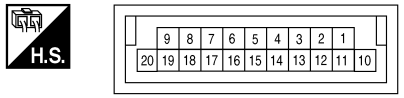
HEADLAMP CONNECTORS - FOR USA

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



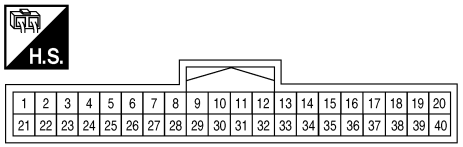
Terminal No.	Color of Wire	Signal Name
2N	O	–

Connector No.	M14
Connector Name	JOINT CONNECTOR-M04
Connector Color	BLUE



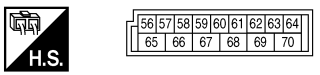
Terminal No.	Color of Wire	Signal Name
6	R	–
8	R	–
9	R	–

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



Terminal No.	Color of Wire	Signal Name
2	L	INPUT 5
3	P	INPUT 4
4	LG	INPUT 3
5	O	INPUT 2
6	R	INPUT 1
32	SB	OUTPUT 5
33	G	OUTPUT 4
34	Y	OUTPUT 3
35	BR	OUTPUT 2
36	Y	OUTPUT 1
38	R	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
70	R	BATTERY (F/L)

ABLIA6030GB

Connector No.	M23
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

30	29	28	27	26	25
36	35	34	33	32	31

Terminal No.	Color of Wire	Signal Name
25	Y	BATTERY
31	B	GND (POWER)
32	R	RUN START

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
13	P	CAN-L
17	O	ACC
21	B	GND (ILL)

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

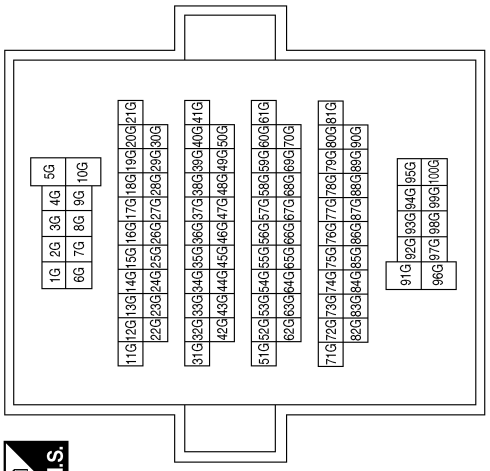
H.S.

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

Terminal No.	Color of Wire	Signal Name
2	P	–
5	LG	–
7	Y	–
8	L	–
9	BR	–
10	G	–
11	Y	–
12	R	–
13	SB	–
14	O	–

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

H.S.

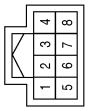


Terminal No.	Color of Wire	Signal Name
91G	R	–

ABLIA5990GB

Connector No.	M34
Connector Name	LIGHTING SWITCH
Connector Color	WHITE

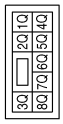
H.S.



Terminal No.	Color of Wire	Signal Name
2	BR	–
3	Y	–
4	G	–
5	L	–
6	P	–

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

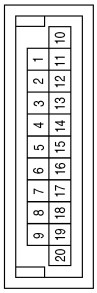
H.S.



Terminal No.	Color of Wire	Signal Name
1Q	R	–
4Q	Y	–

Connector No.	M45
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE

H.S.



Terminal No.	Color of Wire	Signal Name
3	L	–
5	L	–
8	L	–
12	P	–
14	P	–
17	P	–

Connector No.	M78
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

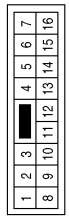
Connector No.	E11
Connector Name	FRONT COMBINATION LAMP LH
Connector Color	GRAY

H.S.

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

Connector No.	E55
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



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

ABLIA5991GB

Connector No.	E102
Connector Name	DAYTIME RUNNING LIGHT RELAY 2 (FOR USA)
Connector Color	BLUE

H.S.

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

Connector No.	E103
Connector Name	DAYTIME RUNNING LIGHT RELAY 1
Connector Color	BLACK

H.S.

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

Connector No.	E107
Connector Name	FRONT COMBINATION LAMP RH
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	B	–
4	V	–

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
10	G	DTRL RLY SUPPLY

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
44	BR	DTRL RLY DRIVE

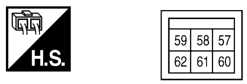
Connector No.	E123
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
52	L	HEAD/L LO LH
54	V	HEAD/L LO RH
55	R	HEAD/L HI LH
56	Y	HEAD/L HI RH

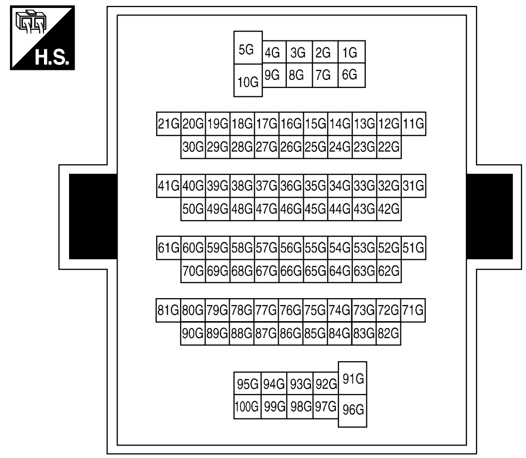
ABLIA7697GB

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



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

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

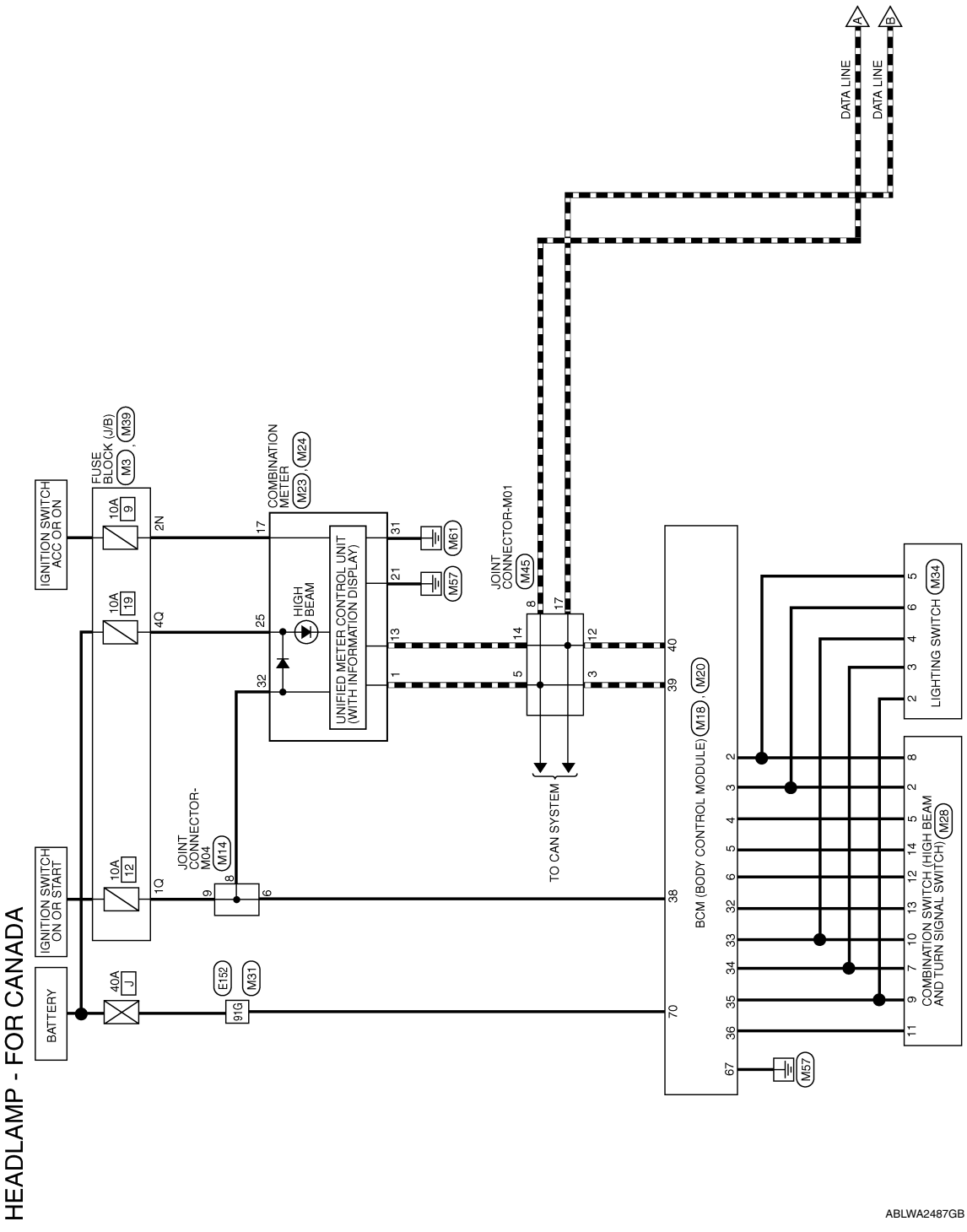


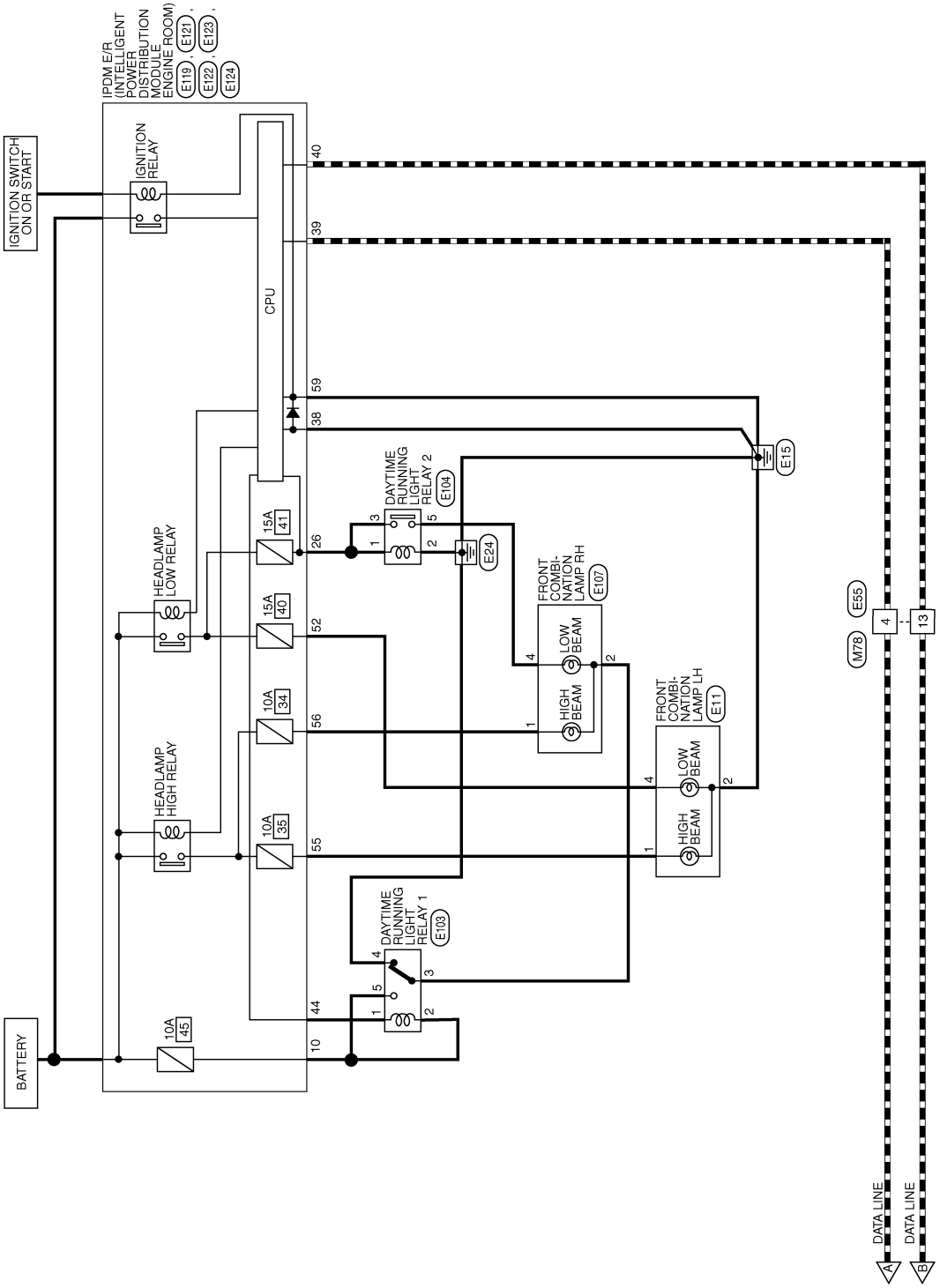
Terminal No.	Color of Wire	Signal Name
91G	R	–

ABLIA3028GB

Wiring Diagram -For Canada

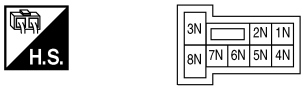
INFOID:0000000012519686




IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E119, E121, E122, E123, E124
IGNITION SWITCH ON OR START
IGNITION RELAY
CPU
40
39
59
38
E15
DAYTIME RUNNING LIGHT RELAY 2 E104
15A 41
26
E24
HEADLAMP LOW RELAY
15A 40
52
FRONT COMBI-NATION LAMP RH E107
LOW BEAM
HIGH BEAM
10A 34
56
FRONT COMBI-NATION LAMP LH E11
HEADLAMP HIGH RELAY
10A 35
55
DAYTIME RUNNING LIGHT RELAY 1 E103
BATTERY
10A 45
44
10
E55
M78
4
13
DATA LINE
A
B
ABLWA3103GB

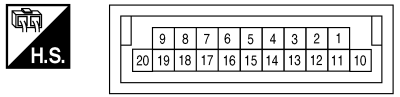
HEADLAMP CONNECTORS - FOR CANADA

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



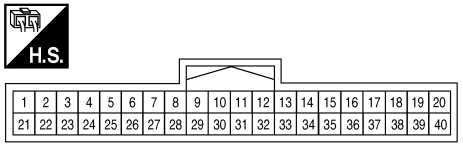
Terminal No.	Color of Wire	Signal Name
2N	O	–

Connector No.	M14
Connector Name	JOINT CONNECTOR-M04
Connector Color	BLUE



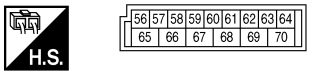
Terminal No.	Color of Wire	Signal Name
6	R	–
8	R	–
9	R	–

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



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

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

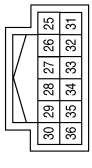


Terminal No.	Color of Wire	Signal Name
67	B	GND
70	R	BATTERY (F/L)

ABLIA6024GB

Connector No.	M23
Connector Name	COMBINATION METER
Connector Color	WHITE

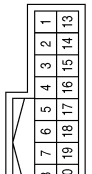
H.S.



Terminal No.	Color of Wire	Signal Name
25	Y	BATTERY
31	B	GND (POWER)
32	R	RUN START

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
13	P	CAN-L
17	O	ACC
21	B	GND (ILL)

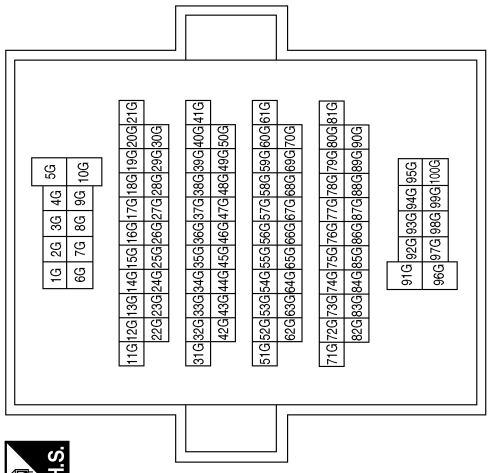
Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	P	–
5	LG	–
7	Y	–
8	L	–
9	BR	–
10	G	–
11	Y	–
12	R	–
13	SB	–
14	O	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
91G	R	–

ABLIA5994GB

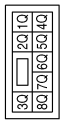
Connector No.	M34
Connector Name	LIGHTING SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	BR	–
3	Y	–
4	G	–
5	L	–
6	P	–

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

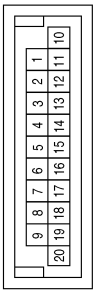
H.S.



Terminal No.	Color of Wire	Signal Name
1Q	R	–
4Q	Y	–

Connector No.	M45
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE

H.S.



Terminal No.	Color of Wire	Signal Name
3	L	–
5	L	–
8	L	–
12	P	–
14	P	–
17	P	–

Connector No.	M78
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

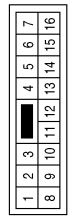
Connector No.	E11
Connector Name	FRONT COMBINATION LAMP LH
Connector Color	GRAY

H.S.

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

Connector No.	E55
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



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

ABLIA5995GB

Connector No.	E103
Connector Name	DAYTIME RUNNING LIGHT RELAY 1
Connector Color	BLACK

H.S.

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

Connector No.	E104
Connector Name	DAYTIME RUNNING LIGHT RELAY 2 (FOR CANADA)
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	B	–
3	R	–
5	V	–

Connector No.	E107
Connector Name	FRONT COMBINATION LAMP RH
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	B	–
4	V	–

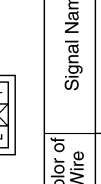
Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
10	G	DTRL RLY SUPPLY

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

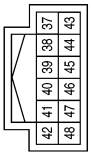
H.S.



Terminal No.	Color of Wire	Signal Name
26	R	LEVELIZER

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
44	BR	DTRL RLY DRIVE

ABLIA7696GB

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	HEAD/L LO LH
55	R	HEAD/L HI LH
56	Y	HEAD/L HI RH

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)

Terminal No.	Color of Wire	Signal Name
91G	R	–

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

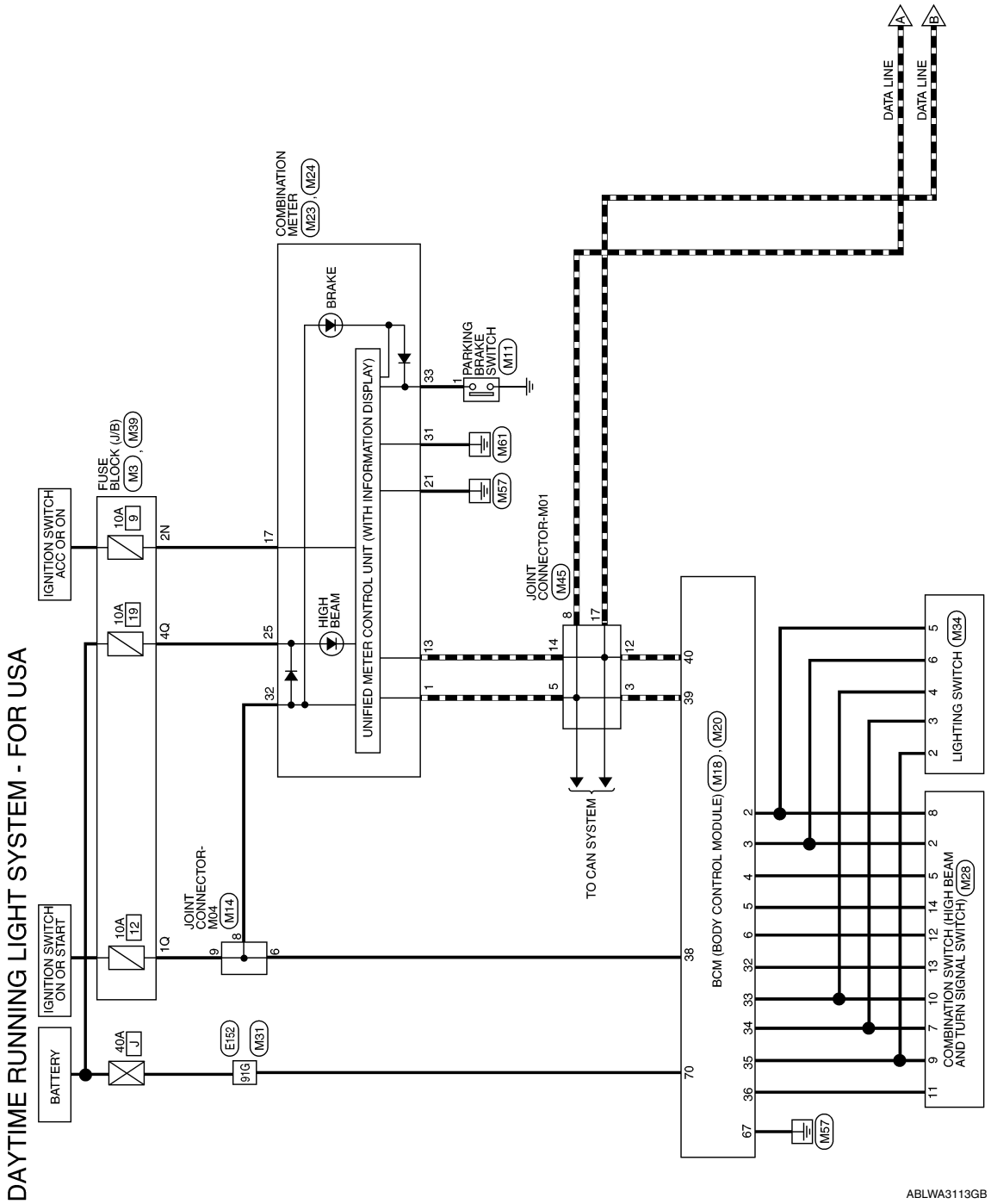
H.S.

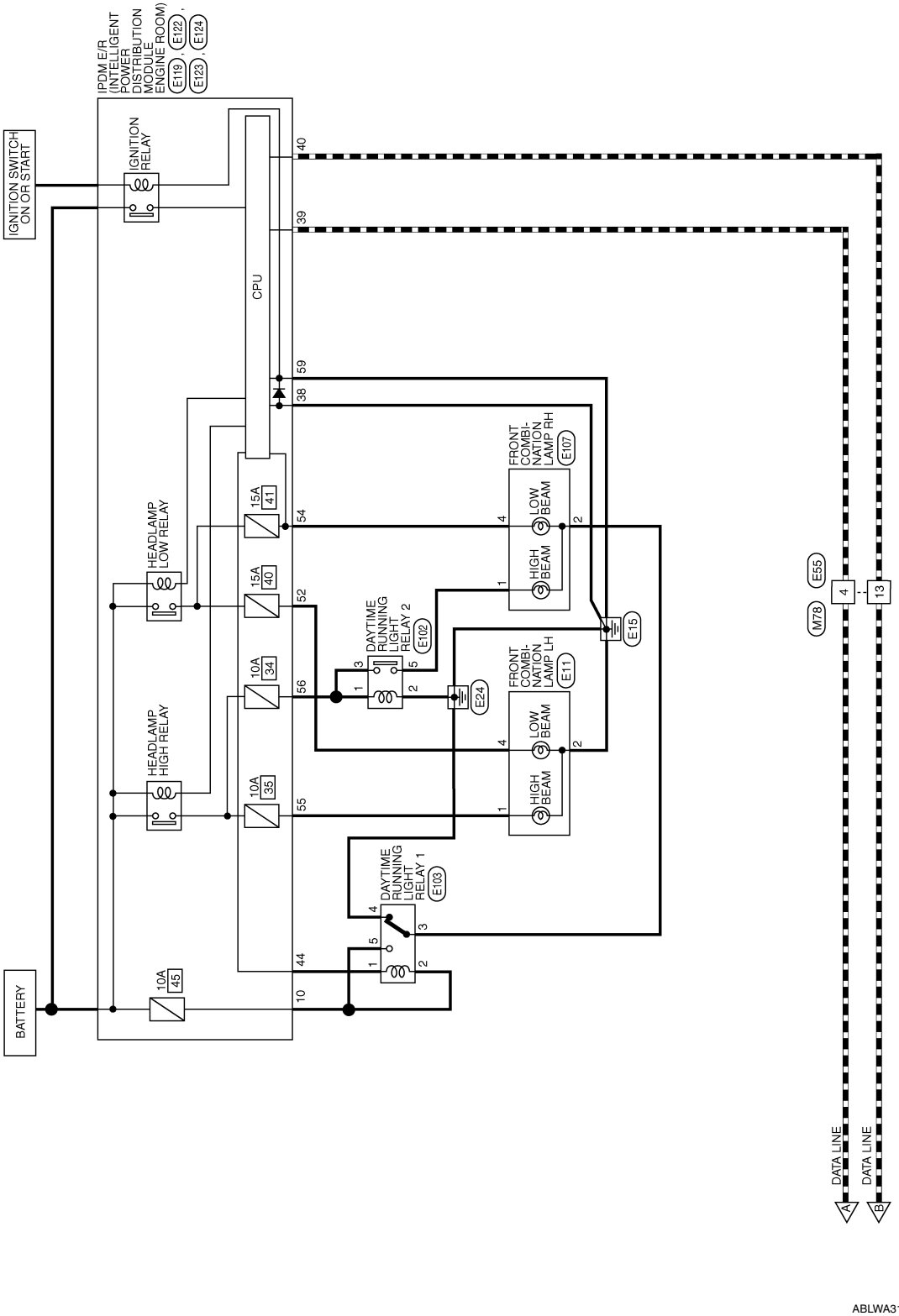
ABLIA6025GB

DAYTIME RUNNING LIGHT SYSTEM

Wiring Diagram - For USA

INFOID:0000000012519687

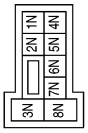



IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E119, E122, E123, E124
IGNITION SWITCH ON OR START
IGNITION RELAY
CPU
40
39
59
38
HEADLAMP LOW RELAY
15A 41
54
15A 40
52
10A 34
56
HEADLAMP HIGH RELAY
10A 35
55
10A 45
44
10
BATTERY
DAYTIME RUNNING LIGHT RELAY 2 E102
DAYTIME RUNNING LIGHT RELAY 1 E103
E24
E15
FRONT COMBINATION LAMP RH E107
FRONT COMBINATION LAMP LH E11
LOW BEAM
HIGH BEAM
E55
M78
4
13
DATA LINE
A
B
ABLWA3104GB

DAYTIME RUNNING LIGHT SYSTEM CONNECTORS - FOR USA

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2N	O	–

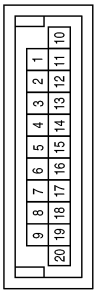
Connector No.	M11
Connector Name	PARKING BRAKE SWITCH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–

Connector No.	M14
Connector Name	JOINT CONNECTOR-M04
Connector Color	BLUE

H.S.



