SECTION EXL
EXTERIOR LIGHTING SYSTEM

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009757466

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. 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:0000000009757467

- 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.

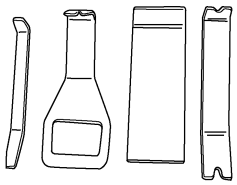
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000009757468

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

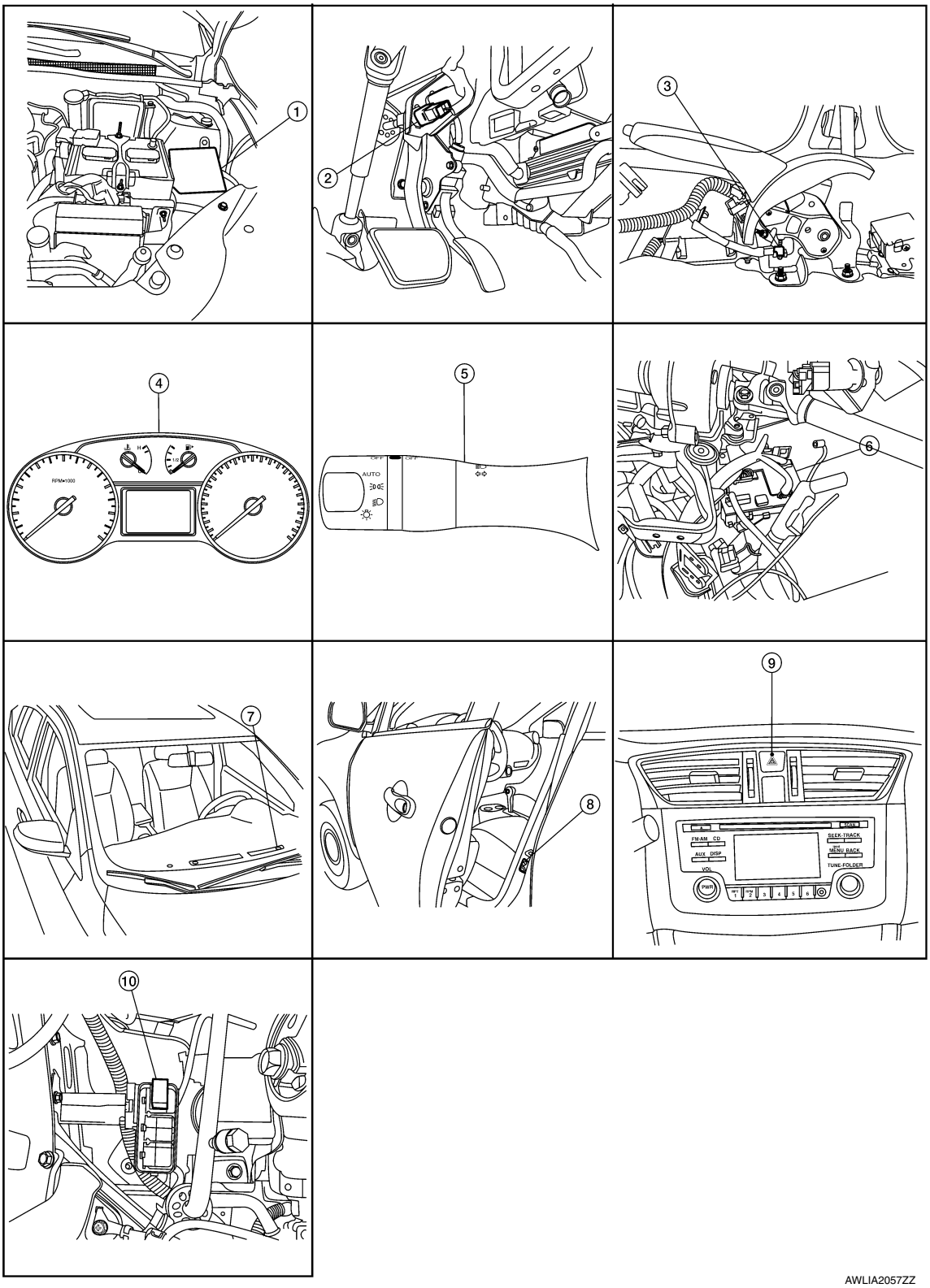
Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009757469



AWLIA2057ZZ

1. IPDM E/R, (Headlamp high relay, Headlamp low relay, Taillamp relay and Front fog lamp relay (if equipped))
2. Stop lamp switch
3. Parking brake switch
4. Combination meter
5. Combination switch (lighting and turn signal switch)
6. BCM (view with combination meter removed)
7. Optical sensor
8. Front door switch LH (Other doors similar)
9. Hazard switch
10. Daytime light relay (if equipped)

Component Description

INFOID:0000000009757470

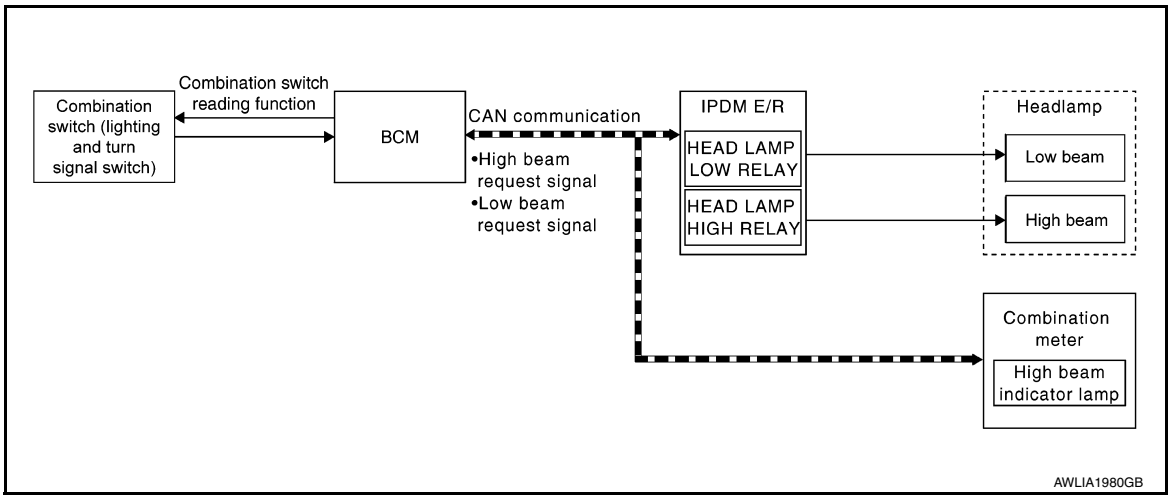
Part	Description
BCM	Controls the exterior lighting system.
Combination switch (Lighting & turn signal switch)	Refer to BCS-9, "COMBINATION SWITCH READING SYSTEM : System Description" (with Intelligent Key system) or BCS-80, "COMBINATION SWITCH READING SYSTEM : System Description" (without Intelligent Key system).
IPDM E/R	Controls the integrated relays and supplies voltage to the load according to the request from the BCM via CAN communication.
Stop lamp switch	Transmits power when the brake pedal is pressed to operate stop lamps.
Combination meter	Refer to MWI-8, "METER SYSTEM : System Description".
Daytime light relay (if equipped)	Sends power to the daytime lamp when operated by the IPDM E/R.
Front door switch LH/RH	Transmits the door open signal to the BCM.
Rear door switch LH/RH	
Optical sensor	Optical sensor converts the outside brightness (lux) to voltage and transmits the optical sensor signal to BCM to operate the autolight system.
Parking brake switch	Transmits the parking brake switch signal to the combination meter to operate the autolight system.
Hazard switch	Inputs the hazard switch signal to BCM.

SYSTEM

HEADLAMP SYSTEM

HEADLAMP SYSTEM : System Diagram

INFOID:0000000009757471



HEADLAMP SYSTEM : System Description

INFOID:0000000009757472

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 across the CAN communication lines. The CPU of the IPDM E/R controls the headlamp low relay coil which supplies power to the low beam headlamps.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

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

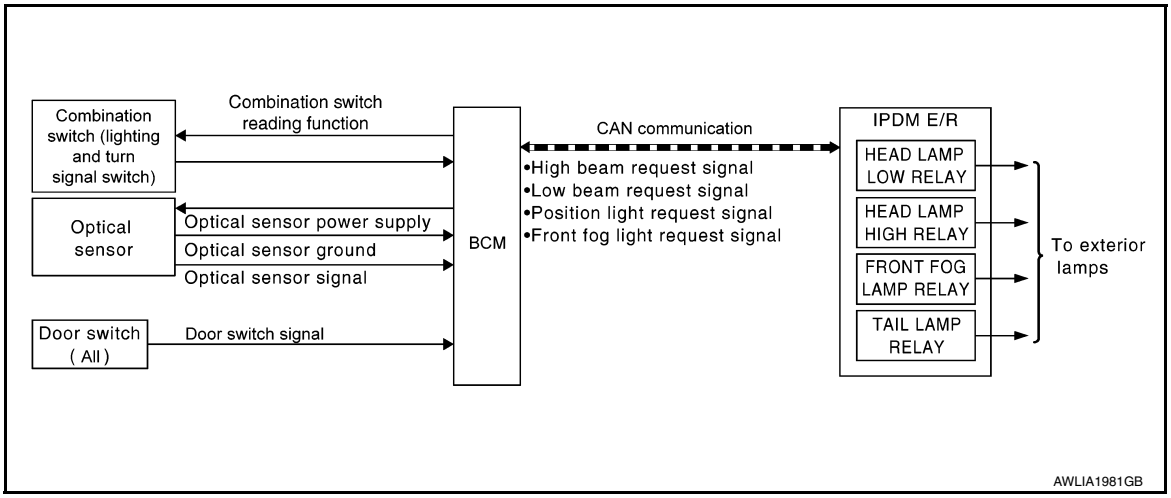
EXTERIOR LAMP BATTERY SAVER CONTROL

With the combination switch (lighting and turn signal switch) in the 2nd position and the ignition switch is turned from ON or ACC to OFF, the battery saver feature is activated.
Under this condition, the headlamps remain illuminated for a period of time, unless the lighting switch position is changed. If the lighting switch position is changed, then the headlamps are turned off.

AUTO LIGHT SYSTEM

AUTO LIGHT SYSTEM : System Diagram

INFOID:0000000009757473



AUTO LIGHT SYSTEM : System Description

INFOID:0000000009757474

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

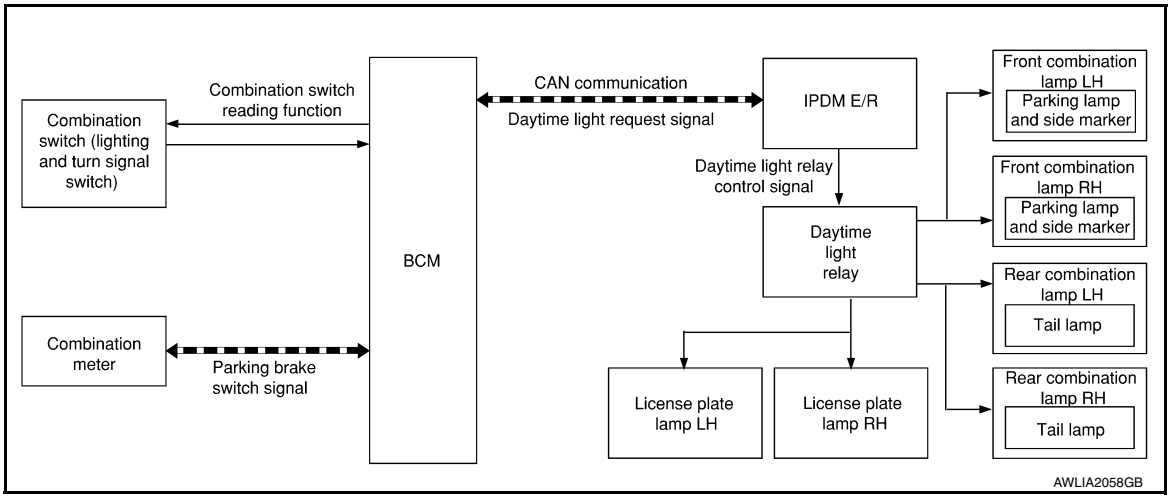
OUTLINE

The auto light control system has an optical sensor that detects outside brightness.
When the lighting switch is in AUTO position, it automatically turns ON/OFF the parking, license plate, tail, front fog lamps and headlamps in accordance with the ambient light. Sensitivity can be adjusted. For the details of the setting, Refer to EXL-19, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP)".

DAYTIME RUNNING LIGHT SYSTEM

DAYTIME RUNNING LIGHT SYSTEM : System Diagram

INFOID:0000000009757475



DAYTIME RUNNING LIGHT SYSTEM : System Description

INFOID:0000000009757476

System Description

The daytime light system is equipped with a daytime light control that activates the daytime lights when the engine is operating. If the parking brake is applied, the daytime lights will turn OFF. The daytime lights will turn ON when the parking brake is released.

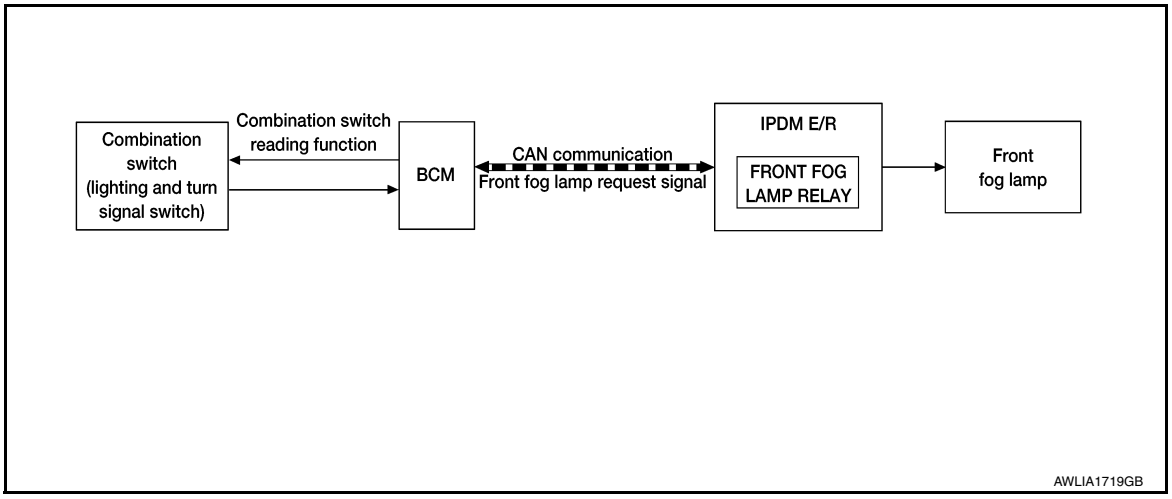
OPERATION

The BCM monitors inputs from the parking brake switch and the combination switch (lighting and turn signal switch) to determine when to operate the daytime light system. The BCM sends a daytime light request to the IPDM E/R via the CAN communication lines. The IPDM E/R grounds the daytime light relay which in turn, provides power to the daytime lights.

FRONT FOG LAMP SYSTEM

FRONT FOG LAMP SYSTEM : System Diagram

INFOID:0000000009757477



FRONT FOG LAMP SYSTEM : System Description

INFOID:0000000009757478

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

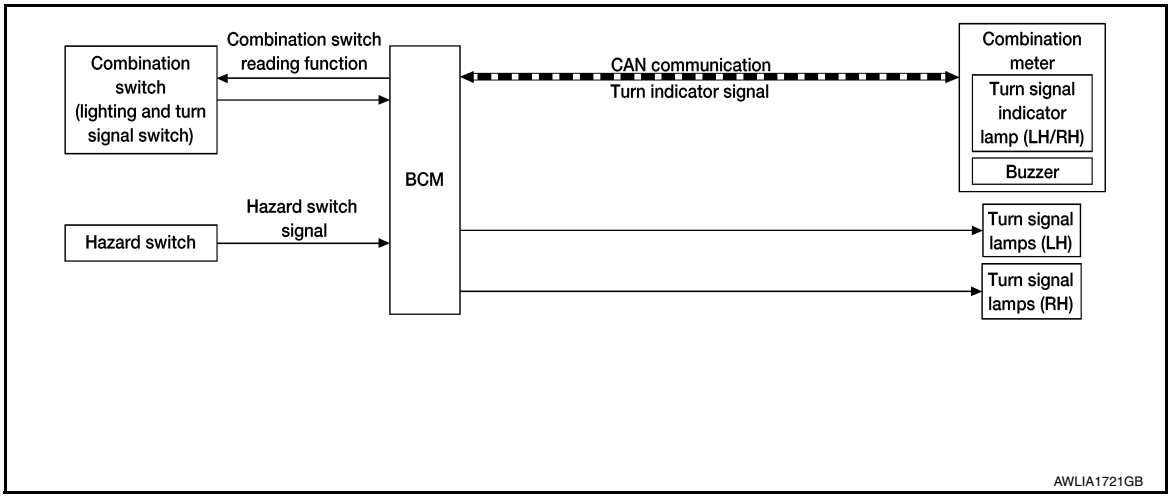
FRONT FOG LAMP OPERATION

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

TURN SIGNAL AND HAZARD WARNING LAMPS

TURN SIGNAL AND HAZARD WARNING LAMPS : System Diagram

INFOID:0000000009757479



TURN SIGNAL AND HAZARD WARNING LAMPS : System Description

INFOID:0000000009757480

TURN SIGNAL OPERATION

When the combination switch (lighting and turn signal switch) is in LH or RH turn position with the ignition switch in the ON position, the BCM receives input requesting the turn RH or turn LH lamps to illuminate. The BCM controls the turn signal power 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.

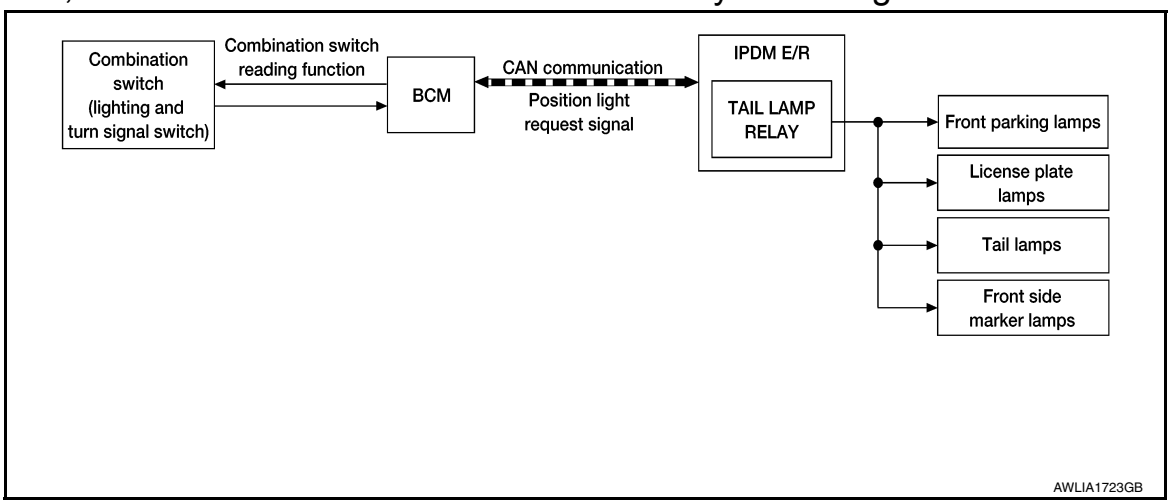
HAZARD LAMP OPERATION

When the hazard switch is in the ON position, the BCM receives input requesting the hazard lamps illuminate. The BCM controls the turn signal power to both the LH and RH turn signal lamps. The BCM sends a hazard indicator signal ON request via the CAN communication lines to the combination meter. The combination meter then activates both the LH and RH turn signal indicators and audible buzzer.

PARKING, LICENSE PLATE AND TAIL LAMPS

PARKING, LICENSE PLATE AND TAIL LAMPS : System Diagram

INFOID:0000000009757481



PARKING, LICENSE PLATE AND TAIL LAMPS : System Description

INFOID:0000000009757482

PARKING, LICENSE PLATE AND TAIL LAMPS OPERATION

When the lighting switch is in 1st or 2nd position, BCM detects the LIGHTING SWITCH 1st or 2nd POSITION ON. The BCM sends a parking light ON request via the CAN communication lines to the IPDM E/R. The IPDM E/R then activates the tail lamp relay which sends power to the parking and instrument illumination circuits.

EXTERIOR LAMP BATTERY SAVER CONTROL

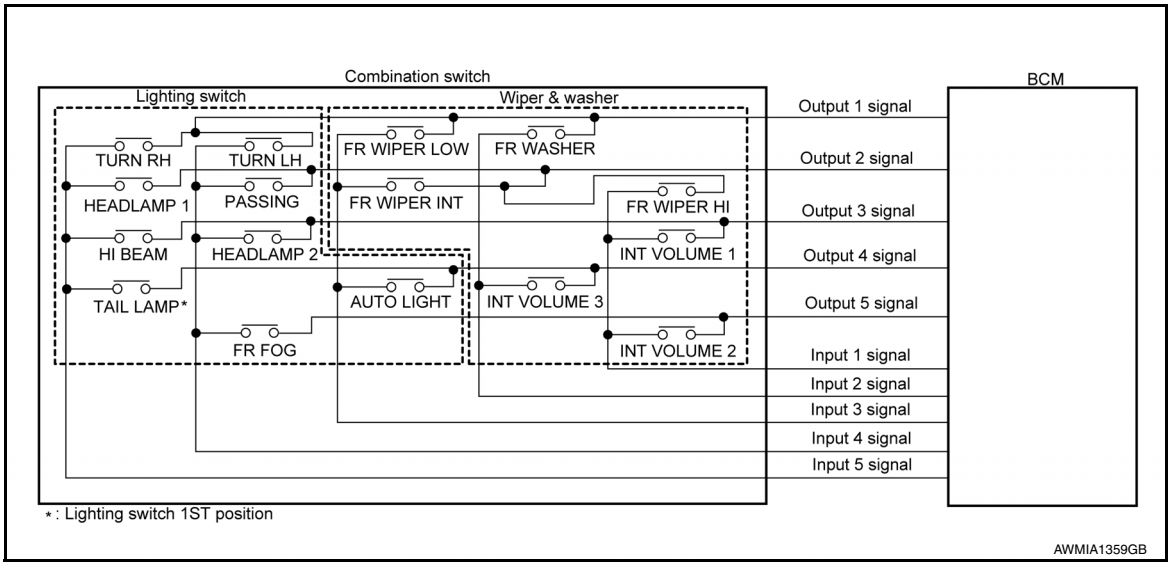
With the combination switch (lighting and turn signal switch) in the 1st or 2nd position and the ignition switch is turned from ON or ACC to OFF, the battery saver feature is activated.
Under this condition, the exterior lamps remain illuminated for a period of time unless the lighting switch position is changed. If the lighting switch position is changed, then the exterior lamps are turned off.

COMBINATION SWITCH READING SYSTEM

COMBINATION SWITCH READING SYSTEM : System Diagram (With Intelligent Key

System)

INFOID:0000000010295730



COMBINATION SWITCH READING SYSTEM : System Description (With Intelligent Key System)

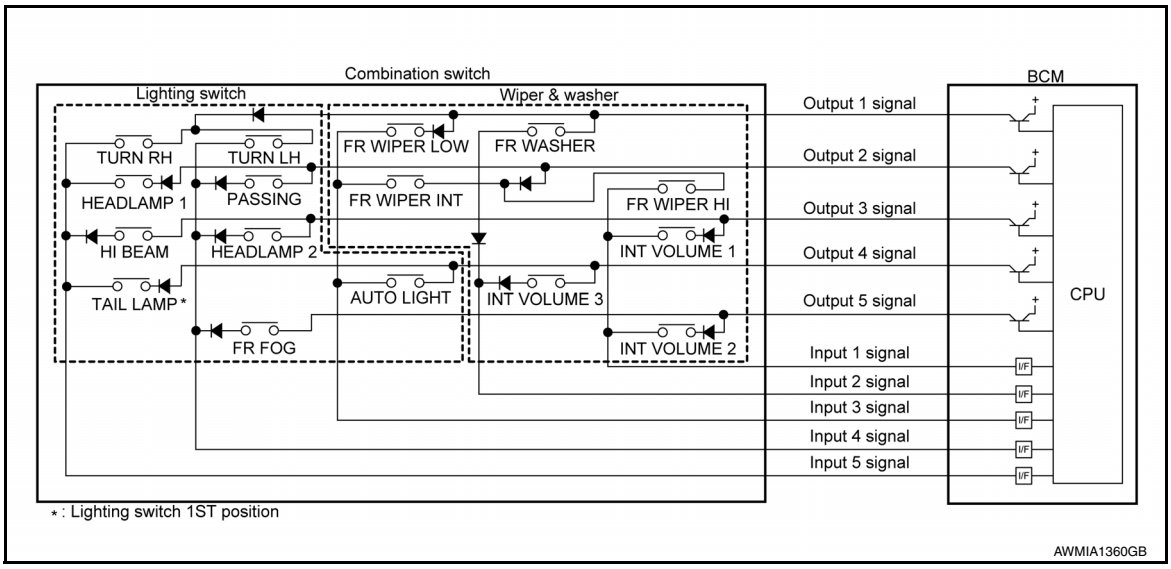
INFOID:0000000010295731

OUTLINE

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

COMBINATION SWITCH MATRIX

Combination switch circuit



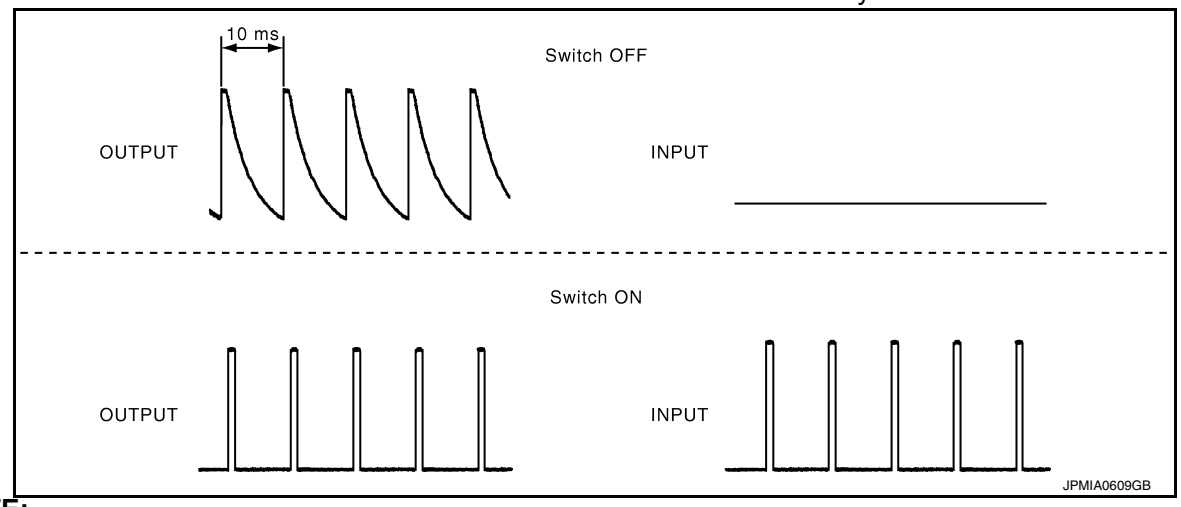
Combination switch INPUT-OUTPUT system list

System	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
OUTPUT 1	—	FR WASHER	FR WIPER LOW	TURN LH	TURN RH
OUTPUT 2	FR WIPER HI	—	FR WIPER INT	PASSING	HEADLAMP 1
OUTPUT 3	INT VOLUME 1	—	—	HEADLAMP 2	HI BEAM
OUTPUT 4	—	INT VOLUME 3	AUTO LIGHT	—	TAIL LAMP
OUTPUT 5	INT VOLUME 2	—	—	FR FOG	—

