SECTION EXL
EXTERIOR LIGHTING SYSTEM

CONTENTS

LED HEADLAMP

PRECAUTION

PRECAUTIONS

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

INFOID:0000000013711927

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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 “SRS AIR BAG”.**
- **Never 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:

Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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 or batteries, and wait at least 3 minutes before performing any service.**

Precaution for Battery Service

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Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

Precautions for Removing Battery Terminal

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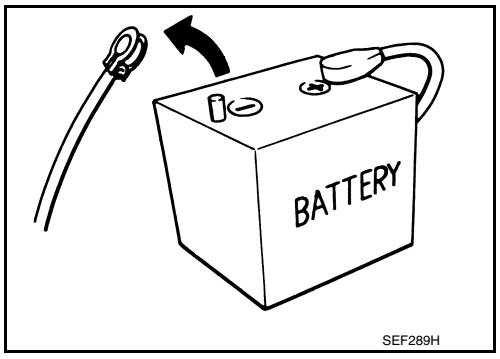
When disconnecting the battery terminal, pay attention to the following.

- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.
- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:

BR08DE	: 4 minutes	YD25DDTi	: 2 minutes
D4D engine	: 20 minutes	YS23DDT	: 4 minutes
HRA2DDT	: 12 minutes	YS23DDTT	: 4 minutes
K9K engine	: 4 minutes	ZD30DDTi	: 60 seconds
M9R engine	: 4 minutes	ZD30DDTT	: 60 seconds
R9M engine	: 4 minutes		
V9X engine	: 4 minutes		



NOTE:
ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.

NOTE:
- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
  - Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
  - Driving for 30 minutes or more on a steep slope.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

NOTE:
If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

NOTE:
The removal of 12V battery may cause a DTC detection error.

SYSTEM DESCRIPTION

COMPONENT PARTS

Exterior Lamp Appearance

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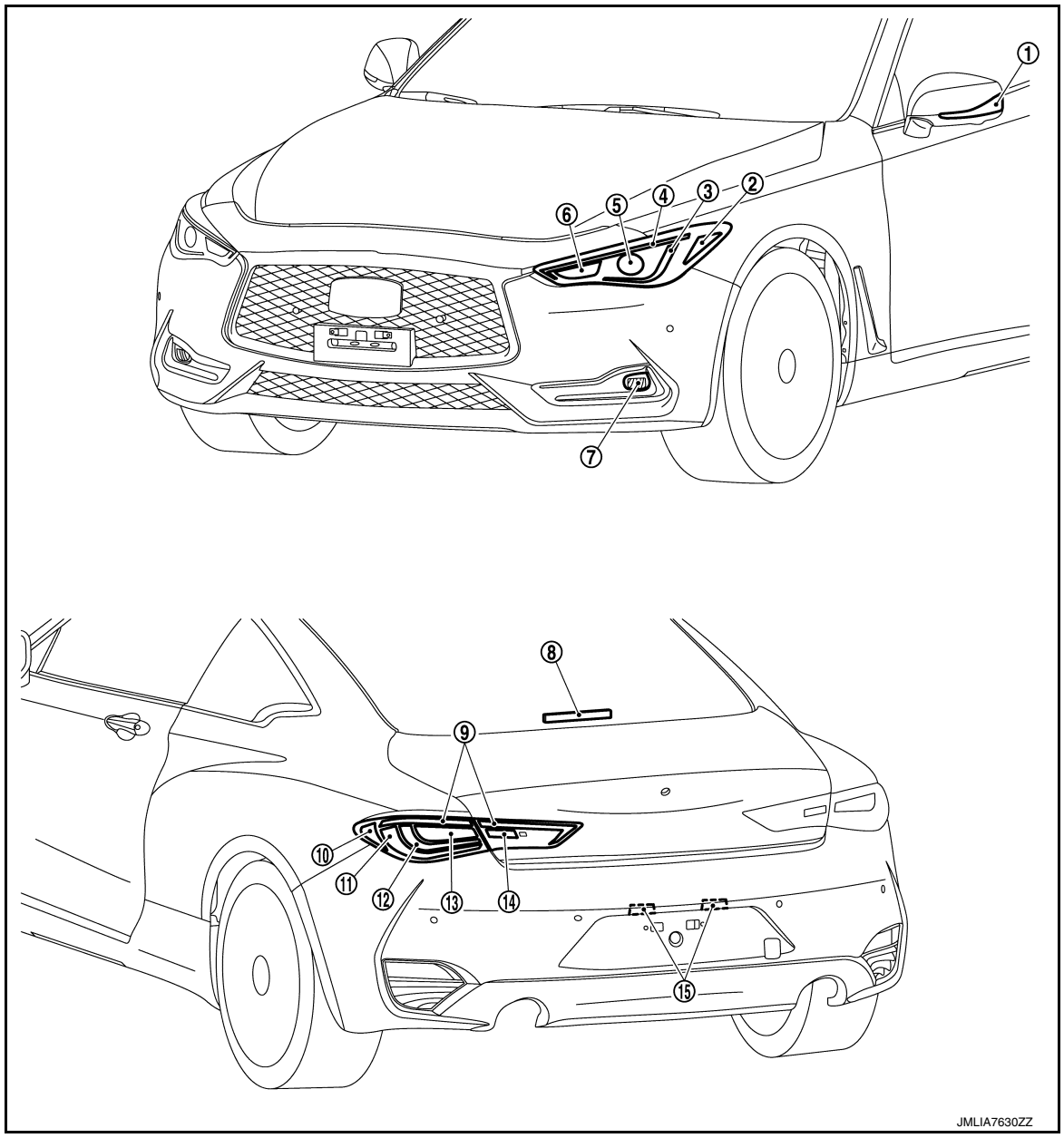

① Side turn signal lamp	② Front side marker lamp	③ Parking lamp (lower side) Daytime running light (lower side) Front turn signal lamp (lower side)
④ Parking lamp (upper side) Daytime running light (upper side) Front turn signal lamp (upper side)	⑤ Headlamp (Low beam)	⑥ Headlamp (High beam)
⑦ Front fog lamp	⑧ High-mounted stop lamp	⑨ Tail lamp
⑩ Rear side marker lamp	⑪ Tail/Stop lamp	⑫ Stop lamp
⑬ Rear turn signal lamp	⑭ Back-up lamp	⑮ License plate lamp

Bulb Specifications

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Item		Type	Wattage (W)
Front combination lamp	Headlamp (High beam)	LED	—
	Headlamp (Low beam)		
	Parking lamp (lower side) Daytime running light (lower side) Front turn signal lamp (lower side)		
	Parking lamp (upper side) Daytime running light (upper side) Front turn signal lamp (upper side)		
	Front side marker lamp		
Front fog lamp			
Side turn signal lamp (built in door mirror)			
Rear combination lamp (body side)	Tail lamp		
	Stop lamp		
	Tail/Stop lamp		
	Rear turn signal lamp		
	Rear side marker lamp		
Rear combination lamp (trunk lid side)	Tail lamp		
	Back-up lamp		
License plate lamp			
High-mounted stop lamp			

Component Parts Location

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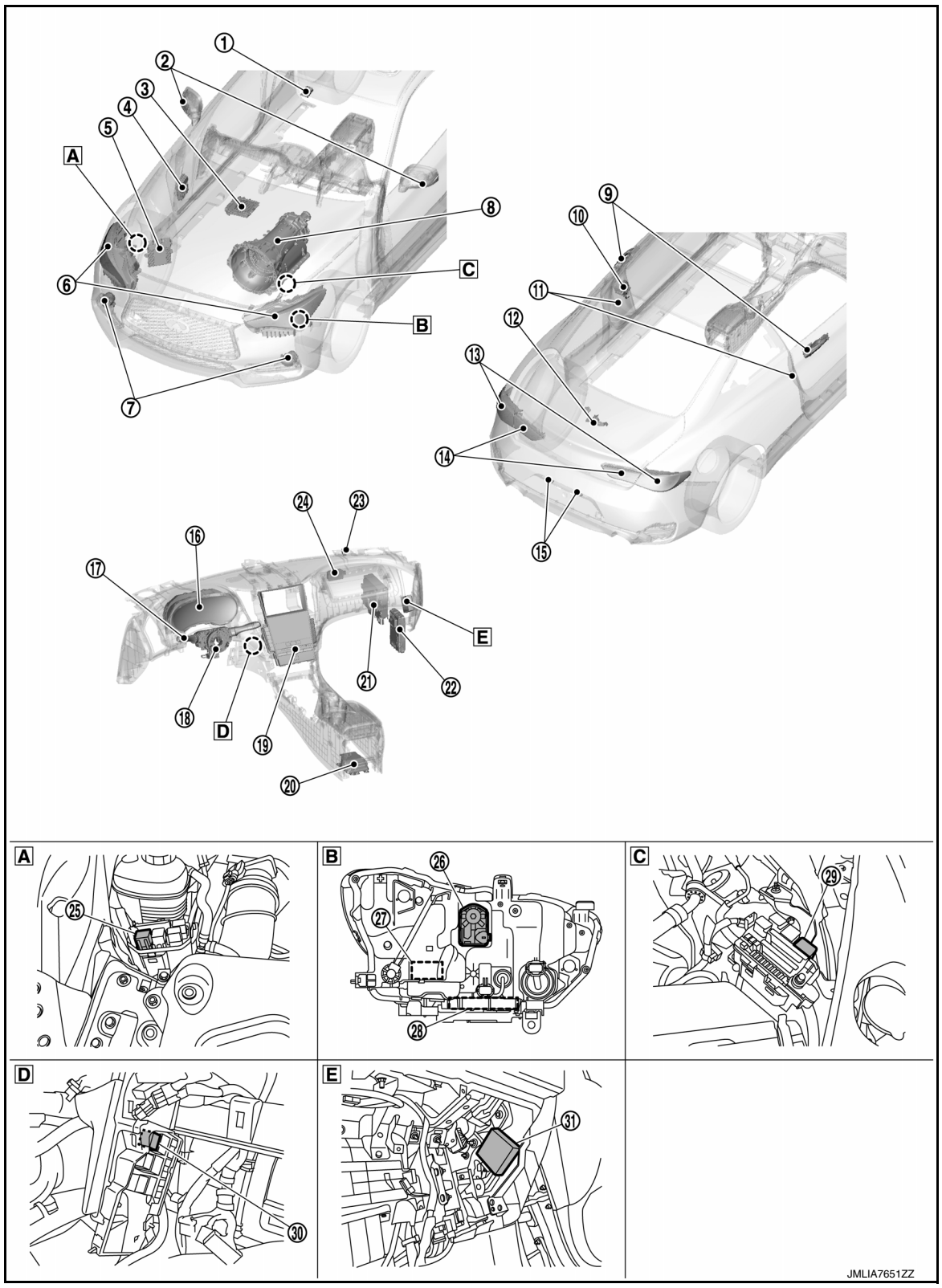

A Engine room (right side)

B Front combination lamp (back)

C Engine room (left side)

D View with AV control unit or NAVI control unit removed

E View with glove box removed

No.	Component		Function
①	Lane camera unit*1		• Judges the vehicle status from each signal in order to control the high beam assist control. • Refer to DAS-363, "Component Parts Location" for detailed installation location.
②	Door mirror	Side turn signal lamp	Refer to EXL-7, "Exterior Lamp Appearance" and EXL-8, "Bulb Specifications".
③	ECM*2		• Controls the back-up lamp relay and supplies voltage to the back-up lamp. • ECM transmits engine status signal and Stop/Start status signal to BCM via CAN communication. • ECM transmits engine speed signal to AFS control unit via CAN communication.*4 • Refer to EC4-25, "ENGINE CONTROL SYSTEM : Component Parts Location" for detailed installation location.
④	IPDM E/R		• Controls the integrated relay, FET and daytime running light relay, and supplies voltage to the load according to the request from BCM via CAN communication. • IPDM E/R transmits low beam status signal to AFS control unit via CAN communication.*4 • Refer to PCS-5, "Component Parts Location" for detailed installation location.
⑤	ECM*3		• ECM transmits engine status signal to BCM via CAN communication. • ECM transmits engine speed signal to AFS control unit via CAN communication.*4 • Refer to EC6-23, "Component Parts Location" for detailed installation location.
⑥	Front combination lamp	Headlamp (Low) (LED headlamp)	Refer to EXL-7, "Exterior Lamp Appearance", EXL-8, "Bulb Specifications" and EXL-12, "FRONT COMBINATION LAMP : LED Headlamp".
		Headlamp (High) (LED headlamp)	
		Parking lamp (lower side)/daytime running light (lower side)	Refer to EXL-7, "Exterior Lamp Appearance" and EXL-8, "Bulb Specifications".
		Parking lamp (upper side)/daytime running light (upper side)	
		Front side marker lamp	
		Front turn signal lamp	
⑦	Front fog lamp		Refer to EXL-7, "Exterior Lamp Appearance" and EXL-8, "Bulb Specifications".
⑧	Transmission assembly	Transmission range switch	Refer to TM-19, "A/T CONTROL SYSTEM : Transmission Range Switch".
		TCM	• Controls the back-up lamp relay and supplies voltage to the back-up lamp.*3 • TCM transmits shift position signal to AFS control unit via drivetrain CAN communication*2 and CAN communication.*4 • Refer to TM-14, "A/T CONTROL SYSTEM : Component Parts Location" for detailed installation location.
⑨	Outside handle assembly	Request switch	Refer to DLK-13, "DOOR LOCK SYSTEM : Door Request Switch".
		One touch unlock sensor	Refer to DLK-15, "DOOR LOCK SYSTEM : One Touch Unlock Sensor Assembly".
⑩	Door lock assembly	Unlock sensor	Refer to DLK-14, "DOOR LOCK SYSTEM : Door Lock Assembly".
⑪	Door switch		Refer to DLK-14, "DOOR LOCK SYSTEM : Door Switch".
⑫	Height sensor*4		Refer to EXL-14, "Height Sensor".

No.	Component		Function
⑬	Rear combination lamp (body side)	Tail lamp	Refer to EXL-7, "Exterior Lamp Appearance" and EXL-8, "Bulb Specifications".
		Rear side marker lamp	
		Rear turn signal lamp	
⑭	Rear combination lamp (trunk lid side)	Tail lamp	Refer to EXL-7, "Exterior Lamp Appearance" and EXL-8, "Bulb Specifications".
		Back-up lamp	
⑮	License plate lamp		Refer to EXL-7, "Exterior Lamp Appearance" and EXL-8, "Bulb Specifications".
⑯	Combination meter		• Turns the indicator lamp and warning (information display/buzzer) ON according to the request from BCM via CAN communication. • Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM via CAN communication. • Turns the AFS warning ON according to the request from AFS control unit via CAN communication.*4 • Combination meter transmits vehicle speed signal to BCM, lane camera unit*1 and AFS control unit*4 via CAN communication. • Combination meter transmits parking brake switch signal to BCM via CAN communication.
⑰	Combination switch	Lighting & turn signal switch	Refer to BCS-9, "COMBINATION SWITCH READING SYSTEM : System Description".
⑱	Steering angle sensor*5		• Steering angle sensor transmits steering angle signal to AFS control unit via CAN communication. • Refer to BRC-11, "Component Parts Location" for detailed installation location.
⑲	Integral switch	Hazard switch	Refer to EXL-15, "Hazard Switch".
⑳	Air bag diagnosis sensor unit		• When the air bag operates, a request is transmitted to BCM to blinks the hazard warning lamp. • Refer to SRC-6, "Component Parts Location" for detailed installation location.
㉑	Steering force control module*6		• Steering force control module transmits steering pinion angle signal to AFS control unit via CAN communication. • Refer to STC-111, "Component Parts Location" for detailed installation location.
㉒	BCM		• Detects each switch condition by the combination switch reading function. • Exterior lamp ON/OFF is judged from each signal, and then a request is transmitted to IPDM E/R (CAN communication) to turn each relay and FET ON/OFF. • It also transmits a request to the combination meter (CAN communication) to turn indicator lamp and warning (information display / buzzer) ON/OFF. • Blinks the turn signal lamp and hazard warning lamp according to the each switch condition. • Requests the turn signal indicator lamp blink to the combination meter via CAN communication. • Requests the turn signal operating sound ON to the combination meter via CAN communication. • Refer to BCS-5, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
㉓	Optical sensor		Refer to EXL-14, "Optical Sensor".
㉔	Remote keyless entry receiver		Refer to DLK-15, "DOOR LOCK SYSTEM : Remote Keyless Entry Receiver".
㉕	Daytime running light relay*2		Supplies the voltage to daytime running light with the controlled by IPDM E/R.
㉖	Front combination lamp	Headlamp aiming motor*4	Refer to EXL-14, "FRONT COMBINATION LAMP : Headlamp Aiming Motor".
㉗		Swivel actuator*4	Refer to EXL-13, "FRONT COMBINATION LAMP : Swivel Actuator".
㉘		LED headlamp control module	Refer to EXL-12, "FRONT COMBINATION LAMP : LED Headlamp Control Module".
㉙	Daytime running light relay*3		Supplies the voltage to daytime running light with the controlled by IPDM E/R.

No.	Component	Function
㉚	Back-up lamp relay	Supplies the voltage to back-up lamp with the controlled by TCM*3 or ECM*2.
㉛	AFS control unit*4	Refer to EXL-14, "AFS Control Unit".

*1: With high beam assist system
*2: 2.0L turbo gasoline engine models
*3: VR30DDTT engine models
*4: With active AFS
*5: Without direct adaptive steering, with active AFS
*6: With direct adaptive steering and active AFS

FRONT COMBINATION LAMP

FRONT COMBINATION LAMP : LED Headlamp

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OUTLINE

- Semiconductor device (Light emitting diode: LED), which is illuminated when forward bias electric voltage is applied, is adopted as the source of light instead of halogen bulb or xenon bulb.
- Comparing to halogen headlamp or xenon headlamp, LED headlamp is electrically power saving, durable, and is illuminated in the similar color to the sunlight. Bright, natural, and eye-friendly visibility can be obtained.

PRECAUTIONS FOR TROUBLE DIAGNOSIS

Representative malfunction examples are; “Light does not turn ON”, “Light blinks”, and “Brightness is inadequate.” Such malfunctions, however, occasionally by occur LED control module malfunction or lamp case malfunction. Specify the malfunctioning part with diagnosis procedure.

CAUTION:

- **Never touch the harness, LED headlamp control module, the inside and metal part of lamp when turning the headlamp ON or operating the lighting switch, for preventing electrical shock.**
- **Never work with wet hands, for preventing electrical shock.**
- **Never perform LED headlamp control module circuit diagnosis with a circuit tester or an equivalent.**
- **Temporarily install the headlamps on the vehicle. Always connect power supply to the connector (vehicle side) when checking ON/OFF status.**
- **Disconnect the battery negative terminal before disconnecting the lamp socket connector or the harness connector.**
- **Check for blown (open) of the fusible link(s), open around connector, short, disconnection if the symptom is caused by electric error.**
- **Always check for deformation or hole of headlamp housing and engagement of bulb cover. Otherwise, water may enter into headlamp because of damage of headlamp housing and contact to LED headlamp control module connector. The normal operation may be inhibited when short circuit to power supply is detected.**

NOTE:

Turn the switch OFF once before turning ON, if the ON/OFF is inoperative.

FRONT COMBINATION LAMP : LED Headlamp Control Module

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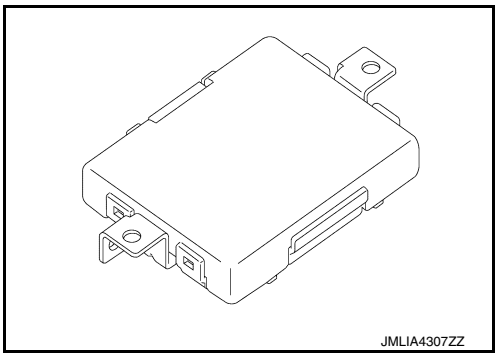
LED headlamp control module is integrated in the front combination lamp and turns the LED headlamp ON according to the request from IPDM E/R.



FRONT COMBINATION LAMP : Swivel Actuator

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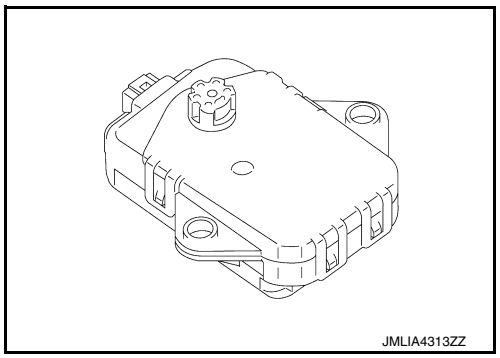
DESCRIPTION

- The swivel actuator is installed in the front combination lamp.
- Swivel actuator consists of the swivel motor for headlamp swivel operation, the swivel position sensor which detects the headlamp swivel angle, and LCU (Local Control Unit) which communicates with AFS control unit via LIN (Local Interconnect Network).



STRUCTURE AND OPERATION

Swivel Motor

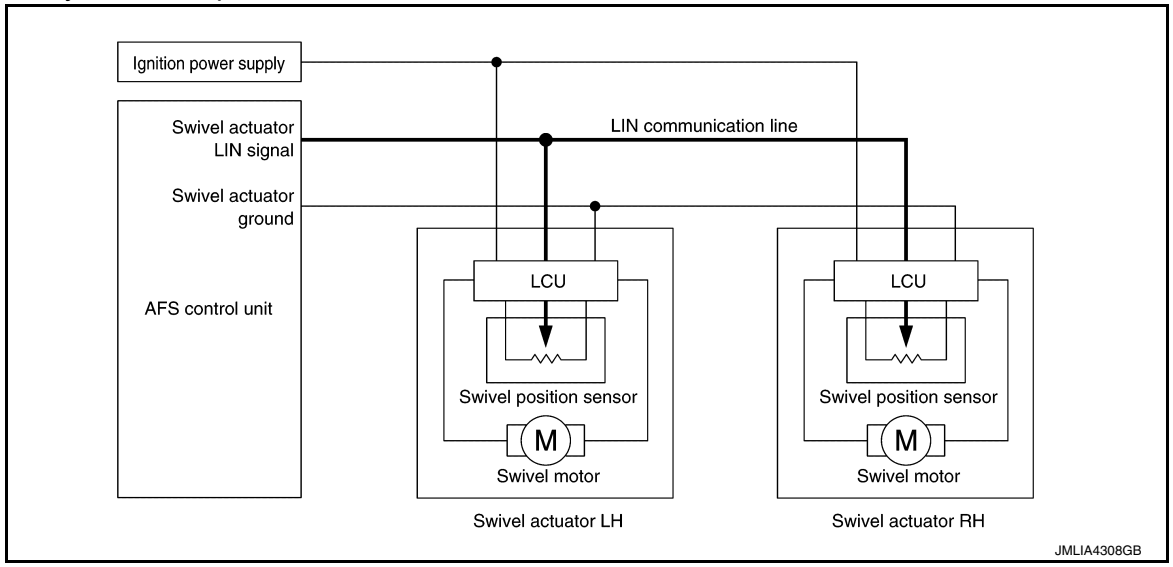
- The swivel motor is the DC motor.
- The swivel motor drives headlamp according to the drive signal from LCU.

Swivel Position Sensor

The swivel position sensor detects the headlamp swivel angle to transmit the swivel position sensor signal to LCU.

LCU (Local Control Unit)

- The LCU is integrated in left and right swivel actuators so as to perform the multiplex communication control (LIN) between left and right swivel actuators in one communication line.
- When each LCU receives a drive signal from AFS control unit, it drives the swivel motor and allows headlamp swivel operation. Also, it sends the swivel position signal of headlight to AFS control unit, which is detected by the swivel position sensor.



FRONT COMBINATION LAMP : Headlamp Aiming Motor

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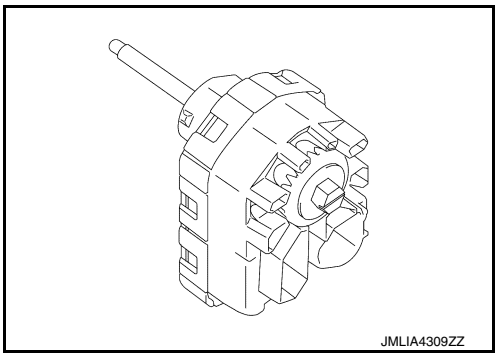
- Headlamp aiming motor is integrated in the front combination lamp.
- Headlamp aiming motor adjusts the headlamp light axis upward and downward according to input drive signal from AFS control unit.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AFS Control Unit

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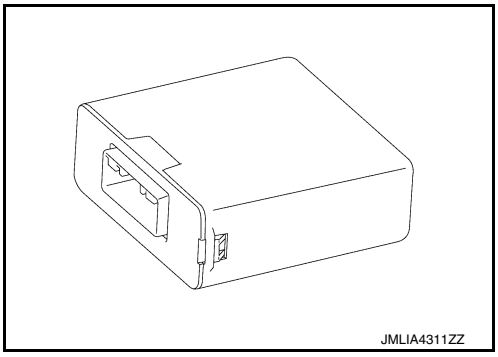
- AFS control unit judges the vehicle condition from each signal. AFS control unit controls AFS control (swivel control) and the headlamp aiming control.
- Self-diagnosis function is integrated in AFS control unit. Diagnosis of AFS can be performed quickly. Also, if AFS control unit detects a specific DTC, the AFS control unit requests the combination meter to display the AFS warning (via CAN communication).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Height Sensor

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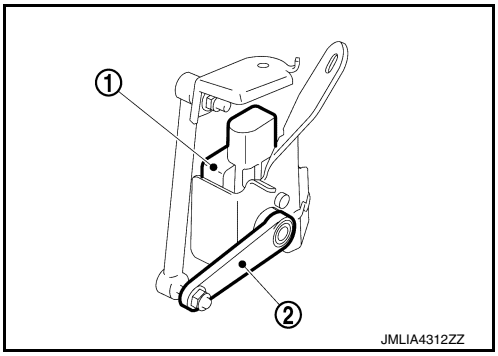
- Height sensor is installed in rear suspension arm.
- Height sensor ① detects the vehicle height deviation with sensor lever ②, and transmits the detected value as a height sensor signal to AFS control unit.



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Optical Sensor

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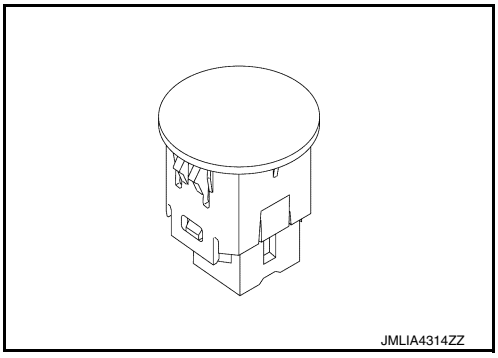
Optical sensor converts the outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.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Hazard Switch

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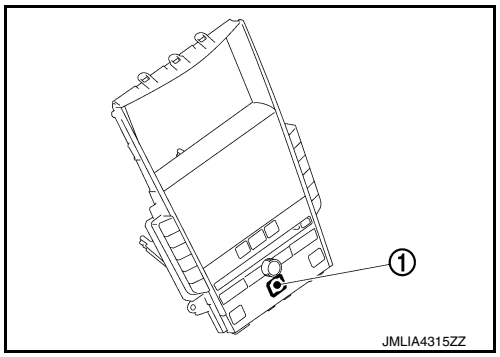
Hazard switch ① is built in to integral switch. Inputs the hazard switch ON/OFF signal to BCM.



SYSTEM
HEADLAMP SYSTEM
HEADLAMP SYSTEM : System Description

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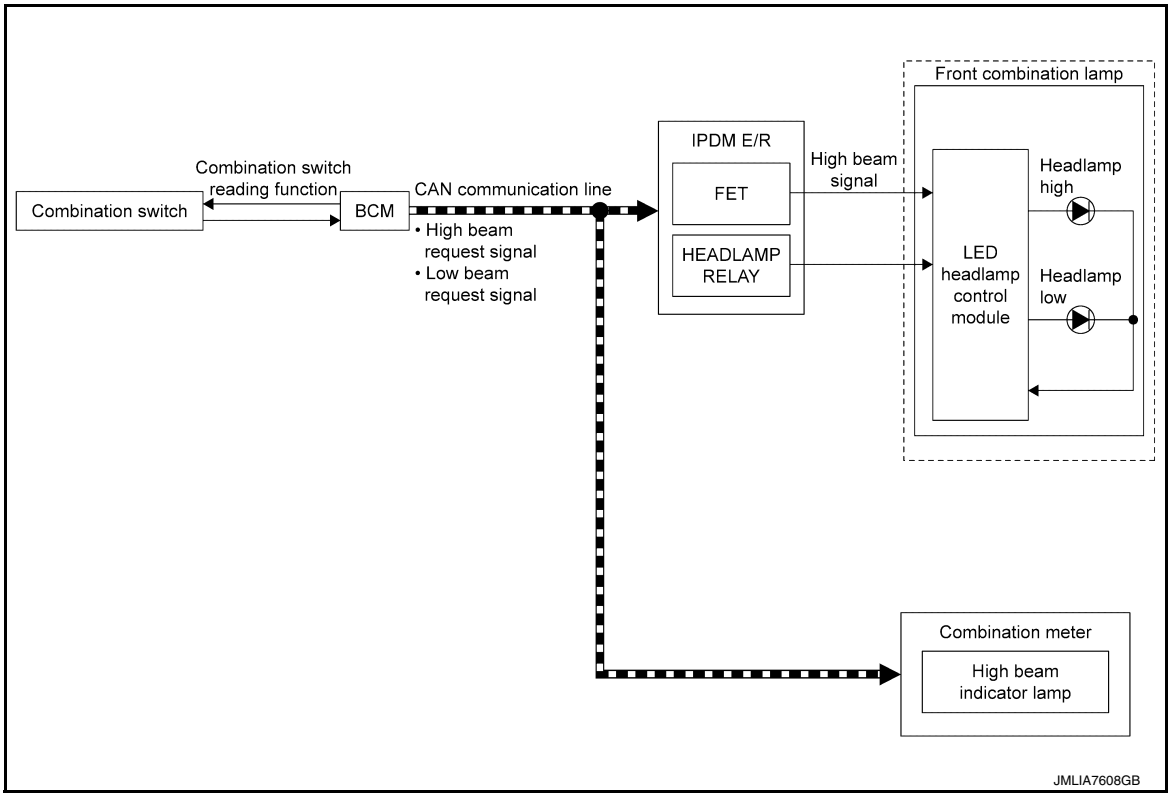
SYSTEM DIAGRAM



OUTLINE

Headlamp is controlled by combination switch reading function and headlamp control function of BCM, and relay control function and FET control function of IPDM E/R.

HEADLAMP (LO) OPERATION

- BCM detects the combination switch condition with the combination switch reading function.
- BCM transmits the low beam request signal to IPDM E/R with CAN communication according to the headlamp (LO) ON condition.

Headlamp (LO) ON condition
- Lighting switch 2ND
- Lighting switch AUTO with the ignition switch ON (Only when the illumination judgment by auto light system is ON. For details, refer to EXL-18, "AUTO LIGHT SYSTEM : System Description".)
- Lighting switch PASS

- IPDM E/R turns the integrated headlamp relay ON according to low beam request signal and supplies power supply to LED headlamp control module.
- LED headlamp control module turns the headlamp (LO) ON according to the power supply from IPDM E/R.

HEADLAMP (HI) OPERATION

- BCM transmits the high beam request signal to IPDM E/R and the combination meter with CAN communication according to the headlamp (HI) ON condition.

Headlamp (HI) ON condition
- Lighting switch HI with the lighting switch 2ND
- Lighting switch HI with the lighting switch AUTO and ignition switch ON (Only when the illumination judgment by auto light system is ON and the illumination judgment by high beam assist system is ON. For details, refer to EXL-18, "AUTO LIGHT SYSTEM : System Description".)
- Lighting switch PASS

- Combination meter turns the high beam indicator lamp ON according to the high beam request signal.

- IPDM E/R turns the integrated headlamp relay ON according to high beam request signal and supplies power supply to LED headlamp control module.
- IPDM E/R turns the integrated FET ON according to high beam request signal and transmits high beam signal to LED headlamp control module.
- LED headlamp control module turns the headlamp (HI) ON according to the power supply and high beam signal from IPDM E/R.

HEADLAMP SYSTEM : Circuit Diagram

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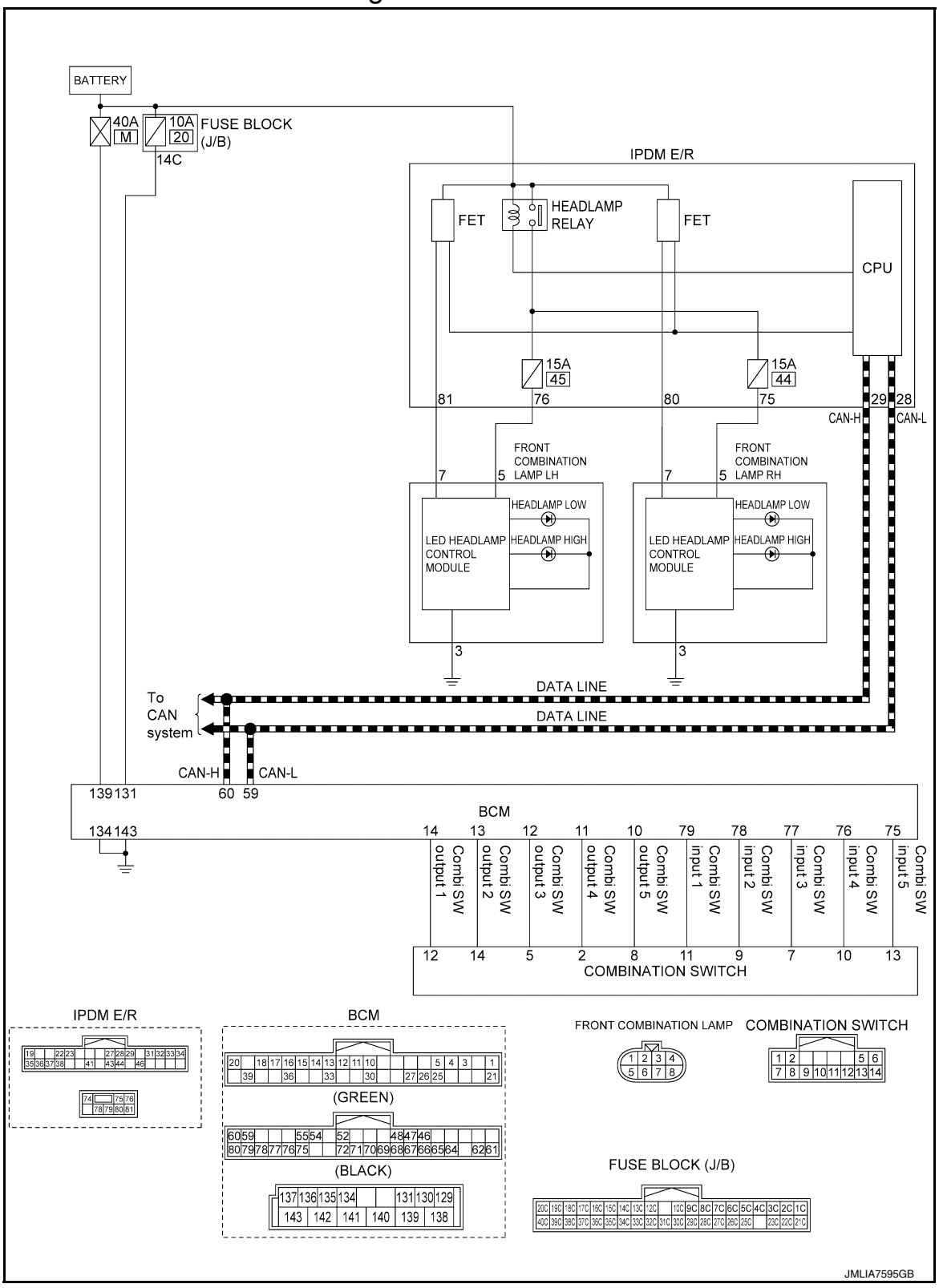

HEADLAMP SYSTEM : Fail-safe

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CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	• Turns ON the headlamp relay when the ignition switch is turned ON • Turns OFF the headlamp relay when the ignition switch is turned OFF • Turns OFF the FET

AUTO LIGHT SYSTEM

AUTO LIGHT SYSTEM : System Description

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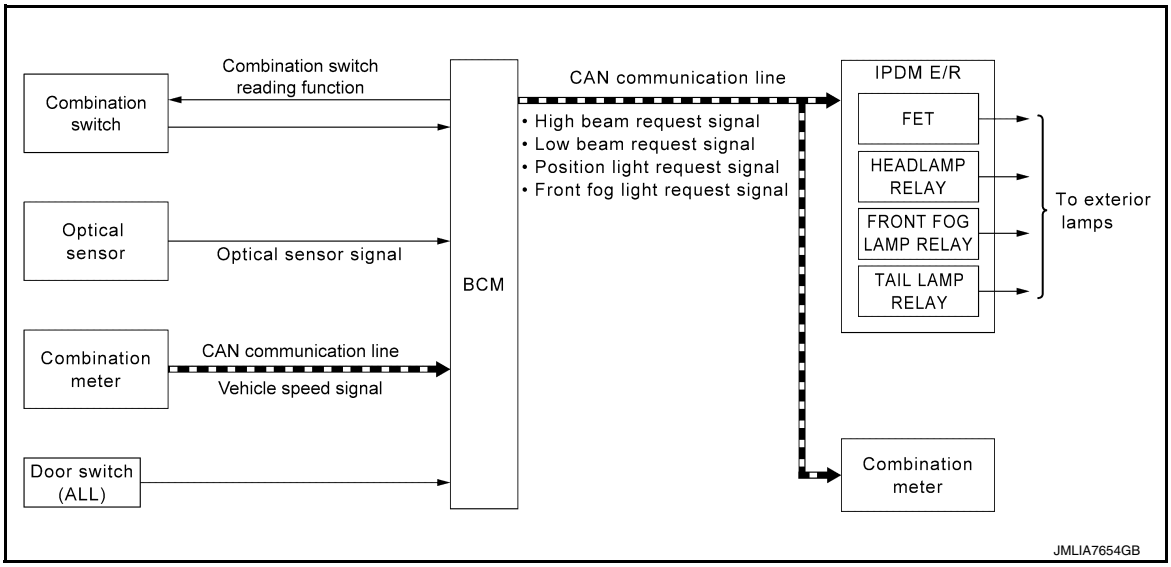
SYSTEM DIAGRAM



OUTLINE

• Auto light system is controlled by each function of BCM and IPDM E/R.

Control by BCM

- Combination switch reading function
- Auto light function
- Wiper linked auto lighting function
- Front fog override function (factory setting is OFF)
- Delay timer function
- Auto light adjustment system

Control by IPDM E/R

- Relay control function
- FET control function

• Auto light system has the auto light function (with twilight lighting function), wiper linked auto lighting function, fog override function, delay timer function and auto light adjustment system.

- Auto light function automatically turns ON/OFF the exterior lamps*, depending on the outside brightness.
- Wiper linked auto lighting function automatically turns ON/OFF the exterior lamps* when the lighting switch is in the AUTO position, according to a front wiper operation.
- When auto light system turns the exterior lamps ON with the ignition switch OFF, delay timer function turns the exterior lamps* OFF, depending on the vehicle condition with the auto light function after a certain period of time.

*: Headlamp (LO/HI), front fog lamp, parking lamp, license plate lamp, side marker lamp and tail lamp.

NOTE:

- Headlamp (HI) depend on the combination switch condition and the illumination judgment of high beam assist system. For details, refer to EXL-21, "HIGH BEAM ASSIST SYSTEM : System Description".
- Front fog lamp depend on the combination switch condition.
- The settings of the twilight lighting function and the wiper linked auto lighting function can be changed with CONSULT. Refer to EXL-50, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP)".

AUTO LIGHT FUNCTION (WITH TWILIGHT LIGHTING FUNCTION)

Description

- BCM detects the combination switch condition with the combination switch reading function.
- BCM receives the vehicle speed signal from combination meter via CAN communication and detects the vehicle speed and the driving distance.
- BCM supplies voltage to the optical sensor when the ignition switch is turned ON.
- Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.
- When ignition switch is turned ON, BCM detects outside brightness from the optical sensor signal and judges ON/OFF condition of each exterior lamp, depending on the outside brightness condition (standard or twilight).
- BCM transmits each request signal to IPDM E/R and combination meter via CAN communication, according to ON/OFF condition by the auto light function.

NOTE:
As to ON/OFF timing, the sensitivity depends on settings. The settings can be changed using CONSULT. Refer to EXL-50, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP)".

WIPER LINKED AUTO LIGHTING FUNCTION

BCM turns each exterior lamp ON when detecting 4 operations of the front wiper while the light switch is in AUTO position.

NOTE:
BCM turns OFF the headlamps 3 seconds after the front wiper switch is turned OFF.

FRONT FOG OVERRIDE FUNCTION (FACTORY SETTING IS OFF)

When front fog lamp switch is turned to ON while ignition switch is in ON position and lighting switch is in AUTO position, BCM turns ON exterior lamps* regardless of outside brightness.
*: Headlamp (LO/HI), front fog lamp, parking lamp, license plate lamp, side marker lamp and tail lamp.

NOTE:

- Headlamp (HI) depend on the combination switch condition and the illumination judgment of high beam assist system. For details, refer to EXL-21, "HIGH BEAM ASSIST SYSTEM : System Description".
- ON/OFF of front fog override function can be changed using CONSULT. Refer to INL-19, "INT LAMP : CONSULT Function (BCM - INT LAMP)".

DELAY TIMER FUNCTION

BCM turns the exterior lamps OFF depending on the vehicle condition with the auto light function when the ignition switch is turned OFF.

- Turns the exterior lamps OFF 45 seconds after detecting that any door opens. (Door switch ON).
- Turns the exterior lamps OFF a certain period of time* after closing all doors. (Door switch ON → OFF).
- Turns the exterior lamps OFF with the ignition switch ACC/ON or the light switch OFF.

*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to EXL-50, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP)".

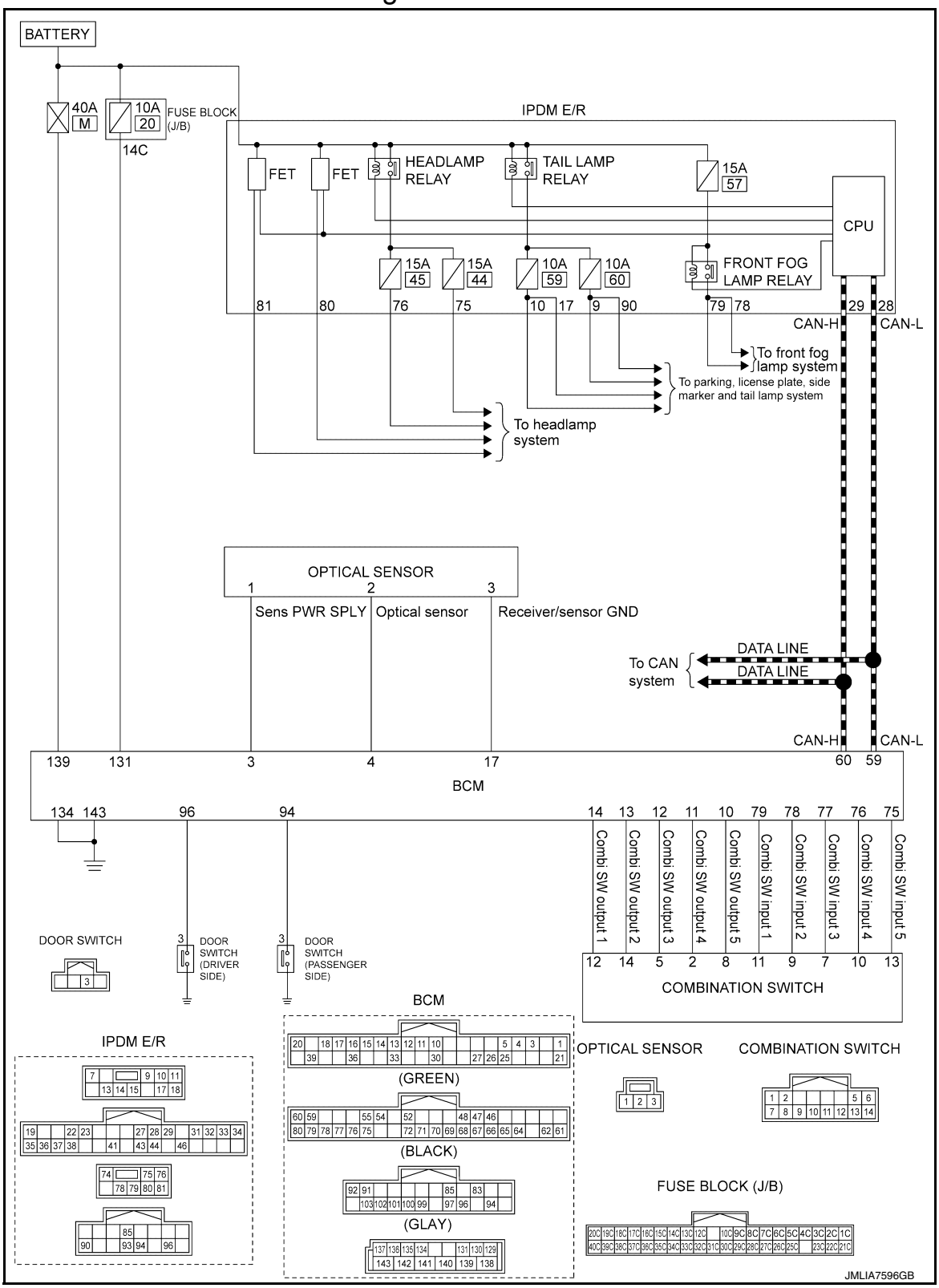
NOTE:
When any position other than the lighting switch AUTO is set, the auto light system function switches to the exterior lamp battery saver function.

AUTO LIGHT ADJUSTMENT SYSTEM

The auto light adjustment system automatically, dims/brightens the display and combination meter, according to brightness outside the vehicle, when lighting switch 1ST, lighting switch 2ND or lighting switch AUTO is operated. Refer to INL-16, "AUTO LIGHT ADJUSTMENT SYSTEM : System Description".

AUTO LIGHT SYSTEM : Circuit Diagram

INFOID:0000000013711944

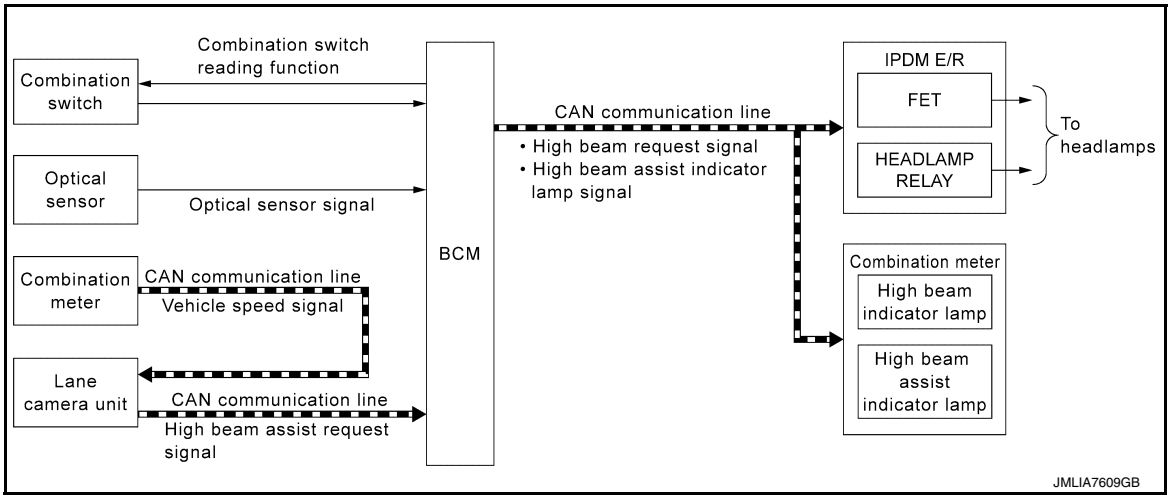


HIGH BEAM ASSIST SYSTEM

HIGH BEAM ASSIST SYSTEM : System Description

INFOID:0000000013975431

SYSTEM DIAGRAM



OUTLINE

- High beam assist system is a system that can reduce the driver's switch operation load. The system automatically switches the headlamp to the low beam mode when a vehicle ahead or an oncoming vehicle appears, while driving the vehicle with the headlamps in high beam mode at night.
- When the high beam assist system operation permission conditions are satisfied, the high beam assist indicator lamp in the combination meter turns ON and informs that the high beam assist is in operation.
- High beam assist system is controlled by each function of BCM, lane camera unit and IPDM E/R.

Control by BCM
- Combination switch reading function
- Auto light function
- High beam assist control function
- Headlamp control function

Control by IPDM E/R
- Relay control function
- FET control function

Control by Lane camera unit
- High beam assist control function

OPERATION DESCRIPTION

- BCM detects the combination switch condition with the combination switch reading function.
- BCM transmits the high beam assist indicator lamp signal to the combination meter via chassis CAN communication and CAN communication, when the high beam assist system operation permission conditions are satisfied.

High beam assist system operation permission conditions
- Lighting switch HI with the lighting switch AUTO and ignition switch ON (Only when the illuminating judgment by auto light function is ON. For details, refer to EXL-18, "AUTO LIGHT SYSTEM : System Description".)
- Combination meter turns the high beam assist indicator lamp ON according to the high beam assist indicator lamp signal.
- Lane camera unit detects the vehicle status and ambient status that are required for high beam assist control with the following signals.
- Vehicle speed signal (received from combination meter via chassis CAN communication and CAN communication)
- Ambient light signal (detect from lane camera unit)
- Image sensor signal (detect from lane camera unit)
- Lane camera unit judges the current recommended beam according to the vehicle status and ambient condition, and transmits the high beam assist request signal (headlamp HI operation / headlamp LO operation) to BCM via chassis CAN communication and CAN communication.

- BCM switches the headlamp LO operation / headlamp HI operation according to high beam assist request signal, while the high beam assist system operation permission conditions are satisfied. For headlamp operation, refer to EXL-16, "HEADLAMP SYSTEM : System Description".

RECOMMENDED BEAM JUDGMENT BY LANE CAMERA UNIT

Headlamp HI Operation Request

Lane camera unit requests the headlamp HI operation to BCM when all of following conditions are satisfied.

- Detects the vehicle speed is approx. 30 km/h or more.
- Recognizes the ambient condition is dark.
- Recognizes there is no oncoming vehicle or no vehicle ahead in front of the vehicle.

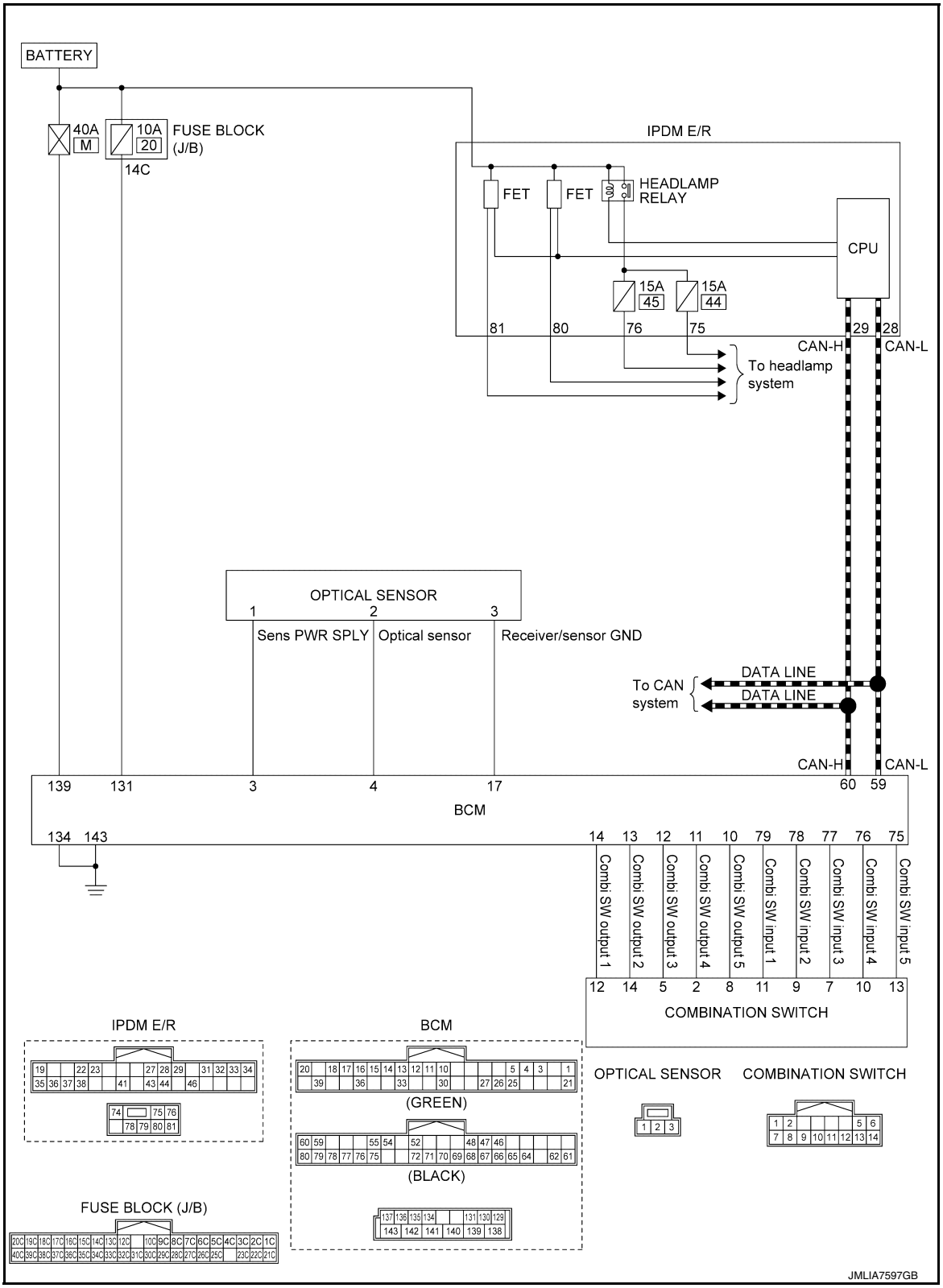
Headlamp LO Operation Request

Lane camera unit requests the headlamp LO operation to BCM when either of following conditions is satisfied.

- Detects the vehicle speed is approx. 20 km/h or less.
- Recognizes the ambient condition is bright.
- Recognizes there is oncoming vehicle or vehicle ahead in front of the vehicle.

HIGH BEAM ASSIST SYSTEM : Circuit Diagram

INFOID:0000000013975432

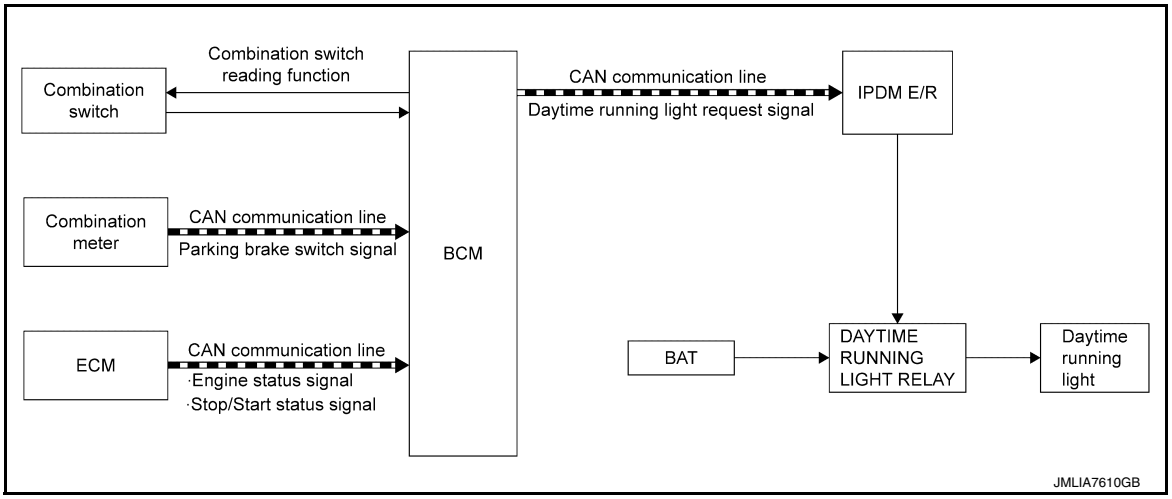


DAYTIME RUNNING LIGHT SYSTEM

DAYTIME RUNNING LIGHT SYSTEM : System Description

INFOID:0000000013711948

SYSTEM DIAGRAM



OUTLINE

Daytime running light is controlled by daytime running light control function and combination switch reading function of BCM, and relay control function of IPDM E/R.

DAYTIME RUNNING LIGHT OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM detects vehicle condition depending on the following signals.
- Engine status signal (received from ECM via CAN communication)
- Stop/Start status signal* (received from ECM via CAN communication)
- Parking brake switch signal (received from combination meter via CAN communication)
- BCM transmits the daytime running light request signal to IPDM E/R via CAN communication according to the daytime running light ON condition.

Daytime running light ON condition

- Engine running with the parking brake released, and any following conditions is satisfied.
- Lighting switch OFF
- Lighting switch AUTO (Only when the illumination judgment by auto light system is OFF. For details, refer to EXL-18, "AUTO LIGHT SYSTEM : System Description".)
- IPDM E/R turns the daytime running light relay ON, and turns the daytime running light ON according to the daytime running light request signal.