Terminal No.	Color of Wire	Signal Name
6	R	–
8	R	–
9	R	–

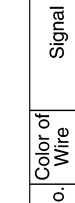
Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	L	INPUT 5
3	P	INPUT 4
4	LG	INPUT 3
5	O	INPUT 2
6	R	INPUT 1
32	SB	OUTPUT 5
33	G	OUTPUT 4
34	Y	OUTPUT 3
35	BR	OUTPUT 2
36	Y	OUTPUT 1
38	R	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
70	R	BATTERY (F/L)

ABLIA7694GB

Connector No.	M23
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

30	29	28	27	26	25
36	35	34	33	32	31

Terminal No.	Color of Wire	Signal Name
25	Y	BATTERY
31	B	GND (POWER)
32	R	RUN START
33	G	PARK BRAKE SW

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
13	P	CAN-L
17	O	ACC
21	B	GND (ILL)

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	P	–
5	LG	–
7	Y	–
8	L	–
9	BR	–
10	G	–
11	Y	–
12	R	–
13	SB	–
14	O	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
91G	R	–

ABLIA5999GB

Connector No.	M34
Connector Name	LIGHTING SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	BR	–
3	Y	–
4	G	–
5	L	–
6	P	–

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1Q	R	–
4Q	Y	–

Connector No.	M45
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
3	L	–
5	L	–
8	L	–
12	P	–
14	P	–
17	P	–

Connector No.	M78
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Connector No.	E11
Connector Name	FRONT COMBINATION LAMP LH
Connector Color	GRAY

H.S.

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

Connector No.	E55
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

ABLIA6000GB

Connector No.	E102
Connector Name	DAYTIME RUNNING LIGHT RELAY 2 (FOR USA)
Connector Color	BLUE

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

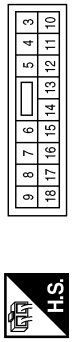
Connector No.	E103
Connector Name	DAYTIME RUNNING LIGHT RELAY 1
Connector Color	BLACK

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

Connector No.	E107
Connector Name	FRONT COMBINATION LAMP RH
Connector Color	GRAY

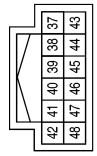
Terminal No.	Color of Wire	Signal Name
1	Y	–
2	B	–
4	V	–

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



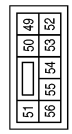
Terminal No.	Color of Wire	Signal Name
10	G	DTRL RLY SUPPLY

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



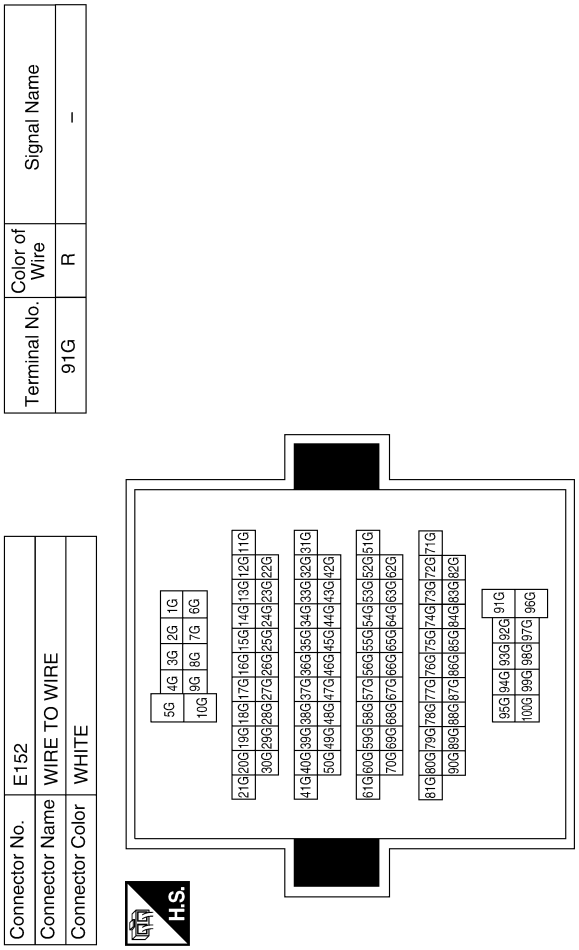
Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L
44	BR	DTRL RLY DRIVE

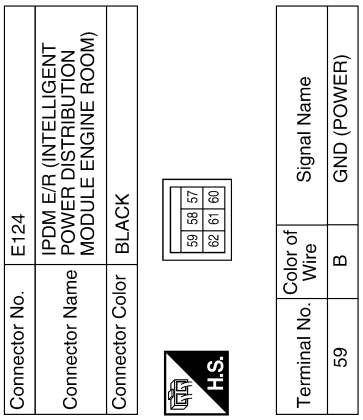
Connector No.	E123
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
52	L	HEAD/L LO LH
54	V	HEAD/L LO RH
55	R	HEAD/L HI LH
56	Y	HEAD/L HI RH

ABLIA7695GB

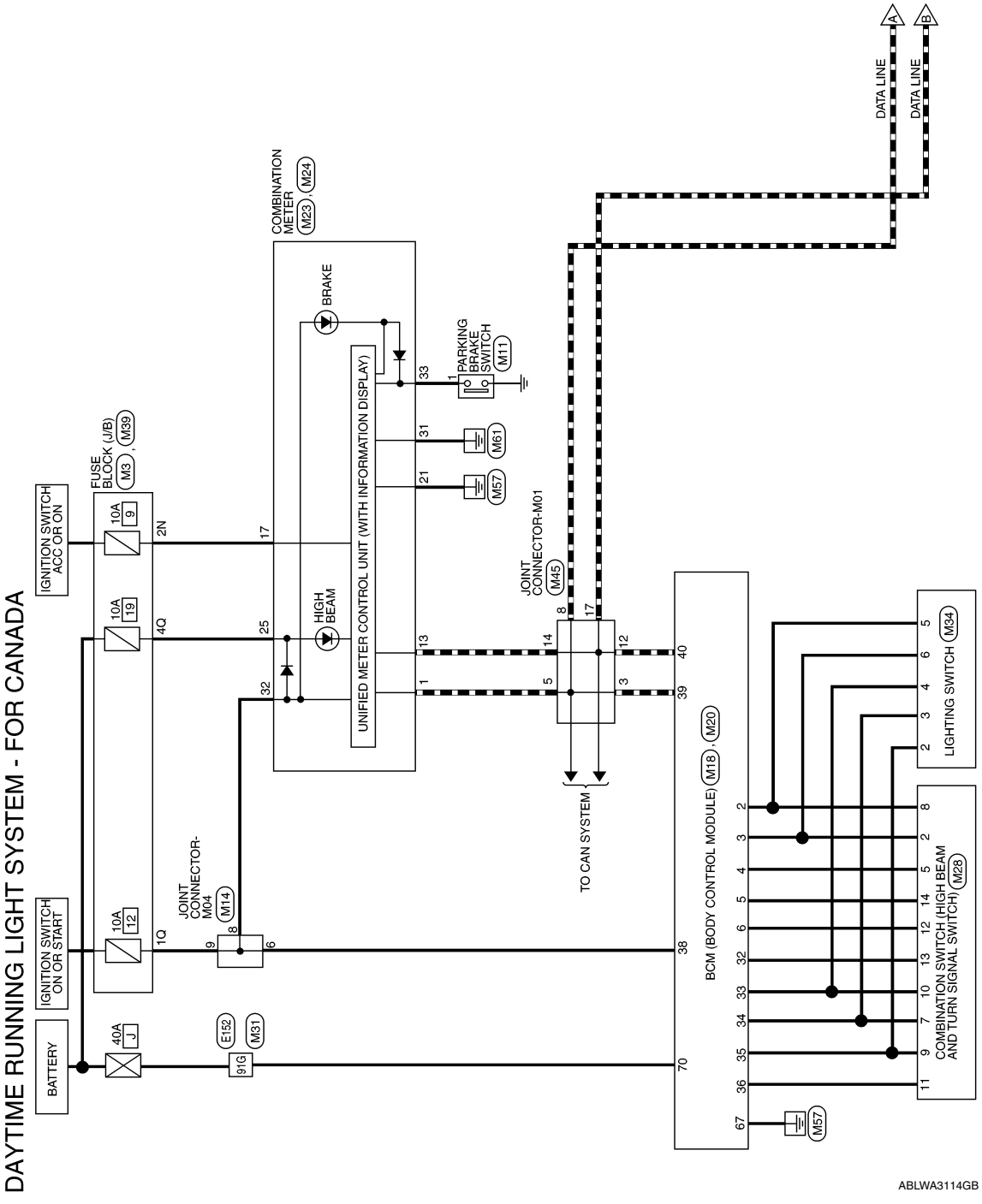


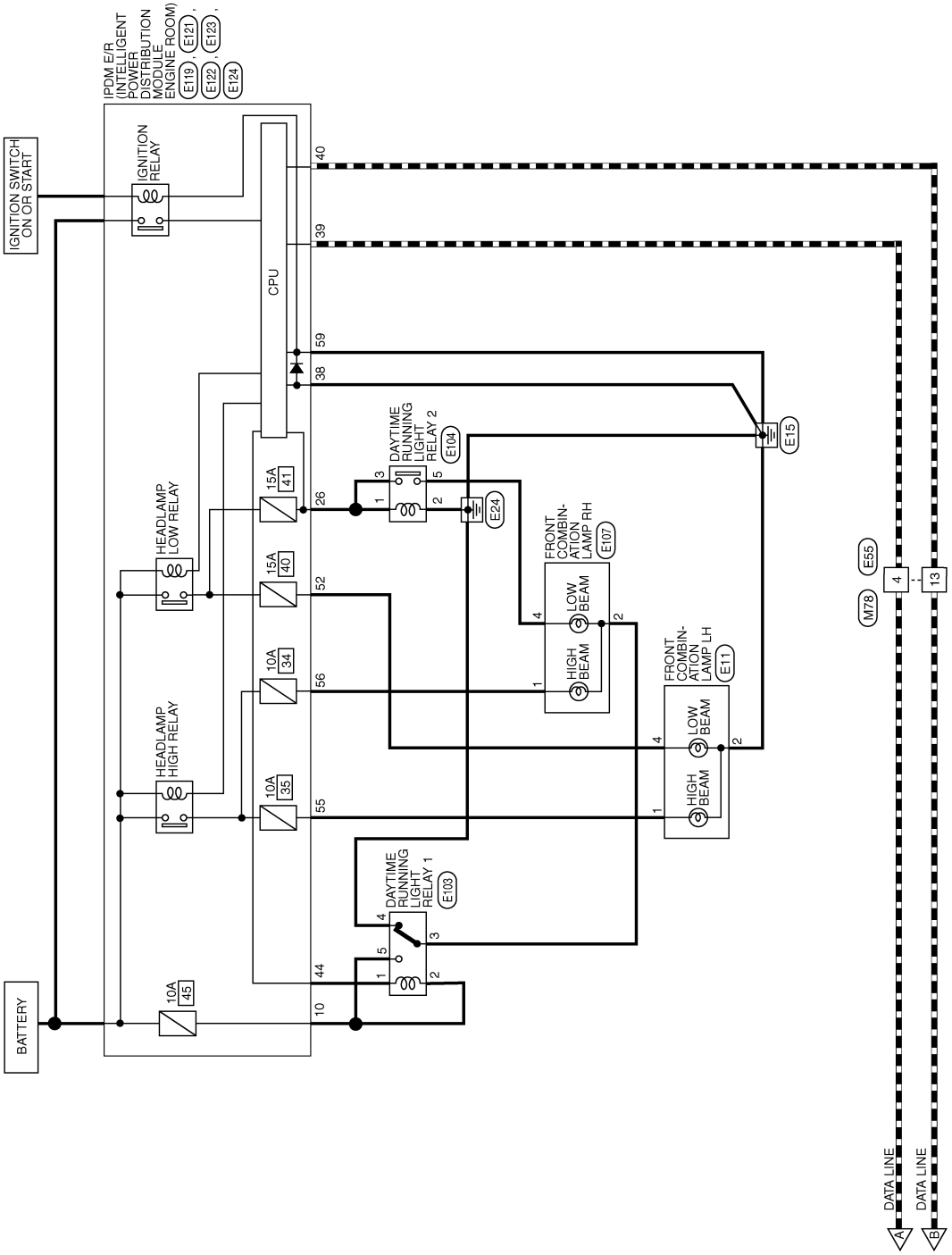


ABLIA2983GB

Wiring Diagram - For Canada

INFOID:0000000012519688




IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E119, E121, E122, E123, E124
IGNITION SWITCH ON OR START
IGNITION RELAY
CPU
40
39
59
38
DAYTIME RUNNING LIGHT RELAY 2 E104
E15
15A 41
26
E24
HEADLAMP LOW RELAY
15A 40
52
FRONT COMBIN-ATION LAMP RH E107
LOW BEAM
HIGH BEAM
10A 34
56
FRONT COMBIN-ATION LAMP LH E11
HEADLAMP HIGH RELAY
10A 35
55
DAYTIME RUNNING LIGHT RELAY 1 E103
10A 45
44
10
BATTERY
E55
M78
4
13
DATA LINE
A
B
AALWA1438GB

DAYTIME RUNNING LIGHT SYSTEM CONNECTORS - FOR CANADA

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2N	O	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–

Connector No.	M14
Connector Name	JOINT CONNECTOR-M04
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
6	R	–
8	R	–
9	R	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	L	INPUT 5
3	P	INPUT 4
4	LG	INPUT 3
5	O	INPUT 2
6	R	INPUT 1
32	SB	OUTPUT 5
33	G	OUTPUT 4
34	Y	OUTPUT 3
35	BR	OUTPUT 2
36	Y	OUTPUT 1
38	R	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
70	R	BATTERY (F/L)

ABLIA7692GB

Connector No.	M23
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

30	29	28	27	26	25
36	35	34	33	32	31

Terminal No.	Color of Wire	Signal Name
25	Y	BATTERY
31	B	GND (POWER)
32	R	RUN START
33	G	PARK BRAKE SW

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
13	P	CAN-L
17	O	ACC
21	B	GND (ILL)

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

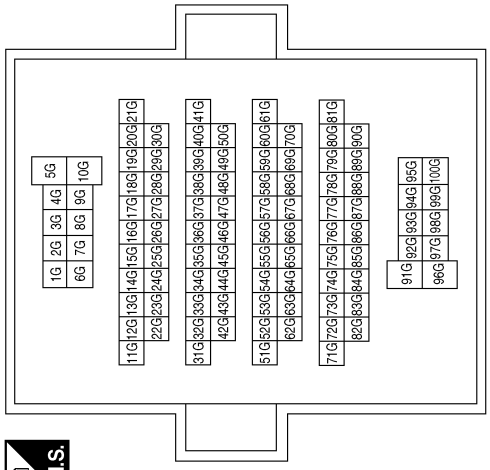
H.S.

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

Terminal No.	Color of Wire	Signal Name
2	P	–
5	LG	–
7	Y	–
8	L	–
9	BR	–
10	G	–
11	Y	–
12	R	–
13	SB	–
14	O	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
91G	R	–

ABLIA6002GB

Connector No.	M34
Connector Name	LIGHTING SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	BR	–
3	Y	–
4	G	–
5	L	–
6	P	–

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1Q	R	–
4Q	Y	–

Connector No.	M45
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
3	L	–
5	L	–
8	L	–
12	P	–
14	P	–
17	P	–

Connector No.	M78
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Connector No.	E11
Connector Name	FRONT COMBINATION LAMP LH
Connector Color	GRAY

H.S.

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

Connector No.	E55
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

ABLIA6003GB

Connector No.	E103
Connector Name	DAYTIME RUNNING LIGHT RELAY 1
Connector Color	BLACK

H.S.

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

Connector No.	E104
Connector Name	DAYTIME RUNNING LIGHT RELAY 2 (FOR CANADA)
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	B	–
3	R	–
5	V	–

Connector No.	E107
Connector Name	FRONT COMBINATION LAMP RH
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	B	–
4	V	–

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
10	G	DTRL RLY SUPPLY

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
26	R	LEVELIZER

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
44	BR	DTRL RLY DRIVE

ABLIA7693GB

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	HEAD/L LO LH
55	R	HEAD/L HI LH
56	Y	HEAD/L HI RH

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)

Terminal No.	Color of Wire	Signal Name
91G	R	–

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

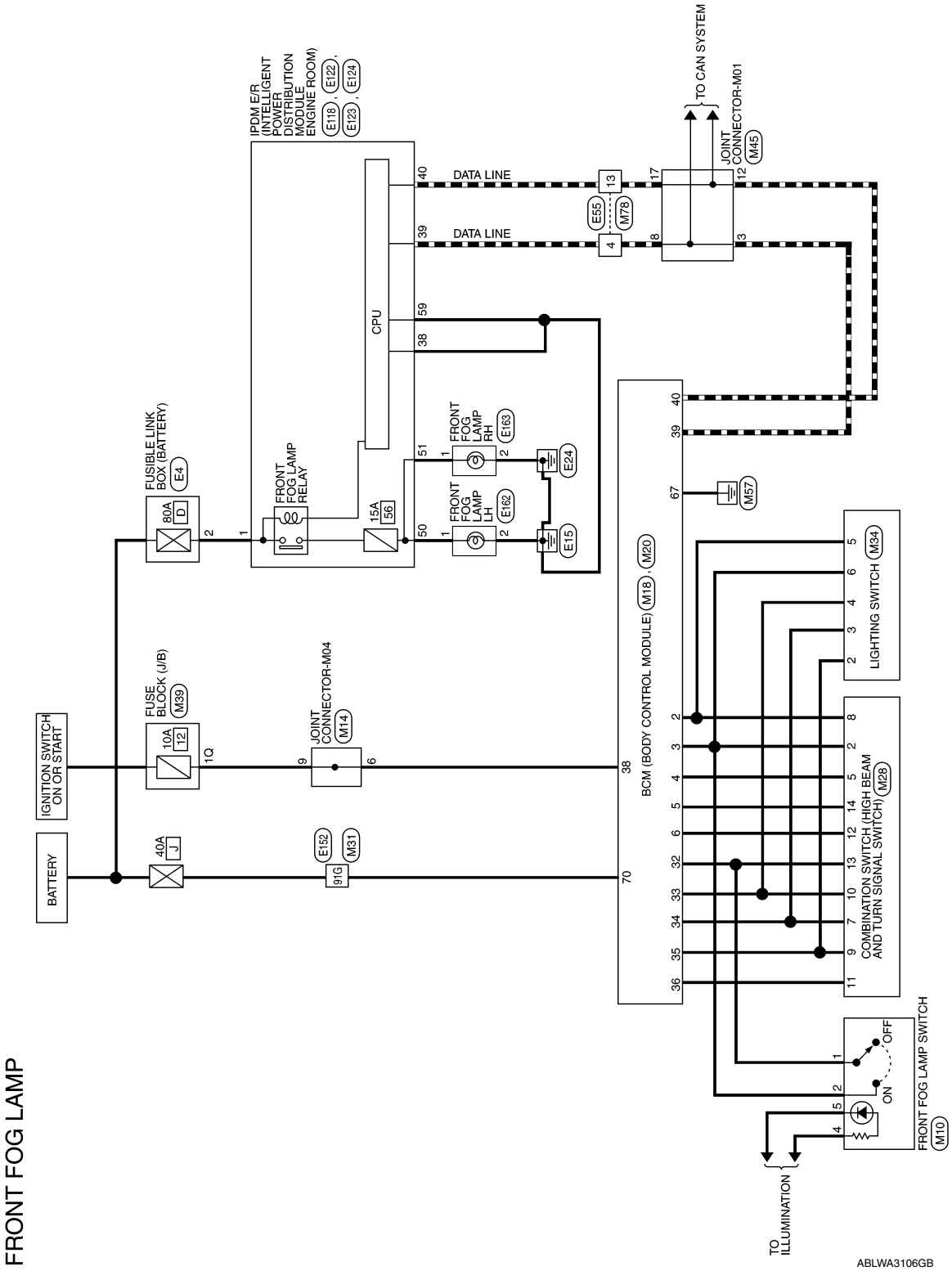
H.S.

ABLIA6021GB

FRONT FOG LAMP

Wiring Diagram

INFOID:0000000012519689

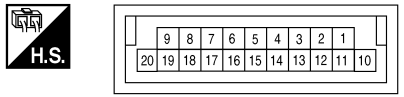


FRONT FOG LAMP CONNECTORS

Connector No.	M10
Connector Name	FRONT FOG LAMP SWITCH
Connector Color	WHITE

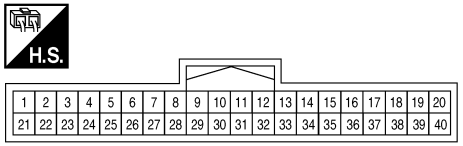
Terminal No.	Color of Wire	Signal Name
1	SB	–
2	P	–
4	V	–
5	BR	–

Connector No.	M14
Connector Name	JOINT CONNECTOR-M04
Connector Color	BLUE



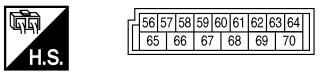
Terminal No.	Color of Wire	Signal Name
6	R	–
9	R	–

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



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

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

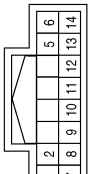


Terminal No.	Color of Wire	Signal Name
67	B	GND
70	R	BATTERY (F/L)

ABLIA6023GB

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

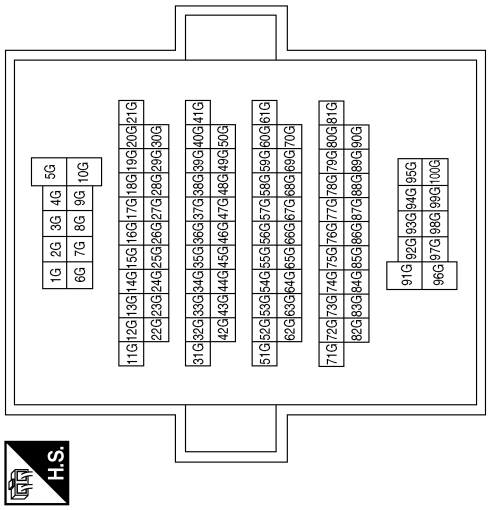
H.S.