COMBINATION SWITCH READING FUNCTION

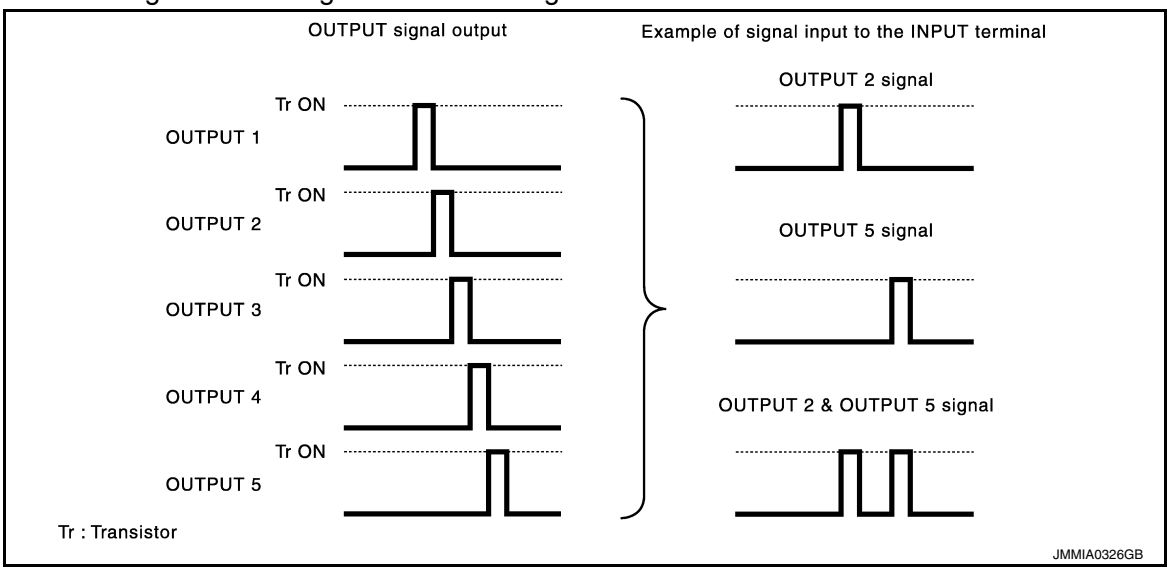
Description

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



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

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

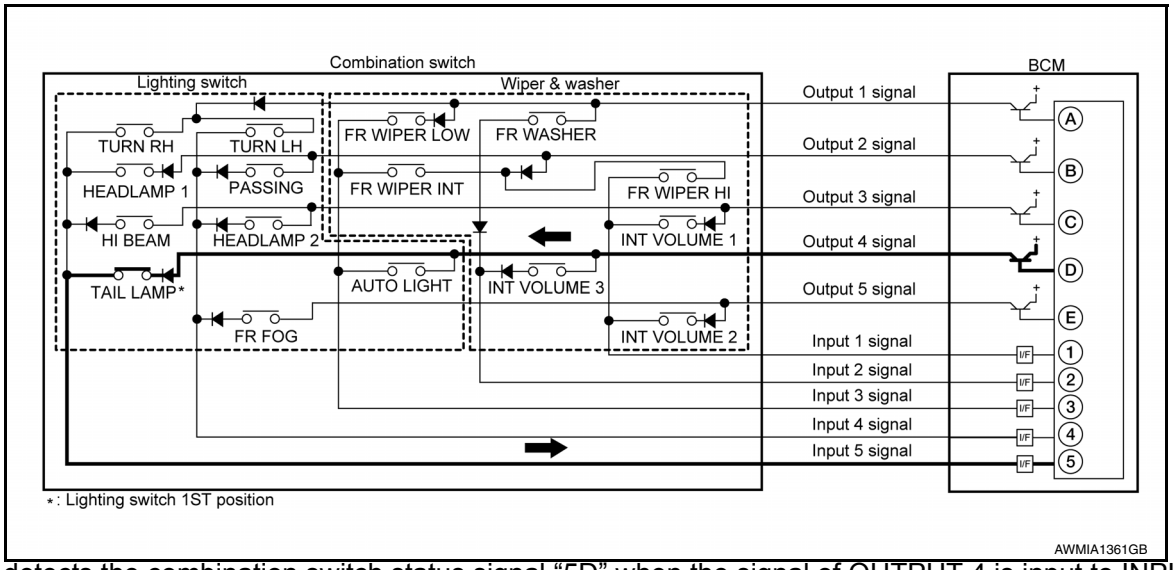


Operation Example

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

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

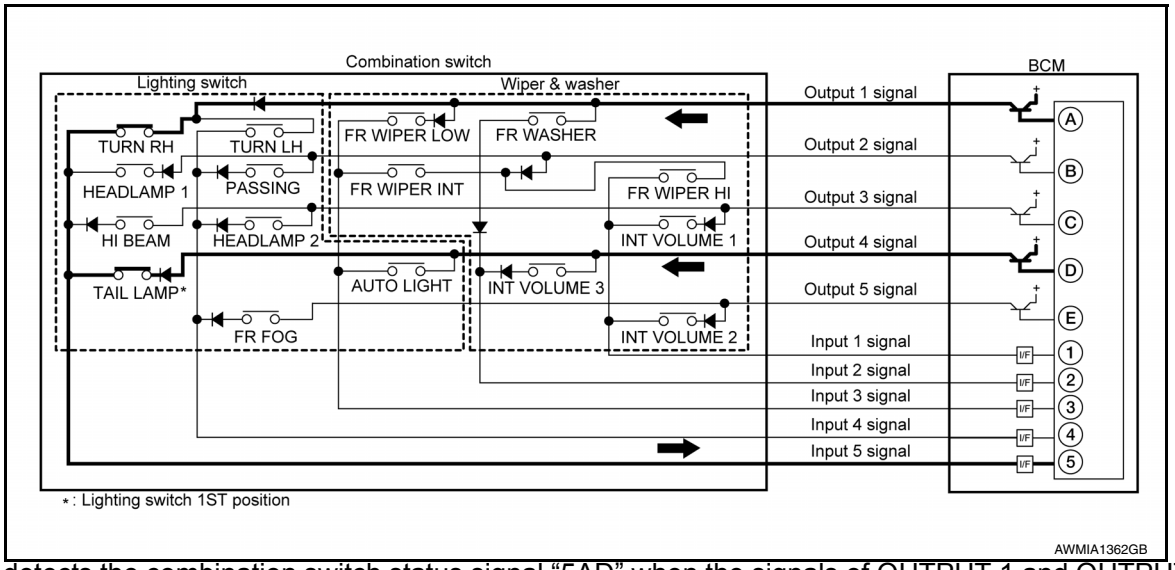
- The circuit between OUTPUT 4 and INPUT 5 is formed when the TAIL LAMP switch is turned ON.



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

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

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



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

WIPER INTERMITTENT DIAL POSITION

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

Wiper intermittent dial position	Switch status		
	INT VOLUME 1	INT VOLUME 2	INT VOLUME 3
1	ON	ON	ON
2	ON	ON	OFF
3	ON	OFF	OFF
4	OFF	OFF	OFF
5	OFF	OFF	ON

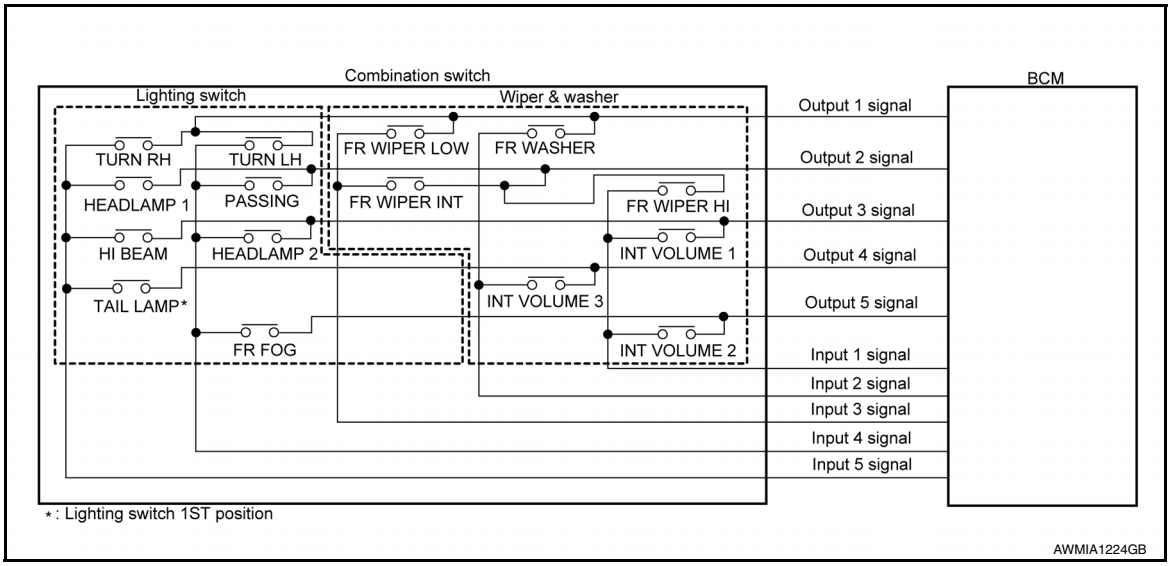
Wiper intermittent dial position	Switch status		
	INT VOLUME 1	INT VOLUME 2	INT VOLUME 3
6	OFF	ON	ON
7	OFF	ON	OFF

NOTE:

For details of wiper intermittent dial position, refer to WW-8, "System Description".

COMBINATION SWITCH READING SYSTEM : System Diagram (Without Intelligent Key System)

INFOID:0000000010295732



COMBINATION SWITCH READING SYSTEM : System Description (Without Intelligent Key System)

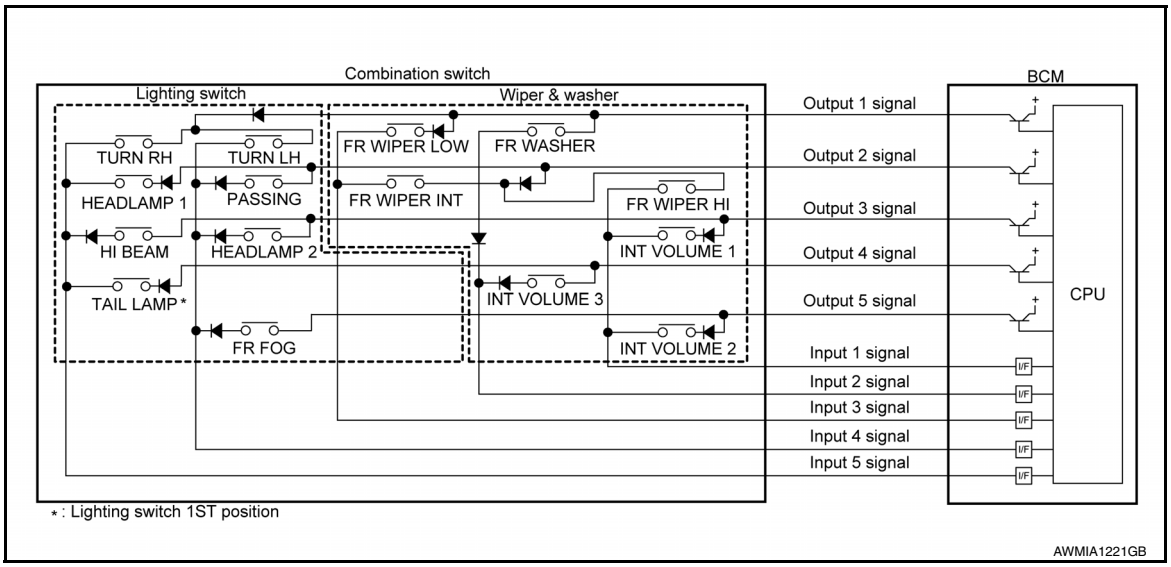
INFOID:0000000010295733

OUTLINE

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

COMBINATION SWITCH MATRIX

Combination switch circuit



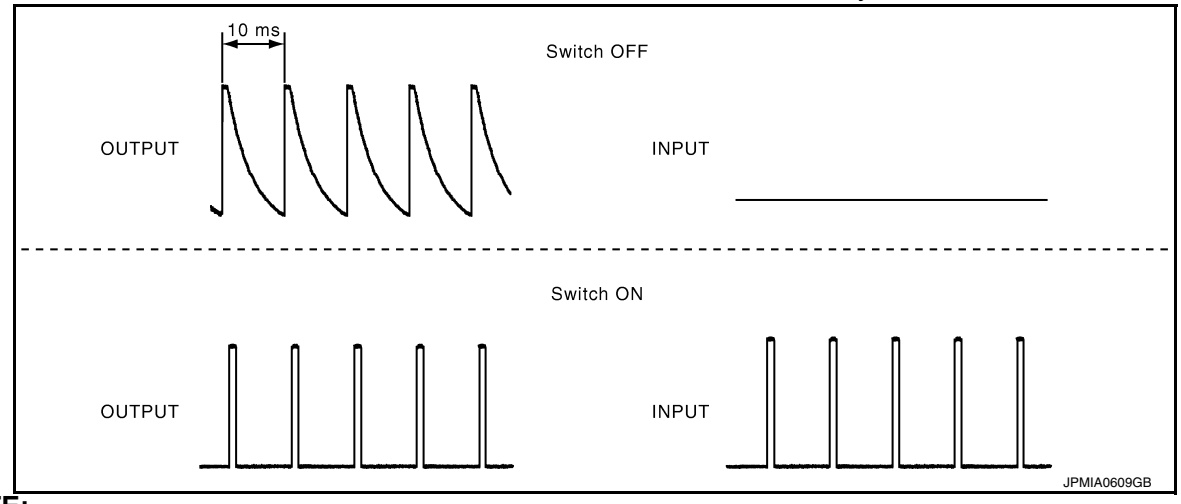
Combination switch INPUT-OUTPUT system list

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

COMBINATION SWITCH READING FUNCTION

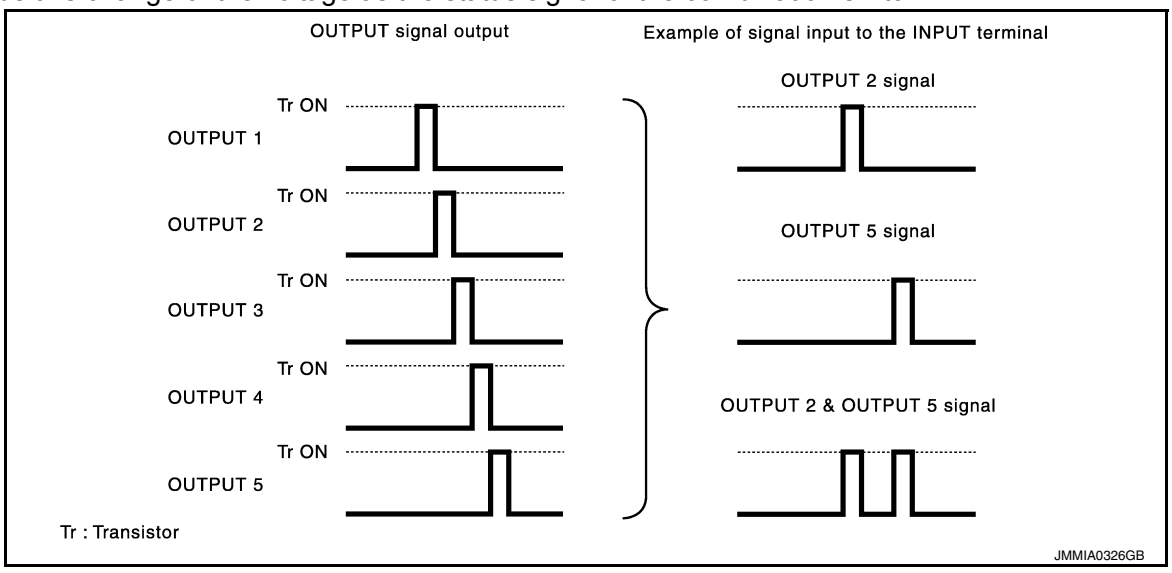
Description

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



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

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

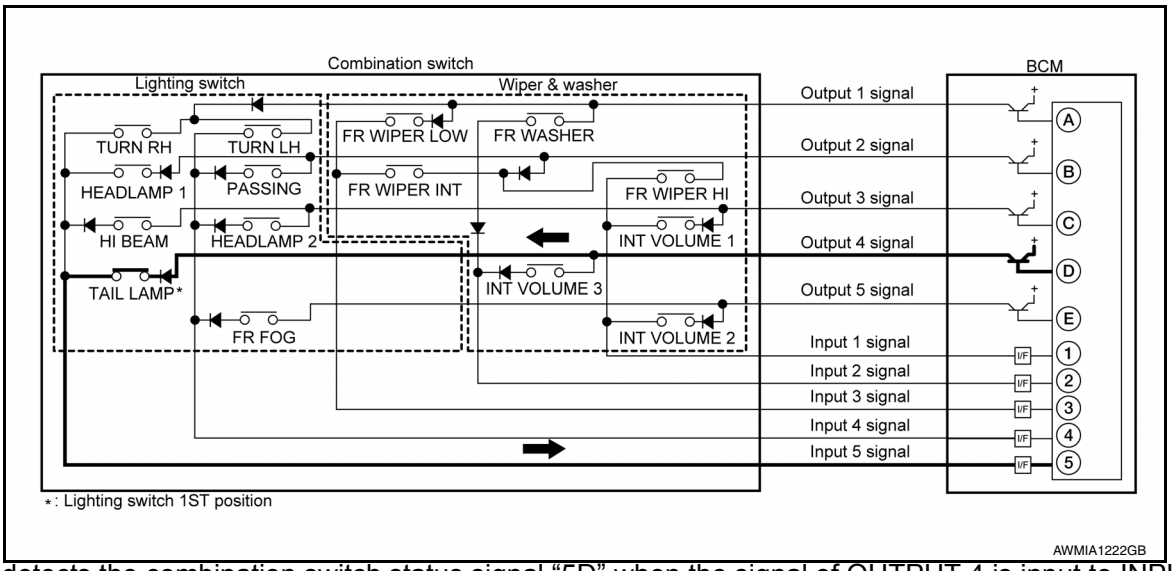


Operation Example

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

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

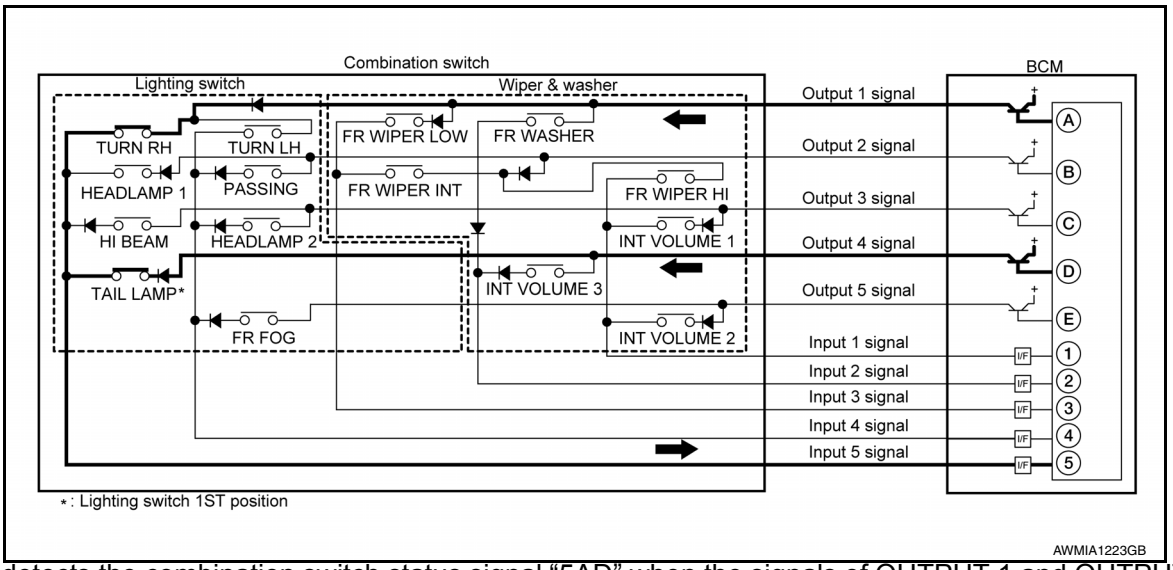
- The circuit between OUTPUT 4 and INPUT 5 is formed when the TAIL LAMP switch is turned ON.



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

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

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



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

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)
COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010309869

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			×	×	×		
Exterior lamp	HEAD LAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×	×		
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×	×		
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Trunk open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

INFOID:0000000010304492

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
ENGINE STATE [Stop/Stall/Crank/Run]	Indicates engine status received from ECM on CAN communication line.
VEH SPEED 1 [km/h]	Indicates vehicle speed signal received from ABS on CAN communication line.
TURN SIGNAL R [On/Off]	Indicates condition of combination switch.
TURN SIGNAL L [On/Off]	
TAIL LAMP SW [On/Off]	
HI BEAM SW [On/Off]	
HEAD LAMP SW 1 [On/Off]	
HEAD LAMP SW 2 [On/Off]	
PASSING SW [On/Off]	
AUTO LIGHT SW [On/Off]	
FR FOG SW [On/Off]	
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
DOOR SW-BK [On/Off]	Indicates condition of trunk switch.
OPTI SEN (DTCT) [V]	Indicates outside brightness voltage signal from optical sensor.
OPTI SEN (FILT) [V]	Indicates outside brightness voltage signal from optical sensor filtered by BCM.

ACTIVE TEST

Test Item	Description
FR FOG LAMP	This test is able to check front fog lamp operation [On/Off].
HEAD LAMP	This test is able to check head lamp operation [Hi/Low/Off].
ILL DIM SIGNAL	This test is able to check head lamp illumination dimming operation [On/Off].
TAIL LAMP	This test is able to check tail lamp operation [On/Off].

WORK SUPPORT

Support Item	Setting	Description
AUTO LIGHT LOGIC SET	MODE 1*	With twilight ON custom & with wiper INT, LO and HI
	MODE 2	Witt twilight ON custom & with wiper LO and HI
	MODE 3	With twilight ON custom & without
	MODE 4	Without twilight ON custom & with wiper INT, LO and HI
	MODE 5	Without twilight ON custom & with wiper LO and HI
	MODE 6	Without twilight ON custom & without
BATTERY SAVER SET	On*	Exterior lamp battery saver function ON.
	Off	Exterior lamp battery saver function OFF.

Support Item	Setting		Description
CUSTOM A/LIGHT SETTING	MODE 1*		Normal
	MODE 2		More sensitive setting than normal setting (Turns ON earlier than normal operation)
	MODE 3		More sensitive setting than MODE 2 (Turns ON earlier than MODE 2)
	MODE 4		Less sensitive setting than normal setting (Turns ON later than normal operation)
ILL DELAY SET	MODE 8	180 sec.	Sets delay timer function operation time (All doors closed).
	MODE 7	150 sec.	
	MODE 6	120 sec.	
	MODE 4	60 sec.	
	MODE 5	90 sec.	
	MODE 3	30 sec.	
	MODE 2	OFF	
	MODE 1*	45 sec.	

*: Initial setting

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:0000000010309868

DATA MONITOR

Monitor Item [Unit]	Description
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
TURN SIGNAL R [On/Off]	Indicates condition of turn signal function of combination switch.
TURN SIGNAL L [On/Off]	
HAZARD SW [On/Off]	Indicates condition of hazard switch.
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.
RKE-PANIC [On/Off]	Indicates condition of panic alarm signal from Intelligent Key.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description
HAZARD ANSWER BACK	Lock/Unlock*	Hazard warning lamp activation when doors are locked or unlocked with Intelligent Key.
	Unlock Only	Hazard warning lamp activation when doors are unlocked with Intelligent Key.
	Lock Only	Hazard warning lamp activation when doors are locked with Intelligent Key.
	Off	No hazard warning lamp activation when doors are locked or unlocked with Intelligent Key.

* : Initial setting

DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010308705

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			×	×	×		
Trunk open	TRUNK			×				
RAP system	RETAINED PWR			×		×		
Signal buffer system	SIGNAL BUFFER			×				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		
Panic alarm system	PANIC ALARM				×			

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

INFOID:0000000010308710

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.
HI BEAM SW [On/Off]	Indicates condition of combination switch.
HEAD LAMP SW 1 [On/Off]	
HEAD LAMP SW 2 [On/Off]	
TAIL LAMP SW [On/Off]	
PASSING SW [On/Off]	
FR FOG SW [On/Off]	
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
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 park brake switch signal received from combination meter on CAN communication line.
ENGINE RUN [On/Off]	Indicates engine run signal received from ECM on CAN communication line.
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 [On/Off].
HEAD LAMP	This test is able to check head lamp operation [Hi/Low/Off].
FR FOG LAMP	This test is able to check front fog lamp operation [On/Off].
ILL DIM SIGNAL	This test is able to check head lamp illumination dimming operation [On/Off].

WORK SUPPORT

Support Item	Setting	Description
BATTERY SAVER SET	On*	Exterior lamp battery saver function ON.
	Off	Exterior lamp battery saver function OFF.

Support Item	Setting		Description
ILL DELAY SET	MODE 8	180 sec.	Sets delay timer function operation time (All doors closed).
	MODE 7	150 sec.	
	MODE 6	120 sec.	
	MODE 4	60 sec.	
	MODE 5	90 sec.	
	MODE 3	30 sec.	
	MODE 2	OFF	
	MODE 1*	45 sec.	

* : Initial setting

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:0000000010308709

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/LH/RH].

DIAGNOSIS SYSTEM (IPDM E/R) (WITH INTELLIGENT KEY SYSTEM)

Diagnosis Description

INFOID:0000000010287618

AUTO ACTIVE TEST

Description

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

- Front wiper (LO, HI)
- Parking lamp
- License plate lamp
- Tail lamp
- Front fog lamp (if equipped)
- Headlamp (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan

Operation Procedure

NOTE:

Never perform auto active test in the following conditions.

- Passenger door is open
- CONSULT is connected

1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)
   NOTE:
   When auto active test is performed with hood opened, sprinkle water on windshield beforehand.
2. Turn the ignition switch OFF.
3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 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:

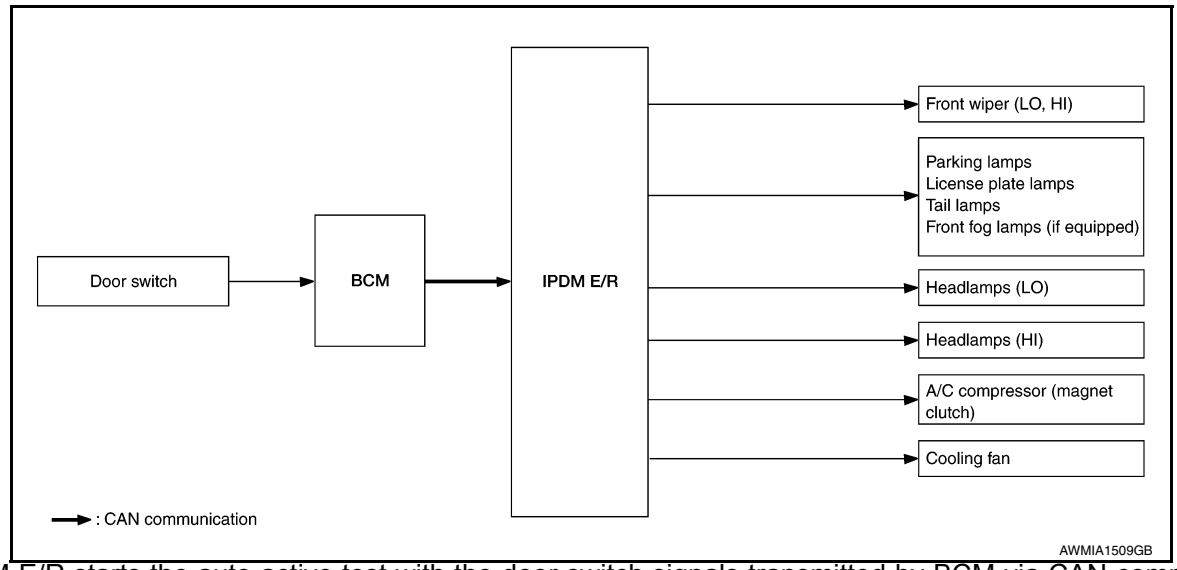
- When auto active test has to be cancelled halfway through test, turn the ignition switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to DLK-103, "Component Inspection".

Inspection in Auto Active Test

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

Operation sequence	Inspection location	Operation
1	Front wiper	LO for 5 seconds → HI for 5 seconds
2	• Parking lamp • License plate lamp • Tail lamp • Front fog lamp (if equipped)	10 seconds
3	Headlamp	LO for 10 seconds →HI ON ⇔ OFF 5 times
4	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times
5	Cooling fan	LO for 5 seconds → MID for 3 seconds → HI for 2 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

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

CONSULT Function (IPDM E/R)

INFOID:0000000010287619

APPLICATION ITEM

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

Direct Diagnostic Mode	Description
Ecu Identification	The IPDM E/R part number is displayed.
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.

Direct Diagnostic Mode	Description
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.

ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-20, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Main Signals	Description
MOTOR FAN REQ [%]	×	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 front fog light request signal received from BCM on CAN communication line
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communication line
WIP AUTO STOP [STOP P/ACT P]	×	Indicates condition of front wiper auto stop signal
WIP PROT [Off/BLOCK]	×	Indicates condition of front wiper fail-safe operation
IGN RLY1 -REQ [On/Off]		Indicates ignition switch ON signal received from BCM on CAN communication line
IGN RLY [On/Off]	×	Indicates condition of ignition relay
PUSH SW [On/Off]		Indicates condition of push-button ignition switch
INTER/NP SW [On/Off]		Indicates condition of CVT shift position
ST RLY CONT [On/Off]		Indicates starter relay status signal received from BCM on CAN communication line
IHBT RLY -REQ [On/Off]		Indicates starter control relay signal received from BCM on CAN communication line
ST/INHI RLY [Off/ ST /INHI]		Indicates condition of starter relay and starter control relay
DETENT SW [On/Off]		Indicates condition of CVT shift selector (park position switch)
DTRL REQ [Off]		Indicates daytime light request signal received from BCM on CAN communication line
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN communication line
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line

ACTIVE TEST

Test item	Description
HORN	This test is able to check horn operation [On].
REAR DEFOGGER	This test is able to check rear window defogger operation [On/Off].
FRONT WIPER	This test is able to check wiper motor operation [Hi/Lo/Off].

Test item	Description
MOTOR FAN	This test is able to check cooling fan operation [4/3/2/1].
EXTERNAL LAMPS	This test is able to check external lamp operation [Fog/Hi/Lo/TAIL/Off].

CAN DIAG SUPPORT MNTR

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

DIAGNOSIS SYSTEM (IPDM E/R) (WITHOUT INTELLIGENT KEY SYSTEM)

Diagnosis Description

INFOID:0000000010287620

AUTO ACTIVE TEST

Description

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

- Front wiper (LO, HI)
- Parking lamp
- License plate lamp
- Tail lamp
- Front fog lamp (if equipped)
- Headlamp (LO, HI)
- A/C compressor (magnet clutch) (if equipped)
- Cooling fan

Operation Procedure

NOTE:

Never perform auto active test in the following conditions.