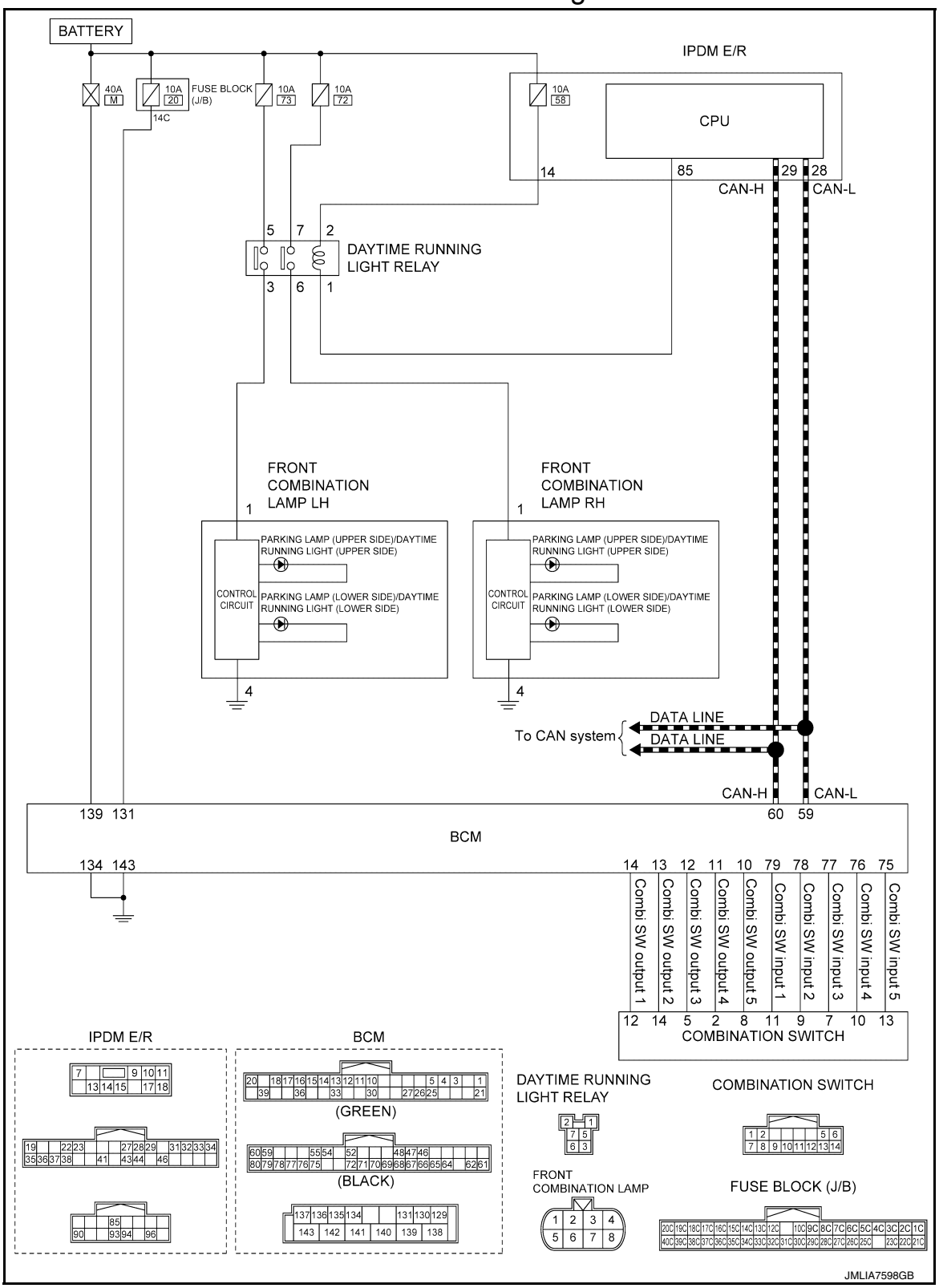
NOTE:

When the engine is stopped by the Stop/Start system, the operation of daytime running light system is not canceled.*

*: With Stop/Start system

DAYTIME RUNNING LIGHT SYSTEM : Circuit Diagram

INFOID:0000000013711949

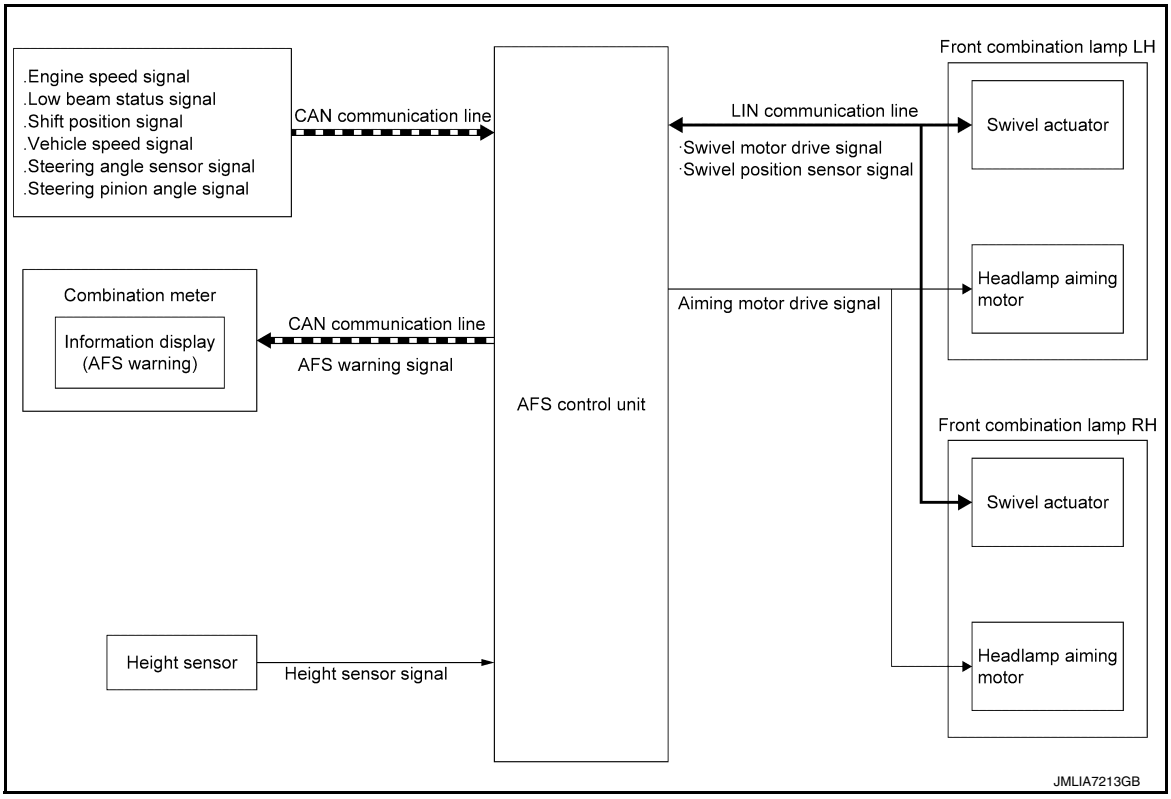


ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM : System Description

INFOID:0000000013711950

SYSTEM DIAGRAM



OUTLINE

- AFS (ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM) is controlled by AFS control unit.
- AFS has AFS control (swivel control) and the headlamp auto aiming control.
  - AFS control swivels the headlamp to the steering direction.
  - Headlamp auto aiming control moves the headlamp light axis up/down according to the vehicle height.

AFS (ADAPTIVE FRONT-LIGHTING SYSTEM)

AFS Control Description

- AFS control unit controls the headlamp when the steering wheel is turned rightward or leftward.
- AFS control unit detects the vehicle condition necessary for AFS control with the following signals.
  - Engine speed signal (received from ECM via CAN communication)
  - Low beam status signal (received from IPDM E/R via CAN communication)
  - Shift position signal (received from TCM via drivetrain CAN communication and CAN communication*2)
  - Vehicle speed signal (received from combination meter via CAN communication)
  - Steering angle sensor signal (received from steering angle sensor via CAN communication)*3
  - Steering pinion angle signal (received from steering force control module via CAN communication)*4
- When the operation conditions are satisfied, AFS control unit controls the swivel angle depending on the steering angle*3 or steering pinion angle*4 and the vehicle speed.

AFS operation condition

- Engine running
- Swivel actuator initialization completed
- Headlamp ON
- Selector lever position other than P or R
- Vehicle speed approximately 5 km/h (3.11 MPH) or more
  (Left swivel only: Right swivel activates regardless of the vehicle speed.)
  NOTE:
  Swivel does not operate when the vehicle speed is 200 km/h (124.3 MPH) or more.

Swivel Actuator Initialization

- AFS control unit performs the swivel actuator initialization when detecting that the engine starts.

- Swivels the headlamp to the vehicle-center side until it hits the stopper.
- Returns the swivel angle from the stopper. Completes the initialization with regarding the returned position as the swivel angle 0° (straight-forward position).

Swivel Operation

- AFS control unit transmits the swivel motor drive signal via LIN communication to the swivel actuator when activation conditions are satisfied. And swivels the headlamp.
  - The swivel starts after steering angle*3 or steering pinion angle*4 approximately 4° or more (depending on the vehicle speed) from straight-forward position.
  - The swivel angle becomes the maximum angle toward the driving direction if the steering angle*3 or steering pinion angle*4 is approximately 45.2°*3, 40.7°*4 or more (depending on the vehicle speed). The swivel angle is maintained by shutting off the swivel motor drive signal.
  - The swivel starts, and returns to the swivel angle 0° (straight-forward position) when the steering is returned to the straight-forward position.
- AFS control unit returns the swivel angle to the straight-forward position, and stops the swivel regardless of the steering angle*3 or steering pinion angle*4 if the operation condition is not satisfied while the swivel angle is not 0°.

AFS Warning

- AFS control unit transmits the AFS warning signal (CAN communication) to the combination meter when a specific DTC is detected. For the relation between warning display and DTC, refer to EXL-64, "DTC Index".
- When combination meter receives the AFS warning signal, “AFS warning” pop-up screen appears in the information display.

*1: VR30DDTT engine models

*2: 2.0L turbo gasoline engine models

*3: Without direct adaptive steering

*4: With direct adaptive steering

HEADLAMP AUTO AIMING

Headlamp Auto Aiming Control Description

- AFS control unit controls the headlamp light axis height appropriately according to the vehicle height.
- AFS control unit detects the vehicle condition necessary for headlamp auto aiming control with the following signals.
  - Height sensor signal
  - Engine speed signal (received from ECM via CAN communication)
  - Low beam status signal (received from IPDM E/R via CAN communication)
  - Vehicle speed signal (received from combination meter via CAN communication)
- When the operation conditions are satisfied, AFS control unit transmits the aiming motor drive signal for adjusting the headlamp axis height.

Headlamp auto aiming operation condition

- While the engine running
- Headlamp ON
- Vehicle speed (Control mode is switched according to the driving condition.)

Headlamp Auto Aiming Operation

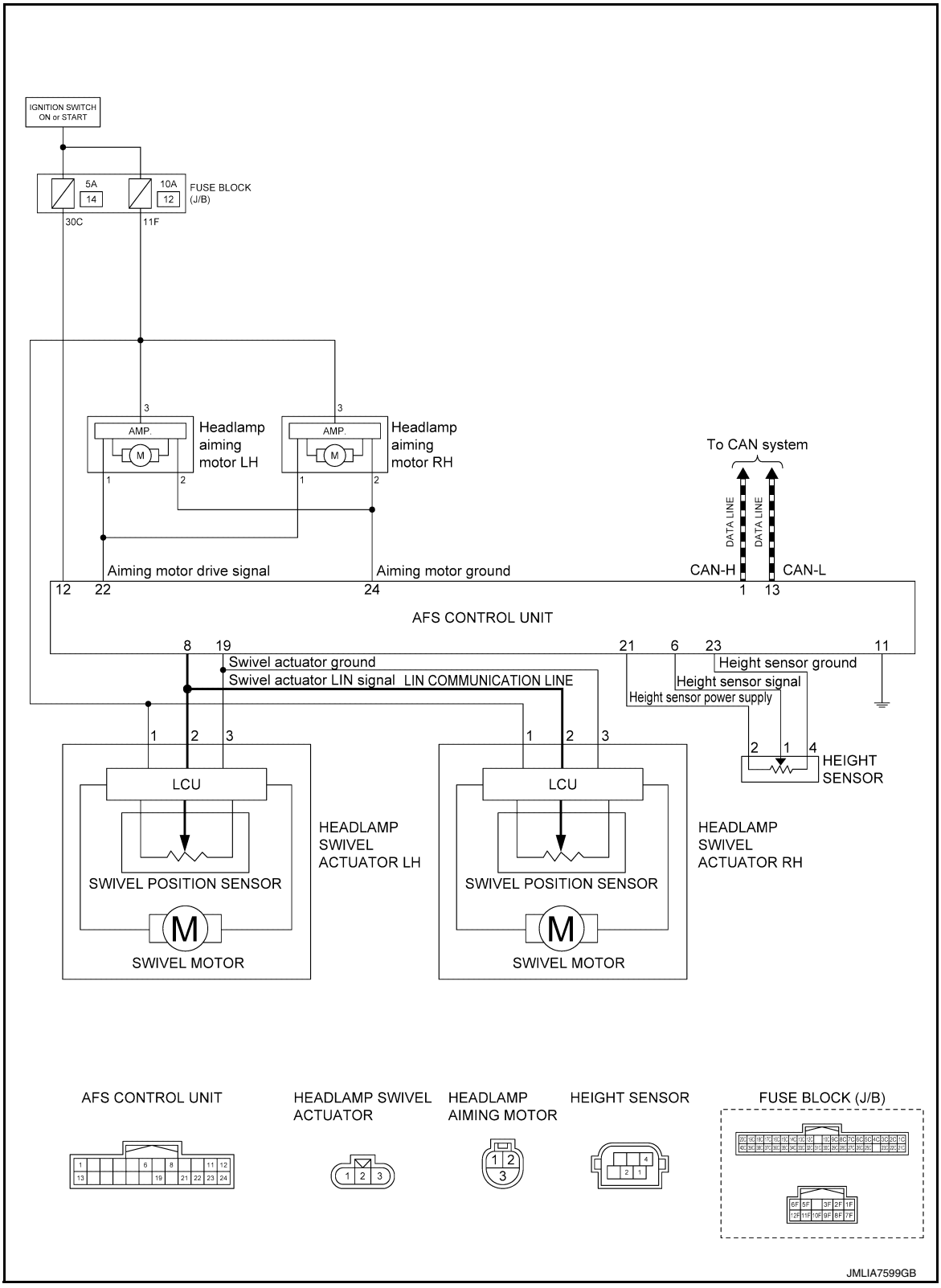
- AFS control unit calculates the vehicle pitch angle from the height sensor signal. AFS control unit judges the angle for adjusting the axis gap from the preset position.
- AFS control unit controls the headlamp axis by changing the aiming motor drive signal output according to the vehicle-rearward height when detecting the following vehicle condition. Output is maintained if other condition than following is detected.
  - Engine starts
  - Headlamp is turned ON
  - Vehicle posture becomes stable after changing the vehicle posture change is detected with the headlamp ON and the vehicle stopped
  - Vehicle speed is maintained with the headlamp ON and the vehicle driven

NOTE:
Adjusted axis position may differ from the preset position although the headlamp auto aiming activates properly if the suspension is replaced or worn.

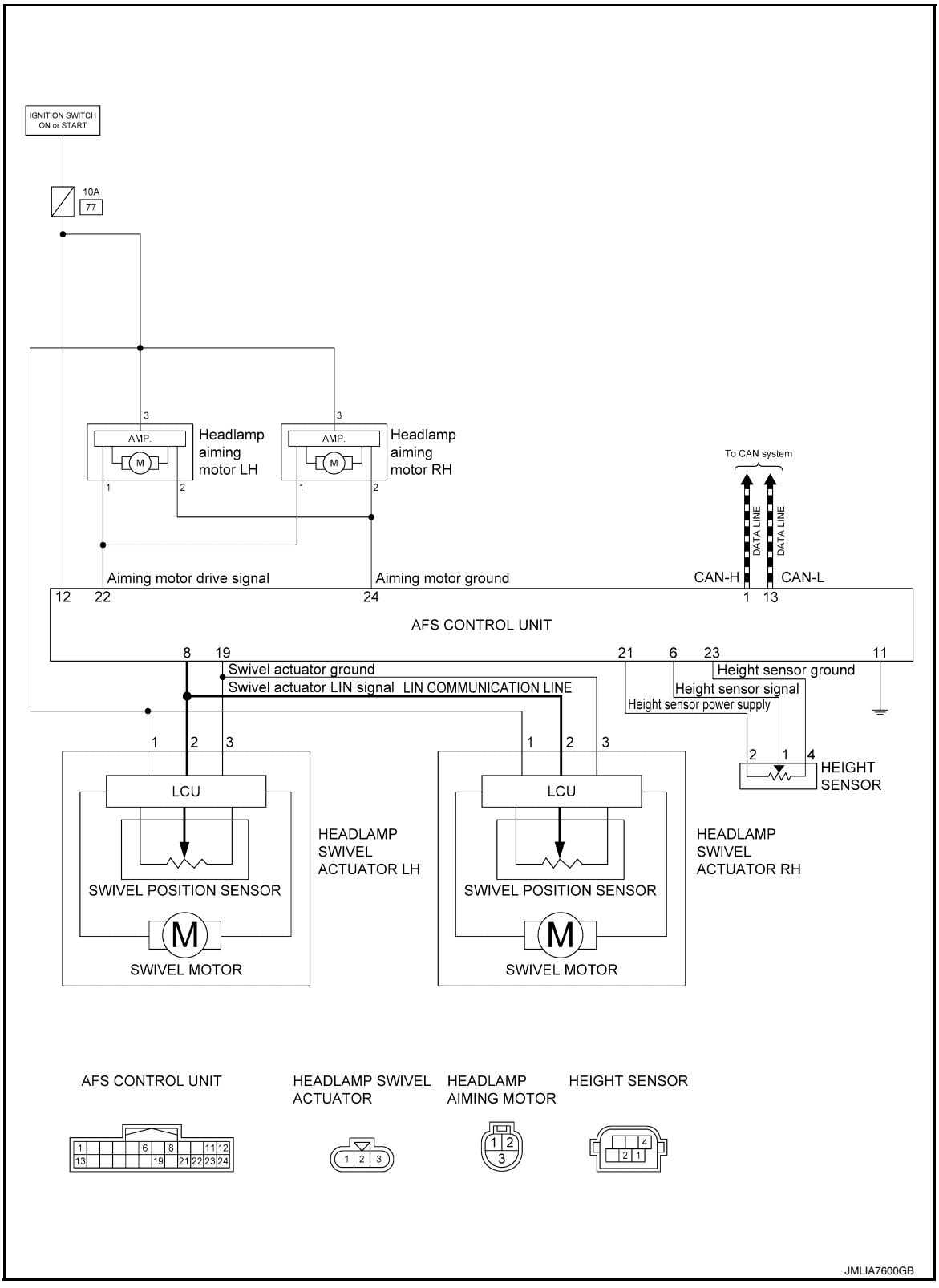
ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM : Circuit Diagram

INFOID:0000000013711951

VR30DDTT ENGINE MODELS



2.0L TURBO GASOLINE ENGINE MODELS



ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM : Fail-safe

INFOID:0000000014254338

DTC No.	CONSULT screen terms	Fail-safe	
		Swivel operation	Aiming operation
B2008	PARA NOT PROG calibration/parameter memory failure	Right and left swivel motors stop at the position when DTC is detected	Right and left headlamp aiming motors stop at the position when DTC is detected
B2503	SWIVEL ACTUATOR [RH] signal invalid	• Right swivel motor stop at the position when DTC is detected • Left swivel motor swivel angle returns to 0° and fixed	The signal, approximately 2 V decreased from the aiming motor drive signal when DTC detected, is output
	SWIVEL ACTUATOR [RH] COMM ERROR	• Right swivel motor stop at the position when DTC is detected or right swivel motor swivel angle returns to 0° and fixed • Left swivel motor swivel angle returns to 0° and fixed	
B2504	SWIVEL ACTUATOR [LH] signal invalid	• Left swivel motor stop at the position when DTC is detected • Right swivel motor swivel angle returns to 0° and fixed	The signal, approximately 2 V decreased from the aiming motor drive signal when DTC detected, is output
	SWIVEL ACTUATOR [LH] COMM ERROR	• Left swivel motor stop at the position when DTC is detected or left swivel motor swivel angle returns to 0° and fixed • Right swivel motor swivel angle returns to 0° and fixed	
B2512	4WAS SIG	Right and left swivel motor swivel angle returns to 0° and fixed	—
B2514	HI SEN UNUSUAL [RR] general electrical failure	Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected
	HI SEN UNUSUAL [RR] signal invalid		
B2516	SHIFT POS SIG[R,P]	Right and left swivel motor swivel angle returns to 0° and fixed	—
B2517	VEHICEL SPEED SIG	Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected
B2519	LEVELIZER CALIB missing calibration	Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected
B2521	ECU CIRC	Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected
U0126	ST ANG SEN SIG	Right and left swivel motor swivel angle returns to 0° and fixed	—
U0428	ST ANG SEN CALIB	Right and left swivel motor swivel angle returns to 0° and fixed	—

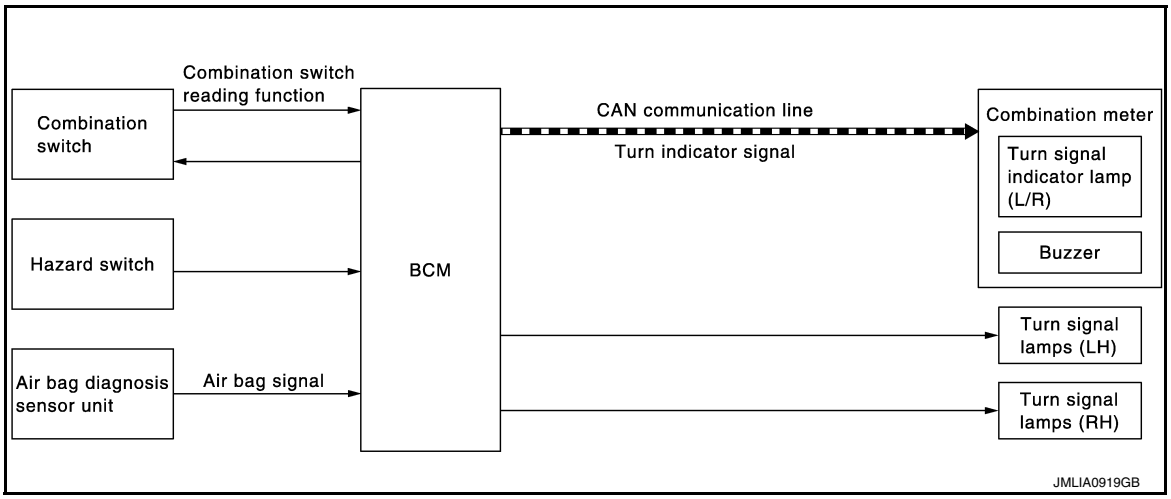
DTC No.	CONSULT screen terms	Fail-safe	
		Swivel operation	Aiming operation
U1000	CAN COMM CIRCUIT	Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected **NOTE:** Only when the vehicle speed signal or the low beam status signal cannot be received
U1010	CONTROL UNIT(CAN)	Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

INFOID:0000000013711953

SYSTEM DIAGRAM



OUTLINE

Turn signal lamp and hazard warning lamp is controlled by combination switch reading function and the flasher control function of BCM.

TURN SIGNAL LAMP OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM supplies voltage to the right (left) turn signal lamp circuit when the ignition switch is ON and the turn signal switch is in the right (left) position. BCM blinks the turn signal lamp.

HAZARD WARNING LAMP OPERATION

BCM supplies voltage to both turn signal lamp circuits when the hazard switch is ON. BCM blinks the hazard warning lamp.

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL OPERATION

- BCM transmits the turn indicator signal to the combination meter using CAN communication while the turn signal lamp and the hazard warning lamp are operating.
- Combination meter outputs the turn signal sound with the integrated buzzer while blinking the turn signal indicator lamp according to the turn indicator signal.

3-TIME FLASHER FUNCTION

- By a short touch of the turn signal lever, BCM blinks the turn signal lamps 3 times in the selected direction.
- Cancels the operation when short touch of the turn signal lever in the reverse direction during the 3-time flasher function operation.

NOTE:

ON/OFF of 3-time flasher function can be changed using CONSULT. Refer to EXL-53, "FLASHER : CONSULT Function (BCM - FLASHER)".

HIGH FLASHER OPERATION

- BCM detects the turn signal lamp circuit status from the current value.
- BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

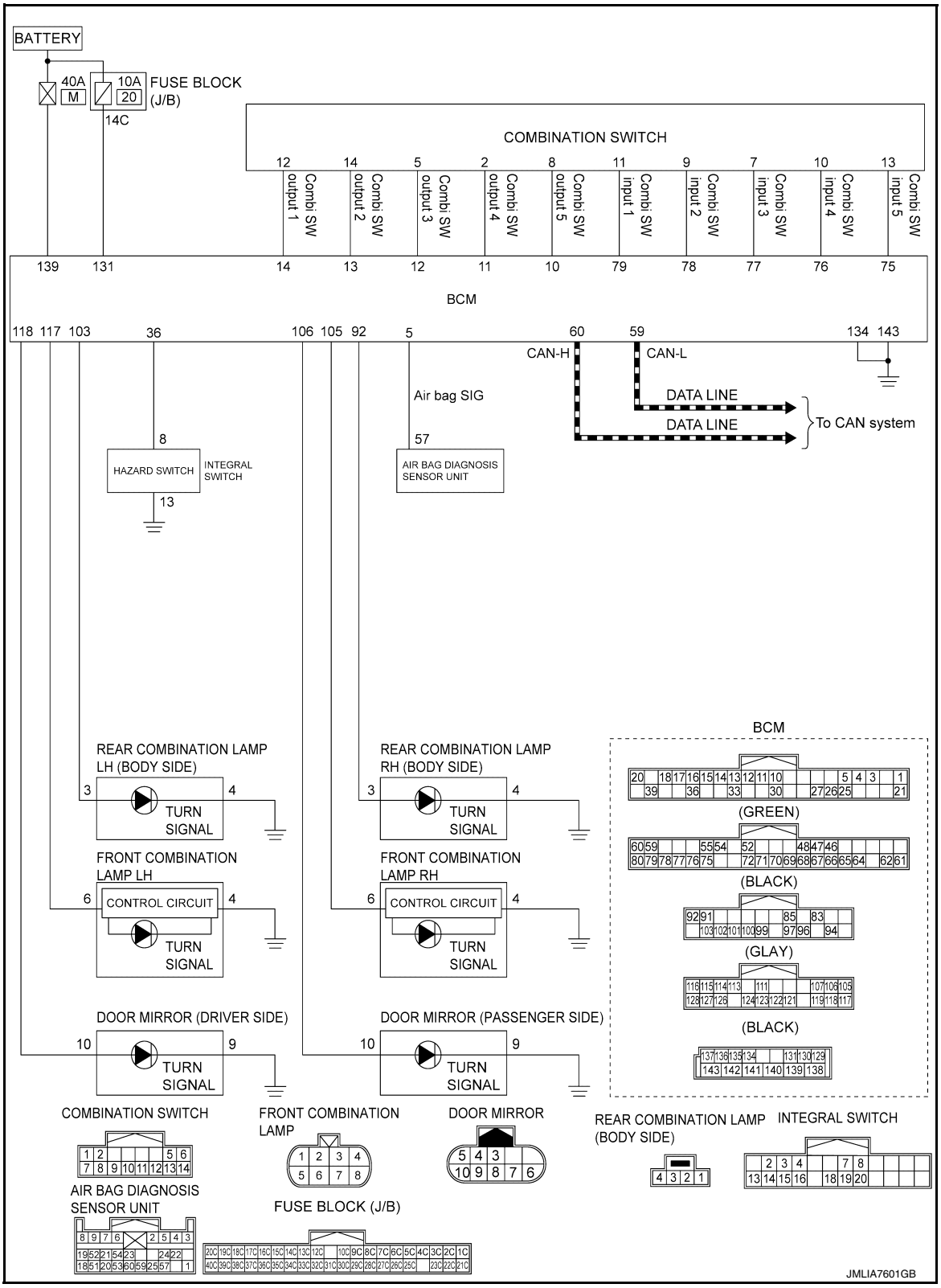
NOTE:
The blinking speed is normal while operating the hazard warning lamp.

AUTO HAZARD FUNCTION

- Air bag diagnosis sensor unit transmits air bag signal to BCM, when air bag diagnosis sensor unit detects strong impact to the vehicle body while ignition switch is ON.
- When air bag signal received from air bag diagnosis sensor unit is detected, BCM supplies voltage to each turn signal lamp system and hazard lamp blinks.

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : Circuit Diagram

INFOID:0000000013711954



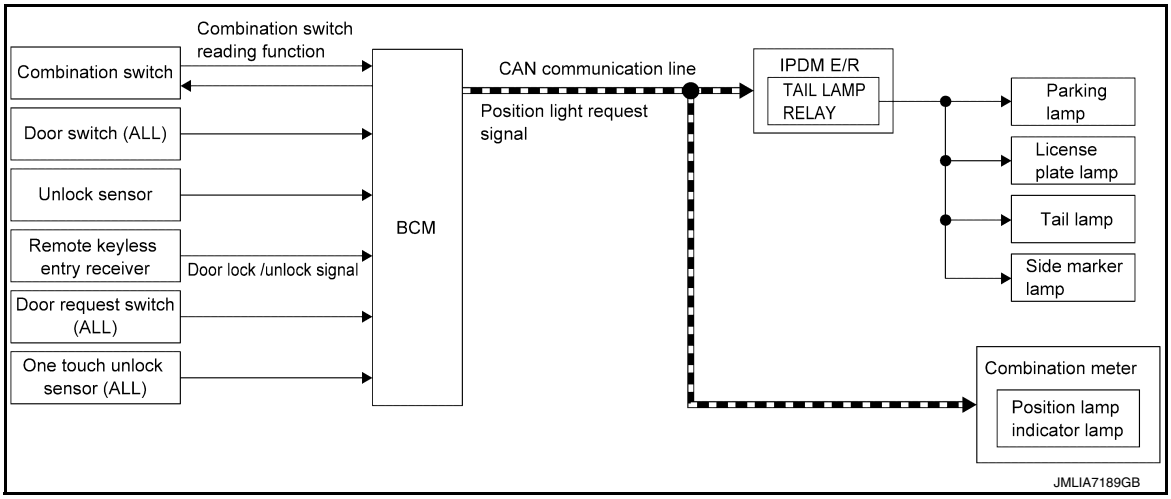
PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System De-

scription

INFOID:0000000013711955

SYSTEM DIAGRAM



OUTLINE

Parking, license plate, side marker and tail lamps are controlled by combination switch reading function and parking, license plate, side marker lamp and tail lamps control function of BCM, and relay control function of IPDM E/R.

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the position light request signal to IPDM E/R and the combination meter via CAN communication according to the parking, license plate, side marker and tail lamps ON condition.

Parking, license plate, side marker and tail lamps ON condition

- Lighting switch 1ST or 2ND
- Lighting switch AUTO with the ignition switch ON (Only when the illumination judgment by auto light system is ON. For details, refer to EXL-18, "AUTO LIGHT SYSTEM : System Description".)

- IPDM E/R turns the integrated tail lamp relay ON and turns the parking, license plate, side marker and tail lamps ON according to the position light request signal.
- Combination meter turns the position lamp indicator lamp ON according to the position light request signal.

NOTE:

Parking lamp (upper side/lower side) and daytime running light (upper side/lower side) use a common light source. When the parking, license plate, side marker and tail lamps are turned ON while daytime running light is ON, the parking lamp (lower side)/daytime running light (lower side) is dimmed.

SIGNATURE LIGHT FUNCTION

Description

Signature light function is a function that turns ON the parking, license plate, side marker and tail lamps for 30 seconds after the doors are locked or unlocked from the status that all doors are locked.

Operation Description

BCM transmits the position light request signal to IPDM E/R and combination meter via CAN communication when all of following conditions are satisfied.

Signature light function operating condition (Operation when doors are unlocked)

- When all of the following conditions are satisfied, the signature light function operates when door unlock operation is performed from outside the vehicle (Intelligent Key, door request switch or one touch unlock sensor, etc.).
- Ignition switch: OFF
- Door open/close status: All door close
- Door lock status: All door lock
- When any of the following conditions is satisfied while the signature light function is operating, the signature light function stops.
- Ignition switch: ON
- Since signature light function ON, approx. 30 seconds are passed.

- When door lock operation is performed from outside the vehicle (Intelligent Key, door request switch or one touch unlock sensor, etc.) while the signature light function is operating, the system changes to operation when doors are locked.

Signature light function operating condition (Operation when doors are locked)

- When all of the following conditions are satisfied, the signature light function operates when door lock operation is performed from outside the vehicle (Intelligent Key, door request switch or one touch unlock sensor, etc.).
- Ignition switch: OFF
- Door open/close status: All door close
- Door lock status: All door unlock
- When any of the following conditions is satisfied while the signature light function is operating, the signature light function stops.
- Ignition switch: ON
- Since signature light function ON, approx.10 seconds are passed.
- When door unlock operation is performed from outside the vehicle (Intelligent Key, door request switch or one touch unlock sensor, etc.) while the signature light function is operating, the system changes to operation when doors are unlocked.
- When in any of following conditions, signature light function can be cancelled while signature light function is operating.

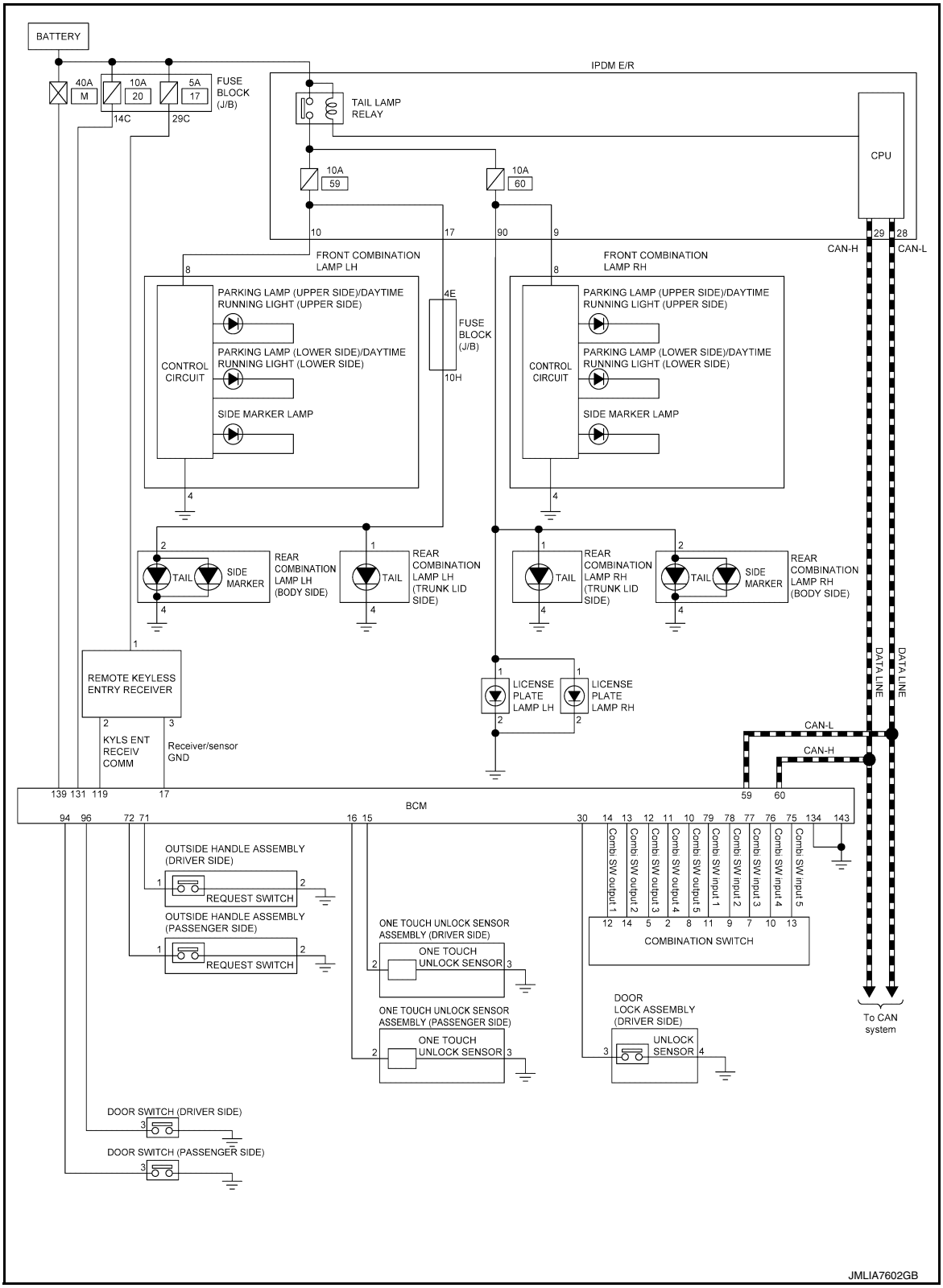
NOTE:

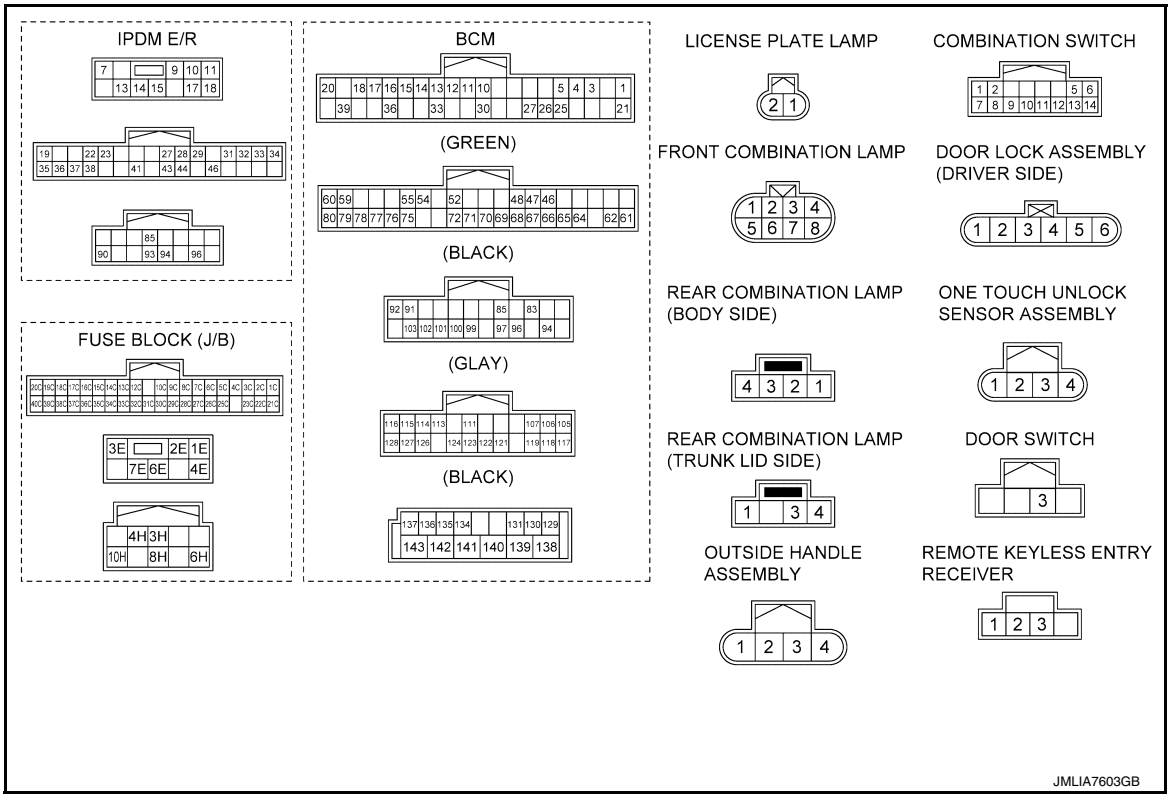
ON/OFF of signature light function can be changed using CONSULT. Refer to DLK-53, "DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)".

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : Circuit Dia-

gram

INFOID:0000000013711956





PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : Fail-safe

INFOID:0000000013711957

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
• Parking lamp • License plate lamp • Side marker lamp • Tail lamp	• Turns ON the tail lamp relay and daytime running light relay when the ignition switch is turned ON • Turns OFF the tail lamp relay and daytime running light relay when the ignition switch is turned OFF

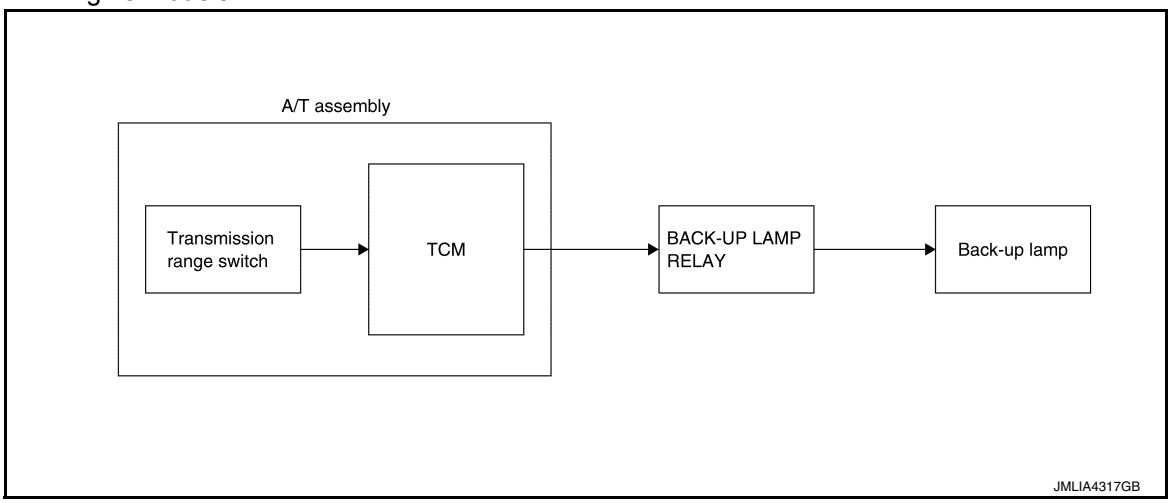
BACK-UP LAMP SYSTEM

BACK-UP LAMP SYSTEM : System Description

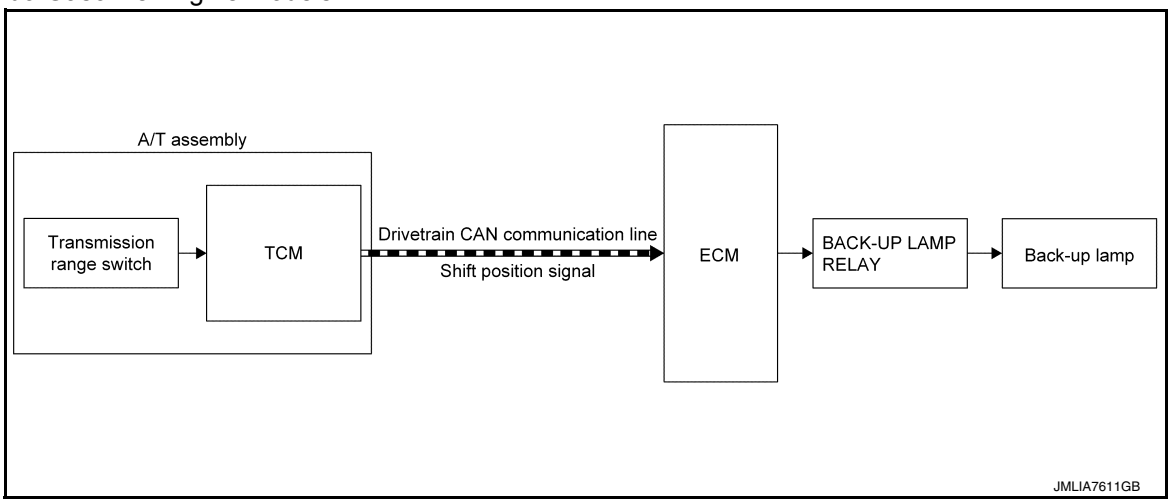
INFOID:0000000013711958

SYSTEM DIAGRAM

VR30DDTT Engine Models



2.0L Turbo Gasoline Engine Models



OUTLINE

VR30DDTT Engine Models
Back-up lamp is controlled by back-up lamp control function of TCM.

2.0L Turbo Gasoline Engine Models
Back-up lamp is controlled by back-up lamp control function of ECM.

BACK-UP LAMP OPERATION

VR30DDTT Engine Models
- TCM detects the selector lever position status from transmission range switch.
- TCM turns the back-up lamp relay ON, and turns the back-up lamp ON according to the back-up lamp ON conditions are satisfied.

Back-up lamp ON condition
- Ignition switch ON
- Selector lever position R

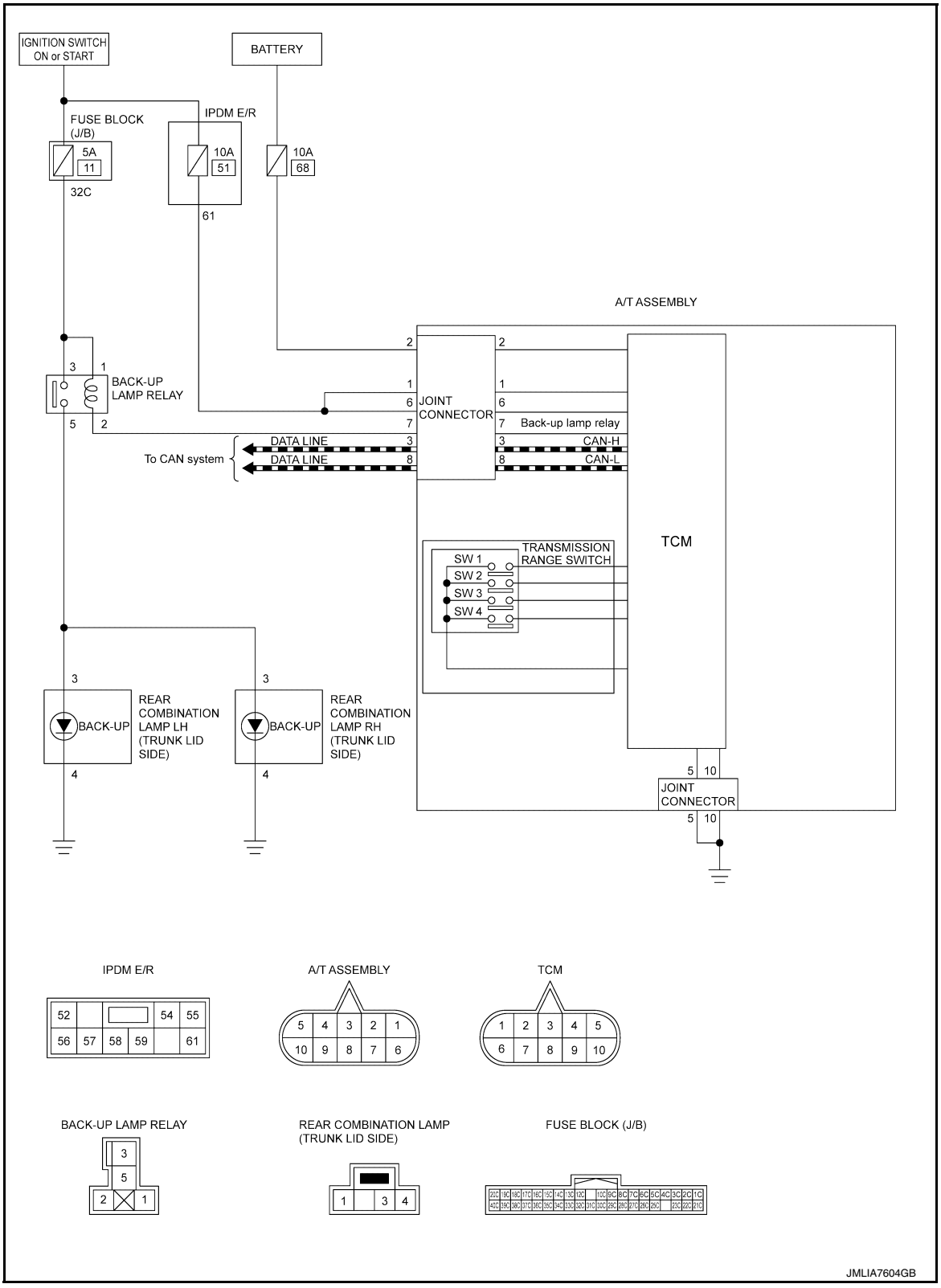
2.0L Turbo Gasoline Engine Models
- TCM detects the selector lever position status from transmission range switch.
- ECM receives the shift position signal from TCM via drivetrain CAN communication.
- ECM turns the back-up lamp relay ON, and turns the back-up lamp ON according to the back-up lamp ON conditions are satisfied.

Back-up lamp ON condition
- Ignition switch ON
- Selector lever position R

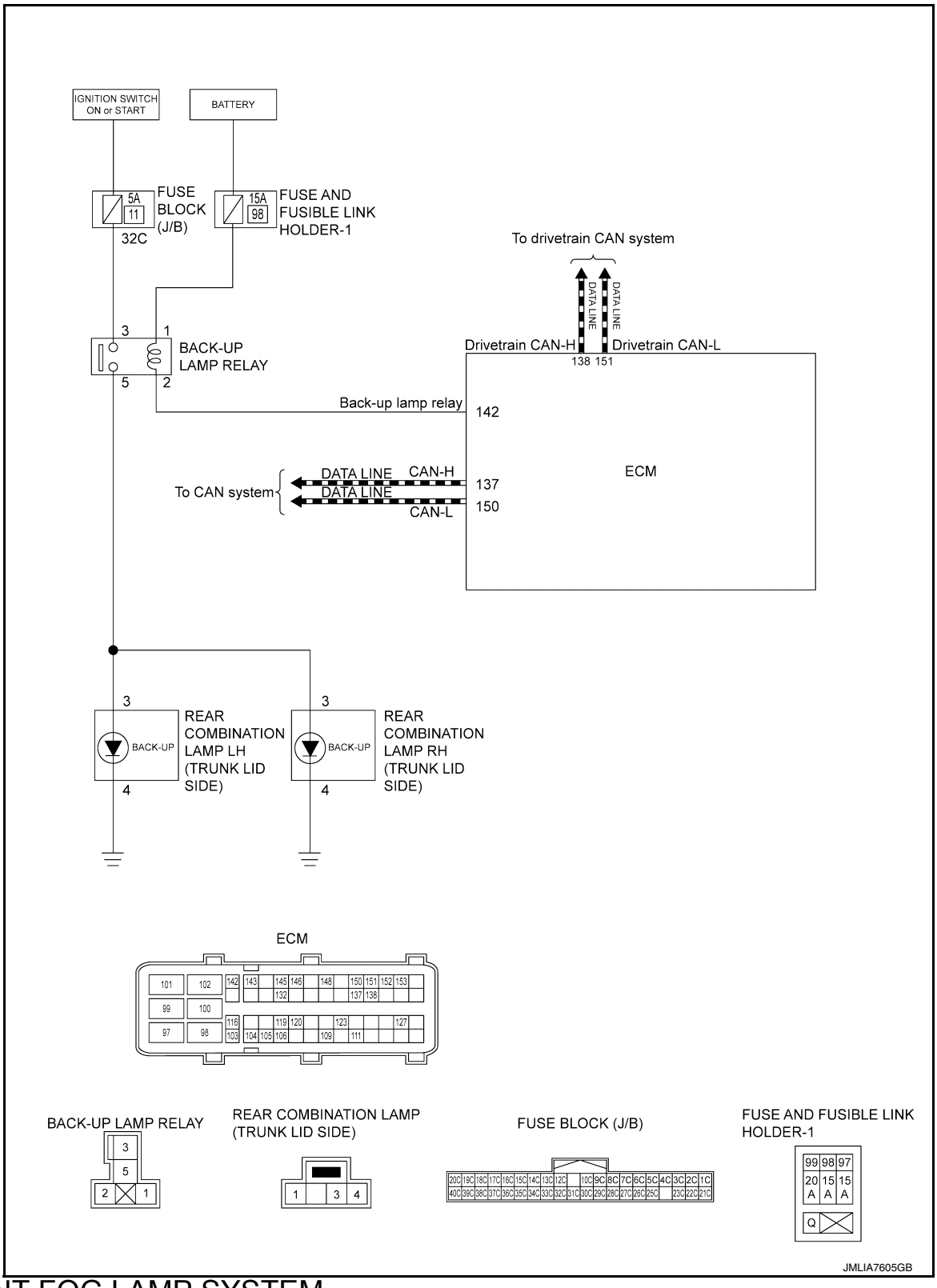
BACK-UP LAMP SYSTEM : Circuit Diagram

INFOID:0000000013711959

VR30DDTT ENGINE MODELS



2.0L TURBO GASOLINE ENGINE MODELS

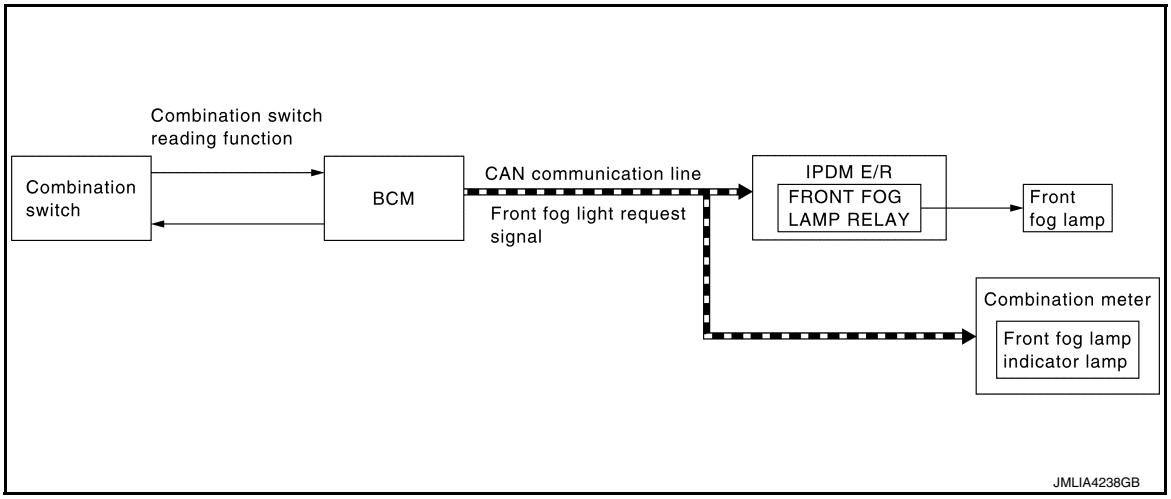


FRONT FOG LAMP SYSTEM

FRONT FOG LAMP SYSTEM : System Description

INFOID:0000000013711960

SYSTEM DIAGRAM



OUTLINE

Front fog lamp is controlled by combination switch reading function and front fog lamp control function of BCM, and relay control function of IPDM E/R.

FRONT FOG LAMP OPERATION

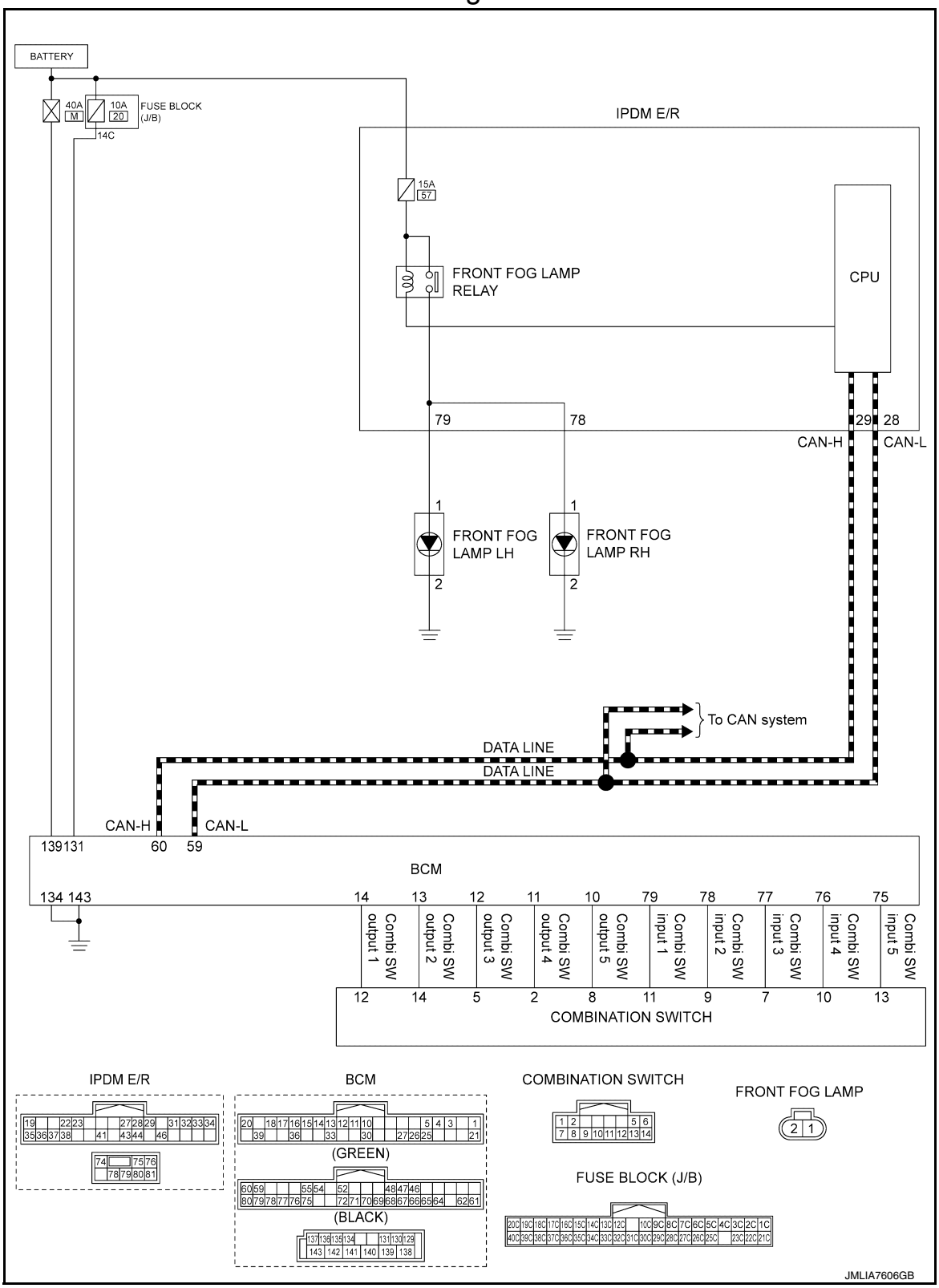
- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the front fog light request signal to IPDM E/R and the combination meter via CAN communication according to the front fog lamp ON condition.

Front fog lamp ON condition

- Front fog lamp switch ON, and any of the following conditions is satisfied. [except headlamp (HI) ON condition]
- Lighting switch 2ND
- Lighting switch AUTO with the ignition switch ON (Only when the illumination judgment by auto light system is ON. For details, refer to EXL-18, "AUTO LIGHT SYSTEM : System Description".)
- IPDM E/R turns the integrated front fog lamp relay ON, and turns the front fog lamp ON according to the front fog light request signal.
- Combination meter turns the front fog lamp indicator lamp ON according to the front fog light request signal.