Terminal No.	Color of Wire	Signal Name
2	P	–
5	LG	–
7	Y	–
8	L	–
9	BR	–
10	G	–
11	Y	–
12	R	–
13	SB	–
14	O	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
91G	R	–

Connector No.	M34
Connector Name	LIGHTING SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	BR	–
3	Y	–
4	G	–
5	L	–
6	P	–

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1Q	R	–

Connector No.	M45
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
3	L	–
8	L	–
12	P	–
17	P	–

ABLIA6005GB

Connector No.	M78
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
4	L	–
13	P	–

Connector No.	E4
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	BROWN

H.S.

1
2

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

Connector No.	E55
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

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

Connector No.	E118
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

1
2

Terminal No.	Color of Wire	Signal Name
1	W/R	F/L USM

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

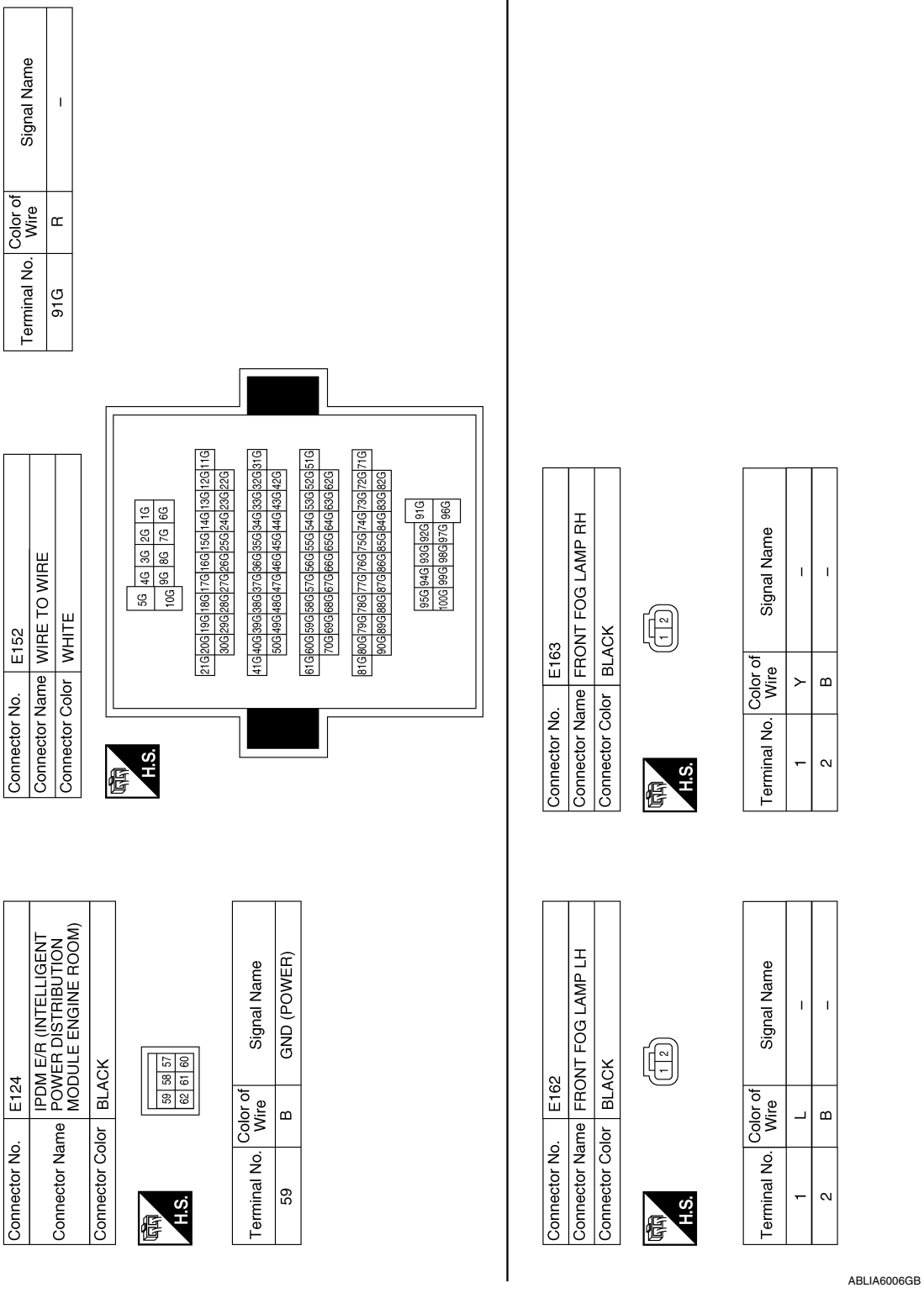
Connector No.	E123
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

51		50	49
56	55	54	53	52

Terminal No.	Color of Wire	Signal Name
50	L	FR FOG LAMP LH
51	Y	FR FOG LAMP RH

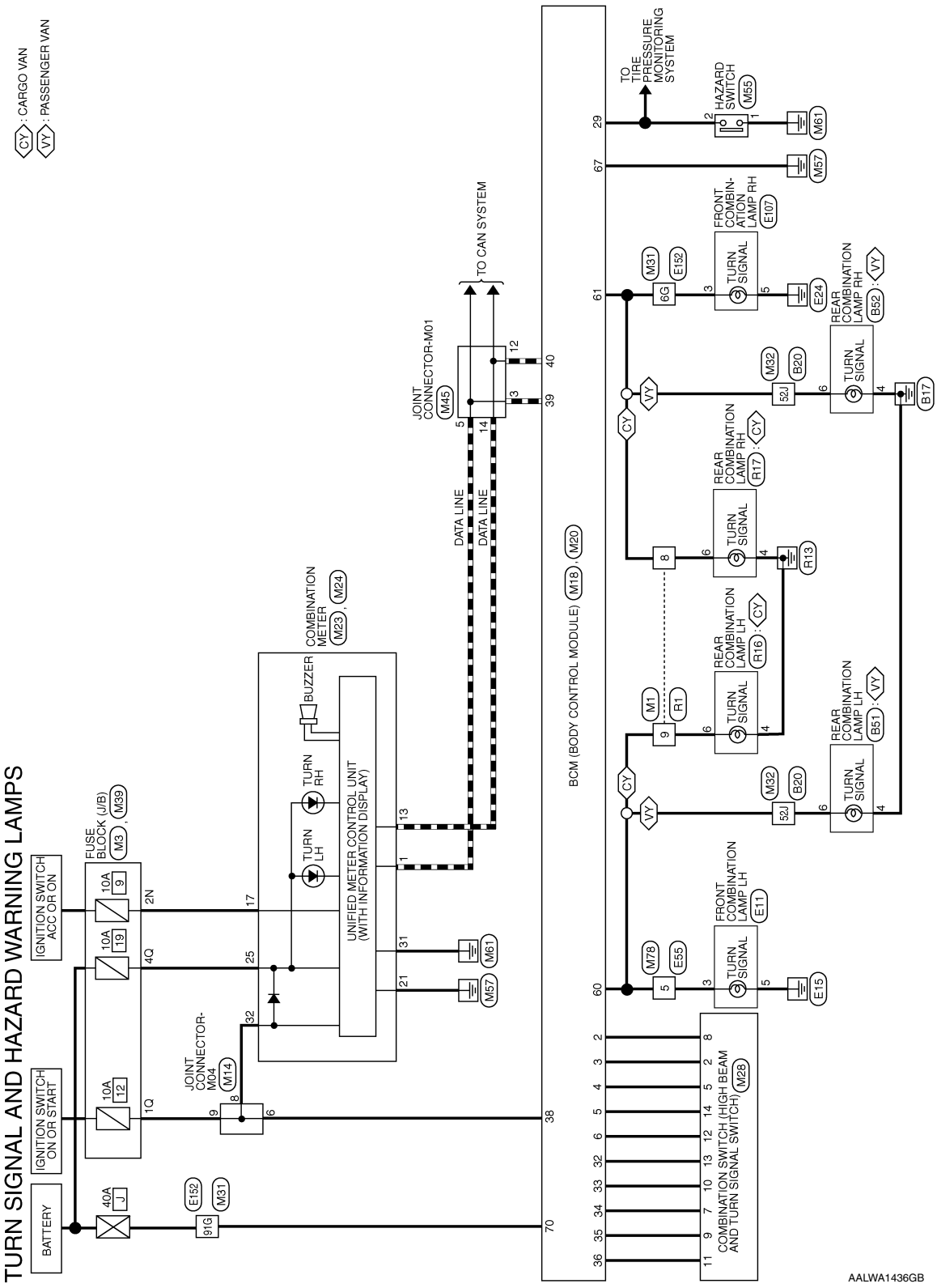
AALIA0609GB


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
91G R –
Connector No. E163
Connector Name FRONT FOG LAMP RH
Connector Color BLACK
H.S.
1 2
Terminal No. Color of Wire Signal Name
1 Y –
2 B –
Connector No. E162
Connector Name FRONT FOG LAMP LH
Connector Color BLACK
H.S.
1 2
Terminal No. Color of Wire Signal Name
1 L –
2 B –
ABLIA6006GB

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

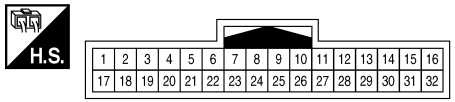
Wiring Diagram

INFOID:0000000012519690



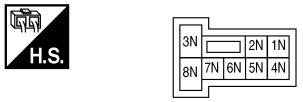
TURN SIGNAL AND HAZARD WARNING LAMPS CONNECTORS

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE



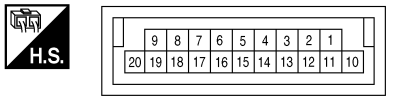
Terminal No.	Color of Wire	Signal Name
8	G	–
9	Y	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



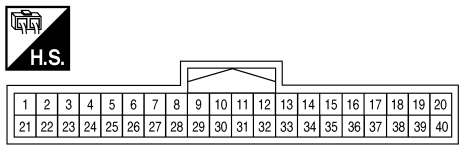
Terminal No.	Color of Wire	Signal Name
2N	O	–

Connector No.	M14
Connector Name	JOINT CONNECTOR-M04
Connector Color	BLUE



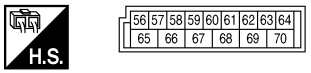
Terminal No.	Color of Wire	Signal Name
6	R	–
8	R	–
9	R	–

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



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

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

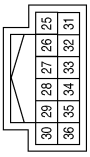


Terminal No.	Color of Wire	Signal Name
60	Y	FLASHER OUTPUT (LEFT)
61	G	FLASHER OUTPUT (RIGHT)
67	B	GND
70	R	BATTERY (F/L)

ABLIA6026GB

Connector No.	M23
Connector Name	COMBINATION METER
Connector Color	WHITE

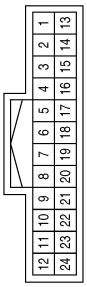
H.S.



Terminal No.	Color of Wire	Signal Name
25	Y	BATTERY
31	B	GND (POWER)
32	R	RUN START

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

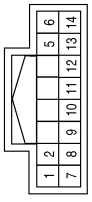
H.S.



Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
13	P	CAN-L
17	O	ACC
21	B	GND (ILL)

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

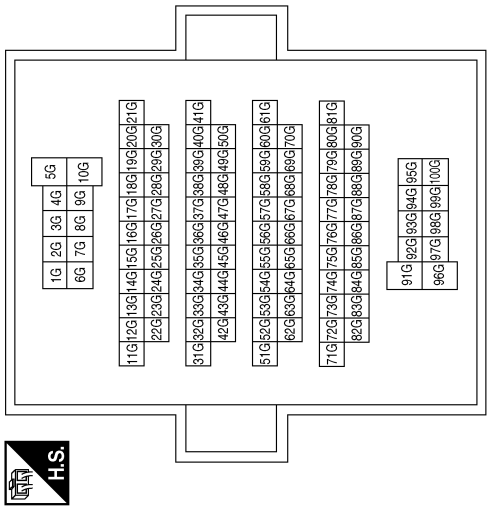
H.S.



Terminal No.	Color of Wire	Signal Name
2	P	–
5	LG	–
7	Y	–
8	L	–
9	BR	–
10	G	–
11	Y	–
12	R	–
13	SB	–
14	O	–

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

H.S.

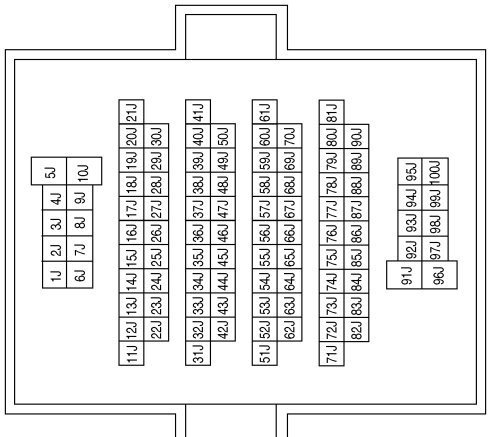


Terminal No.	Color of Wire	Signal Name
6G	G	–
91G	R	–

ABLIA6007GB

Connector No.	M32
Connector Name	WIRE TO WIRE
Connector Color	WHITE

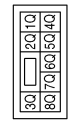
H.S.



Terminal No.	Color of Wire	Signal Name
52J	G	–
53J	Y	–

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

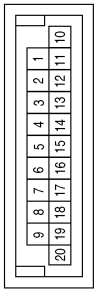
H.S.



Terminal No.	Color of Wire	Signal Name
1Q	R	–
4Q	Y	–

Connector No.	M45
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE

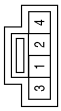
H.S.



Terminal No.	Color of Wire	Signal Name
3	L	–
5	L	–
12	P	–
14	P	–

Connector No.	M55
Connector Name	HAZARD SWITCH
Connector Color	WHITE

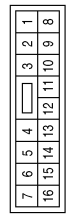
H.S.



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

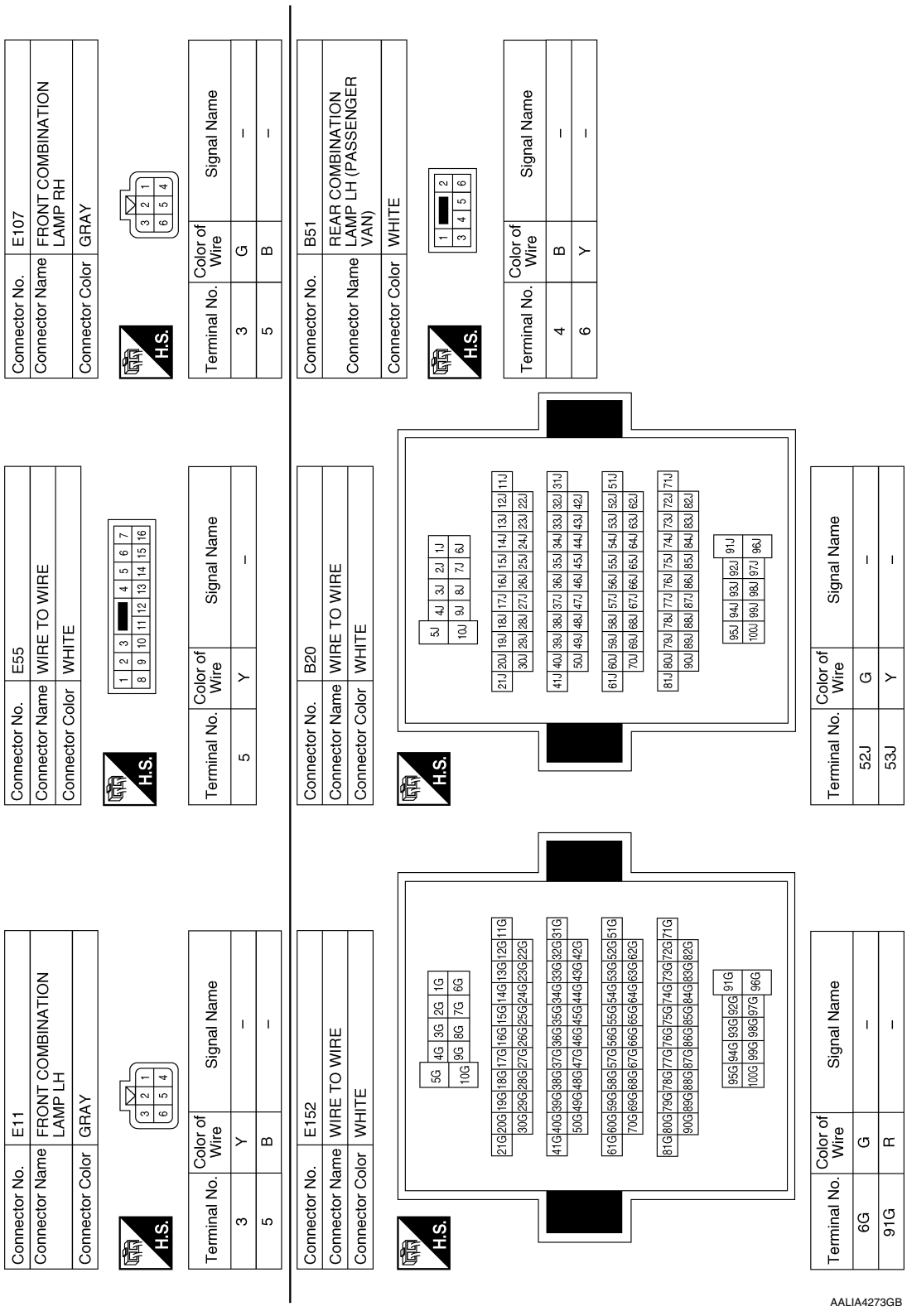
Connector No.	M78
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
5	Y	–

AALIA4272GB


Connector No. E107
Connector Name FRONT COMBINATION LAMP RH
Connector Color GRAY
H.S.
Terminal No. Color of Wire Signal Name
3 G –
5 B –
Connector No. E55
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
5 Y –
Connector No. B51
Connector Name REAR COMBINATION LAMP LH (PASSENGER VAN)
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
4 B –
6 Y –
Connector No. B20
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
52J G –
53J Y –
Connector No. E11
Connector Name FRONT COMBINATION LAMP LH
Connector Color GRAY
H.S.
Terminal No. Color of Wire Signal Name
3 Y –
5 B –
Connector No. E152
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
6G G –
91G R –
AALIA4273GB

Connector No.	B52
Connector Name	REAR COMBINATION LAMP RH (PASSENGER VAN)
Connector Color	WHITE

H.S.

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

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
8	G	–
9	Y	–

Connector No.	R16
Connector Name	REAR COMBINATION LAMP LH (CARGO VAN)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–
6	Y	–

Connector No.	R17
Connector Name	REAR COMBINATION LAMP RH (CARGO VAN)
Connector Color	WHITE

H.S.

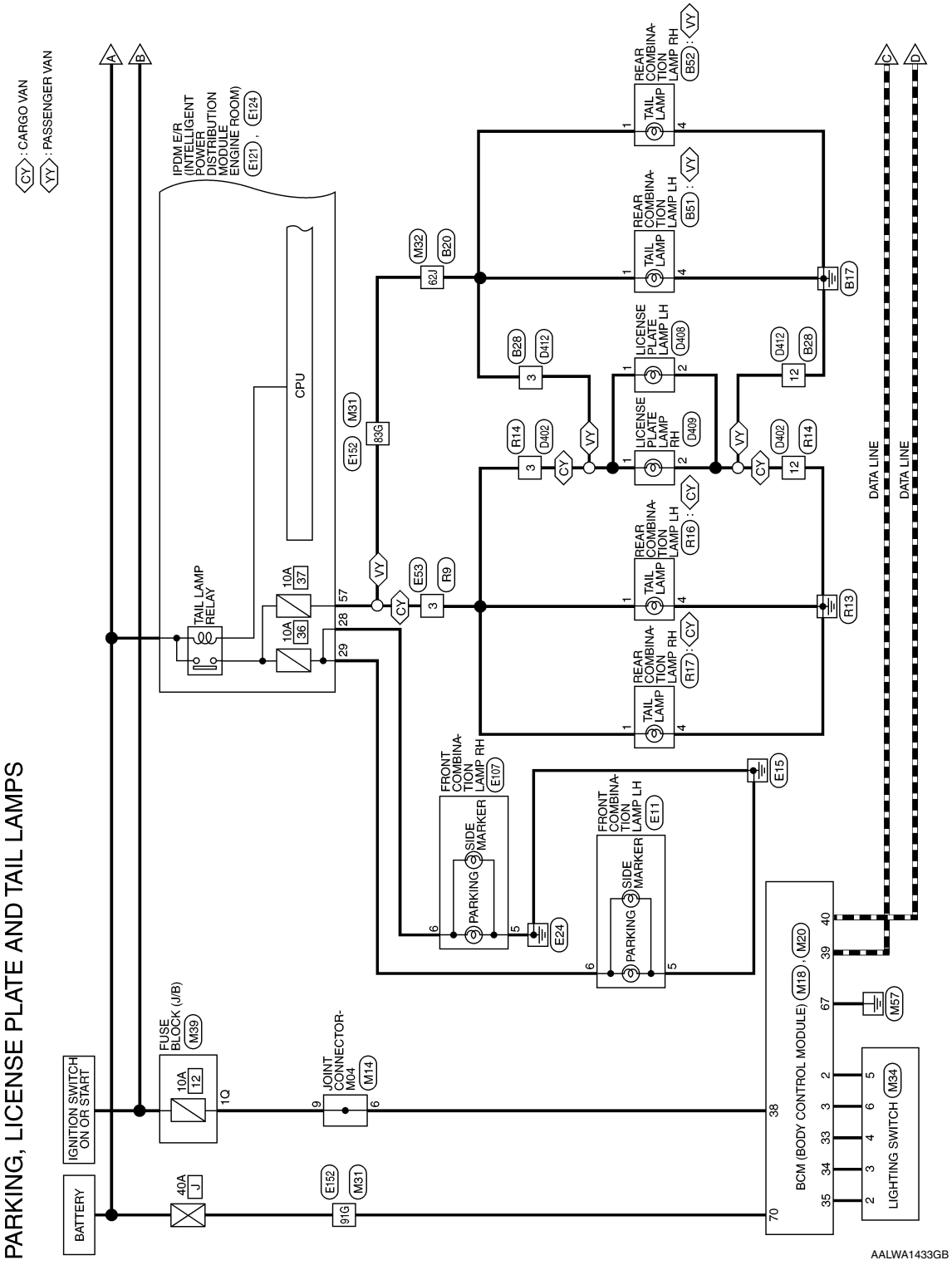
Terminal No.	Color of Wire	Signal Name
4	B	–
6	G	–

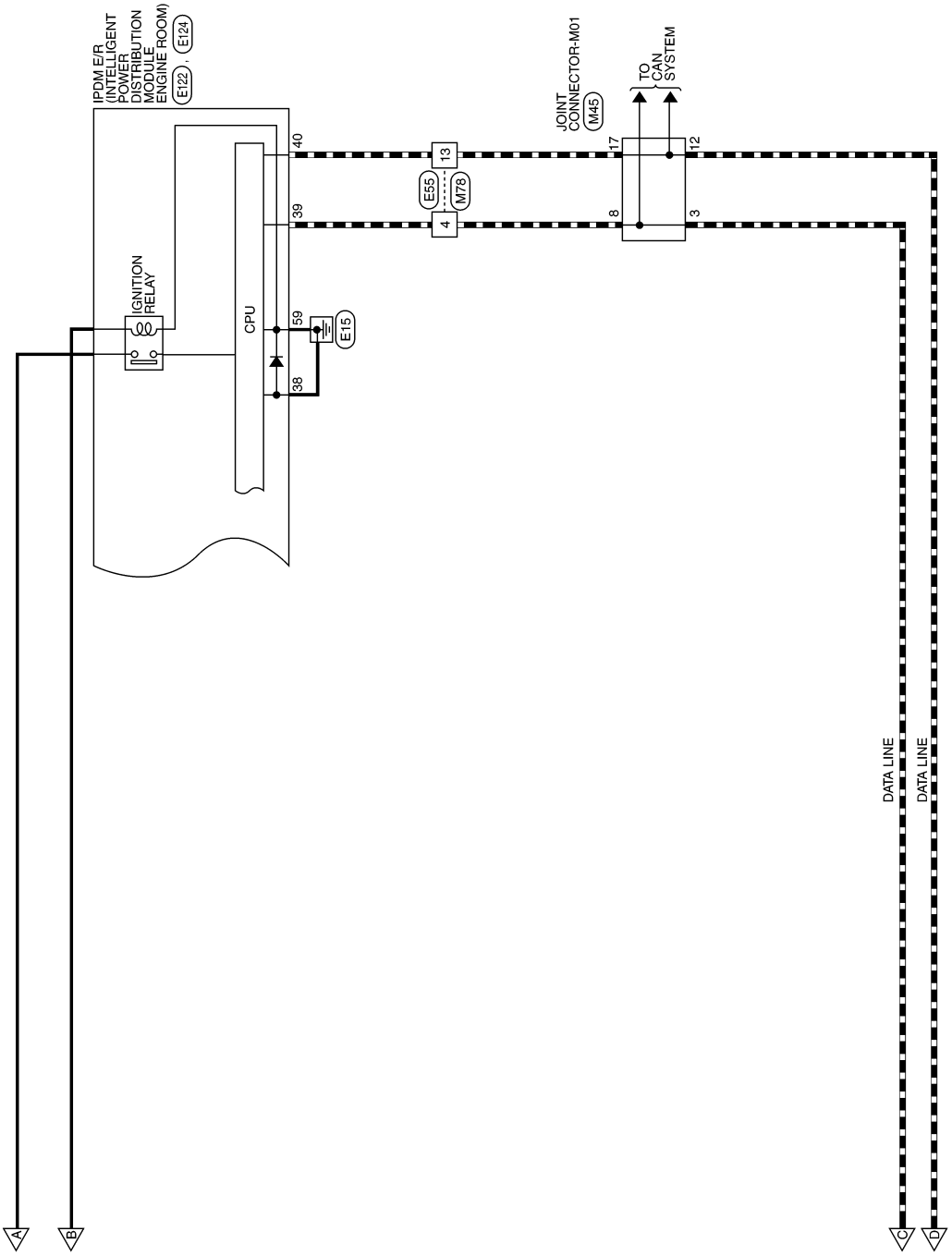
AALIA4274GB

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

Wiring Diagram

INFOID:0000000012519691



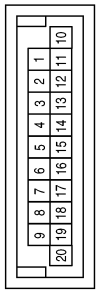


AALWA1434GB

PARKING, LICENSE PLATE AND TAIL LAMPS CONNECTORS

Connector No.	M14
Connector Name	JOINT CONNECTOR-M04
Connector Color	BLUE

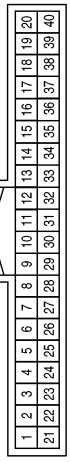
H.S.