- Passenger door is open
- CONSULT is connected

1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)
   NOTE:
   When auto active test is performed with hood opened, sprinkle water on windshield beforehand.
2. Turn the ignition switch OFF.
3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 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:

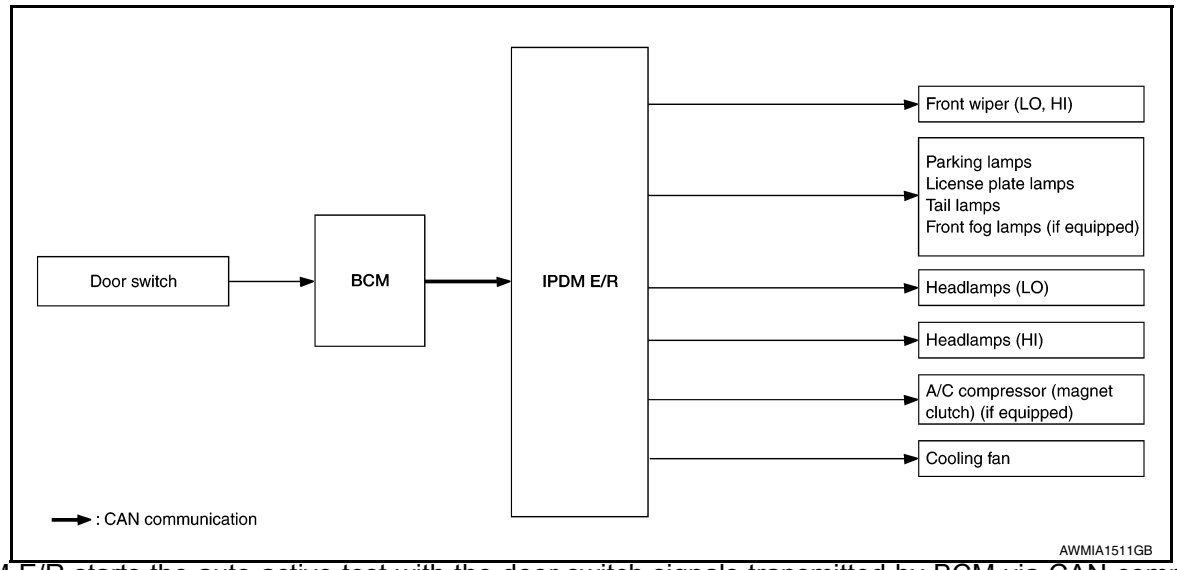
- When auto active test has to be cancelled halfway through test, turn the ignition switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to DLK-255, "Component Inspection".

Inspection in Auto Active Test

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

Operation sequence	Inspection location	Operation
1	Front wiper	LO for 5 seconds → HI for 5 seconds
2	• Parking lamp • License plate lamp • Tail lamp • Front fog lamp (if equipped)	10 seconds
3	Headlamp	LO for 10 seconds →HI ON ⇔ OFF 5 times
4	A/C compressor (magnet clutch) (if equipped)	ON ⇔ OFF 5 times
5	Cooling fan	LO for 5 seconds → MID for 3 seconds → HI for 2 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

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

CONSULT Function (IPDM E/R)

INFOID:0000000010287621

APPLICATION ITEM

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

Direct Diagnostic Mode	Description
Ecu Identification	The IPDM E/R part number is displayed.
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.

Direct Diagnostic Mode	Description
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.

ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-48, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Main Signals	Description
MOTOR FAN REQ [%]	×	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 front fog light request signal received from BCM on CAN communication line
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communication line
WIP AUTO STOP [STOP P/ACT P]	×	Indicates condition of front wiper auto stop signal
WIP PROT [Off/BLOCK]	×	Indicates condition of front wiper fail-safe operation
IGN RLY1 -REQ [On/Off]		Indicates ignition switch ON signal received from BCM on CAN communication line
IGN RLY [On/Off]	×	Indicates condition of ignition relay
PUSH SW [On/Off]		Indicates condition of push-button ignition switch
INTER/NP SW [On/Off]		Indicates condition of CVT shift position
ST RLY CONT [On/Off]		Indicates starter relay status signal received from BCM on CAN communication line
IHBT RLY -REQ [On/Off]		Indicates starter control relay signal received from BCM on CAN communication line
ST/INHI RLY [Off/ ST /INHI]		Indicates condition of starter relay and starter control relay
DETENT SW [On/Off]		Indicates condition of CVT shift selector (park position switch)
DTRL REQ [Off]		Indicates daytime light request signal received from BCM on CAN communication line
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN communication line
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line

ACTIVE TEST

Test item	Description
HORN	This test is able to check horn operation [On].
REAR DEFOGGER	This test is able to check rear window defogger operation [On/Off].
FRONT WIPER	This test is able to check wiper motor operation [Hi/Lo/Off].

Test item	Description
MOTOR FAN	This test is able to check cooling fan operation [4/3/2/1].
EXTERNAL LAMPS	This test is able to check external lamp operation [Fog/Hi/Lo/TAIL/Off].

CAN DIAG SUPPORT MNTR

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

ECU DIAGNOSIS INFORMATION

BCM, IPDM E/R

List of ECU Reference

INFOID:0000000009757497

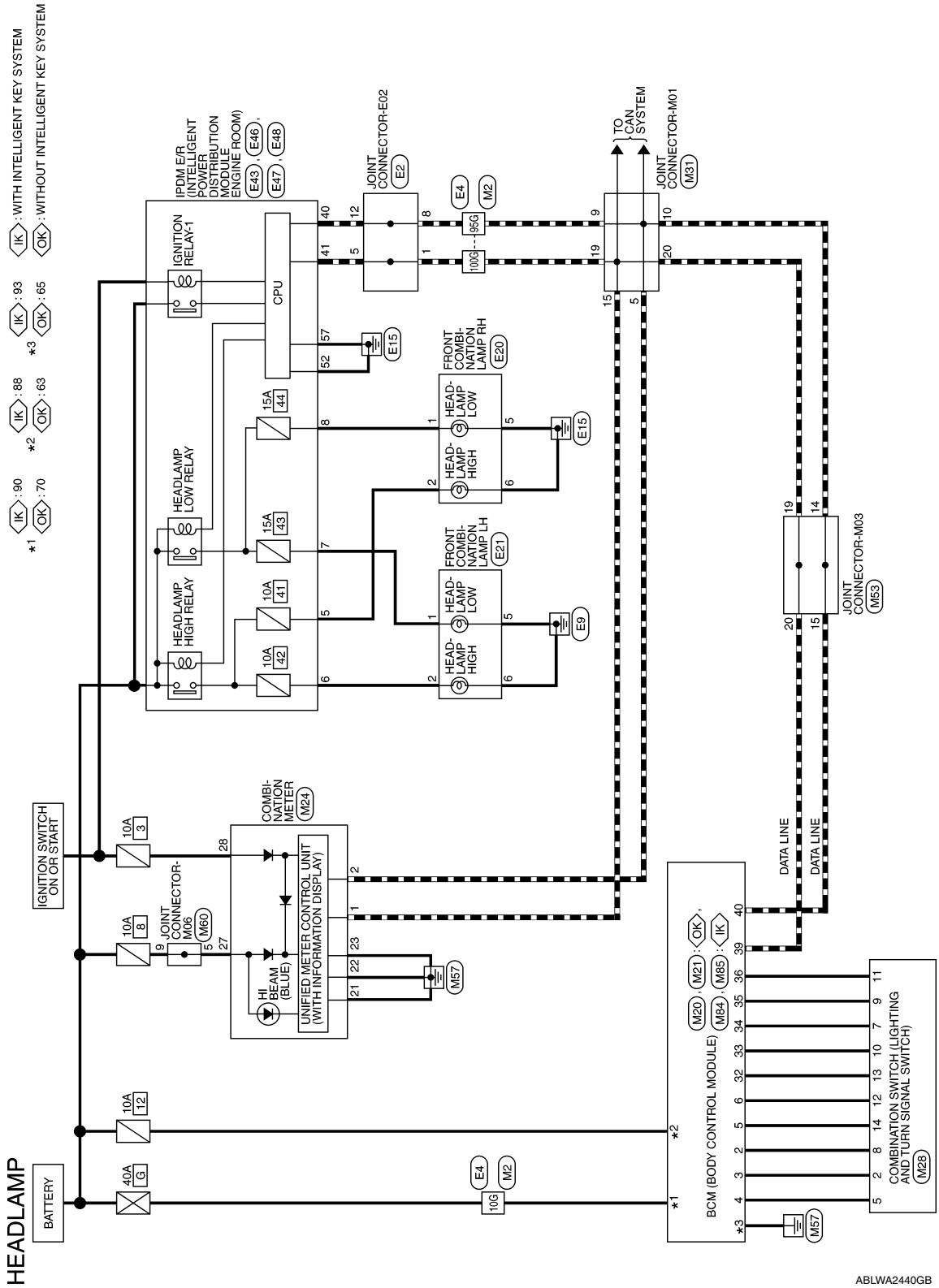
ECU	Reference
BCM (with Intelligent Key system)	BCS-29, "Reference Value"
	BCS-46, "Fail-safe"
	BCS-48, "DTC Inspection Priority Chart"
	BCS-49, "DTC Index"
BCM (without Intelligent Key system)	BCS-97, "Reference Value"
	BCS-108, "Fail-safe"
	BCS-108, "DTC Inspection Priority Chart"
	BCS-109, "DTC Index"
IPDM E/R (with Intelligent Key system)	PCS-13, "Reference Value"
	PCS-19, "Fail-safe"
	PCS-20, "DTC Index"
IPDM E/R (without Intelligent Key system)	PCS-41, "Reference Value"
	PCS-47, "Fail-Safe"
	PCS-48, "DTC Index"

WIRING DIAGRAM

HEADLAMP

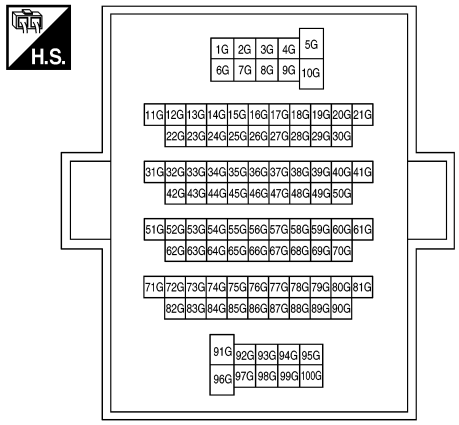
Wiring Diagram

INFOID:0000000009757498



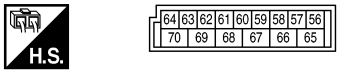
HEADLAMP CONNECTORS

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



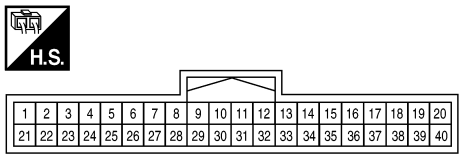
Terminal No.	Color of Wire	Signal Name
10G	Y	–
95G	P	–
100G	L	–

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
63	O	BATTERY (FUSE)
65	B	GND
70	Y	BATTERY (F/L)

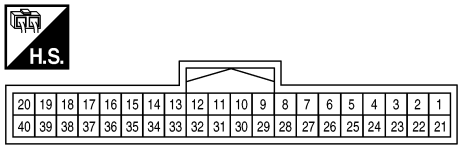
Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	L	COMBINATION SW INPUT 5
3	GR	COMBINATION SW INPUT 4
4	BR	COMBINATION SW INPUT 3

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

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
2	P	CAN-L
21	B	GND (ILL)
22	B	GND2 (POWER)
23	B	GND3 (CIRCUIT)
27	LG	BAT
28	GR	IGN

ABLIA5837GB

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	P	–
9	P	–
10	P	–
15	L	–
19	L	–
20	L	–

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	GR	–
5	BR	–
7	V	–
8	L	–

Terminal No.	Color of Wire	Signal Name
9	R	–
10	Y	–
11	SB	–
12	W	–
13	LG	–
14	O	–

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	LG	–
9	W	–

Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	PINK

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	P	–
15	P	–
19	L	–
20	L	–

AALIA1017GB

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	L	COMBINATION SW INPUT 5
3	GR	COMBINATION SW INPUT 4

Connector No.	E2
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
5	L	–
8	P	–
12	P	–

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

Connector No.	E4
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
10G	G	–
95G	P	–
100G	L	–

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

89	88	87	86	85	84	83	82	81
95	94	93	92	91	90			

Terminal No.	Color of Wire	Signal Name
88	O	BATTERY (FUSE)
90	Y	BATTERY (F/L)
93	B	GND (POWER)

ABLIA5894GB

Connector No.	E20
Connector Name	FRONT COMBINATION LAMP RH
Connector Color	BLACK

H.S.

8	7	6	5
4	3	2	1

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

Connector No.	E21
Connector Name	FRONT COMBINATION LAMP LH
Connector Color	BLACK

H.S.

8	7	6	5
4	3	2	1

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

Connector No.	E43
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
5	Y	H/LAMP HI RH
6	G	H/LAMP HI LH
7	L	H/LAMP LO LH
8	P	H/LAMP LO RH

Connector No.	E46
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
40	P	CAN-L
41	L	CAN-H

Connector No.	E47
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	B/Y	GND (SIGNAL)

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

59	58	57
62	61	60

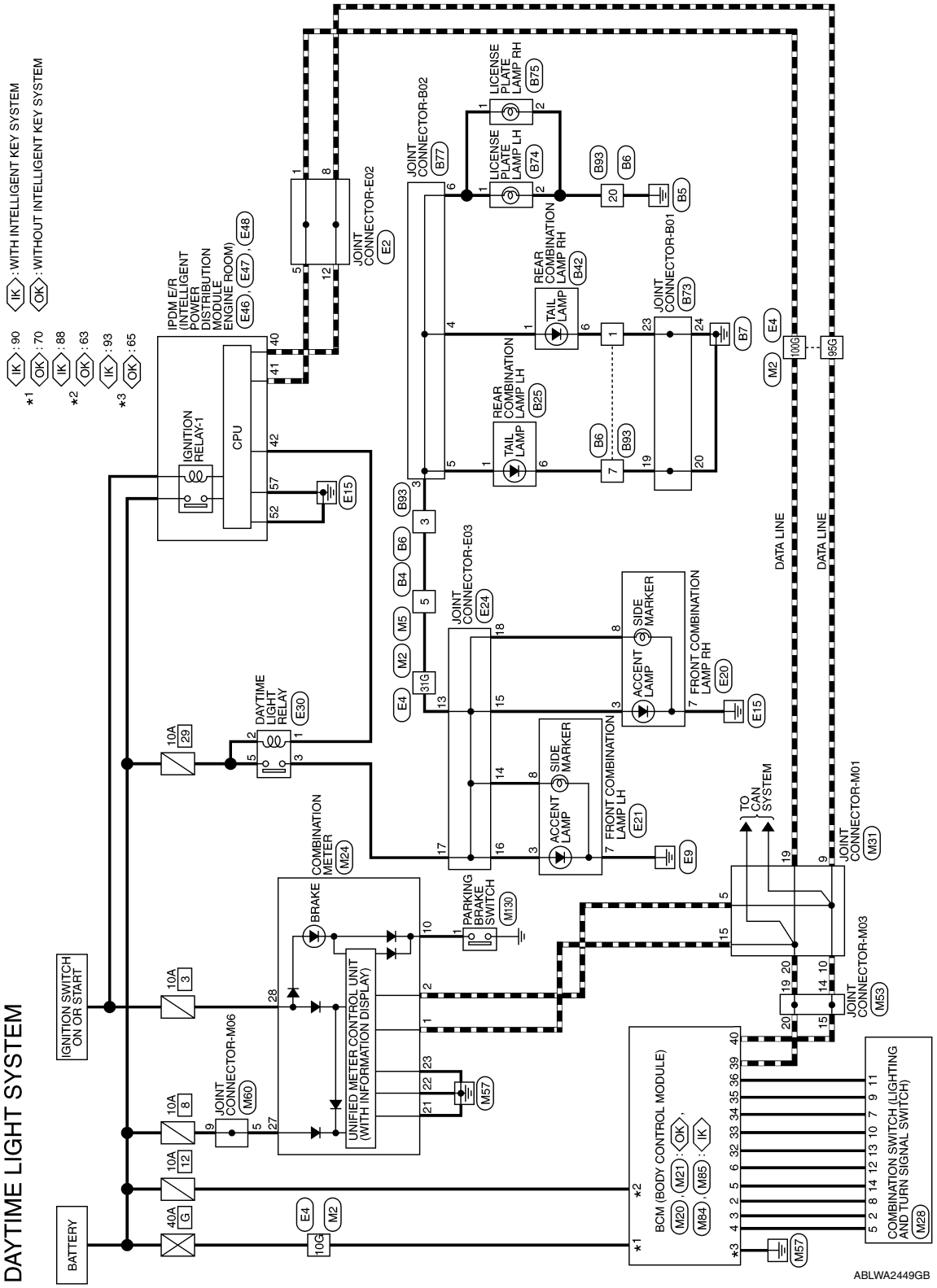
Terminal No.	Color of Wire	Signal Name
57	B/Y	GND (POWER)

AALIA1019GB

DAYTIME LIGHT SYSTEM

Wiring Diagram

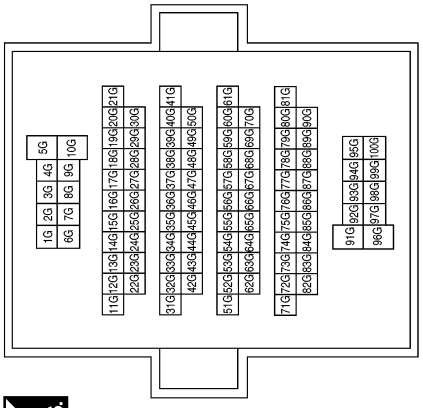
INFOID:0000000009757499



DAYTIME LIGHT SYSTEM CONNECTORS

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
10G	Y	–
31G	V	–
95G	P	–
100G	L	–

Connector No.	M5
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
5	V	–

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
63	O	BATTERY (FUSE)
65	B	GND
70	Y	BATTERY (F/L)

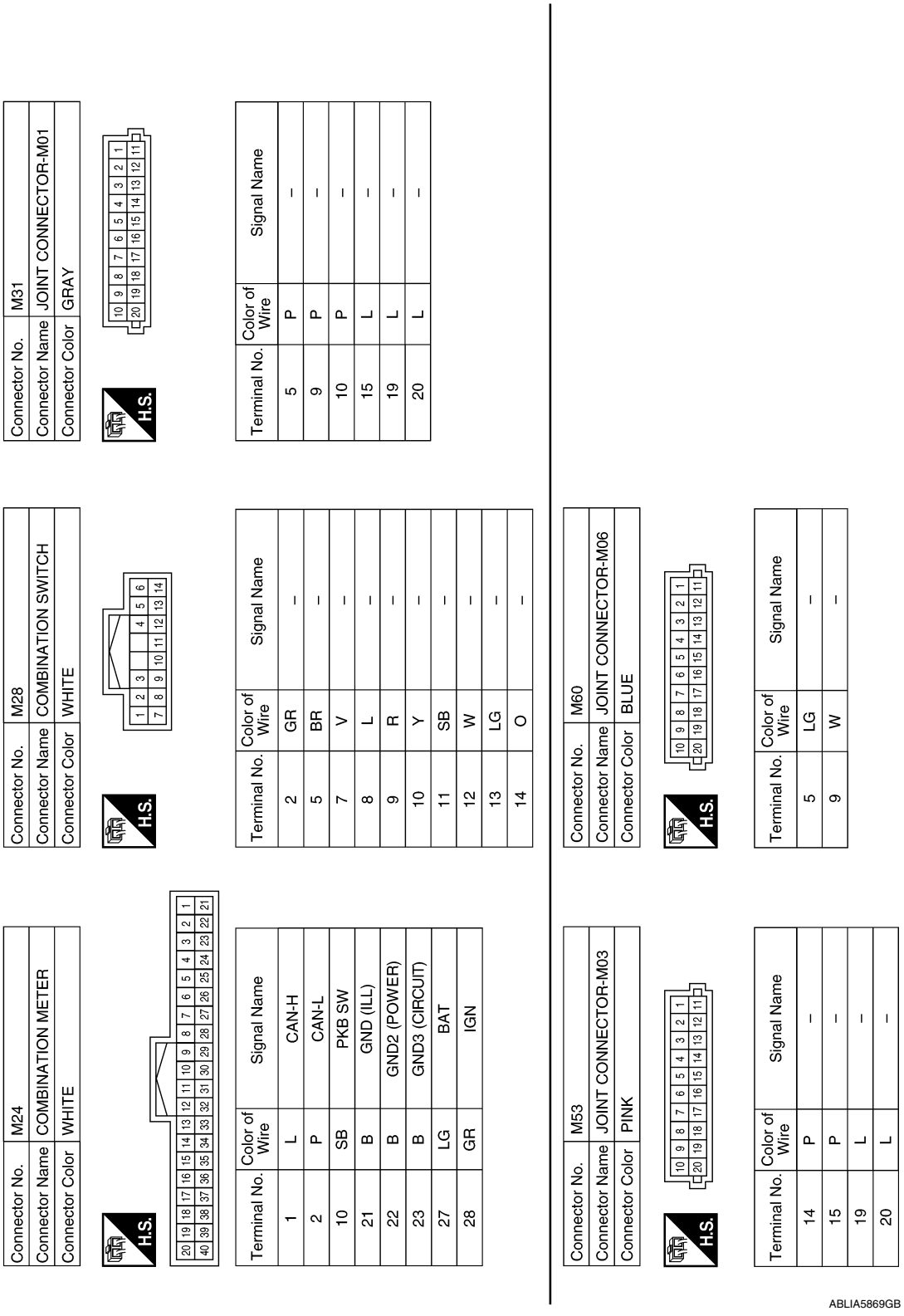
Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

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

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

ABLIA5868GB


Connector No. M24
Connector Name COMBINATION METER
Connector Color WHITE
H.S.
20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21
Terminal No. Color of Wire Signal Name
1 L CAN-H
2 P CAN-L
10 SB PKB SW
21 B GND (ILL)
22 B GND2 (POWER)
23 B GND3 (CIRCUIT)
27 LG BAT
28 GR IGN
Connector No. M28
Connector Name COMBINATION SWITCH
Connector Color WHITE
H.S.
1 2 3 4 5 6
7 8 9 10 11 12 13 14
Terminal No. Color of Wire Signal Name
2 GR –
5 BR –
7 V –
8 L –
9 R –
10 Y –
11 SB –
12 W –
13 LG –
14 O –
Connector No. M31
Connector Name JOINT CONNECTOR-M01
Connector Color GRAY
H.S.
10 9 8 7 6 5 4 3 2 1
20 19 18 17 16 15 14 13 12 11
Terminal No. Color of Wire Signal Name
5 P –
9 P –
10 P –
15 L –
19 L –
20 L –
Connector No. M53
Connector Name JOINT CONNECTOR-M03
Connector Color PINK
H.S.
10 9 8 7 6 5 4 3 2 1
20 19 18 17 16 15 14 13 12 11
Terminal No. Color of Wire Signal Name
14 P –
15 P –
19 L –
20 L –
Connector No. M60
Connector Name JOINT CONNECTOR-M06
Connector Color BLUE
H.S.
10 9 8 7 6 5 4 3 2 1
20 19 18 17 16 15 14 13 12 11
Terminal No. Color of Wire Signal Name
5 LG –
9 W –
ABLIA5869GB

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	L	COMBINATION SW INPUT 5
3	GR	COMBINATION SW INPUT 4
4	BR	COMBINATION SW INPUT 3
5	O	COMBINATION SW INPUT 2
6	W	COMBINATION SW INPUT 1

Terminal No.	Color of Wire	Signal Name
32	LG	COMBINATION SW OUTPUT 5
33	Y	COMBINATION SW OUTPUT 4
34	V	COMBINATION SW OUTPUT 3
35	R	COMBINATION SW OUTPUT 2
36	SB	COMBINATION SW OUTPUT 1
39	L	CAN-H
40	P	CAN-L

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

89	88	87	86	85	84	83	82	81
95	94				93	92	91	90

Terminal No.	Color of Wire	Signal Name
88	O	BATTERY (FUSE)
90	Y	BATTERY (F/L)
93	B	GND (POWER)

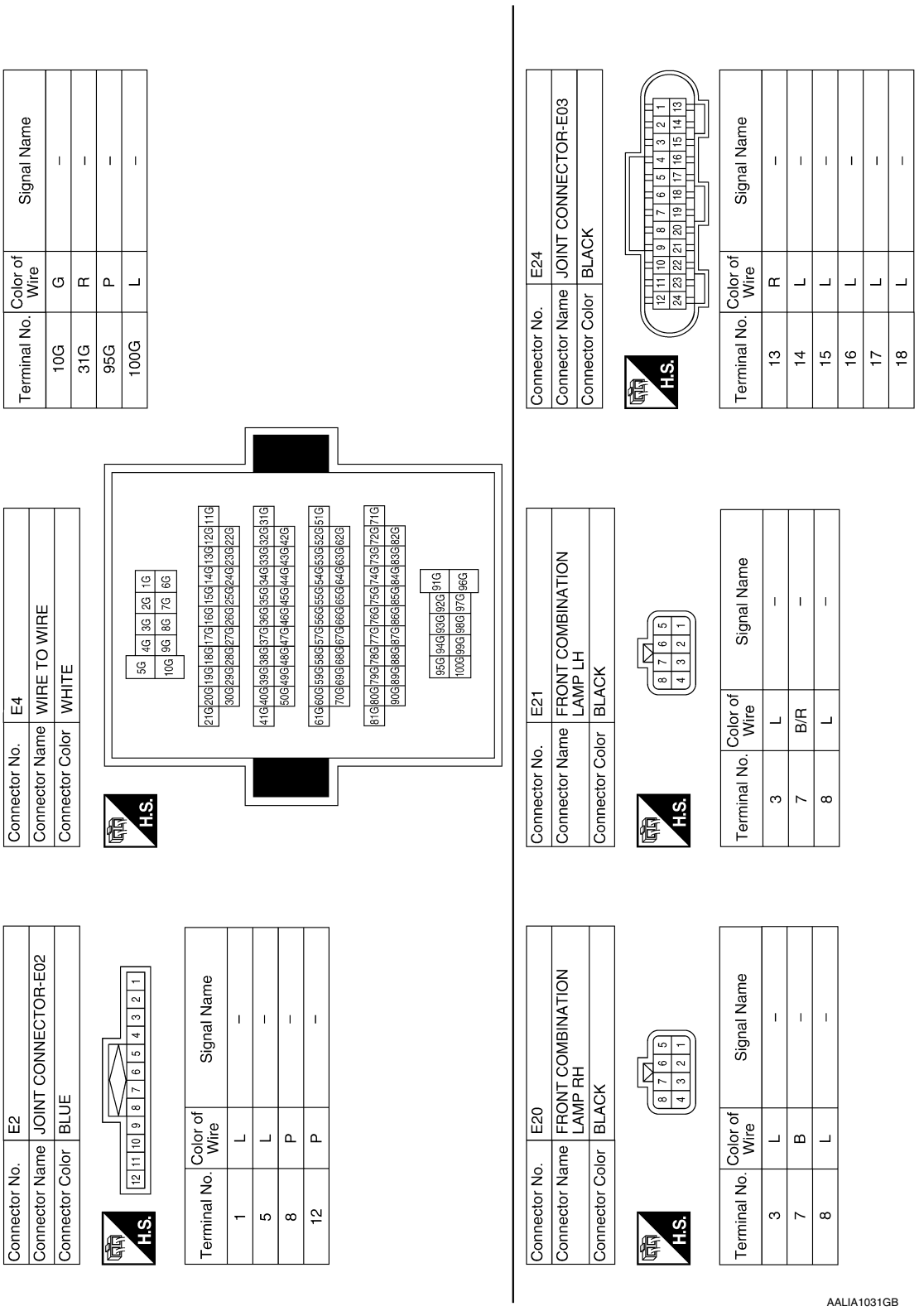
Connector No.	M130
Connector Name	PARKING BRAKE SWITCH
Connector Color	BLACK

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	SB	–

ABLIA5870GB


Connector No. E2
Connector Name JOINT CONNECTOR-E02
Connector Color BLUE
H.S.
12 11 10 9 8 7 6 5 4 3 2 1
Terminal No. | Color of Wire | Signal Name
1 | L | –
5 | L | –
8 | P | –
12 | P | –
Connector No. E4
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
10G | G | –
31G | R | –
95G | P | –
100G | L | –
Connector No. E24
Connector Name JOINT CONNECTOR-E03
Connector Color BLACK
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
13 | R | –
14 | L | –
15 | L | –
16 | L | –
17 | L | –
18 | L | –
Connector No. E20
Connector Name FRONT COMBINATION LAMP RH
Connector Color BLACK
H.S.
8 7 6 5
4 3 2 1
Terminal No. | Color of Wire | Signal Name
3 | L | –
7 | B | –
8 | L | –
Connector No. E21
Connector Name FRONT COMBINATION LAMP LH
Connector Color BLACK
H.S.
8 7 6 5
4 3 2 1
Terminal No. | Color of Wire | Signal Name
3 | L | –
7 | B/R | –
8 | L | –
AALIA1031GB

Connector No.	E30
Connector Name	DAYTIME LIGHT RELAY
Connector Color	BLUE

H.S.

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

Connector No.	E46
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
40	P	CAN-L
41	L	CAN-H
42	Y	DTRL RLY

Connector No.	E47
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
52	B/Y	GND (SIGNAL)

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
57	B/Y	GND (POWER)

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
5	LG	–

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
3	LG	–
7	O	–
20	B	–

ABLIA5871GB

Connector No.	B25
Connector Name	REAR COMBINATION LAMP LH
Connector Color	WHITE

H.S.

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

Connector No.	B42
Connector Name	REAR COMBINATION LAMP RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	BR	–
6	L	–

Connector No.	B73
Connector Name	JOINT CONNECTOR-B01
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
19	B	–
20	B	–
23	L	–
24	B	–

Connector No.	B74
Connector Name	LICENSE PLATE LAMP LH
Connector Color	BROWN

H.S.