FRONT FOG LAMP SYSTEM : Circuit Diagram

INFOID:0000000013711961



FRONT FOG LAMP SYSTEM : Fail-safe

INFOID:0000000013711962

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

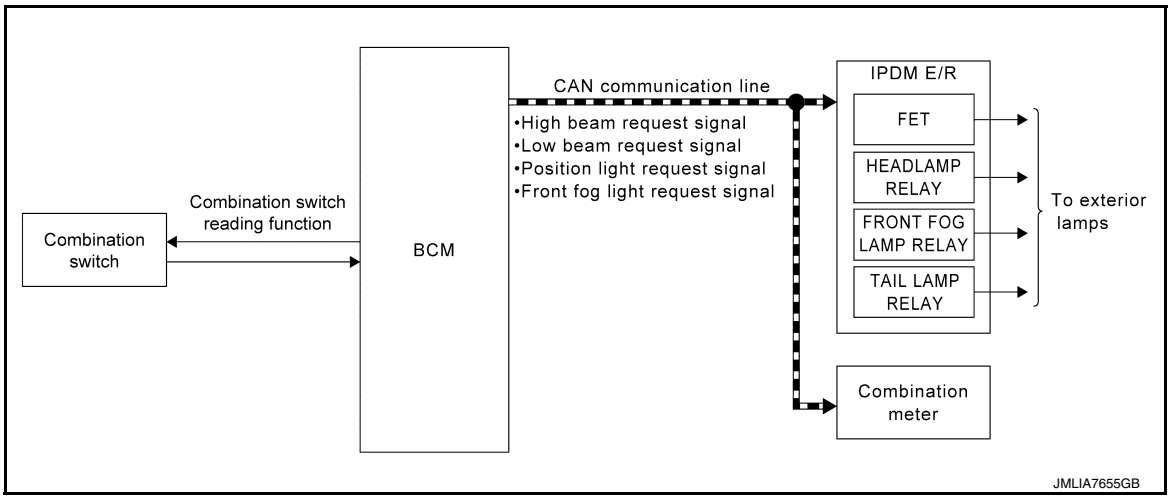
Control part	Fail-safe operation
Front fog lamp	Front fog lamp relay OFF

EXTERIOR LAMP BATTERY SAVER SYSTEM

EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description

INFOID:0000000013711963

SYSTEM DIAGRAM



OUTLINE

- Exterior lamp battery saver system is controlled by combination switch reading function and exterior lamp battery saver function of BCM, and relay control function and FET control function of IPDM E/R.
- BCM turns the exterior lamp OFF*, according to the vehicle status when ignition switch is turned OFF while exterior lamp is ON, for preventing battery discharge.

*: Headlamp (LO/HI), front fog lamp, parking lamp, license plate lamp, side marker lamp and tail lamp

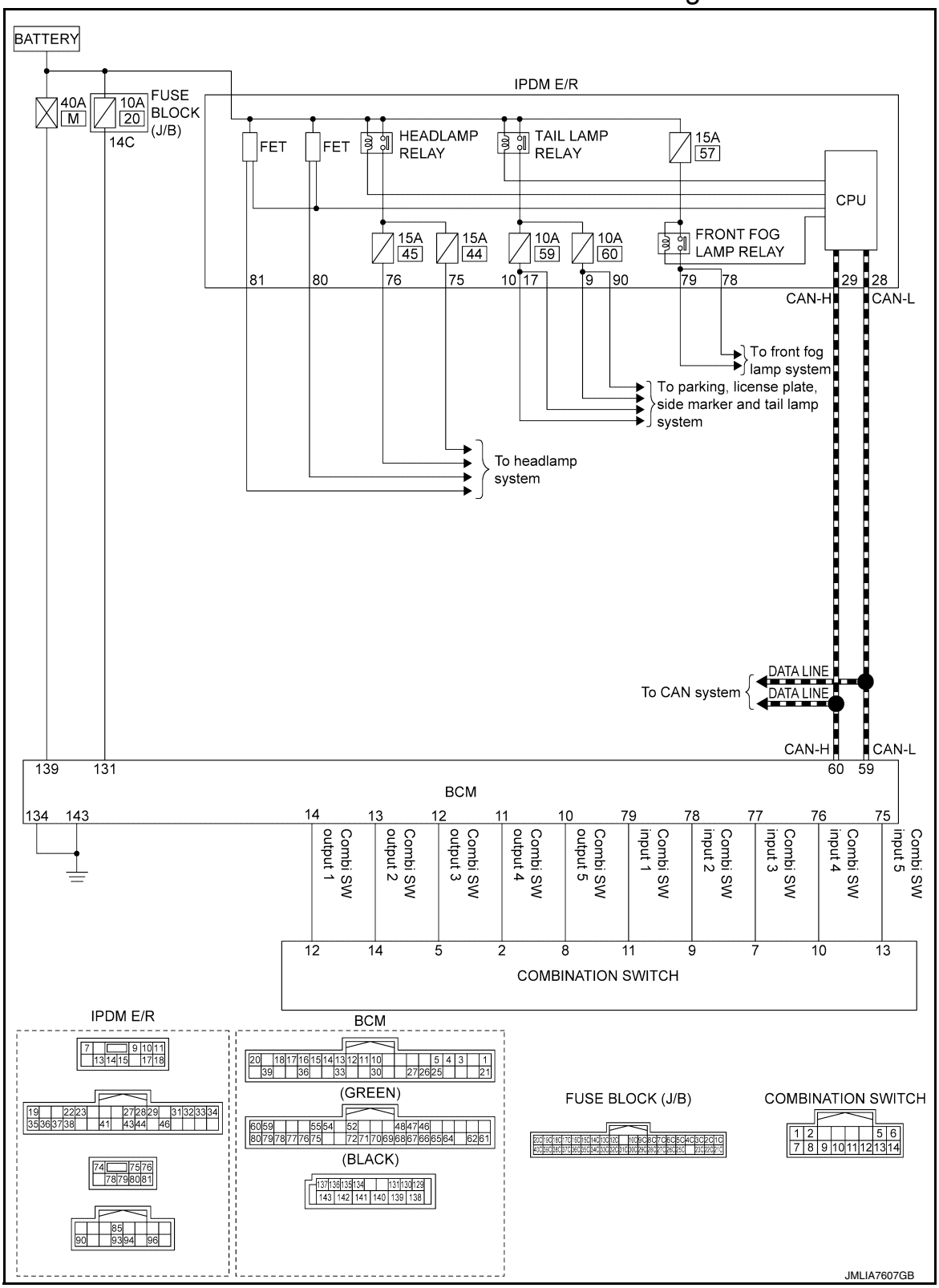
EXTERIOR LAMP BATTERY SAVER ACTIVATION

- BCM activates the timer and turns the exterior lamp OFF 45 seconds after the ignition switch is turned from ON→OFF with the exterior lamps ON.
- When in any of following conditions (after the exterior lamp battery saver is activated), exterior lamps can be turned ON.

- Ignition switch is turned from OFF→ACC/ON
- Lighting switch is changed
- Front fog lamp switch is changed

EXTERIOR LAMP BATTERY SAVER SYSTEM : Circuit Diagram

INFOID:0000000013711964



INFORMATION DISPLAY (COMBINATION METER)

INFORMATION DISPLAY (COMBINATION METER) : AFS Warning

INFOID:0000000013711965

DESIGN/PURPOSE

When AFS control unit detects a specific DTC, the combination meter displays the AFS warning on vehicle information display and warns the driver that inspection and repair are required.

Symbol	Message
—	AFS System Error

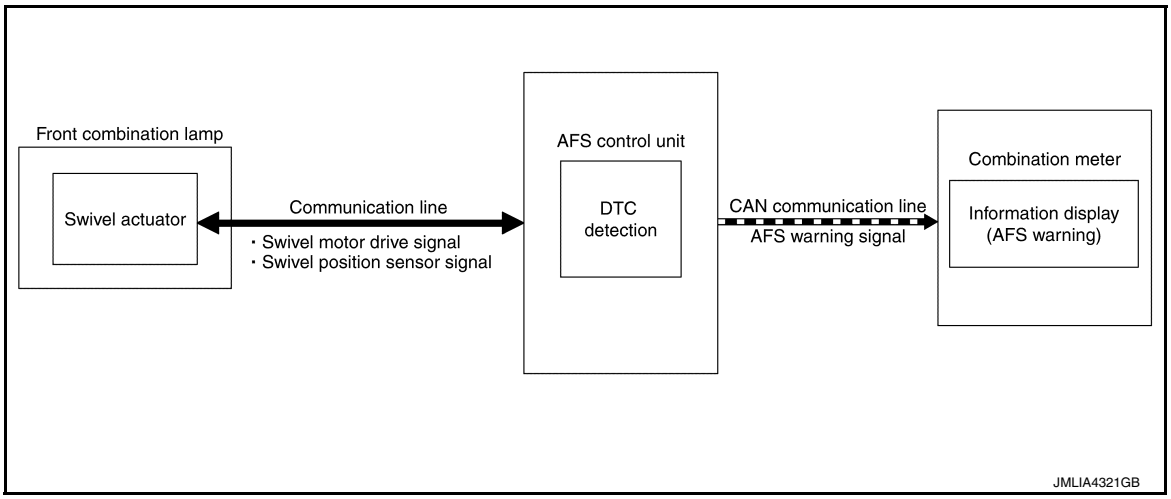
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-18, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- When the conditions of AFS warning display are satisfied, AFS control unit transmits the AFS warning signal to combination meter via CAN communication.
- When combination meter receives the AFS warning signal, AFS warning pop-up screen appears in the information display.

WARNING/INDICATOR OPERATING CONDITION

When all of the following conditions are satisfied.

- Ignition switch ON
- AFS control unit detects a specific DTC

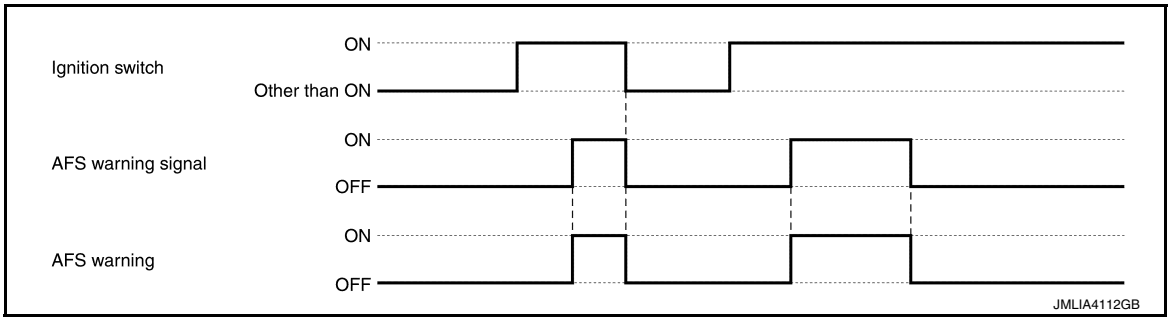
For the relation between warning display and DTC, refer to EXL-64, "DTC Index".

WARNING/INDICATOR CANCEL CONDITION

When any of the following conditions are satisfied.

- Ignition switch OFF
- Erase DTC

TIMING CHART



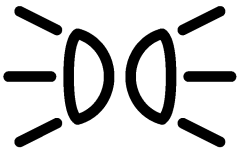
INFORMATION DISPLAY (COMBINATION METER) : Light Reminder Warning (Infor-

mation Display)

INFOID:0000000013711967

DESIGN/PURPOSE

When the driver is exiting the vehicle while ignition is in any position other than ON and lamps are ON, the light reminder warning (information display) displays a warning in the information display to alert the driver.

Symbol	Message
 JPNIA1880ZZ	Reminder Turn OFF Headlights

SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

SYNCHRONIZATION WITH WARNING CHIME

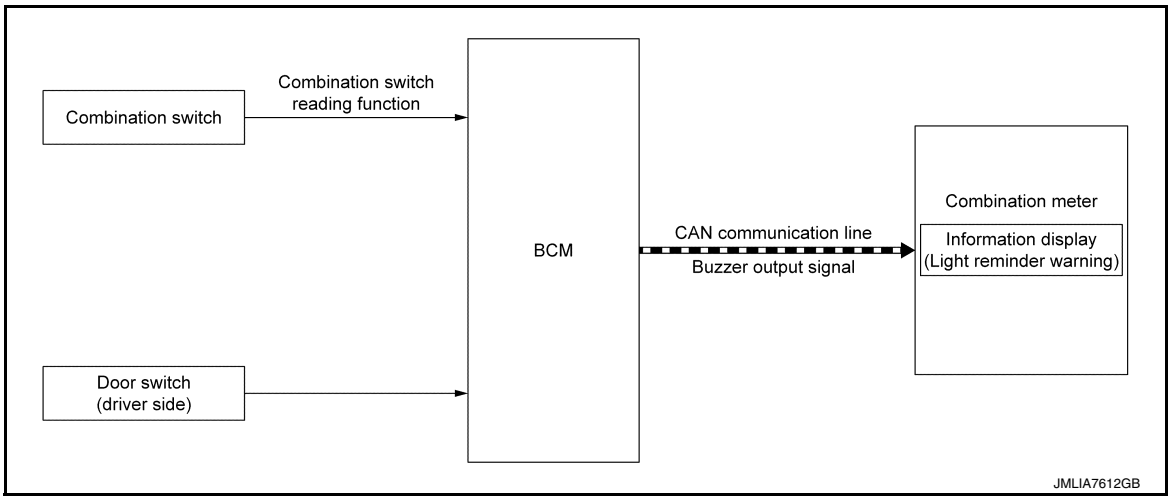
Synchronization is applied.

For warning chime, refer to WCS-12, "WARNING CHIME : Light Reminder Warning (Buzzer)".

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-18, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- BCM reads status of combination switch.
- BCM judges light reminder warning (information display) by lighting switch signal and driver door switch (driver side) signal. BCM transmits buzzer output signal to combination meter via CAN communication.
- When combination meter receives the buzzer output signal, Light reminder warning pop-up screen appears in the information display.

WARNING/INDICATOR OPERATING CONDITION

When all of the following conditions are satisfied.

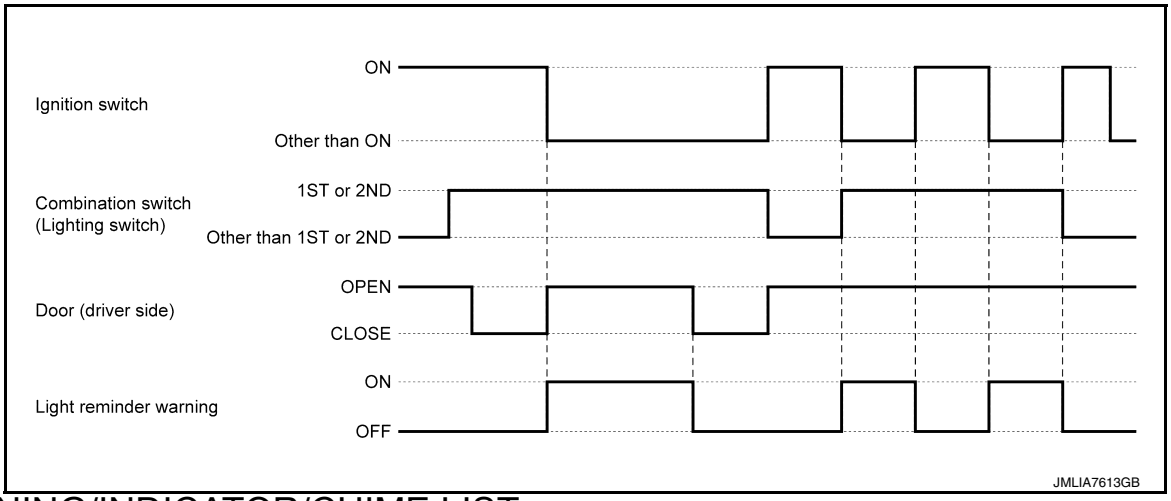
- Ignition other than ON
- Lighting switch 1ST or 2ND
- Door (driver side) OPEN [door switch (driver side) ON]

WARNING/INDICATOR CANCEL CONDITION

When any of the following conditions are satisfied.

- Ignition ON
- Lighting switch other than 1ST or 2ND
- Door (driver side) CLOSE [door switch (driver side) OFF]

TIMING CHART



WARNING/INDICATOR/CHIME LIST

WARNING/INDICATOR/CHIME LIST : Warning Lamp/Indicator Lamp

INFOID:0000000013711968

Item	Design	Reference
Front fog lamp indicator lamp		For layout, refer to MWI-9, "METER SYSTEM : Design". For function, refer to MWI-30, "WARNING LAMPS/INDICATOR LAMPS : Front Fog Lamp Indicator Lamp".
High beam assist indicator lamp*		For layout, refer to MWI-9, "METER SYSTEM : Design". For function, refer to MWI-31, "WARNING LAMPS/INDICATOR LAMPS : High Beam Assist Indicator Lamp".
High beam indicator lamp		For layout, refer to MWI-9, "METER SYSTEM : Design". For function, refer to MWI-32, "WARNING LAMPS/INDICATOR LAMPS : High Beam Indicator Lamp".
Position lamp indicator lamp		For layout, refer to MWI-9, "METER SYSTEM : Design". For function, refer to MWI-41, "WARNING LAMPS/INDICATOR LAMPS : Position Lamp Indicator Lamp".
Turn signal indicator lamp		For layout, refer to MWI-9, "METER SYSTEM : Design". For function, refer to MWI-52, "WARNING LAMPS/INDICATOR LAMPS : Turn Signal Indicator Lamp".

*: With high beam assist system

WARNING/INDICATOR/CHIME LIST : Warning Chime

INFOID:0000000013711969

Item	Reference
Light reminder warning (buzzer)	Refer to WCS-12, "WARNING CHIME : Light Reminder Warning (Buzzer)".
Turn signal operation sound warning	Refer to EXL-31, "TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description".

WARNING/INDICATOR/CHIME LIST : Warning/Indicator (Information Display)

INFOID:0000000013711970

Item	Reference
AFS warning	Refer to EXL-44, "INFORMATION DISPLAY (COMBINATION METER) : AFS Warning".
Light reminder warning (information display)	Refer to EXL-45, "INFORMATION DISPLAY (COMBINATION METER) : Light Reminder Warning (Information Display)".

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

INFOID:0000000014254342

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

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing BCM.

SYSTEM APPLICATION
BCM can perform the following functions for each system.
NOTE:
It can perform the diagnosis modes except the following for all sub system selection items.

×: Applicable item

System	Sub system selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
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 CONDITONER*		×	
• Intelligent Key system • Engine start system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
IVIS - NATS	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER		×	×
Trunk lid open	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
—	AIR PRESSURE MONITOR*		×	×

*: This item is not used.

FREEZE FRAME DATA (FFD)
The BCM records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

CONSULT screen item	Indication/Unit	Description	
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected	
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected	
Vehicle Condition	SLEEP>LOCK	Power position status of the moment a particular DTC is detected*	While turning BCM status from low power consumption mode to normal mode (Power supply position is “LOCK”*)
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is “OFF”.)
	LOCK>ACC		While turning power supply position from “LOCK” *to “ACC”
	ACC>ON		While turning power supply position from “ACC” to “IGN”
	RUN>ACC		While turning power supply position from “RUN” to “ACC” (Vehicle is stopping and selector lever is except P position.)
	CRANK>RUN		While turning power supply position from “CRANKING” to “RUN” (From cranking up the engine to run it)
	RUN>URGENT		While turning power supply position from “RUN“ to “ACC” (Emergency stop operation)
	ACC>OFF		While turning power supply position from “ACC” to “OFF”
	OFF>LOCK		While turning power supply position from “OFF” to “LOCK”*
	OFF>ACC		While turning power supply position from “OFF” to “ACC”
	ON>CRANK		While turning power supply position from “IGN” to “CRANKING”
	OFF>SLEEP		While turning BCM status from normal mode (Power supply position is “OFF”.) to low power consumption mode
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply position is “LOCK”*.) to low power consumption mode
	LOCK		Power supply position is “LOCK” (Ignition switch OFF)*
	OFF		Power supply position is “OFF” (Ignition switch OFF)
	ACC		Power supply position is “ACC” (Ignition switch ACC)
	ON		Power supply position is “IGN” (Ignition switch ON with engine stopped)
	ENGINE RUN		Power supply position is “RUN” (Ignition switch ON with engine running)
	CRANKING		Power supply position is “CRANKING” (At engine cranking)
IGN Counter	0 - 39	The number of times that ignition switch is turned ON after DTC is detected • The number is 0 when a malfunction is detected now. • The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. • The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.	

NOTE:
*: Power supply position shifts to “LOCK” from “OFF”, when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met.
- Closing door
- Opening door
- Door is locked using door request switch
- Door is locked using Intelligent Key

The power supply position shifts to “ACC” when the push-button ignition switch (push switch) is pushed at “LOCK”.

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

INFOID:0000000013711972

WORK SUPPORT

Service item	Setting item	Setting	
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.)	
TWILIGHT On	MODE 1	Without twilight function	
	MODE 2*	With twilight ON function	
WIPER LINK	MODE 1	Without wiper link function	
	MODE 2	With wiper LO and HI	
	MODE 3*	With wiper INT, LO and HI	
	MODE 4	**NOTE:** This item cannot be used.	
ILL DELAY SET	MODE 1*	45 sec.	Sets delay timer function timer operation time. (All doors closed)
	MODE 2	Without delay timer function	
	MODE 3	30 sec.	
	MODE 4	60 sec.	
	MODE 5	90 sec.	
	MODE 6	120 sec.	
	MODE 7	150 sec.	
	MODE 8	180 sec.	

*: Factory setting

DATA MONITOR

NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Unit]	Description
PUSH SW [On/Off]	Indicates [On/Off] condition of push-button ignition switch
ENGINE STATE [STOP/STALL/CRANK/RUN]	Indicates [STOP/STALL/CRANK/RUN] condition of engine states
VEH SPEED 1 [km/h]	Indicates [km/h] condition of vehicle speed signal from combination meter

Monitor item [Unit]	Description
TURN SIGNAL R [On/Off]	Each switch status that BCM judges from the combination switch reading function.
TURN SIGNAL L [On/Off]	
TAIL LAMP SW [On/Off]	
HI BEAM SW [On/Off]	
HEAD LAMP SW1 [On/Off]	
HEAD LAMP SW2 [On/Off]	
PASSING SW [On/Off]	
AUTO LIGHT SW [On/Off]	
FR FOG SW [On/Off]	
RR FOG SW [On/Off]	**NOTE:** This item cannot be monitored.
DOOR SW-DR [On/Off]	Indicated [On/Off] condition of door switch (driver side)
DOOR SW-AS [On/Off]	Indicated [On/Off] condition of door switch (passenger side)
DOOR SW-RR [On/Off]	**NOTE:** This item cannot be monitored.
DOOR SW-RL [On/Off]	**NOTE:** This item cannot be monitored.
DOOR SW-BK [On/Off]	**NOTE:** This item cannot be monitored.
OPTI SEN (DTCT) [V]	The value of outside brightness voltage input from the optical sensor
OPTI SEN (FILT) [V]	The value of outside brightness voltage filtered by BCM
OPTICAL SENSOR [On/Off/NG]	**NOTE:** This item cannot be monitored.

ACTIVE TEST

Test item	Operation	Description
FR FOG LAMP	On	• Transmits the front fog light request signal to IPDM E/R via CAN communication to turn the front fog lamp ON. • Transmits the front fog light request signal to combination meter via CAN communication to turn the front fog lamp indicator lamp ON
	Off	Stops the front fog light request signal transmission.
RR FOG LAMP	On	**NOTE:** This item cannot be tested.
	Off	
DAYTIME RUNNING LIGHT	On	Transmits the daytime running light request signal to IPDM E/R via CAN communication to turn the daytime running light ON.
	Off	Stops the daytime running light request signal transmission.

Test item	Operation	Description
ILL DIM SIGNAL	On	• Transmits the dimmer signal to combination meter via CAN communication and dims combination meter. • Transmits the dimmer signal to display control unit and dims display.
	Off	Stops the dimmer signal transmission.

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:0000000013711973

WORK SUPPORT

Service item	Setting item	Setting
3-TIME FLASHER SETTING	On*	With 3-time flasher function
	Off	Without 3-time flasher function

*: Factory setting

DATA MONITOR

NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Unit]	Description
REQ SW -DR [On/Off]	Indicated [On/Off] condition of door request switch (driver side)
REQ SW -AS [On/Off]	Indicated [On/Off] condition of door request switch (passenger side)
PUSH SW [On/Off]	Indicates [On/Off] condition of push-button ignition switch
TURN SIGNAL R [On/Off]	Each switch status that BCM detects from the combination switch reading function.
TURN SIGNAL L [On/Off]	
HAZARD SW [On/Off]	The switch status input from the hazard switch.
RKE-LOCK [On/Off]	Indicates [On/Off] condition of LOCK signal from Intelligent Key
RKE-UNLOCK [On/Off]	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key
RKE-PANIC [On/Off]	Indicates [On/Off] condition of PANIC button of Intelligent Key

ACTIVE TEST

Test item	Operation	Description
FLASHER	RH	Outputs the voltage to blink the right side turn signal lamps.
	LH	Outputs the voltage to blink the left side turn signal lamps.
	Off	Stops the voltage to turn the turn signal lamps OFF.

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

INFOID:0000000014254343

AUTO ACTIVE TEST

Description

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

- Front wiper motor
- Parking lamp
- License plate lamp
- Tail lamp
- Side marker lamp
- Front fog lamp
- Headlamp (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan (only for models with VR engine)

Operation Procedure

CAUTION:

Wiper arm interferes with hood when wiper is operated while wiper arm is in the raised position. Always perform auto active test without setting wiper arm in the raised position. Always pour water on front windshield glass in advance to auto active test so that damage on front windshield glass surface is prevented.

NOTE:

Never perform auto active test in the following conditions.

- CONSULT is connected
- Passenger door is open

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.
3. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
   NOTE:
   Engine starts when ignition switch is turned ON while brake pedal is depressed.
4. Oil pressure warning lamp starts blinking when the auto active test starts.
5. After a series of the following operations is repeated 3 times, auto active test is completed.

NOTE:

- When auto active test mode has to be cancelled halfway through test, turn the ignition switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to DLK-119, "Component Function Check".

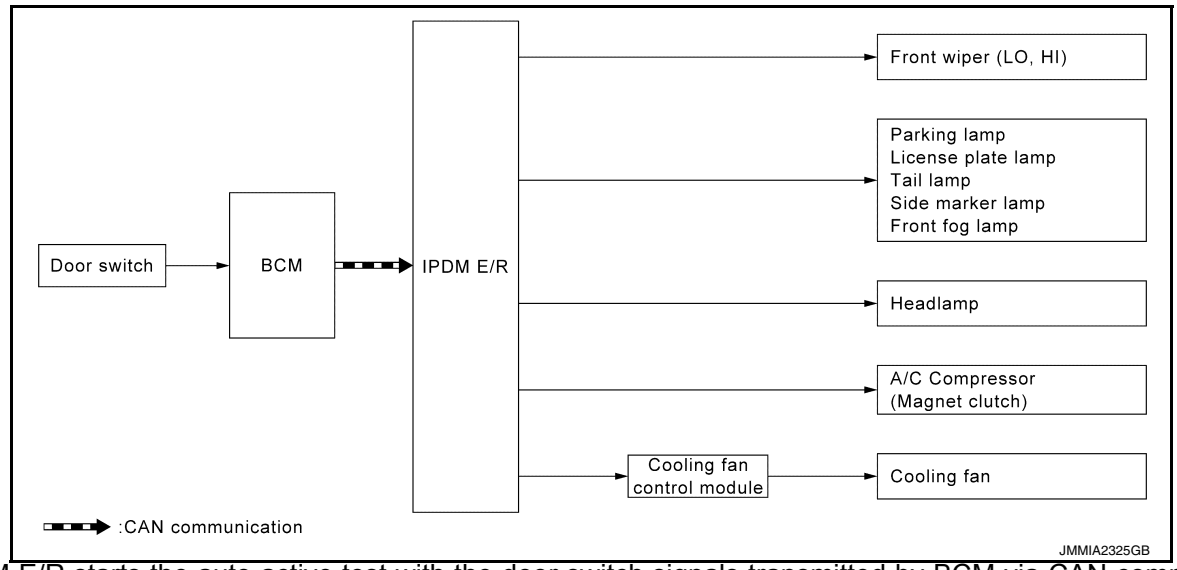
Inspection in Auto Active Test Mode

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

Operation sequence	Inspection location	Operation
1	Front wiper motor	LO for 5 seconds → HI for 5 seconds
2	• Parking lamp • License plate lamp • Tail lamp • Side marker lamp • Front fog lamp	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 → HI for 5 seconds

*: Outputs duty ratio of 50% for 5 seconds → duty ratio of 100% for 5 seconds on the cooling fan control module.

Concept of auto active test



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

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause
Any of the following components do not operate • Front wiper motor • Parking lamp • License plate lamp • Tail lamp • Side marker lamp • Front fog lamp • Headlamp (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	• ECM signal input circuit • 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 (Only for models with VR engine)	Perform auto active test. Does the cooling fan operate?	YES	• ECM signal input circuit • CAN communication signal between ECM and IPDM E/R
		NO	• Harness or connector between IPDM E/R and cooling fan motor • Cooling fan control module • Cooling fan relay 1 • Cooling fan motor • IPDM E/R

CONSULT Function (IPDM E/R)

INFOID:0000000014254344

APPLICATION ITEM

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

Diagnosis mode	Description
ECU Identification	Allows confirmation of IPDM E/R part number.
Self Diagnostic Result	Displays the diagnosis results judged by IPDM E/R.
Data Monitor	Displays the real-time input/output data from IPDM E/R input/output data.
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.

SELF DIAGNOSTIC RESULT

Refer to PCS-26, "DTC Index".

DATA MONITOR

NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item [Unit]	MAIN SIGNALS	Description
RAD FAN REQ [%]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication. **NOTE:** This item is indicated only for the VR engine models.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper stop position signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the shift position judged by IPDM E/R.
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication. **NOTE:** This item is indicated only for the VR engine models.
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN communication. **NOTE:** This item is indicated only for the VR engine models.

Monitor Item [Unit]	MAIN SIGNALS	Description
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R. **NOTE:** This item is indicated only for the VR engine models.
DETENT SW [Off/On]		Displays the status of the A/T shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		**NOTE:** The item is indicated, but not monitored.
S/L STATE [LOCK/UNLK/UNKWN]		**NOTE:** The item is indicated, but not monitored.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication.
OIL P SW [Open/Close]		**NOTE:** The item is indicated, but not monitored.
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.
HL WASHER REQ [Off/On]		**NOTE:** The item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN communication.
HOOD SW 2 [Off/On]		Displays the status of the hood switch judged by IPDM E/R. **NOTE:** This item is indicated only for the VR engine models.

ACTIVE TEST

Test item	Operation	Description
HORN	On	Operates horn relay for 20 ms.
FRONT WIPER	Off	OFF
	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper HI/LO relay.
MOTOR FAN (Only for models with VR engine)	1	OFF
	2	
	3	Operates the cooling fan relay (MID operation).
	4	Operates the cooling fan relay (HI operation).
HEAD LAMP WASHER	On	**NOTE:** The item is indicated, but cannot be tested.
EXTERNAL LAMPS	Off	OFF
	TAIL	Operates the tail lamp relay.
	Lo	Operates the headlamp low relay.
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.
	Fog	Operates the front fog lamp relay.

DIAGNOSIS SYSTEM (AFS CONTROL UNIT)

CONSULT Function (ADAPTIVE LIGHT)

INFOID:0000000013711977

APPLICATION ITEMS

Diagnosis mode	Description
ECU Identification	Allows confirmation of AFS control unit part number
Self Diagnostic Result	Displays the diagnosis results judged by AFS control unit
Work Support	Performs settings on sensors.
Data Monitor	Displays input data for AFS control unit in real time
Active Test	Transmits a drive signal to the load to check their operation
Configuration	Writes the vehicle specification when replacing AFS control unit

ECU IDENTIFICATION

Part number of AFS control unit can be checked.

SELF DIAGNOSTIC RESULT

Self Diagnostic Item

Self diagnostic result that is judged by AFS control unit can be checked. Refer to EXL-64, "DTC Index".

- When “CRNT” is displayed on self diagnostic result, the system is presently malfunctioning.
- When “PAST” is displayed on self diagnostic result, system malfunction in the past is detected, but the system is presently normal.

FFD (Freeze Frame Data)

The AFS control unit records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

Monitor item [Unit]	Description
ODO/TRIP METER [km]	Total mileage (Odometer value) of the moment a particular DTC is detected

WORK SUPPORT

Work item	Description
ST ANG SEN ADJUSTMENT*	—
LEVELIZER ADJUSTMENT	Adjusts the height sensor signal output value (AFS control unit recognized) in the unloaded vehicle condition

*: This function is not necessary in the usual service procedure.

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Value/Unit]	Description
STR ANGLE SIG*1 [°]	The steering angle value judged by the steering angle sensor signal received from the steering angle sensor via CAN communication
VHCL SPD [km/h]	The vehicle speed signal value from the combination meter via CAN communication
SLCT LVR POSI [P/R/N/D/M]	The selector lever status judged by the shift position signal received from TCM*3 or ECM*4 via CAN communication
HEAD LAMP [On/Off]	The headlamp ON/OFF status judged by the low beam status signal received from IPDM E/R via CAN communication

Monitor item [Value/Unit]	Description
AFS SW [On/Off]	**NOTE:** This item cannot be monitored
REVERSE SW [On/Off]	**NOTE:** This item cannot be monitored
HI SEN OTP RR [V]	The height sensor signal voltage value input from the height sensor
HI SEN OTP FR [V]	**NOTE:** This item cannot be monitored
LEV ACTR VLTG [%]	The ratio value to the battery voltage generated by the aiming motor signal control value judged by AFS control unit
SWVL SEN LH [°]	The headlamp swivel angle value judged by AFS control unit according to the swivel position sensor signal received from the swivel actuator via LIN communication
SWVL SEN RH [°]	
SWVL ANGLE LH [°]	The swivel angle command value to the swivel motor judged by AFS control unit
SWVL ANGLE RH [°]	
HI SEN INI RR [V]	Height sensor signal voltage value at height sensor initialization
HI SEN INI FR [V]	**NOTE:** This item cannot be monitored
PINION ANGLE*2 [°]	The steering pinion angle value judged by the steering pinion angle signal received from the steering force control module via CAN communication

*1: For models with direct adaptive steering, this item cannot be monitored.
*2: For models without direct adaptive steering, this item cannot be monitored.
*3: VR30DDTT engine models
*4: 2.0L turbo gasoline engine models

ACTIVE TEST

Test item	Operation	Description
LOW BEAM TEST RIGHT	Stop	Swivels the right headlamp to the swivel angle 0°
	Peak	Swivels the right headlamp to the swivel angle approximately 15°
	Origin	Swivels the right headlamp to the swivel angle 0°
LOW BEAM TEST LEFT	Stop	Swivels the left headlamp to the swivel angle 0°
	Peak	Swivels the left headlamp to the swivel angle approximately 15°
	Origin	Swivels the left headlamp to the swivel angle 0°
LEVELIZER TEST	Stop	Moves the headlamp axis to the initial position
	Peak	Moves the headlamp axis to the lowest position
	Origin	Moves the headlamp axis to the initial position

CONFIGURATION

The vehicle specification can be written when AFS control unit is replaced. Refer to EXL-125, "Description".

ECU DIAGNOSIS INFORMATION

BCM. TCM, ECM, IPDM E/R

List of ECU Reference

INFOID:0000000013711978

ECU		Reference
BCM		BCS-35, "Reference Value"
		BCS-59, "Fail-safe"
		BCS-59, "DTC Inspection Priority Chart"
		BCS-60, "DTC Index"
TCM	VR30DDTT engine models	TM-105, "VR30DDTT : Reference Value"
		TM-113, "Fail-Safe"
		TM-112, "Protection Control"
		TM-111, "VR30DDTT : DTC Inspection Priority Chart"
		TM-111, "VR30DDTT : DTC Index"
ECM	2.0L turbo gasoline engine models	EC4-123, "Reference Value"
		EC4-143, "Fail-safe (ECM)"
		EC4-145, "DTC Index"
IPDM E/R		PCS-16, "Reference Value"
		PCS-24, "Fail-safe"
		PCS-26, "DTC Index"

AFS CONTROL UNIT

Reference Value

INFOID:0000000013711983

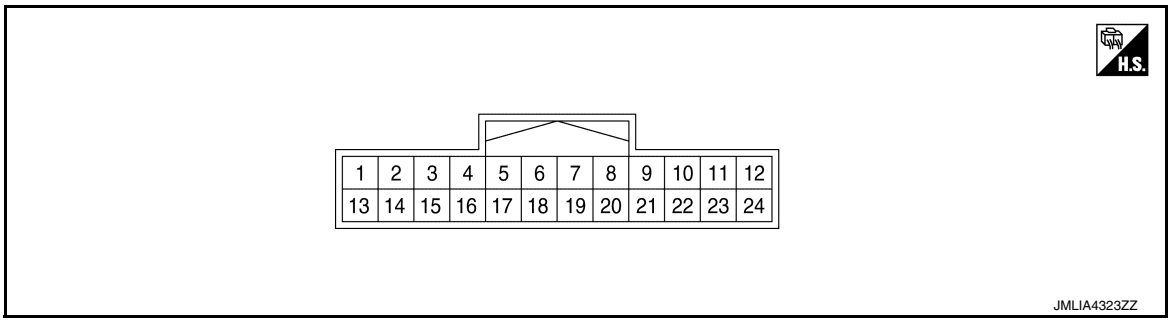
VALUES ON THE DIAGNOSIS TOOL

NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

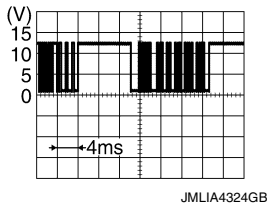
CONSULT MONITOR ITEM

Monitor Item	Condition		Value/Status
STR ANGLE SIG **NOTE:** For models with direct adaptive steering, this item cannot be monitored	Steering	Straight-forward	Approx. 0°
		Steering	(–756°) – (756°)
VHCL SPD	Driving at 40 km/h (25 MPH)		40 km/h
SLCT LVR POSI	Selector lever operation	P/R/N/D	P/R/N/D
		Manual shift gate side	M
HEAD LAMP	Headlamp	ON	On
		OFF	Off
AFS SW	**NOTE:** This item cannot be monitored		
REVERSE SW	**NOTE:** This item cannot be monitored		
HI SEN OTP RR	Vehicle rear height	Unloaded vehicle condition	Approx. 2.44 V
		Low	Voltage decreases from the unladen status
HI SEN OTP FR	**NOTE:** This item cannot be monitored		
LEV ACTR VLTG	Headlamp leveling	Unloaded vehicle condition	Approx. 20.0%
		Low	Value increases from the unladen status
SWVL SEN LH	Left headlamp swivel activation	Standard position	Approx. 0°
		Activation	Positive degree (+°)
SWVL SEN RH	Right headlamp swivel activation	Standard position	Approx. 0°
		Activation	Positive degree (+°)
SWVL ANGLE LH	Left headlamp swivel activation	Standard position	Approx. 0°
		Activation	Positive degree (+°)
SWVL ANGLE RH	Right headlamp swivel activation	Standard position	Approx. 0°
		Activation	Positive degree (+°)
HI SEN INI RR	Ignition switch ON		Approx. 2.44 V
HI SEN INI FR	**NOTE:** This item cannot be monitored		
PINION ANGLE **NOTE:** For models without direct adaptive steering, this item cannot be monitored	Steering	Straight-forward	Approx. 0°
		Steering	(–756°) – (756°)

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ output			
1 (L)	Ground	CAN-H	Input/ output	—		—
6 (BR)	Ground	Height sensor signal	Output	Vehicle rear height	Unloaded vehicle condition	2.44 V
					Low	Voltage decreases from the unladen status
8 (GR)	Ground	Swivel actuator LIN signal	Input/ output	Ignition switch ON		
11 (B)	Ground	Ground	—	Ignition switch ON		0 V
12 (R)*1 (W)*2	Ground	Ignition power supply	Input	Ignition switch ON		9 – 16 V
13 (P)	Ground	CAN-L	Input/ output	—		—
19 (P)	Ground	Swivel actuator ground	Input	Ignition switch ON		0 V
21 (LG)	Ground	Height sensor power supply	Output	Ignition switch ON		4.45 – 6.25 V
22 (SB)	Ground	Aiming motor drive signal	Output	Headlamp leveling	Unloaded vehicle condition	2.5 V
					Low	Value increases from the unladen status
23 (GR)	Ground	Height sensor ground	Input	Ignition switch ON		0 V
24 (B)	Ground	Aiming motor ground	Input	Ignition switch ON		0 V

*1: VR30DDTT engine models
*2: 2.0L turbo gasoline engine models

Fail-safe

INFOID:0000000013711984

DTC No.	CONSULT screen terms	Fail-safe	
		Swivel operation	Aiming operation
B2008	PARA NOT PROG calibration/parameter memory failure	Right and left swivel motors stop at the position when DTC is detected	Right and left headlamp aiming motors stop at the position when DTC is detected
B2503	SWIVEL ACTUATOR [RH] signal invalid	• Right swivel motor stop at the position when DTC is detected • Left swivel motor swivel angle returns to 0° and fixed	The signal, approximately 2 V decreased from the aiming motor drive signal when DTC detected, is output
	SWIVEL ACTUATOR [RH] COMM ERROR	• Right swivel motor stop at the position when DTC is detected or right swivel motor swivel angle returns to 0° and fixed • Left swivel motor swivel angle returns to 0° and fixed	
B2504	SWIVEL ACTUATOR [LH] signal invalid	• Left swivel motor stop at the position when DTC is detected • Right swivel motor swivel angle returns to 0° and fixed	The signal, approximately 2 V decreased from the aiming motor drive signal when DTC detected, is output
	SWIVEL ACTUATOR [LH] COMM ERROR	• Left swivel motor stop at the position when DTC is detected or left swivel motor swivel angle returns to 0° and fixed • Right swivel motor swivel angle returns to 0° and fixed	
B2512	4WAS SIG	Right and left swivel motor swivel angle returns to 0° and fixed	—
B2514	HI SEN UNUSUAL [RR] general electrical failure	Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected
	HI SEN UNUSUAL [RR] signal invalid		
B2516	SHIFT POS SIG[R,P]	Right and left swivel motor swivel angle returns to 0° and fixed	—
B2517	VEHICEL SPEED SIG	Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected
B2519	LEVELIZER CALIB missing calibration	Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected
B2521	ECU CIRC	Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected
U0126	ST ANG SEN SIG	Right and left swivel motor swivel angle returns to 0° and fixed	—
U0428	ST ANG SEN CALIB	Right and left swivel motor swivel angle returns to 0° and fixed	—

DTC No.	CONSULT screen terms	Fail-safe	
		Swivel operation	Aiming operation
U1000	CAN COMM CIRCUIT	Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected **NOTE:** Only when the vehicle speed signal or the low beam status signal cannot be received
U1010	CONTROL UNIT(CAN)	Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected

DTC Inspection Priority Chart

INFOID:0000000013711985

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

Priority	DTC No.	CONSULT screen terms
1	U1000	CAN COMM CIRCUIT
	U1010	CONTROL UNIT(CAN)
2	B2008	PARA NOT PROG calibration/parameter memory failure
	B2519	LEVELIZER CALIB missing calibration
	B2521	ECU CIRC
	U0428	ST ANG SEN CALIB
3	B2503	SWIVEL ACTUATOR [RH] signal invalid
		SWIVEL ACTUATOR [RH] COMM ERROR
	B2504	SWIVEL ACTUATOR [LH] signal invalid
		SWIVEL ACTUATOR [LH] COMM ERROR
	B2512	4WAS SIG
	B2514	HI SEN UNUSUAL [RR] general electrical failure
		HI SEN UNUSUAL [RR] signal invalid
	B2516	SHIFT POS SIG[R,P]
	B2517	VEHICEL SPEED SIG
	U0126	ST ANG SEN SIG

DTC Index

INFOID:0000000013711986

×: Applicable

DTC No.	CONSULT screen terms	Fail-safe	AFS warning	Reference
B2008	PARA NOT PROG calibration/parameter memory failure	×	×	EXL-128, "DTC Description"
B2503	SWIVEL ACTUATOR [RH] signal invalid	×	×	EXL-129, "DTC Description"
	SWIVEL ACTUATOR [RH] COMM ERROR	×	×	

DTC No.	CONSULT screen terms	Fail-safe	AFS warning	Reference
B2504	SWIVEL ACTUATOR [LH] signal invalid	×	×	EXL-132, "DTC Description"
	SWIVEL ACTUATOR [LH] COMM ERROR	×	×	
B2512	4WAS SIG	×	—	EXL-135, "DTC Description"
B2514	HI SEN UNUSUAL [RR] general electrical failure	×	—	EXL-136, "DTC Description"
	HI SEN UNUSUAL [RR] signal invalid	×	—	
B2516	SHIFT POS SIG[R,P]	×	—	EXL-139, "DTC Description"
B2517	VEHICEL SPEED SIG	×	—	EXL-140, "DTC Description"
B2519	LEVELIZER CALIB missing calibration	×	—	EXL-141, "DTC Description"
B2521	ECU CIRC	×	—	EXL-142, "DTC Description"
U0126	ST ANG SEN SIG	×	—	EXL-143, "DTC Description"
U0428	ST AND SEN CALIB	×	—	EXL-144, "DTC Description"
U1000	CAN COMM CIRCUIT	×	—	EXL-145, "DTC Description"
U1010	CONTROL UNIT(CAN)	×	—	EXL-146, "DTC Description"