Terminal No.	Color of Wire	Signal Name
6	R	–
9	R	–

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

H.S.



Terminal No.	Color of Wire	Signal Name
2	L	INPUT 5
3	P	INPUT 4
33	G	OUTPUT 4
34	Y	OUTPUT 3
35	BR	OUTPUT 2
38	R	IGN SW
39	L	CAN-H
40	P	CAN-L

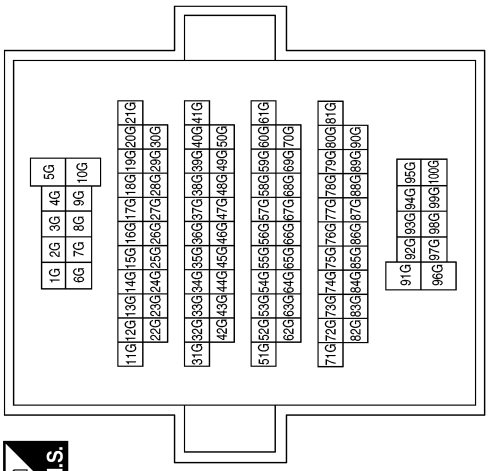
Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
67	B	GND
70	R	BATTERY (F/L)

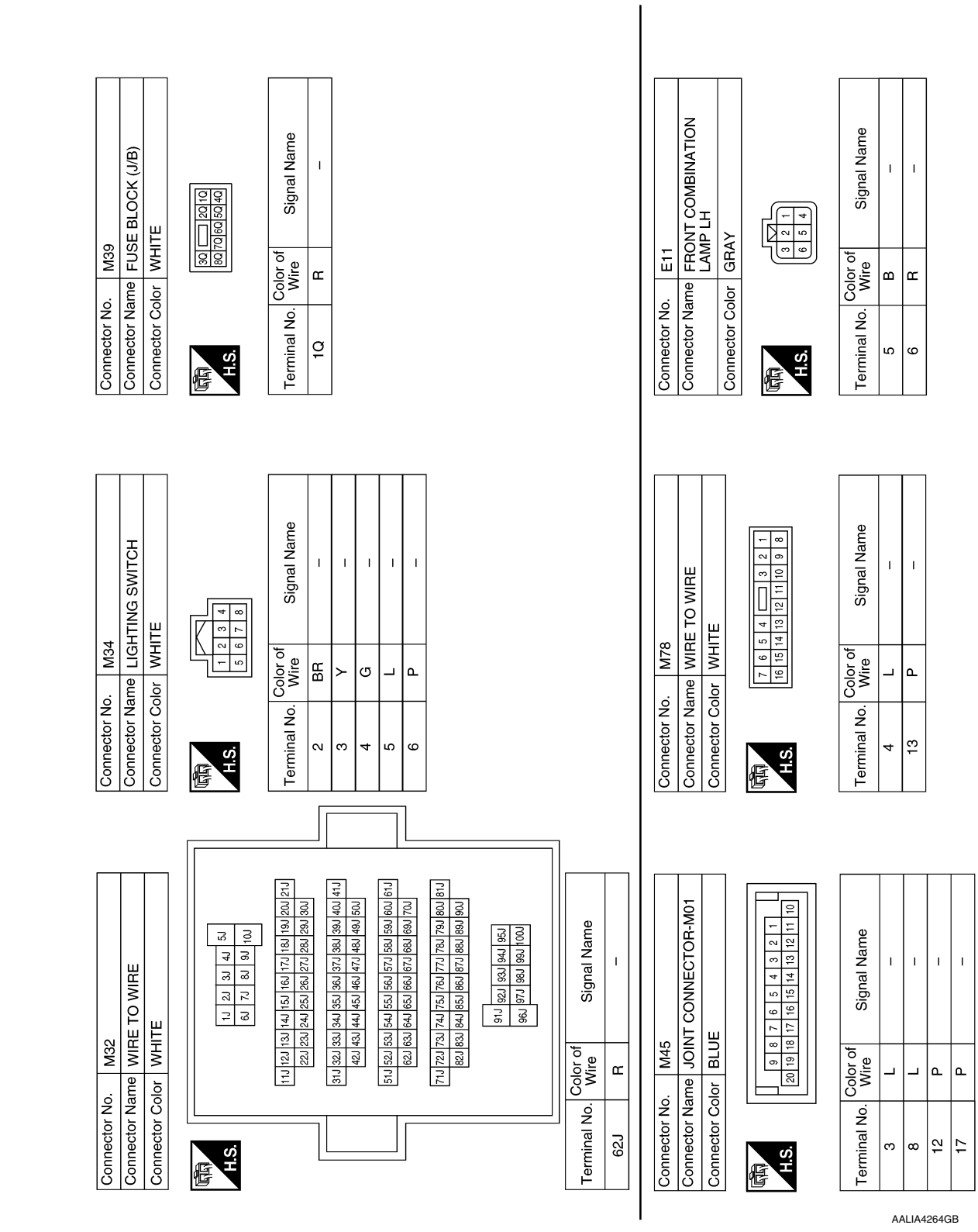
Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
83G	R	–
91G	R	–

AALIA4263GB


Connector No. M39
Connector Name FUSE BLOCK (J/B)
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
1Q R –
Connector No. M34
Connector Name LIGHTING SWITCH
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 BR –
3 Y –
4 G –
5 L –
6 P –
Connector No. M32
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
62J R –
Connector No. E11
Connector Name FRONT COMBINATION LAMP LH
Connector Color GRAY
H.S.
Terminal No. Color of Wire Signal Name
5 B –
6 R –
Connector No. M78
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
4 L –
13 P –
Connector No. M45
Connector Name JOINT CONNECTOR-M01
Connector Color BLUE
H.S.
Terminal No. Color of Wire Signal Name
3 L –
8 L –
12 P –
17 P –
AALIA4264GB

Connector No.	E53
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	R	–

Connector No.	E55
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Connector No.	E107
Connector Name	FRONT COMBINATION LAMP RH
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
5	B	–
6	O	–

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
28	O	FRONT RH
29	R	FRONT LH

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

H.S.

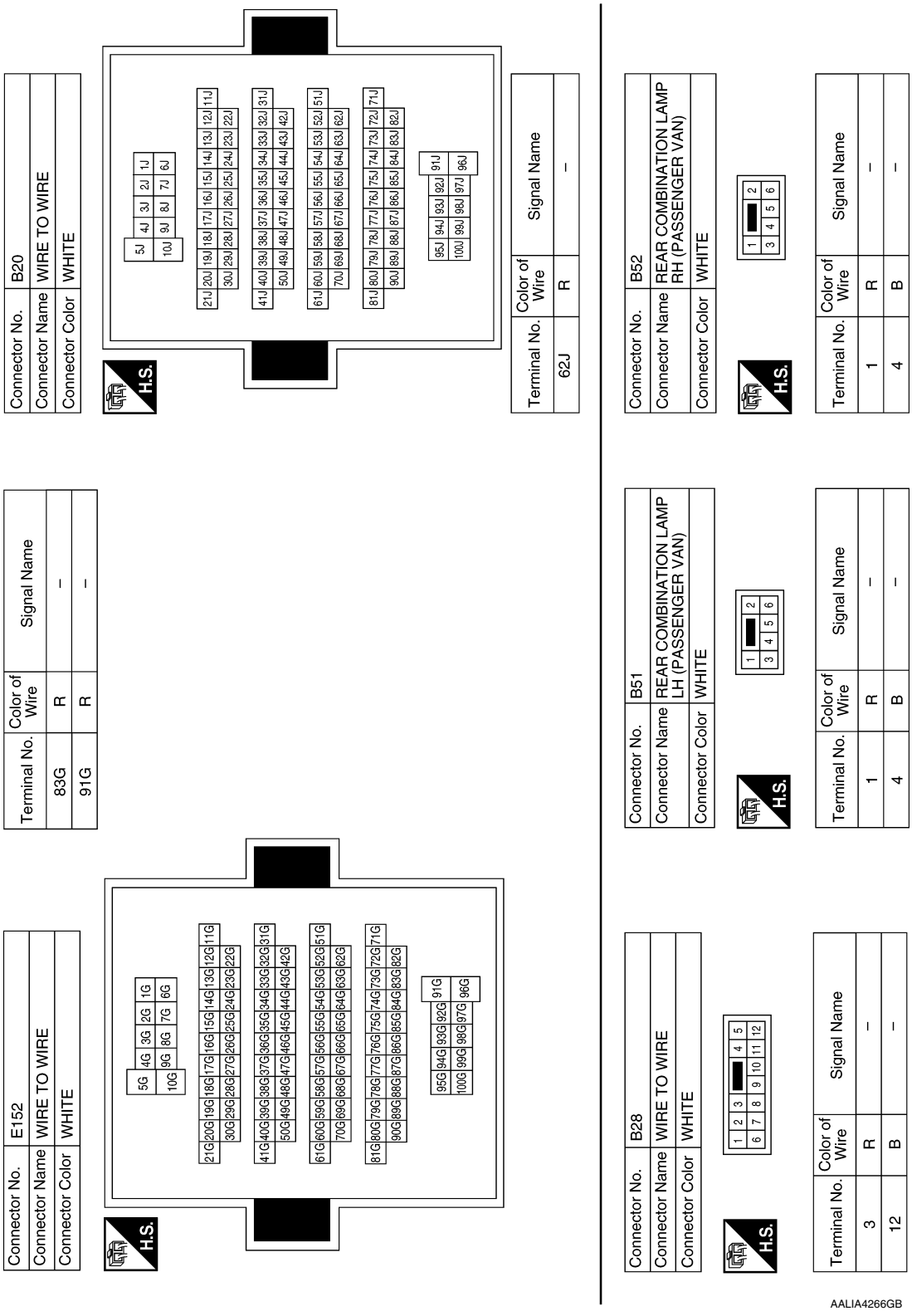
Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L

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	TAIL
59	B	GND (POWER)

AALIA4265GB


Connector No. B20
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
62J R –
Connector No. E152
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
83G R –
91G R –
Connector No. B52
Connector Name REAR COMBINATION LAMP RH (PASSENGER VAN)
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
1 R –
4 B –
Connector No. B51
Connector Name REAR COMBINATION LAMP LH (PASSENGER VAN)
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
1 R –
4 B –
Connector No. B28
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
3 R –
12 B –
AALIA4266GB

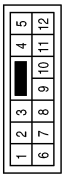
Connector No.	R9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	R	–

Connector No.	R14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

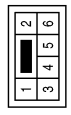
H.S.



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

Connector No.	R16
Connector Name	REAR COMBINATION LAMP LH (CARGO VAN)
Connector Color	WHITE

H.S.



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

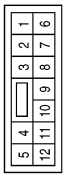
Connector No.	R17
Connector Name	REAR COMBINATION LAMP RH (CARGO VAN)
Connector Color	WHITE

H.S.

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

Connector No.	D402
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



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

Connector No.	D408
Connector Name	LICENSE PLATE LAMP LH
Connector Color	BROWN

H.S.

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

AALIA4267GB

Connector No.	D412
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Connector No.	D409
Connector Name	LICENSE PLATE LAMP RH
Connector Color	BROWN

H.S.

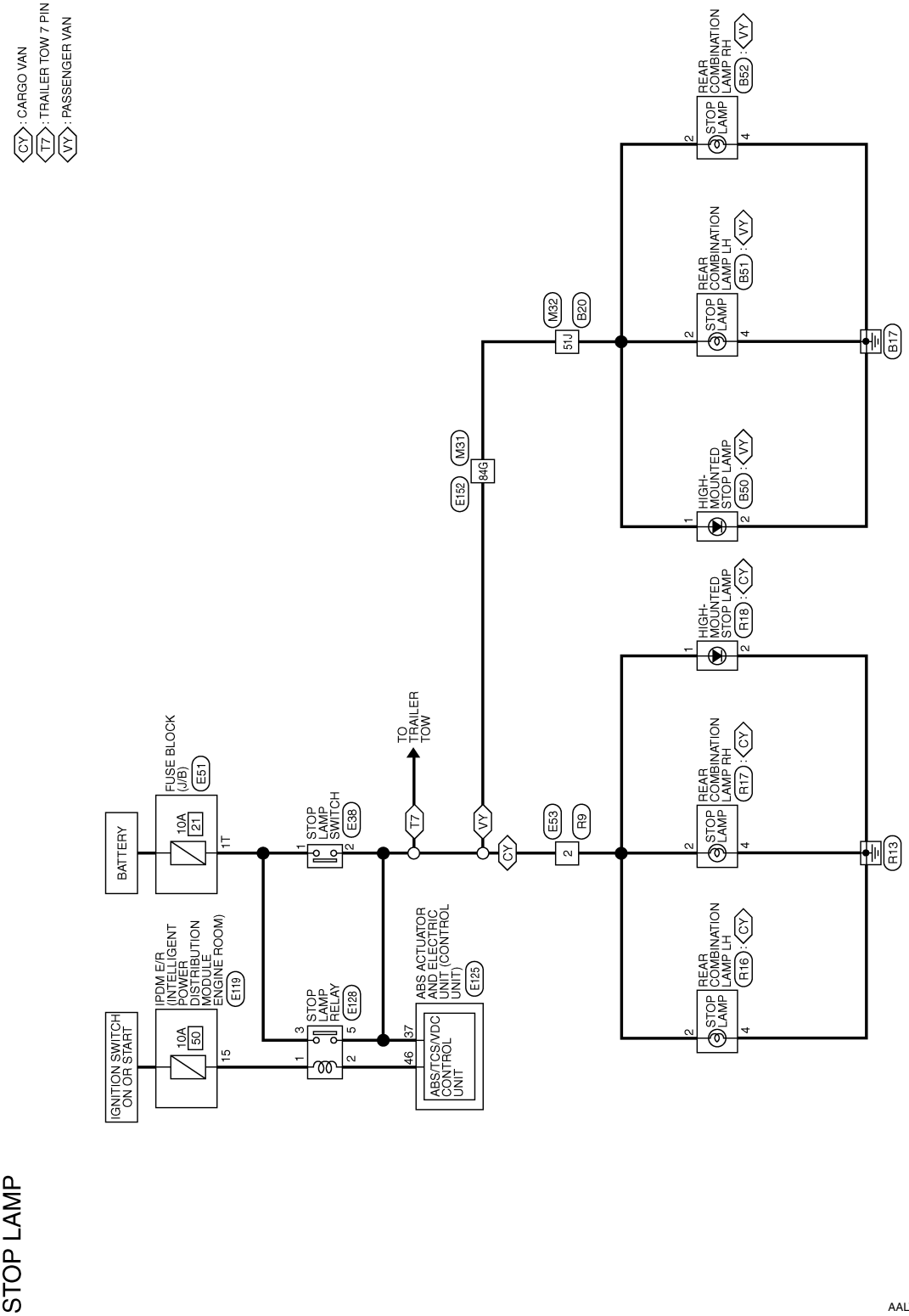
Terminal No.	Color of Wire	Signal Name
1	R	–
2	B	–

AALIA4268GB

STOP LAMP

Wiring Diagram

INFOID:0000000012519692



STOP LAMP

AALWA1435GB

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
84G	LG	–

Connector No.	M32
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

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

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

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

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

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

Terminal No.	Color of Wire	Signal Name
51J	LG	–

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

H.S.

3	4
1	2

Terminal No.	Color of Wire	Signal Name
1	O	–
2	LG	–

Connector No.	E51
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	O	–

Connector No.	E53
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
2	LG	–

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

H.S.

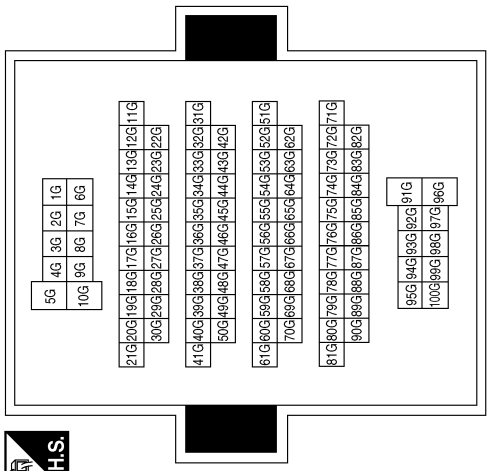
9	8	7	6		5	4	3
18	17	16	15	14	13	12	11	10

Terminal No.	Color of Wire	Signal Name
15	GR	ABS ECU IGN

AALIA4269GB

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

H.S.



Terminal No.	Color of Wire	Signal Name
37	LG	–

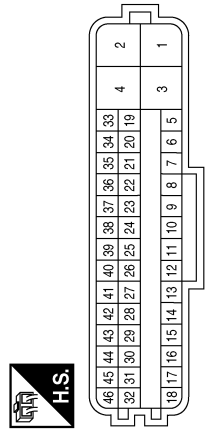
Connector No.	E128
Connector Name	STOP LAMP RELAY
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	GR	–
2	W	–
3	O	–
5	LG	–

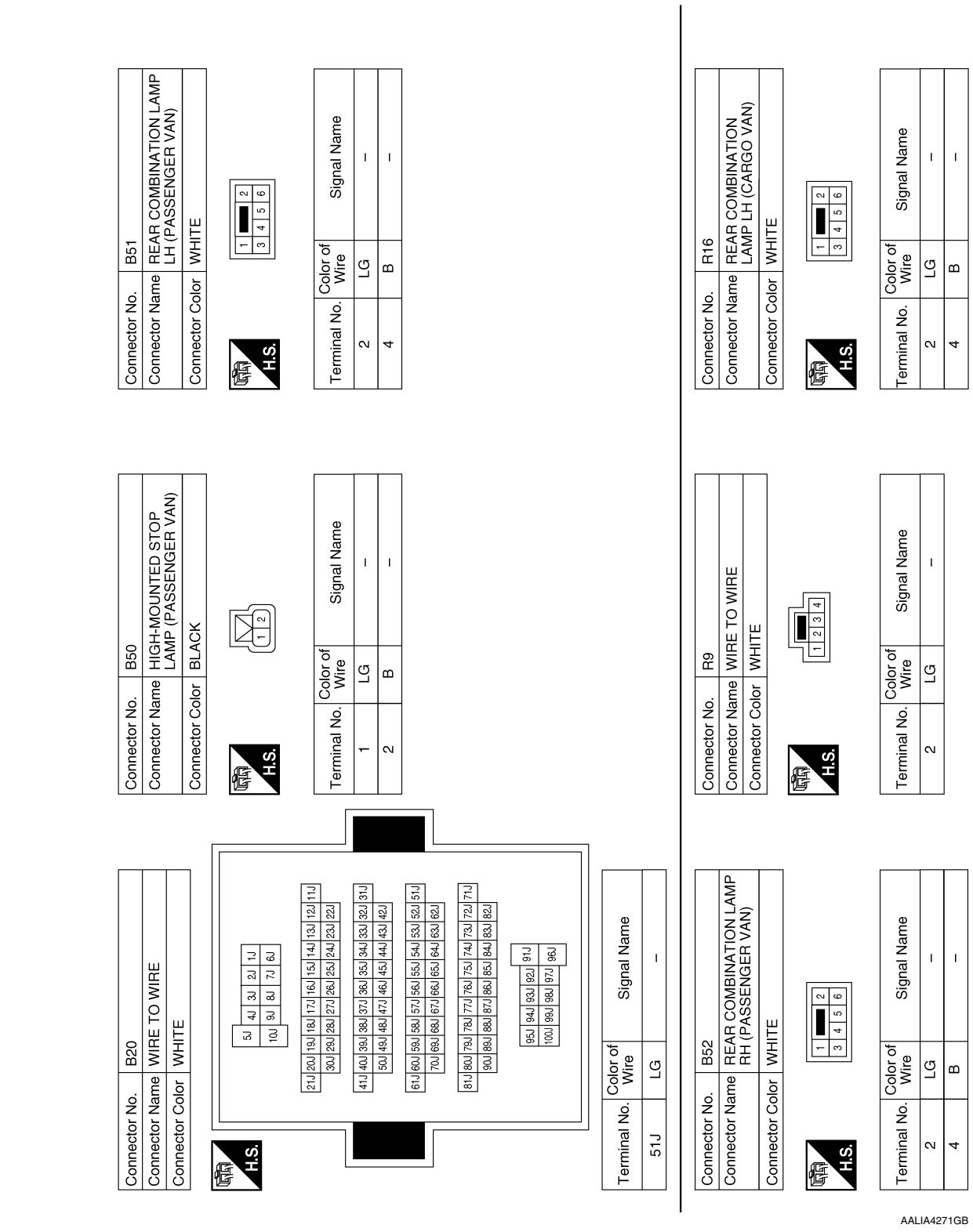
Connector No.	E125
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
37	LG	STP
46	W	STPO

AALIA4270GB


Connector No. B20
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
51J LG –
Connector No. B50
Connector Name HIGH-MOUNTED STOP LAMP (PASSENGER VAN)
Connector Color BLACK
H.S.
Terminal No. Color of Wire Signal Name
1 LG –
2 B –
Connector No. B51
Connector Name REAR COMBINATION LAMP LH (PASSENGER VAN)
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 LG –
4 B –
Connector No. B52
Connector Name REAR COMBINATION LAMP RH (PASSENGER VAN)
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 LG –
4 B –
Connector No. R9
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 LG –
Connector No. R16
Connector Name REAR COMBINATION LAMP LH (CARGO VAN)
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
2 LG –
4 B –
AALIA4271GB

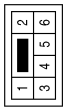
Connector No.	R18
Connector Name	HIGH-MOUNTED STOP LAMP (CARGO VAN)
Connector Color	BLACK

H.S.