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

Connector No.	B75
Connector Name	LICENSE PLATE LAMP RH
Connector Color	BROWN

H.S.

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

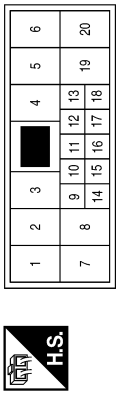
Connector No.	B77
Connector Name	JOINT CONNECTOR-B02
Connector Color	YELLOW

H.S.

Terminal No.	Color of Wire	Signal Name
3	G	–
4	BR	–
5	LG	–
6	GR	–

AALIA1033GB

Connector No.	B93
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	–
3	G	–
7	B	–
20	B	–

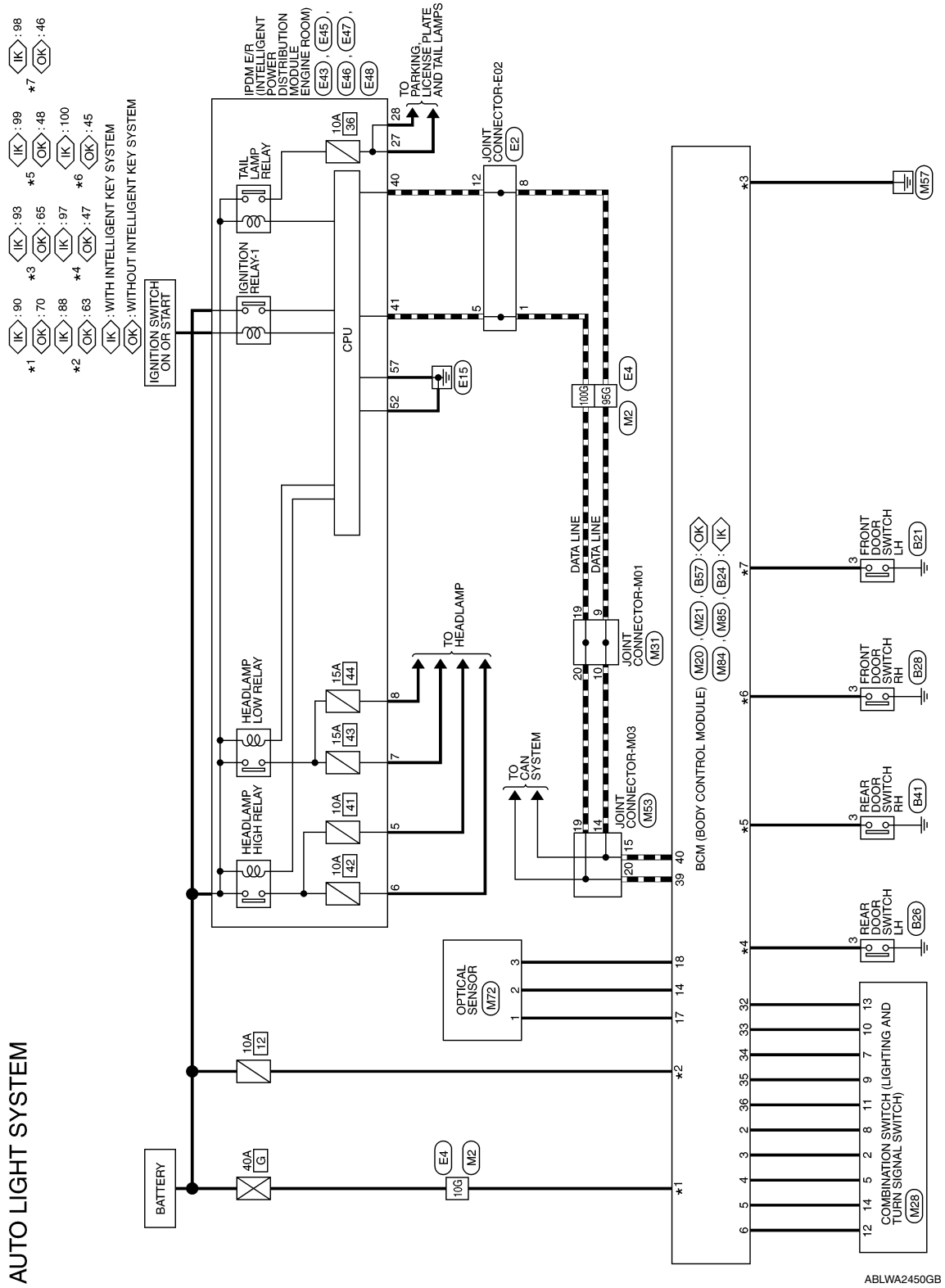
AALIA1034GB

< WIRING DIAGRAM >

AUTO LIGHT SYSTEM

Wiring Diagram

INFOID:0000000009757500



AUTO LIGHT SYSTEM CONNECTORS

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
10G	Y	–
95G	P	–
100G	L	–

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
63	O	BATTERY (FUSE)
65	B	GND
70	Y	BATTERY (F/L)

Terminal No.	Color of Wire	Signal Name
35	R	COMBINATION SW OUTPUT 2
36	SB	COMBINATION SW OUTPUT 1
39	L	CAN-H
40	P	CAN-L

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
5	O	COMBINATION SW INPUT 2
6	W	COMBINATION SW INPUT 1
14	SB	AUTO LIGHT SENSOR INPUT 1 (& 2)
17	Y	AUTO LIGHT SENSOR POWER SUPPLY OUTPUT
18	V	KEYLESS & AUTO LIGHT SENSOR GND
32	LG	COMBINATION SW OUTPUT 5
33	Y	COMBINATION SW OUTPUT 4
34	V	COMBINATION SW OUTPUT 3

Terminal No.	Color of Wire	Signal Name
2	L	COMBINATION SW INPUT 5
3	GR	COMBINATION SW INPUT 4
4	BR	COMBINATION SW INPUT 3

ABLIA5872GB

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.

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

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
9	P	–
10	P	–
19	L	–
20	L	–

Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	PINK

H.S.

Terminal No.	Color of Wire	Signal Name
14	P	–
15	P	–
19	L	–
20	L	–

Connector No.	M72
Connector Name	OPTICAL SENSOR
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	SB	–
3	V	–

ABLIA5891GB

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	L	COMBINATION SW INPUT 5
3	GR	COMBINATION SW INPUT 4
4	BR	COMBINATION SW INPUT 3
5	O	COMBINATION SW INPUT 2
6	W	COMBINATION SW INPUT 1
14	SB	AUTO LIGHT SENSOR INPUT
17	Y	AUTO LIGHT SENSOR POWER SUPPLY OUTPUT
18	V	KEYLESS TUNER, AUTO LIGHT SENSOR GND
32	LG	COMBINATION SW OUTPUT 5
33	Y	COMBINATION SW OUTPUT 4
34	V	COMBINATION SW OUTPUT 3
35	R	COMBINATION SW OUTPUT 2
36	SB	COMBINATION SW OUTPUT 1
39	L	CAN-H
40	P	CAN-L

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

89	88	87	86	85	84	83	82	81
95	94	93	92	91	90			

Terminal No.	Color of Wire	Signal Name
88	O	BATTERY (FUSE)
90	Y	BATTERY (F/L)
93	B	GND (POWER)

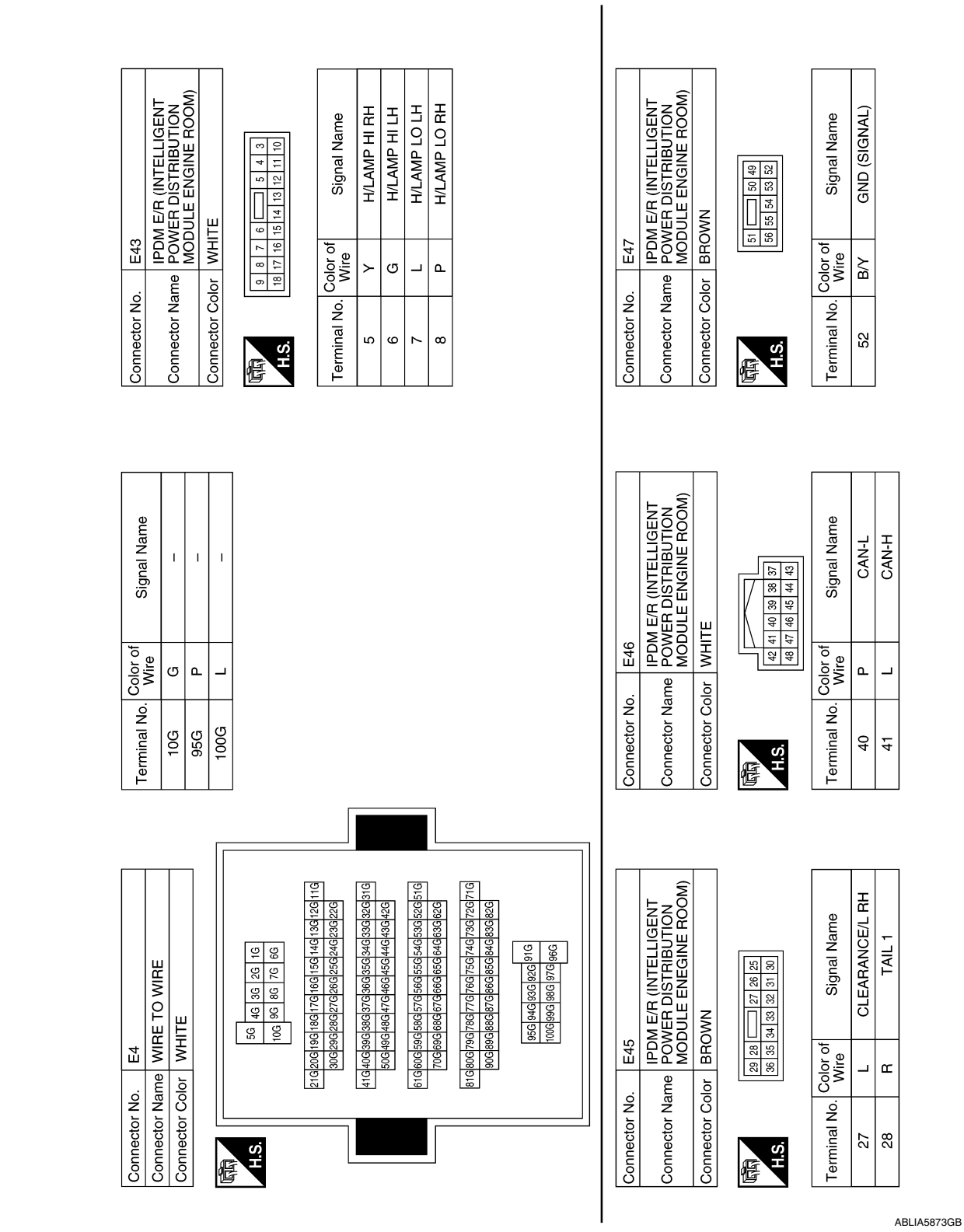
Connector No.	E2
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
5	L	–
8	P	–
12	P	–

ABLIA5892GB



ABLIA5873GB

Connector No.	E48
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	B/Y	GND (POWER)

Connector No.	B21
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
3	Y	–

Connector No.	B24
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

104	103	102	101	100	99	98	97	96
110	109	108	107			106	105	

Terminal No.	Color of Wire	Signal Name
97	GR	DOOR SW (RL)
98	Y	DOOR SW (DR)
99	P	DOOR SW (RR)
100	R	DOOR SW (AS)

Connector No.	B26
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
3	GR	–

Connector No.	B28
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
3	R	–

Connector No.	B41
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE

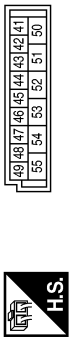
H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
3	P	–

ABLIA5874GB

Connector No.	B57
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	BLACK



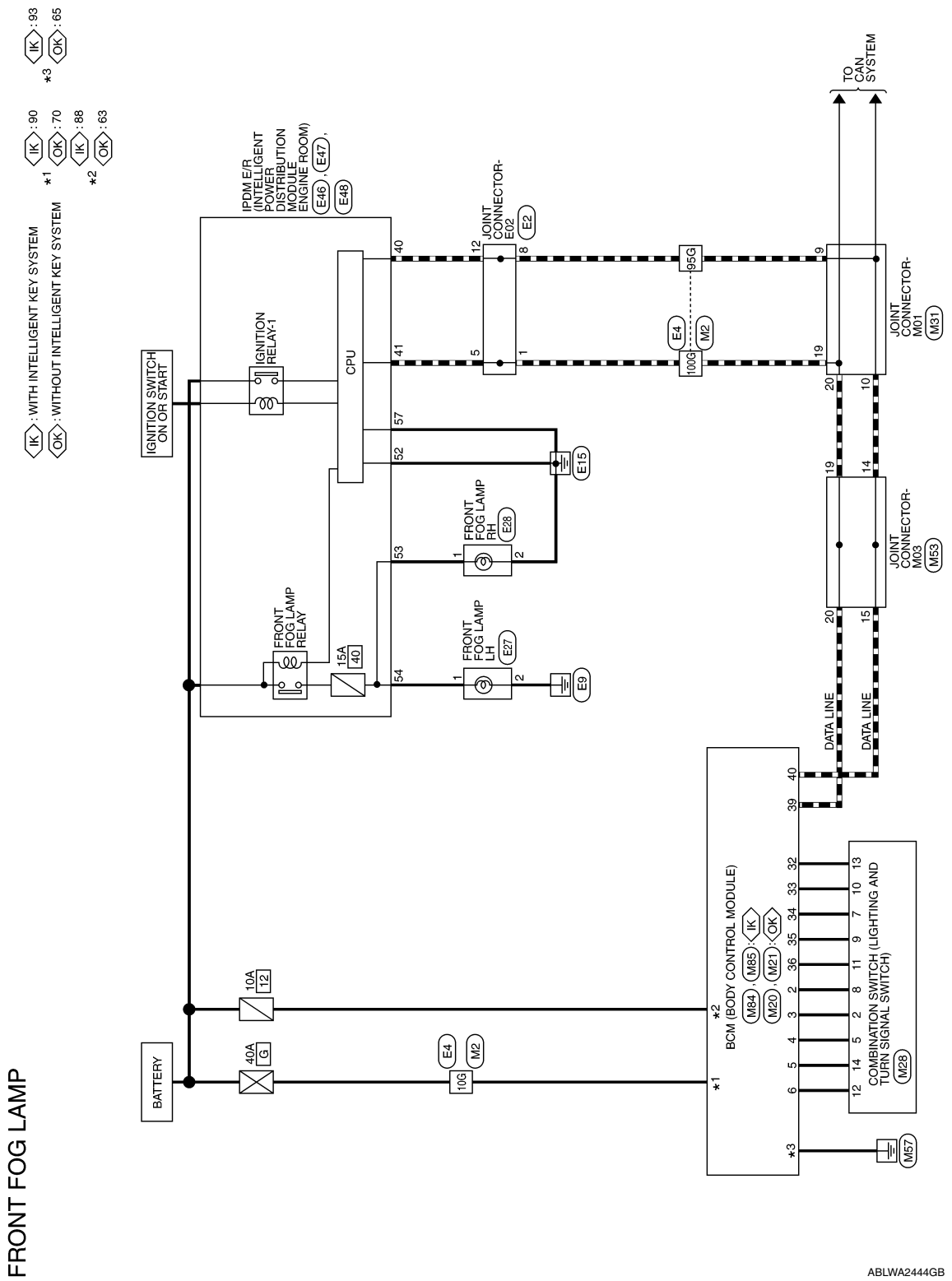
Terminal No.	Color of Wire	Signal Name
45	R	DOOR SW (AS)
46	Y	DOOR SW (DR)
47	GR	DOOR SW (RL)
48	P	DOOR SW (RR)

ABLIA5900GB

FRONT FOG LAMP

Wiring Diagram

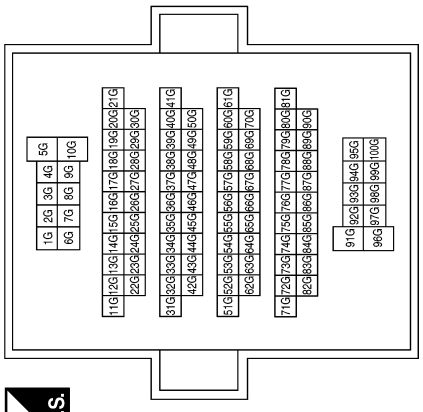
INFOID:0000000009757501



FRONT FOG LAMP CONNECTORS

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

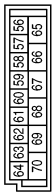
H.S.



Terminal No.	Color of Wire	Signal Name
10G	Y	–
95G	P	–
100G	L	–

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

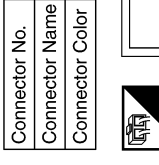
H.S.



Terminal No.	Color of Wire	Signal Name
63	O	BATTERY (FUSE)
65	B	GND
70	Y	BATTERY (F/L)

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

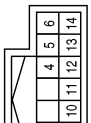


Terminal No.	Color of Wire	Signal Name
2	L	COMBINATION SW INPUT 5
3	GR	COMBINATION SW INPUT 4
4	BR	COMBINATION SW INPUT 3
5	O	COMBINATION SW INPUT 2

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

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.



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

ABLIA5852GB

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

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

Terminal No.	Color of Wire	Signal Name
9	P	–
10	P	–
19	L	–
20	L	–

Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	PINK

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	P	–
15	P	–
19	L	–
20	L	–

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

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

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

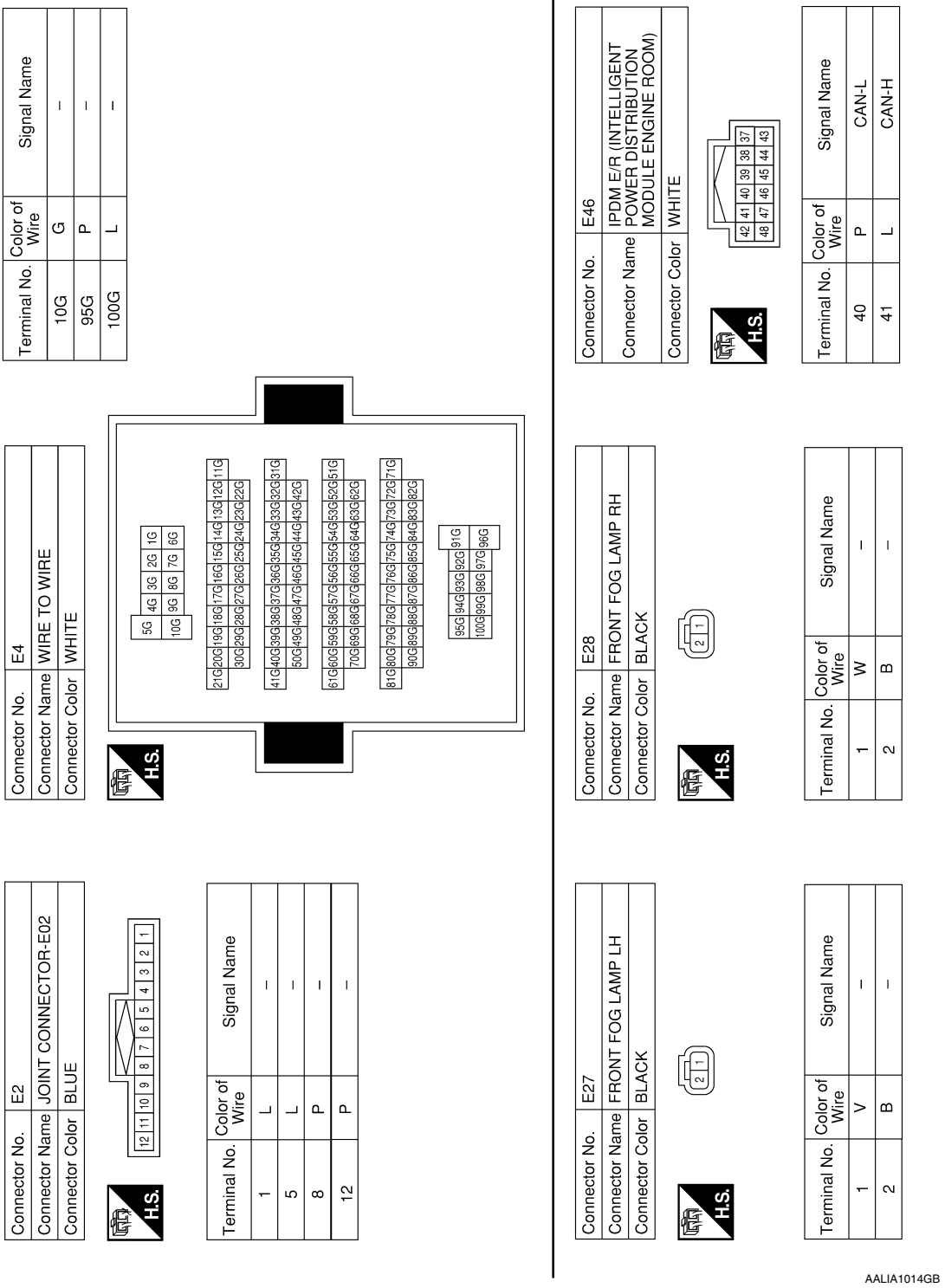
Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

89	88	87	86	85	84	83	82	81
95	94	93	92	91	90			

Terminal No.	Color of Wire	Signal Name
88	O	BATTERY (FUSE)
90	Y	BATTERY (F/L)
93	B	GND (POWER)

ABLIA5893GB

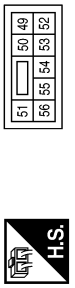


AALIA1014GB

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

Terminal No.	Color of Wire	Signal Name
57	B/Y	GND (POWER)

Connector No.	E47
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



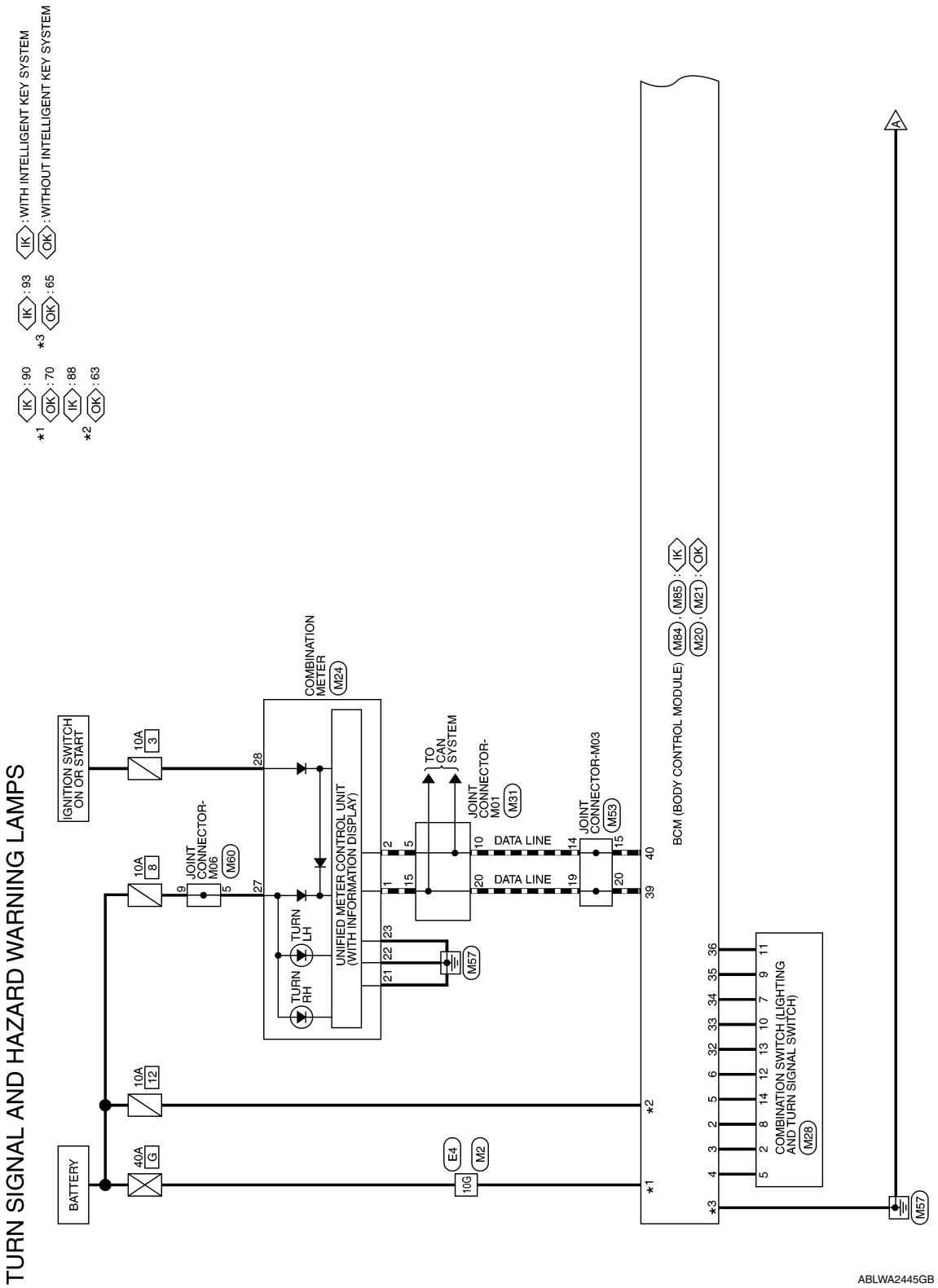
Terminal No.	Color of Wire	Signal Name
52	B/Y	GND (SIGNAL)
53	W	FR FOG/L RH
54	V	FR FOG/L LH

AALIA1015GB

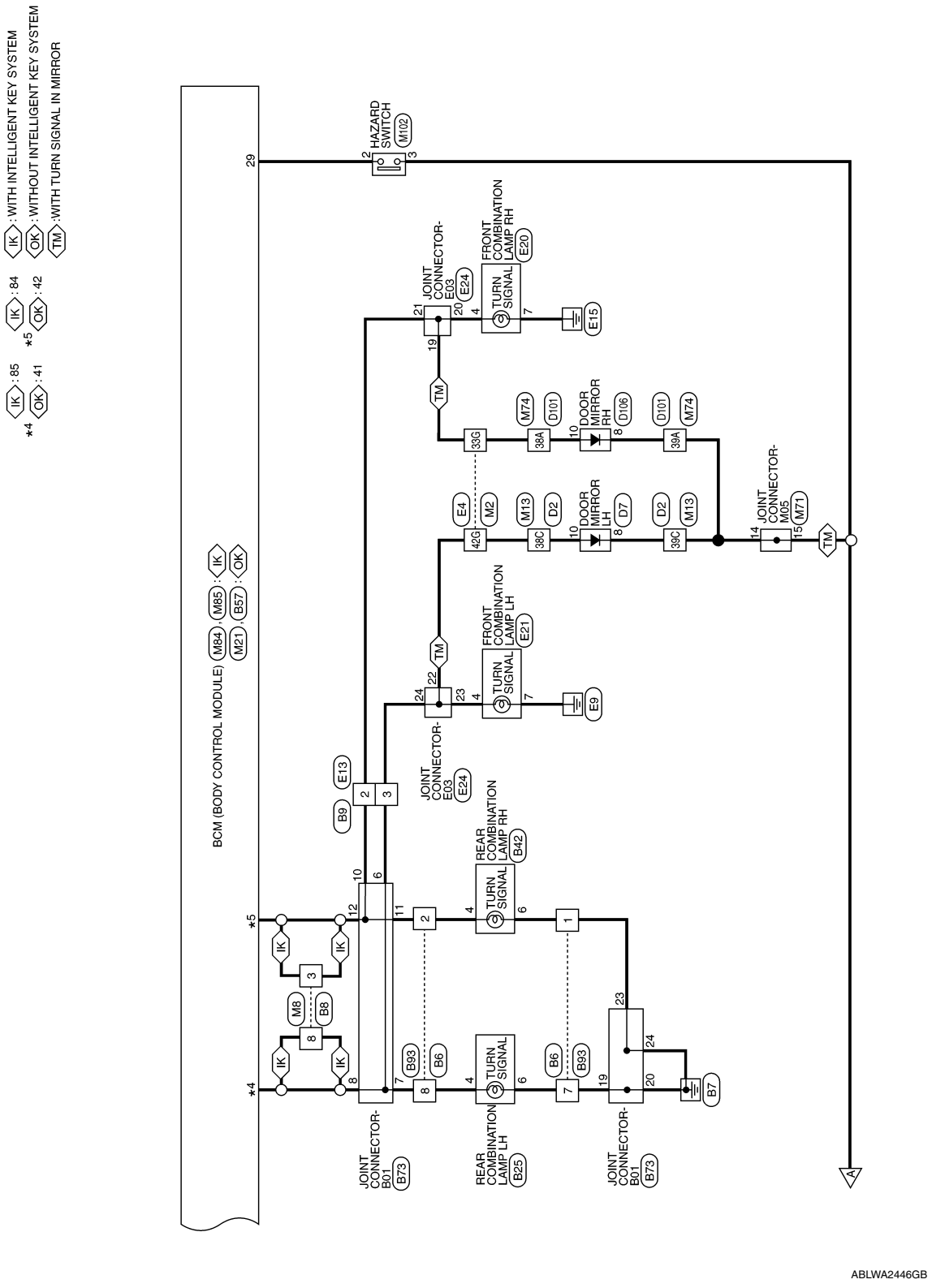
TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram

INFOID:0000000009757502



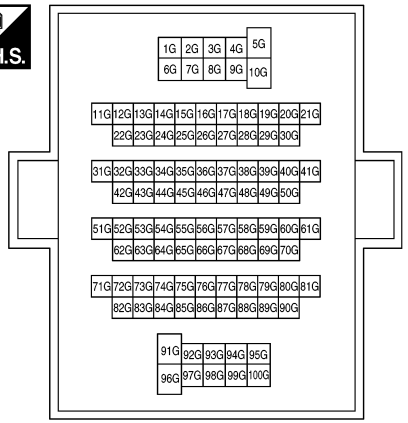
ABLWA2445GB


IK : WITH INTELLIGENT KEY SYSTEM
OK : WITHOUT INTELLIGENT KEY SYSTEM
TM : WITH TURN SIGNAL IN MIRROR
IK : 84
*5 OK : 42
IK : 85
*4 OK : 41
BCM (BODY CONTROL MODULE)
M84 , M85 , M21 , B57
IK
OK
HAZARD SWITCH
M102
JOINT CONNECTOR-E03
E24
E20
FRONT COMBINATION LAMP RH
TURN SIGNAL
E15
DOOR MIRROR RH
D101
D106
M74
DOOR MIRROR LH
D7
D2
M13
JOINT CONNECTOR-M05
M71
M2
E4
FRONT COMBINATION LAMP LH
E21
E9
E13
B9
REAR COMBINATION LAMP RH
B42
JOINT CONNECTOR-B01
B73
REAR COMBINATION LAMP LH
B25
B93
B6
B8
M8
B7
TM
A
ABLWA2446GB

TURN SIGNAL AND HAZARD WARNING LAMPS CONNECTORS

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

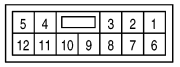
H.S.