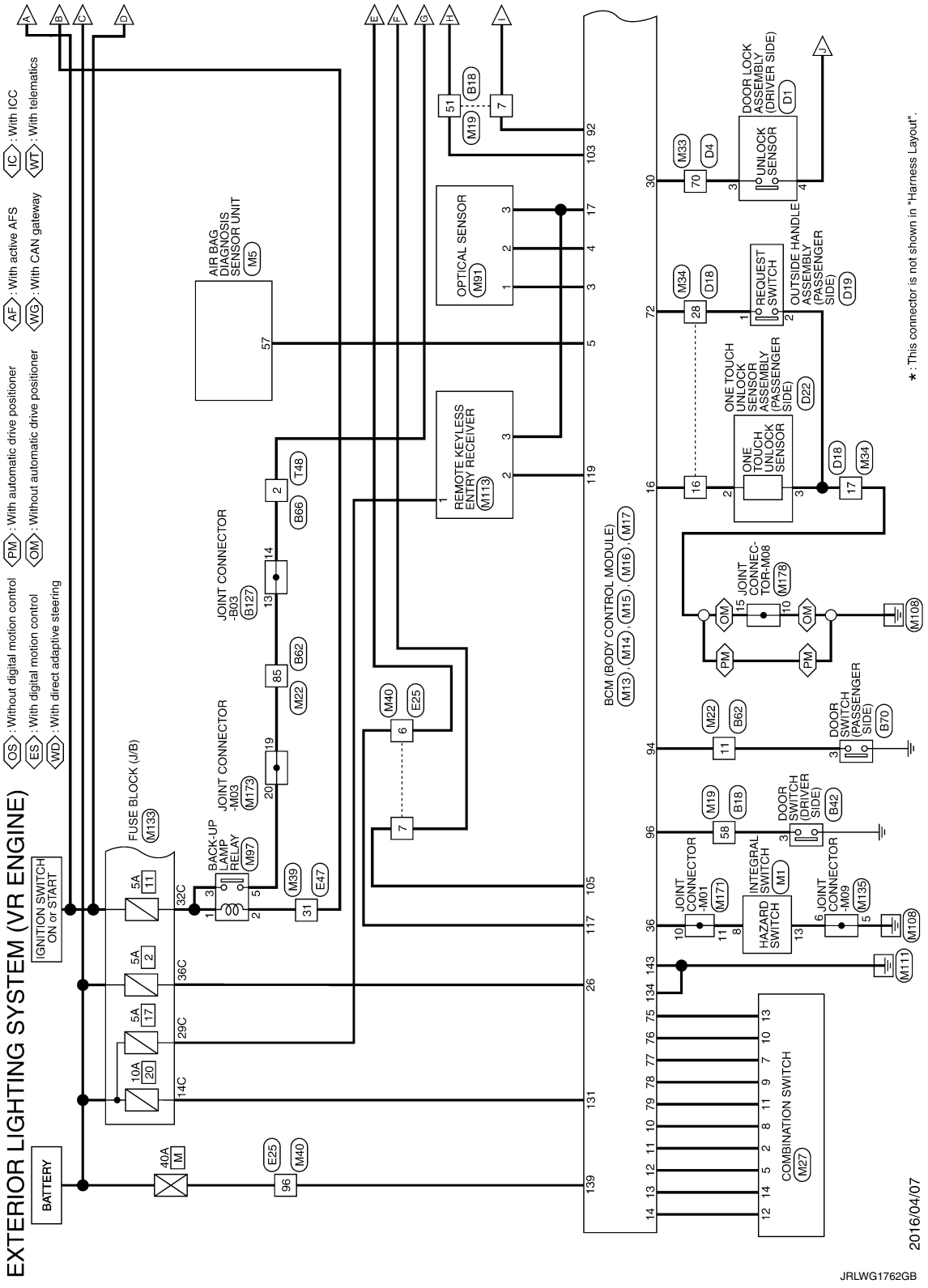
WIRING DIAGRAM

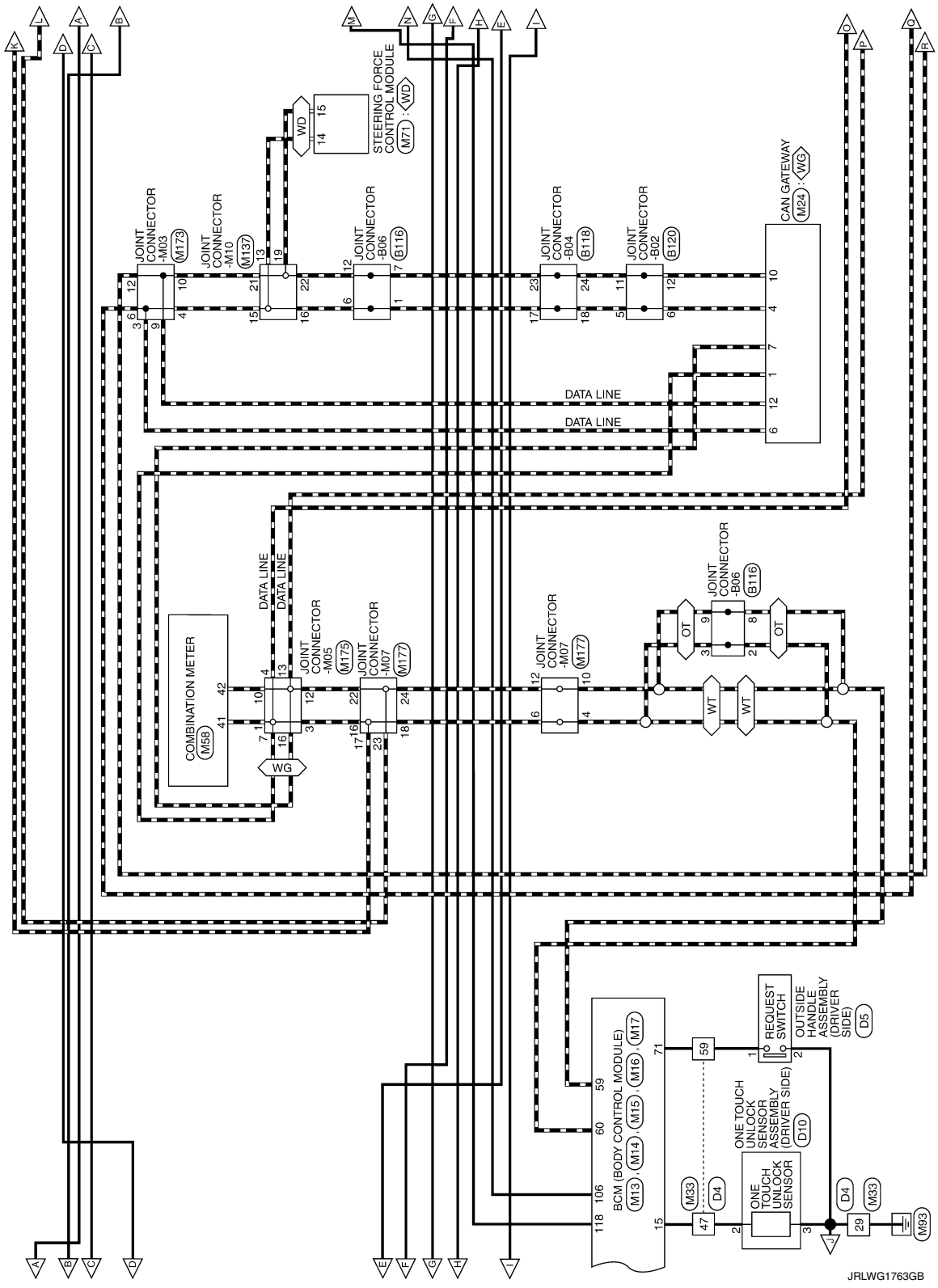
EXTERIOR LIGHTING SYSTEM

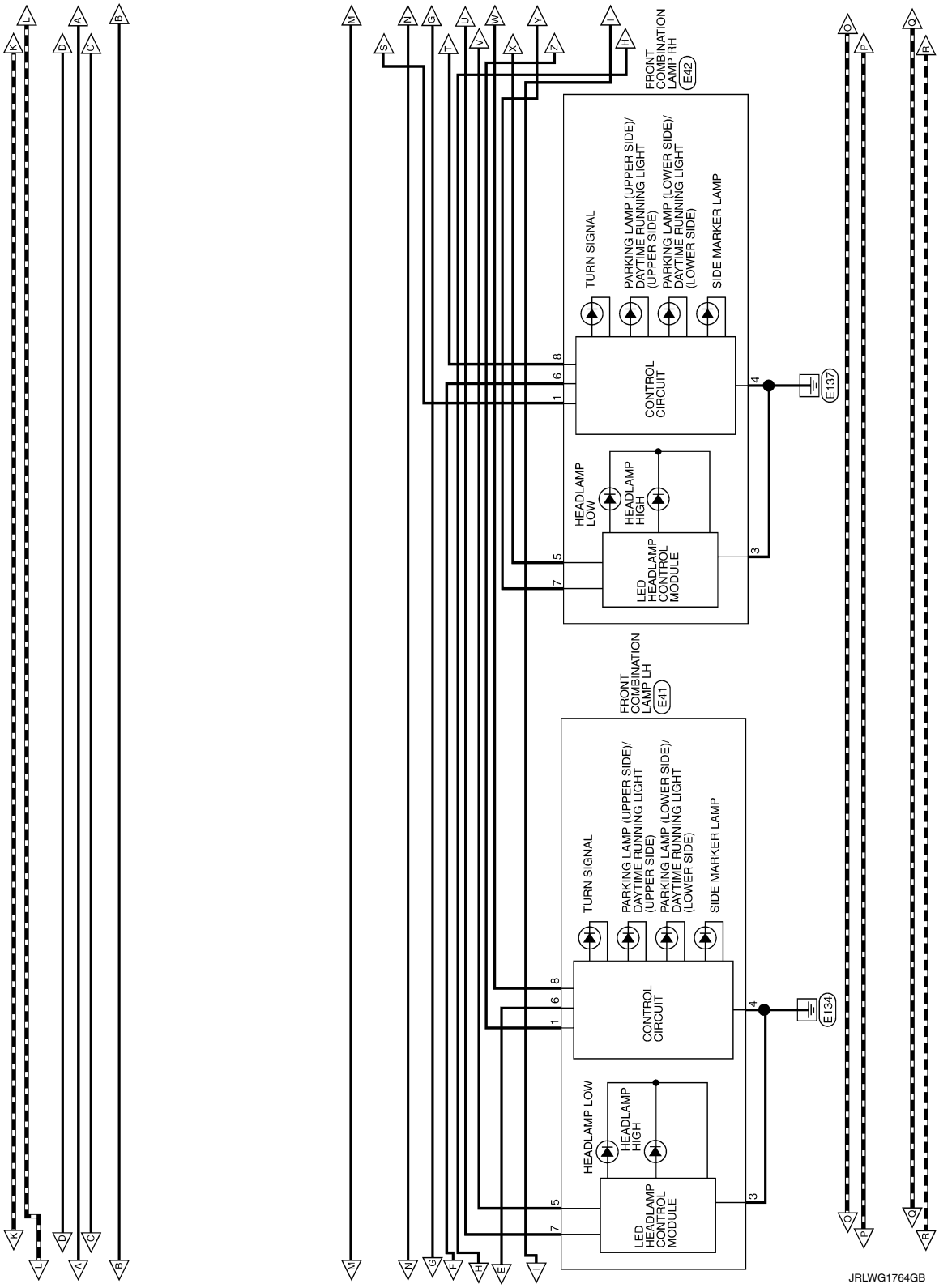
Wiring Diagram

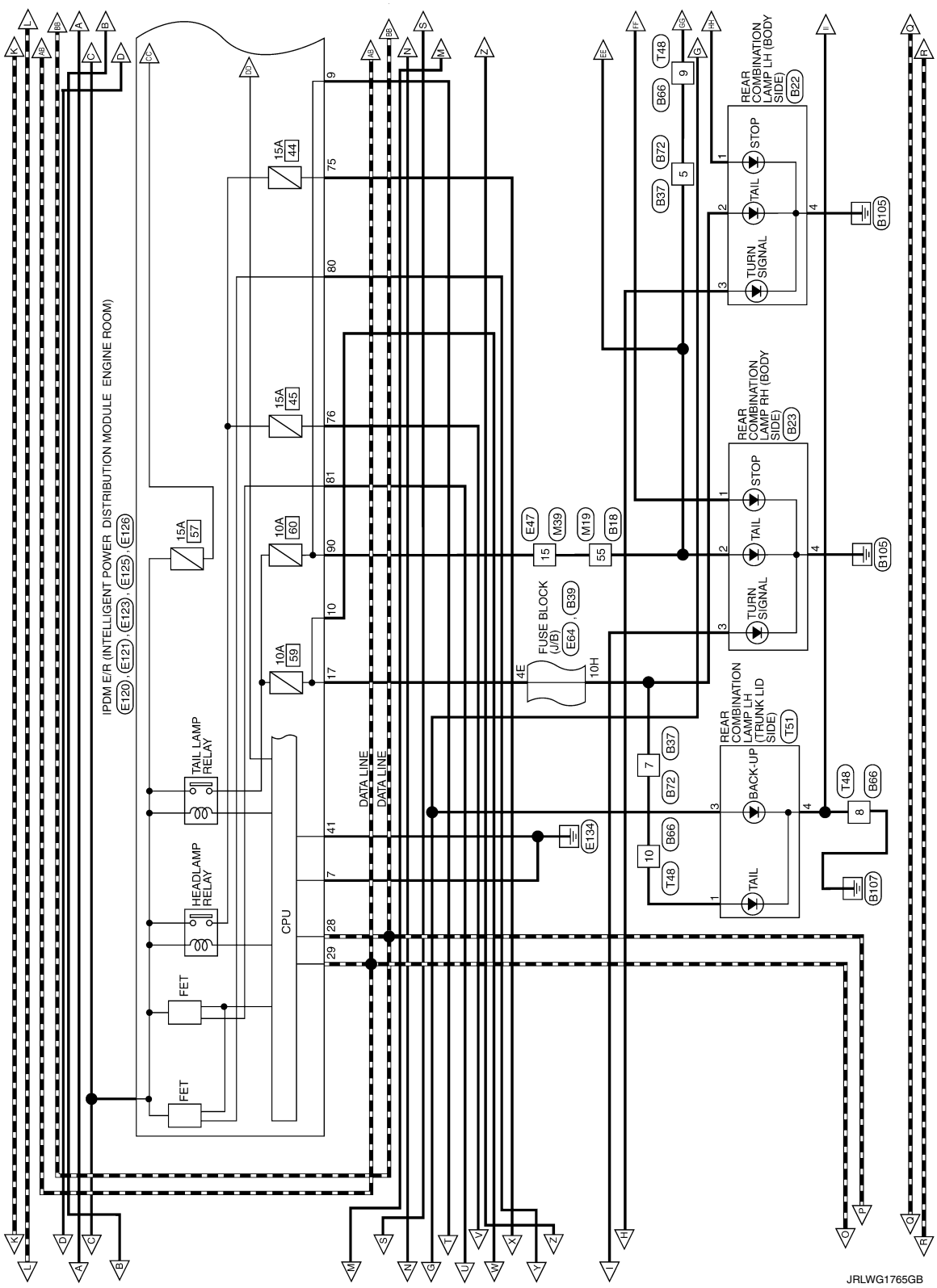
INFOID:0000000013711987

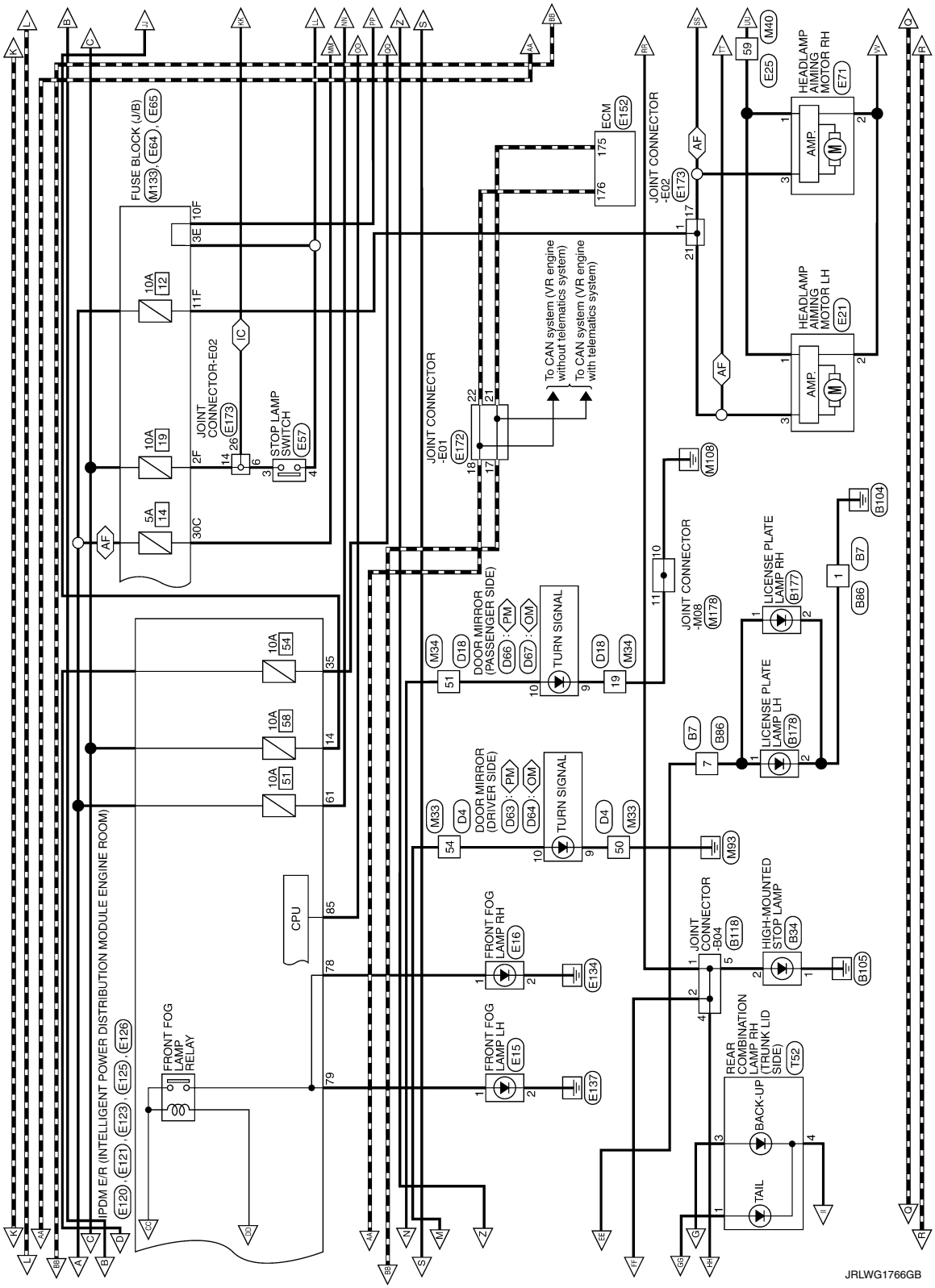
VR30DDTT ENGINE MODELS

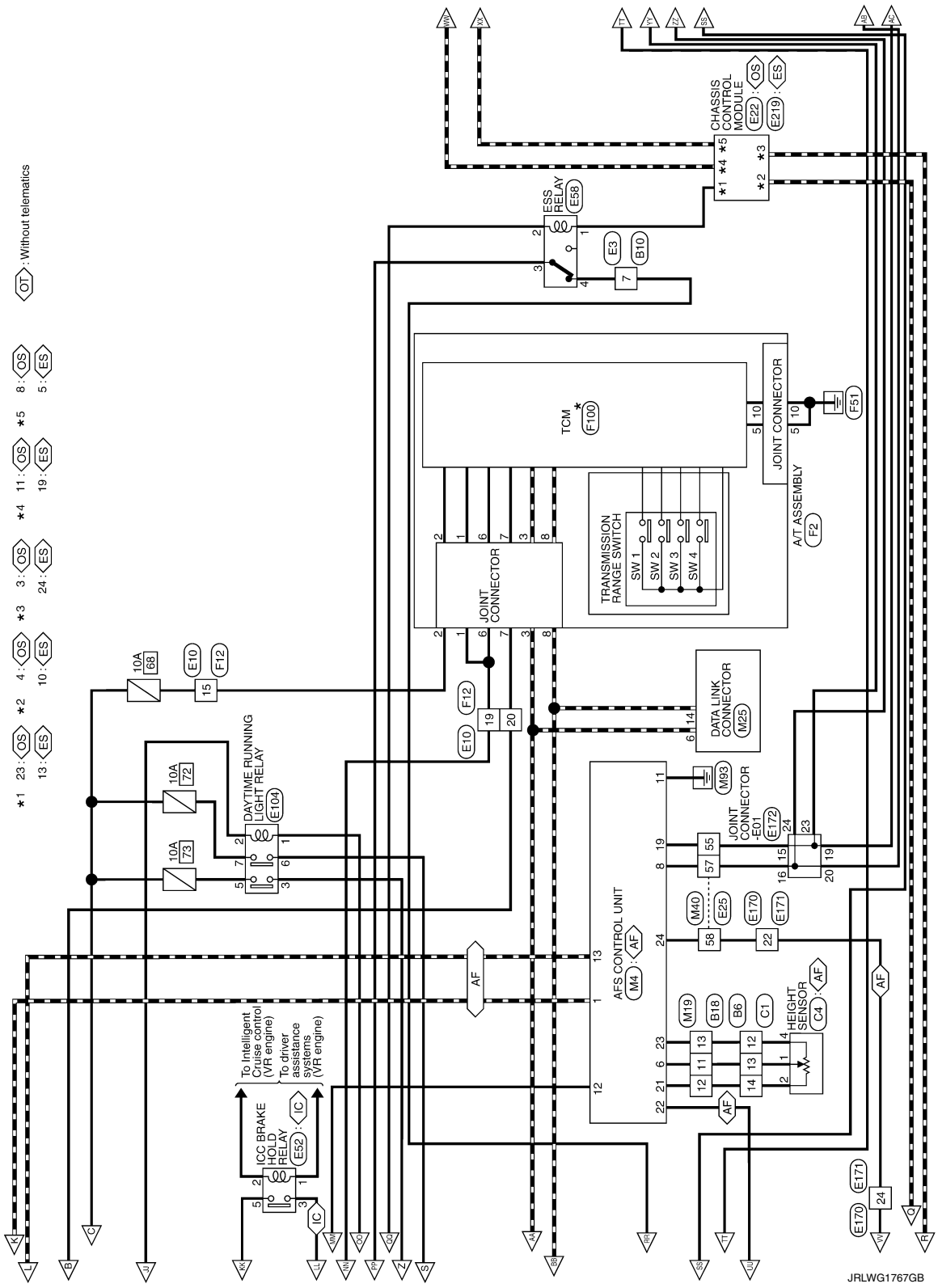


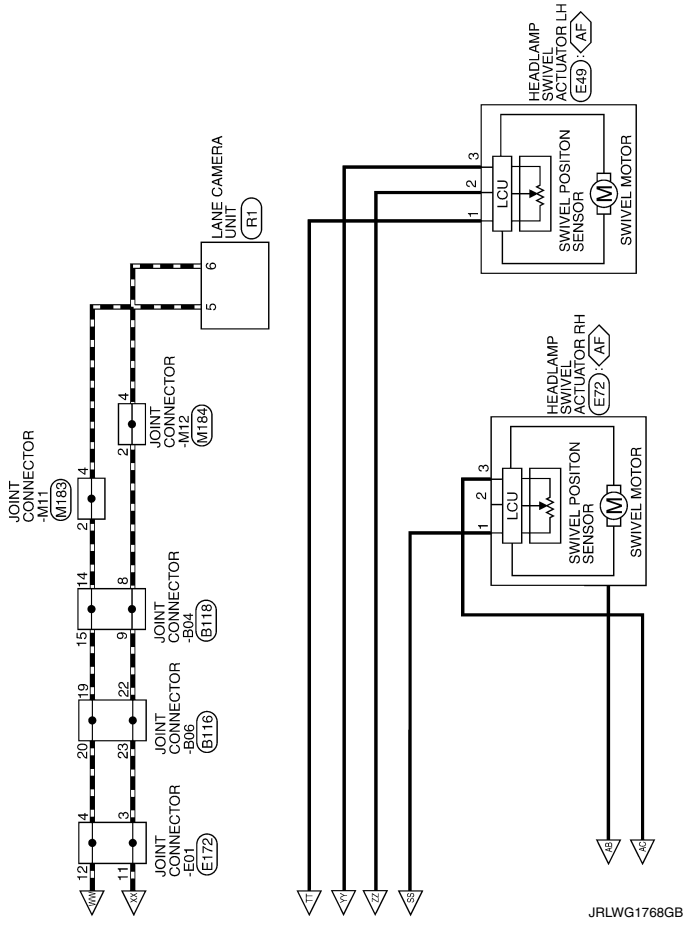

STEERING FORCE CONTROL MODULE (M71) : WD
JOINT CONNECTOR -M03 (M173)
JOINT CONNECTOR -M10 (M137)
JOINT CONNECTOR -B06 (B116)
JOINT CONNECTOR -B04 (B118)
JOINT CONNECTOR -B02 (B120)
CAN GATEWAY (M24) : WG
DATA LINE
DATA LINE
COMBINATION METER (M58)
JOINT CONNECTOR -M05 (M175)
JOINT CONNECTOR -M07 (M177)
JOINT CONNECTOR -M07 (M177)
JOINT CONNECTOR -B06 (B116)
OT
WT
WG
BCM (BODY CONTROL MODULE) (M13) (M14) (M15) (M16) (M17)
REQUEST SWITCH
OUTSIDE HANDLE ASSEMBLY (DRIVER SIDE) (D5)
ONE TOUCH UNLOCK SENSOR ASSEMBLY (DRIVER SIDE) (D10)
ONE TOUCH UNLOCK SENSOR
JRLWG1763GB


FRONT COMBINATION LAMP RH
E42
TURN SIGNAL
PARKING LAMP (UPPER SIDE)/ DAYTIME RUNNING LIGHT (UPPER SIDE)
PARKING LAMP (LOWER SIDE)/ DAYTIME RUNNING LIGHT (LOWER SIDE)
SIDE MARKER LAMP
CONTROL CIRCUIT
HEADLAMP LOW
HEADLAMP HIGH
LED HEADLAMP CONTROL MODULE
E137
FRONT COMBINATION LAMP LH
E41
E134
JRLWG1764GB

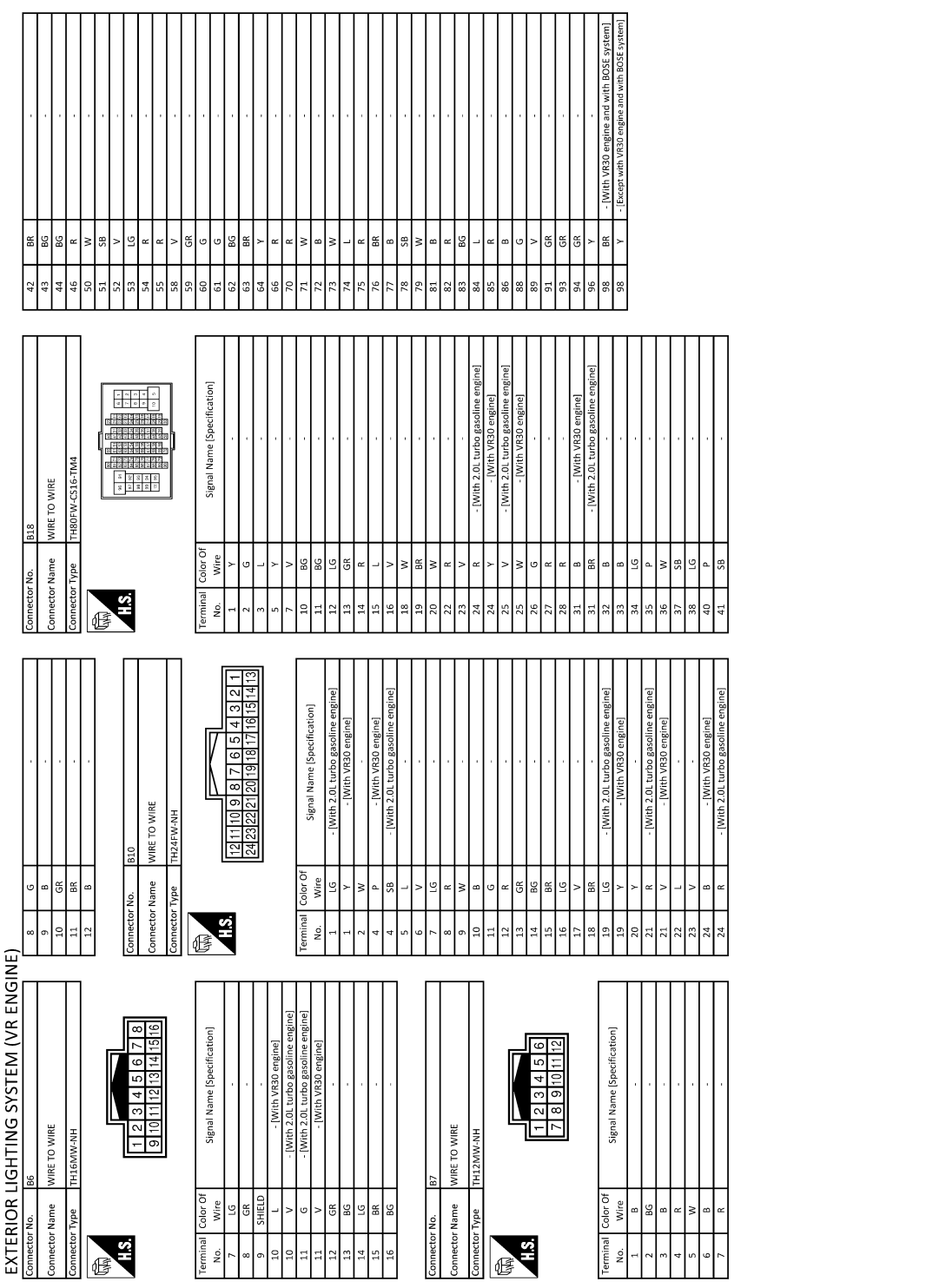

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E120, E121, E122, E123, E125, E126
15A 44
15A 45
15A 57
10A 60
10A 59
TAIL LAMP RELAY
HEADLAMP RELAY
FET
FET
CPU
DATA LINE
DATA LINE
FUSE BLOCK (J/B) E64, B39
E47
M39
M19
B18
E134
REAR COMBINATION LAMP LH (BODY SIDE) B22
REAR COMBINATION LAMP RH (BODY SIDE) B23
REAR COMBINATION LAMP LH (TRUNK LID SIDE) T51
STOP
TAIL
TURN SIGNAL
BACK-UP
B105
B107
T48
B66
B72
B37
JRLWG1765GB


FUSE BLOCK (J/B)
M133, E64, E65
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E120, E121, E123, E125, E126
FRONT FOG LAMP RELAY
CPU
JOINT CONNECTOR-E02
STOP LAMP SWITCH
JOINT CONNECTOR -E01
ECM E152
JOINT CONNECTOR -E02
To CAN system (VR engine without telematics system)
To CAN system (VR engine with telematics system)
HEADLAMP AIMING MOTOR RH
HEADLAMP AIMING MOTOR LH
AMP.
JOINT CONNECTOR -M08
DOOR MIRROR (PASSENGER SIDE)
DOOR MIRROR (DRIVER SIDE)
TURN SIGNAL
LICENSE PLATE LAMP RH
LICENSE PLATE LAMP LH
FRONT FOG LAMP RH
FRONT FOG LAMP LH
JOINT CONNECTOR -B04
HIGH-MOUNTED STOP LAMP
REAR COMBINATION LAMP RH (TRUNK LID SIDE)
BACK-UP
TAIL
JRLWG1766GB


OT : Without telematics
CHASSIS CONTROL MODULE
E22 : OS
E219 : ES
ESS RELAY
E58
E3
B10
TCM
F100
JOINT CONNECTOR
F51
A/T ASSEMBLY
F2
TRANSMISSION RANGE SWITCH
SW 1
SW 2
SW 3
SW 4
JOINT CONNECTOR
DATA LINK CONNECTOR
M25
10A 68
10A 72
10A 73
DAYTIME RUNNING LIGHT RELAY
E104
AFS CONTROL UNIT
M4 : AF
M93
JOINT CONNECTOR -E01
E172
M40
E25
E170
E171
HEIGHT SENSOR
C4 : AF
M19
B18
B6
C1
ICC BRAKE HOLD RELAY
E52 : IC
To Intelligent Cruise control (VR engine)
To driver assistance system (VR engine)
AF
JRLWG1767GB


HEADLAMP SWIVEL ACTUATOR LH
E49
AF
HEADLAMP SWIVEL ACTUATOR RH
E72
AF
LCU
SWIVEL POSITON SENSOR
SWIVEL MOTOR
LANE CAMERA UNIT
R1
JOINT CONNECTOR -M11
M183
JOINT CONNECTOR -M12
M184
JOINT CONNECTOR -B04
B118
JOINT CONNECTOR -B06
B116
JOINT CONNECTOR -E01
E172
JRLWG1768GB

EXTERIOR LIGHTING SYSTEM (VR ENGINE)



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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

Connector No.	B22
Connector Name	REAR COMBINATION LAMP LH (BODY SIDE)
Connector Type	NS04MW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	P	-
3	SB	-
4	B	-

Connector No.	B23
Connector Name	REAR COMBINATION LAMP RH (BODY SIDE)
Connector Type	NS04MW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	R	-
3	V	-
4	B	-

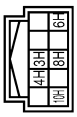
Connector No.	B34
Connector Name	HIGH-MOUNTED STOP LAMP
Connector Type	TK02MBR-P

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	LG	-

Connector No.	B37
Connector Name	WIRE TO WIRE
Connector Type	TH08MW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	SHIELD	-
3	R	-
4	L	-
5	R	-
6	R	-
7	P	-
8	SHIELD	-

Connector No.	B39
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH10FB-NH

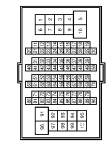


Terminal No.	Color Of Wire	Signal Name [Specification]
10H	P	-
3H	L	-
4H	R	-
6H	L	-
8H	P	-

Connector No.	B42
Connector Name	DOOR SWITCH (DRIVER SIDE)
Connector Type	TH04FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
3	V	-

Connector No.	B62
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	- [With 2.0L turbo gasoline engine and without BOSE system]
1	LG	- [With VR30 engine]
1	W	- [With 2.0L turbo gasoline engine and with BOSE system]
2	L	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	BR	- [With 2.0L turbo gasoline engine]
3	R	- [With VR30 engine and with BOSE system]
3	W	- [With VR30 engine and without BOSE system]
4	SHIELD	- [With VR30 engine]
4	Y	- [With 2.0L turbo gasoline engine]
5	G	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	B	- [With 2.0L turbo gasoline engine and with BOSE system]
7	BR	- [With VR30 engine and without BOSE system]
7	W	- [With VR30 engine and with BOSE system]
7	Y	- [With 2.0L turbo gasoline engine and without BOSE system]
8	B	- [With VR30 engine and with BOSE system]
8	G	- [With 2.0L turbo gasoline engine]
8	Y	- [With VR30 engine and without BOSE system]
9	LG	- [With 2.0L turbo gasoline engine]
9	SHIELD	- [With VR30 engine]
10	V	-
11	GR	-
12	Y	-
13	R	-
14	BG	-
15	BG	- [With 2.0L turbo gasoline engine]
15	GR	- [With VR30 engine]
16	V	-
17	P	-
18	L	-
19	G	-
20	GR	-
21	R	-

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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

23	W	-
24	BG	- [With 2.0L turbo gasoline engine]
24	V	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]
25	SB	- [With VR30 engine]
26	G	- [With VR30 engine]
26	W	- [With 2.0L turbo gasoline engine]
27	R	-
28	R	-
29	LG	-
30	LG	- [With 2.0L turbo gasoline engine]
30	P	- [With VR30 engine]
31	SHIELD	-
32	L	-
33	B	- [With VR30 engine]
33	LG	- [With 2.0L turbo gasoline engine]
34	SHIELD	-
35	LG	- [With VR30 engine]
35	W	- [With 2.0L turbo gasoline engine]
36	R	-
37	P	- [With 2.0L turbo gasoline engine and without BOSE system]
37	R	- [With VR30 engine]
37	W	- [With 2.0L turbo gasoline engine and with BOSE system]
38	L	- [With 2.0L turbo gasoline engine and without BOSE system]
38	W	- [Except with 2.0L turbo gasoline engine and without BOSE system]
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	W	- [With VR30 engine and with BOSE system]
40	G	-
41	L	-
42	R	-
43	SHIELD	-
44	P	-
45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	-
47	G	-
48	BG	[Except with 2.0L turbo gasoline engine and without BOSE system]
48	SB	- [With 2.0L turbo gasoline engine and without BOSE system]
49	G	-
51	GR	- [With 2.0L turbo gasoline engine]
51	L	- [With VR30 engine]
52	W	- [With 2.0L turbo gasoline engine]
52	Y	- [With VR30 engine]
53	R	-
54	GR	-
55	L	-
56	V	-
57	R	-
58	LG	-
59	P	-
60	BR	-
61	L	- [With 2.0L turbo gasoline engine]
61	R	- [With VR30 engine]
62	P	- [With VR30 engine]
62	V	- [With 2.0L turbo gasoline engine]
63	L	-
64	W	-
65	R	-
66	L	- [With 2.0L turbo gasoline engine]
66	LG	- [With VR30 engine]
67	G	-
68	L	-
69	P	-
71	GR	- [With 2.0L turbo gasoline engine]
71	R	- [With VR30 engine]
72	G	- [With VR30 engine]
72	Y	- [With 2.0L turbo gasoline engine]
73	R	- [With 2.0L turbo gasoline engine]
73	SHIELD	- [With VR30 engine]
74	BG	- [With 2.0L turbo gasoline engine]
74	L	- [With VR30 engine]
75	GR	- [With 2.0L turbo gasoline engine]
75	V	- [With VR30 engine]
76	GR	- [With VR30 engine]
76	V	- [With 2.0L turbo gasoline engine]
77	P	-
78	L	-
79	G	-
80	GR	- [With 2.0L turbo gasoline engine]
80	W	- [With VR30 engine]
81	B	- [With VR30 engine]
81	R	- [With 2.0L turbo gasoline engine]
82	G	- [With 2.0L turbo gasoline engine]
82	SHIELD	- [With VR30 engine]
83	R	- [With 2.0L turbo gasoline engine]
83	W	- [With VR30 engine]
84	BR	- [With VR30 engine]
84	SHIELD	- [With 2.0L turbo gasoline engine]
85	BG	- [With VR30 engine]
85	G	- [With 2.0L turbo gasoline engine]
86	R	-
87	LG	- [With VR30 engine]
87	SHIELD	- [With 2.0L turbo gasoline engine]
88	R	-
89	LG	-
90	P	-
92	L	- [With 2.0L turbo gasoline engine]
92	W	- [With VR30 engine]
93	SHIELD	-
94	R	-
95	L	- [With 2.0L turbo gasoline engine]
95	Y	- [With VR30 engine]
96	W	-
97	L	- [With VR30 engine]
97	R	- [With 2.0L turbo gasoline engine and with BOSE system]
97	W	- [With VR30 engine and with BOSE system]
99	BR	- [With 2.0L turbo gasoline engine]
99	P	- [With VR30 engine and without BOSE system]
99	Y	- [With VR30 engine]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]

Connector No.	B66
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	BG	-
4	SHIELD	-
5	W	-
6	GR	-
8	B	-
9	R	-
10	P	-
11	B	-
13	SHIELD	- [With rear view monitor]
13	W	- [With around view monitor]
14	B	- [With rear view monitor]
14	G	- [With around view monitor]
15	R	- [With around view monitor]
15	W	- [With rear view monitor]
16	B	- [With around view monitor]
16	R	- [With rear view monitor]

Connector No.	B70
Connector Name	DOOR SWITCH (PASSENGER SIDE)
Connector Type	TH04FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
3	GR	-

Connector No.	B72
Connector Name	WIRE TO WIRE
Connector Type	TH08FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	SHIELD	-
3	R	-
4	L	-
5	R	-
6	R	-
7	P	-
8	SHIELD	-

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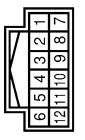
EXTERIOR LIGHTING SYSTEM (VR ENGINE)

Connector No.	B86
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	BG	-
3	B	-
4	R	-
5	W	-
6	B	-
7	R	-
8	G	-
9	B	-
10	GR	-
11	BR	-
12	B	-

Connector No.	B116
Connector Name	JOINT CONNECTOR-B06
Connector Type	24342_4GA2A

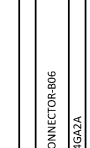
H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	- [With Gateway]

8	V	- [Without Gateway]
9	R	- [With Gateway]
9	V	- [Without Gateway]
10	V	-
11	V	-
12	P	- [With 2.0L turbo gasoline engine]
12	R	- [With VR30 engine]
13	SHIELD	-
14	SHIELD	-
15	SHIELD	-
16	SHIELD	-
17	SHIELD	-
18	SHIELD	-
19	L	-
20	L	-
21	L	-
22	R	-
23	R	-
24	R	-

Connector No.	B118
Connector Name	JOINT CONNECTOR-B04
Connector Type	24342_4GA2A

H.S.

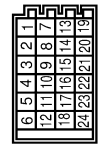


Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With VR30 engine]
1	SHIELD	- [With 2.0L turbo gasoline engine]
2	LG	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	LG	- [With VR30 engine]
3	SHIELD	- [With 2.0L turbo gasoline engine]
4	LG	- [With VR30 engine]
4	SHIELD	- [With 2.0L turbo gasoline engine]
5	LG	- [With VR30 engine]
5	SHIELD	- [With 2.0L turbo gasoline engine]
6	LG	- [With VR30 engine]
6	SHIELD	- [With 2.0L turbo gasoline engine]
7	LG	- [With VR30 engine]
7	R	-
8	R	-

9	LG	- [With 2.0L turbo gasoline engine]
9	R	- [With VR30 engine]
10	LG	- [With 2.0L turbo gasoline engine]
10	SHIELD	- [With VR30 engine]
11	LG	- [With 2.0L turbo gasoline engine]
11	SHIELD	- [With VR30 engine]
12	LG	- [With 2.0L turbo gasoline engine]
12	SHIELD	- [With VR30 engine]
13	L	- [With VR30 engine]
13	R	- [With 2.0L turbo gasoline engine]
14	L	- [With VR30 engine]
14	R	- [With 2.0L turbo gasoline engine]
15	L	- [With VR30 engine]
15	R	- [With 2.0L turbo gasoline engine]
16	L	-
17	L	-
18	L	-
19	L	- [With 2.0L turbo gasoline engine]
19	SHIELD	- [With VR30 engine]
20	L	- [With 2.0L turbo gasoline engine]
20	SHIELD	- [With VR30 engine]
21	L	- [With 2.0L turbo gasoline engine]
21	SHIELD	- [With VR30 engine]
22	R	-
23	R	-
24	R	-

Connector No.	B120
Connector Name	JOINT CONNECTOR-B02
Connector Type	24342_4GA2A

H.S.

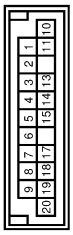


Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	L	- [With VR30 engine]
3	R	- [With 2.0L turbo gasoline engine]
4	L	- [With VR30 engine]
4	R	- [With 2.0L turbo gasoline engine]
5	L	-
6	L	-

7	L	-
8	L	-
9	L	- [With 2.0L turbo gasoline engine]
9	R	- [With VR30 engine]
10	L	- [With 2.0L turbo gasoline engine]
10	R	- [With VR30 engine]
11	R	-
12	R	-
13	W	-
14	W	-
15	W	-
17	SHIELD	-
18	B	-
19	B	- [With 2.0L turbo gasoline engine]
19	GR	- [With VR30 engine]
20	GR	- [With VR30 engine]
20	SHIELD	- [With 2.0L turbo gasoline engine]
21	B	- [With 2.0L turbo gasoline engine]
21	GR	- [With VR30 engine]
22	W	-
23	W	-
24	W	-

Connector No.	B127
Connector Name	JOINT CONNECTOR-B03
Connector Type	NH20FG-DC

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	SHIELD	-
3	SHIELD	-
4	SHIELD	-
5	SHIELD	-
6	P	-
7	P	-
8	P	-
9	P	-
10	LG	-
11	LG	-
13	BG	-

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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

14	BG	-
15	BG	-
17	LG	-
18	LG	-
19	LG	-
20	LG	-

Connector No.	B177
Connector Name	LICENSE PLATE LAMP RH
Connector Type	RHO2FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-

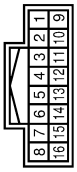
Connector No.	B178
Connector Name	LICENSE PLATE LAMP LH
Connector Type	RHO2FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-

Connector No.	C1
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
7	LG	-
8	GR	-
9	SHIELD	-
10	L	- [With VR30 engine]
10	V	- [With 2.0L turbo gasoline engine]
11	G	-
12	GR	-
13	BG	-
14	LG	-
15	BR	-
16	BG	-

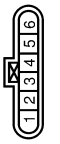
Connector No.	C4
Connector Name	HEIGHT SENSOR
Connector Type	AAZ06FB1

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
2	LG	-
4	GR	-

Connector No.	D1
Connector Name	DOOR LOCK ASSEMBLY (DRIVER SIDE)
Connector Type	E06FGY-RS

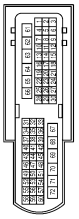
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
2	LG	-
3	W	-
4	B	-
5	Y	-
6	V	-

Connector No.	D4
Connector Name	WIRE TO WIRE
Connector Type	NH60FW-TS12

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
6	V	-
8	G	-
9	GR	-
10	Y	-
11	SHIELD	-
12	BG	-
13	L	-
14	B	-
15	Y	-
16	GR	-
17	R	-
18	GR	-
19	R	-
20	W	-

21	LG
22	W
23	L
24	G
25	BR
27	BR
28	V
29	B
30	W
31	P
32	Y
33	BR
34	L
35	R
36	GR
37	G
38	R
39	B
40	LG
41	L
43	BG
44	Y
46	W
47	R
49	BR
50	B
52	V
53	GR
54	R
55	SB
56	BR
57	R
58	L
59	V
60	G
61	BG
62	Y
63	SB
64	B
65	Y
66	BR
68	Y
69	L
70	W
71	LG
72	P

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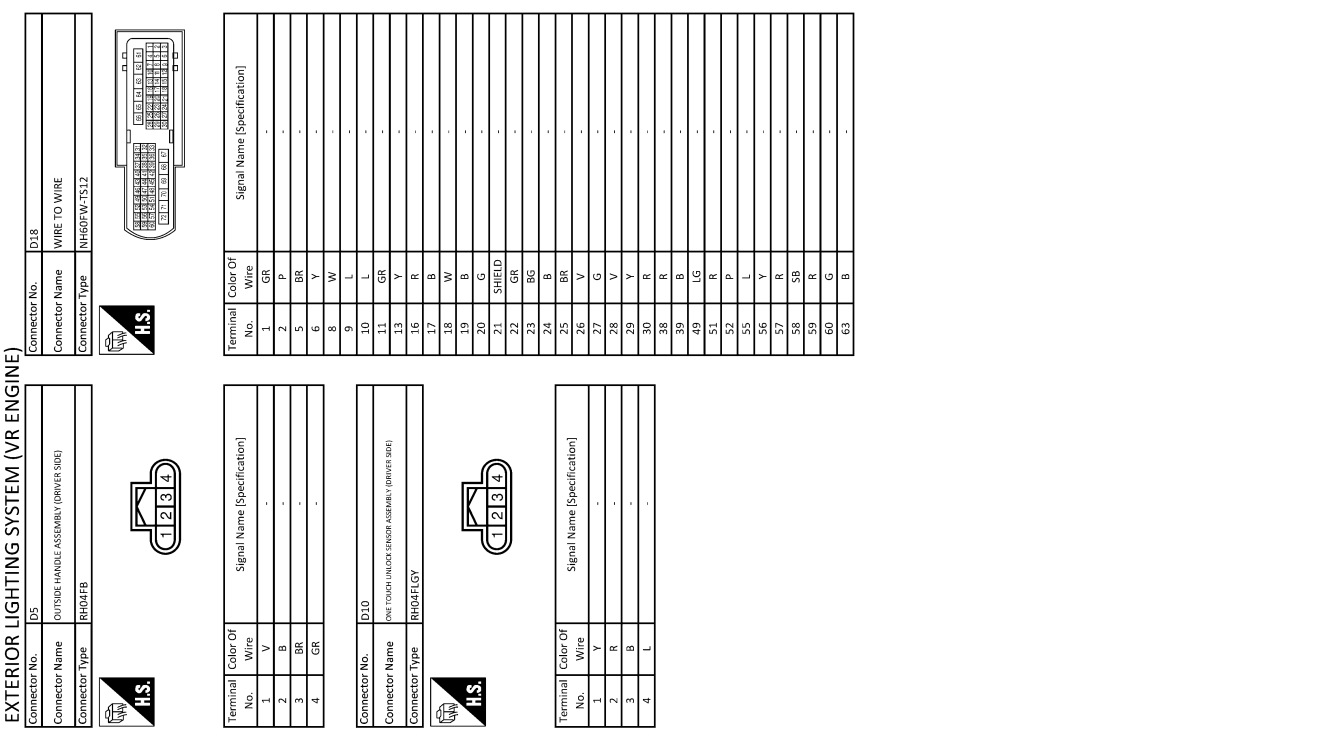
EXTERIOR LIGHTING SYSTEM (VR ENGINE)



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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

Connector No.	D66
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	RH10MB

Terminal No.	Color Of Wire	Signal Name [Specification]
3	G	-
4	V	-
5	Y	-
6	L	-
7	B	-
8	BG	-
9	B	-
10	R	-

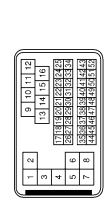
Connector No.	E3
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With 2.0L turbo gasoline engine]
1	Y	- [With VR30 engine]
2	W	-
4	P	- [With VR30 engine]
4	SB	- [With 2.0L turbo gasoline engine]
5	L	-
6	Y	-
7	LG	-
8	BG	-
9	W	-
10	B	-
11	G	-
12	R	-
13	GR	-
14	G	-
15	LG	- [With 2.0L turbo gasoline engine]
15	V	- [With VR30 engine]
16	Y	-
17	P	-
18	BR	-
19	LG	- [With 2.0L turbo gasoline engine]
19	Y	- [With VR30 engine]
20	GR	-
21	R	- [With 2.0L turbo gasoline engine]
21	V	- [With VR30 engine]
22	L	-
23	P	-
24	B	- [With VR30 engine]
24	BR	- [With 2.0L turbo gasoline engine]

Connector No.	D67
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	RH10MB

Terminal No.	Color Of Wire	Signal Name [Specification]
3	G	-
4	V	-
5	Y	-
6	L	-
7	B	-
8	BG	-
9	B	-
10	R	-

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Type	SAA36MB-RS8-SHZ8



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	LG	-
4	R	-
5	G	-
7	V	-
8	W	-
9	W	-
10	BG	-
11	LG	-
12	BG	-
13	L	-
14	Y	-
15	LG	-
16	G	-
17	L	-
18	P	-
19	GR	-
20	G	-
21	GR	-
22	W	-
23	G	-
24	BG	-
25	V	-
26	BR	-
27	W	-
28	BG	-
29	LG	-
30	G	-
31	Y	-
32	R	-
33	B	-
34	V	-
35	LG	-
36	W	-
37	V	-
38	BR	-
39	GR	-
40	SHIELD	-
41	B	-
42	R	-
43	Y	-
44	SHIELD	-
45	Y	-
46	P	-
47	L	-
48	LG	-
49	BG	-
50	SHIELD	-
51	W	-
52	G	-

Connector No.	E15
Connector Name	FRONT FOG LAMP LH
Connector Type	FH202FB

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	B	-

Connector No.	E16
Connector Name	FRONT FOG LAMP RH
Connector Type	FH202FB

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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	B	-

Connector No.	E21
Connector Name	HEADLAMP AIMING MOTOR LH
Connector Type	HS03FGY

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	AIMER_SIG
2	B	AIMER_GND
3	G	AIMER_VCC [With VR30 engine]
3	GR	AIMER_VCC [With 2.0L turbo gasoline engine]

Connector No.	E22
Connector Name	CHASSIS CONTROL MODULE
Connector Type	TH24FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
3	P	CAN-L [Without Gateway]
3	R	CAN-L [With Gateway]
4	L	CAN-H
5	V	DRIVE MODE SELECT SWITCH (UP) [With VR30 engine]
5	Y	DRIVE MODE SELECT SWITCH (UP) [With 2.0L turbo gasoline engine]
6	G	DRIVE MODE SELECT SW (DOWN) [With 2.0L turbo gasoline engine]
6	Y	DRIVE MODE SELECT SW (DOWN) [With VR30 engine]
7	W	CHASSIS COMMUNICATION-L
8	W	CHASSIS COMMUNICATION-L
10	BG	IGNITION POWER SUPPLY [With 2.0L turbo gasoline engine]
10	G	IGNITION POWER SUPPLY [With VR30 engine]
11	L	CHASSIS COMMUNICATION-H
12	B	GROUND [With VR30 engine]
12	B/W	GROUND [With 2.0L turbo gasoline engine]
19	BR	CHASSIS COMMUNICATION-H [With VR30 engine]
19	L	CHASSIS COMMUNICATION-H [With 2.0L turbo gasoline engine]
23	G	ESS RELAY [With VR30 engine]
23	R	ESS RELAY [With 2.0L turbo gasoline engine]

Connector No.	E25
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
6	V	-
7	L	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	B	- [With 2.0L turbo gasoline engine]
9	GR	- [With VR30 engine]
10	BR	-
11	L	-
12	GR	- [With VR30 engine]
12	P	- [With 2.0L turbo gasoline engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
13	W	- [With VR30 engine]
14	B	-
15	GR	- [With 2.0L turbo gasoline engine]
15	SB	- [With VR30 engine]
16	BR	- [With 2.0L turbo gasoline engine]
16	Y	- [With VR30 engine]
17	BR	- [With VR30 engine]
17	GR	- [With 2.0L turbo gasoline engine]
18	G	- [With 2.0L turbo gasoline engine]
18	P	- [With VR30 engine]
19	Y	-
31	W	- [With 2.0L turbo gasoline engine]
31	Y	- [With VR30 engine]
32	G	- [With 2.0L turbo gasoline engine]
32	GR	- [With VR30 engine]
33	L	- [With VR30 engine]
33	Y	- [With 2.0L turbo gasoline engine]
34	P	-
35	GR	-
36	R	-
37	L	- [With 2.0L turbo gasoline engine]
37	V	- [With VR30 engine]
38	L	- [With VR30 engine]
38	R	- [With 2.0L turbo gasoline engine]
39	BR	- [With 2.0L turbo gasoline engine]
39	Y	- [With VR30 engine]
40	SB	-
41	LG	-
45	L	- [With 2.0L turbo gasoline engine]
45	W	- [With VR30 engine]
46	B	- [With VR30 engine]
46	Y	- [With 2.0L turbo gasoline engine]
47	G	-
48	SHIELD	-
49	R	-
50	BR	- [With VR30 engine]
50	GR	- [With 2.0L turbo gasoline engine]
51	L	-
52	W	-
54	P	- [With VR30 engine]
54	W	- [With 2.0L turbo gasoline engine]
55	B	- [With 2.0L turbo gasoline engine]
55	W	- [With VR30 engine]
56	BG	- [With 2.0L turbo gasoline engine]
56	SB	- [With VR30 engine]
57	BG	- [With VR30 engine]
57	W	- [With 2.0L turbo gasoline engine]
58	B/W	-
59	W	-
61	R	-
64	Y	-
65	BR	-
67	LG	-
68	BG	-
69	L	-
70	R	-
71	G	- [With 2.0L turbo gasoline engine]
71	LG	- [With VR30 engine]
72	L	- [With 2.0L turbo gasoline engine]
72	V	- [With VR30 engine]
73	G	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	R	- [With 2.0L turbo gasoline engine]
75	V	- [With VR30 engine]
76	G	-
77	Y	-
78	LG	- [With 2.0L turbo gasoline engine and with ADAS]
78	P	- [With VR30 engine]
78	V	- [With 2.0L turbo gasoline engine and without ADAS]
79	SB	-
80	B	- [With VR30 engine]
80	G	- [With 2.0L turbo gasoline engine]
81	R	-
82	V	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	LG	-
86	BG	-
87	G	-
88	GR	-
89	LG	-
90	G	- [With VR30 engine]
90	GR	- [With 2.0L turbo gasoline engine]
91	G	-
92	W	-
93	BG	-
94	GR	- [With VR30 engine]
94	L	- [With 2.0L turbo gasoline engine]
95	R	-
96	W	-
97	LG	-
98	L	-
99	LG	- [With 2.0L turbo gasoline engine]
99	P	- [With VR30 engine]
100	SHIELD	-

Connector No.	E41
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS08FB-PR

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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
3	B/Y	-
4	B	- [With 2.0L turbo gasoline engine]
4	B/W	- [With VR30 engine]
5	SB	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	V	-
7	P	-
8	LG	-

Connector No.	E42
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS08FB-PR

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With 2.0L turbo gasoline engine]
1	Y	- [With VR30 engine]
3	B/Y	-
4	B	- [With 2.0L turbo gasoline engine]
4	B/W	- [With VR30 engine]
5	R	-
6	L	-
7	BR	-
8	P	-

Connector No.	E47
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	V	-
3	L	- [Without Gateway]
4	P	- [With Gateway]
4	R	-
5	W	-
6	SB	-
7	BR	-
8	W	-
9	BG	- [Without BOSE system]
9	V	- [With BOSE system]
10	V	-
11	SB	-
12	G	-
13	G	-
15	BR	-
16	P	-
17	SHIELD	-
18	L	-
19	Y	-
20	W	-
21	G	-
22	R	-
23	BR	-
26	BG	-
27	LG	-
28	BR	-
29	W	-
30	Y	-
31	G	-
32	LG	-

Connector No.	E49
Connector Name	HEADLAMP SWIVEL ACTUATOR LH
Connector Type	RS03FGY

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	- [With VR30 engine]
1	V	- [With 2.0L turbo gasoline engine]
2	BR	- [With 2.0L turbo gasoline engine]
2	LG	- [With VR30 engine]
3	P	- [With 2.0L turbo gasoline engine]
3	SB	- [With VR30 engine]

Connector No.	E52
Connector Name	ICC BRAKE HOLD RELAY
Connector Type	MS02FL-M2-LC

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	V	-
5	BR	- [With 2.0L turbo gasoline engine]
5	L	- [With VR30 engine]

Connector No.	E57
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	- [With ASCD]
1	L	- [With ADAS]
2	GR	- [With ASCD]
2	LG	- [With ADAS]
3	BR	-
4	V	-

Connector No.	E58
Connector Name	ESS RELAY
Connector Type	MS03FB-M2-LC

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	- [With VR30 engine]
1	R	- [With 2.0L turbo gasoline engine]
2	G	-
3	W	-
4	LG	-

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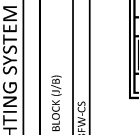
EXTERIOR LIGHTING SYSTEM (VR ENGINE)

Connector No.	E64
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS08FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1E	G	-
2E	P	-
3E	V	-
4E	GR	-
6E	L	-
7E	BG	-

Connector No.	E65
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH12FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
10F	W	-
11F	G	- [With 2.0L turbo gasoline engine]
11F	R	- [With VR30 engine]
12F	W	- [With VR30 engine]
12F	Y	- [With 2.0L turbo gasoline engine]
1F	R	-
2F	BR	-
3F	P	-
5F	P	-
6F	L	-
7F	R	-
8F	L	-
9F	L	-

Connector No.	E71
Connector Name	HEADLAMP AIMING MOTOR RH
Connector Type	HS03FGY

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	AIMER_SIG
2	B	AIMER_GND
3	G	AIMER_VCC [With VR30 engine]
3	V	AIMER_VCC [With 2.0L turbo gasoline engine]

Connector No.	E72
Connector Name	HEADLAMP SWIVEL ACTUATOR RH
Connector Type	RS03FGY

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	- [With VR30 engine]
1	W	- [With 2.0L turbo gasoline engine]
2	BG	-
3	W	-

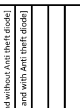
Connector No.	E104
Connector Name	DAYTIME RUNNING LIGHT RELAY
Connector Type	24384_4GA0A

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-
3	GR	-
5	P	-
6	LG	- [With 2.0L turbo gasoline engine]
6	Y	- [With VR30 engine]
7	G	-

Connector No.	E120
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS12FW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
7	B/W	-
9	P	-
10	LG	-
11	V	-
13	BG	-
14	SB	-
15	BR	-
17	GR	-
18	L	-

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH32FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
19	L	- [With 2.0L turbo gasoline engine]
19	P	- [With VR30 engine]
22	BG	-
23	GR	- [With VR30 engine]
23	LG	- [With 2.0L turbo gasoline engine and without Anti-theft diode]
23	P	- [With 2.0L turbo gasoline engine and with Anti-theft diode]
27	GR	-
28	P	-
29	L	-
31	G	-
32	SB	-
33	SB	-
34	Y	-
35	G	-
36	SB	- [With VR30 engine]
36	W	- [With 2.0L turbo gasoline engine]
37	GR	-
38	BR	-
41	GR	-
43	V	-
44	G	- [With 2.0L turbo gasoline engine]
44	GR	- [With VR30 engine]
46	R	- [With VR30 engine]
46	Y	- [With 2.0L turbo gasoline engine]

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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

Connector No.	E123
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS10FW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
52	Y	-
54	SB	-
55	W	-
56	L	-
57	LG	-
58	P	-
59	R	-
61	GR	-

Connector No.	E125
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS08FW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
74	G	-
75	R	-
76	SB	- [With VR30 engine]
76	V	- [With 2.0L turbo gasoline engine]
78	W	-
79	L	-
80	BR	-
81	P	-

Connector No.	E126
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH16FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
85	L	-
90	BR	-
93	V	-
94	Y	-
96	P	- [With VR30 engine]
96	SB	- [With 2.0L turbo gasoline engine]

Connector No.	E152
Connector Name	ECM
Connector Type	RH244FB-RZ8-L-RH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
173	SB	FUEL TANK PRESSURE SENSOR
175	P	CAN-L
176	L	CAN-H
177	G	SENSOR POWER SUPPLY [FUEL TANK PRESSURE SENSOR]
178	V	TACHO METER SIGNAL
180	P	FUEL TANK TEMPERATURE SENSOR
182	W	FUEL PUMP CONTROL MODULE [PCM] CHECK
185	SB	IGNITION SWITCH
186	SB	ASCD STEERING SWITCH
187	BG	SENSOR GROUND [ASCD STEERING SWITCH]
188	Y	FUEL PUMP CONTROL MODULE [PCM]
189	Y	ENGINE COMMUNICATION LINE-L
190	L	ENGINE COMMUNICATION LINE-H
191	P	STOP LAMP SWITCH
192	BG	BRAKE PEDAL POSITION SWITCH
193	GR	EVAP CANISTER VENT CONTROL VALVE
194	W	SENSOR POWER SUPPLY
195	BR	ACCELERATOR PEDAL POSITION SENSOR 2
196	R	SENSOR GROUND [ACCELERATOR PEDAL POSITION SENSOR 2]
197	R	ECM POWER SUPPLY
198	L	SENSOR POWER SUPPLY
199	B	ECM GROUND
200	V	SENSOR GROUND
201	B	ECM GROUND
202	Y	ACCELERATOR PEDAL POSITION SENSOR 1
203	G	SENSOR GROUND
204	B	ECM GROUND

Connector No.	E170
Connector Name	WIRE TO WIRE
Connector Type	SAA36MB-RS10-SJZ2

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
10	V	-
11	GR	-
19	V	-
20	SB	-
22	B/W	-
24	B	-
26	L	-
27	P	-
28	SHIELD	-
30	B	-
31	P	-
32	B/W	-
33	V	-
34	GR	-
35	P	-
36	B	-
37	R	-
38	V	-
39	Y	-
40	SB	-
41	L	-
42	W	-
43	B/Y	-
44	L	-
45	Y	-
47	BG	-
48	GR	-

Connector No.	E171
Connector Name	WIRE TO WIRE
Connector Type	SAA36FB-RS10-SJZ2

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
10	V	-
11	GR	-
19	V	-
20	SB	-
22	B	-
24	B	-
26	L	-
27	P	-
28	SHIELD	-
30	B	-
31	P	-
32	B	-
33	V	-
34	G	-
35	R	-
36	B	-
37	BG	-
38	LG	-
39	Y	-
40	P	-
41	L	-
42	W	-
43	B	-
44	L	-
45	Y	-
47	BG	-
48	GR	-

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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

Connector No.	E172
Connector Name	JOINT CONNECTOR-E01
Connector Type	SGA28FE1BR-J

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
2	Y	-
3	W	-
4	L	-
5	GR	-
6	Y	-
7	W	-
8	L	-
9	GR	-
10	Y	-
11	W	-
12	L	-
15	W	-
16	BG	-
17	P	-
18	L	-
19	W	-
20	BG	-
21	P	-
22	L	-
23	SB	-
24	LG	-
25	P	-
26	L	-

Connector No.	E173
Connector Name	JOINT CONNECTOR-E02
Connector Type	SGA28FDGY-J

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
3	B	-
4	B	-
5	G	-
6	BR	-
7	B	-
8	B	-
9	G	-
10	L	-
12	B	-
13	G	-
14	BR	-
17	G	-
21	G	-
25	R	-
26	L	-

Connector No.	E219
Connector Name	CHASSIS CONTROL MODULE
Connector Type	TH28FW

H.S.

1	3	4	5	6	8	9	10	12	13	14
15	17	19	21	22	23	24	25	26	27	28

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	ACTUATOR (FL)-L
3	BR	ACTUATOR (RR)-H
4	BG	IGNITION POWER SUPPLY
5	W	CHASSIS COMMUNICATION-L
6	B	GROUND
8	BR	CHASSIS COMMUNICATION-H
9	Y	DRIVE MODE SELECT SW (DOWN)
10	L	CAN-H
12	G	ACTUATOR (FR)-H
13	G	ESS RELAY
14	L	ACTUATOR (RL)-L
15	Y	ACTUATOR (RR)-L
17	V	ACTUATOR (FL)-H
19	L	CHASSIS COMMUNICATION-H
21	W	CHASSIS COMMUNICATION-L
22	V	DRIVE MODE SELECT SWITCH (UP)
23	B	GROUND
24	P	CAN-L [Without Gateway]
24	R	CAN-L [With Gateway]
25	G	IGNITION POWER SUPPLY
26	V	ACTUATOR (RL)-H
28	R	ACTUATOR (FR)-L

Connector No.	F2
Connector Name	A/T ASSEMBLY
Connector Type	RK10FG-DGY

H.S.

5	4	3	2	1
10	9	8	7	6

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	IGNITION POWER SUPPLY
2	P	BATTERY POWER SUPPLY (MEMORY BACK-UP)
3	L	CAN-H
4	R	K-LINE
5	BR	GROUND
6	GR	IGNITION POWER SUPPLY
7	BG	BACK-UP LAMP RELAY
8	P	CAN-L
9	V	STARTER RELAY
10	B	GROUND

Connector No.	F12
Connector Name	WIRE TO WIRE
Connector Type	SAA36FB-RS8-SHZ8

H.S.