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

Connector No.	R17
Connector Name	REAR COMBINATION LAMP RH (CARGO VAN)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2	LG	–
4	B	–

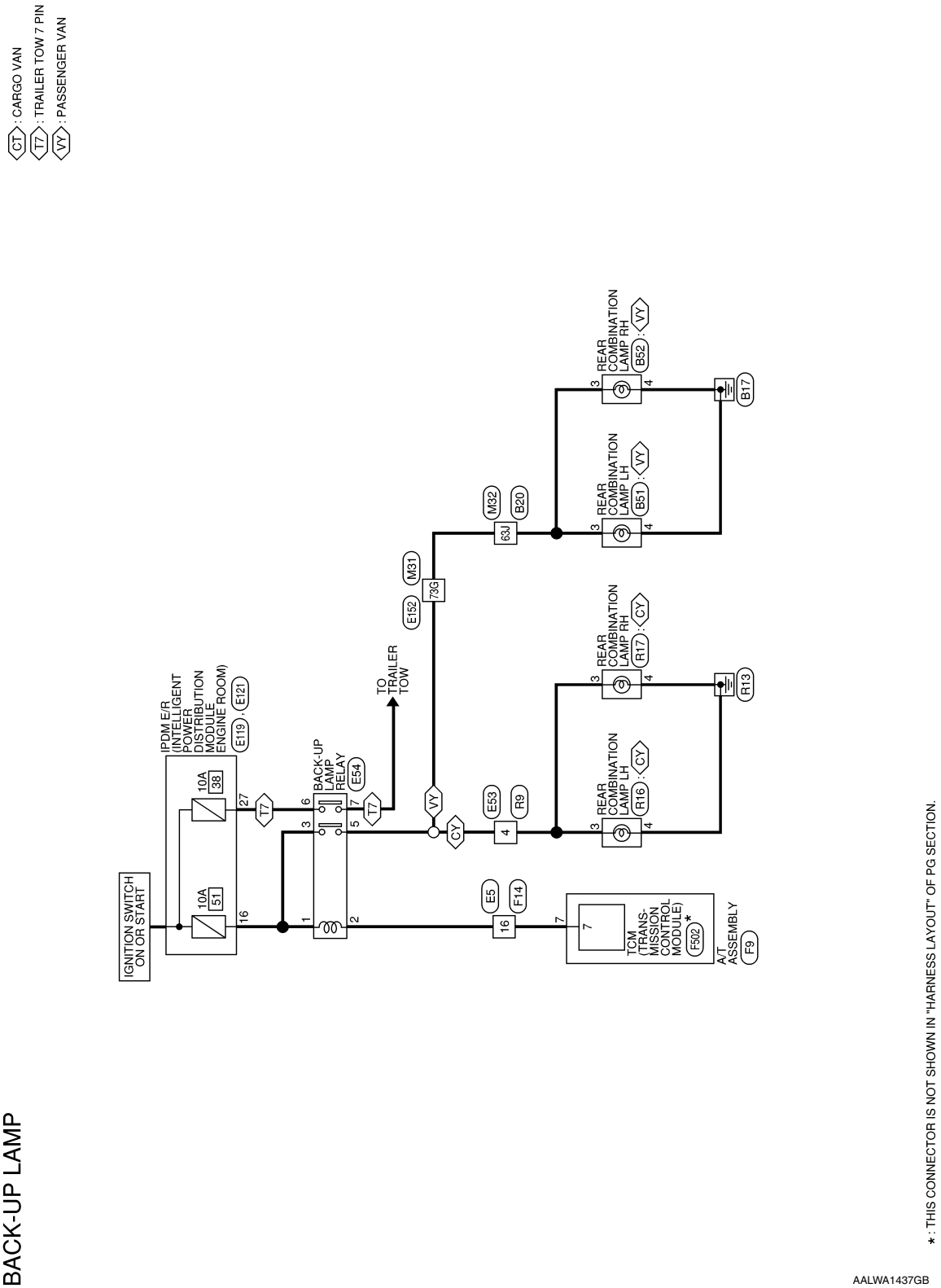
AALIA4278GB

< WIRING DIAGRAM >

BACK-UP LAMP

Wiring Diagram

INFOID:0000000012519693



BACK-UP 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
73G	O	–

Connector No.	M32
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

11J	12J	13J	14J	15J	16J	17J	18J	19J	20J	21J
22J	23J	24J	25J	26J	27J	28J	29J	30J		
31J	32J	33J	34J	35J	36J	37J	38J	39J	40J	41J
42J	43J	44J	45J	46J	47J	48J	49J	50J		
51J	52J	53J	54J	55J	56J	57J	58J	59J	60J	61J
62J	63J	64J	65J	66J	67J	68J	69J	70J		
71J	72J	73J	74J	75J	76J	77J	78J	79J	80J	81J
82J	83J	84J	85J	86J	87J	88J	89J	90J		
91J	92J	93J	94J	95J						
96J	97J	98J	99J	100J						

Terminal No.	Color of Wire	Signal Name
63J	O	–

Connector No.	E5
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
16	R	–

Connector No.	E53
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
4	O	–

Connector No.	E54
Connector Name	BACK-UP LAMP RELAY
Connector Color	BROWN

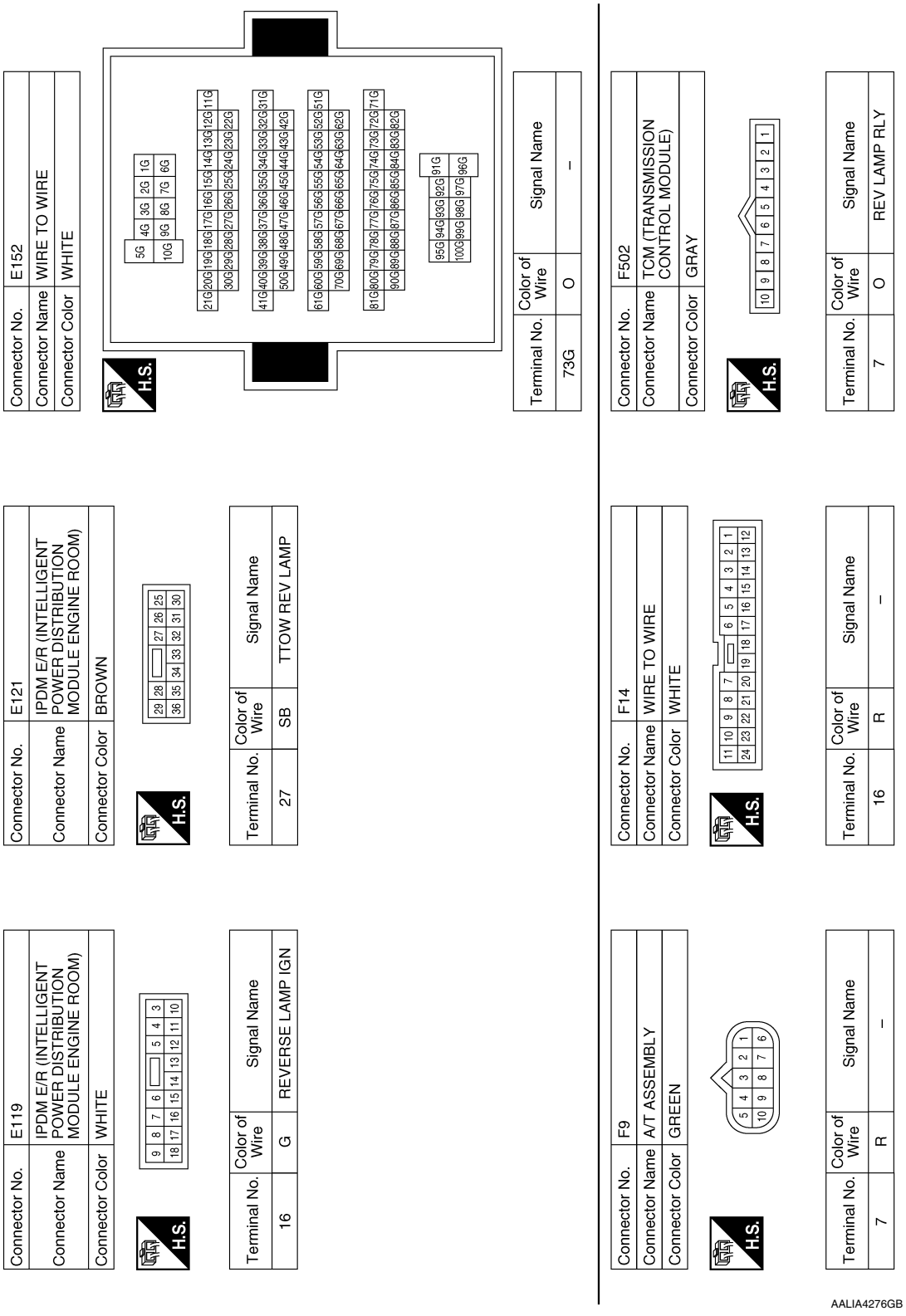
H.S.

2	1
7	5
6	3

Terminal No.	Color of Wire	Signal Name
1	G	–

Terminal No.	Color of Wire	Signal Name
2	GR	–
3	G	–
5	O	–
6	SB	–
7	Y	–

AALIA4275GB



AALIA4276GB

Connector No.	B20
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

21J	20J	19J	18J	17J	16J	15J	14J	13J	12J	11J
	30J	29J	28J	27J	26J	25J	24J	23J	22J	
41J	40J	39J	38J	37J	36J	35J	34J	33J	32J	31J
	50J	49J	48J	47J	46J	45J	44J	43J	42J	
61J	60J	59J	58J	57J	56J	55J	54J	53J	52J	51J
	70J	69J	68J	67J	66J	65J	64J	63J	62J	
81J	80J	79J	78J	77J	76J	75J	74J	73J	72J	71J
	90J	89J	88J	87J	86J	85J	84J	83J	82J	

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

Terminal No.	Color of Wire	Signal Name
63J	O	–

Connector No.	B51
Connector Name	REAR COMBINATION LAMP LH (PASSENGER VAN)
Connector Color	WHITE

H.S.

1	2
3	4
5	6

Terminal No.	Color of Wire	Signal Name
3	O	–
4	B	–

Connector No.	B52
Connector Name	REAR COMBINATION LAMP RH (PASSENGER VAN)
Connector Color	WHITE

H.S.

1	2
3	4
5	6

Terminal No.	Color of Wire	Signal Name
3	O	–
4	B	–

Connector No.	R9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
4	O	–

Connector No.	R16
Connector Name	REAR COMBINATION LAMP LH (CARGO VAN)
Connector Color	WHITE

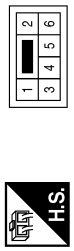
H.S.

1	2
3	4
5	6

Terminal No.	Color of Wire	Signal Name
3	O	–
4	B	–

AALIA4277GB

Connector No.	R17
Connector Name	REAR COMBINATION LAMP RH (CARGO VAN)
Connector Color	WHITE



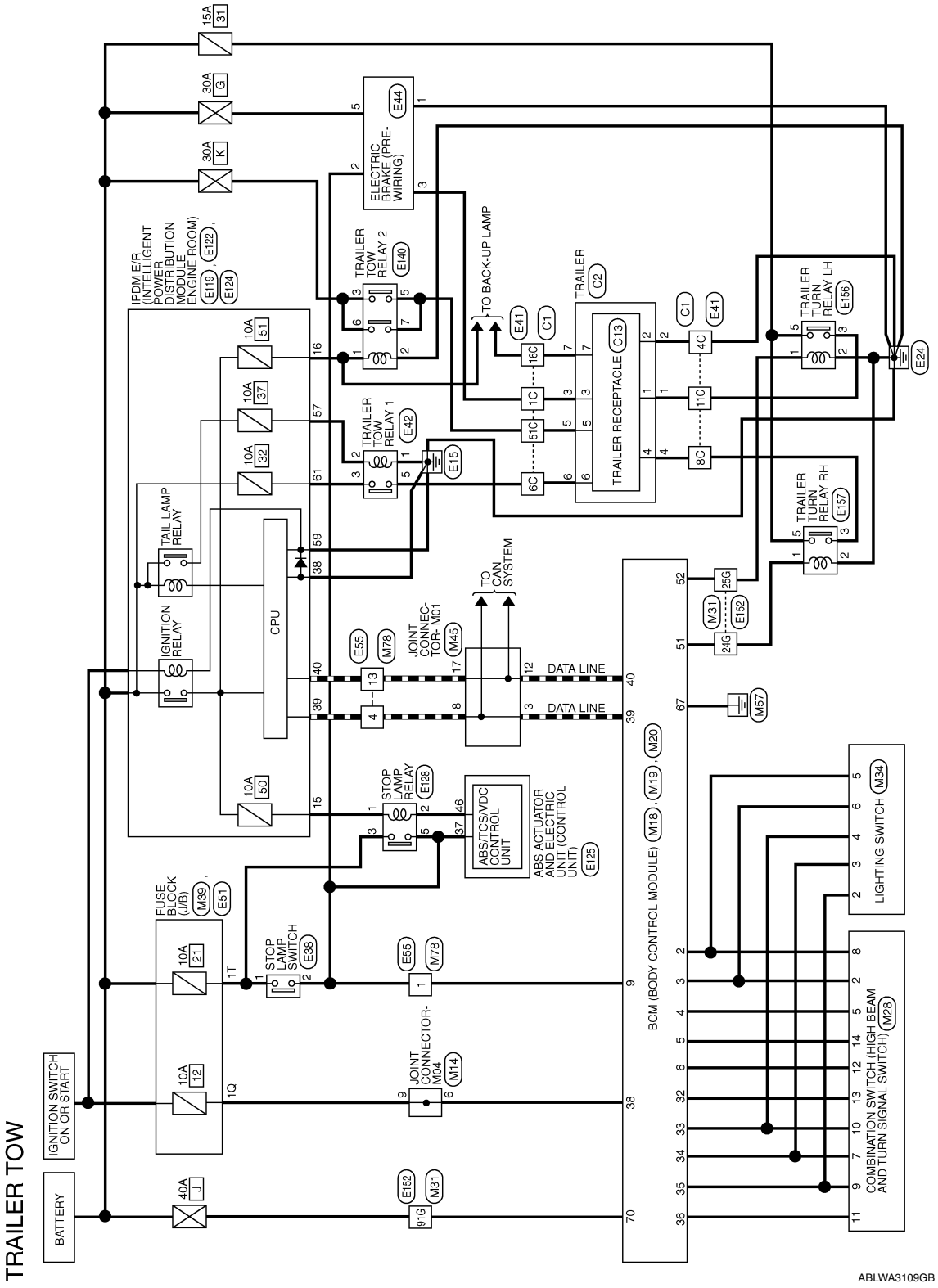
Terminal No.	Color of Wire	Signal Name
3	O	–
4	B	–

AALIA4279GB

TRAILER TOW

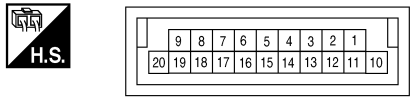
Wiring Diagram

INFOID:0000000012519694



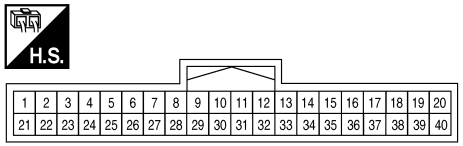
TRAILER TOW CONNECTORS

Connector No.	M14
Connector Name	JOINT CONNECTOR-M04
Connector Color	BLUE



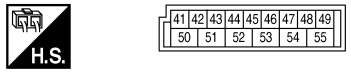
Terminal No.	Color of Wire	Signal Name
6	R	–
9	R	–

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



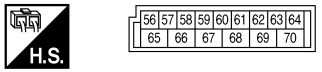
Terminal No.	Color of Wire	Signal Name
2	L	INPUT 5
3	P	INPUT 4
4	LG	INPUT 3
5	O	INPUT 2
6	R	INPUT 1
9	LG	BRAKE SW 1
32	SB	OUTPUT 5
33	G	OUTPUT 4
34	Y	OUTPUT 3
35	BR	OUTPUT 2
36	Y	OUTPUT 1
38	R	IGN SW
39	L	CAN-H
40	P	CAN-L

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



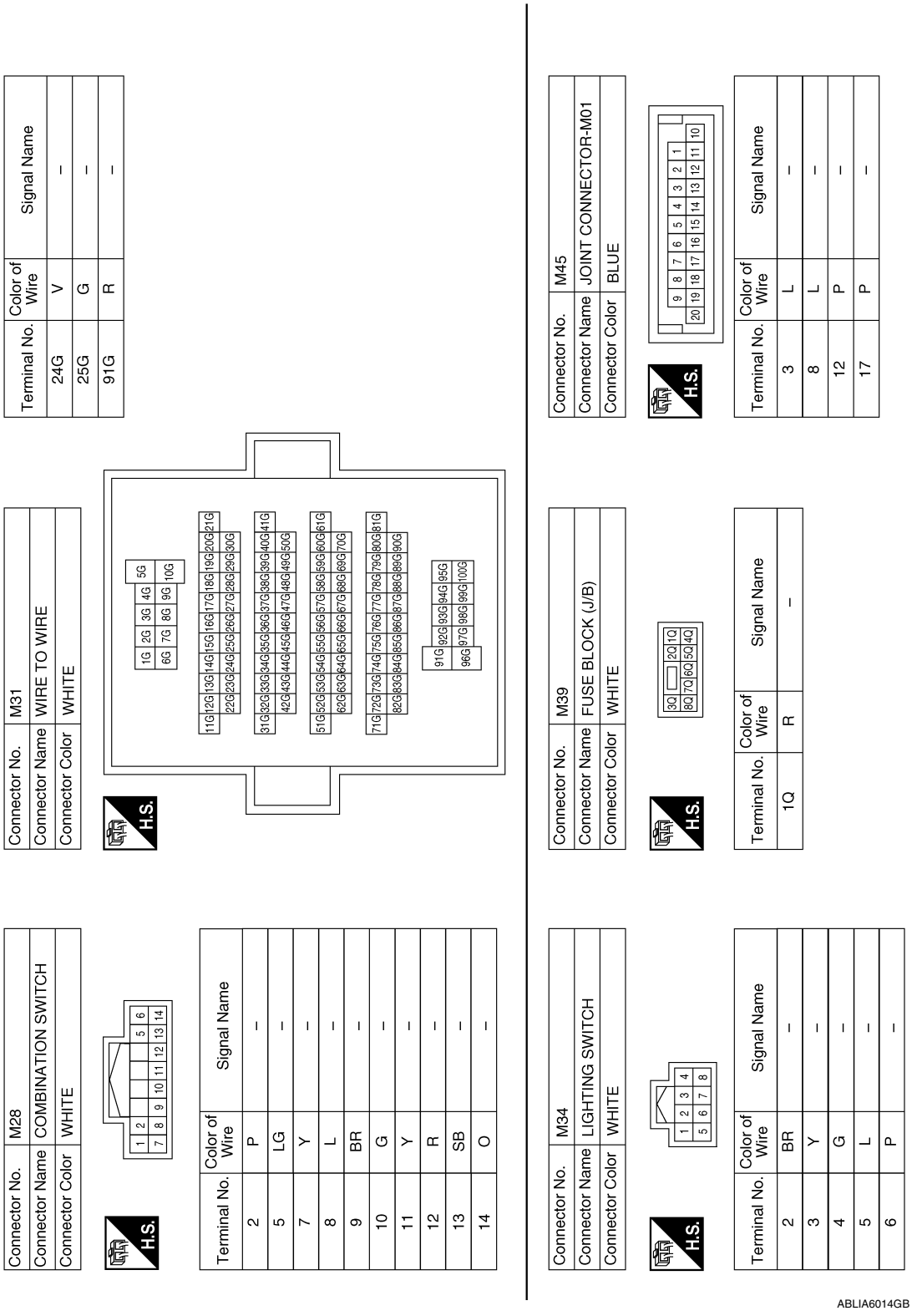
Terminal No.	Color of Wire	Signal Name
51	V	TRAILER FLASHER OUTPUT (RIGHT)
52	G	TRAILER FLASHER OUTPUT (LEFT)

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



Terminal No.	Color of Wire	Signal Name
67	B	GND
70	R	BATTERY (F/L)

ABLIA6027GB



ABLIA6014GB

Connector No.	M78
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	O	–
2	LG	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1C	L	–
4C	B	–
6C	LG	–
8C	W	–
11C	G	–
16C	Y	–
51C	R	–

Connector No.	E42
Connector Name	TRAILER TOW RELAY 1
Connector Color	BLUE

H.S.

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

ABLIA3031GB

Connector No.	E44
Connector Name	ELECTRIC BRAKE (PRE-WIRING)
Connector Color	WHITE

H.S.

2		6
1	3	4	5

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

Connector No.	E51
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	O	–

Connector No.	E55
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

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

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
15	GR	ABS ECU IGN
16	G	REVERSE LAMP IGN

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.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

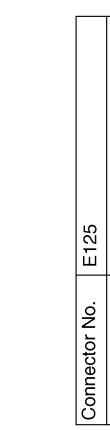
59	58	57
62	61	60

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

ABLIA6015GB

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

H.S.



Terminal No.	Color of Wire	Signal Name
37	LG	STP
46	W	STPO

Connector No.	E128
Connector Name	STOP LAMP RELAY
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	GR	–
2	W	–
3	O	–
5	LG	–

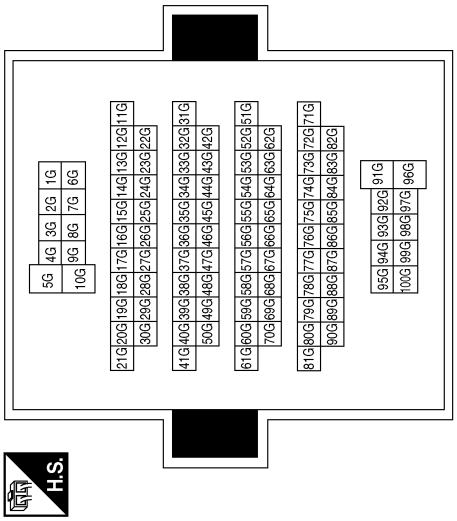
Connector No.	E140
Connector Name	TRAILER TOW RELAY 2
Connector Color	BROWN

H.S.

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

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

H.S.



Terminal No.	Color of Wire	Signal Name
24G	V	–
25G	G	–
91G	R	–

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

H.S.

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

ABLIA6028GB

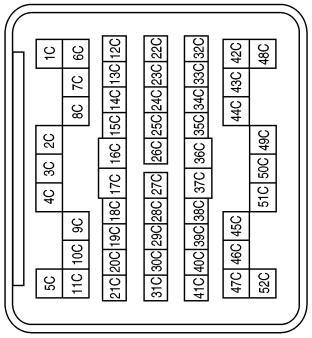
Connector No.	E157
Connector Name	TRAILER TURN RELAY RH
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	V	–
2	B	–
3	W	–
5	L	–

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

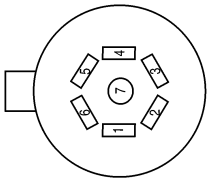
H.S.



Terminal No.	Color of Wire	Signal Name
1C	L	–
4C	B	–
6C	LG	–
8C	W	–
11C	G	–
16C	Y	–
51C	R	–

Connector No.	C13
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

Connector No.	C2
Connector Name	TRAILER
Connector Color	BLACK

H.S.