Terminal No.	Color of Wire	Signal Name
10G	Y	–
33G	Y	–
42G	W	–

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

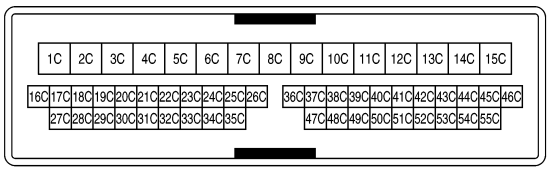
H.S.



Terminal No.	Color of Wire	Signal Name
3	W	–
8	Y	–

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

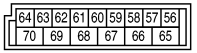


AALIA1038GB

Terminal No.	Color of Wire	Signal Name
38C	W	–
39C	B	–

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
63	O	BATTERY (FUSE)
65	B	GND
70	Y	BATTERY (F/L)

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
2	P	CAN-L
21	B	GND (ILL)
22	B	GND2 (POWER)
23	B	GND3 (CIRCUIT)
27	LG	BAT
28	GR	IGN

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
29	SB	HAZARD SW
32	LG	COMBINATION SW OUTPUT 5
33	Y	COMBINATION SW OUTPUT 4
34	V	COMBINATION SW OUTPUT 3
35	R	COMBINATION SW OUTPUT 2
36	SB	COMBINATION SW OUTPUT 1
39	L	CAN-H
40	P	CAN-L

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	P	–
10	P	–
15	L	–
20	L	–

Terminal No.	Color of Wire	Signal Name
2	L	COMBINATION SW INPUT 5
3	GR	COMBINATION SW INPUT 4
4	BR	COMBINATION SW INPUT 3
5	O	COMBINATION SW INPUT 2
6	W	COMBINATION SW INPUT 1

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	GR	–
5	BR	–
7	V	–
8	L	–

Terminal No.	Color of Wire	Signal Name
9	R	–
10	Y	–
11	SB	–
12	W	–
13	LG	–
14	O	–

ABLIA5853GB

Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	PINK

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	P	–
15	P	–
19	L	–
20	L	–

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	LG	–
9	W	–

Connector No.	M71
Connector Name	JOINT CONNECTOR-M05
Connector Color	PINK

H.S.

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

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

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

H.S.

1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	14A	15A
16A	17A	18A	19A	20A	21A	22A	23A	24A	25A	26A	36A	37A	38A	39A
27A	28A	29A	30A	31A	32A	33A	34A	35A			47A	48A	49A	50A

40A	41A	42A	43A	44A	45A	46A
51A	52A	53A	54A	55A		

Terminal No.	Color of Wire	Signal Name
38A	Y	–
39A	B	–

ABLIA5854GB

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	L	COMBINATION SW INPUT 5
3	GR	COMBINATION SW INPUT 4
4	BR	COMBINATION SW INPUT 3
5	O	COMBINATION SW INPUT 2
6	W	COMBINATION SW INPUT 1

Terminal No.	Color of Wire	Signal Name
29	SB	HAZARD SW
32	LG	COMBINATION SW OUTPUT 5
33	Y	COMBINATION SW OUTPUT 4
34	V	COMBINATION SW OUTPUT 3
35	R	COMBINATION SW OUTPUT 2
36	SB	COMBINATION SW OUTPUT 1
39	L	CAN-H
40	P	CAN-L

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

89	88	87	86	85	84	83	82	81
95	94	93	92	91	90			

Terminal No.	Color of Wire	Signal Name
84	W	FLASHER OUTPUT (RIGHT)
85	Y	FLASHER OUTPUT (LEFT)
88	O	BATTERY (FUSE)
90	Y	BATTERY (F/L)
93	B	GND (POWER)

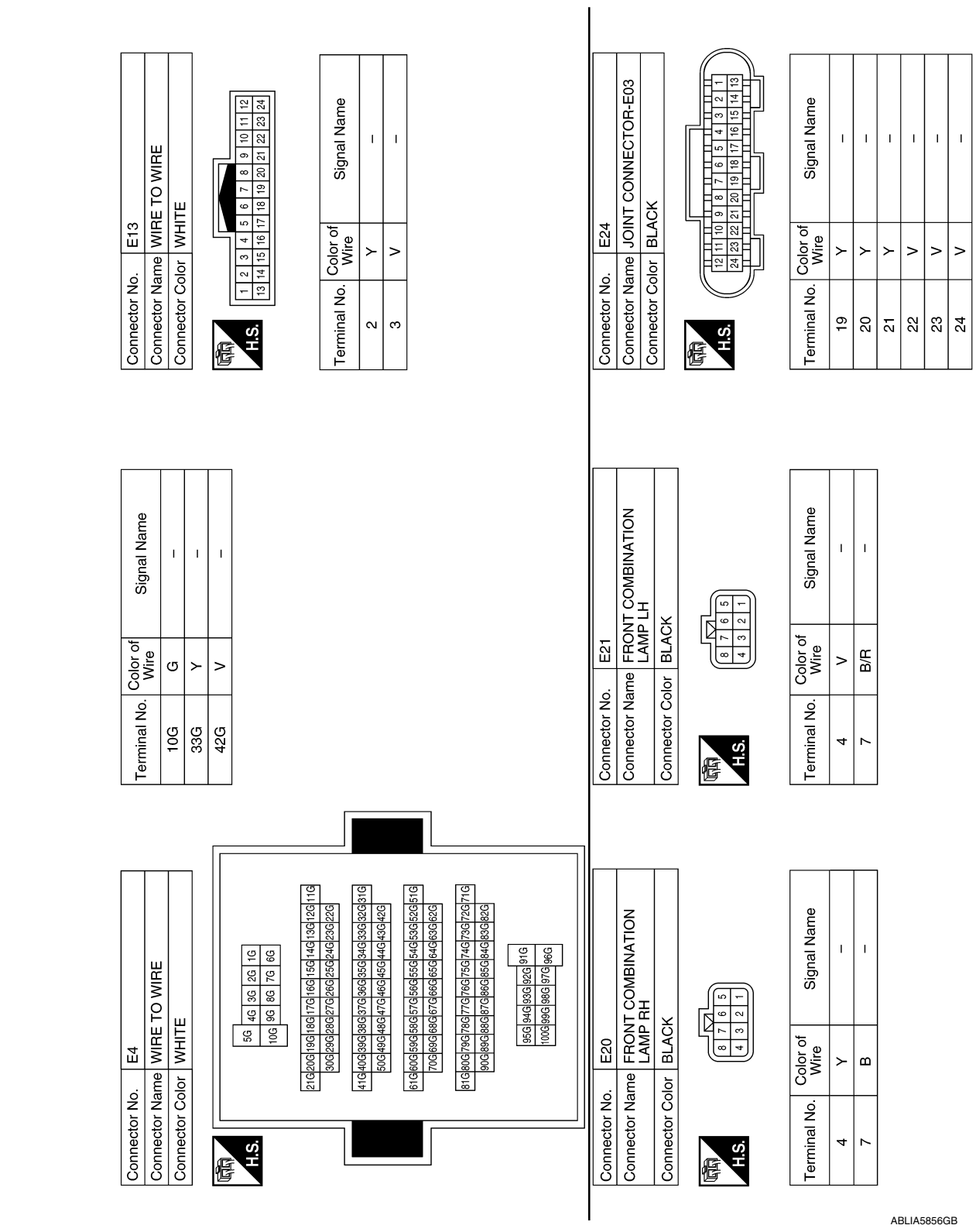
Connector No.	M102
Connector Name	HAZARD SWITCH
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
2	SB	–
3	B	–

ABLIA5855GB


Connector No. E4
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
10G G –
33G Y –
42G V –
Connector No. E20
Connector Name FRONT COMBINATION LAMP RH
Connector Color BLACK
H.S.
8 7 6 5
4 3 2 1
Terminal No. Color of Wire Signal Name
4 Y –
7 B –
Connector No. E21
Connector Name FRONT COMBINATION LAMP LH
Connector Color BLACK
H.S.
8 7 6 5
4 3 2 1
Terminal No. Color of Wire Signal Name
4 V –
7 B/R –
Connector No. E13
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
2 Y –
3 V –
Connector No. E24
Connector Name JOINT CONNECTOR-E03
Connector Color BLACK
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
19 Y –
20 Y –
21 Y –
22 V –
23 V –
24 V –
ABLIA5856GB

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
2	R	–
7	O	–
8	SB	–

Connector No.	B8
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	O	–
8	LG	–

Connector No.	B9
Connector Name	WIRE TO WIRE
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
2	Y	–
3	SB	–

Connector No.	B25
Connector Name	REAR COMBINATION LAMP LH
Connector Color	WHITE

H.S.

2		1
6	5	4	3

Terminal No.	Color of Wire	Signal Name
4	SB	–
6	O	–

Connector No.	B42
Connector Name	REAR COMBINATION LAMP RH
Connector Color	WHITE

H.S.

2		1
6	5	4	3

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

Connector No.	B57
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
41	LG	FLASHER OUTPUT (LEFT)
42	O	FLASHER OUTPUT (RIGHT)

ABLIA5857GB

Connector No.	B73
Connector Name	JOINT CONNECTOR-B01
Connector Color	BLACK

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
6	SB	–
7	BR	–
8	LG	–
10	Y	–
11	R	–
12	O	–
19	B	–
20	B	–
23	L	–
24	B	–

Connector No.	B93
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
2	R	–
7	B	–
8	BR	–

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

H.S.

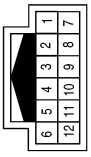
15C	14C	13C	12C	11C	10C	9C	8C	7C	6C	5C	4C	3C	2C	1C
46C	45C	44C	43C	42C	41C	40C	39C	38C	37C	36C	26C	25C	24C	23C	22C	21C	20C	19C	18C	17C	16C
55C	54C	53C	52C	51C	50C	49C	48C	47C			35C	34C	33C	32C	31C	30C	29C	28C	27C		

Terminal No.	Color of Wire	Signal Name
38C	G	–
39C	B/W	–

ABLIA5858GB

Connector No.	D7
Connector Name	DOOR MIRROR LH
Connector Color	WHITE

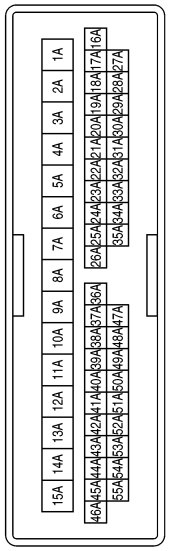
H.S.



Terminal No.	Color of Wire	Signal Name
8	B/W	–
10	G	–

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

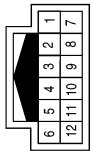
H.S.



Terminal No.	Color of Wire	Signal Name
38A	G	–
39A	B/W	–

Connector No.	D106
Connector Name	DOOR MIRROR RH
Connector Color	WHITE

H.S.



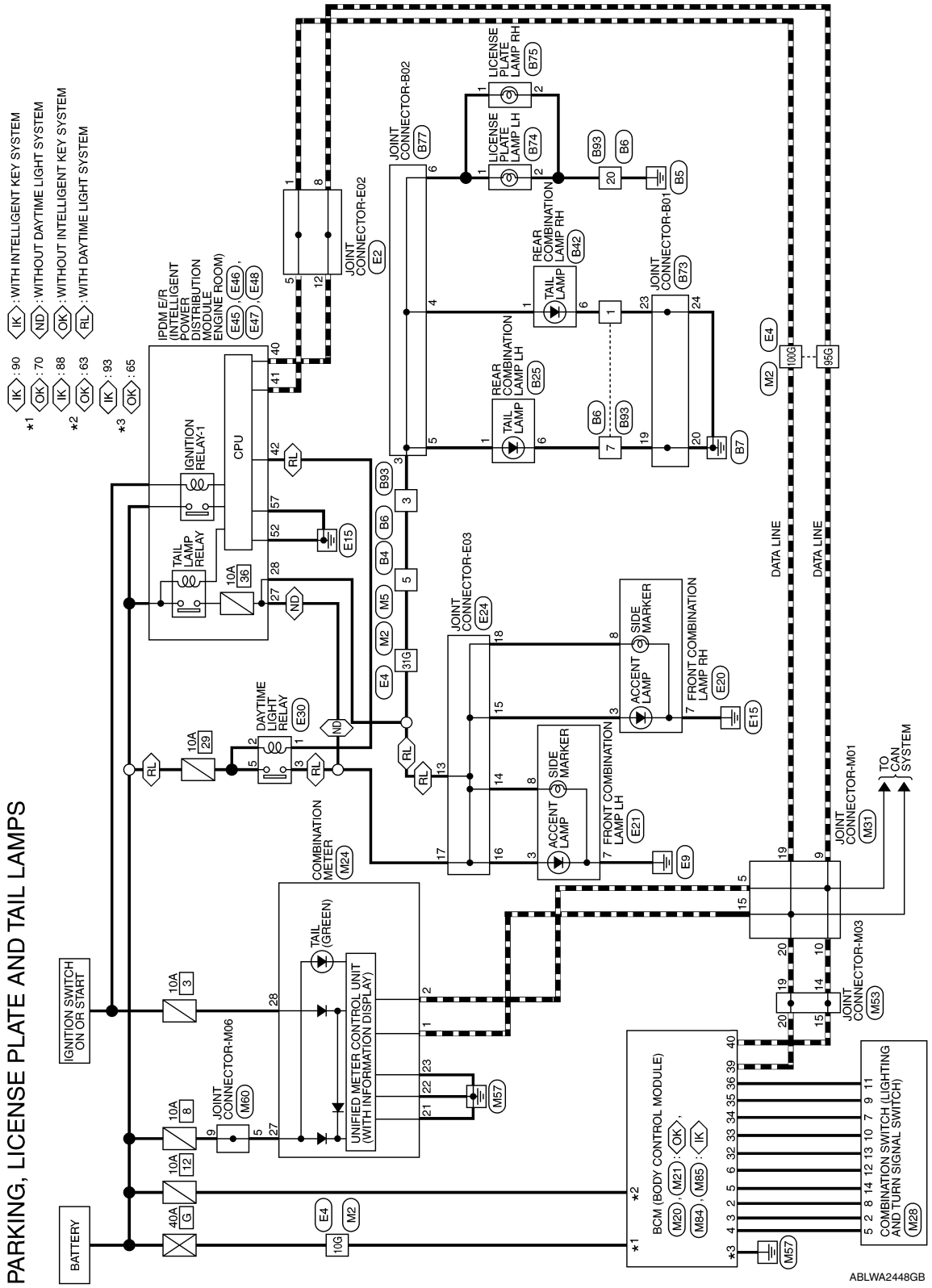
Terminal No.	Color of Wire	Signal Name
8	B/W	–
10	G	–

ABLIA5907GB

PARKING, LICENSE PLATE AND TAIL LAMPS

Wiring Diagram

INFOID:0000000009757503



PARKING, LICENSE PLATE AND TAIL LAMPS CONNECTORS

Connector No.	M2
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
10G	Y	–
31G	V	–
95G	P	–
100G	L	–

Connector No.	M5
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
5	V	–

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
63	O	BATTERY (FUSE)
65	B	GND
70	Y	BATTERY (F/L)

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

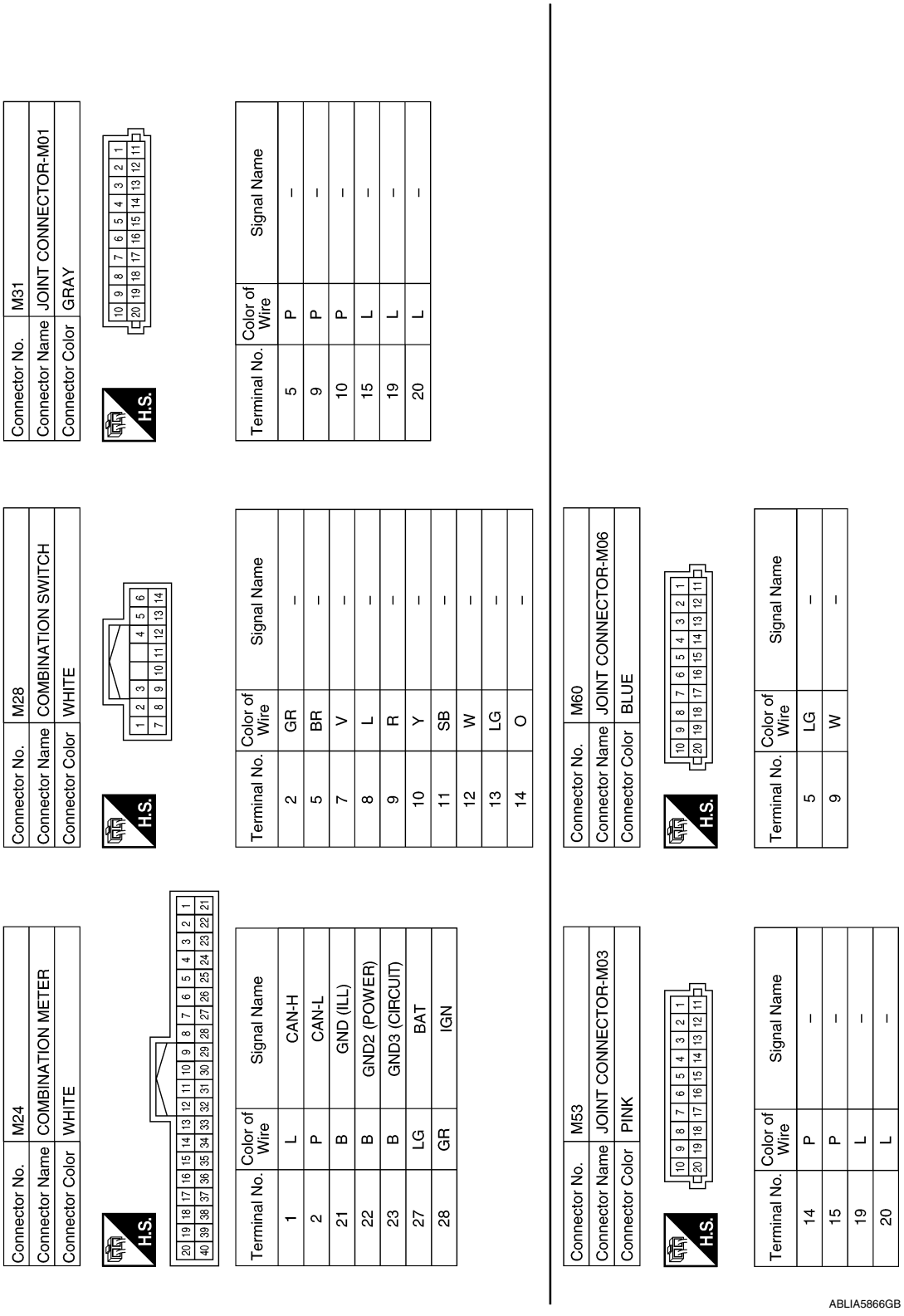
H.S.

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

Terminal No.	Color of Wire	Signal Name
2	L	COMBINATION SW INPUT 5
3	GR	COMBINATION SW INPUT 4
4	BR	COMBINATION SW INPUT 3
5	O	COMBINATION SW INPUT 2
6	W	COMBINATION SW INPUT 1

Terminal No.	Color of Wire	Signal Name
32	LG	COMBINATION SW OUTPUT 5
33	Y	COMBINATION SW OUTPUT 4
34	V	COMBINATION SW OUTPUT 3
35	R	COMBINATION SW OUTPUT 2
36	SB	COMBINATION SW OUTPUT 1
39	L	CAN-H
40	P	CAN-L

ABLIA5865GB


Connector No. M24
Connector Name COMBINATION METER
Connector Color WHITE
H.S.
20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21
Terminal No. | Color of Wire | Signal Name
1 | L | CAN-H
2 | P | CAN-L
21 | B | GND (ILL)
22 | B | GND2 (POWER)
23 | B | GND3 (CIRCUIT)
27 | LG | BAT
28 | GR | IGN
Connector No. M28
Connector Name COMBINATION SWITCH
Connector Color WHITE
H.S.
1 2 3 4 5 6
7 8 9 10 11 12 13 14
Terminal No. | Color of Wire | Signal Name
2 | GR | –
5 | BR | –
7 | V | –
8 | L | –
9 | R | –
10 | Y | –
11 | SB | –
12 | W | –
13 | LG | –
14 | O | –
Connector No. M31
Connector Name JOINT CONNECTOR-M01
Connector Color GRAY
H.S.
10 9 8 7 6 5 4 3 2 1
20 19 18 17 16 15 14 13 12 11
Terminal No. | Color of Wire | Signal Name
5 | P | –
9 | P | –
10 | P | –
15 | L | –
19 | L | –
20 | L | –
Connector No. M53
Connector Name JOINT CONNECTOR-M03
Connector Color PINK
H.S.
10 9 8 7 6 5 4 3 2 1
20 19 18 17 16 15 14 13 12 11
Terminal No. | Color of Wire | Signal Name
14 | P | –
15 | P | –
19 | L | –
20 | L | –
Connector No. M60
Connector Name JOINT CONNECTOR-M06
Connector Color BLUE
H.S.
10 9 8 7 6 5 4 3 2 1
20 19 18 17 16 15 14 13 12 11
Terminal No. | Color of Wire | Signal Name
5 | LG | –
9 | W | –
ABLIA5866GB

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	L	COMBINATION SW INPUT 5
3	GR	COMBINATION SW INPUT 4
4	BR	COMBINATION SW INPUT 3
5	O	COMBINATION SW INPUT 2
6	W	COMBINATION SW INPUT 1

Terminal No.	Color of Wire	Signal Name
32	LG	COMBINATION SW OUTPUT 5
33	Y	COMBINATION SW OUTPUT 4
34	V	COMBINATION SW OUTPUT 3
35	R	COMBINATION SW OUTPUT 2
36	SB	COMBINATION SW OUTPUT 1
39	L	CAN-H
40	P	CAN-L

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

89	88	87	86	85	84	83	82	81
95	94	93	92	91	90			

Terminal No.	Color of Wire	Signal Name
88	O	BATTERY (FUSE)
90	Y	BATTERY (F/L)
93	B	GND (POWER)

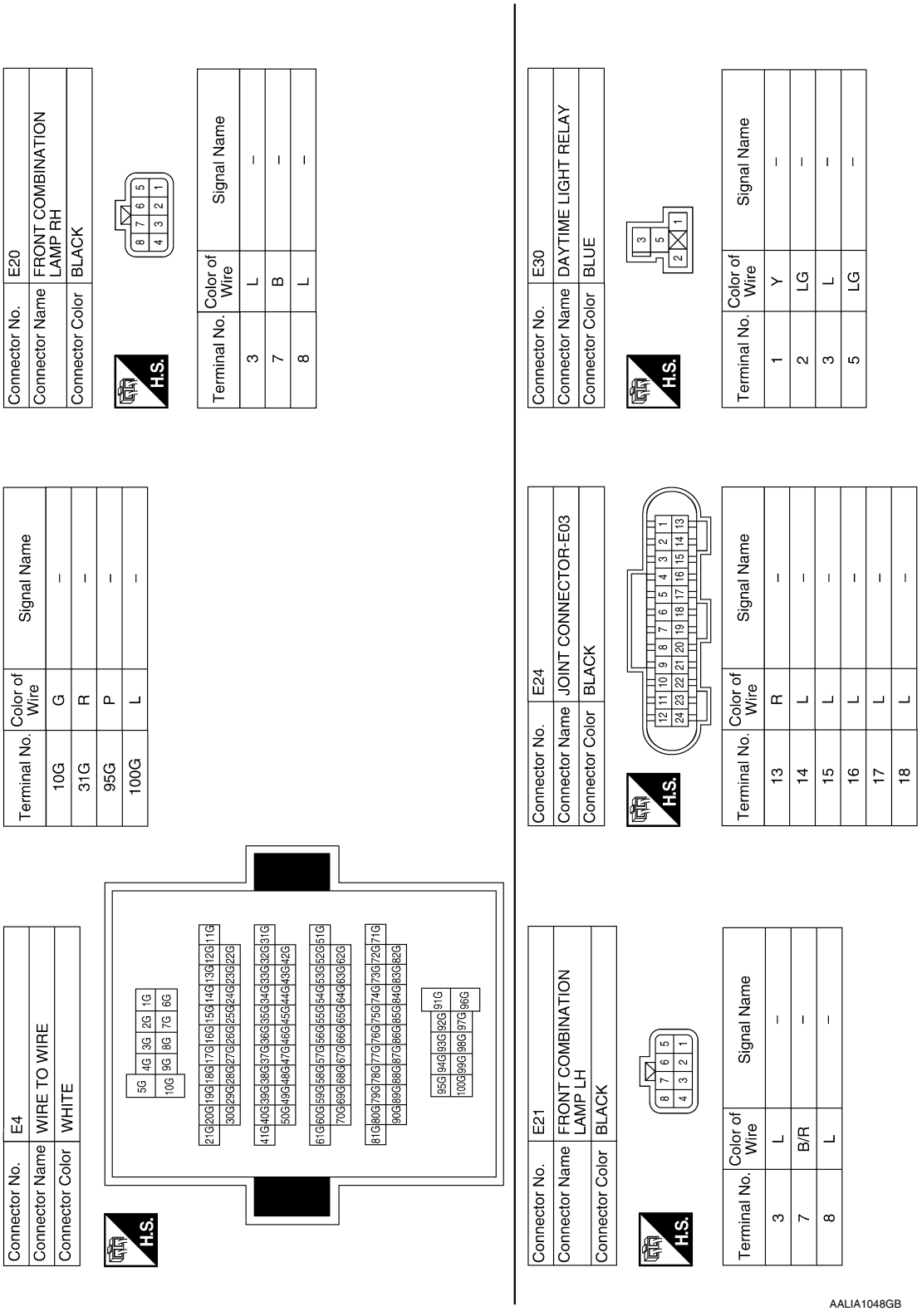
Connector No.	E2
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
5	L	–
8	P	–
12	P	–

ABLIA5895GB


Connector No. E4
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
10G G –
31G R –
95G P –
100G L –
Connector No. E20
Connector Name FRONT COMBINATION LAMP RH
Connector Color BLACK
H.S.
8 7 6 5
4 3 2 1
Terminal No. Color of Wire Signal Name
3 L –
7 B –
8 L –
Connector No. E30
Connector Name DAYTIME LIGHT RELAY
Connector Color BLUE
H.S.
3 5 1 2
Terminal No. Color of Wire Signal Name
1 Y –
2 LG –
3 L –
5 LG –
Connector No. E24
Connector Name JOINT CONNECTOR-E03
Connector Color BLACK
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
13 R –
14 L –
15 L –
16 L –
17 L –
18 L –
Connector No. E21
Connector Name FRONT COMBINATION LAMP LH
Connector Color BLACK
H.S.
8 7 6 5
4 3 2 1
Terminal No. Color of Wire Signal Name
3 L –
7 B/R –
8 L –
AALIA1048GB

Connector No.	E45
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
27	L	CLEARANCE/L RH
28	R	TAIL 1

Connector No.	E46
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
40	P	CAN-L
41	L	CAN-H
42	Y	DTRL RLY

Connector No.	E47
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	B/Y	GND (SIGNAL)

Connector No.	E48
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	B/Y	GND (POWER)

Connector No.	B4
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
5	LG	–

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

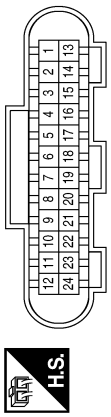
H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
3	LG	–
7	O	–
20	B	–

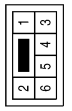
ABLIA5867GB

Connector No.	B73
Connector Name	JOINT CONNECTOR-B01
Connector Color	BLACK



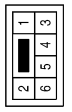
Terminal No.	Color of Wire	Signal Name
19	B	–
20	B	–
23	L	–
24	B	–

Connector No.	B42
Connector Name	REAR COMBINATION LAMP RH
Connector Color	WHITE



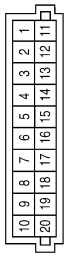
Terminal No.	Color of Wire	Signal Name
1	BR	–
6	L	–

Connector No.	B25
Connector Name	REAR COMBINATION LAMP LH
Connector Color	WHITE



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

Connector No.	B77
Connector Name	JOINT CONNECTOR-B02
Connector Color	YELLOW



Terminal No.	Color of Wire	Signal Name
3	G	–
4	BR	–
5	LG	–
6	GR	–

Connector No.	B75
Connector Name	LICENSE PLATE LAMP RH
Connector Color	BROWN

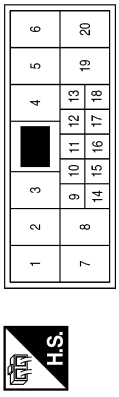
Terminal No.	Color of Wire	Signal Name
1	GR	–
2	B	–