10	11	10	9
1	2	3	4

2	1
4	3
6	5
8	7

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	GR	-
3	BG	-
4	R	-
5	G	-
7	L	-
8	W	-
9	W	-
10	BG	-
11	R	-
12	LG	-
13	L	-
14	Y	-
15	LG	-
16	Y	-
17	L	-
18	P	-
19	GR	-
20	BG	-
21	GR	-
22	W	-
23	G	-
24	SB	-
25	V	-
26	W	-
27	V	-
28	W	-
29	Y	-
30	R	-
31	P	-
32	R	-
33	P	-
34	BG	-
35	LG	-
36	SB	-
37	V	-

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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

38	BR	-
39	GR	-
40	SHIELD	-
41	B	-
42	R	-
43	Y	-
45	Y	-
46	P	-
47	L	-
48	LG	-
49	BG	-
50	SHIELD	-
51	W	-
52	G	-

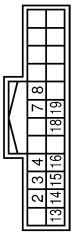
Connector No.	F100
Connector Name	TCM
Connector Type	SP10FG

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	IGNITION POWER SUPPLY
2	-	BATTERY POWER SUPPLY (MEMORY BACK-UP)
3	-	CAN-H
4	-	K-LINE
5	-	GROUND
6	-	IGNITION POWER SUPPLY
7	-	BACK-UP LAMP RELAY
8	-	CAN-L
9	-	STARTER RELAY
10	-	GROUND

Connector No.	M1
Connector Name	INTEGRAL SWITCH
Connector Type	TH24FW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	ILLUMINATION SIGNAL
3	LG	AV COMMUNICATION SIGNAL (L)
4	SB	AV COMMUNICATION SIGNAL (H)
7	W/B	DISK EJECT SIGNAL
8	G	HAZARD SIGNAL
13	B	GROUND
14	SB	ACC POWER SUPPLY [With 2.0L turbo gasoline engine]
14	V	ACC POWER SUPPLY [With VR30 engine]
15	B	ILLUMINATION CONTROL SIGNAL
16	BG	DISK EJECT SIGNAL GROUND
18	R	IGNITION SIGNAL [With VR30 engine]
18	W	IGNITION SIGNAL [With 2.0L turbo gasoline engine]
19	BR	CAMERA SWITCH SIGNAL

Connector No.	M4
Connector Name	AFS CONTROL UNIT
Connector Type	TH24FW-NH

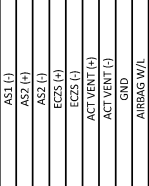
H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
6	BR	HEIGHT SENSOR SIGNAL
8	GR	SWIVEL ACTUATOR LIN SIGNAL
11	B	GROUND
12	R	IGNITION POWER SUPPLY [With VR30 engine]
12	W	IGNITION POWER SUPPLY [With 2.0L turbo gasoline engine]
13	P	CAN-L

19	P	SWIVEL ACTUATOR GROUND
21	LG	HEIGHT SENSOR POWER SUPPLY
22	SB	AIMING MOTOR DRIVE SIGNAL
23	GR	HEIGHT SENSOR GROUND
24	B	AIMING MOTOR GROUND

Connector No.	M5
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	NH28FY-EX

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	IGN
2	B	GND
3	Y/R	DR1 (+)
4	Y/B	DR1 (-)
5	Y	DR2 (+)
6	Y/R	AS1 (+)
7	Y/B	AS1 (-)
8	Y/G	AS2 (+)
9	Y	AS2 (-)
18	Y	ECZS (+)
19	BR	ECZS (-)
20	Y/R	ACT VENT (+)
21	Y/B	ACT VENT (-)
22	SHIELD	GND
23	V	AIRBAG W/L
24	G	-
25	GR	A/B OFF IND
51	G	SATELLITE RH2 (+)
52	R	SIDE SENS RH2 (-)
53	V	SIDE SENS LH2 (+)
54	L	SIDE SENS LH2 (-)
57	LG	IVCS
59	L	CAN-H
60	P	CAN-L

Connector No.	M13
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	PUSH SW
3	Y	SENS PWR SPLY
4	BG	OPTICAL SENSOR
5	LG	AIR BAG SIG
10	W	COMBI SW OUTPUT 5
11	SB	COMBI SW OUTPUT 4
12	L	COMBI SW OUTPUT 3
13	G	COMBI SW OUTPUT 2
14	P	COMBI SW OUTPUT 1
15	G	ONE-TOUCH UNLK SENS (DR)
16	G	ONE-TOUCH UNLK SENS (PASS)
17	P	RECEIVER/SENSOR GND
18	L	SECURITY IND LAMP CONT
20	R	DETENT SW
21	SB	STEP LAMP CONT
25	R	STOP LAMP SW2
26	R	EXTENDED STORAGE FUSE SW
27	P	STOP LAMP SW
30	W	DR DOOR UNLK SENS
33	V	TR LID OP CANCEL SW
36	G	HAZARD SW
39	BR	P/N POSITION

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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

Connector No.	M14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
48	R	PUSH-BTN IGN SW ILL PWR
52	G	DONGLE LINK
54	V	COMM LINE
55	R	RAIN SENSOR
59	P	CAN-L
60	L	CAN-H
61	G	REAR WINDOW DEF RLY CONT
62	R	STARTER RLY CONT
64	V	I-KEY WARN BUZZER
65	B	OUTS HD LAMP CONT
66	B	BLOWER FAN RLY CONT [With VR30 engine]
66	Y	BLOWER FAN RLY CONT [With 2.0L turbo gasoline engine]
67	W/B	IGN RLYAY (F/B) CONT
68	R	DIMMER
69	GR	A/T SHIFT SELECT PWR SPLY
70	B	IGN RLYAY (IPDM E/R) CONT
71	G	DR DOOR REQ SW
72	SB	PASS DOOR REQ SW
75	BR	COMBI SW INPUT 5
76	BG	COMBI SW INPUT 4
77	V	COMBI SW INPUT 3
78	Y	COMBI SW INPUT 2
79	LG	COMBI SW INPUT 1
80	L	TR LID OPNR SW

Connector No.	M15
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH24FGY-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
83	L	TR LID OPEN REQ SW
85	P	TR ROOM LAMP CONT
91	GR	TRUNK LID OPEN
92	W	TURN SIG RH OUTPUT (REAR)
94	GR	PASSENGER DOOR SW
96	V	DRIVER DOOR SW
97	R	TR ROOM LAMP SW
99	GR	INSIDE KEY ANT (TRUNK) -
100	W	INSIDE KEY ANT (TRUNK) +
101	BG	REAR BMPR ANT -
102	LG	REAR BMPR ANT +
103	Y	TURN SIG LH OUTPUT (REAR)

Connector No.	M16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH24FB-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
105	V	TURN SIG RH OUTPUT (FRONT)
106	V	TURN SIG RH OUTPUT (SIDE)
107	P	PUSH-BTN IGN SW ILL GND
108	L	SHIFT LOCK SOLENOID OUTPUT
111	Y	ACC/ON IND
113	SB	ACC RELAY CONT
114	LG	PASSENGER DOOR ANT +
115	V	PASSENGER DOOR ANT -
116	BR	INSIDE KEY ANT (CONSOLE) +
117	W/B	TURN SIG LH OUTPUT (FRONT)
118	L	TURN SIG LH OUTPUT (SIDE)
119	L	K'LS ENT RECEIV COMM
121	SB	DRIVER DOOR ANT -
122	BG	DRIVER DOOR ANT +
123	R	INSIDE KEY ANT (INSTRUMENT LOWER) +
124	G	INSIDE KEY ANT (INSTRUMENT LOWER) -
126	B	NATS ANT AMP.
127	W	NATS ANT AMP.
128	GR	INSIDE KEY ANT (CONSOLE) -

Connector No.	M17
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	FEA09FW-FHAE-SA

Terminal No.	Color Of Wire	Signal Name [Specification]
129	LG	INT ROOM LAMP PWR SPLY
130	P	PASS DOOR UNLK OUTPUT
131	Y	BAT (FUSE)
134	B	GND
135	V	FRONT DOOR, FL LID LK OUTPUT
136	V	INT ROOM LAMP CONT
137	LG	FRONT DOOR, FL LID UNLK OUTPUT
138	P	REAR DOORS ACT PWR SPLY [With VR30 engine]
138	R	REAR DOORS ACT PWR SPLY [With 2.0L turbo gasoline engine]
139	W	BAT (F/L)
140	BR	IGN ON
141	R	PWR SPLY (BAT)
142	R	FRONT DOORS, FL LID ACT PWR SPLY
143	B	GND

Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	SB	-
5	Y	-
7	W	-
10	BG	-
11	BR	-
12	LG	-
13	GR	-
14	R	-
15	L	-
16	V	-
18	W	-
19	BR	-
20	W	-
24	R	- [With 2.0L turbo gasoline engine]
24	Y	- [With VR30 engine]
25	P	- [With 2.0L turbo gasoline engine]
25	W	- [With VR30 engine]
26	G	-
27	R	-
28	R	-
31	BR	-
32	B	-
33	B	-
34	V	-
35	P	-
36	W	-
37	SB	-
38	LG	-
40	P	-
41	G	-
42	BR	-
43	BR	-
44	BR	-
46	BG	-

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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

50	W	-
51	Y	-
52	V	-
53	LG	-
54	R	-
55	R	-
58	V	-
59	BG	-
60	G	-
61	G	-
62	BG	-
63	BR	-
64	Y	-
66	R	-
70	LG	-
71	W	-
72	B	-
73	W	-
74	L	-
75	W	-
76	BR	-
77	B	-
78	SB	-
79	W	-
81	B	-
82	R	-
83	BG	-
84	L	-
85	W	-
86	B	-
88	G	-
89	V	-
91	GR	-
93	GR	-
94	GR	-
96	W	-
98	BR	- [With VR30 engine and with BOSE system]
98	Y	- [Except with VR30 engine and with BOSE system]

Connector No.	M22
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	L	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	BR	- [With 2.0L turbo gasoline engine]
3	R	- [With VR30 engine]
4	SHIELD	- [With VR30 engine]
4	Y	- [With 2.0L turbo gasoline engine]
5	G	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	LG	- [With VR30 engine]
7	P	- [With 2.0L turbo gasoline engine]
8	G	- [With 2.0L turbo gasoline engine]
8	P	- [With VR30 engine]
9	LG	- [With 2.0L turbo gasoline engine]
9	SHIELD	- [With VR30 engine]
10	V	-
11	GR	-
12	V	-
13	LG	-
14	LG	-
15	BR	- [With 2.0L turbo gasoline engine]
15	P	- [With VR30 engine]
16	SB	- [With DCM]
16	V	- [Without DCM]
17	Y	-
18	L	-
19	G	-
20	GR	-
21	R	-
23	L	-
24	BG	- [With 2.0L turbo gasoline engine]
24	V	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]
25	SB	- [With VR30 engine]
26	G	- [With VR30 engine]
26	W	- [With 2.0L turbo gasoline engine]
27	R	-
28	R	-
29	LG	-
30	SB	- [With VR30 engine]
30	W	- [With 2.0L turbo gasoline engine]
31	SHIELD	-
32	L	-
33	B	- [With VR30 engine]
33	LG	- [With 2.0L turbo gasoline engine]
34	SHIELD	-
35	LG	- [With VR30 engine]
35	W	- [With 2.0L turbo gasoline engine]
36	R	-
37	R	- [With VR30 engine]
37	V	- [With 2.0L turbo gasoline engine]
38	L	- [With 2.0L turbo gasoline engine and without BOSE system]
38	W	- [Except with 2.0L turbo gasoline engine and without BOSE system]
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	V	- [With VR30 engine and with BOSE system]
40	G	-
41	L	-
42	R	-
43	SHIELD	-
44	P	-
45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	-
47	G	-
48	BG	- [With 2.0L turbo gasoline engine]
48	BR	- [With VR30 engine and with BOSE system]
48	SB	- [With 2.0L turbo gasoline engine and without BOSE system]
49	G	-
51	L	- [With VR30 engine]
51	V	- [With 2.0L turbo gasoline engine]
52	L	- [With 2.0L turbo gasoline engine]
52	Y	- [With VR30 engine]
53	R	-
54	GR	-
55	L	-
56	P	-
57	R	-
58	LG	-
59	SB	-
60	BR	-
61	L	- [With 2.0L turbo gasoline engine]
61	R	- [With VR30 engine]
62	P	- [With 2.0L turbo gasoline engine]
62	V	- [With VR30 engine]
63	L	-
64	W	-
65	R	-
66	L	- [With 2.0L turbo gasoline engine]
66	R	- [With VR30 engine]
67	G	-
68	L	-
69	P	-
71	GR	- [With 2.0L turbo gasoline engine]
71	R	- [With VR30 engine]
72	G	- [With VR30 engine]
72	V	- [With 2.0L turbo gasoline engine]
73	LG	- [With 2.0L turbo gasoline engine]
73	SHIELD	- [With VR30 engine]
74	L	- [With VR30 engine]
74	LG	- [With 2.0L turbo gasoline engine]
75	P	-
76	SB	- [With 2.0L turbo gasoline engine]
76	V	- [With VR30 engine]
77	Y	-
78	L	-
79	G	-
80	GR	- [With 2.0L turbo gasoline engine]
80	W	- [With VR30 engine]
81	B	- [With VR30 engine]
81	R	- [With 2.0L turbo gasoline engine]
82	G	- [With 2.0L turbo gasoline engine]
82	SHIELD	- [With VR30 engine]
83	R	- [With 2.0L turbo gasoline engine]
83	W	- [With VR30 engine]
84	BR	- [With VR30 engine]
84	SHIELD	- [With 2.0L turbo gasoline engine]
85	BR	- [With VR30 engine]
85	G	- [With 2.0L turbo gasoline engine]
86	R	-
87	LG	- [With VR30 engine]
87	SHIELD	- [With 2.0L turbo gasoline engine]
88	R	-
89	LG	-
90	SB	-
92	L	- [With 2.0L turbo gasoline engine]
92	W	- [With VR30 engine]
93	SHIELD	-
94	R	-
95	L	- [With 2.0L turbo gasoline engine]
95	Y	- [With VR30 engine]
96	W	-
97	L	- [With VR30 engine]
97	R	- [With 2.0L turbo gasoline engine]

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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

99	BR	- [With VR30 engine and with BOSE system]
99	P	- [With 2.0L turbo gasoline engine]
99	Y	- [With VR30 engine and without BOSE system]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]

Connector No.	M24
Connector Name	CAN GATEWAY
Connector Type	TH12FW-NH

H.S.

1	3	4	5	6
7	9	10	11	12

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H (CAN COMMUNICATION CIRCUIT 1)
3	W	BATTERY POWER SUPPLY
4	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
5	B	GROUND
6	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
7	P	CAN-L (CAN COMMUNICATION CIRCUIT 1)
9	R	IGNITION POWER SUPPLY [With VR30 engine]
9	W	IGNITION POWER SUPPLY [With 2.0L turbo gasoline engine]
10	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)
11	B	GROUND
12	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)

Connector No.	M25
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW

H.S.

								16
11	12	13	14					
	3	4	5	6	7	8		

Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	- [With 2.0L turbo gasoline engine]
4	B	M_CAN_L
5	B	EARTH
6	L	EARTH
7	V	CAN-H
7	W	KLINE [With 2.0L turbo gasoline engine]
8	W	KLINE [With VR30 engine]
11	SB	IGN_SW
12	R	M_CAN_H
13	L	CAN-L
14	P	CAN-H
16	W	CAN-L
		POWER

Connector No.	M27
Connector Name	COMBINATION SWITCH
Connector Type	TH16FW-NH

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	FR WASH MOTOR
2	SB	OUTPUT 4
5	L	OUTPUT 3
6	B	GND
7	V	INPUT 3
8	W	OUTPUT 5
9	Y	INPUT 2
10	BG	INPUT 4
11	LG	INPUT 1
12	P	OUTPUT 1
13	BR	INPUT 5
14	G	OUTPUT 2

Connector No.	M33
Connector Name	WIRE TO WIRE
Connector Type	NH60MW-TS12

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
6	R	-
8	GR	-
9	GR	-
10	W	-
11	SHIELD	-
12	P	-
13	SB	-
14	LG	-
15	Y	-
16	Y	-
17	P	-
18	W/B	-
19	LG	- [With DRPO]
19	Y	- [Without DRPO]
20	V	-
21	B	-
22	BG	- [Without DRPO]
22	G	- [With DRPO]
23	L	-
24	Y	-
25	BG	- [Without DRPO]
25	L	- [With DRPO]
27	GR	-
28	V	-
29	B	-
30	W	-
31	B	-
32	SB	-
33	L	-
34	BR	-
35	LG	-
36	W	-
37	B	-
38	R	-
39	B	-
40	P	-
41	SB	-
43	W	- [With 2.0L turbo gasoline engine]
43	Y	- [With VR30 engine]
44	BG	-
46	BR	-
47	G	-
49	V	-
50	B	-
52	BR	-
53	B	-
54	L	-
55	BG	-
56	LG	-
57	V	-
58	R	-
59	G	-
60	L	-
61	G	-
62	R	-
63	V	-
64	B	-
65	R	-
66	BR	-
68	P	-
69	V	-
70	W	-
71	LG	-
72	V	-

Connector No.	M34
Connector Name	WIRE TO WIRE
Connector Type	NH60MW-TS12

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	R	-
5	L	-
6	R	-
8	W	-
9	GR	-

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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

10	V	-
11	Y	-
13	LG	-
16	G	-
17	B	-
18	W	-
19	B	-
20	SB	- [With DRPO]
20	Y	- [Without DRPO]
21	SHIELD	-
22	B	-
23	BG	- [Without DRPO]
23	P	- [With DRPO]
24	G	-
25	LG	-
26	BG	- [Without DRPO]
26	BR	- [With DRPO]
27	R	-
28	SB	-
29	BG	- [Without DRPO]
29	W/B	- [With DRPO]
30	L	-
38	R	-
39	B	-
49	P	-
51	V	-
52	V	-
55	B	-
56	SB	-
57	G	-
58	G	-
59	LG	-
60	R	-
63	B	-
64	R	-
65	BR	-
66	Y	-
69	BR	-
70	Y	-
71	SB	-
72	W	-

Connector No.	M39
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W/B	-
2	SB	-
3	L	-
4	P	- [Without Gateway]
4	R	- [With Gateway]
5	BR	-
6	SB	-
7	L	-
8	W	-
9	P	- [Without BOSE system]
9	V	- [With BOSE system]
10	V	-
11	SB	-
12	G	-
13	G	-
15	R	-
16	SB	-
17	SHIELD	-
18	W	-
19	Y	-
20	L	-
21	G	-
22	R	-
23	BR	-
26	Y	-
27	LG	-
28	BR	-
29	W/B	-
30	Y	-
31	W	-
32	LG	-

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
6	W/B	-
7	V	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	LG	- [With VR30 engine]
9	P	- [With 2.0L turbo gasoline engine]
10	W	-
11	W	- [With VR30 engine]
11	Y	- [With 2.0L turbo gasoline engine]
12	B	- [With VR30 engine]
12	BR	- [With 2.0L turbo gasoline engine]
13	GR	- [With VR30 engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
14	B	-
15	BG	- [With 2.0L turbo gasoline engine]
15	SB	- [With VR30 engine]
16	B	- [With VR30 engine]
16	BR	- [With 2.0L turbo gasoline engine]
17	LG	-
18	B	- [With VR30 engine]
18	W/B	- [With 2.0L turbo gasoline engine]
19	Y	-
31	W	-
32	G	- [With 2.0L turbo gasoline engine]
32	V	- [With VR30 engine]
33	L	- [With VR30 engine]
33	Y	- [With 2.0L turbo gasoline engine]
34	P	-
35	BG	-
36	G	-
37	B	- [With VR30 engine]
37	L	- [With 2.0L turbo gasoline engine]
38	L	- [With VR30 engine]
38	R	- [With 2.0L turbo gasoline engine]
39	R	- [With 2.0L turbo gasoline engine]
39	Y	- [With VR30 engine]
40	GR	-
41	L	-
45	L	- [With 2.0L turbo gasoline engine]
45	W	- [With VR30 engine]
46	G	- [With VR30 engine]
46	Y	- [With 2.0L turbo gasoline engine]
47	BG	- [With 2.0L turbo gasoline engine]
47	R	- [With VR30 engine]
48	SHIELD	-
49	B	- [With VR30 engine]
49	G	- [With 2.0L turbo gasoline engine]
50	B	- [With 2.0L turbo gasoline engine]
50	BR	- [With VR30 engine]
51	L	-
52	W	-
54	SB	- [With 2.0L turbo gasoline engine]
54	Y	- [With VR30 engine]
55	B	- [With 2.0L turbo gasoline engine]
55	P	- [With VR30 engine]
56	BG	- [With VR30 engine]
56	GR	- [With 2.0L turbo gasoline engine]
57	GR	- [With VR30 engine]
57	P	- [With 2.0L turbo gasoline engine]
58	B	-
59	SB	-
61	W/B	-
64	Y	-
65	R	-
67	LG	-
68	BG	-
69	L	-
70	R	-
71	V	- [With VR30 engine]
71	W	- [With 2.0L turbo gasoline engine]
72	L	- [With 2.0L turbo gasoline engine]
72	LG	- [With VR30 engine]
73	R	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	B	- [With VR30 engine]
75	R	- [With 2.0L turbo gasoline engine]
76	W/B	-
77	SB	-
78	G	- [With VR30 engine]
78	LG	- [With 2.0L turbo gasoline engine]
79	R	-
80	B	- [With VR30 engine]
80	G	- [With 2.0L turbo gasoline engine]

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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

81	R	-
82	LG	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	V	-
86	V	-
87	G	-
88	R	-
89	V	-
90	G	- [With VR30 engine]
90	V	- [With 2.0L turbo gasoline engine]
91	W	-
92	G	- [With VR30 engine]
92	W	- [With 2.0L turbo gasoline engine]
93	BR	-
94	GR	- [With VR30 engine]
94	L	- [With 2.0L turbo gasoline engine]
95	BR	- [With VR30 engine]
95	R	- [With 2.0L turbo gasoline engine]
96	W	- [With VR30 engine]
97	LG	-
98	Y	-
99	BR	- [With VR30 engine]
99	LG	- [With 2.0L turbo gasoline engine]
100	SHIELD	-

Connector No.	M58
Connector Name	COMBINATION METER
Connector Type	TH12FW-NH

41	42	43	44	45	46
47	48		51	52	

Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	CAN-H
42	P	CAN-L
43	B	ILLUMINATION CONTROL SIGNAL
44	Y	FUEL LEVEL SENSOR GROUND
45	W	BATTERY POWER SUPPLY
46	BG	IGNITION SIGNAL [With 2.0L turbo gasoline engine models]
46	R	IGNITION SIGNAL [With VR30DDTT engine models]
47	SB	AV COMMUNICATION SIGNAL [H]
48	LG	AV COMMUNICATION SIGNAL [L]

51	BR	FUEL LEVEL SENSOR SIGNAL
52	B	GROUND

Connector No.	M71
Connector Name	STEERING FORCE CONTROL MODULE
Connector Type	RH24FB-RZ8-L-RH

2	4	5	6	25	26
		10	11	27	28
	14	15	17	29	30
19	20	22	23	31	32

Terminal No.	Color Of Wire	Signal Name [Specification]
2	Y	STEERING FORCE MOTOR RESOLVER SIGNAL (S1-S3)
4	W	STEERING FORCE MOTOR RESOLVER SIGNAL (S1-S3)
5	G	STEERING FORCE MOTOR RESOLVER SIGNAL (S2-S4)
6	L	STEERING FORCE MOTOR RESOLVER SIGNAL (S2-S4)
10	B	STEERING FORCE MOTOR RESOLVER SIGNAL (R1-R2)
11	R	STEERING FORCE MOTOR RESOLVER SIGNAL (R1-R2)
14	L	CAN COMMUNICATION-H
15	P	CAN COMMUNICATION-L
17	Y	BACK UP SIGNAL (FROM STEERING ANGLE MAIN CONTROL MODULE)
18	Y	BACK UP SIGNAL (FROM STEERING ANGLE SUB CONTROL MODULE)
19	W	FLEXRAY COMMUNICATION-H
20	V	FLEXRAY COMMUNICATION-L
22	BG	BACK UP SIGNAL (TO STEERING ANGLE MAIN CONTROL MODULE)
23	BR	CAN WAKE UP
24	R	BACK UP SIGNAL (TO STEERING ANGLE SUB CONTROL MODULE)
25	W	IGNITION POWER SUPPLY
26	R/W	STEERING CLUTCH +
27	W/B	IGNITION POWER SUPPLY (TO STEERING ANGLE SUB CONTROL MODULE)
28	R	STEERING CLUTCH -
29	L	FORCE MOTOR TEMPERATURE SENSOR -
30	B	GROUND
31	R	FORCE MOTOR TEMPERATURE SENSOR +
32	B	GROUND

Connector No.	M91
Connector Name	OPTICAL SENSOR
Connector Type	TK03FW

1	2	3	

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	SENSOR_POWER
2	BG	SENSOR_OUTPUT
3	P	SENSOR_GND

Connector No.	M97
Connector Name	BACK-UP LAMP RELAY
Connector Type	MS02FL-M2-LC

3		
5		
2	X	1

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	SB	- [With 2.0L turbo gasoline engine]
2	W	- [With VR30 engine]
3	R	-
5	BR	-

Connector No.	M113
Connector Name	REMOTE KEYLESS ENTRY RECEIVER
Connector Type	AAC04FB

1	2	3	

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	+12V
2	L	SIGNAL
3	P	GND

Connector No.	M133
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH40FW-NH

1C	2C	3C	4C	5C	6C	7C	8C	9C	10C	11C	12C	13C	14C	15C	16C
17C	18C	19C	20C	21C	22C	23C	24C	25C	26C						

Terminal No.	Color Of Wire	Signal Name [Specification]
10C	V	-
12C	L	-
13C	L	-
14C	Y	-
15C	R	-
16C	R	-
17C	L	-
18C	BG	- [Without DRPO]
18C	P	- [With DRPO]
19C	B	-
1C	R	-
20C	W	-
21C	L	-
22C	L	-
23C	L	-
25C	LG	-
26C	SB	-

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EXTERIOR LIGHTING SYSTEM (VR ENGINE)

27C	P	-
28C	W	-
29C	W	-
2C	R	-
30C	R	-
31C	W	-
32C	R	-
33C	B	- [With VR30 engine]
33C	R	- [With 2.0L turbo gasoline engine]
34C	W/B	-
35C	SB	-
36C	R	-
37C	W	-
38C	SB	-
39C	V	-
3C	P	-
40C	G	-
4C	P	-
5C	P	-
6C	G	-
7C	G	-
8C	G	-
9C	V	-

Connector No.	M135
Connector Name	JOINT CONNECTOR-M09
Connector Type	24342_4GA2A

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	B	-
4	B	-
5	B	-
6	B	-
7	B	-
8	B	-
9	B	-
10	B	-
11	B	-
13	L	-
15	L	-
16	L	-
19	R	-
21	R	-
22	R	-

14	B	- [With VR30 engine]
14	SB	- [With 2.0L turbo gasoline engine]
15	B	- [With VR30 engine]
15	SB	- [With 2.0L turbo gasoline engine]
16	SB	- [With 2.0L turbo gasoline engine]
16	Y	- [With VR30 engine]
17	SB	- [With 2.0L turbo gasoline engine]
17	Y	- [With VR30 engine]
18	SB	- [With 2.0L turbo gasoline engine]
18	Y	- [With VR30 engine]
19	SHIELD	-
20	R	-
21	R	-
22	SHIELD	-
23	L	-
24	L	-

Connector No.	M137
Connector Name	JOINT CONNECTOR-M10
Connector Type	24342_4GA2A

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	B	-
4	B	-
5	B	-
7	B	-
8	B	-
9	B	-
10	B	-
11	B	-
13	L	-
15	L	-
16	L	-
19	R	-
21	R	-
22	R	-

Connector No.	M171
Connector Name	JOINT CONNECTOR-M01
Connector Type	24342_4GA2A

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	B	-
4	B	-
5	B	-
6	B	-
7	B	-
8	B	-
9	B	-
10	G	-
11	G	-
13	B	-
14	B	-
15	B	-
16	SB	- [With VR30 engine]
16	Y	- [With 2.0L turbo gasoline engine]
17	SB	- [With VR30 engine]
17	Y	- [With 2.0L turbo gasoline engine]
18	SB	- [With VR30 engine]
18	Y	- [With 2.0L turbo gasoline engine]
19	G	-
20	G	-
22	LG	- [With VR30 engine]
22	SB	- [With 2.0L turbo gasoline engine]
23	LG	- [With VR30 engine]
23	SB	- [With 2.0L turbo gasoline engine]
24	LG	- [With VR30 engine]
24	SB	- [With 2.0L turbo gasoline engine]

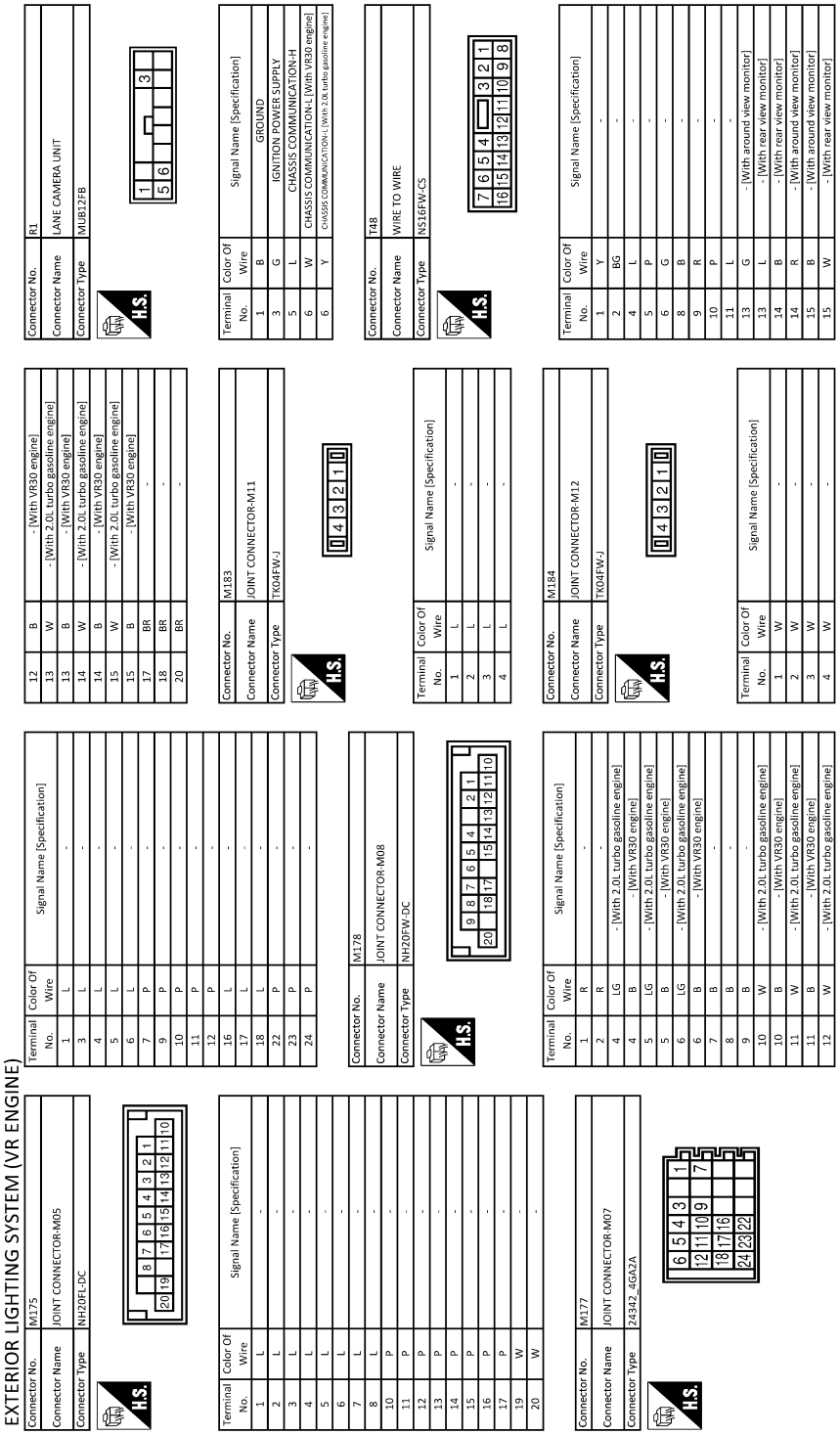
Connector No.	M173
Connector Name	JOINT CONNECTOR-M03
Connector Type	24342_4GA2A

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	-
9	R	-
10	R	-
11	R	-
12	R	-
13	SB	-
14	SB	-
15	SB	-
16	L	- [With 2.0L turbo gasoline engine]
16	SB	- [With VR30 engine]
17	L	- [With 2.0L turbo gasoline engine]
17	SB	- [With VR30 engine]
18	L	- [With 2.0L turbo gasoline engine]
18	SB	- [With VR30 engine]
19	BR	- [With VR30 engine]
19	LG	- [With 2.0L turbo gasoline engine]
20	BR	- [With VR30 engine]
20	LG	- [With 2.0L turbo gasoline engine]
21	BR	- [With VR30 engine]
21	LG	- [With 2.0L turbo gasoline engine]
22	R	- [With 2.0L turbo gasoline engine]
22	SB	- [With VR30 engine]
23	R	- [With 2.0L turbo gasoline engine]
23	SB	- [With VR30 engine]
24	R	- [With 2.0L turbo gasoline engine]
24	SB	- [With VR30 engine]

JRLWG1787GB

EXTERIOR LIGHTING SYSTEM (VR ENGINE)



JRLWG1788GB

EXTERIOR LIGHTING SYSTEM (VR ENGINE)

16	R	- [With rear view monitor]
16	W	- [With around view monitor]

Connector No.	T51
Connector Name	REAR COMBINATION LAMP LH (TRUNK LID SIDE)
Connector Type	NS04MW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
3	BG	-
4	B	-

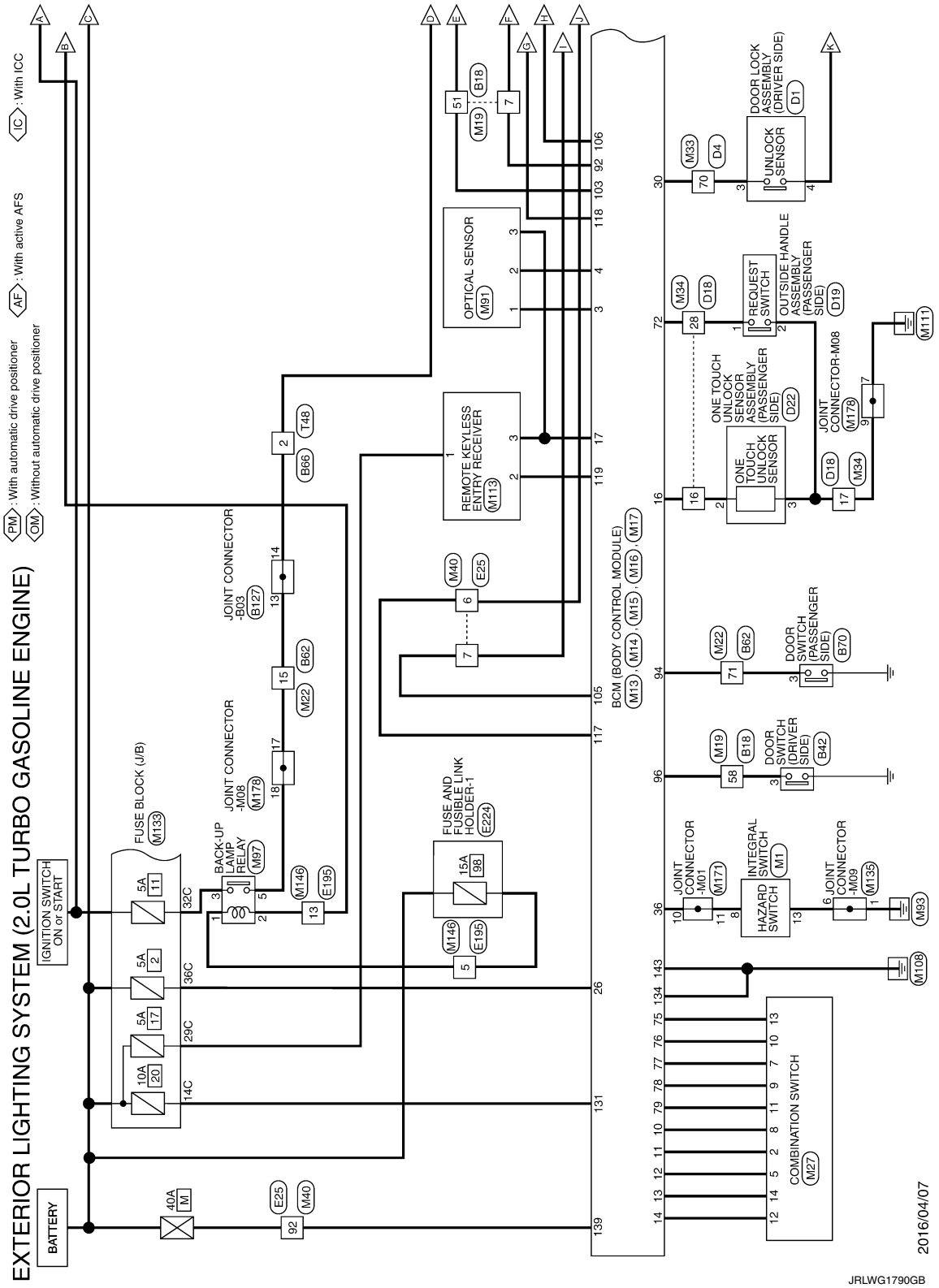
Connector No.	T52
Connector Name	REAR COMBINATION LAMP RH (TRUNK LID SIDE)
Connector Type	NS04MW-CS

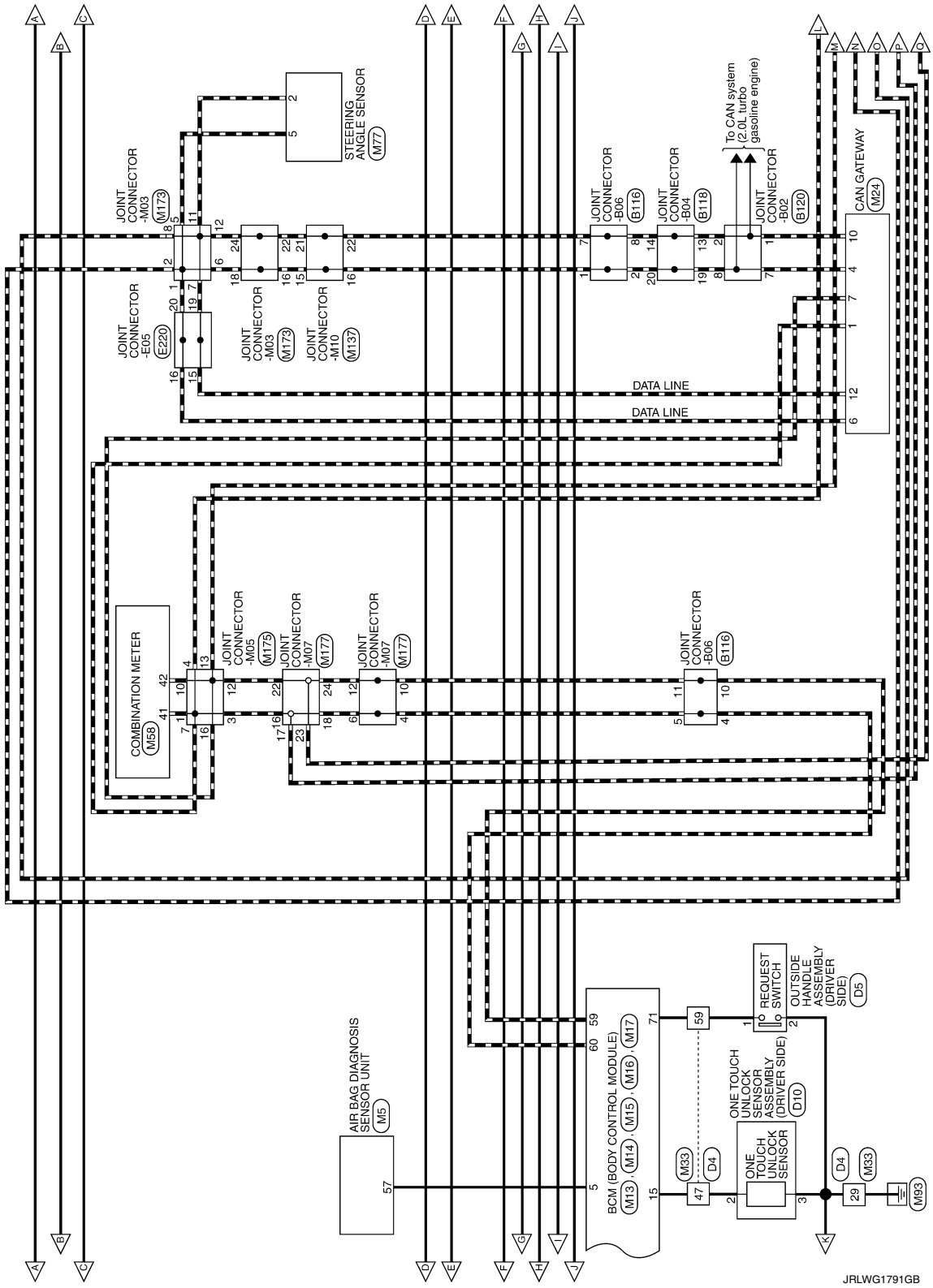
H.S.

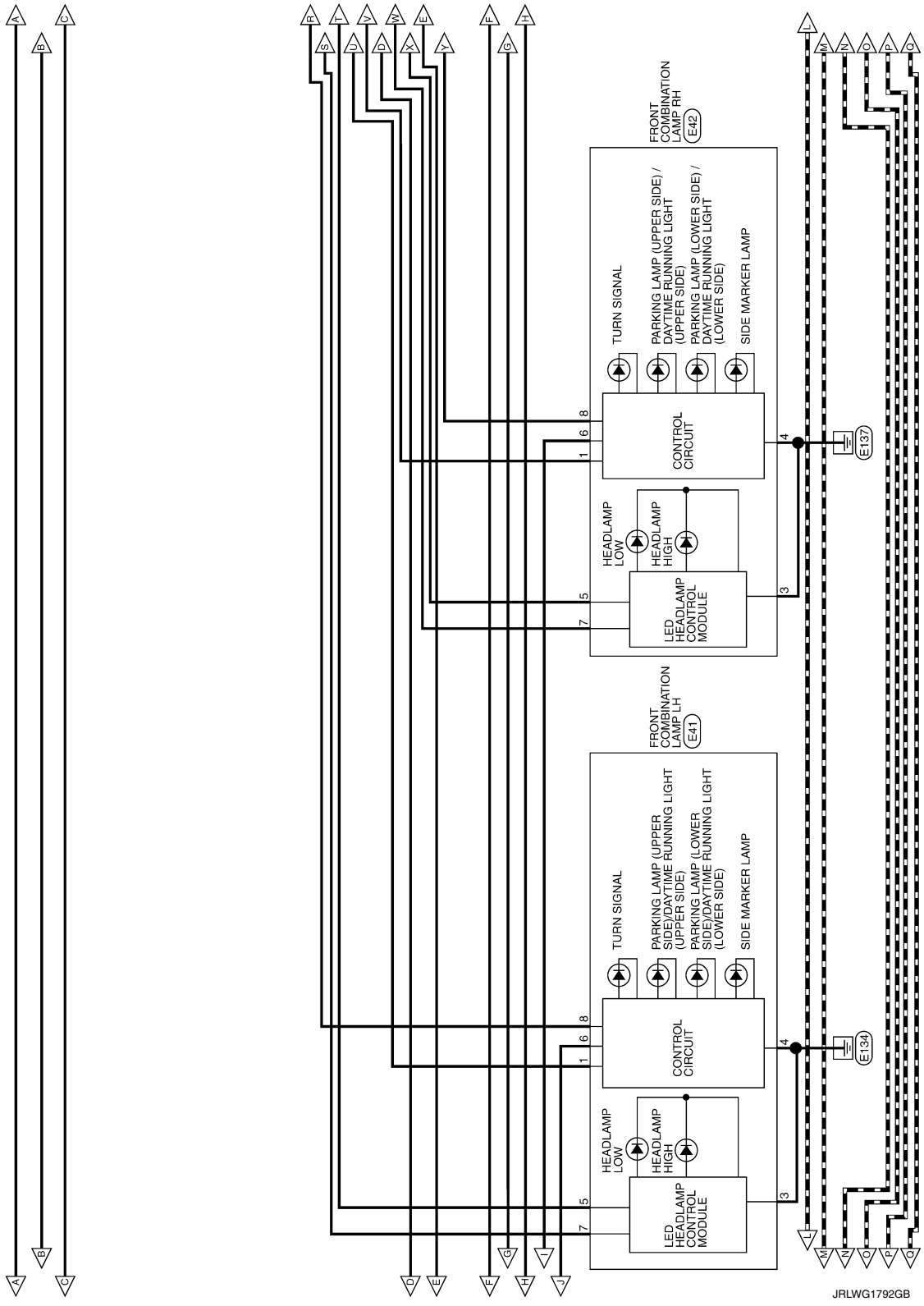
Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
3	BG	-
4	B	-

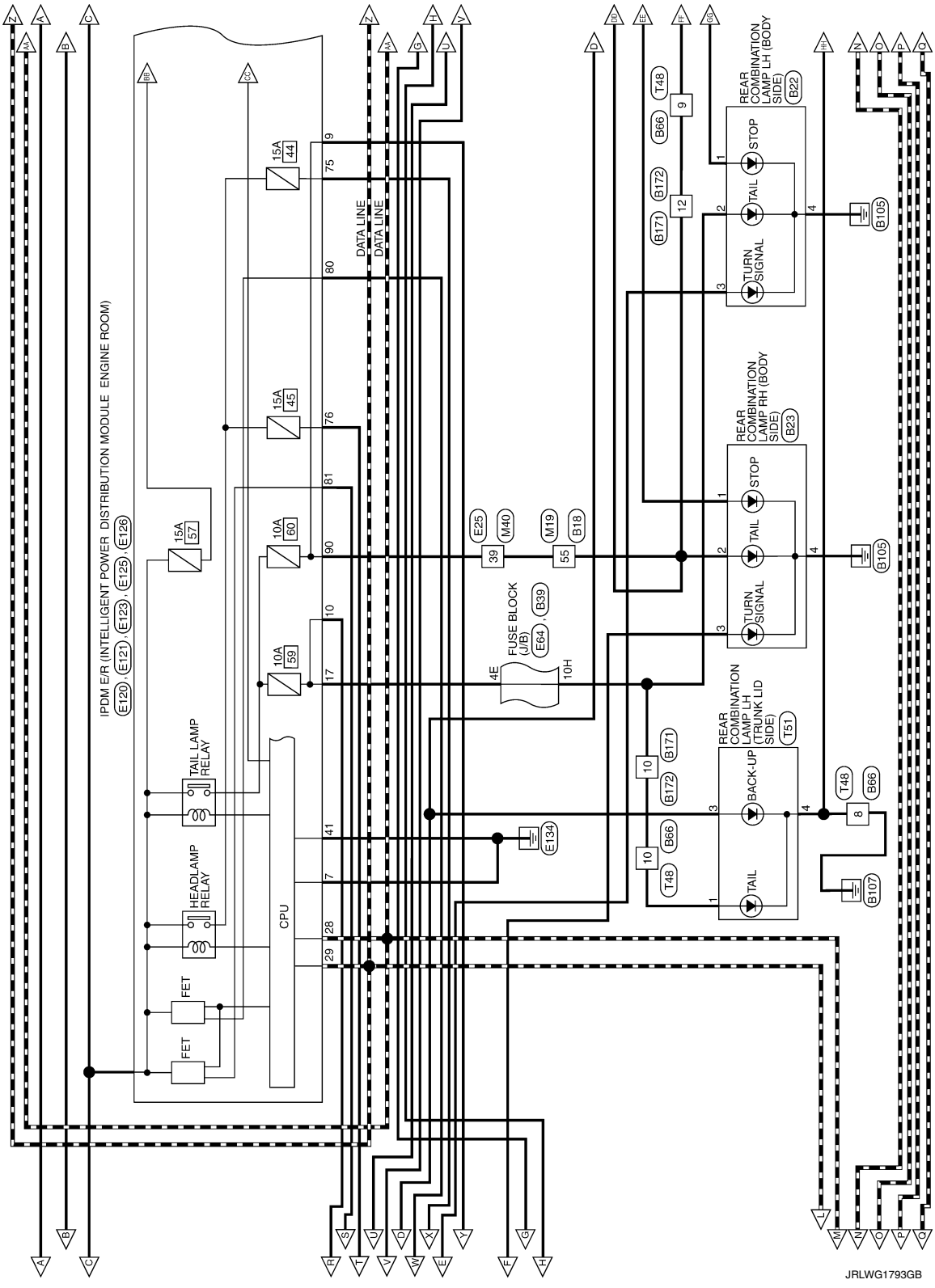
JRLWG1789GB

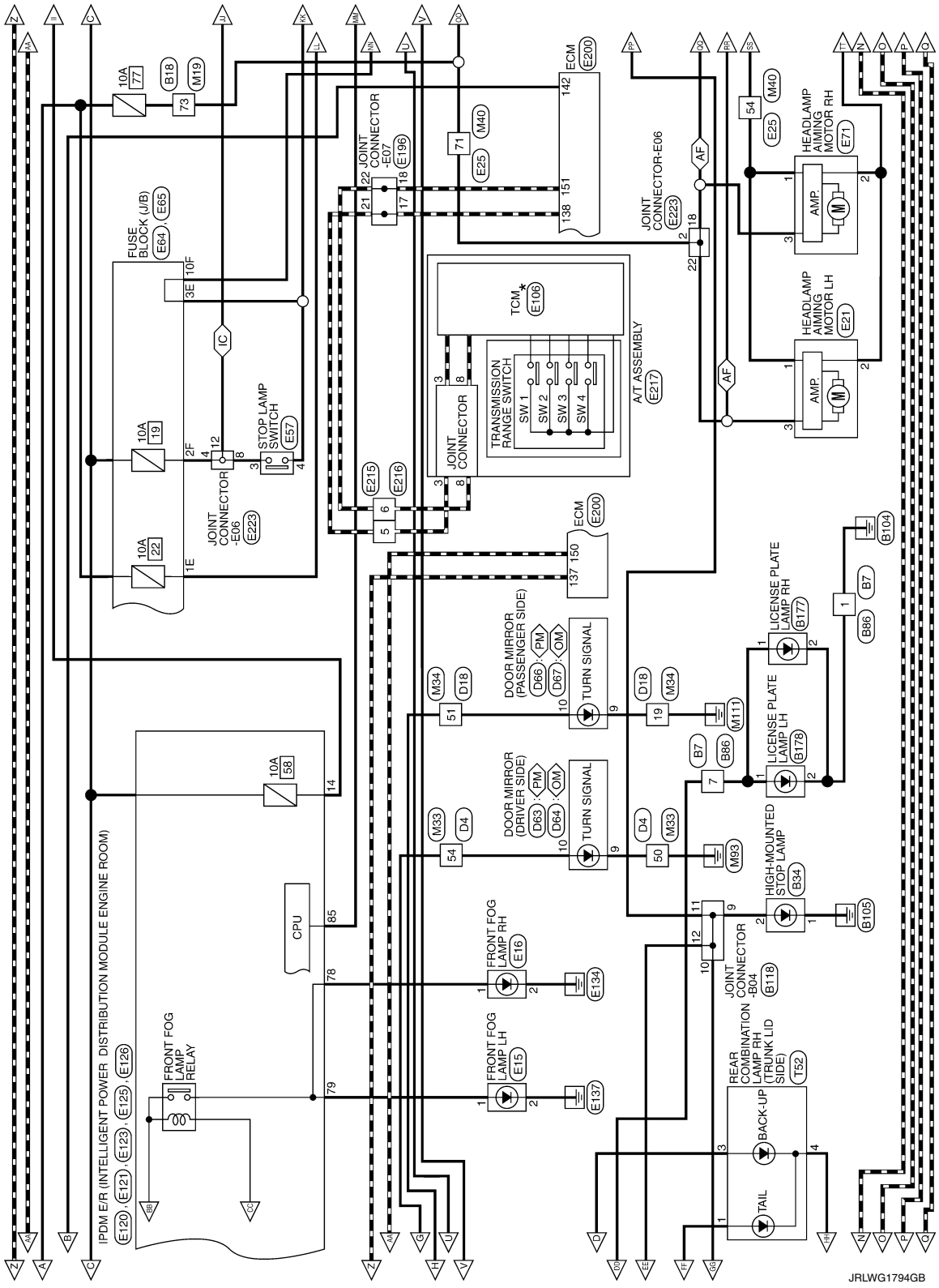
2.0L TURBO GASOLINE ENGINE MODELS

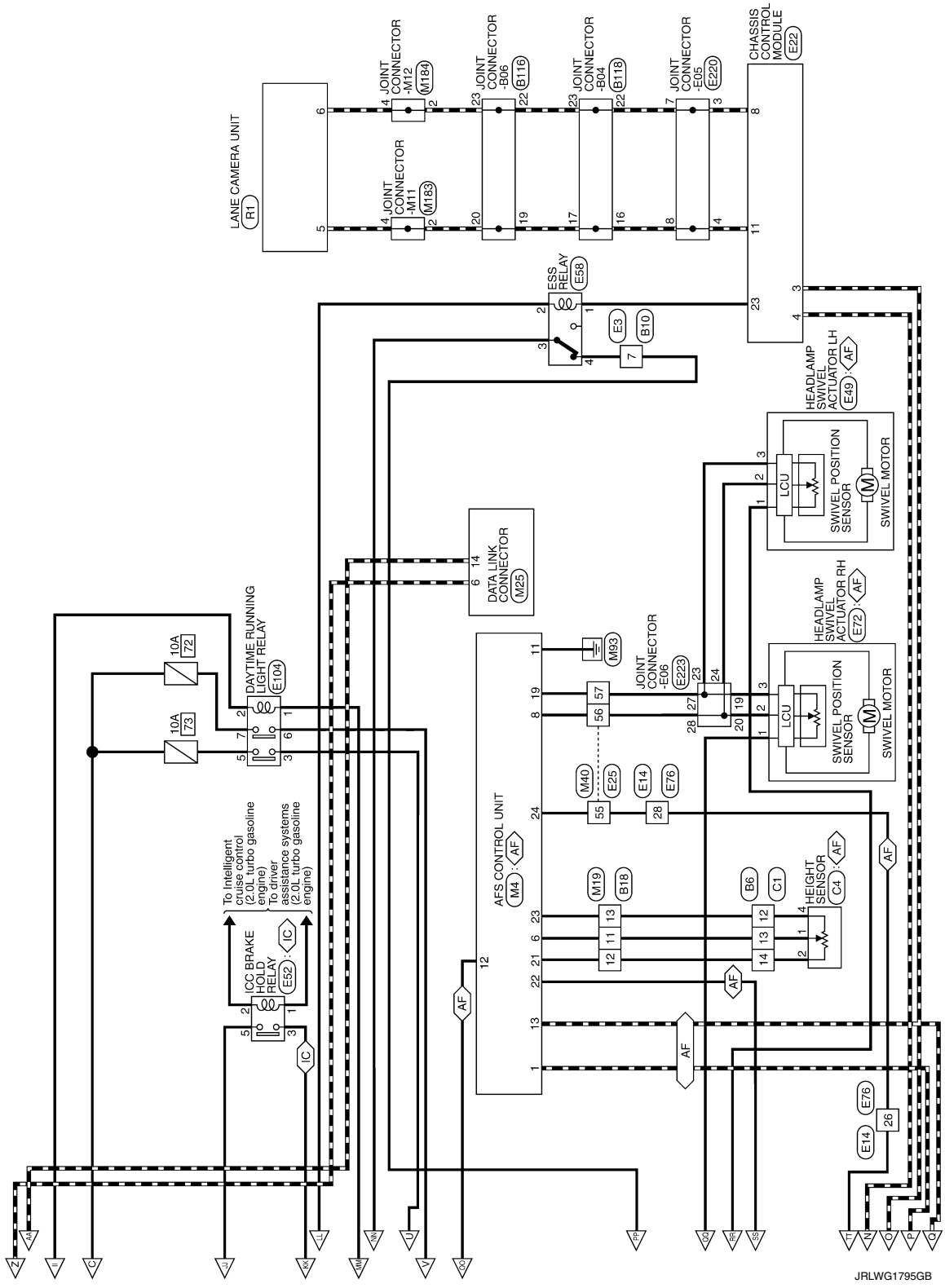



STEERING ANGLE SENSOR (M77)
JOINT CONNECTOR -M03 (M173)
JOINT CONNECTOR -E05 (E220)
JOINT CONNECTOR -M03 (M173)
JOINT CONNECTOR -M10 (M137)
JOINT CONNECTOR -B06 (B116)
JOINT CONNECTOR -B04 (B118)
JOINT CONNECTOR -B02 (B120)
To CAN system (2.0L turbo gasoline engine)
CAN GATEWAY (M24)
DATA LINE
DATA LINE
COMBINATION METER (M58)
JOINT CONNECTOR -M05 (M175)
JOINT CONNECTOR -M07 (M177)
JOINT CONNECTOR -M07 (M177)
JOINT CONNECTOR -B06 (B116)
AIR BAG DIAGNOSIS SENSOR UNIT (M5)
BCM (BODY CONTROL MODULE) (M13, M14, M15, M16, M17)
REQUEST SWITCH
OUTSIDE HANDLE ASSEMBLY (DRIVER SIDE) (D5)
ONE TOUCH UNLOCK SENSOR ASSEMBLY (DRIVER SIDE) (D10)
ONE TOUCH UNLOCK SENSOR
JRLWG1791GB


FRONT COMBINATION LAMP RH
E42
TURN SIGNAL
PARKING LAMP (UPPER SIDE) / DAYTIME RUNNING LIGHT (UPPER SIDE)
PARKING LAMP (LOWER SIDE) / DAYTIME RUNNING LIGHT (LOWER SIDE)
SIDE MARKER LAMP
CONTROL CIRCUIT
HEADLAMP LOW
HEADLAMP HIGH
LED HEADLAMP CONTROL MODULE
E137
FRONT COMBINATION LAMP LH
E41
TURN SIGNAL
PARKING LAMP (UPPER SIDE)/DAYTIME RUNNING LIGHT (UPPER SIDE)
PARKING LAMP (LOWER SIDE)/DAYTIME RUNNING LIGHT (LOWER SIDE)
SIDE MARKER LAMP
CONTROL CIRCUIT
HEADLAMP LOW
HEADLAMP HIGH
LED HEADLAMP CONTROL MODULE
E134
JRLWG1792GB


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
(E120), (E121), (E123), (E125), (E126)
CPU
TAIL LAMP RELAY
HEADLAMP RELAY
FET
FET
15A 44
15A 45
15A 57
10A 60
10A 59
DATA LINE
DATA LINE
FUSE BLOCK (J/B)
(E64), (B39)
4E
10H
E25
M40
39
M19
B18
55
E134
REAR COMBINATION LAMP LH (BODY SIDE) B22
REAR COMBINATION LAMP RH (BODY SIDE) B23
REAR COMBINATION LAMP LH (TRUNK LID SIDE) T51
STOP
TAIL
TURN SIGNAL
BACK-UP
B105
B107
T48
B66
B172
B171
JRLWG1793GB


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
(E120), (E121), (E123), (E125), (E126)
FRONT FOG LAMP RELAY
CPU
10A 58
10A 77
10A 19
10A 22
FUSE BLOCK (J/B) E64, E65
JOINT CONNECTOR -E06 E223
STOP LAMP SWITCH E57
IC
JOINT CONNECTOR -E07 E196
JOINT CONNECTOR E215, E216
ECM E200
TCM E106
TRANSMISSION RANGE SWITCH SW 1 SW 2 SW 3 SW 4
A/T ASSEMBLY E217
JOINT CONNECTOR-E06 E223
HEADLAMP AIMING MOTOR RH E71
HEADLAMP AIMING MOTOR LH E21
AMP.
DOOR MIRROR (PASSENGER SIDE) D66 PM D67 OM
DOOR MIRROR (DRIVER SIDE) D63 PM D64 OM
TURN SIGNAL
LICENSE PLATE LAMP RH B177
LICENSE PLATE LAMP LH B178
HIGH-MOUNTED STOP LAMP B34
FRONT FOG LAMP RH E16
FRONT FOG LAMP LH E15
JOINT CONNECTOR -B04 B118
REAR COMBINATION LAMP RH (TRUNK LID SIDE) T52
BACK-UP
TAIL
JRLWG1794GB


LANE CAMERA UNIT
R1
JOINT CONNECTOR -M12
M184
JOINT CONNECTOR -M11
M183
JOINT CONNECTOR -B06
B116
JOINT CONNECTOR -B04
B118
JOINT CONNECTOR -E05
E220
CHASSIS CONTROL MODULE
E22
ESS RELAY
E58
E3
B10
HEADLAMP SWIVEL ACTUATOR LH
E49
AF
SWIVEL POSITION SENSOR
LCU
SWIVEL MOTOR
DATA LINK CONNECTOR
M25
HEADLAMP SWIVEL ACTUATOR RH
E72
JOINT CONNECTOR -E06
E223
M93
10A
72
10A
73
DAYTIME RUNNING LIGHT RELAY
E104
M40
E25
E14
E76
AFS CONTROL UNIT
M4
M19
B18
B6
C1
HEIGHT SENSOR
C4
To intelligent cruise control (2.0L turbo gasoline engine)
To driver assistance systems (2.0L turbo gasoline engine)
CC BRAKE HOLD RELAY
E52
IC
26
JRLWG1795GB

EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH

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 [Specification]
7	LG	-
8	GR	-
9	SHIELD	-
10	L	- [With VR30 engine]
10	V	- [With 2.0L turbo gasoline engine]
11	G	- [With 2.0L turbo gasoline engine]
11	V	- [With VR30 engine]
12	GR	-
13	BG	-
14	LG	-
15	BR	-
16	BG	-

Connector No.	B7
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	BG	-
3	B	-
4	R	-
5	W	-
6	B	-
7	R	-
8	G	-
9	B	-
10	GR	-
11	BR	-
12	B	-