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

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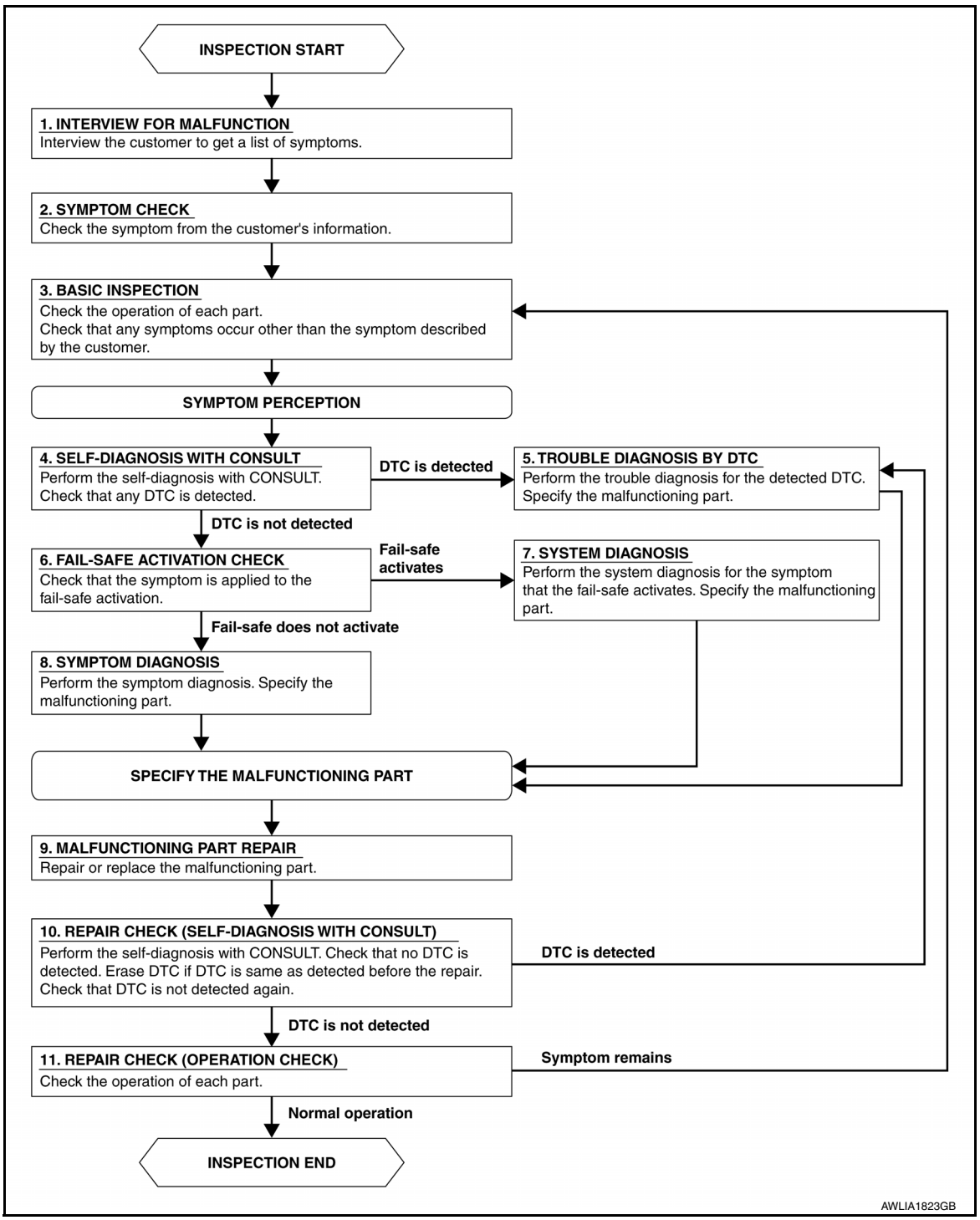
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000012519695

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 any concerns that 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. Refer to EXL-111, "Symptom Table". 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.

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:0000000012815319

Regarding Wiring Diagram information, refer to BCS-41, "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 (10A)
70		J (40A)
11	Ignition ACC or ON	9 (10A)
38	Ignition ON or START	12 (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 connectors.
3. Check voltage between BCM connector and ground.

Terminals			Ignition switch position		
(+)		(–)			
BCM			OFF	ACC	ON
Connector	Terminal				
M20	70	Ground	Battery voltage	Battery voltage	Battery voltage
	57				
M18	11		Approx. 0 V	Battery voltage	Battery voltage
	38		Approx. 0 V	Approx. 0 V	Battery voltage

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M20	67		Yes

Is the inspection result normal?

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

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

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

INFOID:0000000012815320

Regarding Wiring Diagram information, refer to PCS-19, "Wiring Diagram".

1. CHECK FUSE AND FUSIBLE LINKS

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

Terminal No.	Signal name	Fuse and fusible link Nos.
1	Battery	A, D
2	Battery	C
12	Ignition switch ON or START	12

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 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

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 connectors and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E122	38		Yes
E124	59		

Does continuity exist?

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

HEADLAMP (HI) CIRCUIT

Description

INFOID:0000000012519698

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.
(For USA) power then flows to the front combination lamp LH high beam and the daytime running light relay 2 which becomes energized and then power is sent to the front combination lamp RH high beam.
(For Canada) power then flows to the front combination lamp LH and RH high beams.

Component Function Check

INFOID:0000000012519699

1.CHECK HEADLAMP (HI) OPERATION

WITHOUT CONSULT
1. Start IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the headlamp switches to the high beam.

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-93, "Diagnosis Procedure - For USA".
>> Refer to EXL-95, "Diagnosis Procedure - For Canada".

Diagnosis Procedure - For USA

INFOID:0000000012519700

Regarding Wiring Diagram information, refer to EXL-24, "Wiring Diagram -For USA".

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 >> Replace the fuse after repairing the affected circuit.
NO >> GO TO 2.

2.CHECK HIGH BEAM BULB

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

Is the bulb OK?

YES >> GO TO 3.
NO >> Replace the bulb.

3.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

1. Disconnect the front combination lamp connector E11 or E107.
2. Turn the ignition switch ON.
3. Turn the high beam headlamps ON.

4. With the high beam headlamps ON, check the voltage between the combination lamp connector and ground.

(+)			(–)	Voltage
Connector		Terminal		
LH	E11	1	Ground	Battery voltage
RH	E107	1		

Is battery voltage present?

YES >> GO TO 9.
NO >> GO TO 4 (front combination lamp LH).
>> GO TO 5 (front combination lamp RH).

4. 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 E123 and the front combination lamp LH harness connector E11.

Connector	Terminal	Connector	Terminal	Continuity
E123	55	E11	1	Yes

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".
NO >> Repair the harnesses or connectors.

5. CHECK DAYTIME RUNNING LIGHT RELAY 2 TO FRONT COMBINATION LAMP RH CIRCUIT FOR OPEN

1. Disconnect daytime running light relay 2 connector E102.
2. Check continuity between the daytime running light relay 2 harness connector E102 and the front combination lamp RH harness connector E107.

Connector	Terminal	Connector	Terminal	Continuity
E102	5	E107	1	Yes

Does continuity exist?

YES >> GO TO 6.
NO >> Repair the harnesses or connectors.

6. CHECK DAYTIME RUNNING LIGHT RELAY 2 VOLTAGE CIRCUIT

1. With the high beam headlamps ON, check the voltage between the daytime running light relay connector E102 and ground.

(+)		(–)	Voltage
Connector	Terminal		
E102	1	Ground	Battery voltage
	3		

Is battery voltage present?

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

7. CHECK DAYTIME RUNNING LIGHT RELAY 2 GROUND CIRCUIT

Check continuity between the daytime running light relay 2 harness connector E102 and ground.

Connector	Terminal	—	Continuity
E102	2	Ground	Yes

Does continuity exist?

YES >> Replace daytime running light relay 2.
NO >> Repair the harness or connector.

8.CHECK IPDM E/R TO DAYTIME RUNNING LIGHT RELAY 2 CIRCUIT FOR OPEN

1. Disconnect IPDM E/R connector E123.
2. Check continuity between the daytime running light relay 2 harness connector E102 and the IPDM E/R connector E123.

Connector	Terminal	Connector	Terminal	Continuity
E102	1	E123	56	Yes
	3			

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".
NO >> Repair the harnesses or connectors.

9.CHECK FRONT COMBINATION LAMP (HI) GROUND CIRCUIT

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

Connector		Terminal	—	Continuity
LH	E11	2	Ground	Yes
RH	E107	2		

Does continuity exist?

YES >> Replace malfunctioning lamp.
NO >> Repair the harness or connector (front combination lamp LH).
>> GO TO 10 (front combination lamp RH).

10.CHECK FRONT COMBINATION LAMP RH TO DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

1. Disconnect daytime running light relay 1 connector E103.
2. Check continuity between the daytime running light relay 1 harness connector E103 and the front combination lamp RH harness connector E107.

Connector	Terminal	Connector	Terminal	Continuity
E103	3	E107	2	Yes

Does continuity exist?

YES >> GO TO 11.
NO >> Repair the harnesses or connectors.

11.CHECK DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

Check continuity between the daytime running light relay 1 harness connector E103 and ground.

Connector	Terminal	—	Continuity
E103	4	Ground	Yes

Does continuity exist?

YES >> Replace daytime running light relay 1.
NO >> Repair the harness or connector.

Diagnosis Procedure - For Canada

INFOID:0000000012519701

Regarding Wiring Diagram information, refer to EXL-31, "Wiring Diagram -For Canada".

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 >> Replace the fuse after repairing the affected circuit.
NO >> GO TO 2.

2.CHECK HIGH BEAM BULB

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

Is the bulb OK?

YES >> GO TO 3.
NO >> Replace the bulb.

3.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

1. Turn the ignition switch OFF.
2. Disconnect the front combination lamp connector E11 or E107.
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	1	Ground	Battery voltage
RH	E107	1		

Is battery voltage present?

YES >> GO TO 5.
NO >> GO TO 4.

4.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 E123 and the front combination lamp harness connector E11 or E107.

Connector		Terminal	Connector	Terminal	Continuity
LH	E123	55	E11	1	Yes
RH		56	E107	1	

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".
NO >> Repair the harnesses or connectors.

5.CHECK FRONT COMBINATION LAMP (HI) GROUND CIRCUIT

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

Connector		Terminal	—	Continuity
LH	E11	2	Ground	Yes
RH	E107	2		

Does continuity exist?

YES >> Replace malfunctioning lamp.

NO >> Repair the harness or connector (front combination lamp LH).
>> GO TO 6 (front combination lamp RH).

6. CHECK FRONT COMBINATION LAMP RH TO DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

1. Disconnect daytime running light relay 1 connector E103.
2. Check continuity between the daytime running light relay 1 harness connector E103 and the front combination lamp RH harness connector E107.

Connector	Terminal	Connector	Terminal	Continuity
E103	3	E107	2	Yes

Does continuity exist?

YES >> GO TO 7.
NO >> Repair the harnesses or connectors.

7. CHECK DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

Check continuity between the daytime running light relay 1 harness connector E103 and ground.

Connector	Terminal	—	Continuity
E103	4	Ground	Yes

Does continuity exist?

YES >> Replace daytime running light relay 1.
NO >> Repair the harness or connector.

HEADLAMP (LO) CIRCUIT

Description

INFOID:0000000012519702

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.
(For USA) power then flows to the front combination lamp LH and RH low beams.
(For Canada) power then flows to the front combination lamp LH low beam and the daytime running light relay 2 which becomes energized and then power is sent to the front combination lamp RH low beam.

Component Function Check

INFOID:0000000012519703

1.CHECK HEADLAMP (LO) OPERATION

WITHOUT CONSULT
1. Start IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the headlamp is turned ON.

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-98, "Diagnosis Procedure - For USA".
>> Refer to EXL-100, "Diagnosis Procedure - For Canada".

Diagnosis Procedure - For USA

INFOID:0000000012519704

Regarding Wiring Diagram information, refer to EXL-24, "Wiring Diagram -For USA".

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 >> Replace the fuse after repairing the affected circuit.
NO >> GO TO 2.

2.CHECK LOW BEAM BULB

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

Is the bulb OK?

YES >> GO TO 3.
NO >> Replace the bulb.

3.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

1. Turn the ignition switch OFF.
2. Disconnect the front combination lamp connector E11 or E107.
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	4	Ground	Battery voltage
RH	E107	4		

Is battery voltage present?

YES >> GO TO 5.
NO >> GO TO 4.

4. 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 E123 and the front combination lamp harness connector E11 or E107.

Connector		Terminal	Connector	Terminal	Continuity
LH	E123	52	E11	4	Yes
RH		54	E107	4	

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".
NO >> Repair the harnesses or connectors.

5. CHECK FRONT COMBINATION LAMP (LO) GROUND CIRCUIT

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

Connector		Terminal	—	Continuity
LH	E11	2	Ground	Yes
RH	E107	2		

Does continuity exist?

YES >> Replace malfunctioning lamp.
NO >> Repair the harness or connector (front combination lamp LH).
>> GO TO 6 (front combination lamp RH).

6. CHECK FRONT COMBINATION LAMP RH TO DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

1. Disconnect daytime running light relay 1 connector E103.
2. Check continuity between the daytime running light relay 1 harness connector E103 and the front combination lamp RH harness connector E107.

Connector	Terminal	Connector	Terminal	Continuity
E103	3	E107	2	Yes

Does continuity exist?

YES >> GO TO 7.
NO >> Repair the harnesses or connectors.

7. CHECK DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

Check continuity between the daytime running light relay 1 harness connector E103 and ground.

Connector	Terminal	—	Continuity
E103	4	Ground	Yes

Does continuity exist?

YES >> Replace daytime running light relay 1.
NO >> Repair the harness or connector.

Diagnosis Procedure - For Canada

INFOID:0000000012519705

Regarding Wiring Diagram information, refer to EXL-31, "Wiring Diagram -For Canada".

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 >> Replace the fuse after repairing the affected circuit.
NO >> GO TO 2.

2.CHECK LOW BEAM BULB

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

Is the bulb OK?

YES >> GO TO 3.
NO >> Replace the bulb.

3.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

1. Turn the ignition switch OFF.
2. Disconnect the front combination lamp connector E11 or E107.
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	4	Ground	Battery voltage
RH	E107	4		

Is battery voltage present?

YES >> GO TO 9.
NO >> GO TO 4 (front combination lamp LH).
>> GO TO 5 (front combination lamp RH).

4.CHECK HEADLAMP (LO) CIRCUIT FOR OPEN

1. Turn the ignition switch OFF.
2. Disconnect IPDM E/R connectors E123.
3. Check continuity between the IPDM E/R harness connectors E123 and the front combination lamp harness connector E11.

Connector		Terminal	Connector	Terminal	Continuity
LH	E123	52	E11	4	Yes

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".
NO >> Repair the harnesses or connectors.

5. CHECK DAYTIME RUNNING LIGHT RELAY 2 TO FRONT COMBINATION LAMP RH CIRCUIT FOR OPEN

1. Disconnect daytime running light relay 2 connector E104.
2. Check continuity between the daytime running light relay 2 harness connector E104 and the front combination lamp RH harness connector E107.

Connector	Terminal	Connector	Terminal	Continuity
E104	5	E107	4	Yes

Does continuity exist?

YES >> GO TO 6.
NO >> Repair the harnesses or connectors.

6. CHECK DAYTIME RUNNING LIGHT RELAY 2 VOLTAGE CIRCUIT

1. With the low beam headlamps ON, check the voltage between the daytime running light relay 2 connector E104 and ground.

(+)		(−)	Voltage
Connector	Terminal		
E104	1	Ground	Battery voltage
	3		

Is battery voltage present?

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

7. CHECK DAYTIME RUNNING LIGHT RELAY 2 GROUND CIRCUIT

Check continuity between the daytime running light relay 2 harness connector E104 and ground.

Connector	Terminal	—	Continuity
E104	2	Ground	Yes

Does continuity exist?

YES >> Replace daytime running light relay 2.
NO >> Repair the harness or connector.

8. CHECK IPDM E/R TO DAYTIME RUNNING LIGHT RELAY 2 CIRCUIT FOR OPEN

1. Disconnect IPDM E/R connectors E121.
2. Check continuity between the daytime running light relay 2 harness connector E104 and the IPDM E/R connector E121.

Connector	Terminal	Connector	Terminal	Continuity
E104	1	E121	26	Yes
	3			

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".
NO >> Repair the harnesses or connectors.

9. CHECK FRONT COMBINATION LAMP (LO) GROUND CIRCUIT

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

Connector		Terminal	—	Continuity
LH	E11	2	Ground	Yes
RH	E107	2		

Does continuity exist?

YES >> Replace malfunctioning lamp.
NO >> Repair the harness or connector (front combination lamp LH).
>> GO TO 10 (front combination lamp RH).

10.CHECK FRONT COMBINATION LAMP RH TO DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

1. Disconnect daytime running light relay 1 connector E103.
2. Check continuity between the daytime running light relay 1 harness connector E103 and the front combination lamp RH harness connector E107.

Connector	Terminal	Connector	Terminal	Continuity
E103	3	E107	2	Yes

Does continuity exist?

YES >> GO TO 11.
NO >> Repair the harnesses or connectors.

11.CHECK DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

Check continuity between the daytime running light relay 1 harness connector E103 and ground.

Connector	Terminal	—	Continuity
E103	4	Ground	Yes

Does continuity exist?

YES >> Replace daytime running light relay 1.
NO >> Repair the harness or connector.

FRONT FOG LAMP CIRCUIT

Component Function Check

INFOID:0000000012519706

1.CHECK FRONT FOG LAMP OPERATION

WITHOUT CONSULT
1. Perform IPDM E/R auto active test. Refer to PCS-8, "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. While 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-103, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012519707

Regarding Wiring Diagram information, refer to EXL-52, "Wiring Diagram".

1.CHECK FRONT FOG LAMP BULB

Check the fog lamp bulb is not open.

Is the inspection result normal?

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

2.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

CONSULT
1. Turn ignition switch OFF.
2. Disconnect front fog lamp connector.
3. Turn ignition switch ON.
4. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
5. While operating the fog lamps, check voltage between front fog lamp harness connector and ground.

(+)			(–)	Test item		Voltage (Approx.)
Front fog lamp						
Connector		Terminal				
LH	E162	1	Ground	EXTERNAL LAMPS	Fog	Battery voltage
					Off	0 V
RH	E163				Fog	Battery voltage
					Off	0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair the harness or connector.

3.CHECK FRONT FOG LAMP GROUND CIRCUIT

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

Front fog lamp			Ground	Continuity
Connector		Terminal		
LH	E162	2		Yes
RH	E163			

Is the inspection result normal?

YES >> Replace the malfunctioning lamp. Refer to EXL-124, "Removal and Installation"
NO >> Repair the harness or connector.

PARKING LAMP CIRCUIT

Description

INFOID:0000000012519708

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 fuses 36 and 37, located in the IPDM E/R. Power then flows to the front and rear combination lamps, license plate lamps.

Component Function Check

INFOID:0000000012519709

1.CHECK PARKING LAMP OPERATION

WITHOUT CONSULT
1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the parking lamps are turned ON.

CONSULT
1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
2. While operating the test items, check that the parking lamps are 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-105, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012519710

Regarding Wiring Diagram information, refer to EXL-63, "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	36	10A
		37	10A

Is the fuse open?

YES >> Replace the fuse after repairing the affected circuit.
NO >> GO TO 2.

2.CHECK PARKING 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 3.
NO >> Replace the bulb.

3.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		
LH	E11	6	Ground	Battery voltage
RH	E107			

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

(+)			(−)	Voltage
Connector		Terminal		
LH	R16	1	Ground	Battery voltage
RH	R17			

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

(+)			(−)	Voltage
Connector		Terminal		
LH	D408	1	Ground	Battery voltage
RH	D409			

Are voltage readings as specified?

YES >> GO TO 5.
NO >> GO TO 4.

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

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

Connector		Terminal	Connector	Terminal	Continuity
LH	E121	29	E11	6	Yes
RH		28	E107		

4. Check continuity between the IPDM E/R harness connector E124 and the rear combination lamp harness connector.

Cargo Van

Connector		Terminal	Connector	Terminal	Continuity
LH	E124	57	R16	1	Yes
RH			R17		

Passenger Van

Connector		Terminal	Connector	Terminal	Continuity
LH	E124	57	B51	1	Yes
RH			B52		

5. Check continuity between the IPDM E/R harness connector E124 and license plate lamp connector.

Connector	Terminal	Connector	Terminal	Continuity
E124	57	D408	1	Yes
		D409		

Are continuity test results as specified?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".
NO >> Repair the harness or connector.

5. CHECK PARKING, LICENSE AND TAIL LAMP GROUND CIRCUITS

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

Connector		Terminal	—	Continuity
LH	E11	5	Ground	Yes
RH	E107			

2. Check continuity between the rear combination lamp harness connectors R16 and R17 (cargo van), or B51 and B 52 (passenger van), and ground.

Cargo Van

Connector		Terminal	—	Continuity
LH	R16	4	Ground	Yes
RH	R17			

Passenger Van

Connector		Terminal	—	Continuity
LH	B51	4	Ground	Yes
RH	B52			

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

Connector	Terminal	—	Continuity
D408	2	Ground	Yes
D409			

Does continuity exist?

YES >> Replace the malfunctioning lamp.
NO >> Repair the harness.

TURN SIGNAL LAMP CIRCUIT

Description

INFOID:0000000012519711

The BCM monitors inputs from the combination switch (high beam 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:0000000012519712

1.CHECK TURN SIGNAL LAMP

CONSULT
1. Select "FLASHER" of BCM (FLASHER) active test item.
2. While 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-108, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012519713

Regarding Wiring Diagram information, refer to EXL-57, "Wiring Diagram".

1.CHECK TURN SIGNAL LAMP BULB

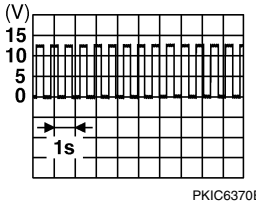
Check the applicable lamp bulb to be sure the proper bulb standard is in use and the bulb is not open.

Is the bulb OK?

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

2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

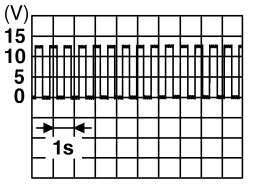
1. Turn the ignition switch OFF.
2. Disconnect the front combination lamp connector and the rear combination lamp connector.
3. Turn the ignition switch ON.
4. With turn signal switch operating, check the voltage between the front combination lamp harness connector and ground.

(+)			(−)	Voltage
Connector		Terminal		
LH	E11	3	Ground	
RH	E107	3		

PKIC6370E

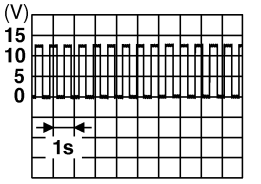
5. With turn signal switch operating, check the voltage between the rear combination lamp harness connector and ground.

Cargo Van

(+)			(–)	Voltage
Connector		Terminal		
LH	R16	6	Ground	
RH	R17	6		

PKIC6370E

Passenger Van

(+)			(–)	Voltage
Connector		Terminal		
LH	B51	6	Ground	
RH	B52	6		

PKIC6370E

Is voltage reading as specified?

YES >> GO TO 5
NO >> GO TO 3

3. CHECK TURN SIGNAL LAMP CIRCUIT FOR OPEN

1. Turn the ignition switch OFF.
2. Disconnect BCM connector M20.
3. Check continuity between the BCM harness connector M20 and the front combination lamp connector.

Connector		Terminal	Connector	Terminal	Continuity
Front LH	M20	60	E11	3	Yes
Front RH		61	E107		

4. Check continuity between the BCM harness connector M20 and the rear combination lamp connector.

Cargo Van

Connector		Terminal	Connector	Terminal	Continuity
Rear LH	M20	60	R16	6	Yes
Rear RH		61	R17		

Passenger Van

Connector		Terminal	Connector	Terminal	Continuity
Rear LH	M20	60	B51	6	Yes
Rear RH		61	B52		

Are continuity test results as specified?

YES >> GO TO 4.
NO >> Repair the harness or connector.

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 harness or connector.
NO >> Replace BCM. Refer to BCS-62, "Removal and Installation".

5. CHECK TURN SIGNAL LAMP GROUND CIRCUIT

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

Connector		Terminal	—	Continuity
Front LH	E11	5	Ground	Yes
Front RH	E107			

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

Cargo Van

Connector		Terminal	—	Continuity
Rear LH	R16	4	Ground	Yes
Rear RH	R17			

Passenger Van

Connector		Terminal	—	Continuity
Rear LH	B51	4	Ground	Yes
Rear RH	B52			

Are continuity test results as specified?

YES >> Replace the malfunctioning lamp.
NO >> Repair the harness or connector.

SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000012519714

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-93 (for USA). Refer to EXL-95 (for Canada).
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM" Refer to EXL-113.	
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 (high beam and turn signal switch) • Harness between the combination switch (high beam and turn signal switch) and BCM • BCM	Combination switch (high beam and turn signal switch) Refer to BCS-60.
		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-98 (for USA). Refer to EXL-100 (for Canada).
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-114, "Description".	
Headlamp does not turn OFF.	When the ignition switch is turned ON	• BCM • Lighting switch	Lighting switch Refer to BCS-60.
Daytime running light system does not activate.		• Either high beam bulb (USA) • Either low beam bulb (Canada) • Parking brake switch • Lighting switch • BCM • IPDM E/R • Daytime running light relays • Harness between IPDM E/R and daytime running light relays.	Daytime running light system description. Refer to EXL-9 (for USA). Refer to EXL-10 (for Canada).

Symptom		Possible cause	Inspection item
Front fog lamp is not turned ON.	One side	• Front fog lamp bulb • Harness between IPDM E/R and the front fog lamp • IPDM E/R	Front fog lamp circuit Refer to EXL-103.
	Both sides	**Symptom diagnosis** "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-116.	
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-105.
	Both sides	**Symptom diagnosis** "PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-115.	
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	Turn signal lamp circuit Refer to EXL-108.
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-51.

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

Description

INFOID:0000000012519715

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

Diagnosis Procedure

INFOID:0000000012519716

1.COMBINATION SWITCH (HIGH BEAM AND TURN SIGNAL SWITCH) INSPECTION

Check the combination switch (high beam and turn signal switch). Refer to BCS-56, "Diagnosis Procedure".

Is the combination switch (high beam 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. While operating the combination switch (high beam and turn signal switch), check the monitor status.

Monitor item	Condition		Monitor status
HL HI REQ	Combination switch (high beam and turn signal switch) Lighting 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-62, "Removal and Installation".

3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-93, "Description".

Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".
NO >> Repair or replace the malfunctioning part.

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description

INFOID:0000000012519717

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

Diagnosis Procedure

INFOID:0000000012519718

1.LIGHTING SWITCH INSPECTION

Check the lighting switch. Refer to BCS-56, "Diagnosis Procedure".

Is the lighting 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. While operating the lighting switch, check the monitor status.

Monitor item	Condition		Monitor status
HL LO REQ	Lighting switch	2ND	ON
		OFF	OFF

Is the item status normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-62, "Removal and Installation".

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-98, "Description".

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".
NO >> Repair or replace the malfunctioning part.

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

Description

INFOID:0000000012519719

The parking, license plate and tail lamps do not turn ON in any lighting switch position.

Diagnosis Procedure

INFOID:0000000012519720

1.LIGHTING SWITCH INSPECTION

Check the lighting switch. Refer to BCS-56, "Diagnosis Procedure".

Is the lighting 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. While operating the lighting switch, check the monitor status.

Monitor item	Condition		Monitor status
TAIL & CLR REQ	Lighting switch	1ST	ON
		OFF	OFF

Is the item status normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-62, "Removal and Installation".

3.PARK LAMP CIRCUIT INSPECTION

Check the parking lamp circuit. Refer to EXL-105, "Description".

Is the tail lamp circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".
NO >> Repair or replace the malfunctioning part.

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description

INFOID:0000000012519721

The front fog lamps do not turn ON in any setting.

Diagnosis Procedure

INFOID:0000000012519722

1.CHECK FRONT FOG LAMP OPERATION

1. Perform IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
2. Check that the front fog lamps turn on.

Is the inspection results normal?

YES >> GO TO 5
NO >> GO TO 2

2.CHECK FRONT FOG LAMP FUSE

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

Unit	Fuse No.	Capacity
Front fog lamp	56	15 A

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace the fuse.

3.CHECK FRONT FOG LAMP BULBS

Check the fog lamp bulbs are not open.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace the bulbs.

4.FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-103, "Diagnosis Procedure".

Is the inspection results normal?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".
NO >> Repair or replace the malfunctioning part.

5.CHECK BCM INPUT SIGNAL

CONSULT
1. Select "FR FOG SW" of BCM (HEADLAMP) DATA MONITOR item.
2. While operating the front fog lamp switch, check data monitor status.

Monitor item	Condition		Monitor status
FR FOG SW	Front fog lamp switch	ON	ON
		OFF	OFF

Is the inspection results normal?

YES >> Replace BCM. Refer to BCS-62, "Removal and Installation".
NO >> GO TO 6.

6.CHECK FRONT FOG LAMP SWITCH

Check the front fog lamp switch. Refer to EXL-117, "Component Inspection".

Is the inspection results normal?

YES >> Repair circuit between switch and BCM.
NO >> Replace fog lamp switch. Refer to EXL-126, "Removal and Installation".

Component Inspection

INFOID:0000000012519723

1.CHECK FRONT FOG LAMP SWITCH

1. Turn ignition switch OFF.
2. Disconnect front fog lamp switch connector.
3. Check continuity between fog lamp switch terminals.

Front fog lamp switch terminals	Condition	Continuity
1 – 2	Front fog lamp switch ON.	Yes
	Front fog lamp switch OFF.	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace front fog lamp switch. Refer to EXL-126, "Removal and Installation".

PERIODIC MAINTENANCE

HEADLAMP AIMING ADJUSTMENT

Inspection

INFOID:0000000012519724

PREPARATION BEFORE ADJUSTING

Before performing aiming adjustment, check the following:

- Adjust the tire pressure to the specification.
- Place the vehicle on a level surface.
- Fill vehicle with fuel, engine coolant, and engine oil.
- Remove cargo and/or luggage to maintain an unloaded vehicle condition.
- Confirm the spare tire, jack, and tools are present and properly stowed.
- Carefully wipe off any dirt from the headlamp lens.

CAUTION:

Do not use organic solvent (thinner, gasoline etc.)

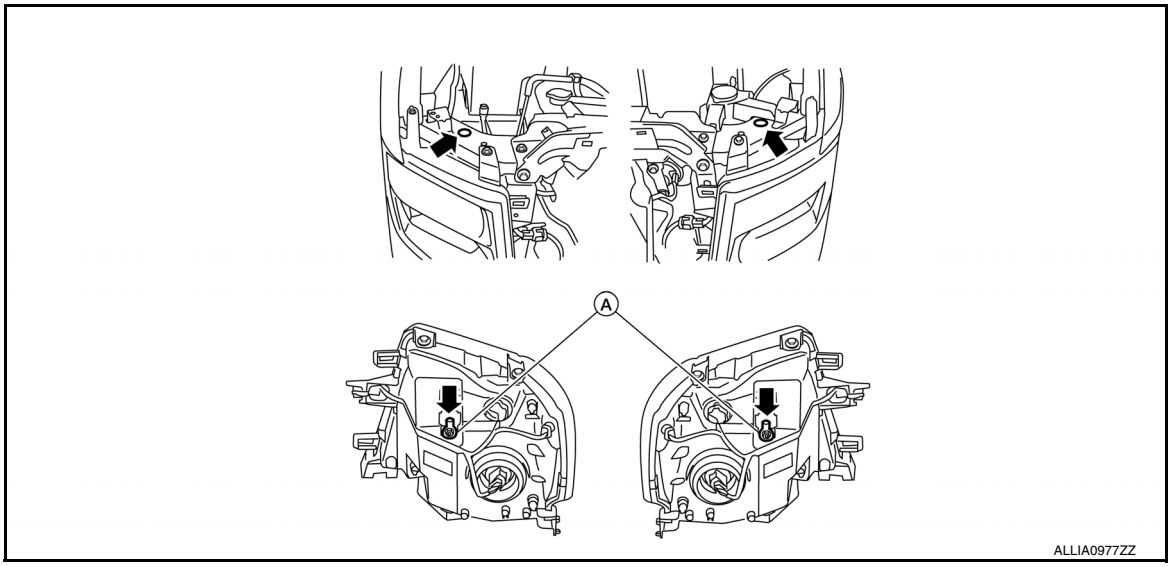
- Place a driver or equivalent weight of 68.5 kg (150 lb) on the driver seat.
- By hand, bounce the front and rear of the vehicle to settle the suspension and eliminate any static load.
- Place the front tires in the straight ahead position.

NOTE:

- For headlamp aiming details, refer to the regulations in your own area.
- By regulation, no means for horizontal adjustment is provided. Horizontal aim will only be serviced by combination lamp replacement.
- Perform headlamp aiming if:

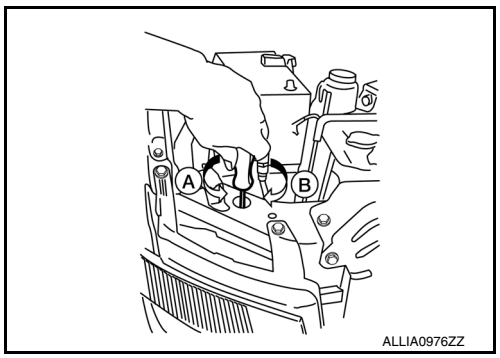
- The vehicle front body has been repaired.
- The front combination lamp has been removed or replaced.
- Any outfitting has been installed.
- The vehicle's standard load condition has been substantially increased.

AIMING ADJUSTMENT SCREW



A. Headlamp (UP/DOWN) adjusting screw

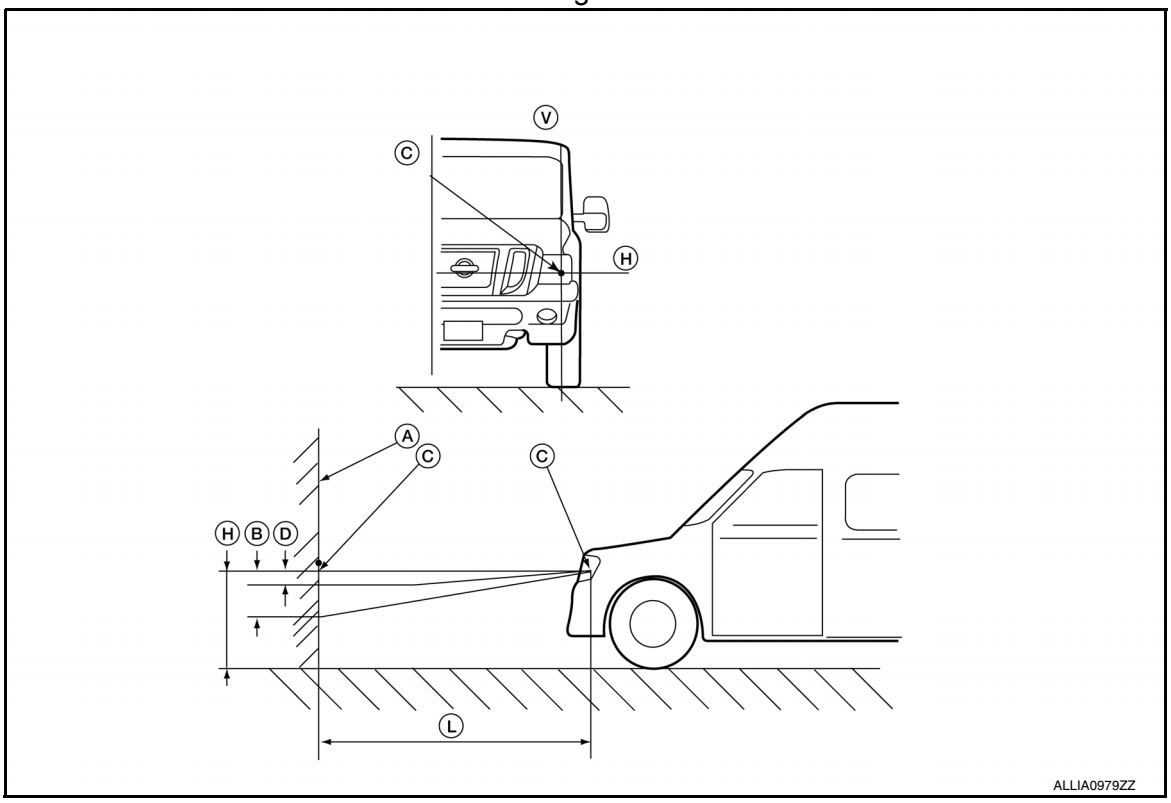
- Rotate the headlamp (UP/DOWN) adjustment screw to raise or lower the headlamp vertical beam pattern, using a suitable tool.
  A: Rotate counterclockwise to lower beam pattern (DOWN).
  B: Rotate clockwise to raise beam pattern (UP).
  CAUTION:
  Do not rotate headlamp (UP/DOWN) adjustment screw beyond a torque of 1.67 N·m (17 kg–cm, 14.8 in–lb), or damage to the components may occur.



Aiming Adjustment Procedure

INFOID:0000000012519725

Aiming Chart



A. Screen surface
B. Lowest cutoff line height 53.2 mm (2.09 in)
C. Center of headlamp bulb (H-V point)
D. Highest cuttoff line height -13.3 mm (-0.52 in)
H. Horizontal center line of headlamp
L. 7.62 m (25 ft)
V. Vertical center line of headlamp

1. Place the screen on the same level and flat surface as the vehicle.
   NOTE:
   Surface should be free of any debris that would cause a difference in vehicle side-to-side height.
2. Face the front of the vehicle to the screen and measure distance between the headlamp center and the screen surface.

   Distance between the headlamp center and the screen (L) : 7.62 m (25 ft)

3. Block the opposite headlamp from projecting a beam pattern onto the adjustment screen, using a suitable object. Aim each headlamp individually.
   CAUTION:
   Do not cover the lens surface with tape or plastic etc. The lens is made of resin.
4. Start the engine. Turn the headlamps on.

5. Determine the preferred vertical aim range dimensions, using the aiming chart.
6. Measure the projected beam within the aim evaluation segment on the screen.
7. Adjust the beam pattern of each headlamp until the aim evaluation segment (the area relative to both the highest and lowest cutoff line height) is positioned within the vertical aim range dimensions shown on the aiming chart.

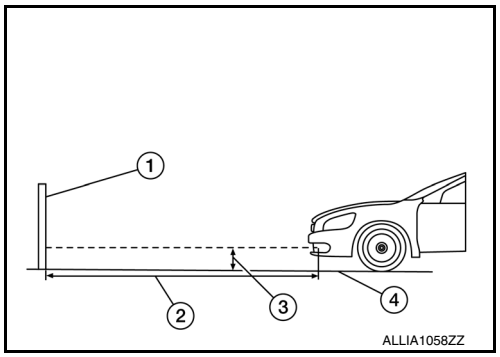
FRONT FOG LAMP

Aiming Adjustment

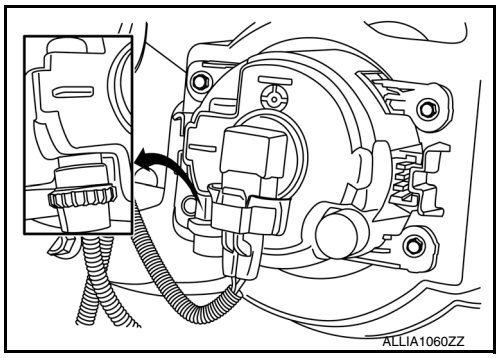
INFOID:0000000012519726

NOTE:
Check the following conditions before preforming the aiming adjustment.
- 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.

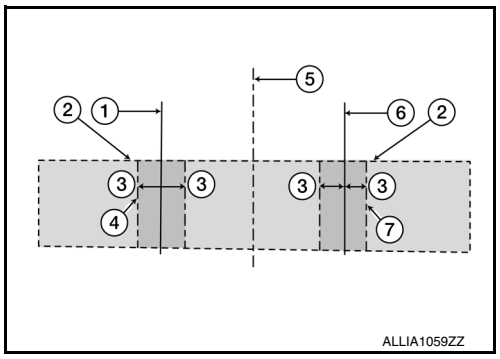
1. Set the distance between the screen and the center of the fog lamp lens as shown.
   (1) Aiming screen or a matte white surface
   (2) 7.62 m (25 ft)
   (3) Ground to center of fog lamp lens
   (4) Ground



2. Turn front fog lamps ON.
3. Using a suitable tool to adjust. Rotate screw clockwise to raise pattern and counterclockwise to lower pattern.
   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.
   NOTE:
   Access adjusting screw from underneath front bumper.



   (1) Vertical center line of left fog lamp
   (2) Lamp center above ground
   (3) 100 mm (4 in) (0.76 deg) below lamp center above ground
   (4) Left fog lamp high intensity area
   (5) Vehicle center axis
   (6) Vertical center line of right fog lamp
   (7) Right fog lamp high intensity area

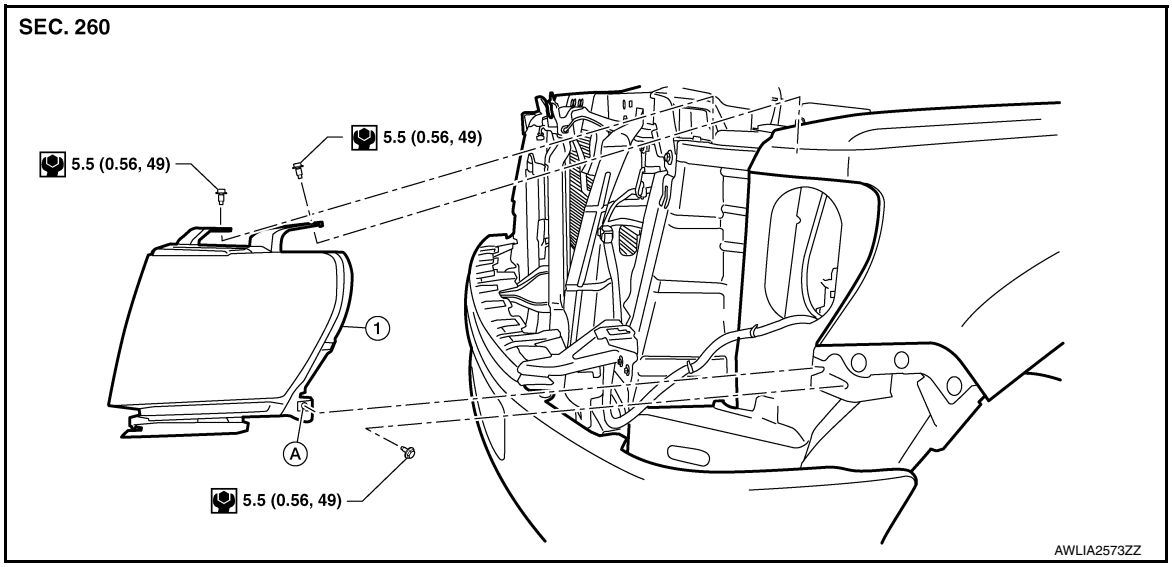


REMOVAL AND INSTALLATION

FRONT COMBINATION LAMP

Exploded View

INFOID:0000000012519727



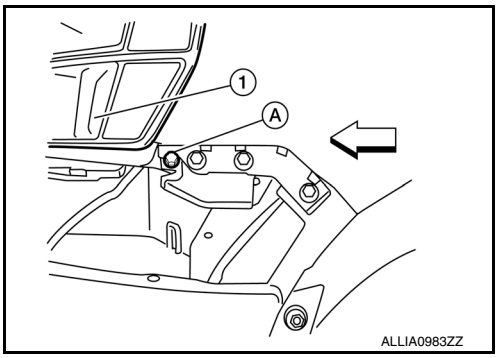
1. Front combination lamp (LH)
A. J-nut

Removal and Installation

INFOID:0000000012519728

REMOVAL

1. Remove upper front fascia. Refer to EXT-19, "Removal and Installation - Upper Front Fascia".
2. Remove the two front combination lamp upper screws.
3. Remove the front combination lamp lower screw (A).
   ⇦: Front
4. Disconnect the harness connector from front combination lamp (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

INFOID:0000000012519729

WARNING:

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

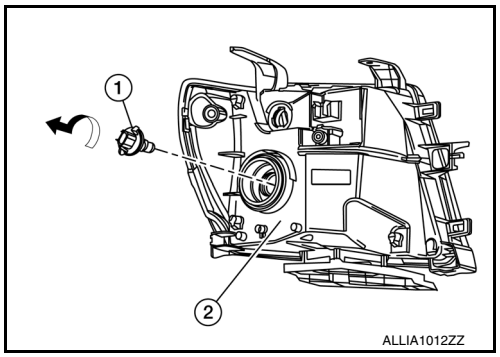
CAUTION:

- **After installing the bulb, install the plastic cover and the bulb socket securely for watertightness.**
- **Do not touch bulb glass with your hand or keep other grease and oily substances away from bulb glass.**
- **Do not leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.**

HEADLAMP BULB

Removal

1. Release the locking tab, then disconnect the harness connector from the headlamp bulb.
2. Rotate the headlamp bulb (1) counterclockwise and remove from front combination lamp (2).
   NOTE:
   Illustration shows the front combination lamp removed for clarity. It is not necessary to remove the front combination lamp when replacing the bulb.



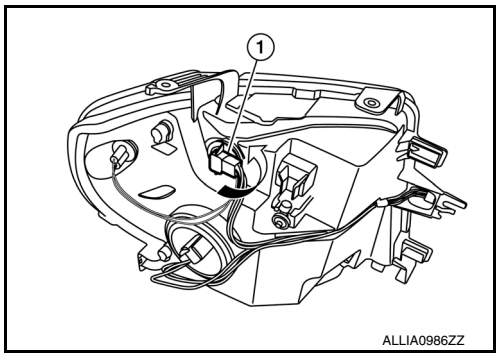
Installation

Installation is in the reverse order of removal.

FRONT TURN SIGNAL/PARKING BULB

Removal

1. Rotate the front turn signal/parking bulb socket (1) counterclockwise and remove.
   NOTE:
   Illustration shows the front combination lamp removed for clarity. It is not necessary to remove the front combination lamp when replacing the bulb.
2. Remove front turn signal bulb from bulb socket.



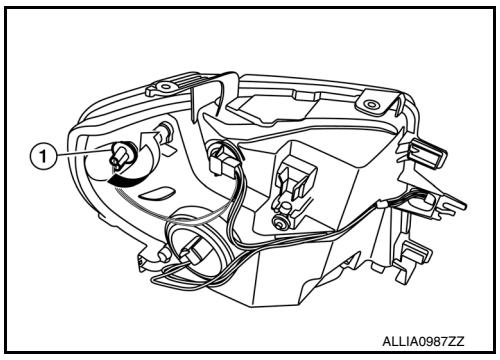
Installation

Installation is in the reverse order of removal.

FRONT SIDE MARKER BULB

Removal

1. Rotate the front side marker bulb socket (1) counterclockwise and remove.
2. Remove front side marker bulb from bulb socket.



Installation

Installation is in the reverse order of removal.

FRONT FOG LAMP

Removal and Installation

INFOID:0000000012519730

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

REMOVAL

1. Remove front grille. Refer to EXT-28, "Removal and Installation".
2. Remove upper side nut.
3. Raise the vehicle.
4. Remove lower side nut and upper nut.
5. Disconnect the harness connector from front fog lamp.
6. Remove the front fog lamp.

INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

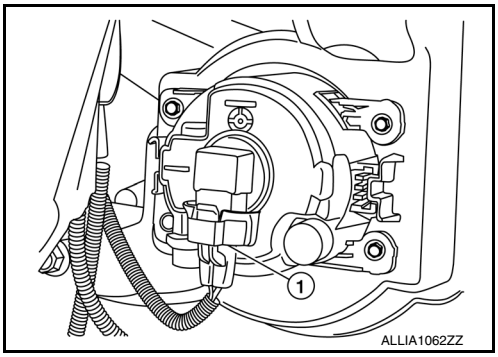
INFOID:0000000012519731

REMOVAL

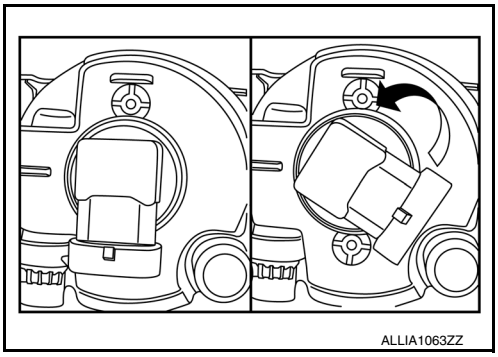
WARNING:
- **Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.**

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 harness connector (1) from the front fog lamp.