Connector No.	B74
Connector Name	LICENSE PLATE LAMP LH
Connector Color	BROWN

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

AALIA1050GB

Connector No.	B93
Connector Name	WIRE TO WIRE
Connector Color	WHITE



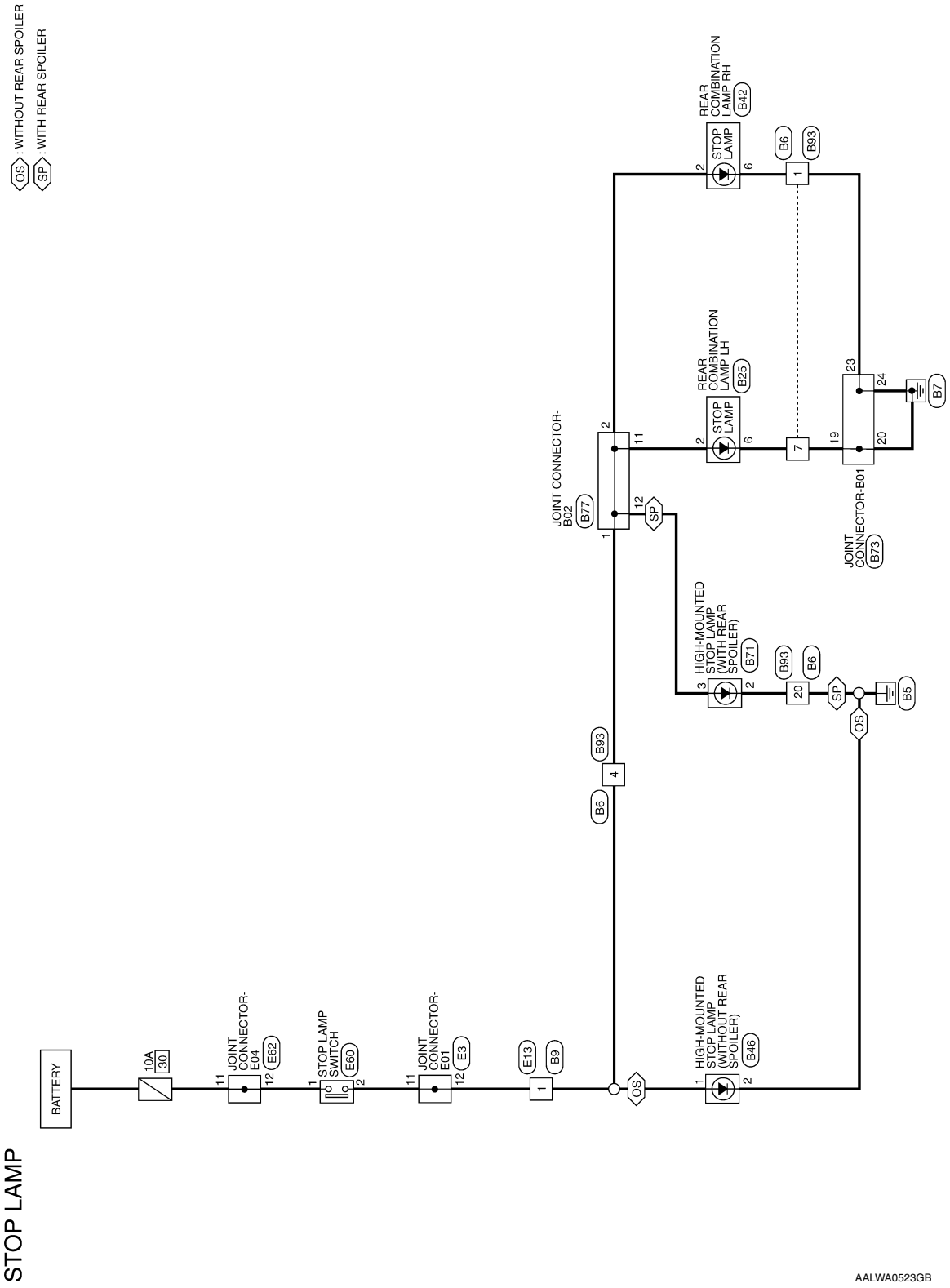
Terminal No.	Color of Wire	Signal Name
1	L	–
3	G	–
7	B	–
20	B	–

AALIA1051GB

STOP LAMP

Wiring Diagram

INFOID:0000000009757504



STOP LAMP CONNECTORS

Connector No.	E3
Connector Name	JOINT CONNECTOR-E01
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
11	SB	–
12	SB	–

Connector No.	E13
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
1	SB	–

Connector No.	E60
Connector Name	STOP LAMP SWITCH
Connector Color	WHITE

H.S.

3	4
1	2

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

Connector No.	E62
Connector Name	JOINT CONNECTOR-E04
Connector Color	BLACK

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
11	W	–
12	W	–

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
4	P	–
7	O	–
20	B	–

Connector No.	B9
Connector Name	WIRE TO WIRE
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	P	–

ABLIA5875GB

Connector No.	B25
Connector Name	REAR COMBINATION LAMP LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	R	–
6	O	–

Connector No.	B42
Connector Name	REAR COMBINATION LAMP RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	V	–
6	L	–

Connector No.	B46
Connector Name	HIGH-MOUNTED STOP LAMP (WITHOUT REAR SPOILER)
Connector Color	BLACK

H.S.

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

Connector No.	B71
Connector Name	HIGH-MOUNTED STOP LAMP (WITH REAR SPOILER)
Connector Color	WHITE

H.S.

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

Connector No.	B73
Connector Name	JOINT CONNECTOR-B01
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
19	B	–
20	B	–
23	L	–
24	B	–

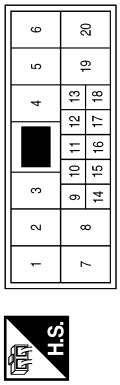
Connector No.	B77
Connector Name	JOINT CONNECTOR-B02
Connector Color	YELLOW

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	V	–
11	R	–
12	L	–

AALIA1021GB

Connector No.	B93
Connector Name	WIRE TO WIRE
Connector Color	WHITE



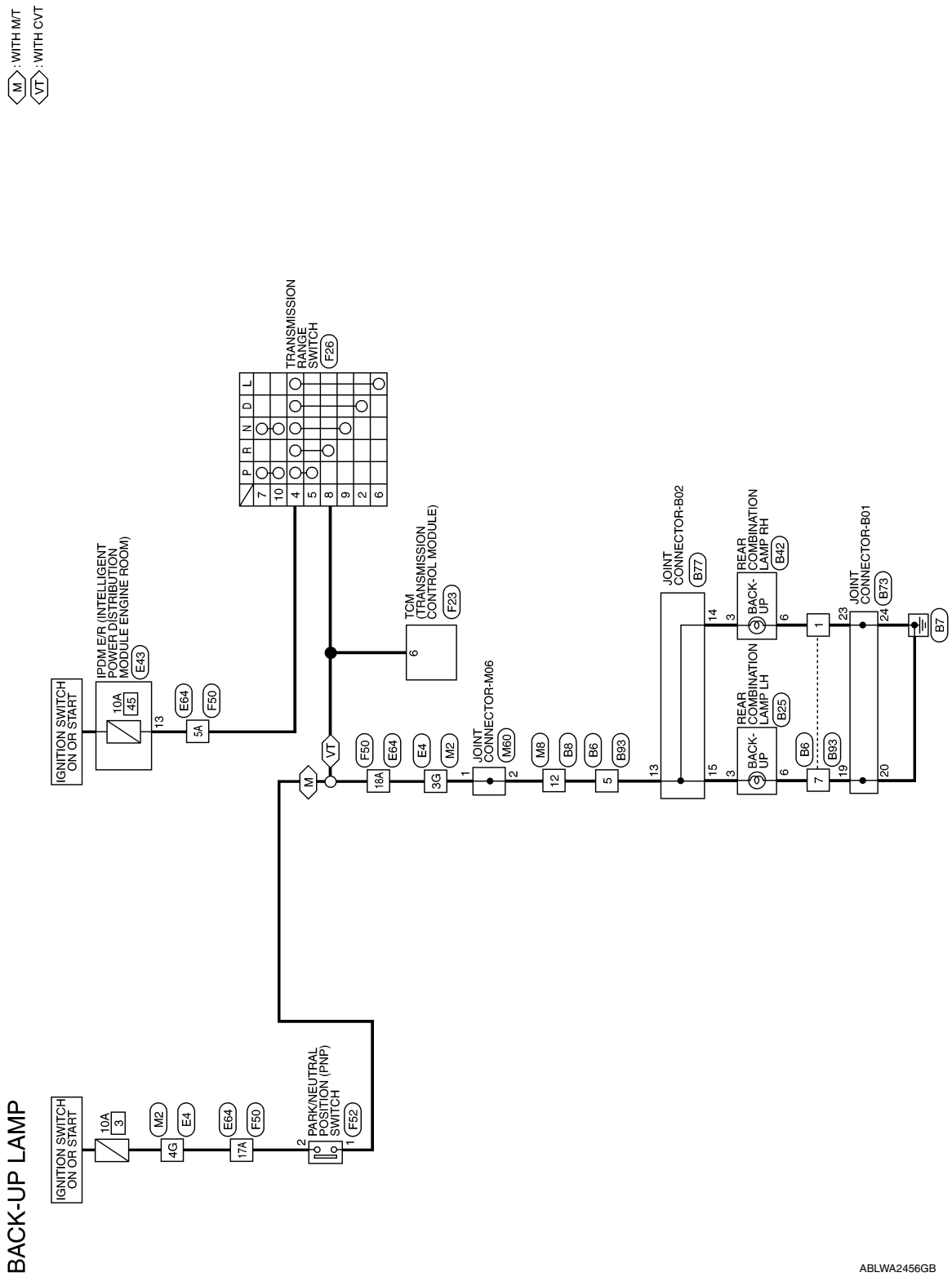
Terminal No.	Color of Wire	Signal Name
1	L	–
4	Y	–
7	B	–
20	B	–

AALIA1022GB

BACK-UP LAMP

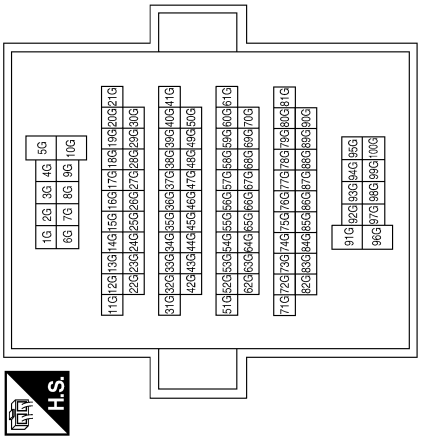
Wiring Diagram

INFOID:0000000009757505



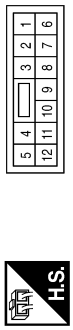
BACK-UP LAMP CONNECTORS

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



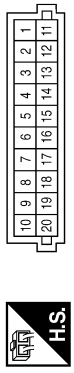
Terminal No.	Color of Wire	Signal Name
3G	SB	–
4G	GR	–

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



Terminal No.	Color of Wire	Signal Name
12	GR	–

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE

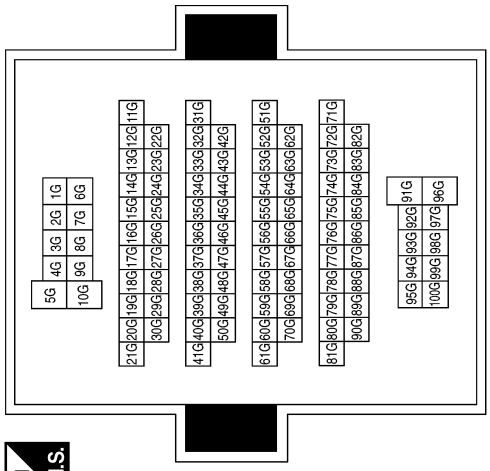


Terminal No.	Color of Wire	Signal Name
1	SB	–
2	GR	–

AALIA1008GB

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE

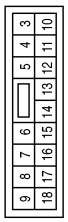
H.S.



Terminal No.	Color of Wire	Signal Name
3G	W	–
4G	GR	–

Connector No.	E43
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

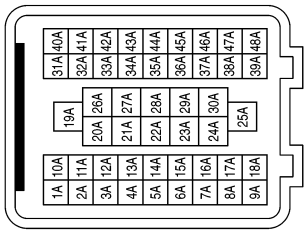
H.S.



Terminal No.	Color of Wire	Signal Name
13	O	A/T ECU IGN

Connector No.	E64
Connector Name	WIRE TO WIRE
Connector Color	BLACK

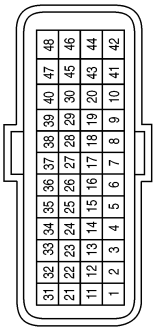
H.S.



Terminal No.	Color of Wire	Signal Name
5A	O	–
17A	GR	–
18A	W	–

Connector No.	F23
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
6	G	R RANGE SW

ABLIA5876GB

Connector No.	F26
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
4	LG	–
8	G	–

Connector No.	F50
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
5A	LG	–
17A	SB	–
18A	G	–

Connector No.	F52
Connector Name	PARK/NEUTRAL (PNP) SWITCH
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	SB	–

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
5	W	–
7	O	–

Connector No.	B8
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
12	W	–

AALIA1010GB

Connector No.	B25
Connector Name	REAR COMBINATION LAMP LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	P	–
6	O	–

Connector No.	B42
Connector Name	REAR COMBINATION LAMP RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	SB	–
6	L	–

Connector No.	B73
Connector Name	JOINT CONNECTOR-B01
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
19	B	–
20	B	–
23	L	–
24	B	–

Connector No.	B77
Connector Name	JOINT CONNECTOR-B02
Connector Color	YELLOW

H.S.

Terminal No.	Color of Wire	Signal Name
13	W	–
14	SB	–
15	P	–

Connector No.	B93
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
5	W	–
7	B	–

ABLIA5877GB

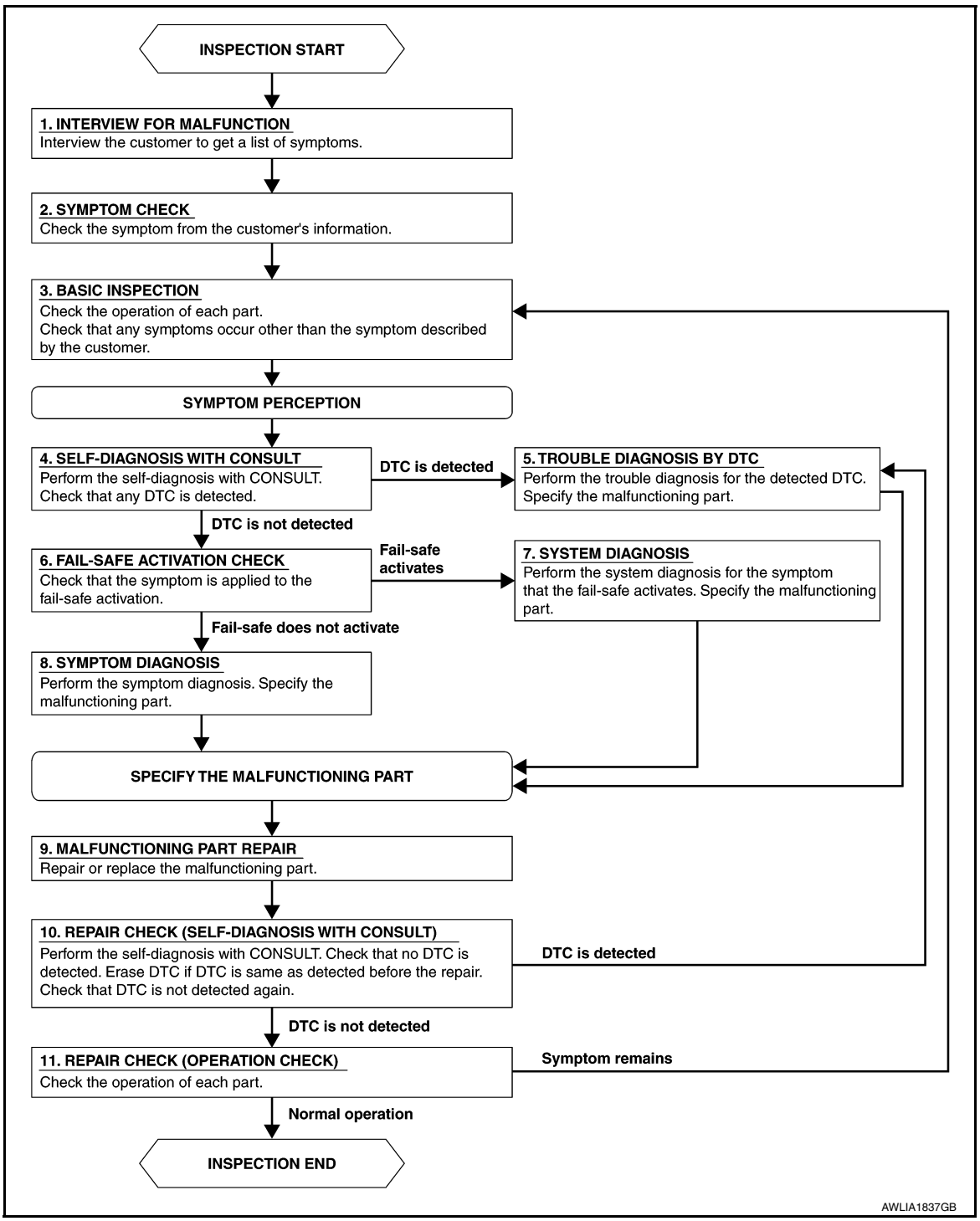
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000009757506

OVERALL SEQUENCE



DETAILED FLOW

1.INTERVIEW FOR MALFUNCTION

Find out what the customer's concerns are.

>> GO TO 2

2.SYMPTOM CHECK

Verify the symptom from the customer's information.

>> GO TO 3

3.BASIC INSPECTION

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

>> GO TO 4

4.SELF-DIAGNOSIS WITH CONSULT

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

Is any DTC detected?

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

5.TROUBLE DIAGNOSIS BY DTC

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

>> GO TO 9

6.FAIL-SAFE ACTIVATION CHECK

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

Does the fail-safe activate?

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

7.SYSTEM DIAGNOSIS

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

>> GO TO 9

8.SYMPTOM DIAGNOSIS

Perform the symptom diagnosis. Specify the malfunctioning part.

>> GO TO 9

9.MALFUNCTION PART REPAIR

Repair or replace the malfunctioning part.

>> GO TO 10

10.REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT)

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

Is any DTC detected?

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

11.REPAIR CHECK (OPERATION CHECK)

Check the operation of each part.

Does it operate normally?

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

DTC/CIRCUIT DIAGNOSIS

HEADLAMP (HI) CIRCUIT

Description

INFOID:0000000009757507

The IPDM E/R (intelligent power distribution module engine room) controls the headlamp high relay based on inputs from the BCM over the CAN communication lines. When the headlamp high relay is energized, power flows through fuses 41 and 42, located in the IPDM E/R. Power then flows to the front combination lamps to the headlamp high beam.

Component Function Check

INFOID:0000000009757508

1.CHECK HEADLAMP (HI) OPERATION

WITHOUT CONSULT
1. Start IPDM E/R auto active test. Refer to EXL-24, "Diagnosis Description" (with Intelligent Key system) or EXL-28, "Diagnosis Description" (without Intelligent Key system).
2. Check that the headlamp switches to the high beam.
   NOTE:
   HI/LO is repeated 1 second each when using the IPDM E/R auto active test.

CONSULT
1. Select EXTERNAL LAMP of IPDM E/R active test item.
2. While operating the test items, check that the headlamp switches to the high beam.

HI : Headlamp switches to the high beam.
OFF : Headlamp OFF

Is the inspection result normal?

YES >> Headlamp (HI) circuit is normal.
NO >> Refer to EXL-88, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009757509

Regarding Wiring Diagram information, refer to EXL-33, "Wiring Diagram".

1.CHECK HEADLAMP (HI) FUSES

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

Unit	Location	Fuse No.	Capacity
Headlamp HI (LH)	IPDM E/R	42	10A
Headlamp HI (RH)	IPDM E/R	41	10A

Is the fuse blown?

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

2.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

CONSULT ACTIVE TEST
1. Turn the ignition switch OFF.
2. Disconnect the front combination lamp harness connector in question.
3. Turn the ignition switch ON.
4. Select EXTERNAL LAMP of IPDM E/R active test item.
5. With EXTERNAL LAMP ON, check the voltage between the combination lamp connector and ground.

(+)			(−)	Voltage
Connector		Terminal		
RH	E20	2	Ground	Battery voltage
LH	E21			

Is the inspection result normal?

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

3. CHECK HEADLAMP (HI) CIRCUIT FOR OPEN

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

IPDM E/R			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E43	5	E20	2	Yes
LH		6	E21		

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation" (with Intelligent Key system) or PCS-58, "Removal and Installation" (without Intelligent Key system).
NO >> Repair or replace the harness or connector.

4. CHECK FRONT COMBINATION LAMP (HI) GROUND CIRCUIT

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

Connector		Terminal	—	Continuity
RH	E20	6	Ground	Yes
LH	E21			

Is the inspection result normal?

YES >> Inspect the headlamp bulb.
NO >> Repair or replace the harness or connector.

HEADLAMP (LO) CIRCUIT

Description

INFOID:0000000009757510

The IPDM E/R (intelligent power distribution module engine room) controls the headlamp low relay based on inputs from the BCM over the CAN communication lines. When the headlamp low relay is energized, power flows through fuses 43 and 44, located in the IPDM E/R. Power then flows to the front combination lamps to the headlamp low beam.

Component Function Check

INFOID:0000000009757511

1.CHECK HEADLAMP (LO) OPERATION

WITHOUT CONSULT
1. Start IPDM E/R auto active test. Refer to EXL-24, "Diagnosis Description" (with Intelligent Key system) or EXL-28, "Diagnosis Description" (without Intelligent Key system).
2. Check that the headlamp is turned ON.

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

CONSULT
1. Select EXTERNAL LAMP of IPDM E/R active test item.
2. While operating the test items, check that the headlamp is turned ON.

LO : Headlamp ON
OFF : Headlamp OFF

Is the inspection result normal?

YES >> Headlamp (LO) is normal.
NO >> Refer to EXL-90, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009757512

Regarding Wiring Diagram information, refer to EXL-33, "Wiring Diagram".

1.CHECK HEADLAMP (LO) FUSES

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

Unit	Location	Fuse No.	Capacity
Headlamp LO (RH)	IPDM E/R	44	15A
Headlamp LO (LH)	IPDM E/R	43	15A

Is the fuse blown?

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

2.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

CONSULT
1. Turn the ignition switch OFF.
2. Disconnect the front combination lamp harness connector in question.
3. Turn the ignition switch ON.
4. Select EXTERNAL LAMP of IPDM E/R active test item.
5. With EXTERNAL LAMP ON, check the voltage between the combination lamp connector and ground.

(+)		(–)	Voltage
Connector	Terminal		

RH	E20	1	Ground	Battery voltage
LH	E21			

Is the inspection result normal?

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

3. CHECK HEADLAMP (LO) CIRCUIT FOR OPEN

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

IPDM E/R			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E43	8	E20	1	Yes
LH		7	E21		

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation" (with Intelligent Key system) or PCS-58, "Removal and Installation" (without Intelligent Key system).
NO >> Repair or replace the harness or connector.

4. CHECK FRONT COMBINATION LAMP (LO) GROUND CIRCUIT

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

Connector		Terminal	—	Continuity
RH	E20	5	Ground	Yes
LH	E21			

Is the inspection result normal?

YES >> Inspect the headlamp bulb.
NO >> Repair or replace the harness or connector.

DAYTIME LIGHT RELAY CIRCUIT

Description

INFOID:0000000009757513

The BCM sends a daytime light request to the IPDM E/R via the CAN communication lines. The power flows through fuse 29 located in fuse block J/B to the daytime light relay coil. When the IPDM E/R operates the daytime light relay, power is sent to the daytime lamps.

Diagnosis Procedure

INFOID:0000000009757514

Regarding Wiring Diagram information, refer to EXL-38, "Wiring Diagram".

1.CHECK DAYTIME LIGHT RELAY VOLTAGE SUPPLY

1. Turn the ignition switch OFF.
2. Remove the daytime light relay.
3. Check the voltage between the daytime light relay harness connector and ground.

Daytime light relay		(–)	Voltage
Connector	Terminal		
E30	2	Ground	Battery voltage
	5		

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

2.CHECK DAYTIME LIGHT RELAY FUSE

Check that the following fuses are not blown.

Unit	Location	Fuse No.	Capacity
Daytime light	Fuse block J/B	29	10A

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.
NO >> Repair or replace the harness or connector.

3.CHECK DAYTIME LIGHT RELAY CONTROL CIRCUIT

1. Check continuity between the IPDM E/R harness connector and the daytime light relay harness connector.

Daytime light relay		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E30	1	E46	42	Yes

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

Connector	Terminal	—	Continuity
E30	1	Ground	No

Is the inspection result normal?

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

4.CHECK DAYTIME LIGHT RELAY

Check the daytime light relay. Refer to EXL-93, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace relay.

5. CHECK DAYTIME LIGHT CIRCUIT (OPEN OR SHORT TO GROUND)

1. Check continuity between the daytime light relay harness connector and the front combination lamp harness connector.

Daytime light relay		Front combination lamp			Continuity
Connector	Terminal		Connector	Terminals	
E30	3	LH	E21	3, 8	Yes
		RH	E20		

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

Daytime light relay		(–)	Continuity
Connector	Terminal		
E30	3	Ground	No

Is the inspection result normal?

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

6. CHECK DAYTIME LIGHT GROUND CIRCUIT FOR OPEN

1. Disconnect front combination lamp connector in question.
2. Check continuity between the front combination lamp connector and ground.

Connector	Terminal	—	Continuity
LH E21	7	Ground	Yes
RH E20			

Is the inspection result normal?

YES >> Inspect daytime light bulb.
NO >> Repair or replace the harness or connector.

Component Inspection

INFOID:0000000009757515

1. CHECK DAYTIME LIGHT RELAY

1. Turn ignition switch OFF.
2. Remove daytime light relay.
3. Check the continuity between daytime light relay terminals 3 and 5 when voltage is supplied between terminals 1 and 2.

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

Is the inspection result normal?

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

FRONT FOG LAMP CIRCUIT

Description

INFOID:0000000009757516

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

Component Function Check

INFOID:0000000009757517

1.CHECK FRONT FOG LAMP OPERATION

WITHOUT CONSULT
1. Activate IPDM E/R auto active test. Refer to EXL-24, "Diagnosis Description" (with Intelligent Key system) or EXL-28, "Diagnosis Description" (without Intelligent Key system).
2. Check that the front fog lamp is turned ON.

WITH CONSULT
1. Select EXTERNAL LAMP 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 inspection result normal?

YES >> Front fog lamp circuit is normal.
NO >> Refer to EXL-94, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009757518

Regarding Wiring Diagram information, refer to EXL-53, "Wiring Diagram".

1.CHECK FRONT FOG LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	40	15A

Is the fuse blown?

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

2.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

CONSULT
1. Disconnect the front fog lamp harness connector in question.
2. Turn the ignition switch ON.
3. Turn the front fog lamps ON.
4. Check the voltage between the front fog lamp harness connector and ground.

(+)			(−)	Voltage
Connector		Terminal		
LH	E27	1	Ground	Battery voltage
RH	E28			

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

3. CHECK FRONT FOG LAMP OPEN CIRCUIT

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

IPDM E/R			Front fog lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E47	53	E28	1	Yes
LH		54	E27		

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation" (with Intelligent Key system) or PCS-58, "Removal and Installation" (without Intelligent Key system).
NO >> Repair or replace the harness or connector.

4. CHECK FRONT FOG LAMP GROUND CIRCUIT

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

Connector		Terminal	—	Continuity
RH	E28	2	Ground	Yes
LH	E27			

Is the inspection result normal?

YES >> Inspect the fog lamp bulb.
NO >> Repair or replace the harness or connector.

PARKING LAMP CIRCUIT

Description

INFOID:0000000009757519

The IPDM E/R (intelligent power distribution module engine room) controls the tail lamp relay based on inputs from the BCM over the CAN communication lines. When the tail lamp relay is energized, power flows through fuse 36, located in the IPDM E/R. Power then flows to the front and rear combination lamps, license plate lamps.

Component Function Check

INFOID:0000000009757520

1.CHECK PARKING LAMP OPERATION

WITHOUT CONSULT

1. Activate IPDM E/R auto active test. Refer to EXL-24, "Diagnosis Description" (with Intelligent Key system) or EXL-28, "Diagnosis Description" (without Intelligent Key system).
2. Check that the parking lamp is turned ON.

WITH CONSULT

1. Select EXTERNAL LAMP of IPDM E/R active test item.
2. While operating the test items, check that the parking lamp is turned ON.

TAIL : Parking lamp ON
OFF : Parking lamp OFF

Is the inspection result normal?

YES >> Parking lamp circuit is normal.
NO >> Refer to EXL-96, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009757521

Regarding Wiring Diagram information, refer to EXL-68, "Wiring Diagram".

1.CHECK PARKING LAMP FUSES

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

Unit	Location	Fuse No.	Capacity
Parking lamps	IPDM E/R	36	10A

Is the fuse blown?

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

2.CHECK TAIL LAMP RELAY OUTPUT (VOLTAGE)

1. Disconnect the front or rear combination lamp connector or license plate lamp connector in question.
2. Turn the ignition switch ON.
3. Turn the parking lamps ON.
4. With the parking lamps ON, check voltage between the front combination lamp front (parking) connector and ground.