Connector No.	B10
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH

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 [Specification]
1	LG	- [With 2.0L turbo gasoline engine]
1	Y	- [With VR30 engine]
2	W	-
4	P	- [With VR30 engine]
4	SB	- [With 2.0L turbo gasoline engine]
5	L	-
6	V	-
7	LG	-
8	R	-
9	W	-
10	B	-
11	G	-
12	R	-
13	GR	-
14	BG	-
15	BR	-
16	LG	-
17	V	-
18	BR	-
19	LG	- [With 2.0L turbo gasoline engine]
19	Y	- [With VR30 engine]
20	Y	-
21	R	- [With 2.0L turbo gasoline engine]
21	V	- [With VR30 engine]
22	L	-
23	V	-
24	B	- [With VR30 engine]
24	R	- [With 2.0L turbo gasoline engine]

Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	L	-
5	Y	-
7	V	-
10	BG	-
11	LG	-
12	LG	-
13	GR	-
14	R	-
15	L	-
16	V	-
18	W	-
19	BR	-
20	W	-
22	R	-
23	V	-
24	R	- [With 2.0L turbo gasoline engine]
24	Y	- [With VR30 engine]
25	V	- [With 2.0L turbo gasoline engine]
25	W	- [With VR30 engine]
26	G	-
27	R	-
28	R	-
31	B	- [With VR30 engine]
31	BR	- [With 2.0L turbo gasoline engine]
32	B	-
33	B	-
34	LG	-
35	P	-
36	W	-
37	SB	-
38	LG	-
40	P	-
41	SB	-
42	BR	-
43	BG	-
44	BG	-
46	R	-
50	W	-
51	SB	-
52	V	-
53	LG	-
54	R	-
55	R	-
58	V	-
59	GR	-
60	G	-
61	G	-
62	BG	-
63	BR	-
64	Y	-
66	R	-
70	R	-
71	W	-
72	B	-
73	W	-
74	L	-
75	R	-
76	BR	-
77	B	-
78	SB	-
79	W	-
81	B	-
82	R	-
83	BG	-
84	L	-
85	R	-
86	B	-
88	G	-
89	V	-
91	GR	-
93	GR	-
94	GR	-
96	Y	-
98	BR	- [With VR30 engine and with BOSE system]
98	Y	- [Except with VR30 engine and with BOSE system]

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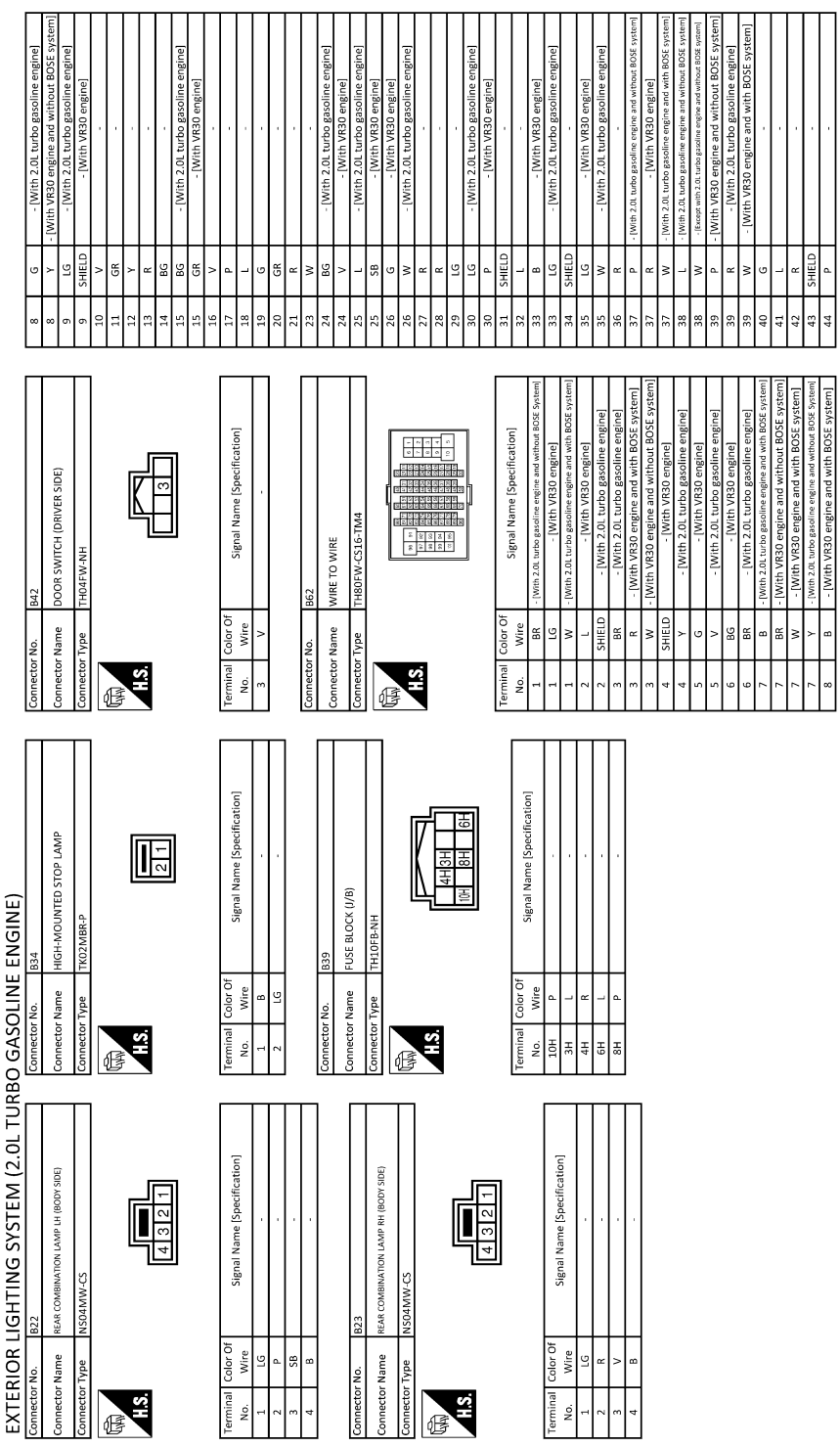
EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)



JRLWG1797GB

EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	-
47	G	-
48	BG	- [Except with 2.0L turbo gasoline engine and without BOSE system]
48	SB	- [With 2.0L turbo gasoline engine and without BOSE system]
49	G	-
51	GR	- [With 2.0L turbo gasoline engine]
51	L	- [With VR30 engine]
52	W	- [With 2.0L turbo gasoline engine]
52	Y	- [With VR30 engine]
53	R	-
54	GR	-
55	L	-
56	V	-
57	R	-
58	LG	-
59	P	-
60	BR	-
61	L	- [With 2.0L turbo gasoline engine]
61	R	- [With VR30 engine]
62	P	- [With VR30 engine]
62	V	- [With 2.0L turbo gasoline engine]
63	L	-
64	W	-
65	R	-
66	L	- [With 2.0L turbo gasoline engine]
66	LG	- [With VR30 engine]
67	G	-
68	L	-
69	P	-
71	GR	- [With 2.0L turbo gasoline engine]
71	R	- [With VR30 engine]
72	G	- [With VR30 engine]
72	Y	- [With 2.0L turbo gasoline engine]
73	R	- [With 2.0L turbo gasoline engine]
73	SHIELD	- [With VR30 engine]
74	BG	- [With 2.0L turbo gasoline engine]
74	L	- [With VR30 engine]
75	GR	- [With 2.0L turbo gasoline engine]
75	V	- [With VR30 engine]
76	GR	- [With VR30 engine]
76	V	- [With 2.0L turbo gasoline engine]
77	P	-
78	L	-
79	G	-
80	GR	- [With 2.0L turbo gasoline engine]
80	W	- [With VR30 engine]
81	B	- [With VR30 engine]
81	R	- [With 2.0L turbo gasoline engine]
82	G	- [With 2.0L turbo gasoline engine]
82	SHIELD	- [With VR30 engine]
83	R	- [With 2.0L turbo gasoline engine]
83	W	- [With VR30 engine]
84	BR	- [With VR30 engine]
84	SHIELD	- [With 2.0L turbo gasoline engine]
85	BG	- [With VR30 engine]
85	G	- [With 2.0L turbo gasoline engine]
86	R	-
87	LG	- [With VR30 engine]
87	SHIELD	- [With 2.0L turbo gasoline engine]
88	R	-
89	LG	-
90	P	-
92	L	- [With 2.0L turbo gasoline engine]
92	W	- [With VR30 engine]
93	SHIELD	-
94	R	-
95	L	- [With 2.0L turbo gasoline engine]
95	Y	- [With VR30 engine]
96	W	-
97	L	- [With VR30 engine]
97	R	- [With 2.0L turbo gasoline engine and with BOSE system]
97	W	- [With 2.0L turbo gasoline engine and without BOSE system]
99	BR	- [With VR30 engine and with BOSE system]
99	P	- [With 2.0L turbo gasoline engine]
99	Y	- [With VR30 engine and without BOSE system]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]

Connector No.	B66
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	BG	-
4	SHIELD	-
5	W	-
6	GR	-

8	B	-
9	R	-
10	P	-
11	B	-
13	SHIELD	- [With rear view monitor]
13	W	- [With around view monitor]
14	B	- [With rear view monitor]
14	G	- [With around view monitor]
15	R	- [With around view monitor]
15	W	- [With rear view monitor]
16	B	- [With around view monitor]
16	R	- [With rear view monitor]

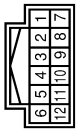
Connector No.	B70
Connector Name	DOOR SWITCH (PASSENGER SIDE)
Connector Type	TH04FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
3	GR	-

Connector No.	B86
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-NH

H.S.

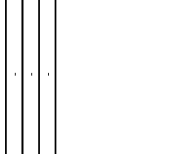


Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	BG	-
3	B	-
4	R	-
5	W	-

6	B
7	R
8	G
9	B
10	GR
11	BR
12	B

Connector No.	B116
Connector Name	JOINT CONNECTOR-806
Connector Type	24342_4GA2A

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	- [With Gateway]
8	V	- [Without Gateway]
9	R	- [With Gateway]
9	V	- [Without Gateway]
10	V	-
11	V	-
12	P	- [With 2.0L turbo gasoline engine]
12	R	- [With VR30 engine]
13	SHIELD	-
14	SHIELD	-
15	SHIELD	-
16	SHIELD	-
17	SHIELD	-
18	SHIELD	-
19	L	-
20	L	-
21	L	-
22	R	-
23	R	-
24	R	-

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EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

Connector No.	B118
Connector Name	JOINT CONNECTOR-B04
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With VR30 engine]
1	SHIELD	- [With 2.0L turbo gasoline engine]
2	LG	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	LG	- [With VR30 engine]
3	SHIELD	- [With 2.0L turbo gasoline engine]
4	LG	- [With VR30 engine]
4	SHIELD	- [With 2.0L turbo gasoline engine]
5	LG	- [With VR30 engine]
5	SHIELD	- [With 2.0L turbo gasoline engine]
6	LG	- [With VR30 engine]
6	SHIELD	- [With 2.0L turbo gasoline engine]
7	LG	- [With 2.0L turbo gasoline engine]
7	R	- [With VR30 engine]
8	R	-
9	LG	- [With 2.0L turbo gasoline engine]
9	R	- [With VR30 engine]
10	LG	- [With 2.0L turbo gasoline engine]
10	SHIELD	- [With VR30 engine]
11	LG	- [With 2.0L turbo gasoline engine]
11	SHIELD	- [With VR30 engine]
12	LG	- [With 2.0L turbo gasoline engine]
12	SHIELD	- [With VR30 engine]
13	L	- [With VR30 engine]
13	R	- [With 2.0L turbo gasoline engine]
14	L	- [With VR30 engine]
14	R	- [With 2.0L turbo gasoline engine]
15	L	- [With VR30 engine]
15	R	- [With 2.0L turbo gasoline engine]
16	L	-
17	L	-
18	L	-
19	L	- [With 2.0L turbo gasoline engine]
19	SHIELD	- [With VR30 engine]
20	L	- [With 2.0L turbo gasoline engine]
20	SHIELD	- [With VR30 engine]
21	L	- [With 2.0L turbo gasoline engine]
21	SHIELD	- [With VR30 engine]
22	R	-
23	R	-
24	R	-

Connector No.	B120
Connector Name	JOINT CONNECTOR-B02
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	L	- [With VR30 engine]
3	R	- [With 2.0L turbo gasoline engine]
4	L	- [With VR30 engine]
4	R	- [With 2.0L turbo gasoline engine]
5	L	-
6	L	-
7	L	-
8	L	-
9	L	- [With 2.0L turbo gasoline engine]
9	R	- [With VR30 engine]
10	L	- [With 2.0L turbo gasoline engine]
10	R	- [With VR30 engine]
11	R	-
12	R	-
13	W	-
14	W	-
15	W	-
17	SHIELD	-
18	B	-
19	B	- [With 2.0L turbo gasoline engine]
19	GR	- [With VR30 engine]
20	GR	- [With VR30 engine]
20	SHIELD	- [With 2.0L turbo gasoline engine]
21	B	- [With 2.0L turbo gasoline engine]
21	GR	- [With VR30 engine]
22	W	-
23	W	-
24	W	-

Connector No.	B127
Connector Name	JOINT CONNECTOR-B03
Connector Type	NH20FG-DC

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	SHIELD	-
3	SHIELD	-
4	SHIELD	-
5	SHIELD	-
6	P	-
7	P	-
8	P	-
9	P	-
10	LG	-
11	LG	-
13	BG	-
14	BG	-
15	BG	-
17	LG	-
18	LG	-
19	LG	-
20	LG	-

Connector No.	B171
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

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 [Specification]
4	SHIELD	-
5	V	-
6	L	-
7	L	-
10	P	-
11	SHIELD	-
12	R	-
13	SHIELD	-
14	R	-
15	L	-
16	R	-

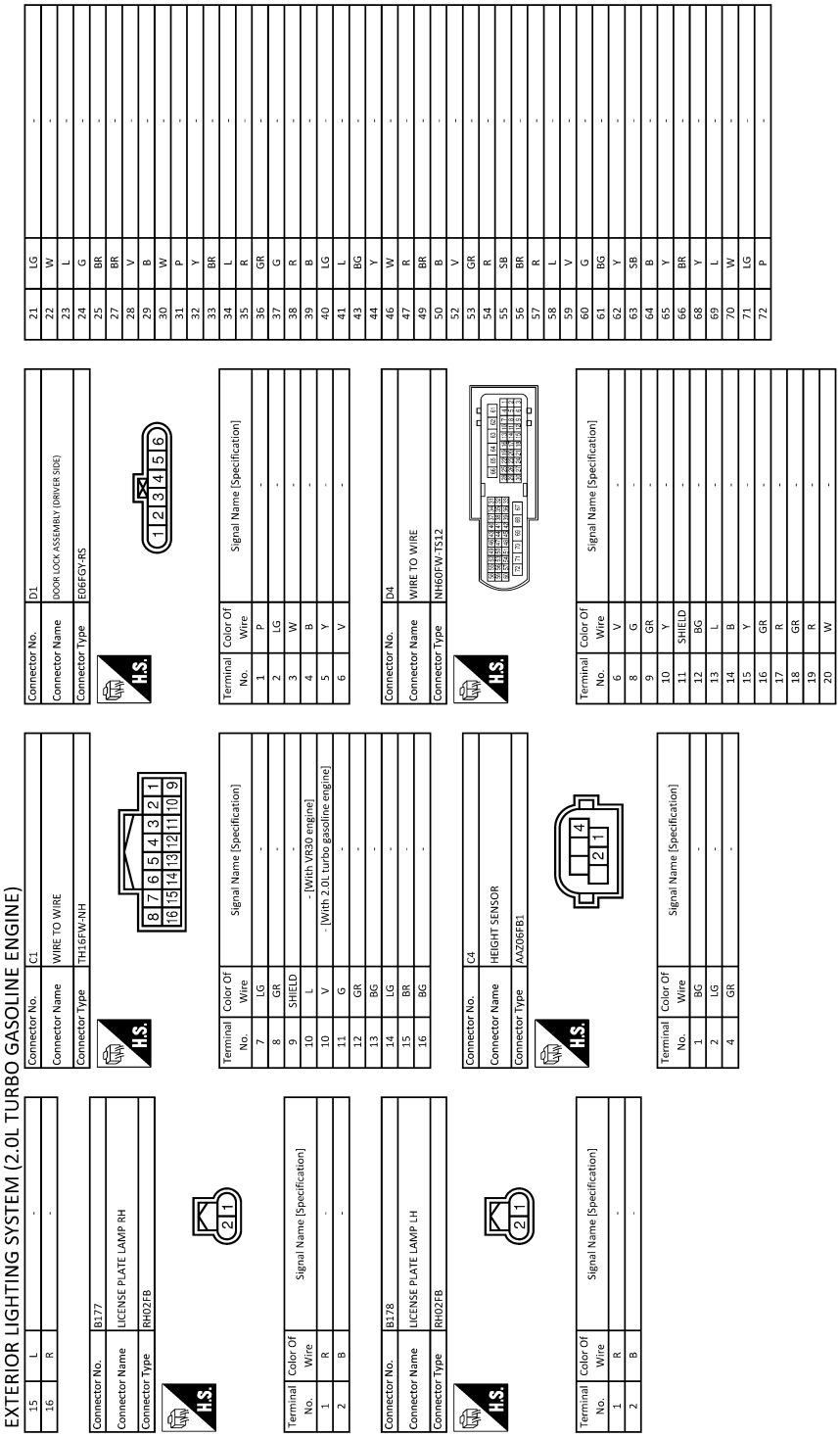
Connector No.	B172
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

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 [Specification]
4	SHIELD	-
5	V	-
6	L	-
7	L	-
10	P	-
11	SHIELD	-
12	R	-
13	SHIELD	-
14	R	-

JRLWG1799GB



JRLWG1800GB

EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

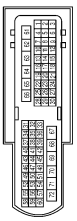
Connector No.	D5
Connector Name	OUTSIDE HANDLE ASSEMBLY (DRIVER SIDE)
Connector Type	RH04FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	B	-
3	BR	-
4	GR	-

Connector No.	D18
Connector Name	WIRE TO WIRE
Connector Type	NH60FW-TS12

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
2	P	-
5	BR	-
6	Y	-
8	W	-
9	L	-
10	L	-
11	GR	-
13	Y	-
16	R	-
17	B	-
18	W	-
19	B	-
20	G	-
21	SHIELD	-
22	GR	-
23	BG	-
24	B	-
25	BR	-
26	V	-
27	G	-
28	V	-
29	Y	-
30	R	-
38	R	-
39	B	-
49	LG	-
51	R	-
52	P	-
55	L	-
56	Y	-
57	R	-
58	SB	-
59	R	-
60	G	-
63	B	-

Connector No.	D10
Connector Name	ONE TOUCH UNLOCK SENSOR ASSEMBLY (DRIVER SIDE)
Connector Type	RH04FLGY

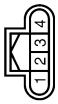
H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	R	-
3	B	-
4	L	-

64	Y	-
65	BR	-
66	GR	-
69	W	-
70	L	-
71	BG	-
72	Y	-

Connector No.	D19
Connector Name	OUTSIDE HANDLE ASSEMBLY (PASSENGER SIDE)
Connector Type	RH04FB

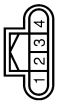
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	B	-
3	BR	-
4	GR	-

Connector No.	D22
Connector Name	ONE TOUCH UNLOCK SENSOR ASSEMBLY (PASSENGER SIDE)
Connector Type	RH04FLGY

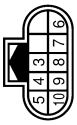
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	R	-
3	B	-
4	L	-

Connector No.	D63
Connector Name	DOOR MIRROR (DRIVER SIDE)
Connector Type	RH10MB

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
3	Y	-
4	GR	-
5	BG	-
6	GR	-
7	B	-
8	L	-
9	B	-
10	R	-

Connector No.	D64
Connector Name	DOOR MIRROR (DRIVER SIDE)
Connector Type	RH10MB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
3	Y	-
4	GR	-
5	L	-
6	GR	-
7	B	-
8	L	-
9	B	-
10	R	-

JRLWG1801GB

EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

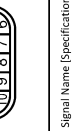
Connector No.	D66
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	RH10MB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
3	G	-
4	V	-
5	Y	-
6	L	-
7	B	-
8	BG	-
9	B	-
10	R	-

Connector No.	D67
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	RH10MB

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
3	G	-
4	V	-
5	Y	-
6	L	-
7	B	-
8	BG	-
9	B	-
10	R	-

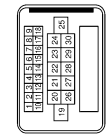
Connector No.	E3
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With 2.0L turbo gasoline engine]
1	Y	- [With VR30 engine]
2	W	-
4	P	- [With VR30 engine]
4	SB	- [With 2.0L turbo gasoline engine]
5	L	-
6	Y	-
7	LG	-
8	BG	-
9	W	-
10	B	-
11	G	-
12	R	-
13	GR	-
14	G	-
15	LG	- [With 2.0L turbo gasoline engine]
15	V	- [With VR30 engine]
16	Y	-
17	P	-
18	BR	-
19	LG	- [With 2.0L turbo gasoline engine]
19	Y	- [With VR30 engine]
20	GR	-
21	R	- [With 2.0L turbo gasoline engine]
21	V	- [With VR30 engine]
22	L	-
23	P	-
24	B	- [With VR30 engine]
24	BR	- [With 2.0L turbo gasoline engine]

Connector No.	E14
Connector Name	WIRE TO WIRE
Connector Type	SAA18MB-RS10-SJZ2

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
4	Y	-
5	L	-
6	B	-
7	BG	-
8	LG	-
9	R	-
11	GR	-
12	R	-
13	B	-
14	G	-
15	G	-
16	V	-
17	B	-
18	SB	-
22	SHIELD	-
23	P	-
24	L	-
25	V	-
26	B	-
27	B	-
28	B	-

Connector No.	E15
Connector Name	FRONT FOG LAMP LH
Connector Type	FHZ02FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	B	-

Connector No.	E16
Connector Name	FRONT FOG LAMP RH
Connector Type	FHZ02FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	B	-

JRLWG1802GB

EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

Connector No.	E21
Connector Name	HEADLAMP AIMING MOTOR LH
Connector Type	HS03FGY

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	AIMER_SIG
2	B	AIMER_GND
3	G	AIMER_VCC [With VR30 engine]
3	GR	AIMER_VCC [With 2.0L turbo gasoline engine]

Connector No.	E22
Connector Name	CHASSIS CONTROL MODULE
Connector Type	TH24FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
3	P	CAN-L [Without Gateway]
3	R	CAN-L [With Gateway]
4	L	CAN-H
5	V	DRIVE MODE SELECT SWITCH (UP) [With VR30 engine]
5	Y	DRIVE MODE SELECT SWITCH (UP) [With 2.0L turbo gasoline engine]
6	G	DRIVE MODE SELECT SW (DOWN) [With 2.0L turbo gasoline engine]
6	Y	DRIVE MODE SELECT SW (DOWN) [With VR30 engine]
7	W	CHASSIS COMMUNICATION-L
8	W	CHASSIS COMMUNICATION-L
10	BG	IGNITION POWER SUPPLY [With 2.0L turbo gasoline engine]
10	G	IGNITION POWER SUPPLY [With VR30 engine]
11	L	CHASSIS COMMUNICATION-H
12	B	GROUND [With VR30 engine]
12	B/W	GROUND [With 2.0L turbo gasoline engine]
19	BR	CHASSIS COMMUNICATION-H [With VR30 engine]
19	L	CHASSIS COMMUNICATION-H [With 2.0L turbo gasoline engine]

23	G	ESS RELAY [With VR30 engine]
23	R	ESS RELAY [With 2.0L turbo gasoline engine]

Connector No.	E25
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
6	V	-
7	L	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	B	- [With 2.0L turbo gasoline engine]
9	GR	- [With VR30 engine]
10	BR	-
11	L	-
12	GR	- [With VR30 engine]
12	P	- [With 2.0L turbo gasoline engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
13	W	- [With VR30 engine]
14	B	-
15	GR	- [With 2.0L turbo gasoline engine]
15	SB	- [With VR30 engine]
16	BR	- [With 2.0L turbo gasoline engine]
16	Y	- [With VR30 engine]
17	BR	- [With VR30 engine]
17	GR	- [With 2.0L turbo gasoline engine]
18	G	- [With 2.0L turbo gasoline engine]
18	P	- [With VR30 engine]
19	Y	-
31	W	- [With 2.0L turbo gasoline engine]
31	Y	- [With VR30 engine]
32	G	- [With 2.0L turbo gasoline engine]
32	GR	- [With VR30 engine]
33	L	- [With VR30 engine]
33	Y	- [With 2.0L turbo gasoline engine]
34	P	-
35	GR	-
36	R	-

37	L	- [With 2.0L turbo gasoline engine]
37	V	- [With VR30 engine]
38	L	- [With VR30 engine]
38	R	- [With 2.0L turbo gasoline engine]
39	BR	- [With 2.0L turbo gasoline engine]
39	Y	- [With VR30 engine]
40	SB	-
41	LG	-
45	L	- [With 2.0L turbo gasoline engine]
45	W	- [With VR30 engine]
46	B	- [With VR30 engine]
46	Y	- [With 2.0L turbo gasoline engine]
47	G	-
48	SHIELD	-
49	R	-
50	BR	- [With VR30 engine]
50	GR	- [With 2.0L turbo gasoline engine]
51	L	-
52	W	-
54	P	- [With VR30 engine]
54	W	- [With 2.0L turbo gasoline engine]
55	B	- [With 2.0L turbo gasoline engine]
55	W	- [With VR30 engine]
56	BG	- [With 2.0L turbo gasoline engine]
56	SB	- [With VR30 engine]
57	BG	- [With VR30 engine]
57	W	- [With 2.0L turbo gasoline engine]
58	B/W	-
59	W	-
61	R	-
64	Y	-
65	BR	-
67	LG	-
68	BG	-
69	L	-
70	R	-
71	G	- [With 2.0L turbo gasoline engine]
71	LG	- [With VR30 engine]
72	L	- [With 2.0L turbo gasoline engine]
72	V	- [With VR30 engine]
73	G	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	R	- [With 2.0L turbo gasoline engine]
75	V	- [With VR30 engine]
76	G	-
77	Y	-
78	LG	- [With 2.0L turbo gasoline engine and with ADAS]
78	P	- [With VR30 engine]

78	V	- [With 2.0L turbo gasoline engine and without ADAS]
79	SB	-
80	B	- [With VR30 engine]
80	G	- [With 2.0L turbo gasoline engine]
81	R	-
82	V	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	LG	-
86	BG	-
87	G	-
88	GR	-
89	LG	-
90	G	- [With VR30 engine]
90	GR	- [With 2.0L turbo gasoline engine]
91	G	-
92	W	-
93	BG	-
94	GR	- [With VR30 engine]
94	L	- [With 2.0L turbo gasoline engine]
95	R	-
96	W	-
97	LG	-
98	L	-
99	LG	- [With 2.0L turbo gasoline engine]
99	P	- [With VR30 engine]
100	SHIELD	-

Connector No.	E41
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS08FB-PR

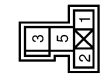
Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
3	B/Y	-
4	B	- [With 2.0L turbo gasoline engine]
4	B/W	- [With VR30 engine]
5	SB	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	V	-

JRLWG1803GB

EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

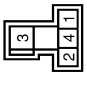
7	P
8	LG

Connector No.	E52
Connector Name	ICC BRAKE HOLD RELAY
Connector Type	MS02FL-M2-LC



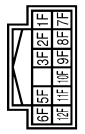
Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	V	-
5	BR	- [With 2.0L turbo gasoline engine]
5	L	- [With VR30 engine]

Connector No.	E58
Connector Name	ESS RELAY
Connector Type	MS03FB-M2-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	- [With VR30 engine]
1	R	- [With 2.0L turbo gasoline engine]
2	G	-
3	W	-
4	LG	-

Connector No.	E65
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
10F	W	-
11F	G	- [With 2.0L turbo gasoline engine]
11F	R	- [With VR30 engine]
12F	W	- [With VR30 engine]
12F	Y	- [With 2.0L turbo gasoline engine]
1F	R	-
2F	BR	-
3F	P	-
5F	P	-
6F	L	-
7F	R	-
8F	L	-
9F	L	-

Connector No.	E42
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS08FB-PR

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With 2.0L turbo gasoline engine]
1	Y	- [With VR30 engine]
3	B/Y	-
4	B	- [With 2.0L turbo gasoline engine]
4	B/W	- [With VR30 engine]
5	R	-
6	L	-
7	BR	-
8	P	-

Connector No.	E57
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	- [With ASCD]
1	L	- [With ADAS]
2	GR	- [With ASCD]
2	LG	- [With ADAS]
3	BR	-
4	V	-

Connector No.	E64
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS08FW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1E	G	-
2E	P	-
3E	V	-
4E	GR	-
6E	L	-
7E	BG	-

Connector No.	E71
Connector Name	HEADLAMP AIMING MOTOR RH
Connector Type	HS03FGY

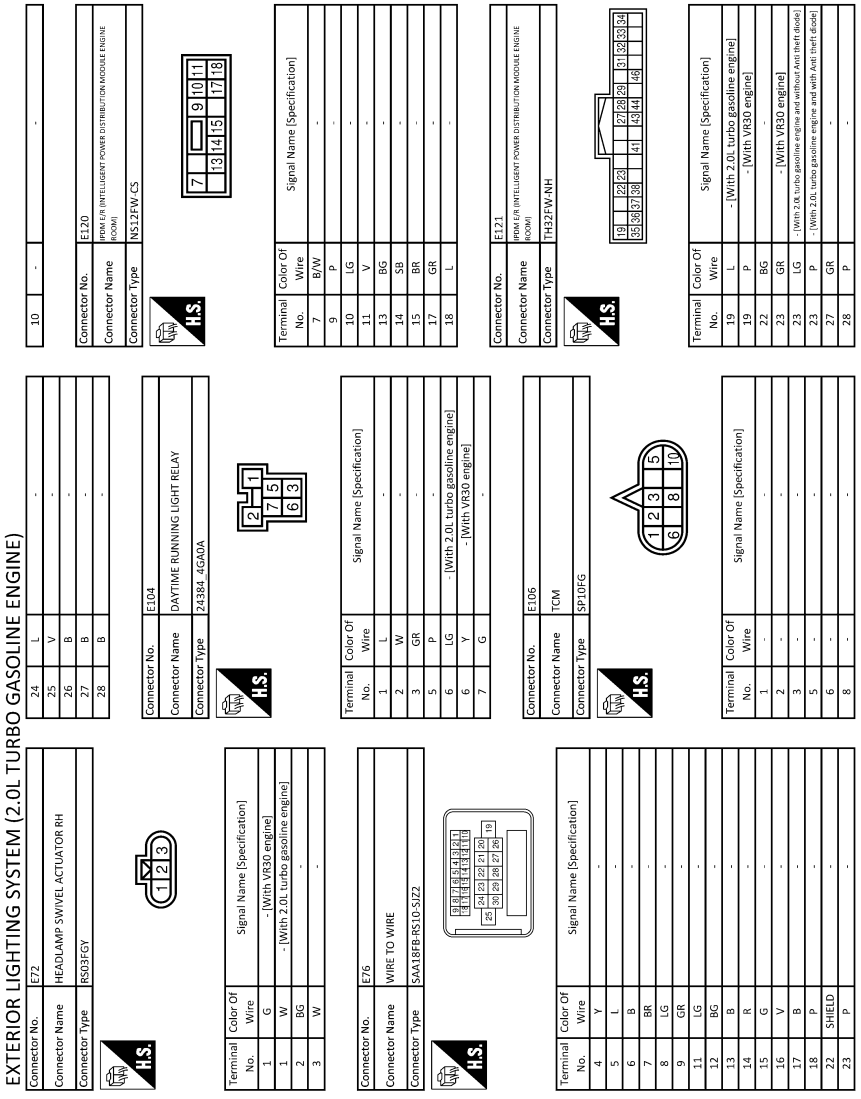
Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	AIMER_SIG
2	B	AIMER_GND
3	G	AIMER_VCC [With VR30 engine]
3	V	AIMER_VCC [With 2.0L turbo gasoline engine]

Connector No.	E49
Connector Name	HEADLAMP SWIVEL ACTUATOR LH
Connector Type	RS03FGY

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	- [With VR30 engine]
1	V	- [With 2.0L turbo gasoline engine]
2	BR	- [With 2.0L turbo gasoline engine]
2	LG	- [With VR30 engine]
3	P	- [With 2.0L turbo gasoline engine]
3	SB	- [With VR30 engine]

JRLWG1804GB

EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)



JRLWG1805GB

EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

Connector No.	E125
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS08FW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
74	G	-
75	R	-
76	SB	- [With VR30 engine]
76	V	- [With 2.0L turbo gasoline engine]
78	W	-
79	L	-
80	BR	-
81	P	-

Connector No.	E126
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH16FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
85	L	-
90	BR	-
93	V	-
94	Y	-
96	P	- [With VR30 engine]
96	SB	- [With 2.0L turbo gasoline engine]

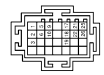
Connector No.	E195
Connector Name	WIRE TO WIRE
Connector Type	TK36FW-NS10

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
5	BR	-
8	GR	-
9	P	-
10	R	-
11	L	-
12	P	-
13	GR	-
14	Y	-
15	G	-
16	W	-
17	L	-
18	R	-
19	BR	-
20	SHIELD	-
21	BR	-
22	V	-
23	W	-
24	L	-
25	G	-
26	G	-
30	Y	-
31	GR	-
32	SB	-
33	W	-
34	W	-
35	B	-
36	G	-
37	SHIELD	-
38	R	-
39	L	-
40	GR	-
41	W	-
42	B	-
43	BR	-
44	P	-
45	SB	-
46	Y	-

Connector No.	E196
Connector Name	JOINT CONNECTOR-E07
Connector Type	SGA28FDGY-J

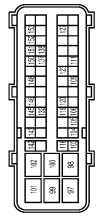
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	P	-
3	B	-
5	L	-
6	P	-
9	L	-
10	P	-
17	L	-
18	P	-
19	SHIELD	-
21	L	-
22	P	-
25	L	-
26	P	-

Connector No.	E200
Connector Name	ECM
Connector Type	ADA52FB-AH26

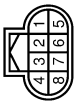
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
97	G	POWER SUPPLY (MAIN)
98	B	ECM GROUND
99	G	POWER SUPPLY (MAIN)
100	B	ECM GROUND
101	G	POWER SUPPLY (MAIN)
102	B	ECM GROUND
103	V	COOLING FAN CONTROL SIGNAL (PWM)
104	Y	SENSOR POWER SUPPLY
105	R	SENSOR POWER SUPPLY
106	W	SENSOR GROUND
109	P	ENGINE SPEED SIGNAL
111	G	POWER SUPPLY
116	LG	STARTER RELAY-L
119	BR	SENSOR GROUND
120	BG	SENSOR GROUND
123	BR	MAIN RELAY CONTROL SIGNAL
127	V	FUEL PUMP ON SIGNAL
132	G	ACCELERATOR PEDAL POSITION SENSOR 1
137	L	CAN-H
138	L	DRIVETRAIN CAN-H
142	GR	BACK-UP LAMP SWITCH
143	LG	REFRIGERANT PRESSURE SENSOR
145	L	ACCELERATOR PEDAL POSITION SENSOR 2
146	L	FUEL TANK PRESSURE SENSOR
148	L	THROTTLE CONTROL MOTOR (CLOSE) [BANK 2]
150	P	CAN-L
151	P	DRIVETRAIN CAN-L
152	B	EVAP CANISTER VENT CONTROL VALVE
153	G	EVAP PURGE CONTROL VALVE

Connector No.	E215
Connector Name	WIRE TO WIRE
Connector Type	RH08FB

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
3	GR	-
5	L	-
6	P	-
7	B	-
8	B	-

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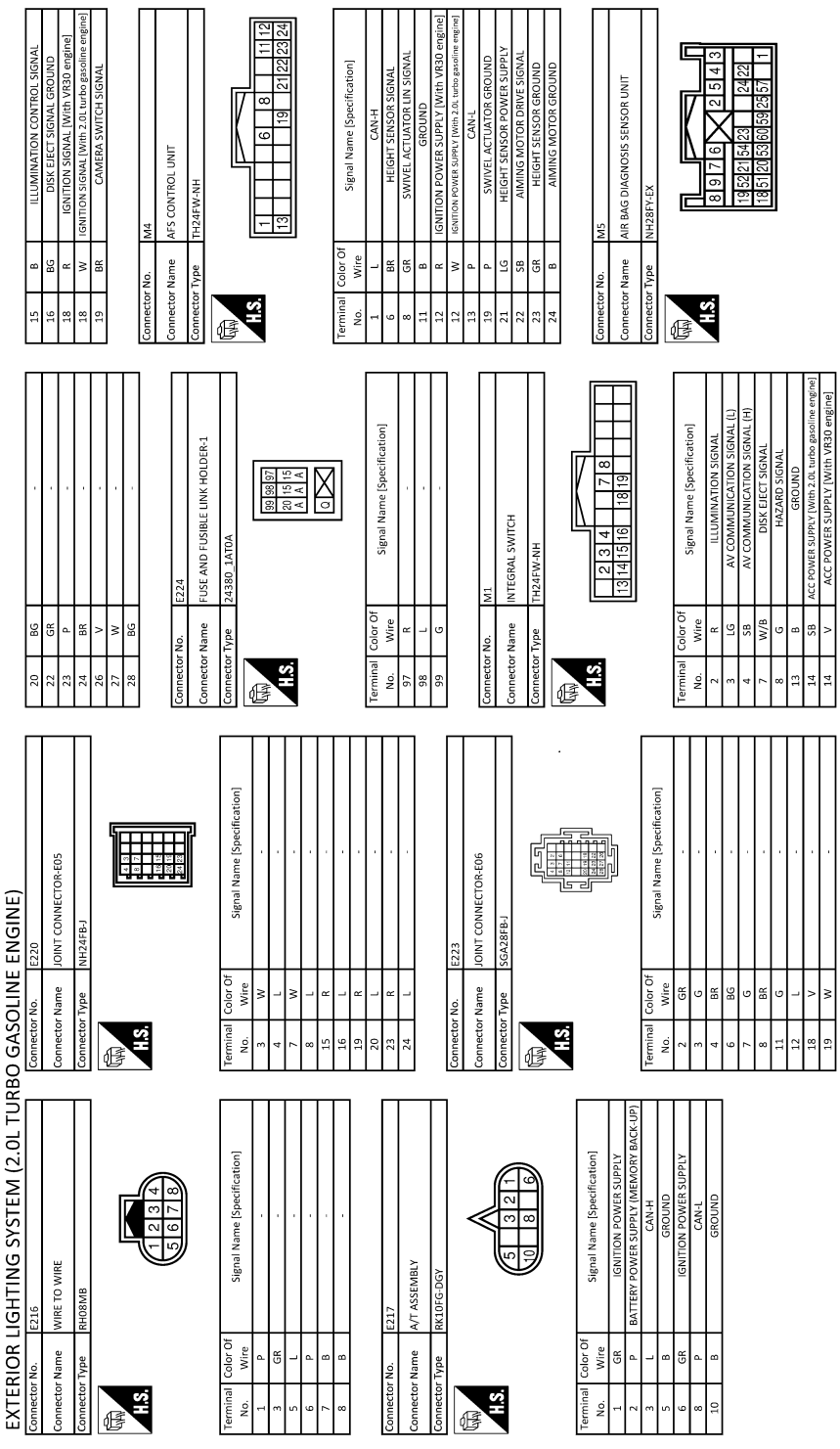

JRLWG1807GB

EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	IGN
2	B	GND
3	Y/R	DR1 (+)
4	Y/B	DR1 (-)
5	Y	DR2 (+)
6	Y/R	AS1 (+)
7	Y/B	AS1 (-)
8	Y/G	AS2 (+)
9	Y	AS2 (-)
18	Y	ECZS (+)
19	BR	ECZS (-)
20	Y/R	ACT VENT (+)
21	Y/B	ACT VENT (-)
22	SHIELD	GND
23	V	AIRBAG W/L
24	G	-
25	GR	A/B OFF IND
51	G	SATELLITE RH2 (+)
52	R	SIDE SENS RH2 (-)
53	V	SIDE SENS LH2 (+)
54	L	SIDE SENS LH2 (-)
57	LG	IVCS
59	L	CAN-H
60	P	CAN-L

Connector No.	M13
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	PUSH SW
3	Y	SENS PWR SPLY
4	BG	OPTICAL SENSOR
5	LG	AIR BAG SIG
10	W	COMBI SW OUTPUT 5
11	SB	COMBI SW OUTPUT 4
12	L	COMBI SW OUTPUT 3
13	G	COMBI SW OUTPUT 2
14	P	COMBI SW OUTPUT 1
15	G	ONE TOUCH UNLK SENS (DR)
16	G	ONE TOUCH UNLK SENS (PASS)
17	P	RECEIVER/SENSOR GND
18	L	SECURITY IND LAMP CONT
20	R	DETENT SW
21	SB	STEP LAMP CONT
25	R	STOP LAMP SW2
26	R	EXTENDED STORAGE FUSE SW
27	P	STOP LAMP SW
30	W	DR DOOR UNLK SENS
33	V	TR LID OP CANCEL SW
36	G	HAZARD SW
39	BR	P/N POSITION

Connector No.	M14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
48	R	PUSH-BTN IGN SW ILL PWR
52	G	DONGLE LINK
54	V	COMM LINE
55	R	RAIN SENSOR
59	P	CAN-L
60	L	CAN-H
61	G	REAR WINDOW DEF RLY CONT
62	R	STARTER RLY CONT
64	V	I-KEY WARN BUZZER
65	B	OUTS HD LAMP CONT
66	B	BLOWER FAN RLY CONT [With VR30 engine]
66	Y	BLOWER FAN RLY CONT [With 2.0L turbo gasoline engine]
67	W/B	IGN RLY-AT (F/B) CONT
68	R	DIMMER
69	GR	A/T SHIFT SELECT PWR SPLY
70	B	IGN RLY-AY (IPDM E/R) CONT
71	G	DR DOOR REQ SW
72	SB	PASS DOOR REQ SW
75	BR	COMBI SW INPUT 5
76	BG	COMBI SW INPUT 4
77	V	COMBI SW INPUT 3
78	Y	COMBI SW INPUT 2
79	LG	COMBI SW INPUT 1
80	L	TR LID OPNR SW

Connector No.	M15
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH24FGY-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
83	L	TR LID OPEN REQ SW
85	P	TR ROOM LAMP CONT
91	GR	TRUNK LID OPEN
92	W	TURN SIG RH OUTPUT (REAR)
94	GR	PASSENGER DOOR SW
96	V	DRIVER DOOR SW
97	R	TR ROOM LAMP SW
99	GR	INSIDE KEY ANT (TRUNK) -
100	W	INSIDE KEY ANT (TRUNK) +
101	BG	REAR BMPR ANT -
102	LG	REAR BMPR ANT +
103	Y	TURN SIG LH OUTPUT (REAR)

Connector No.	M16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH24FB-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
105	V	TURN SIG RH OUTPUT (FRONT)
106	V	TURN SIG RH OUTPUT (SIDE)
107	P	PUSH-BTN IGN SW ILL GND
108	L	SHIFT LOCK SOLENOID OUTPUT
111	Y	ACC/ON IND
113	SB	ACC RELAY CONT
114	LG	PASSENGER DOOR ANT +
115	V	PASSENGER DOOR ANT -
116	BR	INSIDE KEY ANT (CONSOLE) +
117	W/B	TURN SIG LH OUTPUT (FRONT)
118	L	TURN SIG LH OUTPUT (SIDE)
119	L	KYLS ENT RECEIV COMM
121	SB	DRIVER DOOR ANT -
122	BG	DRIVER DOOR ANT +
123	R	INSIDE KEY ANT (INSTRUMENT LOWER) +
124	G	INSIDE KEY ANT (INSTRUMENT LOWER) -
126	B	NATS ANT AMP.
127	W	NATS ANT AMP.
128	GR	INSIDE KEY ANT (CONSOLE) -

Connector No.	M17
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	FEA09FW-FHA6-SA

Terminal No.	Color Of Wire	Signal Name [Specification]
129	LG	INT ROOM LAMP PWR SPLY
130	P	PASS DOOR UNLK OUTPUT
131	Y	BAT (FUSE)
134	B	GND
135	V	FRONT DOOR, FL LID LK OUTPUT
136	V	INT ROOM LAMP CONT
137	LG	FRONT DOOR, FL LID UNLK OUTPUT
138	P	REAR DOORS ACT PWR SPLY [With VR30 engine]
138	R	REAR DOORS ACT PWR SPLY [With 2.0L turbo gasoline engine]
139	W	BAT (F/L)
140	BR	IGN ON
141	R	PWR SPLY (BAT)
142	R	FRONT DOORS, FL LID ACT PWR SPLY

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EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

143	B	GND

Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	SB	-
5	Y	-
7	W	-
10	BG	-
11	BR	-
12	LG	-
13	GR	-
14	R	-
15	L	-
16	V	-
18	W	-
19	BR	-
20	W	-
24	R	- [With 2.0L turbo gasoline engine]
24	Y	- [With VR30 engine]
25	P	- [With 2.0L turbo gasoline engine]
25	W	- [With VR30 engine]
26	G	-
27	R	-
28	R	-
31	BR	-
32	B	-
33	B	-
34	V	-
35	P	-
36	W	-
37	SB	-
38	LG	-
40	P	-
41	G	-
42	BR	-
43	BR	-
44	BR	-
46	BG	-
50	W	-
51	Y	-
52	V	-
53	LG	-
54	R	-
55	R	-
58	V	-
59	BG	-
60	G	-
61	G	-
62	BG	-
63	BR	-
64	Y	-
66	R	-
70	LG	-
71	W	-
72	B	-
73	W	-
74	L	-
75	W	-
76	BR	-
77	B	-
78	SB	-
79	W	-
81	B	-
82	R	-
83	BG	-
84	L	-
85	W	-
86	B	-
88	G	-
89	V	-
91	GR	-
93	GR	-
94	GR	-
96	W	-
98	BR	- [With VR30 engine and with BOSE system]
98	Y	- [Except with VR30 engine and with BOSE system]

Connector No.	M22
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	L	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	BR	- [With 2.0L turbo gasoline engine]
3	R	- [With VR30 engine]
4	SHIELD	- [With VR30 engine]
4	Y	- [With 2.0L turbo gasoline engine]
5	G	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	LG	- [With VR30 engine]
7	P	- [With 2.0L turbo gasoline engine]
8	G	- [With 2.0L turbo gasoline engine]
8	P	- [With VR30 engine]
9	LG	- [With 2.0L turbo gasoline engine]
9	SHIELD	- [With VR30 engine]
10	V	-
11	GR	-
12	V	-
13	LG	-
14	LG	-
15	BR	- [With 2.0L turbo gasoline engine]
15	P	- [With VR30 engine]
16	SB	- [With DCM]
16	V	- [Without DCM]
17	Y	-
18	L	-
19	G	-
20	GR	-
21	R	-
23	L	-
24	BG	- [With 2.0L turbo gasoline engine]
24	V	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]
25	SB	- [With VR30 engine]
26	G	- [With VR30 engine]
26	W	- [With 2.0L turbo gasoline engine]
27	R	-
28	R	-
29	LG	-
30	SB	- [With VR30 engine]
30	W	- [With 2.0L turbo gasoline engine]
31	SHIELD	-
32	L	-
33	B	- [With VR30 engine]
33	LG	- [With 2.0L turbo gasoline engine]
34	SHIELD	-
35	LG	- [With VR30 engine]
35	W	- [With 2.0L turbo gasoline engine]
36	R	-
37	R	- [With VR30 engine]
37	V	- [With 2.0L turbo gasoline engine]
38	L	- [With 2.0L turbo gasoline engine and without BOSE system]
38	W	- [Except with 2.0L turbo gasoline engine and without BOSE system]
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	V	- [With VR30 engine and with BOSE system]
40	G	-
41	L	-
42	R	-
43	SHIELD	-
44	P	-
45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	-
47	G	-
48	BG	- [With 2.0L turbo gasoline engine and without BOSE system]
48	BR	- [With VR30 engine and with BOSE system]
48	SB	- [With 2.0L turbo gasoline engine and without BOSE system]
49	G	-
51	L	- [With VR30 engine]
51	V	- [With 2.0L turbo gasoline engine]
52	L	- [With 2.0L turbo gasoline engine]
52	Y	- [With VR30 engine]
53	R	-
54	GR	-
55	L	-
56	P	-
57	R	-
58	LG	-
59	SB	-
60	BR	-
61	L	- [With 2.0L turbo gasoline engine]
61	R	- [With VR30 engine]
62	P	- [With 2.0L turbo gasoline engine]

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EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

62	V	- [With VR30 engine]
63	L	-
64	W	-
65	R	-
66	L	- [With 2.0L turbo gasoline engine]
66	R	- [With VR30 engine]
67	G	-
68	L	-
69	P	-
71	GR	- [With 2.0L turbo gasoline engine]
71	R	- [With VR30 engine]
72	G	- [With VR30 engine]
72	V	- [With 2.0L turbo gasoline engine]
73	LG	- [With 2.0L turbo gasoline engine]
73	SHIELD	- [With VR30 engine]
74	L	- [With VR30 engine]
74	LG	- [With 2.0L turbo gasoline engine]
75	P	-
76	SB	- [With 2.0L turbo gasoline engine]
76	V	- [With VR30 engine]
77	Y	-
78	L	-
79	G	-
80	GR	- [With 2.0L turbo gasoline engine]
80	W	- [With VR30 engine]
81	B	- [With VR30 engine]
81	R	- [With 2.0L turbo gasoline engine]
82	G	- [With 2.0L turbo gasoline engine]
82	SHIELD	- [With VR30 engine]
83	R	- [With 2.0L turbo gasoline engine]
83	W	- [With VR30 engine]
84	BR	- [With VR30 engine]
84	SHIELD	- [With 2.0L turbo gasoline engine]
85	BR	- [With VR30 engine]
85	G	- [With 2.0L turbo gasoline engine]
86	R	-
87	LG	- [With VR30 engine]
87	SHIELD	- [With 2.0L turbo gasoline engine]
88	R	-
89	LG	-
90	SB	-
92	L	- [With 2.0L turbo gasoline engine]
92	W	- [With VR30 engine]
93	SHIELD	-
94	R	-
95	L	- [With 2.0L turbo gasoline engine]
95	Y	- [With VR30 engine]
96	W	-
97	L	- [With VR30 engine]
97	R	- [With 2.0L turbo gasoline engine]
99	BR	- [With VR30 engine and with BOSE system]
99	P	- [With 2.0L turbo gasoline engine]
99	Y	- [With VR30 engine and without BOSE system]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]

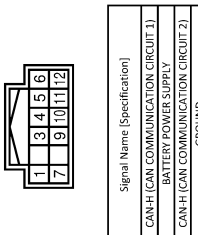
H.S.

Connector No.	M24
Connector Name	CAN GATEWAY
Connector Type	TH12FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H (CAN COMMUNICATION CIRCUIT 1)
3	W	BATTERY POWER SUPPLY
4	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
5	B	GROUND
6	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
7	P	CAN-L (CAN COMMUNICATION CIRCUIT 1)
9	R	IGNITION POWER SUPPLY [With VR30 engine]
9	W	IGNITION POWER SUPPLY [With 2.0L turbo gasoline engine]
10	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)
11	B	GROUND
12	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)

H.S.

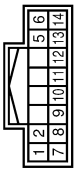
Connector No.	M25
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	M_CAN_L
4	B	EARTH
5	B	EARTH
6	L	CAN-H
7	V	KLINE [With 2.0L turbo gasoline engine]
7	W	KLINE [With VR30 engine]
8	W	IGN_SW
11	SB	M_CAN_H
12	R	CAN-L
13	L	CAN-H
14	P	CAN-L
16	W	POWER

H.S.

Connector No.	M27
Connector Name	COMBINATION SWITCH
Connector Type	TH16FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	FR WASH MOTOR
2	SB	OUTPUT 4
5	L	OUTPUT 3
6	B	GND
7	V	INPUT 3
8	W	OUTPUT 5
9	Y	INPUT 2
10	BG	INPUT 4
11	LG	INPUT 1
12	P	OUTPUT 1
13	BR	INPUT 5
14	G	OUTPUT 2

H.S.

Connector No.	M33
Connector Name	WIRE TO WIRE
Connector Type	NH60MW-TS12

Terminal No.	Color Of Wire	Signal Name [Specification]
6	R	-
8	GR	-
9	GR	-
10	W	-
11	SHIELD	-
12	P	-
13	SB	-
14	LG	-
15	Y	-
16	Y	-
17	P	-
18	W/B	-
19	LG	- [With DRPO]
19	Y	- [Without DRPO]
20	V	-
21	B	-
22	BG	- [Without DRPO]
22	G	- [With DRPO]
23	L	-
24	Y	-
25	BG	- [Without DRPO]
25	L	- [With DRPO]
27	GR	-
28	V	-
29	B	-
30	W	-
31	B	-
32	SB	-
33	L	-
34	BR	-
35	LG	-
36	W	-
37	B	-
38	R	-
39	B	-
40	P	-

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EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

41	SB	-
43	W	- [With 2.0L turbo gasoline engine]
43	Y	- [With VR30 engine]
44	BG	-
46	BR	-
47	G	-
49	V	-
50	B	-
52	BR	-
53	B	-
54	L	-
55	BG	-
56	LG	-
57	V	-
58	R	-
59	G	-
60	L	-
61	G	-
62	R	-
63	V	-
64	B	-
65	R	-
66	BR	-
68	P	-
69	V	-
70	W	-
71	LG	-
72	V	-

Connector No.	M34
Connector Name	WIRE TO WIRE
Connector Type	NH60MW-TS12

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	R	-
5	L	-
6	R	-
8	W	-
9	GR	-

10	V
11	Y
13	LG
16	G
17	B
18	W
19	B
20	SB
20	Y
21	SHIELD
22	B
23	BG
23	P
24	G
25	LG
26	BG
26	BR
27	R
28	SB
29	BG
29	W/B
30	L
38	R
39	B
49	P
51	V
52	V
55	B
56	SB
57	G
58	G
59	LG
60	R
63	B
64	R
65	BR
66	Y
69	BR
70	Y
71	SB
72	W

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
6	W/B	-
7	V	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	LG	- [With VR30 engine]
9	P	- [With 2.0L turbo gasoline engine]
10	W	-
11	W	- [With VR30 engine]
11	Y	- [With 2.0L turbo gasoline engine]
12	B	- [With VR30 engine]
12	BR	- [With 2.0L turbo gasoline engine]
13	GR	- [With VR30 engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
14	B	-
15	BG	- [With 2.0L turbo gasoline engine]
15	SB	- [With VR30 engine]
16	B	- [With VR30 engine]
16	BR	- [With 2.0L turbo gasoline engine]
17	LG	-
18	B	- [With VR30 engine]
18	W/B	- [With 2.0L turbo gasoline engine]
19	Y	-
31	W	-
32	G	- [With 2.0L turbo gasoline engine]
32	V	- [With VR30 engine]
33	L	- [With VR30 engine]
33	Y	- [With 2.0L turbo gasoline engine]
34	P	-
35	BG	-
36	G	-
37	B	- [With VR30 engine]
37	L	- [With 2.0L turbo gasoline engine]
38	L	- [With VR30 engine]
38	R	- [With 2.0L turbo gasoline engine]
39	R	- [With 2.0L turbo gasoline engine]

39	Y	- [With VR30 engine]
40	GR	-
41	L	-
45	L	- [With 2.0L turbo gasoline engine]
45	W	- [With VR30 engine]
46	G	- [With VR30 engine]
46	Y	- [With 2.0L turbo gasoline engine]
47	BG	- [With 2.0L turbo gasoline engine]
47	R	- [With VR30 engine]
48	SHIELD	-
49	B	- [With VR30 engine]
49	G	- [With 2.0L turbo gasoline engine]
50	B	- [With 2.0L turbo gasoline engine]
50	BR	- [With VR30 engine]
51	L	-
52	W	-
54	SB	- [With 2.0L turbo gasoline engine]
54	Y	- [With VR30 engine]
55	B	- [With 2.0L turbo gasoline engine]
55	P	- [With VR30 engine]
56	BG	- [With VR30 engine]
56	GR	- [With 2.0L turbo gasoline engine]
57	GR	- [With VR30 engine]
57	P	- [With 2.0L turbo gasoline engine]
58	B	-
59	SB	-
61	W/B	-
64	Y	-
65	R	-
67	LG	-
68	BG	-
69	L	-
70	R	-
71	V	- [With VR30 engine]
71	W	- [With 2.0L turbo gasoline engine]
72	L	- [With 2.0L turbo gasoline engine]
72	LG	- [With VR30 engine]
73	R	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	B	- [With VR30 engine]
75	R	- [With 2.0L turbo gasoline engine]
76	W/B	-
77	SB	-
78	G	- [With VR30 engine]
78	LG	- [With 2.0L turbo gasoline engine]
79	R	-
80	B	- [With VR30 engine]
80	G	- [With 2.0L turbo gasoline engine]

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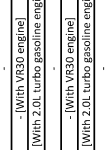
EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

81	R	-
82	LG	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	V	-
86	V	-
87	G	-
88	R	-
89	V	-
90	G	- [With VR30 engine]
90	V	- [With 2.0L turbo gasoline engine]
91	W	-
92	G	- [With VR30 engine]
92	W	- [With 2.0L turbo gasoline engine]
93	BR	-
94	GR	- [With VR30 engine]
94	L	- [With 2.0L turbo gasoline engine]
95	BR	- [With VR30 engine]
95	R	- [With 2.0L turbo gasoline engine]
96	W	-
97	LG	-
98	Y	-
99	BR	- [With VR30 engine]
99	LG	- [With 2.0L turbo gasoline engine]
100	SHIELD	-

Connector No.	M58
Connector Name	COMBINATION METER
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	CAN-H
42	P	CAN-L
43	B	ILLUMINATION CONTROL SIGNAL
44	Y	FUEL LEVEL SENSOR GROUND
45	W	BATTERY POWER SUPPLY
46	BG	IGNITION SIGNAL [With 2.0L turbo gasoline engine models]
46	R	IGNITION SIGNAL [With VR30DDTT engine models]
47	SB	AV COMMUNICATION SIGNAL (H)
48	LG	AV COMMUNICATION SIGNAL (L)

51	BR
52	B

FUEL LEVEL SENSOR SIGNAL

GROUND

Connector No.	M77
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	P	CAN-L [Without Gateway]
2	R	CAN-L [With Gateway]
4	G	IGN
5	L	CAN-H

Connector No.	M91
Connector Name	OPTICAL SENSOR
Connector Type	TK03FW

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	SENSOR_POWER
2	BG	SENSOR_OUTPUT
3	P	SENSOR_GND

Connector No.	M97
Connector Name	BACK-UP LAMP RELAY
Connector Type	MS02FL-M2-LC

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	SB	- [With 2.0L turbo gasoline engine]
2	W	- [With VR30 engine]
3	R	-
5	BR	-

Connector No.	M113
Connector Name	REMOTE KEYLESS ENTRY RECEIVER
Connector Type	AAC04FB

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	+12V
2	L	SIGNAL
3	P	GND

Connector No.	M133
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH40FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
10C	V	-
12C	L	-
13C	L	-
14C	Y	-
15C	R	-
16C	R	-
17C	L	-
18C	BG	- [Without DRPO]
18C	P	- [With DRPO]
19C	B	-
1C	R	-
20C	W	-
21C	L	-
22C	L	-
23C	L	-
25C	LG	-
26C	SB	-
27C	P	-
28C	W	-
29C	W	-
2C	R	-
30C	R	-
31C	W	-
32C	R	-
33C	B	- [With VR30 engine]
33C	R	- [With 2.0L turbo gasoline engine]
34C	W/B	-
35C	SB	-
36C	R	-
37C	W	-
38C	SB	-
39C	V	-
3C	P	-
40C	G	-
4C	P	-
5C	P	-

JRLWG1812GB

EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

6C	G
7C	G
8C	G
9C	V

Connector No.	M135
Connector Name	JOINT CONNECTOR-M09
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	B	-
4	B	-
5	B	-
6	B	-
9	LG	-
10	LG	-
11	LG	-
13	B	- [With VR30 engine]
13	SB	- [With 2.0L turbo gasoline engine]
14	B	- [With VR30 engine]
14	SB	- [With 2.0L turbo gasoline engine]
15	B	- [With VR30 engine]
15	SB	- [With 2.0L turbo gasoline engine]
16	SB	- [With 2.0L turbo gasoline engine]
16	Y	- [With VR30 engine]
17	SB	- [With 2.0L turbo gasoline engine]
17	Y	- [With VR30 engine]
18	SB	- [With 2.0L turbo gasoline engine]
18	Y	- [With VR30 engine]
19	SHIELD	-
20	R	-
21	R	-
22	SHIELD	-
23	L	-
24	L	-

Connector No.	M137
Connector Name	JOINT CONNECTOR-M10
Connector Type	24342_4GA2A

H.S.