2. Rotate the fog lamp bulb counterclockwise and remove.



INSTALLATION

Installation is in the reverse order of removal.

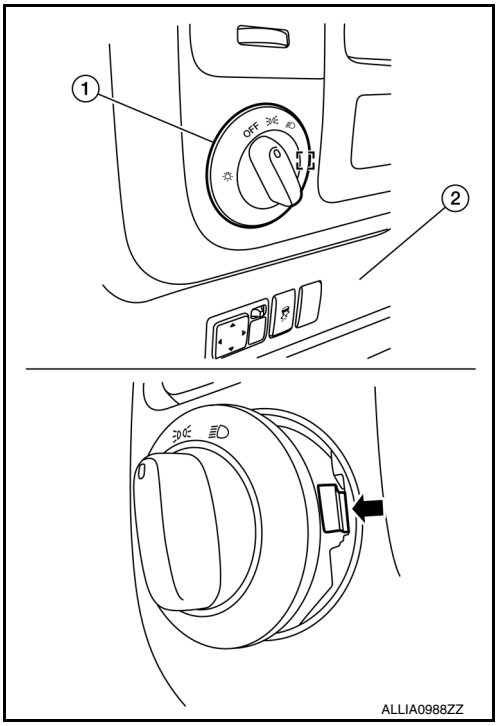
LIGHTING SWITCH

Removal and Installation

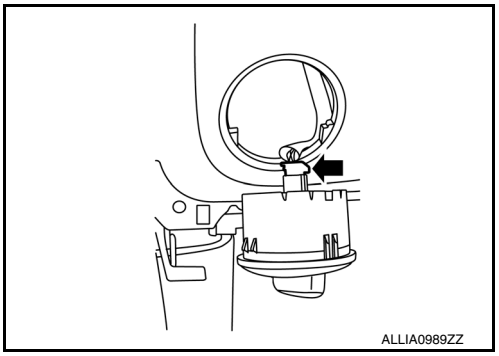
INFOID:0000000012519732

REMOVAL

1. Remove the instrument lower panel LH (2). Refer to IP-18, "Removal and Installation".
2. Release the metal clip ⬅. and remove the lighting switch (1) from the instrument panel.



3. Disconnect the harness connector ⬅ from the lighting switch and remove.



INSTALLATION

Installation is in the reverse order of removal.

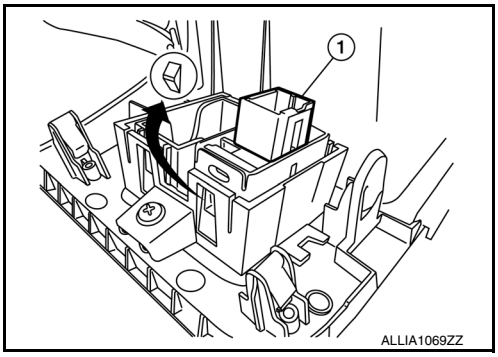
FRONT FOG LIGHT SWITCH

Removal and Installation

INFOID:0000000012519733

REMOVAL

1. Remove cluster lid A. Refer to IP-21, "Removal and Installation".
2. Release the pawls and remove the front fog light switch (1).



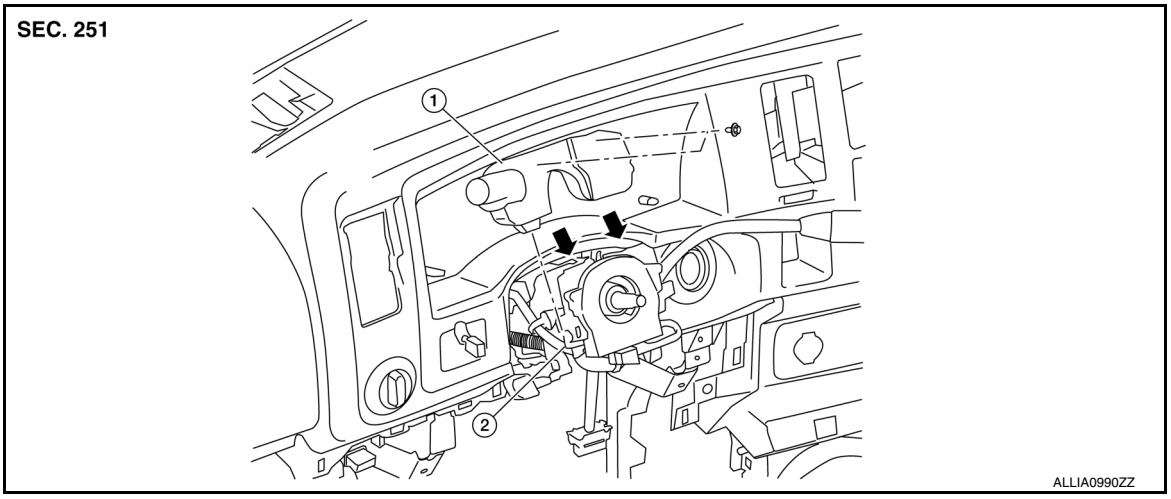
INSTALLATION

Installation is in the reverse order of removal.

COMBINATION SWITCH

Removal and Installation

INFOID:0000000012519734



1. Combination switch
2. Harness connector

NOTE:
Shown with steering wheel removed for clarity only.

REMOVAL

Warning:
Before servicing, turn ignition switch OFF, disconnect both battery terminals and wait at least three minutes.

1. Disconnect both the negative and positive battery terminals, then wait at least three minutes.
2. Remove the steering column upper and lower covers. Refer to IP-20, "Removal and Installation".
3. Rotate steering wheel clockwise to access first combination switch bolt and remove.
4. Rotate steering wheel counterclockwise to access second combination switch bolt and remove.
5. Disconnect harness connector from combination switch and remove.

INSTALLATION

CAUTION:
- **After the work is completed, make sure no system malfunction is detected by air bag warning lamp.**
- **In case a malfunction is detected by the air bag warning lamp, reset with the self-diagnosis function and delete the memory with CONSULT.**

Installation is in the reverse order of removal.

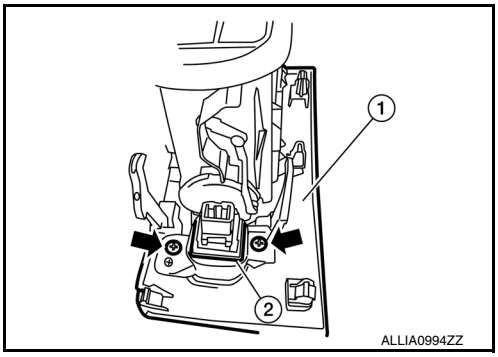
HAZARD SWITCH

Removal and Installation

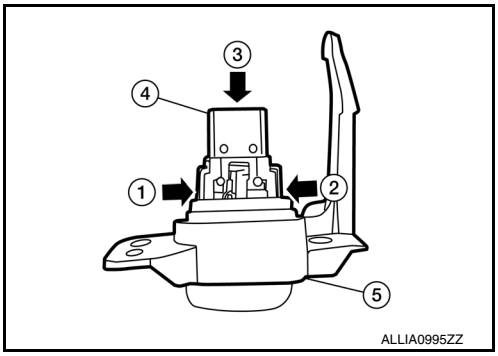
INFOID:0000000012519735

REMOVAL

1. Remove the center ventilator grille (RH). Refer to IP-22, "Removal and Installation".
2. Remove the hazard switch bracket screws ⬅.
   (1) Center ventilator grille (RH)
   (2) Hazard switch



3. Release the pawls in the order shown, then remove the hazard switch (4) from the hazard switch bracket (5).



INSTALLATION

Installation is in the reverse order of removal.

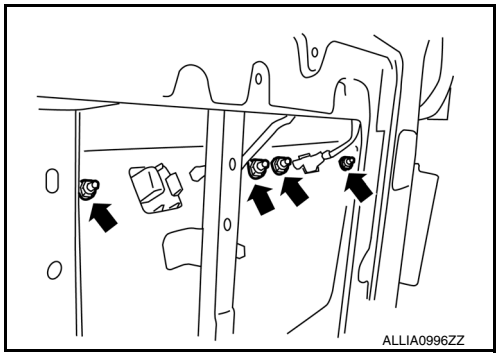
LICENSE PLATE LAMP

Removal and Installation

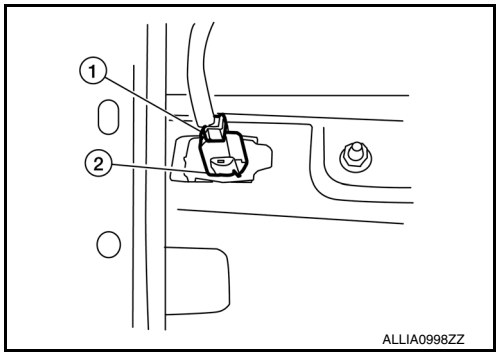
INFOID:0000000012519736

REMOVAL

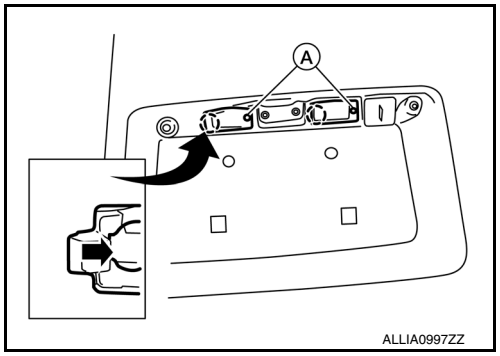
1. Remove the back door finisher. Refer to INT-21, "Removal and Installation".
2. Remove the four license plate lamp finisher nuts ⬅ using a suitable tool and remove.



3. Disconnect the harness connector (1) from the license plate lamp socket (2).
   NOTE:
   RH license lamp shown; LH similar.



4. Remove screws (A) and release the pawl ⬅ to remove license plate lamp housing.



INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

INFOID:0000000012519737

REMOVAL

WARNING:

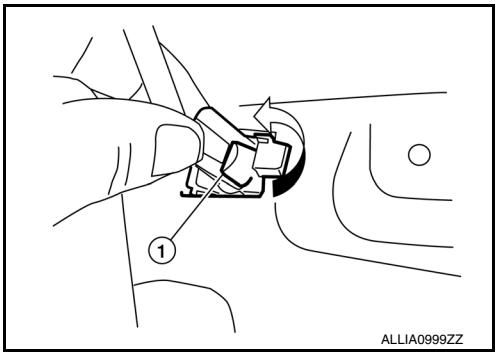
Do not touch bulb while it is lit or right after being turned off. Burning may result.

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 the back door finisher. Refer to INT-21, "Removal and Installation".

2. Rotate license plate lamp socket (1) counterclockwise and remove.
3. Remove license plate lamp bulb from bulb socket.



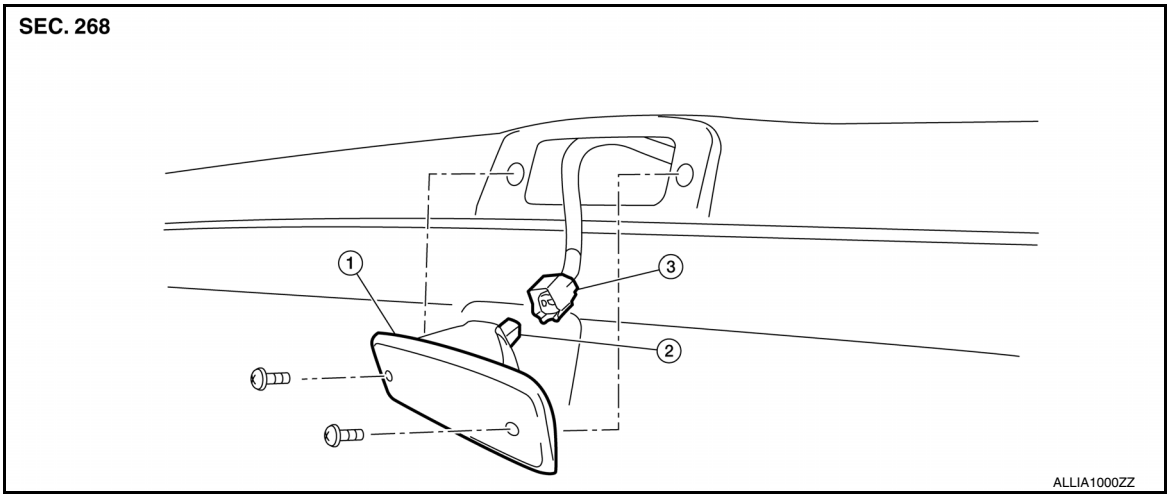
INSTALLATION

Installation is in the reverse order of removal.

HIGH-MOUNTED STOP LAMP

Exploded View

INFOID:0000000012519738



1. High-mounted stop lamp
2. Bulb socket
3. Harness connector

Removal and Installation

INFOID:0000000012519739

REMOVAL

1. Remove the screws and the high-mounted stop lamp.
2. Remove the high-mounted stop lamp from the rear roof panel.
3. Disconnect the harness connector from the high-mounted stop lamp.

INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

INFOID:0000000012519740

REMOVAL

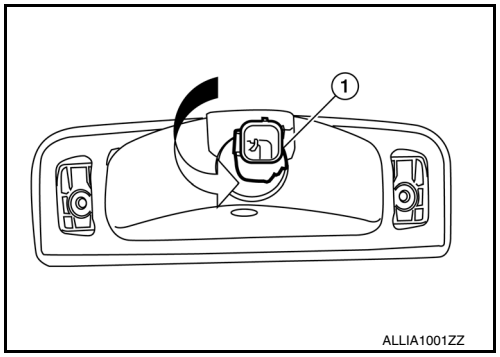
WARNING:

Do not touch bulb 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 the high-mounted stop lamp. Refer to EXL-131, "Removal and Installation".
2. Rotate the high-mounted stop lamp socket (1) counterclockwise and remove.
3. Remove the high-mounted stop lamp bulb from bulb socket.



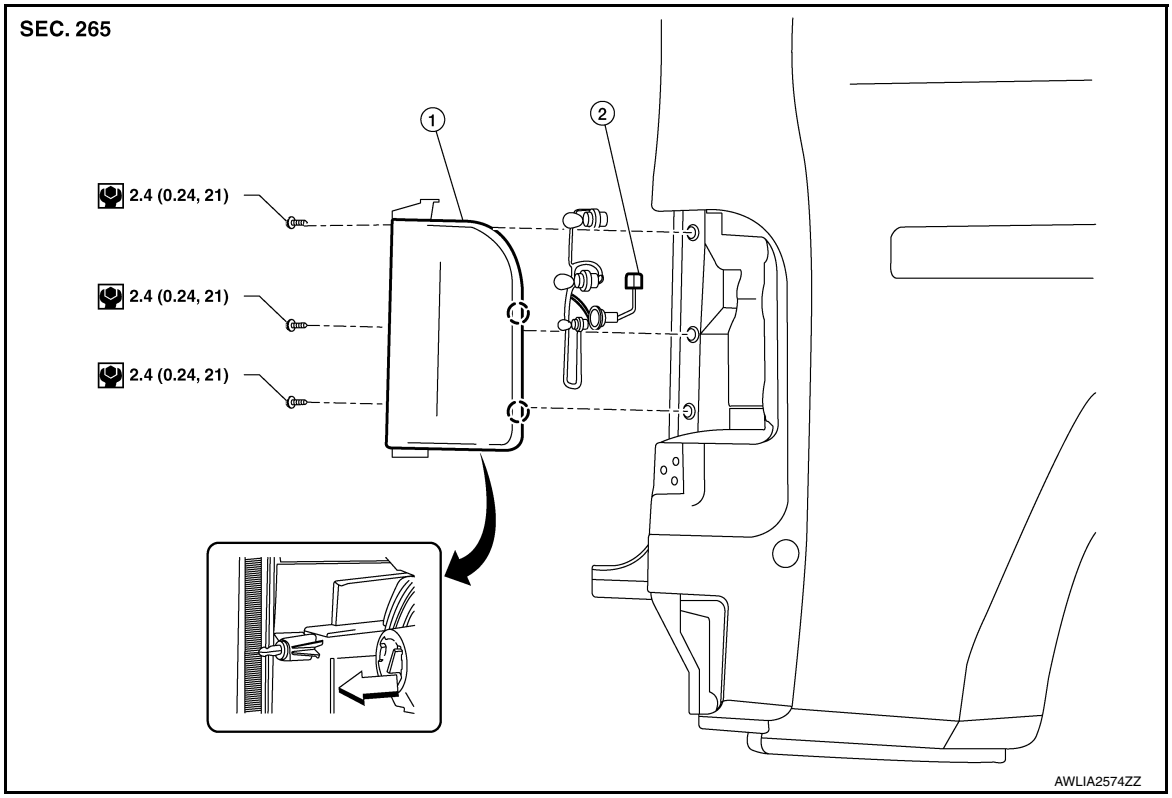
INSTALLATION

Installation is in the reverse order of removal.

REAR COMBINATION LAMP

Exploded View

INFOID:0000000012519741



1. Rear combination lamp
2. Harness connector
⇦ Front
◌ Locating pin

Removal and Installation

INFOID:0000000012519742

REMOVAL

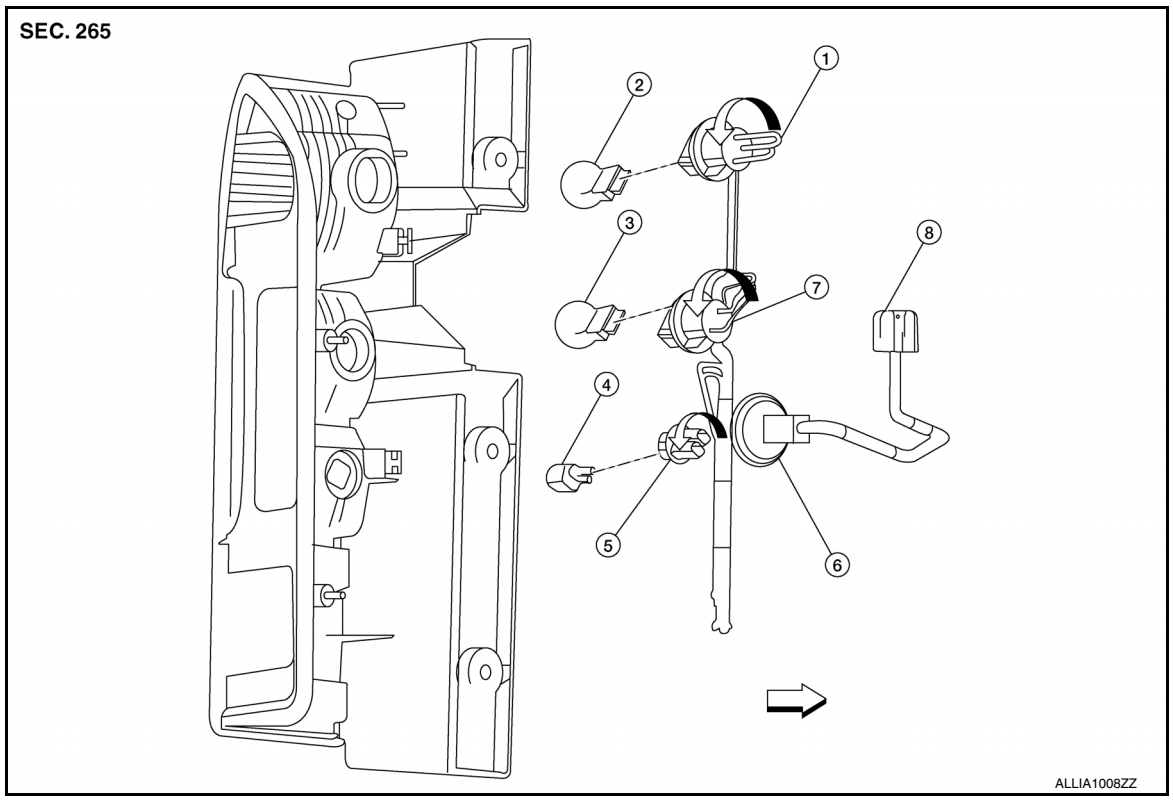
1. Remove the three rear combination lamp bolts.
2. Release the two locating pins (outboard edge) while pulling rear combination lamp rearward.
3. Remove the harness grommet from the body panel using a suitable tool, then disconnect harness connector from rear combination lamp and remove.

INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

INFOID:0000000012519743



1. Stop/tail socket	2. Stop/tail lamp bulb	3. Turn signal lamp bulb
4. Back-up lamp bulb	5. Back-up socket	6. Harness grommet
7. Turn signal socket	8. Harness connector	⇦ Front

REMOVAL

WARNING:

Do not touch bulb 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-132, "Removal and Installation".
2. Rotate bulb sockets counterclockwise and remove.
3. Remove the bulbs from the bulb sockets.

INSTALLATION

CAUTION:

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

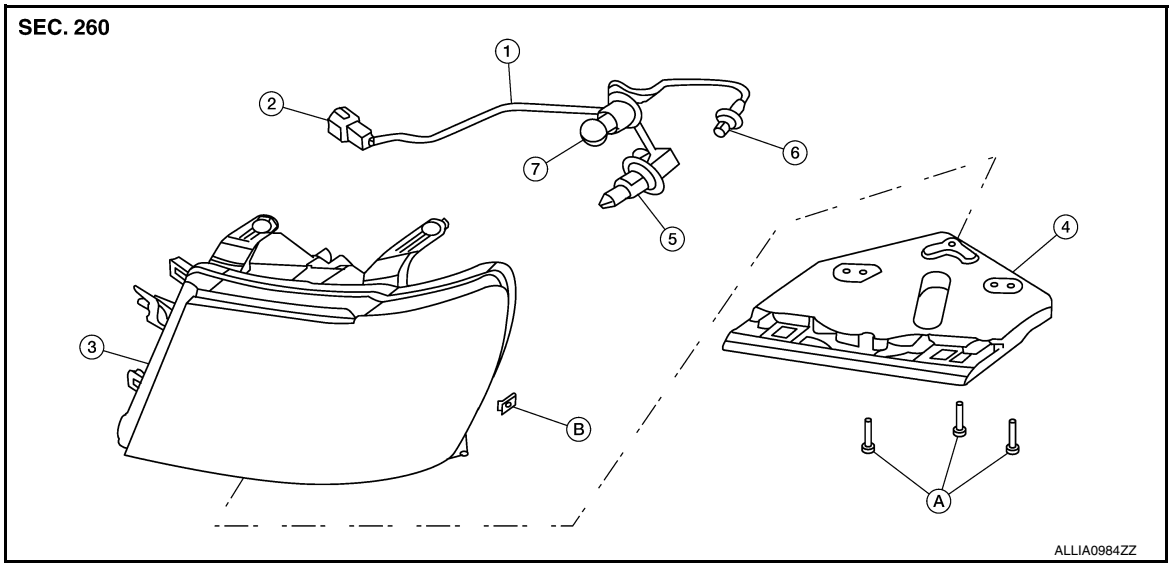
Installation is in the reverse order of removal.

UNIT DISASSEMBLY AND ASSEMBLY

HEADLAMP

Disassembly and Assembly

INFOID:0000000012519744



1.	Front combination lamp wiring harness	2.	Main harness connector	3.	Front combination lamp
4.	Retainer plate	5.	High/low beam bulb	6.	Side marker bulb
7.	Turn signal/parking bulb	A.	Screws	B.	J-nut

DISASSEMBLY

WARNING:

Do not touch bulb 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 the front combination lamp. Refer to EXL-122, "Removal and Installation".
2. Rotate the headlamp bulb locking ring counterclockwise and remove.
3. Remove the headlamp bulb from the bulb socket.
4. Rotate the turn signal bulb socket counterclockwise and remove.
5. Rotate the side marker bulb socket counterclockwise and remove.
6. Remove the three screws and the retainer plate.

ASSEMBLY

Assembly is in the reverse order of disassembly.

CAUTION:

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

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Bulb Specifications

INFOID:0000000012519745

Item		Wattage (W)*
Front combination lamp	Turn signal/parking bulb	27/8
	Side marker bulb	3.8
	High/low beam bulb	65/55
Rear combination lamp	Stop/tail bulb	27/8
	Turn signal bulb	27
	Back-up bulb	18
High-mounted stop lamp		16
License plate lamp		5
Front fog lamp (Passenger van) (if equipped)		55

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