(+)			(−)	Voltage (Approx.)
Connector		Terminal		
LH	E21	3	Ground	Battery voltage
RH	E20			

5. With the parking lamps ON, check voltage between the front combination lamp (side marker) connector and ground.

(+)			(−)	Voltage (Approx.)
Connector		Terminal		
LH	E21	8	Ground	Battery voltage
RH	E20			

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

(+)			(−)	Voltage (Approx.)
Connector		Terminal		
LH	B25	1	Ground	Battery voltage
RH	B42			

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

(+)			(−)	Voltage (Approx.)
Connector		Terminal		
LH	B74	1	Ground	Battery voltage
RH	B75			

Are the inspection results normal?

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

3. CHECK PARKING 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 (parking) harness connector.

IPDM E/R			Front combination lamp (parking)		Continuity
Connector		Terminal	Connector	Terminal	
LH	E45	27	E21	3	Yes
RH			E20		

4. Check continuity between the IPDM E/R harness connector and the front combination lamp (side marker) harness connector.

	IPDM E/R		Front combination lamp (side marker)		Continuity
Connector		Terminal	Connector	Terminal	
LH	E45	27	E21	8	Yes
RH			E20		

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

IPDM E/R		Rear combination lamp		Continuity
Connector	Terminal	Connector	Terminal	

LH	E45	28	B25	1	Yes
RH			B42		

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

IPDM E/R			License plate lamp		Continuity
Connector		Terminal	Connector	Terminal	
LH	E45	28	B74	1	Yes
RH			B75		

Are the inspection results normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation" (with Intelligent Key system) or PCS-58, "Removal and Installation" (without Intelligent Key system).
NO >> Repair or replace the harness or connector.

4. CHECK PARKING LAMP GROUND CIRCUITS

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

(+)			(–)	Continuity
Connector		Terminal		
LH	E21	7	Ground	Yes
RH	E20			

2. Check continuity between the front combination lamp (side marker) harness connector and ground.

(+)			(–)	Continuity
Connector		Terminal		
LH	E21	7	Ground	Yes
RH	E20			

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

(+)			(–)	Continuity
Connector		Terminal		
LH	B25	6	Ground	Yes
RH	B42			

4. Check continuity between the license plate lamp harness connector and ground.

(+)			(–)	Continuity
Connector		Terminal		
LH	B74	2	Ground	Yes
RH	B75			

Are the inspection results normal?

YES >> Inspect the parking lamp bulb.
NO >> Repair or replace the harness or connector.

TURN SIGNAL LAMP CIRCUIT

Description

INFOID:0000000009757522

The BCM monitors inputs from the combination 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:0000000009757523

1.CHECK TURN SIGNAL LAMP

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

LH : Turn signal lamps (LH) ON
RH : Turn signal lamps (RH) ON
OFF : The turn signal lamps OFF

Does the turn signal lamp blink?

YES >> Turn signal lamp circuit is normal.
NO >> Refer to EXL-99, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009757524

Regarding Wiring Diagram information, refer to EXL-58, "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.

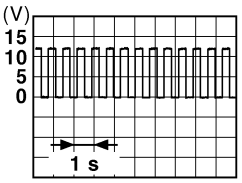
Is the bulb OK?

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

2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

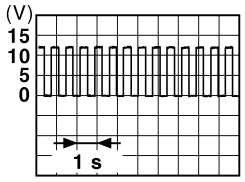
1. Turn the ignition switch OFF.
2. Disconnect the front or rear combination lamp harness connector or the door mirror harness connector (if equipped with turn signal in mirror) in question.
3. Turn the ignition switch ON.
4. Operate the turn signal switch.
5. While the turn signal is operating, check the voltage between the front combination lamp harness connector and ground.

(+)		(–)	Voltage (Approx.)
Connector	Terminal		

RH	E20	4	Ground	
LH	E21			

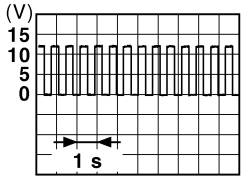
PKID0926E

6. While the turn signal is operating, check the voltage between the rear combination lamp harness connector and ground.

(+)			(−)	Voltage (Approx.)
Connector		Terminal		
RH	B42	4	Ground	
LH	B25			

PKID0926E

7. While the turn signal is operating, check the voltage between the door mirror harness connector and ground.

(+)			(−)	Voltage (Approx.)
Connector		Terminal		
RH	D106	10	Ground	
LH	D7			

PKID0926E

Is the inspection result normal?

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 harness connector in question.
3. Check continuity between the BCM harness connector and the front combination lamp harness connector.

With Intelligent Key

BCM			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
LH	M85	85	E21	4	Yes
RH		84	E20		

Without Intelligent Key

BCM			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
LH	B57	41	E21	4	Yes
RH		42	E20		

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

With Intelligent Key

BCM			Rear combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
LH	M85	85	B25	4	Yes
RH		84	B42		

Without Intelligent Key

BCM			Rear combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
LH	B57	41	B25	4	Yes
RH		42	B42		

5. Check continuity between the BCM harness connector and the door mirror harness connector in question.

With Intelligent Key

BCM			Rear combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
LH	M85	85	D7	10	Yes
RH		84	D106		

Without Intelligent Key

BCM			Rear combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
LH	B57	41	D7	10	Yes
RH		42	D106		

Is the inspection results normal?

YES >> GO TO 4.
NO >> Repair or replace the harness or connectors.

4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

1. Check continuity between the BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M85 (with Intelligent Key)	84		No
	85		
B57 (without Intelligent Key)	41		
	42		

Are the inspection results normal?

YES >> Replace BCM. Refer to BCS-73, "Removal and Installation" (with Intelligent Key system) or BCS-126, "Removal and Installation" (without Intelligent Key system).
NO >> Repair or replace the harness or connectors.

5. CHECK TURN SIGNAL LAMP GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Check continuity between the front combination lamp harness connector or the rear combination lamp harness connector or the door mirror harness connector in question and ground.

Front combination lamp		(−)	Continuity
Connector	Terminal		

LH	E21	7	Ground	Yes
RH	E20			

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

Rear combination lamp			(–)	Continuity
Connector		Terminal		
LH	B25	6	Ground	Yes
RH	B42			

4. Check continuity between the door mirror harness connector and ground.

Door mirror			(–)	Continuity
Connector		Terminal		
LH	D7	8	Ground	Yes
RH	D106			

Are the inspection results normal?

YES >> Replace the malfunctioning lamp.
NO >> Repair or replace the harness or connectors.

OPTICAL SENSOR

Description

INFOID:0000000009757525

The optical sensor measures ambient light and transmits the optical sensor signal to the BCM.

Component Function Check

INFOID:0000000009757526

1.CHECK OPTICAL SENSOR SIGNAL BY CONSULT

CONSULT
1. Turn the ignition switch ON.
2. Select OPTI SEN of BCM (HEAD LAMP) DATA MONITOR item.
3. Turn the lighting switch to AUTO.

Monitor item	Condition	Voltage
OPTI SEN (DTCT)	When outside of vehicle is bright	3.1V or more *
	When outside of vehicle is dark	0.6V or less

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

Is the inspection result normal?

YES >> Optical sensor is normal.
NO >> Refer to EXL-103, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009757527

Regarding Wiring Diagram information, refer to EXL-53, "Wiring Diagram".

1.CHECK OPTICAL SENSOR POWER SUPPLY INPUT

1. Turn the ignition switch OFF.
2. Disconnect the optical sensor harness connector.
3. Turn the ignition switch ON.
4. Turn the lighting switch to AUTO.
5. Check the voltage between the optical sensor harness connector and ground.

(+)		(–)	Voltage (Approx.)
Connector	Terminal		
M72	1	Ground	5 V

Is the inspection result normal?

YES >> GO TO 2.
NO >> GO TO 3.

2.CHECK OPTICAL SENSOR GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Check continuity between the optical sensor harness connector and ground.

(+)		(–)	Continuity
Connector	Terminal		
M72	3	Ground	Yes

Is the inspection result normal?

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

3.CHECK OPTICAL SENSOR POWER SUPPLY FOR OPEN CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the BCM harness connector.
3. Check continuity between optical sensor harness connector and BCM harness connector.

Optical sensor		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M72	1	M84	17	Yes

4. Check continuity between optical sensor harness connector and ground.

(+)		(–)	Continuity
Connector	Terminal		
M72	1	Ground	No

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-73, "Removal and Installation".
NO >> Repair or replace the harness or connectors.

4. CHECK OPTICAL SENSOR SIGNAL OPEN CIRCUIT

1. Disconnect optical sensor connector and BCM connector.
2. Check continuity between optical sensor harness connector and BCM harness connector.

Optical sensor		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M72	2	M84	14	Yes

3. Check continuity between optical sensor harness connector and ground.

Connector	Terminal	(–)	Continuity
M72	2	Ground	No

Is the inspection result normal?

YES >> Replace the optical sensor. Refer to EXL-130, "Removal and Installation".
NO >> Repair or replace harness or connectors.

5. CHECK OPTICAL SENSOR GROUND FOR OPEN CIRCUIT

1. Disconnect the BCM harness connector.
2. Check continuity between optical sensor harness connector and BCM harness connector.

Optical sensor		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M72	3	M84	18	Yes

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-73, "Removal and Installation".
NO >> Repair or replace harness or connector.

HAZARD SWITCH

Component Function Check

INFOID:0000000009757528

1.CHECK HAZARD SWITCH SIGNAL BY CONSULT

CONSULT DATA MONITOR
1. Turn ignition switch ON.
2. Select HAZARD SW of BCM (FLASHER) Data Monitor item.
3. While operating the hazard switch, check the monitor status.

Monitor item	Condition		Monitor status
HAZARD SW	Hazard switch	ON	On
		OFF	Off

Is the inspection result normal?

YES >> Hazard switch circuit is normal.
NO >> Refer to EXL-105, "Diagnosis Procedure".

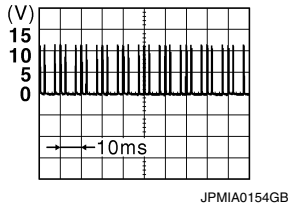
Diagnosis Procedure

INFOID:0000000009757529

Regarding Wiring Diagram information, refer to EXL-58, "Wiring Diagram".

1.CHECK HAZARD SWITCH SIGNAL INPUT

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

(+)		(–)	Voltage (Approx.)
Hazard switch			
Connector	Terminal		
M102	2	Ground	

JPMIA0154GB

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 2.

2.CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between hazard harness connector and BCM harness connector.

Hazard switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M102	2	M85 (with Intelligent Key) M21 (without Intelligent Key)	29	Yes

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connector.

3.CHECK HAZARD SWITCH SIGNAL SHORT CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazard switch		Ground	Continuity
Connector	Terminal		
M102	2		No

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-73, "Removal and Installation" (with Intelligent Key system) or BCS-126, "Removal and Installation" (without Intelligent Key system).
NO >> Repair or replace harness or connector.

4.CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazard switch		Ground	Continuity
Connector	Terminal		
M102	3		Yes

Is the inspection result normal?

YES >> Replace hazard switch. Refer to EXL-129, "Removal and Installation".
NO >> Repair or replace harness or connector.

SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000009757530

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	• Bulb • Fuse • Harness between IPDM E/R and the front combination lamp • IPDM E/R	Headlamp (HI) circuit Refer to EXL-88.
	Both sides	—	**Symptom diagnosis** "BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM" Refer to EXL-110.
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	• Bulb • Fuse • Harness between IPDM E/R and the front combination lamp • IPDM E/R	Headlamp (HI) circuit Refer to EXL-88.
	Both sides	• Combination switch (lighting and turn signal switch) • Harness between the combination switch (lighting and turn signal switch) and BCM • BCM	Combination switch (lighting and turn signal switch) Refer to EXL-12 (with Intelligent Key system) or EXL-15 (without Intelligent Key system).
		High beam request signal • BCM • IPDM E/R	IPDM E/R Data monitor "HL HI REQ"
Headlamp does not turn ON.	One side	• Fuse • Bulb • Harness between IPDM E/R and the front combination lamp • Harness between the front combination lamp and ground • IPDM E/R	Headlamp (LO) circuit Refer to EXL-90
	Both sides	—	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-112.
Headlamp does not turn OFF.	When the ignition switch is turned ON	• BCM • Combination switch (lighting and turn signal switch)	Combination switch (lighting and turn signal switch) Refer to EXL-12 (with Intelligent Key system) or EXL-15 (without Intelligent Key system).
	The ignition switch is turned OFF (After activating the battery saver).	IPDM E/R	—

Symptom		Possible cause	Inspection item
Headlamp is not turned ON/OFF with the lighting switch AUTO.		• Combination switch (lighting and turn signal switch) • Harness between the combination switch (lighting and turn signal switch) and BCM • BCM • IPDM E/R	Combination switch (lighting and turn signal switch) Refer to EXL-12 (with Intelligent Key system) or EXL-15 (without Intelligent Key system).
		• Optical sensor • Harness between the optical sensor and BCM • BCM	Optical sensor Refer to EXL-103.
Daytime light system does not activate.		—	**Symptom diagnosis** "DAYTIME LIGHT SYSTEM INOPERATIVE" Refer to EXL-111.
Front fog lamp is not turned ON.	One side	• Front fog lamp bulb • Harness between IPDM E/R and the front fog lamp • Harness between the front fog lamp and ground • IPDM E/R	Front fog lamp circuit Refer to EXL-94.
	Both side	—	**Symptom diagnosis** "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-114.
Parking lamp is not turned ON.	One side	• Fuse • Parking lamp bulb • Harness between IPDM E/R and the front/rear combination lamp • Harness between the front/rear combination lamp and ground • IPDM E/R	Parking lamp circuit Refer to EXL-96.
	Both sides	—	**Symptom diagnosis** "PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-113.
Turn signal lamp does not blink.	Indicator lamp is normal. (The applicable side performs the high flasher activation).	• Harness between BCM and each turn signal lamp • Turn signal lamp bulb • Door mirror (if equipped with turn signals in the door mirrors)	Turn signal lamp circuit Refer to EXL-99.
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-52.
• Hazard warning lamp does not activate. • Hazard warning lamp continues activating. (Turn signal is normal)		• Hazard switch • Harness between the hazard switch and BCM • BCM	Hazard switch Refer to EXL-105.

NORMAL OPERATING CONDITION

Description

INFOID:0000000009757531

AUTO LIGHT SYSTEM

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

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

Description

INFOID:0000000009757532

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

Diagnosis Procedure

INFOID:0000000009757533

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

Check the combination switch (lighting and turn signal switch). Refer to BCS-72, "Symptom Table" (with Intelligent Key system) or BCS-125, "Symptom Table" (without Intelligent Key system).

Is the inspection results 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 lighting switch, check the monitor status.

Monitor item	Condition		Monitor status
HL HI REQ	Lighting switch (2nd)	HI or PASS	ON
		Except for HI or PASS	OFF

Is the inspection results normal?

YES >> GO TO 3
NO >> Replace BCM. Refer to BCS-73, "Removal and Installation" (with Intelligent Key system) or BCS-126, "Removal and Installation" (without Intelligent Key system).

3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-88, "Diagnosis Procedure".

Is the inspection results normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation" (with Intelligent Key system) or PCS-58, "Removal and Installation" (without Intelligent Key system).
NO >> Repair or replace the malfunctioning part.

DAYTIME LIGHT SYSTEM INOPERATIVE

Description

INFOID:0000000009757534

The daytime light system is inoperative even though the combination switch (lighting and turn signal switch) and parking brake switch are in the normal setting, also whenever engine is operating.

Diagnosis Procedure

INFOID:0000000009757535

1.CHECK DAYTIME LIGHT OPERATION

1. Perform BCM(HEADLAMP) DAYTIME RUNNING LIGHT active test. Refer to EXL-19, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP)" (with Intelligent Key system) or EXL-22, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP)" (without Intelligent Key system).
2. Check that the daytime lights turn on.

Is the inspection results normal?

YES >> Replace BCM. Refer to BCS-73, "Removal and Installation" (with Intelligent Key system) or BCS-126, "Removal and Installation" (without Intelligent Key system).
NO >> GO TO 2.

2.CHECK DAYTIME LIGHT RELAY FUSE

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

Unit	Fuse No.	Capacity
Daytime light	29	10 A

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.
NO >> GO TO 3.

3.CHECK DAYTIME LIGHT BULBS

Check the daytime light bulbs are not open.

Is the inspection result normal?

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

4.PERFORM DAYTIME LIGHT CIRCUIT INSPECTION

Check the daytime light circuit. Refer to EXL-92, "Diagnosis Procedure".

Is the inspection results normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation" (with Intelligent Key system) or PCS-58, "Removal and Installation" (without Intelligent Key system).
NO >> Repair or replace the malfunctioning part.

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description

INFOID:0000000009757536

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

Diagnosis Procedure

INFOID:0000000009757537

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

Check the combination switch (lighting and turn signal switch). Refer to BCS-72, "Symptom Table" (with Intelligent Key system) or BCS-125, "Symptom Table" (without Intelligent Key system).

Is the inspection result 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 inspection result normal?

YES >> GO TO 3
NO >> Replace BCM. Refer to BCS-73, "Removal and Installation" (with Intelligent Key system) or BCS-126, "Removal and Installation" (without Intelligent Key system).

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-90, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation" (with Intelligent Key system) or PCS-58, "Removal and Installation" (without Intelligent Key system).
NO >> Repair or replace the malfunctioning part.

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

Description

INFOID:0000000009757538

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

Diagnosis Procedure

INFOID:0000000009757539

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

Check the combination switch (lighting and turn signal switch). Refer to BCS-72, "Symptom Table" (with Intelligent Key system) or BCS-125, "Symptom Table" (without Intelligent Key system).

Is the inspection results 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 inspection results normal?

YES >> GO TO 3
NO >> Replace BCM. Refer to BCS-73, "Removal and Installation" (with Intelligent Key system) or BCS-126, "Removal and Installation" (without Intelligent Key system).

3.PARK LAMP CIRCUIT INSPECTION

Check the parking lamp circuit. Refer to EXL-96, "Diagnosis Procedure".

Is the inspection results normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation" (with Intelligent Key system) or PCS-58, "Removal and Installation" (without Intelligent Key system).
NO >> Repair or replace the malfunctioning part.

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description

INFOID:0000000009757540

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

Diagnosis Procedure

INFOID:0000000009757541

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

Check the combination switch (lighting and turn signal switch). Refer to BCS-72, "Symptom Table" (with Intelligent Key system) or BCS-125, "Symptom Table" (without Intelligent Key system).

Is the inspection result normal?

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

2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

CONSULT DATA MONITOR
1. Select FR FOG REQ of IPDM E/R DATA MONITOR item.
2. While operating the front fog lamp switch, check the monitor status.

Monitor item	Condition		Monitor status
FR FOG REQ	Front fog lamp switch (Lighting switch 3rd)	ON	ON
		OFF	OFF

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-73, "Removal and Installation" (with Intelligent Key system) or BCS-126, "Removal and Installation" (without Intelligent Key system).

3.FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-94, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation" (with Intelligent Key system) or PCS-58, "Removal and Installation" (without Intelligent Key system).
NO >> Repair or replace the malfunctioning part.

PERIODIC MAINTENANCE

HEADLAMP

Aiming Adjustment

INFOID:0000000009757542

PREPARATION BEFORE ADJUSTING

Before performing aiming adjustment, check the following:

- Ensure all tires are inflated to correct pressure.
- Place vehicle and screen on level surface.
- Ensure there is no load in vehicle other than the driver (or equivalent weight placed in driver's position).
- Coolant and engine oil filled to correct level, and fuel tank full.
- Remove cargo and/or luggage to maintain an unloaded vehicle condition.
- Confirm spare tire, jack and tools are properly stowed.
- Carefully wipe off any dirt from headlamp lens.

CAUTION:

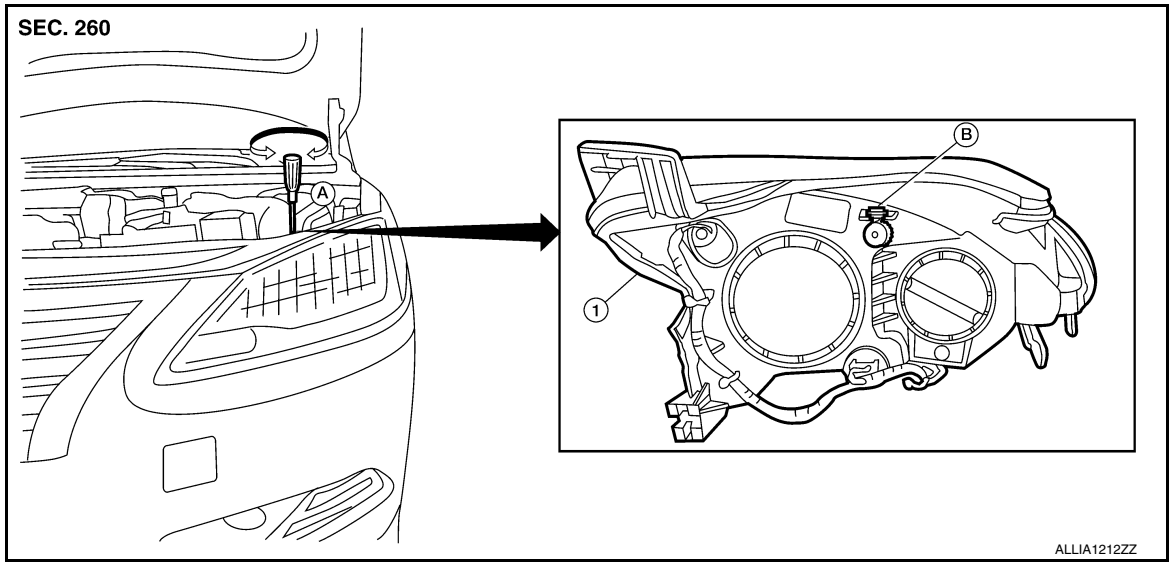
Do not use organic solvent (thinner, gasoline etc.)

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

NOTE:

- For headlamp aiming details, refer to regulations in your area.
- By regulation, no means for horizontal aim adjustment is provided from the factory; only vertical aim is adjustable.
- Use adjusting screw to perform aiming adjustment.
- 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.

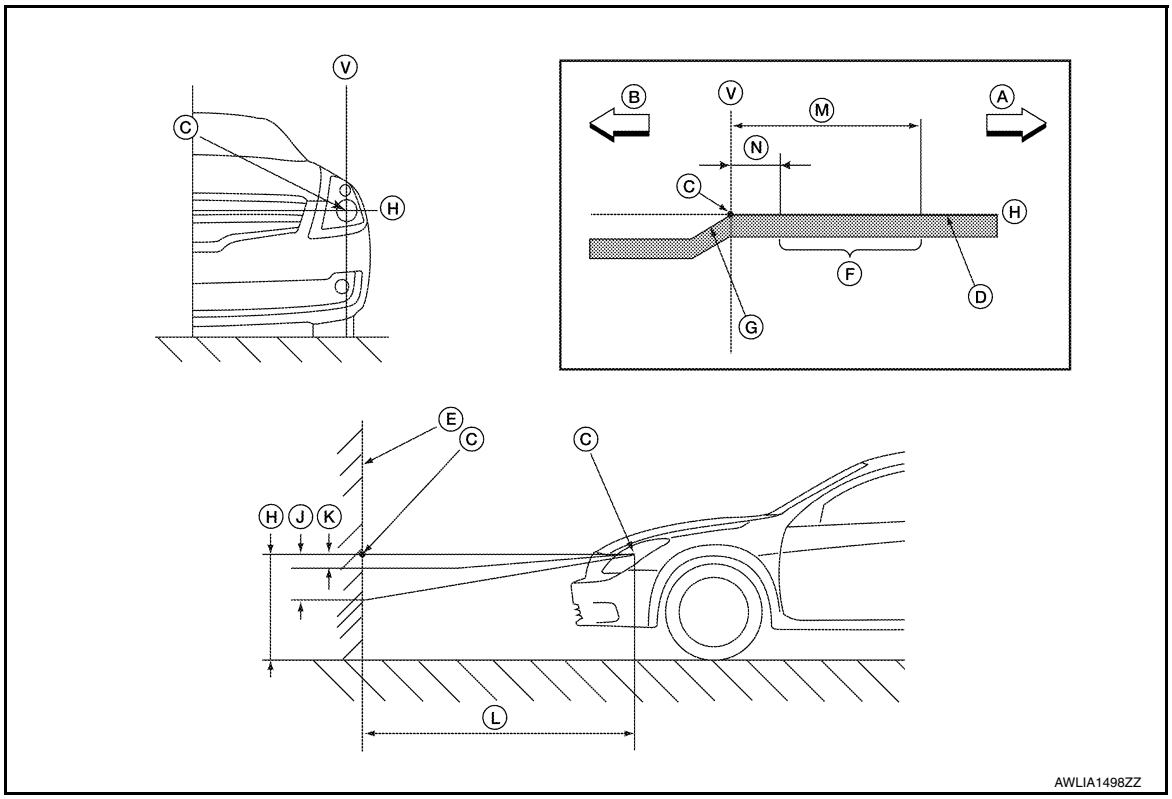


1. Front combination lamp
A. Suitable tool (for aiming adjustment)
B. Adjusting screw

Aiming Adjustment procedure

1. Position the screen.
   NOTE:
   - Stop the vehicle facing the screen.
   - Place the screen on a plain road vertically.
2. Face the screen with the vehicle. Maintain 10 m (33 ft) between the headlamp bulb center and the screen.
3. Start the engine. Turn the headlamp (LO) ON.

CAUTION:
Do not cover the lens surface with tape, etc. The lens is made of resin.
NOTE:
- Aim each headlamp individually and ensure other headlamp beam pattern is blocked from screen.
- For horizontal aiming, adjust headlamp until beam pattern is at horizontal center point.



A. Right	B. Left	C. Center of headlamp bulb (H-V point)
D. Cutoff line	E. Screen	F. Aim evaluation segment
G. Step	H. Horizontal center line of head lamp	J. 30 mm (1.18 in)
K. 4 mm (0.16 in)	L. 10 m (33 ft)	M. 480 mm (18.90 in)
N. 160 mm (6.30 in)	V. Vertical center line of headlamp	

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

FRONT FOG LAMP

Aiming Adjustment

INFOID:0000000009757543

PREPARATION BEFORE ADJUSTING

The fog lamp is a semi-sealed beam type which uses a replaceable halogen bulb. Before performing aiming adjustment procedure, check the following:

- Ensure all tires are inflated to correct pressure.
- Place vehicle and screen on level surface.
- Ensure there is no load in vehicle other than the driver (or equivalent weight placed in driver's position).
- Coolant and engine oil filled to correct level, and fuel tank full.
- Remove cargo and/or luggage to maintain an unloaded vehicle condition.
- Confirm spare tire, jack and tools are properly stowed.
- Carefully wipe off any dirt from 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.
- Aim each headlamp individually and ensure other headlamp beam pattern is blocked from screen.

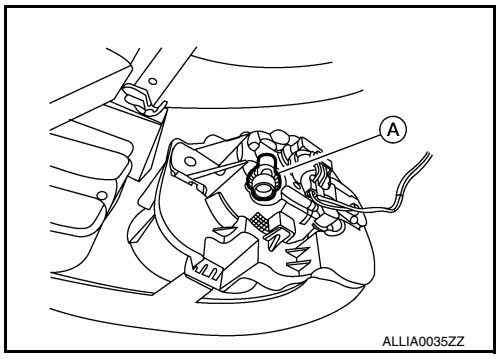
NOTE:

- For headlamp aiming details, refer to regulations in your area.
- By regulation, no means for horizontal aim adjustment is provided from the factory; only vertical aim is adjustable.
- Use adjusting screw to perform aiming adjustment.
- Perform headlamp aiming if:

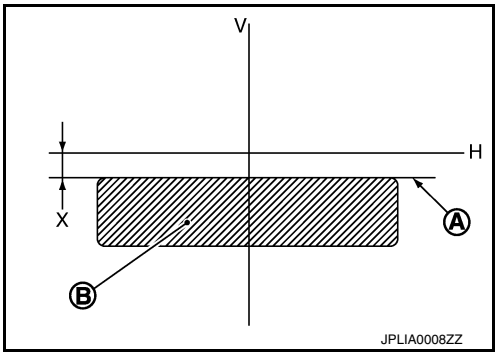
- The vehicle front body has been repaired.
- The front combination lamp has been removed or replaced.
- Any outfitting has been installed.
- The vehicle’s standard load condition has been substantially increased.

Aiming Adjustment Procedure

1. Place the screen.
   NOTE:
   - Stop the vehicle facing the wall.
   - Place the board on a plain road vertically.
2. Face the vehicle with the screen. Maintain 7.62 m (25.0 ft) between the front fog lamp center and the screen.
3. Start the engine. Turn the front fog lamp ON.
   NOTE:
   Shut off the headlamp light with the board to prevent from illuminating the adjustment screen.
   CAUTION:
   Do not cover the lens surface with tape etc. The lens is made of resin.
4. Adjust aiming in the vertical direction by turning the adjusting screw (A).