	5	4	3	2	1	
	11	10	9	8	7	
		16	15		13	
		22	21		19	

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	B	-
4	B	-
5	B	-
7	B	-
8	B	-
9	B	-
10	B	-
11	B	-
13	L	-
15	L	-
16	L	-
19	R	-
21	R	-
22	R	-

Connector No.	M146
Connector Name	WIRE TO WIRE
Connector Type	TK36MW-NS10

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
5	R	-
8	GR	-
9	V	-
10	BG	-

11	L
12	P
13	SB
14	Y
15	G
16	BR
17	W
18	R
19	L
20	SHIELD
21	BR
22	B
23	G
24	L
25	R
26	G
28	L
29	P
30	Y
31	GR
32	SB
33	BG
34	W
35	G
36	R
37	SHIELD
38	B
39	W
40	B
41	GR
42	B
43	LG
44	B
45	SB
46	B

Connector No.	M171
Connector Name	JOINT CONNECTOR-M01
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	B	-
4	B	-
5	B	-
6	B	-
7	B	-
8	B	-
9	B	-
10	G	-
11	G	-
13	B	-
14	B	-
15	B	-
16	SB	- [With VR30 engine]
16	Y	- [With 2.0L turbo gasoline engine]
17	SB	- [With VR30 engine]
17	Y	- [With 2.0L turbo gasoline engine]
18	SB	- [With VR30 engine]
18	Y	- [With 2.0L turbo gasoline engine]
19	G	-
20	G	-
22	LG	- [With VR30 engine]
22	SB	- [With 2.0L turbo gasoline engine]
23	LG	- [With VR30 engine]
23	SB	- [With 2.0L turbo gasoline engine]
24	LG	- [With VR30 engine]
24	SB	- [With 2.0L turbo gasoline engine]

JRLWG1813GB

EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

Connector No.	M173
Connector Name	JOINT CONNECTOR-M03
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	-
9	R	-
10	R	-
11	R	-
12	R	-
13	SB	-
14	SB	-
15	SB	-
16	L	- [With 2.0L turbo gasoline engine]
16	SB	- [With VR30 engine]
17	L	- [With 2.0L turbo gasoline engine]
17	SB	- [With VR30 engine]
18	L	- [With 2.0L turbo gasoline engine]
18	SB	- [With VR30 engine]
19	BR	- [With VR30 engine]
19	LG	- [With 2.0L turbo gasoline engine]
20	BR	- [With VR30 engine]
20	LG	- [With 2.0L turbo gasoline engine]
21	BR	- [With VR30 engine]
21	LG	- [With 2.0L turbo gasoline engine]
22	R	- [With 2.0L turbo gasoline engine]
22	SB	- [With VR30 engine]
23	R	- [With 2.0L turbo gasoline engine]
23	SB	- [With VR30 engine]
24	R	- [With 2.0L turbo gasoline engine]
24	SB	- [With VR30 engine]

Connector No.	M175
Connector Name	JOINT CONNECTOR-M05
Connector Type	NH20FL-DC

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	L	-
8	L	-
10	P	-
11	P	-
12	P	-
13	P	-
14	P	-
15	P	-
16	P	-
17	P	-
19	W	-
20	W	-

Connector No.	M177
Connector Name	JOINT CONNECTOR-M07
Connector Type	24342_4GA2A

H.S.

6	5	4	3	1
12	11	10	9	7
18	17	16		
24	23	22		

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
4	LG	- [With 2.0L turbo gasoline engine]
4	B	- [With VR30 engine]
5	LG	- [With 2.0L turbo gasoline engine]
5	B	- [With VR30 engine]
6	LG	- [With 2.0L turbo gasoline engine]
6	B	- [With VR30 engine]
7	B	-
8	B	-
9	B	-
10	W	- [With 2.0L turbo gasoline engine]
10	B	- [With VR30 engine]
11	W	- [With 2.0L turbo gasoline engine]
11	B	- [With VR30 engine]
12	W	- [With 2.0L turbo gasoline engine]

Connector No.	M178
Connector Name	JOINT CONNECTOR-M08
Connector Type	NH20FW-DC

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	P	-
3	L	-
4	L	-
5	L	-
6	L	-
7	P	-
9	P	-
10	P	-
11	P	-
12	P	-
16	L	-
17	L	-
18	L	-
22	P	-
23	P	-
24	P	-

Connector No.	M183
Connector Name	JOINT CONNECTOR-M11
Connector Type	TK04FW-J

H.S.

0	4	3	2	1	0

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-

Connector No.	M184
Connector Name	JOINT CONNECTOR-M12
Connector Type	TK04FW-J

H.S.

0	4	3	2	1	0

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	W	-
3	W	-
4	W	-

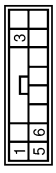
12	B	- [With VR30 engine]
13	W	- [With 2.0L turbo gasoline engine]
13	B	- [With VR30 engine]
14	W	- [With 2.0L turbo gasoline engine]
14	B	- [With VR30 engine]
15	W	- [With 2.0L turbo gasoline engine]
15	B	- [With VR30 engine]
17	BR	-
18	BR	-
20	BR	-

JRLWG1814GB

EXTERIOR LIGHTING SYSTEM (2.0L TURBO GASOLINE ENGINE)

Connector No.	R1
Connector Name	LANE CAMERA UNIT
Connector Type	MU812FB

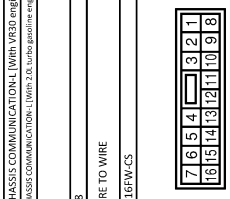
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
3	G	IGNITION POWER SUPPLY
5	L	CHASSIS COMMUNICATION-H
6	W	CHASSIS COMMUNICATION-L [With VR30 engine]
6	Y	CHASSIS COMMUNICATION-L [With 2.0L turbo gasoline engine]

Connector No.	T48
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	BG	-
4	L	-
5	P	-
6	G	-
8	B	-
9	R	-
10	P	-
11	L	-
13	G	- [With around view monitor]
13	L	- [With rear view monitor]
14	B	- [With rear view monitor]
14	R	- [With around view monitor]
15	B	- [With around view monitor]
15	W	- [With rear view monitor]

16	R	- [With rear view monitor]
16	W	- [With around view monitor]

Connector No.	T51
Connector Name	REAR COMBINATION LAMP LH (TRUNK LID SIDE)
Connector Type	NS04MW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
3	BG	-
4	B	-

Connector No.	T52
Connector Name	REAR COMBINATION LAMP RH (TRUNK LID SIDE)
Connector Type	NS04MW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
3	BG	-
4	B	-

JRLWG1815GB

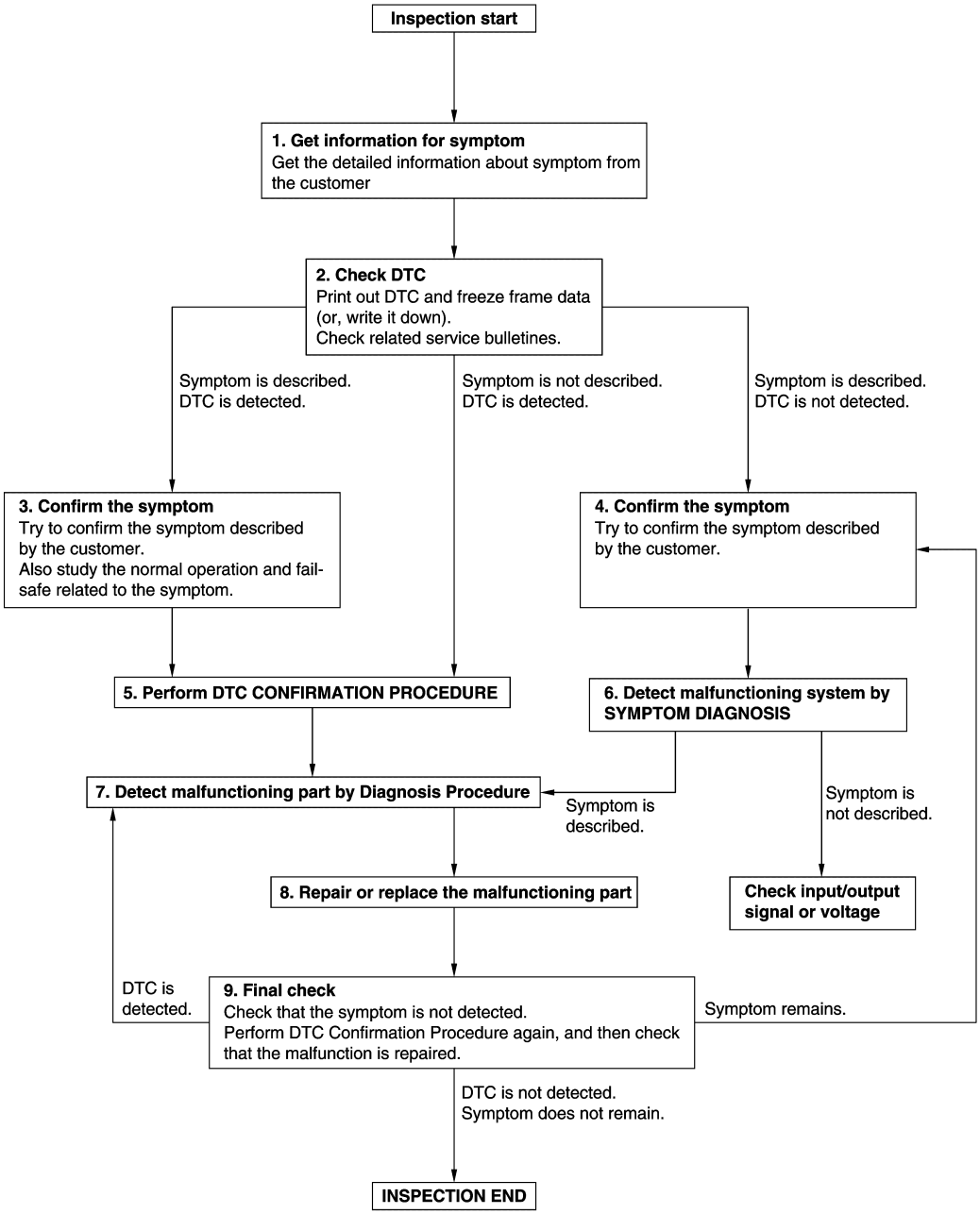
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000013711988

OVERALL SEQUENCE



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DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).
2. Check operation condition of the function that is malfunctioning.

>> GO TO 2.

2.CHECK DTC

1. Check DTC.
2. Perform the following procedure if DTC is detected.

- Record DTC and freeze frame data (Print them out using CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.

3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3.
Symptom is described, DTC is not detected>>GO TO 4.
Symptom is not described, DTC is detected>>GO TO 5.

3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.
Also study the normal operation and fail-safe related to the symptom.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.
If two or more DTCs are detected, refer to DTC INSPECTION PRIORITY CHART, and determine trouble diagnosis order.

NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.
  If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIRMATION PROCEDURE.

Is DTC detected?

YES >> GO TO 7.
NO >> Check according to GI-44, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

Is the symptom described?

YES >> GO TO 7.
NO >> Monitor input data from related sensors or check voltage of related module terminals using CONSULT.

7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.
NO >> Check according to GI-44, "Intermittent Incident".

8.REPAIR OR REPLACE THE MALFUNCTIONING PART

1. Repair or replace the malfunctioning part.
2. Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replacement.
3. Check DTC. If DTC is detected, erase it.

>> GO TO 9.

9.FINAL CHECK

When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the malfunction is repaired securely.
When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.
YES-2 >> Symptom remains: GO TO 4.
NO >> Before returning the vehicle to the customer, always erase DTC.

LED HEADLAMP OPERATION INSPECTION

Work Procedure

INFOID:0000000013711989

1.CHECK START

1. In the cool LED status (wait for more than 10 minutes after turning headlamp OFF), turn ON and turn OFF headlamp for the several times. Check that headlamp operates normally each time.
2. In the cool LED status, turn headlamp ON, wait until headlamp enters to the stable status (approximately 5 minutes after turning headlamp ON), and then check that headlamp operates normally without blinking or flickering.
3. In the warm LED status (turn headlamp ON for more than 15 minutes and wait for 1 minute after turning OFF), turn ON and turn OFF headlamp for the several times. Check that headlamp operates normally each time.
4. Turn headlamp ON for approximately 30 minutes, and then check that headlamp operates normally without difference in brightness between LH and RH, blinking or flickering.

Is the inspection result normal?

YES >> INSPECTION END
NO >> Refer to EXL-179, "Symptom Table".

ADDITIONAL SERVICE WHEN REPLACING AFS CONTROL UNIT

Description

INFOID:0000000013711992

Perform the following operations when replacing AFS control unit. (For details, refer to EXL-124, "Work Procedure".)

BEFORE REPLACEMENT

When replacing AFS control unit, save or print current vehicle specification with CONSULT “Configuration” before replacement.

NOTE:

If “READ CONFIGURATION” cannot be used, use the “WRITE CONFIGURATION - Manual selection” after replacing AFS control unit.

AFTER REPLACEMENT

CAUTION:

- **When replacing AFS control unit, always perform “WRITE CONFIGURATION” with CONSULT. Or not doing so, AFS control unit control function does not operate normally.**
- **Complete the procedure of “WRITE CONFIGURATION” in order.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **If you set incorrect “WRITE CONFIGURATION”, incidents might occur.**
- **Perform “SENSOR INITIALIZE” with CONSULT when replacing the AFS control unit.**

Work Procedure

INFOID:0000000013711993

1.SAVING VEHICLE SPECIFICATION

CONSULT Configuration

Perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to EXL-125, "Description".

NOTE:

If “READ CONFIGURATION” cannot be used, use the “WRITE CONFIGURATION - Manual selection” after replacing AFS control unit.

>> GO TO 2.

2.REPLACE AFS CONTROL UNIT

Replace AFS control unit. Refer to EXL-199, "Removal and Installation".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

CONSULT Configuration

Perform “WRITE CONFIGURATION - Config file” or “WRITE CONFIGURATION - Manual selection” to write vehicle specification. Refer to EXL-125, "Description".

>> GO TO 4.

4.SENSOR INITIALIZE

CONSULT Work Support

Perform “SENSOR INITIALIZE”. Refer to EXL-127, "Description".

>> WORK END

CONFIGURATION

Description

INFOID:0000000013711996

Vehicle specification needs to be written with CONSULT because it is not written after replacing AFS control unit. (For details, refer to EXL-125, "Work Procedure".)
Configuration has three functions as follows.

Function	Description
READ CONFIGURATION	• Reads the vehicle configuration of current AFS control unit. • Saves the read vehicle configuration.
WRITE CONFIGURATION - Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION - Config file	Writes the vehicle configuration with saved data.

CAUTION:
When replacing AFS control unit, always perform "WRITE CONFIGURATION" with CONSULT. Or not doing so, AFS control unit control function does not operate normally.
- **Complete the procedure of "WRITE CONFIGURATION" in order.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **If you set incorrect "WRITE CONFIGURATION", incidents might occur.**

Work Procedure

INFOID:0000000013711997

1.WRITING MODE SELECTION

CONSULT Configuration
1. Turn ignition switch ON.
2. Select "Configuration" mode of "ADAPTIVE LIGHT" using CONSULT.

When writing saved data>>GO TO 2.
When writing manually>>GO TO 3.

2.PERFORM "WRITE CONFIGURATION - CONFIG FILE"

CONSULT Configuration
Perform "WRITE CONFIGURATION - Config file".

>> WORK END

3.PERFORM "WRITE CONFIGURATION - MANUAL SELECTION"

CONSULT Configuration
1. Select "WRITE CONFIGURATION - Manual selection".
2. Identify the correct model and configuration list. Refer to EXL-126, "Configuration list".
3. Confirm and/or change setting value for each item.
   CAUTION:
   Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.
   NOTE:
   If items are not displayed, touch "SETTING". Refer to EXL-126, "Configuration list" for written items and setting value.
4. Select "SETTING".
   CAUTION:
   Make sure to select "SETTING" even if the indicated configuration of brand new AFS control unit is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model cannot be memorized.
5. When "COMMAND FINISHED", touch "End".

>> WORK END

Configuration list

INFOID:0000000013711998

CAUTION:

- **Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.**
- **The "Setting Value" of this vehicle is as follows: Never select any other value than the setting value shown below. (If there is only 1 item in "Setting Value" that means that item is the only choice for this certain vehicle.)**

SETTING ITEM		NOTE
Items	Setting value	
DIRECT ADAPTIVE STEERING	WITH⇔WITHOUT	• WITH: With direct adaptive steering • WITHOUT: Without direct adaptive steering
HANDLE	LHD	LHD: LHD models
DRIVE SYSTEM	2WD	2WD: 2WD models

⇔: Items which confirm vehicle specifications.

SENSOR INITIALIZE

Description

INFOID:0000000013711999

Perform the sensor initialize when the following operation is performed. (For details, refer to EXL-127, "Work Procedure".)

- Replacing AFS control unit
- Removing, installing or replacing height sensor
- Adjusting, removing, installing or replacing suspension components

Work Procedure

INFOID:0000000013712000

1. VEHICLE CONDITION CHECK

1. Park the vehicle in the straight-forward position.
2. Unload the vehicle (no passenger aboard).

>> GO TO 2.

2. SENSOR INITIALIZE

With CONSULT

1. Turn ignition switch ON.
2. Select “LEVELIZER ADJUSTMENT” in “Work Support” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Touch "Start".
4. When "INITIALISE COMPLETE", touch "End".

NOTE:
If "INITIALISE NOT DONE" is indicated, AFS control unit detects that the height sensor signal changes. The sensor initialize is cancelled. In this case, turn the ignition switch OFF to prevent the vehicle from the height change. Perform the sensor initialize again.

Is the sensor initialize completed?

YES >> GO TO 3.
NO >> Perform the sensor initialize again.

3. SELF DIAGNOSTIC RESULT CHECK

With CONSULT

1. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
2. Check DTC.

Is DTC detected?

YES >> GO TO 2.
NO >> WORK END

DTC/CIRCUIT DIAGNOSIS

B2008 PARA NOT PROG

DTC Description

INFOID:0000000013712001

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
B2008	PARA NOT PROG calibration/parameter memory failure (Parameter not programmed)	Diagnosis condition	When ignition switch ON
		Signal (Terminal)	—
		Threshold	Vehicle specification is not written
		Diagnosis delay time	—

POSSIBLE CAUSE

Configuration is not completed

FAIL-SAFE

Fail-safe	
Swivel operation	Aiming operation
Right and left swivel motors stop at the position when DTC is detected	Right and left headlamp aiming motors stop at the position when DTC is detected

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

With CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to EXL-128, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013712002

1.PERFORM CONFIGURATION

Perform configuration.

>> Refer to EXL-125, "Description".

B2503 SWIVEL ACTUATOR [RH]

DTC Description

INFOID:0000000013712019

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition		
B2503	SWIVEL ACTUATOR [RH] signal invalid (Swivel actuator [Right hand])	1	Diagnosis condition	When ignition switch ON
			Signal (Terminal)	Swivel actuator power supply
			Threshold	17.5 V or more, or 7.7 V or less
			Diagnosis delay time	5 seconds or more
		2	Diagnosis condition	When the swivel actuator is initialized
			Signal (Terminal)	—
			Threshold	Initialization incomplete status of the swivel actuator (RH)
			Diagnosis delay time	5 seconds or more
		3	Diagnosis condition	Vehicle is driven
			Signal (Terminal)	—
			Threshold	Swivel actuator (RH) does not complete swivel actuator initialization
			Diagnosis delay time	—
	SWIVEL ACTUATOR [RH] COMM ERROR (Swivel actuator [Right hand])	Diagnosis condition		When ignition switch ON
		Signal (Terminal)		Swivel actuator LIN signal
		Threshold		LIN communication signal malfunction status between AFS control unit and the swivel actuator (RH)
		Diagnosis delay time		5 seconds or more

POSSIBLE CAUSE

- Harness or connectors
- Swivel actuator RH

FAIL-SAFE

CONSULT screen terms	Fail-safe	
	Swivel operation	Aiming operation
SWIVEL ACTUATOR [RH] signal invalid	• Right swivel motor stop at the position when DTC is detected • Left swivel motor swivel angle returns to 0° and fixed	The signal, approximately 2 V decreased from the aiming motor drive signal when DTC detected, is output
SWIVEL ACTUATOR [RH] COMM ERROR	• Right swivel motor stop at the position when DTC is detected or right swivel motor swivel angle returns to 0° and fixed • Left swivel motor swivel angle returns to 0° and fixed	

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

With CONSULT

1. Start engine and wait at least 5 seconds.
2. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to EXL-130, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013712020

1.CHECK DTC

Perform each inspection according to the displayed DTC.

Which DTC is displayed?

SWIVEL ACTUATOR [RH] signal invalid>>GO TO 2.
SWIVEL ACTUATOR [RH] COMM ERROR>>GO TO 4.

2.CHECK SWIVEL ACTUATOR RH POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect headlamp swivel actuator RH connector.
3. Turn ignition switch ON.
4. Check voltage between headlamp swivel actuator RH harness connector and ground.

+		-	Voltage
Headlamp swivel actuator RH			
Connector	Terminal	Ground	7.7 - 17.5 V
E72	1		

Is the inspection result normal?

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

3.CHECK SWIVEL ACTUATOR RH GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AFS control unit connector.
3. Check continuity between headlamp swivel actuator RH harness connector and AFS control unit harness connector.

Headlamp swivel actuator RH		AFS control unit		Continuity
Connector	Terminal	Connector	Terminal	
E72	3	M4	19	Existed

Is the inspection result normal?

YES >> Replace front combination lamp RH. Refer to EXL-192, "Removal and Installation".
NO >> Repair or replace harness.

4.CHECK SWIVEL ACTUATOR RH LIN COMMUNICATION SIGNAL CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect headlamp swivel actuator RH connector and AFS control unit connector.
3. Check continuity between headlamp swivel actuator RH harness connector and AFS control unit harness connector.

Headlamp swivel actuator RH		AFS control unit		Continuity
Connector	Terminal	Connector	Terminal	
E72	2	M4	8	Existed

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK SWIVEL ACTUATOR RH LIN COMMUNICATION SIGNAL CIRCUIT (SHORT)

Check continuity between headlamp swivel actuator RH harness connector and ground.

Headlamp swivel actuator RH		—	Continuity
Connector	Terminal		
E72	2	Ground	Not existed

Is the inspection result normal?

YES >> Replace front combination lamp RH. Refer to EXL-192, "Removal and Installation".
NO >> Repair or replace harness.

B2504 SWIVEL ACTUATOR [LH]

DTC Description

INFOID:0000000013712021

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition		
B2504	SWIVEL ACTUATOR [LH] signal invalid (Swivel actuator [Left hand])	1	Diagnosis condition	When ignition switch ON
			Signal (Terminal)	Swivel actuator power supply
			Threshold	17.5 V or more, or 7.7 V or less
			Diagnosis delay time	5 seconds or more
		2	Diagnosis condition	When the swivel actuator is initialized
			Signal (Terminal)	—
			Threshold	Initialization incomplete status of the swivel actuator (LH)
			Diagnosis delay time	5 seconds or more
		3	Diagnosis condition	Vehicle is driven
			Signal (Terminal)	—
			Threshold	Swivel actuator (LH) does not complete swivel actuator initialization
			Diagnosis delay time	—
	SWIVEL ACTUATOR [LH] COMM ERROR (Swivel actuator [Left hand])	Diagnosis condition		When ignition switch ON
		Signal (Terminal)		Swivel actuator LIN signal
		Threshold		LIN communication signal malfunction status between AFS control unit and the swivel actuator (LH)
		Diagnosis delay time		5 seconds or more

POSSIBLE CAUSE

- Harness or connectors
- Swivel actuator LH

FAIL-SAFE

CONSULT screen terms	Fail-safe	
	Swivel operation	Aiming operation
SWIVEL ACTUATOR [LH] signal invalid	• Left swivel motor stop at the position when DTC is detected • Right swivel motor swivel angle returns to 0° and fixed	The signal, approximately 2 V decreased from the aiming motor drive signal when DTC detected, is output
SWIVEL ACTUATOR [LH] COMM ERROR	• Left swivel motor stop at the position when DTC is detected or left swivel motor swivel angle returns to 0° and fixed • Right swivel motor swivel angle returns to 0° and fixed	

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

With CONSULT

1. Start engine and wait at least 5 seconds.
2. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to EXL-133, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013712022

1.CHECK DTC

Perform each inspection according to the displayed DTC.

Which DTC is displayed?

SWIVEL ACTUATOR [LH] signal invalid>>GO TO 2.
SWIVEL ACTUATOR [LH] COMM ERROR>>GO TO 4.

2.CHECK SWIVEL ACTUATOR LH POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect headlamp swivel actuator LH connector.
3. Turn ignition switch ON.
4. Check voltage between headlamp swivel actuator LH harness connector and ground.

+		-	Voltage
Headlamp swivel actuator LH			
Connector	Terminal	Ground	7.7 - 17.5 V
E49	1		

Is the inspection result normal?

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

3.CHECK SWIVEL ACTUATOR LH GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AFS control unit connector.
3. Check continuity between headlamp swivel actuator LH harness connector and AFS control unit harness connector.

Headlamp swivel actuator LH		AFS control unit		Continuity
Connector	Terminal	Connector	Terminal	
E49	3	M4	19	Existed

Is the inspection result normal?

YES >> Replace front combination lamp LH. Refer to EXL-192, "Removal and Installation".
NO >> Repair or replace harness.

4.CHECK SWIVEL ACTUATOR LH LIN COMMUNICATION SIGNAL CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect headlamp swivel actuator LH connector and AFS control unit connector.
3. Check continuity between headlamp swivel actuator LH harness connector and AFS control unit harness connector.

Headlamp swivel actuator LH		AFS control unit		Continuity
Connector	Terminal	Connector	Terminal	
E49	2	M4	8	Existed

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK SWIVEL ACTUATOR LH LIN COMMUNICATION SIGNAL CIRCUIT (SHORT)

Check continuity between headlamp swivel actuator LH harness connector and ground.

Headlamp swivel actuator LH		—	Continuity
Connector	Terminal		
E49	2	Ground	Not existed

Is the inspection result normal?

YES >> Replace front combination lamp LH. Refer to EXL-192, "Removal and Installation".
NO >> Repair or replace harness.

B2512 STEERING PINION ANGLE SIGNAL

DTC Description

INFOID:0000000013712023

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition		
B2512	4WAS SIG [Front steer (Pinion angle) signal]	1	Diagnosis condition	When ignition switch ON
			Signal (Terminal)	Steering pinion angle signal (via CAN communication)
			Threshold	Malfunction status of the steering pinion angle signal received from the steering force control module
			Diagnosis delay time	2 seconds
		2	Diagnosis condition	When ignition switch ON
			Signal (Terminal)	Direct Adaptive Steering malfunction signal (via CAN communication)
			Threshold	Direct Adaptive Steering malfunction signal is received from the steering force control module
			Diagnosis delay time	2 seconds

POSSIBLE CAUSE

Direct adaptive steering system

FAIL-SAFE

Fail-safe	
Swivel operation	Aiming operation
Right and left swivel motor swivel angle returns to 0° and fixed	—

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

With CONSULT
1. Turn ignition switch ON and wait at least 2 seconds.
2. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to EXL-135, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013712024

1.STEERING FORCE CONTROL MODULE SELF-DIAGNOSIS

With CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “EPS/DAST 3” using CONSULT, and repair or replace malfunctioning parts.
3. Check DTC, and repair or replace malfunctioning parts.

>> Refer to STC-154, "DTC Index".

B2514 HEIGHT SENSOR UNUSUAL [RR]

DTC Description

INFOID:0000000013712025

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition		
B2514	HI SEN UNUSUAL [RR] general electrical failure (Height sensor unusual [Rear])	1	Diagnosis condition	When ignition switch ON
			Signal (Terminal)	Height sensor power supply
			Threshold	6.25 V or more, or 4.45 V or less
			Diagnosis delay time	10 seconds or more
		2	Diagnosis condition	When ignition switch ON
			Signal (Terminal)	Height sensor signal
			Threshold	4.75 V or more, or 0.25 V or less
			Diagnosis delay time	10 seconds or more
	HI SEN UNUSUAL [RR] signal invalid (Height sensor unusual [Rear])	Diagnosis condition		When ignition switch ON
		Signal (Terminal)		Height sensor signal
		Threshold		4.0 V or more, or 1.0 V or less
		Diagnosis delay time		10 seconds or more

POSSIBLE CAUSE

- Harness or connectors
- Height sensor installation condition
- Height sensor
- AFS control unit

FAIL-SAFE

Fail-safe	
Swivel operation	Aiming operation
Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

With CONSULT

1. Turn ignition switch ON and wait at least 10 seconds.
2. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to EXL-136, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013712026

1.CHECK INSTALLATION OF HEIGHT SENSOR

Check height sensor is properly installed. Refer to EXL-200, "Exploded View".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning parts and perform sensor initialize. Refer to EXL-127, "Description".

2.CHECK HEIGHT SENSOR SIGNAL INPUT

1. Turn ignition switch ON.
2. Check voltage between AFS control unit harness connector and ground.

+		-	Voltage
AFS control unit			
Connector	Terminal		
M4	6	Ground	1.0 - 4.0 V

Is the measurement value within the standard value?

YES >> Replace AFS control unit. Refer to EXL-199, "Removal and Installation"
NO-1 >> Less than the standard value: GO TO 3.
NO-2 >> Higher than the standard value: GO TO 8.

3.CHECK HEIGHT SENSOR POWER SUPPLY INPUT VOLTAGE

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

+		-	Voltage
Height sensor			
Connector	Terminal		
C4	2	Ground	4.45 - 6.25 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 6.

4.CHECK HEIGHT SENSOR SIGNAL CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect AFS control unit connector.
3. Check continuity between AFS control unit harness connector and height sensor harness connector.

AFS control unit		Height sensor		Continuity
Connector	Terminal	Connector	Terminal	
M4	6	C4	1	Existed

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK HEIGHT SENSOR SIGNAL CIRCUIT (SHORT)

Check continuity between AFS control unit harness connector and ground.

AFS control unit		—	Continuity
Connector	Terminal		
M4	6	Ground	Not existed

Is the inspection result normal?

YES >> Replace height sensor. Refer to EXL-200, "Removal and Installation".
NO >> Repair or replace harness.

6.CHECK HEIGHT SENSOR POWER SUPPLY CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect AFS control unit connector.
3. Check continuity between AFS control unit harness connector and height sensor harness connector.

AFS control unit		Height sensor		Continuity
Connector	Terminal	Connector	Terminal	
M4	21	C4	2	Existed

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7.CHECK HEIGHT SENSOR POWER SUPPLY CIRCUIT (SHORT)

Check continuity between AFS control unit harness connector and ground.

AFS control unit		—	Continuity
Connector	Terminal		
M4	21	Ground	Not existed

Is the inspection result normal?

YES >> Replace AFS control unit. Refer to EXL-199, "Removal and Installation"
NO >> Repair or replace harness.

8.CHECK HEIGHT SENSOR GROUND VOLTAGE OUTPUT

Check voltage between AFS control unit harness connector and ground.

+		-	Voltage (Approx.)
AFS control unit			
Connector	Terminal		
M4	23	Ground	0 V

Is the inspection result normal?

YES >> GO TO 9.
NO >> Replace AFS control unit. Refer to EXL-199, "Removal and Installation"

9.CHECK HEIGHT SENSOR GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AFS control unit connector and height sensor connector.
3. Check continuity between AFS control unit harness connector and height sensor harness connector.

AFS control unit		Height sensor		Continuity
Connector	Terminal	Connector	Terminal	
M4	23	C4	4	Existed

Is the inspection result normal?

YES >> Replace height sensor. Refer to EXL-200, "Removal and Installation".
NO >> Repair or replace harness.

B2516 SHIFT POSITION SIGNAL [R, P]

DTC Description

INFOID:0000000013712027

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
B2516	SHIFT POS SIG[R,P] (Shift position signal)	Diagnosis condition	When ignition switch ON
		Signal (Terminal)	Shift position signal (via drivetrain CAN communication* and CAN communication)
		Threshold	Malfunction status of the shift position signal received from TCM
		Diagnosis delay time	2 seconds or more

*: 2.0L turbo gasoline engine models

POSSIBLE CAUSE

A/T control system

FAIL-SAFE

Fail-safe	
Swivel operation	Aiming operation
Right and left swivel motor swivel angle returns to 0° and fixed	—

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

With CONSULT
1. Turn ignition switch ON and wait at least 2 seconds.
2. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to EXL-139, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013712028

1.TCM SELF-DIAGNOSIS

With CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “TRANSMISSION” using CONSULT, and repair or replace malfunctioning parts.
3. Check DTC, and repair or replace malfunctioning parts.

>> Refer to TM-111, "VR30DDTT : DTC Index".

B2517 VEHICLE SPEED SIGNAL

DTC Description

INFOID:0000000013712029

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
B2517	VEHICEL SPEED SIG (Speed signal)	Diagnosis condition	When ignition switch ON
		Signal (Terminal)	Vehicle speed signal (via CAN communication)
		Threshold	Malfunction status of the vehicle speed signal received from the combination meter
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

Vehicle speed signal

FAIL-SAFE

Fail-safe	
Swivel operation	Aiming operation
Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

With CONSULT
1. Turn ignition switch ON and wait at least 2 seconds.
2. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to EXL-140, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013712030

1.COMBINATION METER SELF-DIAGNOSIS

With CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “METER/M&A” using CONSULT, and repair or replace malfunctioning parts.
3. Check DTC, and repair or replace malfunctioning parts.

>> Refer to MWI-91, "DTC Index".

B2519 LEVELIZER CALIBRATION

DTC Description

INFOID:0000000013712031

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
B2519	LEVELIZER CALIB missing calibration (Levelizer calibration)	Diagnosis condition	When ignition switch ON
		Signal (Terminal)	—
		Threshold	Initialization incomplete status of the height sensor is detected
		Diagnosis delay time	—

POSSIBLE CAUSE

Sensor initialize is not completed

FAIL-SAFE

Fail-safe	
Swivel operation	Aiming operation
Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

With CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to EXL-141, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013712032

1.SENSOR INITIALIZE

Perform sensor initialize.

>> Refer to EXL-127, "Description".

B2521 ECU CIRCUIT

DTC Description

INFOID:0000000013712033

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
B2521	ECU CIRC (ECU circuit)	Diagnosis condition	When ignition switch ON
		Signal (Terminal)	—
		Threshold	Internal malfunction of AFS control unit
		Diagnosis delay time	10 seconds or more

POSSIBLE CAUSE

AFS control unit

FAIL-SAFE

Fail-safe	
Swivel operation	Aiming operation
Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

With CONSULT

1. Turn ignition switch ON and wait at least 10 seconds.
2. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to EXL-142, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013712034

1.REPLACE AFS CONTROL UNIT

Replace AFS control unit. Refer to EXL-199, "Removal and Installation".

>> INSPECTION END

U0126 STEERING ANGLE SENSOR SIGNAL

DTC Description

INFOID:0000000013712035

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition		
U0126	ST ANG SEN SIG (Lost communication with steering angle sensor module)	1	Diagnosis condition	When ignition switch ON
			Signal (Terminal)	Steering angle signal (via CAN communication)
			Threshold	Malfunction status of the steering angle signal received from the steering angle sensor
			Diagnosis delay time	2 seconds or more
		2	Diagnosis condition	When ignition switch ON
			Signal (Terminal)	Steering angle sensor malfunction signal (via CAN communication)
			Threshold	Steering angle sensor malfunction signal is received from the steering angle sensor
			Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

Steering angle sensor

FAIL-SAFE

Fail-safe	
Swivel operation	Aiming operation
Right and left swivel motor swivel angle returns to 0° and fixed	—

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

With CONSULT
1. Turn ignition switch ON and wait at least 2 seconds.
2. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to EXL-143, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013712036

1.ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS

With CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “ABS” using CONSULT, and repair or replace malfunctioning parts.
3. Check DTC, and repair or replace malfunctioning parts.

>> Refer to BRC-73, "DTC Index".

U0428 STEERING ANGLE SENSOR CALIBRATION

DTC Description

INFOID:0000000013712037

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0428	ST ANG SEN CALIB (Invalid data received from steering angle sensor module)	Diagnosis condition	When ignition switch ON
		Signal (Terminal)	Steering calibration signal (via CAN communication)
		Threshold	Steering calibration signal (incomplete status) is received from the steering angle sensor
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

Adjustment of steering angle sensor neutral position is not completed

FAIL-SAFE

Fail-safe	
Swivel operation	Aiming operation
Right and left swivel motor swivel angle returns to 0° and fixed	—

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

With CONSULT
1. Turn ignition switch ON and wait at least 2 seconds.
2. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to EXL-144, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013712038

1.ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION

Perform adjustment of steering angle sensor neutral position.
NOTE:
Perform adjustment of steering angle sensor neutral position on VDC side. VDC may activate incorrectly.

>> Refer to BRC-92, "Description".

U1000 CAN COMM CIRCUIT

DTC Description

INFOID:0000000013712039

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1000	CAN COMM CIRCUIT (CAN communication)	Diagnosis condition	When ignition switch ON
		Signal (Terminal)	CAN communication line
		Threshold	When AFS control unit does not transmit/receive CAN communication signal
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

CAN communication system

FAIL-SAFE

Fail-safe	
Swivel operation	Aiming operation
Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected **NOTE:** Only when the vehicle speed signal or the low beam status signal cannot be received

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

With CONSULT

1. Turn ignition switch ON and wait at least 2 seconds.
2. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to EXL-145, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013712040

1.CHECK CAN COMMUNICATION SYSTEM

Perform trouble diagnosis for CAN communication system. Refer to LAN-37, "Trouble Diagnosis Flow Chart".

>> INSPECTION END

U1010 CONTROL UNIT (CAN)

DTC Description

INFOID:0000000013712043

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1010	CONTROL UNIT(CAN) (CAN initial diagnosis abnormal)	Diagnosis condition	When ignition switch ON
		Signal (Terminal)	CAN communication line
		Threshold	AFS control unit detected internal CAN communication circuit malfunction
		Diagnosis delay time	—

POSSIBLE CAUSE

AFS control unit

FAIL-SAFE

Fail-safe	
Swivel operation	Aiming operation
Right and left swivel motor swivel angle returns to 0° and fixed	Right and left headlamp aiming motors stop at the position when DTC is detected

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

With CONSULT

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “ADAPTIVE LIGHT” using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to EXL-146, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013712044

1.REPLACE AFS CONTROL UNIT

Replace AFS control unit. Refer to EXL-199, "Removal and Installation".

>> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT
AFS CONTROL UNIT

AFS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000013712048

1.CHECK FUSES

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

VR30DDTT engine models

Signal name	Fuse No.	Capacity
Ignition power supply	14	5 A

2.0L turbo gasoline engine models

Signal name	Fuse No.	Capacity
Ignition power supply	77	10 A

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown (open).
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Disconnect AFS control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AFS control unit harness connector and ground.

+		-	Voltage
AFS control unit			
Connector	Terminal		
M4	12	Ground	9 – 16 V

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between AFS control unit harness connector and ground.

AFS control unit		—	Continuity
Connector	Terminal		
M4	11	Ground	Existed

Is the inspection result normal?

YES >> Power supply and ground circuit are normal.
NO >> Repair or replace harness.

LED HEADLAMP

Component Function Check

INFOID:0000000013712051

1.CHECK HEADLAMP (LO) OPERATION

With CONSULT
1. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R” using CONSULT.
2. With operating the test items, check that the headlamp (LO) is turned ON.

Lo : Headlamp (LO) ON
Off : Headlamp (LO) OFF

Without CONSULT
1. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
2. Check that the headlamp (LO) is turned ON.

Is the inspection result normal?

YES >> LED headlamp circuit is normal.
NO >> Refer to EXL-148, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013712053

1.CHECK HEADLAMP FUSE

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

Unit	Location	Fuse No.	Capacity
Headlamp RH	IPDM E/R	#44	15 A
Headlamp LH		#45	

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown (open).
NO >> GO TO 2.

2.CHECK HEADLAMP POWER SUPPLY

With CONSULT
1. Turn ignition switch ON.
2. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R” using CONSULT.
3. With operating the test items, check voltage between IPDM E/R harness connector and ground.

+			-	Test item		Voltage
IPDM E/R						
Connector		Terminal				
RH	E125	75	Ground	EXTERNAL LAMPS	Lo	9 – 16 V
					Off	0 – 1 V
LH		76			Lo	9 – 16 V
					Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".

3.CHECK HEADLAMP POWER SUPPLY CIRCUIT

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

IPDM E/R			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E125	75	E42	5	Existed
LH		76	E41		

Is the inspection result normal?

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

4. CHECK HEADLAMP GROUND CIRCUIT

Check continuity between front combination lamp harness connector and ground.

Front combination lamp			—	Continuity
Connector		Terminal		
RH	E42	3	Ground	Existed
LH	E41			

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5. CHECK LED HEADLAMP

Install the normal front combination lamp to the applicable headlamp. Check that the headlamp is turned ON. Refer to EXL-123, "Work Procedure".

Is the headlamp turned ON?

YES >> Replace the corresponding front combination lamp. Refer to EXL-192, "Removal and Installation".
NO >> LED headlamp is normal. Check headlamp control system.

HEADLAMP (HI) CIRCUIT

Component Function Check

INFOID:0000000013712049

1.CHECK HEADLAMP (HI) OPERATION

With CONSULT
1. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R” using CONSULT.
2. With operating the test items, check that the headlamp (HI) blinks.

Hi : Headlamp (HI) blinks (ON/OFF is repeated 1 second each.)
Off : Headlamp (HI) OFF

Without CONSULT
1. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
2. Check that the headlamp (HI) blinks.

Is the inspection result normal?

YES >> Headlamp (HI) circuit is normal.
NO >> Refer to EXL-150, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013712050

1.CHECK HEADLAMP (HI) SIGNAL

With CONSULT
1. Turn ignition switch ON.
2. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R” using CONSULT.
3. With operating the test items, check voltage between IPDM E/R harness connector and ground.

+			-	Test item		Voltage
IPDM E/R						
Connector		Terminal				
RH	E125	80	Ground	EXTERNAL LAMPS	Hi	9 – 16 V (Repeated 1 second)
					Off	0 – 1 V
LH		81			Hi	9 – 16 V (Repeated 1 second)
					Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".

2.CHECK HEADLAMP (HI) SIGNAL CIRCUIT

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

IPDM E/R			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E125	80	E42	7	Existed
LH		81	E41		

Is the inspection result normal?

YES >> Replace the corresponding front combination lamp. Refer to EXL-192, "Removal and Installation".

NO >> Repair or replace harness.

HEADLAMP LEVELIZER CIRCUIT

Component Function Check

INFOID:0000000013712056

1.CHECK HEADLAMP LEVELIZER OPERATION

With CONSULT
1. Turn ignition switch ON.
2. Turn lighting switch 2ND.
3. Select “LEVELIZER TEST” in “Active Test” mode of “ADAPTIVE LIGHT” using CONSULT.
4. With operating the test item, check light axis operation.

Test item		Light axis operation
LEVELIZER TEST	Peak	Moves the light axis to the lowest position.
	Origin	Moves the light axis to the initial position.

Is the inspection result normal?

YES >> Headlamp levelizer circuit is normal.
NO >> Refer to EXL-152, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013712057

1.CHECK HEADLAMP AIMING MOTOR POWER SUPPLY

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

+			-	Voltage
Headlamp aiming motor				
Connector		Terminal		
RH	E71	3	Ground	Battery voltage
LH	E21			

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness between headlamp aiming motor and fuse.

2.CHECK HEADLAMP AIMING MOTOR GROUND CIRCUIT

1. Disconnect AFS control unit connector.
2. Check continuity between AFS control unit harness connector and headlamp aiming motor harness connector.

AFS control unit			Headlamp aiming motor		Continuity
Connector		Terminal	Connector	Terminal	
RH	M4	24	E71	2	Existed
LH			E21		

Is the inspection result normal?

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

3.CHECK HEADLAMP AIMING MOTOR DRIVE SIGNAL OUTPUT

With CONSULT
1. Turn ignition switch ON.
2. Turn lighting switch 2ND.
3. Select “LEVELIZER TEST” in “Active Test” mode of “ADAPTIVE LIGHT” using CONSULT.
4. With operating the test items, check voltage between AFS control unit harness connector and ground.

+		-	Test item		Voltage (Approx.)
AFS control unit					
Connector	Terminal				
M4	22	Ground	LEVELIZER TEST	Peak	3.13 V
				Origin	2.5 V

Is the inspection result normal?

YES >> GO TO 4.
NO-1 >> Fixed at 0 V: GO TO 5.
NO-2 >> Fixed at battery voltage: GO TO 6.

4. CHECK HEADLAMP AIMING MOTOR DRIVE CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect AFS control unit connector and headlamp aiming motor connector.
3. Check continuity between AFS control unit harness connector and headlamp aiming motor harness connector.

AFS control unit			Headlamp aiming motor		Continuity
Connector		Terminal	Connector	Terminal	
RH	M4	22	E71	1	Existed
LH			E21		

Is the inspection result normal?

YES >> Replace the corresponding front combination lamp. Refer to EXL-192, "Removal and Installation".
NO >> Repair or replace harness.

5. CHECK HEADLAMP AIMING MOTOR DRIVE CIRCUIT (SHORT TO GROUND)

1. Turn ignition switch OFF.
2. Disconnect AFS control unit connector and headlamp aiming motor connector.
3. Check continuity between AFS control unit harness connector and ground.

AFS control unit		—	Continuity
Connector	Terminal		
M4	22	Ground	Not existed

Is the inspection result normal?

YES >> Replace AFS control unit. Refer to EXL-199, "Removal and Installation".
NO >> Repair or replace harness.

6. CHECK HEADLAMP AIMING MOTOR DRIVE CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect AFS control unit connector and headlamp aiming motor connector.
3. Check voltage between AFS control unit harness connector and ground.

+		-	Voltage (Approx.)
AFS control unit			
Connector	Terminal		
M4	22	Ground	0 V

Is the inspection result normal?

YES >> Replace AFS control unit. Refer to EXL-199, "Removal and Installation".
NO >> Repair or replace harness.

PARKING LAMP CIRCUIT

Component Function Check

INFOID:0000000013712058

1.CHECK PARKING LAMP OPERATION

With CONSULT
1. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R” using CONSULT.
2. With operating the test items, check that the parking lamp is turned ON.

TAIL : Parking lamp ON
Off : Parking lamp OFF

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

Is the inspection result normal?

YES >> Parking lamp circuit is normal.
NO >> Refer to EXL-154, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013712059

1.CHECK FUSE

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

Unit	Location	Fuse No.	Capacity
Parking lamp RH	IPDM E/R	#60	10 A
Parking lamp LH		#59	

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown (open).
NO >> GO TO 2.

2.CHECK PARKING LAMP POWER SUPPLY

With CONSULT
1. Turn ignition switch ON.
2. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R” using CONSULT.
3. With operating the test items, check voltage between IPDM E/R harness connector and ground.

+			-	Test item		Voltage
IPDM E/R						
Connector		Terminal				
RH	E120	9	Ground	EXTERNAL LAMPS	TAIL	9 – 16 V
					Off	0 – 1 V
LH		10			TAIL	9 – 16 V
					Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".

3.CHECK PARKING LAMP POWER SUPPLY CIRCUIT

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

IPDM E/R			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E120	9	E42	8	Existed
LH		10	E41		

Is the inspection result normal?

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

4. CHECK PARKING LAMP GROUND CIRCUIT

Check continuity between parking lamp harness connector and ground.

Front combination lamp			—	Continuity
Connector		Terminal		
RH	E42	4	Ground	Existed
LH	E41			

Is the inspection result normal?

YES >> Replace the corresponding front combination lamp. Refer to EXL-192, "Removal and Installation".
NO >> Repair or replace harness.

TAIL LAMP CIRCUIT

Component Function Check

INFOID:0000000013712060

1.CHECK TAIL LAMP OPERATION

With CONSULT
1. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R” using CONSULT.
2. With operating the test items, check that the tail lamp is turned ON.

TAIL : Tail Lamp ON
Off : Tail lamp OFF

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

Is the inspection result normal?

YES >> Tail lamp circuit is normal.
NO >> Refer to EXL-156, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013712061

1.CHECK FUSE

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

Unit	Location	Fuse No.	Capacity
Tail lamp RH	IPDM E/R	#60	10 A
Tail lamp LH		#59	

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown (open).
NO >> GO TO 2.

2.CHECK TAIL LAMP POWER SUPPLY 1

With CONSULT
1. Turn ignition switch ON.
2. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R” using CONSULT.
3. With operating the test items, check voltage between IPDM E/R harness connector and ground.

+			-	Test item		Voltage
IPDM E/R						
Connector		Terminal				
RH	E126	90	Ground	EXTERNAL LAMPS	TAIL	9 – 16 V
					Off	0 – 1 V
LH	E120	17			TAIL	9 – 16 V
					Off	0 – 1 V

Is the inspection result normal?

YES-1 >> Tail lamp RH: GO TO 3.
YES-2 >> Tail lamp LH: GO TO 4.
NO >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".

3.CHECK TAIL LAMP POWER SUPPLY CIRCUIT 1

1. Turn ignition switch OFF.
2. Disconnect following connectors.
- IPDM E/R
- Rear combination lamp RH (body side)

- Rear combination lamp RH (trunk lid side)

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

Body side

IPDM E/R			Rear combination lamp (body side)		Continuity
Connector		Terminal	Connector	Terminal	
RH	E126	90	B23	2	Existed

Trunk lid side

IPDM E/R			Rear combination lamp (trunk lid side)		Continuity
Connector		Terminal	Connector	Terminal	
RH	E126	90	T52	1	Existed

Is the inspection result normal?

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

4. CHECK TAIL LAMP POWER SUPPLY 2

With CONSULT

1. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R” using CONSULT.
2. With operating the test items, check voltage between fuse block (J/B) harness connector and ground.

+		-	Test item		Voltage
Fuse block (J/B)					
Connector	Terminal				
B39	10H	Ground	EXTERNAL LAMPS	TAIL	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

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

5. CHECK TAIL LAMP POWER SUPPLY CIRCUIT 2

1. Turn ignition switch OFF.
2. Disconnect following connectors.

- Fuse block (J/B)
- Rear combination lamp LH (body side)
- Rear combination lamp LH (trunk lid side)

3. Check continuity between fuse block (J/B) harness connector and rear combination lamp LH harness connector.

Body side

Fuse block (J/B)			Rear combination lamp (body side)		Continuity
Connector		Terminal	Connector	Terminal	
LH	B39	10H	B22	2	Existed

Trunk lid side

Fuse block (J/B)			Rear combination lamp (trunk lid side)		Continuity
Connector		Terminal	Connector	Terminal	
LH	B39	10H	T51	1	Existed

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

6. CHECK TAIL LAMP POWER SUPPLY CIRCUIT 3

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and fuse block (J/B) connector.
3. Check continuity between IPDM E/R harness connector and fuse block (J/B) harness connector.

IPDM E/R		Fuse block (J/B)		Continuity
Connector	Terminal	Connector	Terminal	
E120	17	E64	4E	Existed

Is the inspection result normal?

YES >> Replace fuse block (J/B).
NO >> Repair or replace harness.

7.CHECK TAIL LAMP GROUND CIRCUIT

Check continuity between rear combination lamp harness connector and ground.

Body side

Rear combination lamp (body side)			—	Continuity
Connector		Terminal		
RH	B23	4	Ground	Existed
LH	B22			

Trunk lid side

Rear combination lamp (trunk lid side)			—	Continuity
Connector		Terminal		
RH	T52	4	Ground	Existed
LH	T51			

Is the inspection result normal?

YES >> Replace the corresponding rear combination lamp. Refer to EXL-203, "REAR COMBINATION LAMP (BODY SIDE) : Removal and Installation" (body side) or EXL-205, "REAR COMBINATION LAMP (TRUNK LID SIDE) : Removal and Installation" (trunk lid side).
NO >> Repair or replace harness.

LICENSE PLATE LAMP CIRCUIT

Component Function Check

INFOID:0000000013712062

1.CHECK TAIL LAMP OPERATION

Check that the tail lamp (RH) is turned ON.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check tail lamp circuit. Refer to EXL-156, "Component Function Check".

2.CHECK LICENSE PLATE LAMP OPERATION

With CONSULT

1. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R” using CONSULT.
2. With operating the test items, check that the license plate lamp is turned ON.

TAIL : License plate lamp ON
Off : License plate lamp OFF

Without CONSULT

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

Is the inspection result normal?

YES >> License plate lamp circuit is normal.
NO >> Refer to EXL-159, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013712063

1.CHECK LICENSE PLATE LAMP POWER SUPPLY CIRCUIT

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

IPDM E/R			License plate lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E126	90	B177	1	Existed
LH			B178		

Is the inspection result normal?

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

2.CHECK LICENSE PLATE LAMP GROUND CIRCUIT

Check continuity between license plate lamp harness connector and ground.

License plate lamp			—	Continuity
Connector		Terminal		
RH	B177	2	Ground	Existed
LH	B178			

Is the inspection result normal?

YES >> Replace the corresponding license plate lamp. Refer to EXL-208, "Removal and Installation".
NO >> Repair or replace harness.

DAYTIME RUNNING LIGHT CIRCUIT

Component Function Check

INFOID:0000000013712064

1.CHECK DAYTIME RUNNING LIGHT OPERATION

With CONSULT
1. Select “HEAD LAMP” of “BCM” using CONSULT.
2. Select “DAYTIME RUNNING LIGHT” in “Active Test” mode.
3. With operating the test items, check that the daytime running light is turned ON.

On : Daytime running light ON
Off : Daytime running light OFF

Is the inspection result normal?

YES >> Daytime running light circuit is normal.
NO >> Refer to EXL-160, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013712065

1.CHECK FUSE

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

Unit	Fuse No.	Capacity
Daytime running light relay	#58	10 A
	#72	
	#73	

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown (open).
NO >> GO TO 2.

2.CHECK DAYTIME RUNNING LIGHT RELAY POWER SUPPLY

1. Remove daytime running light relay.
2. Check voltage between daytime running light relay harness connector and ground.

+		-	Voltage (Approx.)
Daytime running light relay			
Connector	Terminal		
E104	2	Ground	Battery voltage
	5		
	7		

Is the inspection result normal?

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

3.CHECK DAYTIME RUNNING LIGHT RELAY

Check daytime running light relay. Refer to EXL-162, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace daytime running light relay.

4.CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL OUTPUT

With CONSULT
1. Install daytime running light relay.

2. Turn ignition switch ON.
3. Select “HEAD LAMP” of “BCM” using CONSULT.
4. Select “DAYTIME RUNNING LIGHT” in “Active Test” mode.
5. With operating the test item, check voltage between IPDM E/R harness connector and ground.

+		-	Test item		Voltage
IPDM E/R					
Connector	Terminal				
E126	85	Ground	DAYTIME RUNNING LIGHT	On	0 – 1 V
				Off	9 – 16 V

Is the inspection result normal?

YES >> GO TO 7.
NO-1 >> Fixed at 0 – 1 V: GO TO 6.
NO-2 >> Fixed at 9 – 16 V: GO TO 5.

5. CHECK DAYTIME RUNNING LIGHT REQUEST SIGNAL

With CONSULT
1. Select “DTRL REQ” in “Data Monitor” mode of “IPDM E/R” using CONSULT.
2. With operating the daytime running light ON condition, check the monitor status.

Monitor item	Condition		Monitor status
DTRL REQ	Daytime running light	ON condition	On
		OFF condition	Off

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".
NO >> Replace BCM. Refer to BCS-96, "Removal and Installation".

6. CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Remove daytime running light relay.
3. Disconnect IPDM E/R harness connector.
4. Check continuity between IPDM E/R harness connector and daytime running light relay harness connector.

IPDM E/R		Daytime running light relay		Continuity
Connector	Terminal	Connector	Terminal	
E126	85	E104	1	Existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".
NO >> Repair or replace harness.

7. CHECK DAYTIME RUNNING LIGHT POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Remove daytime running light relay.
3. Disconnect front combination lamp connector.
4. Check continuity between daytime running light relay harness connector and front combination lamp harness connector.

Daytime running light relay			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E104	6	E42	1	Existed
LH		3	E41		

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

8. CHECK DAYTIME RUNNING LIGHT GROUND CIRCUIT

Check continuity between front combination lamp harness connector and ground.