5. Adjust the cutoff line height (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 100 mm (4 in).



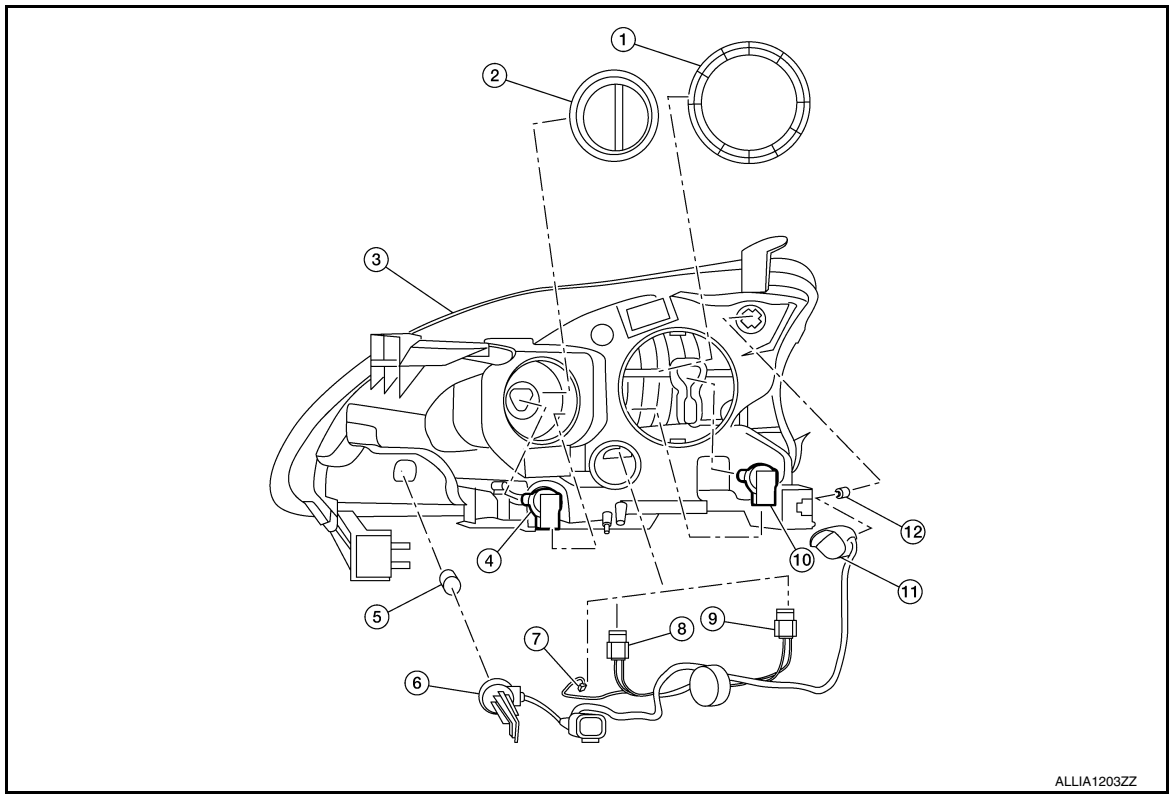
A : Cutoff line
B : High illuminance area
H : Horizontal center line of front fog lamp
V : Vertical center line of front fog lamp
X : Cutoff line height

REMOVAL AND INSTALLATION

FRONT COMBINATION LAMP

Exploded View

INFOID:0000000009757544



1. Large cover (not serviceable)
2. Small cover (not serviceable)
3. Front combination lamp
4. Halogen lamp bulb (high beam)
5. Turn signal lamp bulb
6. Turn signal lamp bulb socket
7. LED harness connector
8. Halogen lamp bulb (high beam) harness connector
9. Halogen lamp bulb (low beam) harness connector
10. Halogen lamp bulb (low beam)
11. Side marker lamp bulb socket
12. Side marker lamp bulb

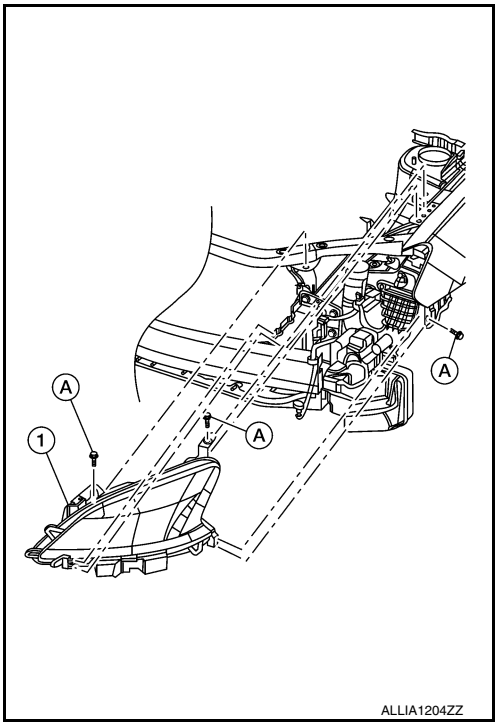
Removal and Installation

INFOID:0000000009757545

REMOVAL

1. Remove the front bumper fascia. Refer to EXT-17, "Removal and Installation".

2. Remove the front combination lamp bolts (A).
3. Pull the front combination lamp (1) forward.
4. Disconnect the harness connectors from the front combination lamp (1).



INSTALLATION

Installation is in the reverse order of removal.
After installation, perform headlamp aiming adjustment. Refer to EXL-115, "Aiming Adjustment".

Bulb Replacement

INFOID:0000000009757546

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.**

HEADLAMP HIGH BEAM

Removal

1. Remove the core support cover. Refer to EXT-23, "Exploded View".
2. Rotate the plastic cover counterclockwise and remove.
3. Rotate the headlamp high beam lamp counterclockwise and remove.
4. Disconnect the harness connector from the headlamp high beam lamp.

Installation

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

HEADLAMP LOW BEAM

Removal

1. Remove the core support cover. Refer to EXT-23, "Exploded View".
2. Rotate the plastic cover counterclockwise and remove.
3. Rotate the headlamp low beam sockets counterclockwise and remove.
4. Disconnect the harness connector from the headlamp low beam lamp.

Installation

Installation is in the reverse order of removal.

CAUTION:
After installing, be sure to install the cover securely to ensure watertightness.

SIDE MARKER LAMP

Removal

1. Remove the core support cover. Refer to EXT-23, "Exploded View".
2. Rotate the side marker lamp bulb socket counterclockwise and remove.
3. Remove the side marker bulb from the side marker bulb socket.

Installation

Installation is in the reverse order of removal.

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

TURN SIGNAL LAMP

Removal

1. Remove the core support cover. Refer to EXT-23, "Exploded View".
2. Rotate the turn signal lamp bulb socket counterclockwise and remove.
3. Remove the turn signal bulb from the turn signal bulb socket.

Installation

Installation is in the reverse order of removal.

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

Park Lamp

The park lamp LED bulb is integrated into the front combination lamp and is serviced as an assembly. Refer to EXL-119, "Removal and Installation".

FRONT FOG LAMP

Removal and Installation

INFOID:0000000009757547

FOG LAMP

Removal

1. Position the fender protector aside. Refer to EXT-28, "FENDER PROTECTOR : Removal and Installation - Front Fender Protector".
2. Disconnect the harness connector from the front fog lamp.
3. Remove the screws and the front fog lamp.

Installation

Installation is in the reverse order of removal.

NOTE:

After installing, perform fog lamp aiming adjustment. Refer to EXL-117, "Aiming Adjustment".

FRONT FOG LAMP BULB

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. Position the front fender protector aside. Refer to EXT-28, "FENDER PROTECTOR : Removal and Installation - Front Fender Protector".
2. Disconnect the harness connector from the front fog lamp bulb.
3. Rotate the front fog lamp bulb socket counterclockwise and remove.

Installation

Installation is in the reverse order of removal.

CAUTION:

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

DOOR MIRROR TURN SIGNAL LAMP

Removal and Installation

INFOID:0000000009757548

The door mirror side turn signal lamp is integrated into the door mirror assembly and is serviced as an assembly. Refer to MIR-18, "Exploded View".

HIGH-MOUNTED STOP LAMP

Removal and Installation

INFOID:0000000009757549

HIGH-MOUNTED STOP LAMP - WITH REAR SPOILER

Removal

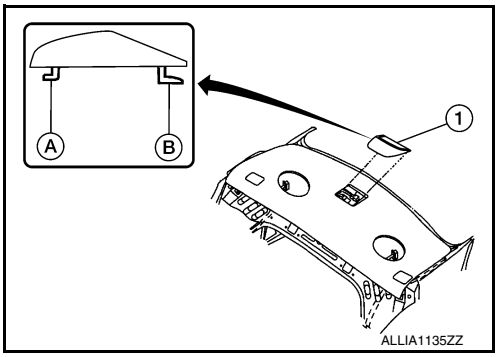
1. Remove the rear air spoiler. Refer to EXT-46, "Removal and Installation".
2. Remove the screws and the high-mount stop lamp from the rear air spoiler.

Installation
Installation is in the reverse order of removal.

HIGH-MOUNTED STOP LAMP - WITHOUT REAR SPOILER

Removal

1. Slide high-mounted stop lamp (1) rearward on parcel shelf to provide clearance for front tabs (A).
2. Lift front of lamp assembly up and pull forward to provide clearance for rear tabs (B).



3. Disconnect the harness connector from the high-mounted stop lamp and remove.

Installation
Installation is in the reverse order of removal.

Bulb Replacement

INFOID:0000000009757550

HIGH-MOUNTED STOP LAMP - WITH REAR SPOILER

The high-mounted stop lamp LED bulb is integrated into the high-mounted stop lamp and is serviced as an assembly. Refer to EXL-124, "Removal and Installation".

HIGH-MOUNTED STOP LAMP - WITHOUT REAR SPOILER

The high-mounted stop lamp LED bulb is integrated into the high-mounted stop lamp and is serviced as an assembly. Refer to EXL-124, "Removal and Installation".

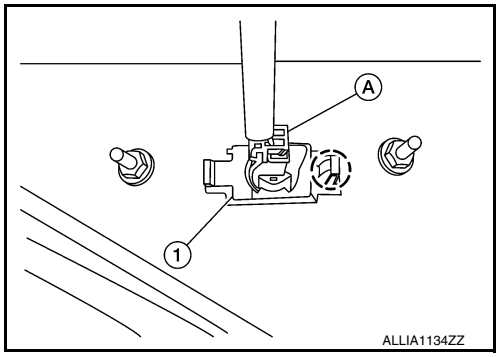
LICENSE PLATE LAMP

Removal and Installation

INFOID:0000000009757551

REMOVAL

1. Remove the license lamp finisher. Refer to EXT-44, "Removal and Installation".
2. Disconnect the harness connector (A) from the license plate lamp (1).
3. Release pawl and remove.
   : Pawl



INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

INFOID:0000000009757552

WARNING:

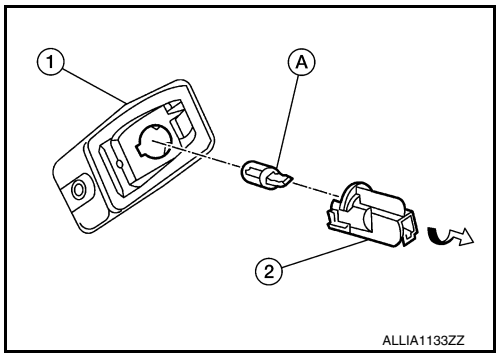
Do not touch bulb while it is lit or right after being turned off. Burning may result.

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.**

REMOVAL

1. Position trunk lid finisher aside. Refer to INT-45, "Removal and Installation".
2. Rotate license plate lamp bulb socket (2) counterclockwise and remove from license plate lamp (1).
3. Remove license plate lamp bulb (A) from license plate lamp bulb socket (2).



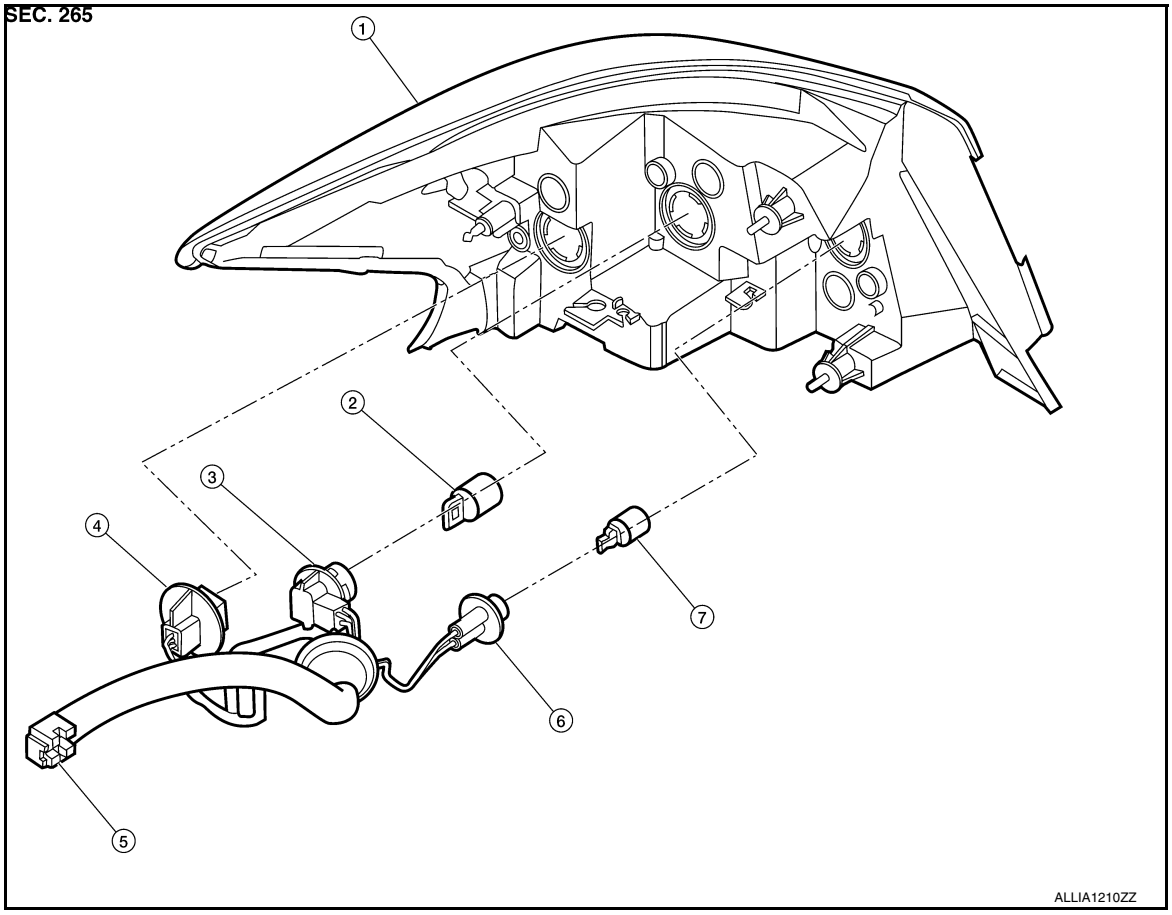
INSTALLATION

Installation is in the reverse order of removal.

REAR COMBINATION LAMP

Exploded View

INFOID:0000000009757553



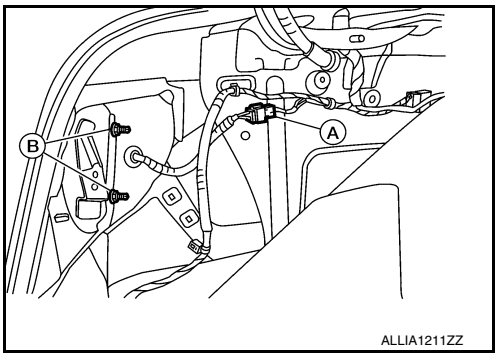
1. Rear combination lamp
2. Rear turn signal lamp bulb
3. Rear turn signal lamp socket
4. LED lamp harness connector
5. Rear combination lamp harness connector
6. Back-up lamp bulb socket
7. Back-up lamp bulb

Removal and Installation

INFOID:0000000009757554

Removal

1. Partially remove trunk side finisher. Refer to INT-43, "TRUNK SIDE FINISHER : Removal and Installation".
2. Remove the rear combination lamp nuts (B).
3. Disconnect the harness connector (A) from the rear combination lamp.



4. Pull the rear combination lamp rearward and remove.

Installation

Installation is the reverse order of removal.

Bulb Replacement

INFOID:0000000009757555

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.**

REAR TURN SIGNAL LAMP BULB

Removal

1. Remove the rear combination lamp. Refer to EXL-126, "Removal and Installation".
2. Rotate the rear turn signal lamp bulb socket counterclockwise and remove.
3. Remove the rear turn signal lamp bulb from bulb socket.

Installation

Installation is in the reverse order of removal.

CAUTION:

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

STOP/TAIL LAMP

The stop/tail lamp is integrated into the rear combination lamp and is serviced as an assembly. Refer to EXL-126, "Removal and Installation".

BACK-UP LAMP BULB

Removal

1. Remove the rear combination lamp. Refer to EXL-126, "Removal and Installation".
2. Rotate the back-up lamp bulb socket counterclockwise and remove.
3. Remove the back-up lamp bulb from bulb socket.

Installation

Installation is in the reverse order of removal.

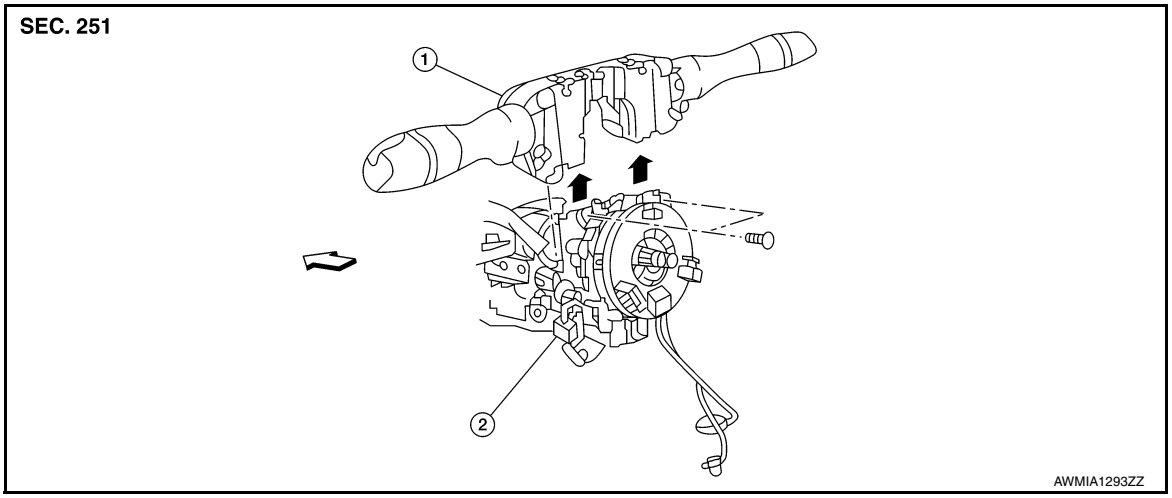
CAUTION:

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

COMBINATION SWITCH

Exploded View

INFOID:0000000009757556



1. Combination switch
2. Combination switch harness connector
⇦ Front

NOTE:
Shown with the steering wheel removed for clarity only.

Removal and Installation

INFOID:0000000009757557

REMOVAL

CAUTION:

- **Before servicing, turn the ignition switch OFF, disconnect both battery terminals and wait at least three minutes.**
- **Do not use air or electric tools when removing or installing the combination switch.**

1. Disconnect both the negative and positive battery terminals, then wait at least three minutes. Refer to PG-50, "Removal and Installation (Battery)".
2. Remove the steering column covers. Refer to IP-16, "Removal and Installation".
3. Rotate steering wheel clockwise to access first combination switch bolt and remove.
4. Rotate steering wheel counter-clockwise to access second combination switch bolt and remove.
5. Disconnect the harness connector from the combination switch and remove.

INSTALLATION

Installation is in the reverse order of removal.

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.**
- **If a malfunction is still detected after the above operation, perform self-diagnosis to repair malfunctions. Refer to SRC-41, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".**

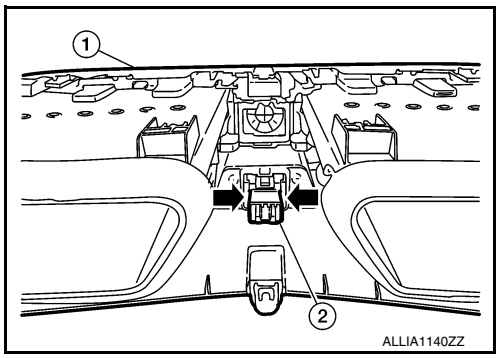
HAZARD SWITCH

Removal and Installation

INFOID:0000000009757558

REMOVAL

1. Remove cluster lid C (1). Refer to IP-20, "Removal and Installation - Cluster Lid C".
2. Release pawls at (⬅) and remove hazard switch (2).



INSTALLATION

Installation is in the reverse order of removal.

OPTICAL SENSOR

Removal and Installation

INFOID:0000000009757559

REMOVAL

1. Remove the defroster grille (LH) using a suitable tool.
2. Disconnect the harness connector from the optical sensor.
3. Release the pawls and remove the optical sensor.

INSTALLATION

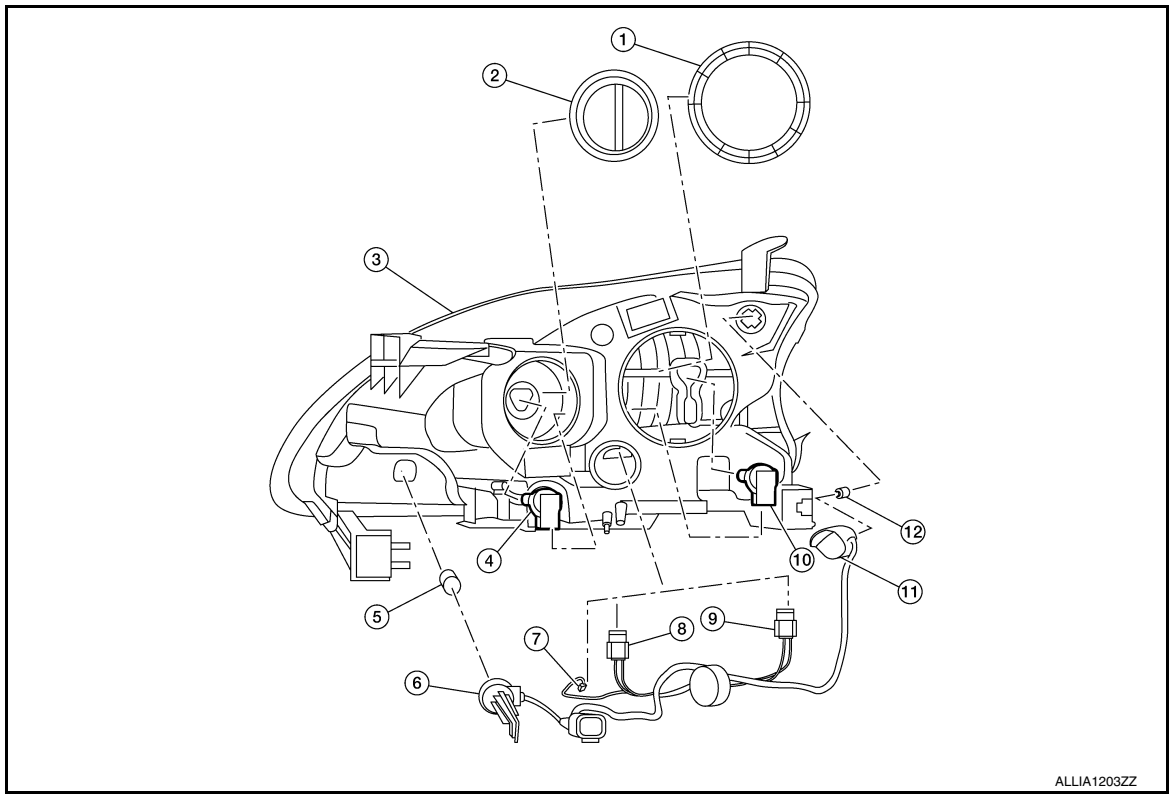
Installation is in the reverse order of removal.

UNIT DISASSEMBLY AND ASSEMBLY

FRONT COMBINATION LAMP

Exploded View

INFOID:0000000009757560



1. Large cover (not serviceable)
2. Small cover (not serviceable)
3. Front combination lamp
4. Halogen lamp bulb (high beam)
5. Turn signal lamp bulb
6. Turn signal lamp bulb socket
7. LED harness connector
8. Halogen lamp bulb (high beam) harness connector
9. Halogen lamp bulb (low beam) harness connector
10. Halogen lamp bulb (low beam)
11. Side marker lamp bulb socket
12. Side marker lamp bulb

Disassembly and Assembly

INFOID:0000000009757561

DISSASSEMBLY

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 front combination lamp. Refer to EXL-119, "Removal and Installation".
2. Rotate the covers counterclockwise and remove.
3. Rotate the halogen lamp bulb (low beam) counterclockwise and remove.
4. Disconnect the harness connector from the halogen lamp bulb (low beam) and remove.
5. Rotate the halogen lamp bulb (high beam) counterclockwise and remove.
6. Disconnect the harness connector from the halogen lamp bulb (high beam) and remove.
7. Rotate the side marker bulb socket counterclockwise and remove.
8. Remove the side marker bulb from the side marker bulb socket.

9. Rotate the turn signal bulb socket counterclockwise and remove.
10. Remove the turn signal bulb from the turn signal bulb socket.
11. Disconnect the harness connector from the LED circuit board and remove the harness.

ASSEMBLY

Assembly is in the reverse order of disassembly.

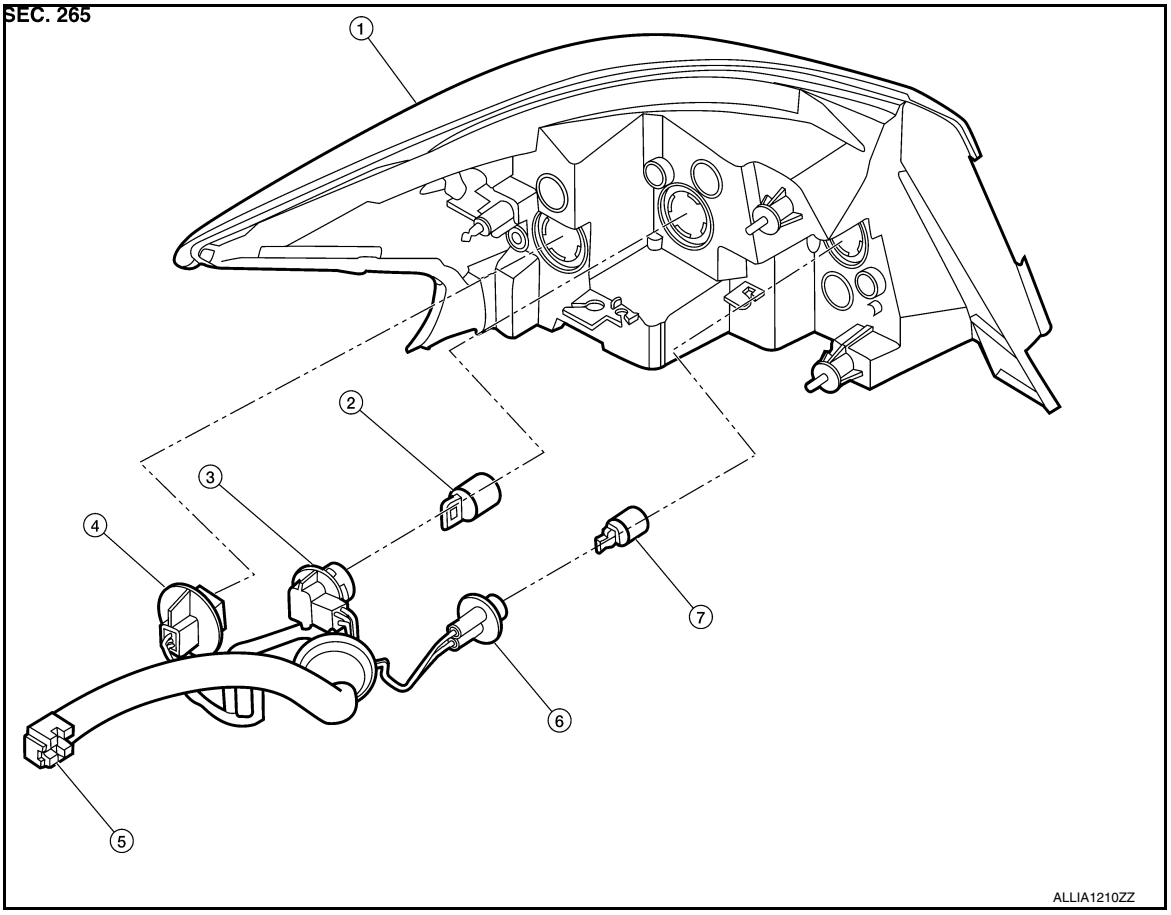
CAUTION:

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

REAR COMBINATION LAMP

Exploded View

INFOID:0000000009757562



1. Rear combination lamp
2. Rear turn signal lamp bulb
3. Rear turn signal lamp socket
4. LED lamp harness connector
5. Rear combination lamp harness connector
6. Back-up lamp bulb socket
7. Back-up lamp bulb

Disassembly and Assembly

INFOID:0000000009757563

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 rear combination lamp. Refer to EXL-126, "Removal and Installation".
2. Rotate rear turn signal lamp bulb socket counterclockwise to remove from rear combination lamp.
3. Remove the rear turn signal lamp bulb from bulb socket.
4. Rotate back-up lamp bulb socket counterclockwise to remove from rear combination lamp.
5. Remove the back-up lamp bulb from bulb socket.
6. Disconnect the harness connector from the LED lamp.

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:0000000009757564

Item		Wattage (W)*
Front combination lamp	Low beam	55
	High beam	65
	Side marker lamp	3.8
	Turn signal lamp	28
	Park	LED
Door mirror side turn signal lamp (if equipped)		LED
Rear combination lamp	Stop/Tail lamp	LED
	Turn signal lamp (amber)	21
	Back-up lamp	16
Fog lamp (if equipped)		55
License plate lamp		5
High-mounted stop lamp	Without rear spoiler	LED
	With rear spoiler	LED

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