Front combination lamp			—	Continuity
Connector		Terminal		
RH	E42	4	Ground	Existed
LH	E41			

Is the inspection result normal?

YES >> Replace the corresponding front combination lamp. Refer to EXL-192, "Removal and Installation".
NO >> Repair or replace harness.

Component Inspection

INFOID:0000000013712066

1. CHECK DAYTIME RUNNING LIGHT RELAY

1. Turn ignition switch OFF.
2. Remove daytime running light relay.
3. Apply battery voltage to daytime running light relay between terminals 1 and 2.
4. Check continuity of daytime running light relay terminals.

Daytime running light relay		Condition		Continuity
Terminal				
5	3	Battery voltage	Apply	Existed
			Not apply	Not existed
7	6		Apply	Existed
			Not apply	Not existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace daytime running light relay.

BACK-UP LAMP CIRCUIT
VR30DDTT

VR30DDTT : Component Function Check

INFOID:0000000013712067

1.CHECK BACK-UP LAMP OPERATION

1. Turn ignition switch ON.
2. With operating the selector lever, check that the back-up lamp is turned ON.

Selector lever position: R : Back-up lamp ON
Selector lever position: Other than above : Back-up lamp OFF

Is the inspection result normal?

YES >> Back-up lamp circuit is normal.
NO >> Refer to EXL-163, "VR30DDTT : Diagnosis Procedure".

VR30DDTT : Diagnosis Procedure

INFOID:0000000013712068

1.CHECK FUSE

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

Unit	Fuse No.	Capacity
Back-up lamp relay	#11	5 A

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown (open).
NO >> GO TO 2.

2.CHECK BACK-UP LAMP RELAY POWER SUPPLY

1. Remove back-up lamp relay.
2. Check voltage between back-up lamp relay harness connector and ground.

+		-	Voltage (Approx.)
Back-up lamp relay			
Connector	Terminal		
M97	1	Ground	Battery voltage
	3		

Is the inspection result normal?

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

3.CHECK BACK-UP LAMP RELAY

Check back-up lamp relay. Refer to EXL-165, "VR30DDTT : Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace back-up lamp relay.

4.CHECK BACK-UP LAMP RELAY CONTROL SIGNAL OUTPUT

1. Install back-up lamp relay.
2. Turn ignition switch ON.
3. With operating the selector lever, check voltage between A/T assembly harness connector and ground.

+		-	Condition		Voltage (Approx.)
A/T assembly					
Connector	Terminal				
F2	7	Ground	Selector lever position	"R"	0 V
				Other than above	Battery voltage

Is the inspection result normal?

YES >> GO TO 7.
NO-1 >> Fixed at 0 V: GO TO 5.
NO-2 >> Fixed at battery voltage Replace control valve & TCM. Refer to TM-295, "Removal and Installation".

5. CHECK BACK-UP LAMP RELAY CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Remove back-up lamp relay.
3. Disconnect A/T assembly harness connector.
4. Check continuity between A/T assembly harness connector and back-up lamp relay harness connector.

A/T assembly		Back-up lamp relay		Continuity
Connector	Terminal	Connector	Terminal	
F2	7	M97	2	Existed

Is the inspection result normal?

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

6. CHECK JOINT CONNECTOR

1. Remove joint connector. Refer to TM-294, "Exploded View".
2. Check the continuity between joint connector terminals.

A/T assembly harness connector side	TCM harness connector side	Continuity
Terminal	Terminal	
7	7	Existed

Is the inspection result normal?

YES >> Replace control valve & TCM. Refer to TM-295, "Removal and Installation".
NO >> Replace joint connector.

7. CHECK BACK-UP LAMP POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Remove back-up lamp relay.
3. Disconnect rear combination lamp (trunk lid side) connector.
4. Check continuity between back-up lamp relay harness connector and rear combination lamp (trunk lid side) harness connector.

Back-up lamp relay			Rear combination lamp (trunk lid side)		Continuity
Connector		Terminal	Connector	Terminal	
RH	M97	5	T52	3	Existed
LH			T51		

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace harness.

8. CHECK BACK-UP LAMP GROUND CIRCUIT

Check continuity between rear combination lamp (trunk lid side) harness connector and ground.

Rear combination lamp (trunk lid side)			—	Continuity
Connector		Terminal		
RH	T52	4	Ground	Existed
LH	T51			

Is the inspection result normal?

YES >> Replace the corresponding rear combination lamp (trunk lid side). Refer to EXL-205, "REAR COMBINATION LAMP (TRUNK LID SIDE) : Removal and Installation".

NO >> Repair or replace harness.

VR30DDTT : Component Inspection

INFOID:0000000013712069

1.CHECK BACK-UP LAMP RELAY

1. Turn ignition switch OFF.
2. Remove back-up lamp relay.
3. Apply battery voltage to back-up lamp relay between terminals 1 and 2.
4. Check continuity of back-up lamp relay terminals.

Back-up lamp relay		Condition		Continuity
Terminal				
3	5	Battery voltage	Apply	Existed
			Not apply	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace back-up lamp relay.

2.0L TURBO GASOLINE ENGINE

2.0L TURBO GASOLINE ENGINE : Component Function Check

INFOID:0000000013712070

1.CHECK BACK-UP LAMP OPERATION

1. Turn ignition switch ON.
2. With operating the selector lever, check that the back-up lamp is turned ON.

Selector lever position: R : Back-up lamp ON

Selector lever position: Other than above : Back-up lamp OFF

Is the inspection result normal?

YES >> Back-up lamp circuit is normal.

NO >> Refer to EXL-165, "2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure".

2.0L TURBO GASOLINE ENGINE : Diagnosis Procedure

INFOID:0000000013712071

1.CHECK FUSE

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

Unit	Fuse No.	Capacity
Back-up lamp relay	#11	5 A
	#98	15 A

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown (open).

NO >> GO TO 2.

2.CHECK BACK-UP LAMP RELAY POWER SUPPLY

1. Remove back-up lamp relay.
2. Turn ignition switch ON.
3. Check voltage between back-up lamp relay harness connector and ground.

+		-	Voltage (Approx.)
Back-up lamp relay			
Connector	Terminal		
M97	1	Ground	Battery voltage
	3		

Is the inspection result normal?

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

3. CHECK BACK-UP LAMP RELAY

Check back-up lamp relay. Refer to EXL-167, "2.0L TURBO GASOLINE ENGINE : Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace back-up lamp relay.

4. CHECK BACK-UP LAMP RELAY CONTROL SIGNAL OUTPUT

1. Turn ignition switch OFF.
2. Install back-up lamp relay.
3. Turn ignition switch ON.
4. With operating the selector lever, check voltage between ECM harness connector and ground.

+		-	Condition		Voltage (Approx.)
ECM					
Connector	Terminal				
E200	142	Ground	Selector lever position	“R”	0 V
				Other than above	Battery voltage

Is the inspection result normal?

YES >> GO TO 6.
NO-1 >> Fixed at 0 V: GO TO 5.
NO-2 >> Fixed at battery voltage: Replace ECM. Refer to EC4-983, "Removal and Installation".

5. CHECK BACK-UP LAMP RELAY CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Remove back-up lamp relay.
3. Disconnect ECM harness connector.
4. Check continuity between ECM harness connector and back-up lamp relay harness connector.

ECM		Back-up lamp relay		Continuity
Connector	Terminal	Connector	Terminal	
E200	142	M97	2	Existed

Is the inspection result normal?

YES >> Replace ECM. Refer to EC4-983, "Removal and Installation".
NO >> Repair or replace harness.

6. CHECK BACK-UP LAMP POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Remove back-up lamp relay.
3. Disconnect rear combination lamp (trunk lid side) connector.
4. Check continuity between back-up lamp relay harness connector and rear combination lamp (trunk lid side) harness connector.

Back-up lamp relay			Rear combination lamp (trunk lid side)		Continuity
Connector		Terminal	Connector	Terminal	
RH	M97	5	T52	3	Existed
LH			T51		

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7. CHECK BACK-UP LAMP GROUND CIRCUIT

Check continuity between rear combination lamp (trunk lid side) harness connector and ground.

Rear combination lamp (trunk lid side)			—	Continuity
Connector		Terminal		
RH	T52	4	Ground	Existed
LH	T51			

Is the inspection result normal?

YES >> Replace the corresponding rear combination lamp (trunk lid side). Refer to EXL-205, "REAR COMBINATION LAMP (TRUNK LID SIDE) : Removal and Installation".
NO >> Repair or replace harness.

2.0L TURBO GASOLINE ENGINE : Component Inspection

INFOID:0000000013712072

1. CHECK BACK-UP LAMP RELAY

1. Turn ignition switch OFF.
2. Remove back-up lamp relay.
3. Apply battery voltage to back-up lamp relay between terminals 1 and 2.
4. Check continuity of back-up lamp relay terminals.

Back-up lamp relay		Condition		Continuity
Terminal				
3	5	Battery voltage	Apply	Existed
			Not apply	Not existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace back-up lamp relay.

FRONT FOG LAMP CIRCUIT

Component Function Check

INFOID:0000000013712073

1.CHECK FRONT FOG LAMP OPERATION

With CONSULT
1. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R” using CONSULT.
2. With operating the test items, check that the front fog lamp is turned ON.

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

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

Is the measurement normal?

YES >> Front fog lamp circuit is normal.
NO >> Refer to EXL-168, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013712074

1.CHECK FUSE

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

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#57	15 A

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse is blown (open).
NO >> GO TO 2.

2.CHECK FRONT FOG LAMP POWER SUPPLY

With CONSULT
1. Turn ignition switch ON.
2. Select “EXTERNAL LAMPS” in “Active Test” mode of “IPDM E/R” using CONSULT.
3. With operating the test items, check the voltage between IPDM E/R harness connector and ground.

+			-	Test item		Voltage
IPDM E/R						
Connector		Terminal				
RH	E125	78	Ground	EXTERNAL LAMPS	Fog	9 – 16 V
					Off	0 – 1 V
LH		79			Fog	9 – 16 V
					Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".

3.CHECK FRONT FOG LAMP POWER SUPPLY CIRCUIT

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

IPDM E/R			Front fog lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E125	78	E16	1	Existed
LH		79	E15		

Is the inspection result normal?

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

4. CHECK FRONT FOG LAMP GROUND CIRCUIT

Check continuity between front fog lamp harness connector and ground.

Front fog lamp			—	Continuity
Connector		Terminal		
RH	E16	2	Ground	Existed
LH	E15			

Is the inspection result normal?

YES >> Replace the corresponding front fog lamp. Refer to EXL-194, "Removal and Installation".
NO >> Repair or replace harness.

TURN SIGNAL LAMP CIRCUIT

Component Function Check

INFOID:0000000013712075

1.CHECK TURN SIGNAL LAMP

With CONSULT
1. Select “FLASHER” of “BCM” using CONSULT.
2. Select “FLASHER” in “Active Test” mode.
3. With operating the test items, check that the turn signal lamps blink.

RH : Turn signal lamps (RH) blink
LH : Turn signal lamps (LH) blink
Off : Turn signal lamps OFF

Is the inspection result normal?

YES >> Turn signal lamp circuit is normal.
NO >> Refer to EXL-170, "Diagnosis Procedure".

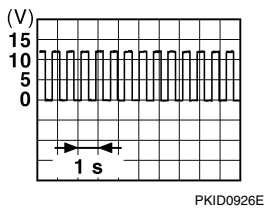
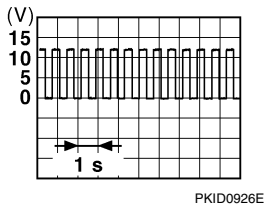
Diagnosis Procedure

INFOID:0000000013712076

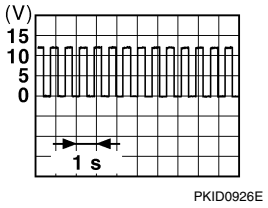
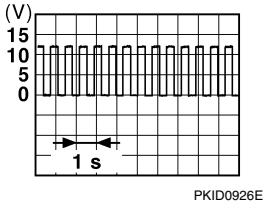
1.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

With CONSULT
1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Select “FLASHER” of “BCM” using CONSULT.
4. Select “FLASHER” in “Active Test” mode.
5. With operating the test items, check voltage between BCM harness connector and ground.

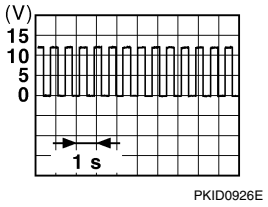
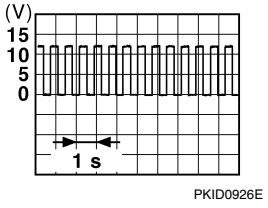
Front turn signal lamp

+			-	Test item		Voltage
BCM						
Connector		Terminal				
RH	M16	105	Ground	FLASHER	RH	 PKID0926E
					Off	0 V
LH		117			LH	 PKID0926E
					Off	0 V

Side turn signal lamp

+			-	Test item		Voltage
BCM						
Connector		Terminal				
RH	M16	106	Ground	FLASHER	RH	 PKID0926E
					Off	0 V
LH		118			LH	 PKID0926E
					Off	0 V

Rear turn signal lamp

+			-	Test item		Voltage
BCM						
Connector		Terminal				
RH	M15	92	Ground	FLASHER	RH	 PKID0926E
					Off	0 V
LH		103			LH	 PKID0926E
					Off	0 V

Is the inspection result normal?

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

2. CHECK TURN SIGNAL LAMP POWER SUPPLY CIRCUIT (SHORT)

1. Turn ignition switch OFF.
2. Disconnect the following connectors.
- BCM
- Front combination lamp
- Door mirror
- Rear combination lamp (body side)
3. Check continuity between BCM harness connector and ground.

Front turn signal lamp

BCM			—	Continuity
Connector		Terminal		
RH	M16	105	Ground	Not existed
LH		117		

Side turn signal lamp

BCM			—	Continuity
Connector		Terminal		
RH	M16	106	Ground	Not existed
LH		118		

Rear turn signal lamp

BCM			—	Continuity
Connector		Terminal		
RH	M15	92	Ground	Not existed
LH		103		

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-96, "Removal and Installation".
NO >> Repair or replace harness.

3. CHECK TURN SIGNAL LAMP POWER SUPPLY CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector and front combination lamp, door mirror or rear combination lamp (body side) harness connector.

Front turn signal lamp

BCM			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	M16	105	E42	6	Existed
LH		117	E41		

Side turn signal lamp (without automatic drive positioner)

BCM			Door mirror		Continuity
Connector		Terminal	Connector	Terminal	
RH	M16	106	D67	10	Existed
LH		118	D64		

Side turn signal lamp (with automatic drive positioner)

BCM			Door mirror		Continuity
Connector		Terminal	Connector	Terminal	
RH	M16	106	D66	10	Existed
LH		118	D63		

Rear turn signal lamp

BCM			Rear combination lamp (body side)		Continuity
Connector		Terminal	Connector	Terminal	
RH	M15	92	B23	3	Existed
LH		103	B22		

Is the inspection result normal?

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

4. CHECK TURN SIGNAL LAMP GROUND CIRCUIT

Check continuity between front combination lamp, door mirror or rear combination lamp (body side) harness connector and ground.

Front turn signal lamp

Front combination lamp		Terminal	—	Continuity
Connector				
RH	E42	4	Ground	Existed
LH	E41			

Side turn signal lamp (without automatic drive positioner)

Door mirror		Terminal	—	Continuity
Connector				
RH	D67	9	Ground	Existed
LH	D64			

Side turn signal lamp (with automatic drive positioner)

Door mirror		Terminal	—	Continuity
Connector				
RH	D66	9	Ground	Existed
LH	D63			

Rear turn signal lamp

Rear combination lamp (body side)		Terminal	—	Continuity
Connector				
RH	B23	4	Ground	Existed
LH	B22			

Is the inspection result normal?

YES >> Replace the corresponding turn signal lamp. Refer to EXL-192, "Removal and Installation" (front turn signal lamp), EXL-195, "Removal and Installation" (side turn signal lamp) or EXL-203, "REAR COMBINATION LAMP (BODY SIDE) : Removal and Installation" (rear turn signal lamp)

NO >> Repair or replace harness.

OPTICAL SENSOR

Component Function Check

INFOID:0000000013712077

1.CHECK OPTICAL SENSOR SIGNAL BY CONSULT

With CONSULT
1. Turn ignition switch ON.
2. Select “HEAD LAMP” of “BCM” using CONSULT.
3. Select “OPTI SEN (DTCT)” in “Data Monitor” mode.
4. Turn lighting switch AUTO.
5. With the optical sensor illuminating, check the monitor status.

Monitor item	Condition	Voltage (Approx.)
OPTI SEN (DTCT)	Bright outside of the vehicle	Close to 5 V
	Dark outside of the vehicle	Close to 0 V

Is the inspection result normal?

YES >> Optical sensor is normal.
NO >> Refer to EXL-174, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013712078

1.CHECK OPTICAL SENSOR POWER SUPPLY INPUT

1. Turn ignition switch ON.
2. Turn lighting switch AUTO.
3. Check voltage between optical sensor harness connector and ground.

+		-	Voltage
Optical sensor			
Connector	Terminal		
M91	1	Ground	4.65 – 5.5 V

Is the inspection result normal?

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

2.CHECK OPTICAL SENSOR GROUND INPUT

Check voltage between optical sensor harness connector and ground.

+		-	Voltage
Optical sensor			
Connector	Terminal		
M91	3	Ground	0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 6.

3.CHECK OPTICAL SENSOR SIGNAL OUTPUT

With illuminating the optical sensor, check voltage between optical sensor harness connector and ground.

+		-	Condition	Voltage (Approx.)
Optical sensor				
Connector	Terminal			
M91	2	Ground	When bright outside of the vehicle	Close to 5 V
			When dark outside of the vehicle	Close to 0 V

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace optical sensor. Refer to EXL-196, "Removal and Installation".

4. CHECK OPTICAL SENSOR POWER SUPPLY CIRCUIT (OPEN)

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

Optical sensor		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M91	1	M13	3	Existed

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5. CHECK OPTICAL SENSOR POWER SUPPLY CIRCUIT (SHORT)

Check continuity between optical sensor harness connector and ground.

Optical sensor		—	Continuity
Connector	Terminal		
M91	1	Ground	Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-96, "Removal and Installation".
NO >> Repair or replace harness.

6. CHECK OPTICAL SENSOR GROUND CIRCUIT

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

Optical sensor		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M91	3	M13	17	Existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-96, "Removal and Installation".
NO >> Repair or replace harness.

7. CHECK OPTICAL SENSOR SIGNAL CIRCUIT (OPEN)

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

Optical sensor		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M91	2	M13	4	Existed

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace harness.

8. CHECK OPTICAL SENSOR SIGNAL CIRCUIT (SHORT)

Check continuity between optical sensor harness connector and ground.

Optical sensor		—	Continuity
Connector	Terminal		
M91	2	Ground	Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-96, "Removal and Installation".
NO >> Repair or replace harness.

HAZARD SWITCH

Component Function Check

INFOID:0000000013712079

1.CHECK HAZARD SWITCH SIGNAL BY CONSULT

With CONSULT
1. Turn ignition switch ON.
2. Select “FLASHER” of “BCM” using CONSULT.
3. Select “HAZARD SW” in “Data Monitor” mode.
4. With 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?

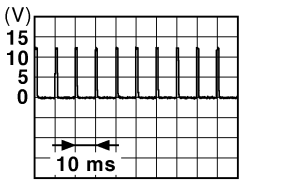
YES >> Hazard switch circuit is normal.
NO >> Refer to EXL-177, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013712080

1.CHECK HAZARD SWITCH SIGNAL INPUT

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

+		-	Voltage
Integral switch			
Connector	Terminal		
M1	8	Ground	 JPMIA0012GB 1.1 V

Is the inspection result normal?

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

2.CHECK HAZARD SWITCH SIGNAL CIRCUIT (OPEN)

1. Disconnect BCM connector.
2. Check continuity between integral switch harness connector and BCM harness connector.

Integral switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M1	8	M13	36	Existed

Is the inspection result normal?

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

3.CHECK HAZARD SWITCH SIGNAL CIRCUIT (SHORT)

Check continuity between integral switch harness connector and ground.

Integral switch		—	Continuity
Connector	Terminal		
M1	8	Ground	Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-96, "Removal and Installation".
NO >> Repair or replace harness.

4. CHECK HAZARD SWITCH GROUND CIRCUIT

Check continuity between integral switch harness connector and ground.

Integral switch		—	Continuity
Connector	Terminal		
M1	13	Ground	Existed

Is the inspection result normal?

YES >> Replace integral switch. Refer to AV-435, "Removal and Installation".
NO >> Repair or replace harness.

SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000013712081

NOTE:
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 (HI) is not turned ON	One side	• Headlamp (HI) signal circuit • Front combination lamp - LED [Headlamp (HI)] - LED headlamp control module - Harness • IPDM E/R	Headlamp (HI) circuit Refer to EXL-150, "Component Function Check".
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to EXL-183, "Diagnosis Procedure".	
High beam indicator lamp is not turned ON [Headlamp (HI) is turned ON]		Combination meter	• Combination meter Data monitor "HI-BEAM IND" • BCM (HEAD LAMP) Active test "HEAD LAMP"
Headlamp (LO) is not turned ON	One side	Front combination lamp • LED [Headlamp (LO)] • LED headlamp control module • Harness	Replace front combination lamp Refer to EXL-192, "Removal and Installation".
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-184, "Diagnosis Procedure".	
Headlamp (HI) and (LO) is not turned ON		• Fuse • Headlamp power supply/ground circuit • Front combination lamp - LED headlamp control module - Harness • IPDM E/R	LED headlamp Refer to EXL-148, "Component Function Check".
Each lamp is not turned ON/OFF with lighting switch AUTO		• Combination switch input/output signal circuit • Combination switch • BCM	Combination switch Refer to BCS-94, "Symptom Table".
		• Optical sensor power supply/ground/signal circuit • Optical sensor • BCM	Optical sensor Refer to EXL-174, "Component Function Check".
Parking lamp is not turned ON		• Fuse • Parking lamp power supply/ground circuit • Front combination lamp - LED (Parking lamp) - Control circuit • IPDM E/R	Parking lamp circuit Refer to EXL-154, "Component Function Check".
Front side marker lamp is not turned ON [Parking lamp is turned ON]		Front combination lamp • LED (Front side marker lamp) • Control circuit	Replace front combination lamp Refer to EXL-192, "Removal and Installation".

Symptom		Possible cause	Inspection item
Rear side marker lamp is not turned ON [Tail lamp is turned ON]		Rear combination lamp (body side) • LED (Rear side marker lamp) • Harness	Replace rear combination lamp (body side) Refer to EXL-203, "REAR COMBINATION LAMP (BODY SIDE) : Removal and Installation".
Tail lamp is not turned ON		• Fuse • Tail lamp power supply/ground circuit • Rear combination lamp - LED (Tail lamp) - Harness • IPDM E/R	Tail lamp circuit Refer to EXL-156, "Component Function Check".
License plate lamp is not turned ON [Tail lamp is turned ON]		• License plate lamp power supply/ground circuit • License plate lamp • IPDM E/R	License plate lamp circuit Refer to EXL-159, "Component Function Check".
Parking lamp, license plate lamp, side marker lamp and tail lamp are not turned ON		**Symptom diagnosis** “PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON” Refer to EXL-185, "Diagnosis Procedure".	
Position lamp indicator is not turned ON (Parking lamp, license plate lamp, side marker lamp and tail lamp are turned ON)		Combination meter	• Combination meter Data monitor “LIGHT IND” • BCM (HEAD LAMP) Active test “TAIL LAMP”
Daytime running light is not turned ON		• Fuse • Daytime running light relay • Daytime running light relay power supply/control signal circuit • Daytime running light power supply/ground circuit • Front combination lamp - LED (Daytime running light) - Control circuit - Harness • IPDM E/R • BCM • Combination meter	• Daytime running light circuit Refer to EXL-160, "Component Function Check". • BCM (HEAD LAMP) Data monitor “ENGINE STATE” • Combination meter Data monitor “PKB SW”
Back-up lamp is not turned ON	VR30DDTT engine models	• Fuse • Back-up lamp relay • Back-up lamp relay power supply/control signal circuit • Back-up lamp power supply/ground circuit • Rear combination lamp (trunk lid side) - LED (Back-up lamp) - Harness • Joint connector • TCM	Back-up lamp circuit Refer to EXL-163, "VR30DDTT : Component Function Check".
	2.0L turbo gasoline engine models	• Fuse • Back-up lamp relay • Back-up lamp relay power supply/control signal circuit • Back-up lamp power supply/ground circuit • Rear combination lamp (trunk lid side) - LED (Back-up lamp) - Harness • ECM	Back-up lamp circuit Refer to EXL-165, "2.0L TURBO GASOLINE ENGINE : Component Function Check".

Symptom		Possible cause	Inspection item
Turn signal lamp does not blink	Indicator lamp is normal (Applicable side performs high flasher activation)	Front turn signal lamp • Front turn signal lamp power supply/ground circuit • Front combination lamp - LED (Front turn signal lamp) - Control circuit - Harness • BCM Side turn signal lamp • Side turn signal lamp power supply/ground circuit • Door mirror - LED (Side turn signal lamp) • BCM Rear turn signal lamp • Rear turn signal lamp power supply/ground circuit • Rear combination lamp (body side) - LED (Rear turn signal lamp) - Harness • BCM	Turn signal lamp circuit Refer to EXL-170, "Component Function Check".
	Indicator lamp is included	• Combination switch input/output signal circuit • Combination switch • BCM	Combination switch Refer to BCS-94, "Symptom Table".
Turn signal indicator lamp does not blink (Turn signal i lamp is normal)	One side	Combination meter	—
	Both sides (Always)	• Turn indicator signal • BCM • Combination meter	• Combination meter Data monitor “TURN IND” • BCM (FLASHER) Active test “FLASHER”
	Both sides (Only when activating hazard warning lamp with ignition switch OFF)	• Combination meter power supply/ground circuit • Combination meter	Combination meter Power supply and ground circuit Refer to MWI-125, "COMBINATION METER : Diagnosis Procedure".
• Hazard warning lamp does not activate (Turn signal is normal) • Hazard warning lamp continues activating		• Hazard switch signal/ground circuit • Integral switch - Hazard switch • BCM	Hazard switch Refer to EXL-177, "Component Function Check".
Front fog lamp is not turned ON	One side	• Front fog lamp power supply/ground circuit • Front fog lamp • IPDM E/R	Front fog lamp circuit Refer to EXL-168, "Component Function Check".
	Both sides	**Symptom diagnosis** “BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON” Refer to EXL-186, "Diagnosis Procedure".	
Front fog lamp indicator lamp is not turned ON (Front fog lamp is turned ON)		Combination meter	• Combination meter Data monitor “FR FOG IND” • BCM (HEAD LAMP) Active test “FR FOG LAMP”
Headlamp auto aiming does not activate (AFS is normal)		• Aiming motor drive signal circuit • Front combination lamp - Headlamp aiming motor • AFS control unit	Headlamp levelizer circuit Refer to EXL-152, "Component Function Check".

NORMAL OPERATING CONDITION

Description

INFOID:0000000013712082

LED HEADLAMP

- LED brightness and color may slightly change until the temperature becomes stable. This is not malfunction.
- Illumination time lag may occur between right and left. This is not malfunction.
- Brightness may be reduced due to aged deterioration of LED.

AUTO LIGHT SYSTEM

The headlamp may not be turned ON/OFF immediately after passing dark area or bright area (short tunnel, sky bridge, shadowed area etc.) while using the auto light system. This causes for the control difference. This is normal.

HIGH BEAM ASSIST SYSTEM

When driving while using the high beam assist system, the headlamp beam may not switch or the beam switching timing may vary according to the ambient environment (the condition of the vehicle ahead, the condition of the road, the position of the vehicle, etc.).This is due to control differences and is not a malfunction.

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description

INFOID:0000000013712083

Both side headlamps (HI) are not turned ON when setting to the lighting switch HI or PASS.

Diagnosis Procedure

INFOID:0000000013712084

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to BCS-94, "Symptom Table".

Is the inspection result normal?

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

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

With CONSULT

1. Select “HL HI REQ” in “Data Monitor” mode of “IPDM E/R” using CONSULT.
2. With operating the lighting switch, check the monitor status.

Monitor item	Condition		Monitor status
HL HI REQ	Lighting switch (2ND)	HI or PASS	On
		LO	Off

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".
NO >> Replace BCM. Refer to BCS-96, "Removal and Installation".

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description

INFOID:0000000013712085

Both side headlamps (LO) are not turned ON in any condition.

Diagnosis Procedure

INFOID:0000000013712086

1.CHECK COMBINATION SWITCH

Check combination switch. Refer to BCS-94, "Symptom Table".

Is the inspection result normal?

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

2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

With CONSULT

1. Select “HL LO REQ” in “Data Monitor” mode of “IPDM E/R” using CONSULT.
2. With 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 >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".
NO >> Replace BCM. Refer to BCS-96, "Removal and Installation".

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON

Description

INFOID:0000000013712087

The parking, license plate, side marker and tail lamps are not turned ON in any condition.

Diagnosis Procedure

INFOID:0000000013712088

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to BCS-94, "Symptom Table".

Is the combination switch normal?

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

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

With CONSULT

1. Select “TAIL & CLR REQ” in “Data Monitor” mode of “IPDM E/R” using CONSULT.
2. With 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 result normal?

YES >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".
NO >> Replace BCM. Refer to BCS-96, "Removal and Installation".

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description

INFOID:0000000013712089

Both side front fog lamps are not turned ON in any condition.

Diagnosis Procedure

INFOID:0000000013712090

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to BCS-94, "Symptom Table".

Is the inspection result normal?

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

2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

With CONSULT

1. Select “FR FOG REQ” in “Data Monitor” mode of “IPDM E/R” using CONSULT.
2. With operating the front fog lamp switch, check the monitor status.

Monitor item	Condition		Monitor status
FR FOG REQ	Front fog lamp switch (With lighting switch 1ST)	ON	On
		OFF	Off

Is the item status normal?

YES >> Perform the front fog lamp diagnosis. Refer to EXL-168, "Diagnosis Procedure".
NO >> Replace BCM. Refer to BCS-96, "Removal and Installation".

PERIODIC MAINTENANCE

HEADLAMP AIMING ADJUSTMENT

Description

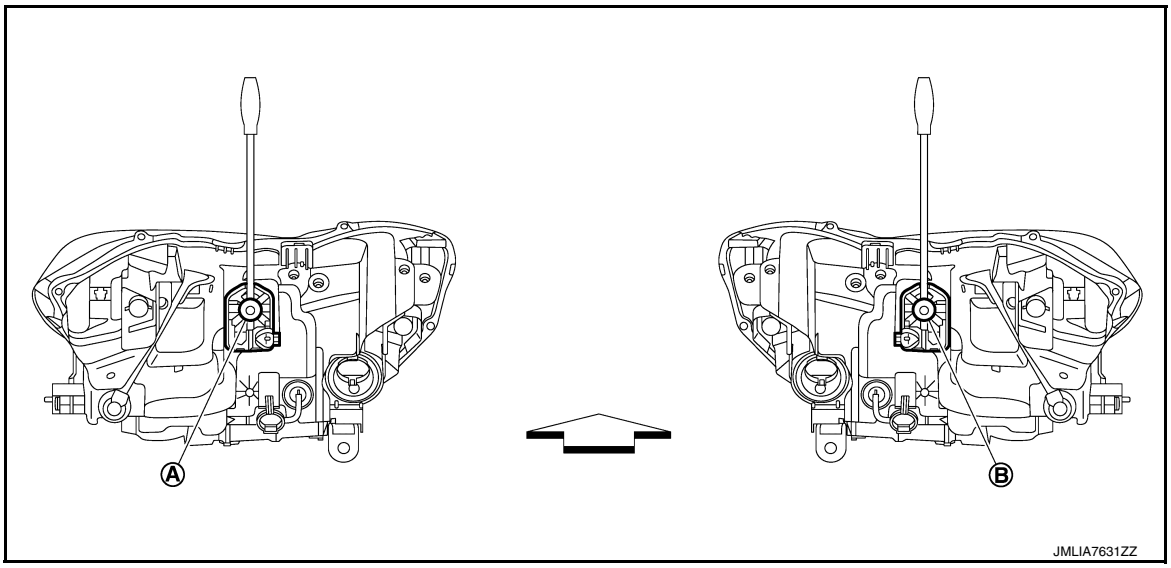
INFOID:0000000013712091

PREPARATION BEFORE ADJUSTING

NOTE:
- For details, refer to the regulations in your own country.
- Perform aiming if the vehicle front body has been repaired and/or the headlamp assembly has been replaced.

Before performing aiming adjustment, check the following.
- Adjust the tire pressure to the specification.
- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the luggage room.)
  NOTE:
  Never remove the temporary tire, jack and on-vehicle tool.
- Wipe out dirt on the headlamp.
  CAUTION:
  Never use organic solvent (thinner, gasoline etc.).
- Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



Ⓐ Headlamp LH (UP/DOWN) adjustment screw

Ⓑ Headlamp RH (UP/DOWN) adjustment screw

⇦ : Vehicle front

Adjustment screw		Screwdriver rotation	Facing direction
Ⓐ	Headlamp LH (UP/DOWN)	Clockwise	DOWN
		Counterclockwise	UP
Ⓑ	Headlamp RH (UP/DOWN)	Clockwise	DOWN
		Counterclockwise	UP

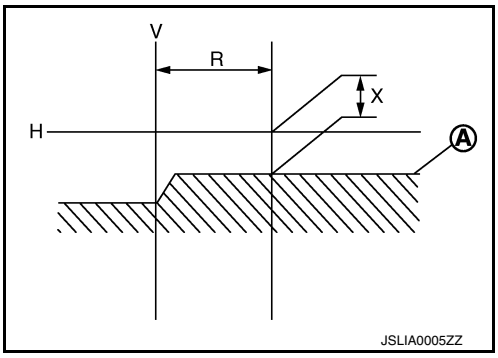
For aiming adjustment procedure, refer to EXL-188, "Aiming Adjustment Procedure".

Aiming Adjustment Procedure

INFOID:0000000013712092

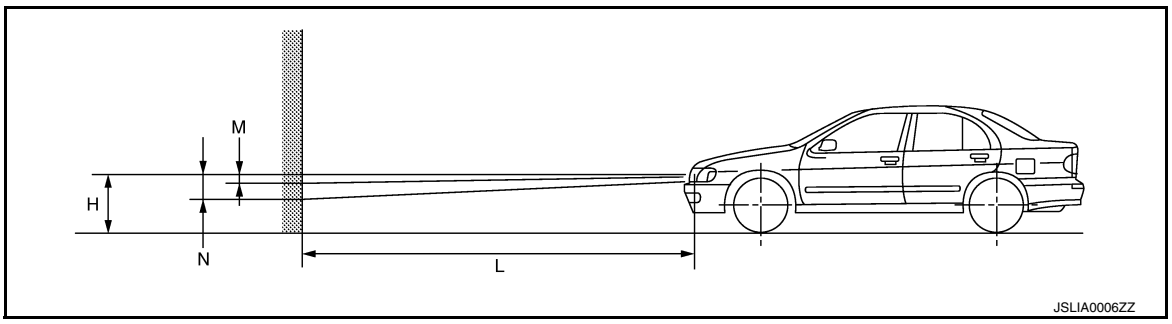
1. Place the screen.
   NOTE:
   • Stop the vehicle facing the wall.
   • Place the board on a plain road vertically.
2. Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the headlamp center and the screen.
3. Start the engine. Turn the headlamp (LO) ON.
   NOTE:
   Shut off the headlamp light with the board to prevent from illuminating the adjustment screen.
   CAUTION:
   Never cover the lens surface with tape etc. The lens is made of rejin.
4. Measure the distance (X) between the horizontal center line of headlamp (H) and the cutoff line Ⓐ within the light axis measurement range (R) from the vertical center line ahead of headlamp (V).
   Low beam distribution on the screen

   Light axis measurement range (R) : 350 ± 175 mm (13.78 ± 6.89 in)



5. Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

Side view



Distance from headlamp center to screen (L) : 10 m (32.8 ft)

unit: mm (in)

Horizontal center line of headlamp (H)	Highest cutoff line height (M)	Lowest cutoff line height (N)
700 (27.56) or less	4 (0.16)	30 (1.18)
701 (27.60) – 800 (31.50)	4 (0.16)	30 (1.18)
801 (31.54) or more	17 (0.67)	44 (1.73)

FRONT FOG LAMP AIMING ADJUSTMENT

Description

INFOID:0000000013712093

PREPARATION BEFORE ADJUSTING

NOTE:
For details, refer to the regulations in your own country.

Before performing aiming adjustment, check the following.

- Adjust the tire pressure to the specification.
- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the luggage room.)
  NOTE:
  Never remove the temporary tire, jack and on-vehicle tool.
- Wipe out dirt on the headlamp.
  CAUTION:
  Never use organic solvent (thinner, gasoline etc.).
- Ride alone on the driver seat.

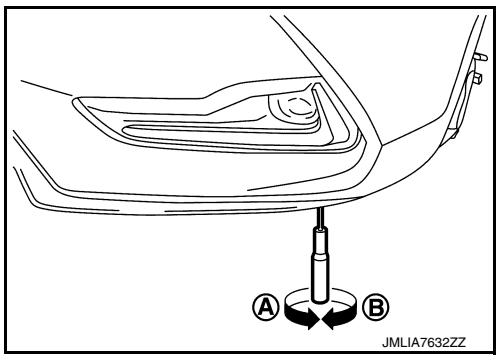
AIMING ADJUSTMENT SCREW

- Turn the aiming adjusting screw for adjustment.

  Ⓐ: DOWN

  Ⓑ: UP

- For the position and direction of the adjusting screw, refer to the figure.
  NOTE:
  A screwdriver or hexagonal wrench [6 mm (0.24 in)] can be used for adjustment.



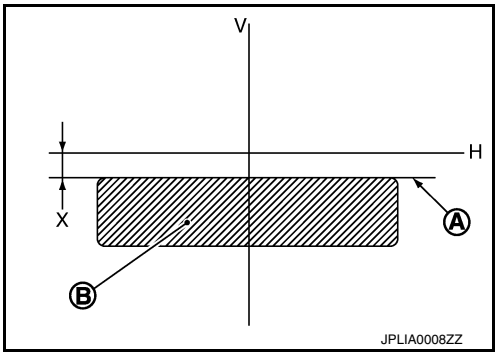
For aiming adjustment procedure, refer to EXL-189, "Aiming Adjustment Procedure".

Aiming Adjustment Procedure

INFOID:0000000013712094

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 10 m (32.8 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:
   Never cover the lens surface with a tape etc. The lens is made of resin.
4. Adjust the cutoff line height Ⓐ with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and Ⓐ becomes 100 mm (3.94 in).

Front fog lamp light distribution on the screen



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

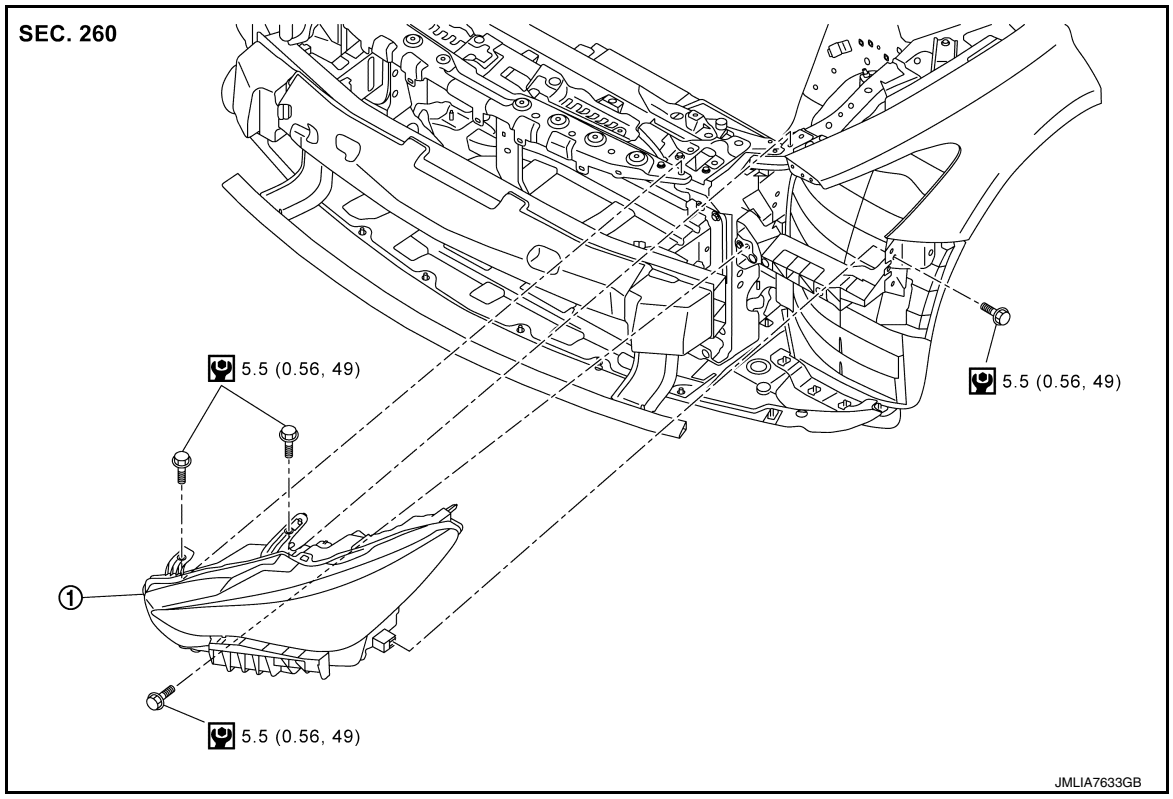
REMOVAL AND INSTALLATION

FRONT COMBINATION LAMP

Exploded View

INFOID:0000000013712095

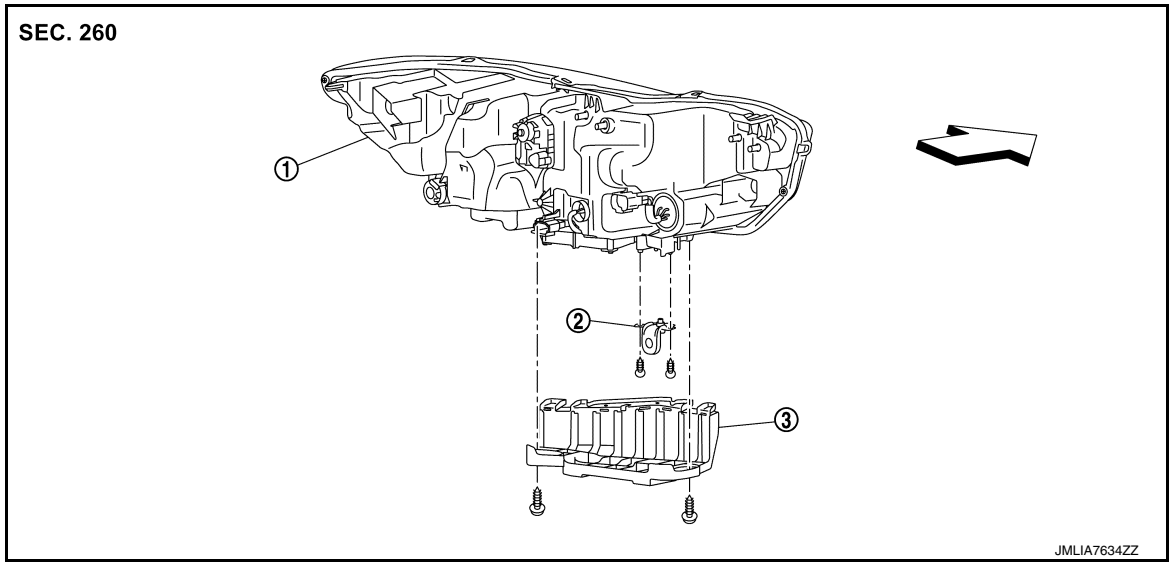
REMOVAL



① Front combination lamp

: N·m (kg-m, in-lb)

DISASSEMBLY



① Front combination lamp ② Front combination lamp bracket A ③ Front combination lamp bracket B

⇦ : Vehicle front

Removal and Installation

INFOID:0000000013712096

CAUTION:
Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to EXL-5, "Precautions for Removing Battery Terminal".

REMOVAL

1. Remove front bumper fascia. Refer to EXT-23, "Removal and Installation".
2. Remove front combination lamp mounting bolts.
3. Pull out front combination lamp forward the vehicle.
4. Disconnect front combination lamp harness connectors and fixing clips.
5. Remove front combination lamp.

INSTALLATION

Note the following item, and then install in the reverse order of removal.

CAUTION:
After installation, perform aiming adjustment. Refer to EXL-187, "Description".

Replacement

INFOID:0000000013712097

HEADLAMP (HI BEAM)

CAUTION:
Replacement of a single part is not possible due to the adoption of LED. For replacement, replace front combination lamp as a set. Refer to EXL-192, "Removal and Installation".

HEADLAMP (LO BEAM)

CAUTION:
Replacement of a single part is not possible due to the adoption of LED. For replacement, replace front combination lamp as a set. Refer to EXL-192, "Removal and Installation".

DAYTIME RUNNING LIGHT

CAUTION:
Replacement of a single part is not possible due to the adoption of LED. For replacement, replace front combination lamp as a set. Refer to EXL-192, "Removal and Installation".

PARKING LAMP

CAUTION:
Replacement of a single part is not possible due to the adoption of LED. For replacement, replace front combination lamp as a set. Refer to EXL-192, "Removal and Installation".

FRONT TURN SIGNAL LAMP

CAUTION:
Replacement of a single part is not possible due to the adoption of LED. For replacement, replace front combination lamp as a set. Refer to EXL-192, "Removal and Installation".

FRONT SIDE MARKER LAMP

CAUTION:
Replacement of a single part is not possible due to the adoption of LED. For replacement, replace front combination lamp as a set. Refer to EXL-192, "Removal and Installation".

Disassembly and Assembly

INFOID:0000000013712098

DISASSEMBLY

1. Remove headlamp bracket A mounting screws, and then remove headlamp bracket A from headlamp assembly.
2. Remove headlamp bracket B mounting screws, and then remove headlamp bracket B from headlamp assembly.

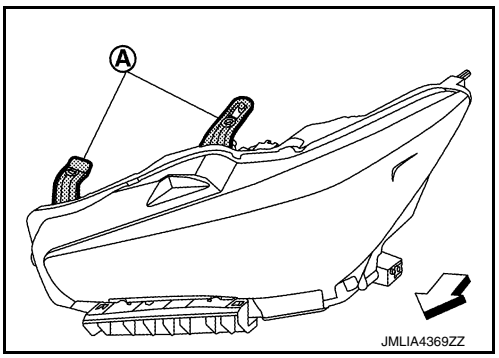
ASSEMBLY

Install in the reverse order of removal.

Installing service bracket

INFOID:0000000013712099

If only part Ⓐ as shown in the figure is damaged and front combination lamp housing itself is not damaged, repair can be completed easily by installing service brackets.



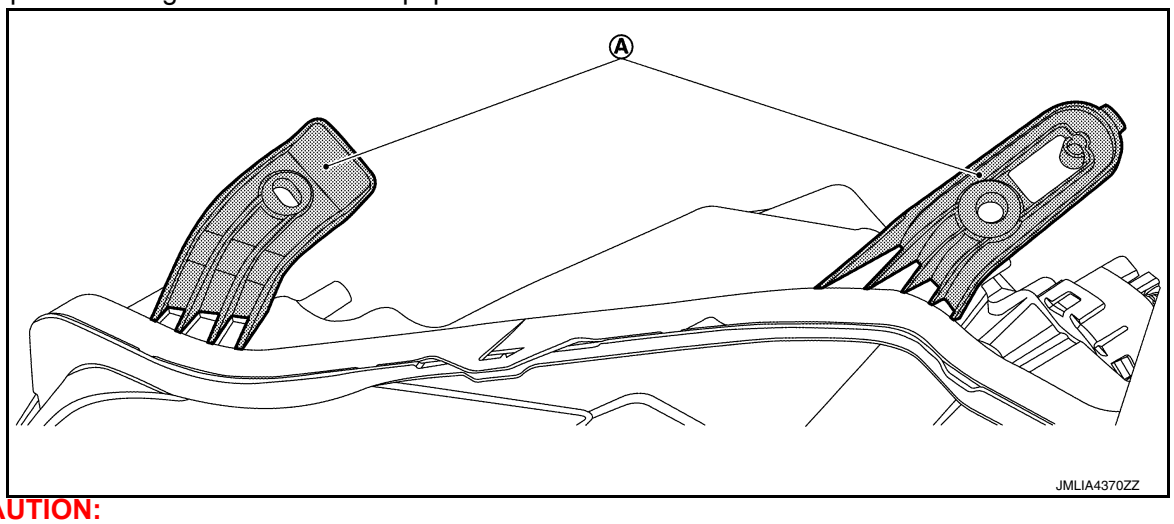
⇦ : Vehicle front

CAUTION:

- **Installation of service bracket is possible only if part Ⓐ is damaged.**
- **If front combination housing or other part of front combination lamp except part Ⓐ is damaged, replace front combination lamp assembly.**

REMOVAL

1. Remove front combination lamp. Refer to EXL-192, "Removal and Installation".
2. If part Ⓐ is damaged, cut the whole part from fixing section to the front combination lamp housing, then shape the cutting surface with sandpaper.

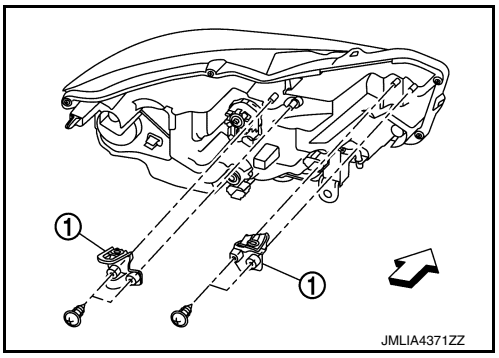


CAUTION:

Be careful to not shape the cutting surface more than necessary, and shape while adjusting with the new service brackets to be installed.

INSTALLATION

Install service brackets ① to front combination lamp housing with screws.

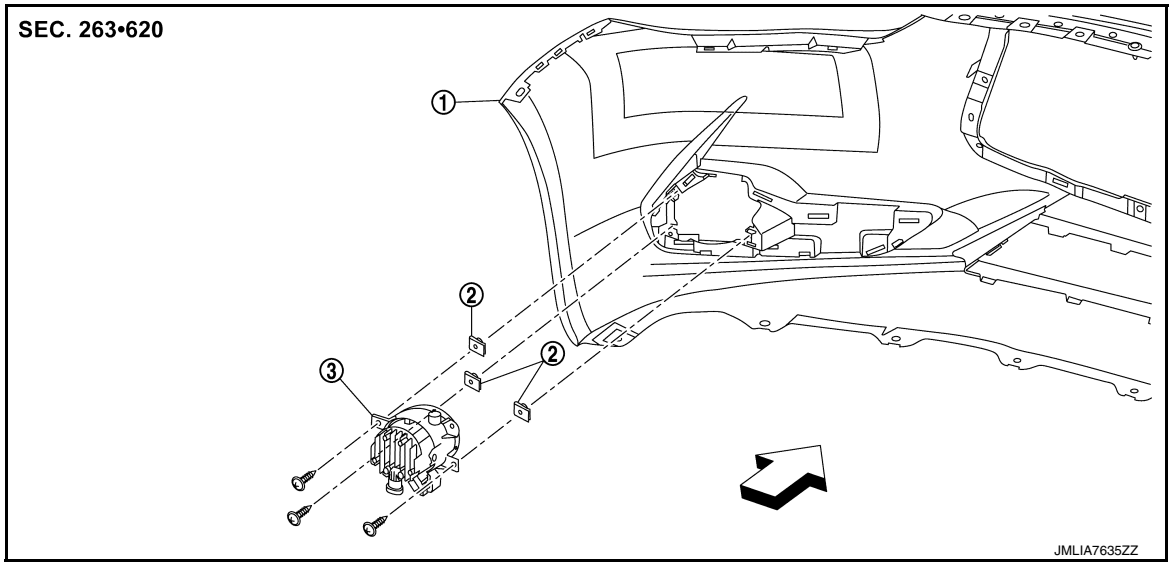


⇦ : Vehicle front

FRONT FOG LAMP

Exploded View

INFOID:0000000013712103



① Front bumper fascia ② U nut ③ Front fog lamp

⇦ : Vehicle front

Removal and Installation

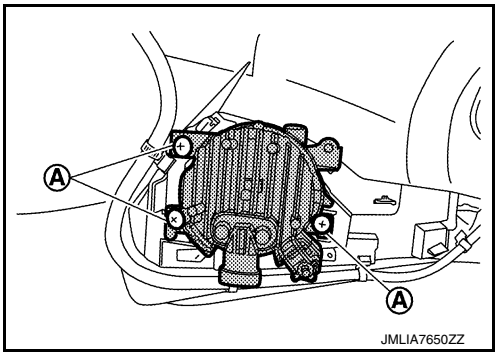
INFOID:0000000013712104

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to EXL-5, "Precautions for Removing Battery Terminal".

REMOVAL

1. Remove front bumper fascia. Refer to EXT-23, "Removal and Installation".
2. Remove front fog lamp fixing screws Ⓐ.



3. Remove front fog lamp from front bumper fascia.

INSTALLATION

Note the following item, and then install in the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to EXL-189, "Description".

Replacement

INFOID:0000000013712105

CAUTION:

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace front fog lamp assembly as a set. Refer to EXL-194, "Removal and Installation".

SIDE TURN SIGNAL LAMP

Exploded View

INFOID:0000000013712106

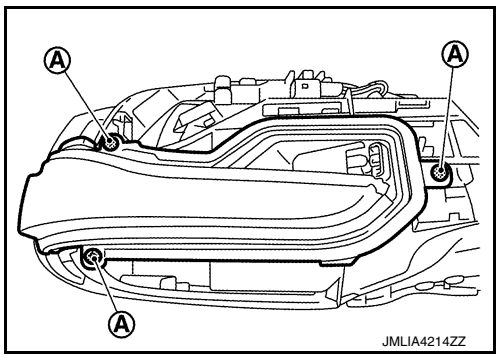
For exploded view of side turn signal lamp. Refer to MIR-50, "Exploded View".

Removal and Installation

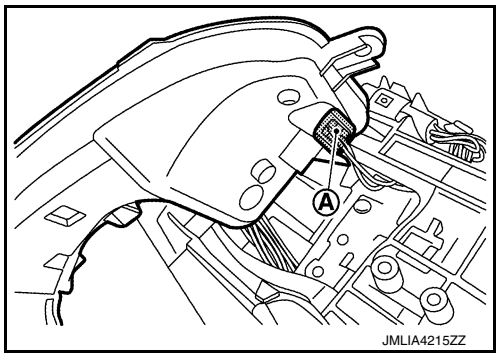
INFOID:0000000013712107

REMOVAL

1. Remove door mirror finisher. Refer to MIR-54, "DOOR MIRROR ASSEMBLY : Disassembly and Assembly".
2. Remove side turn signal lamp fixing screws Ⓐ.



3. Disconnect side turn signal lamp harness connector Ⓐ, and then remove side turn signal lamp.



INSTALLATION

Install in the reverse order of removal.

Replacement

INFOID:0000000013712108

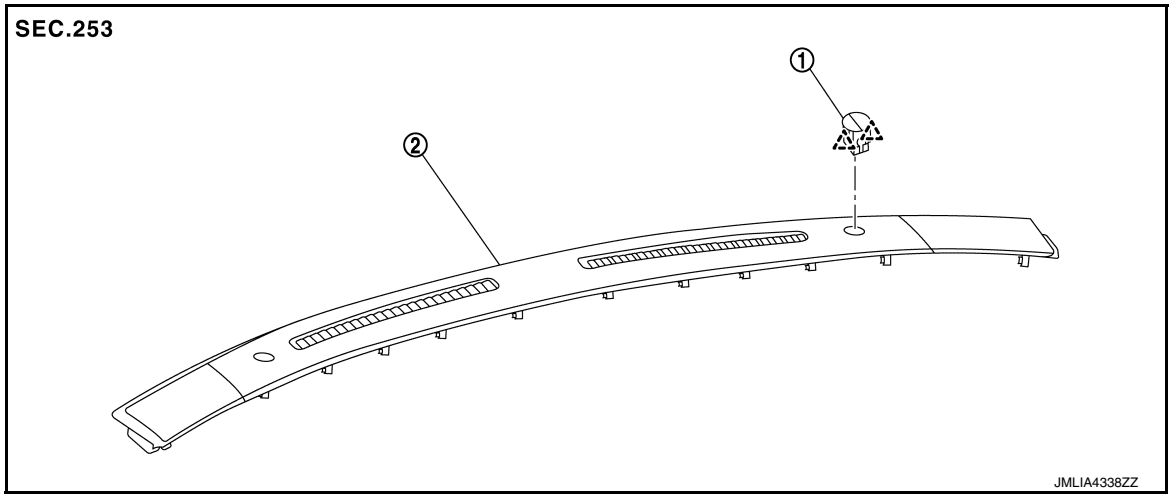
CAUTION:

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace side turn signal lamp as a set. Refer to EXL-195, "Removal and Installation".

OPTICAL SENSOR

Exploded View

INFOID:0000000013712109



1. Optical sensor
2. Front speaker grille

△ : Pawl

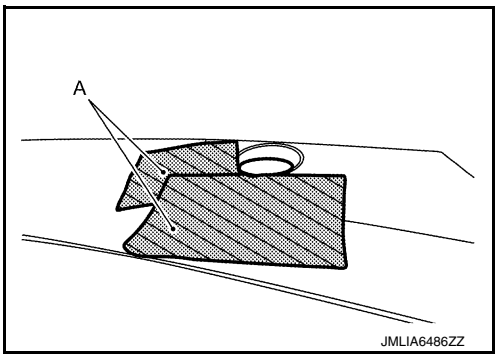
Removal and Installation

INFOID:0000000013712110

CAUTION:
Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to EXL-5, "Precautions for Removing Battery Terminal".

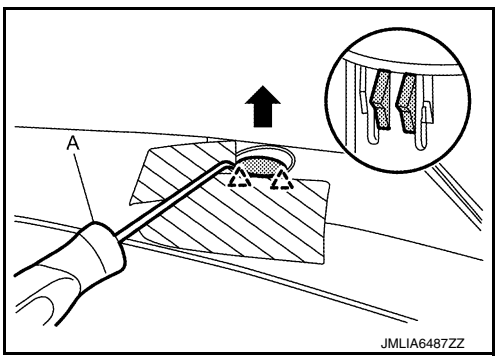
REMOVAL

1. Apply protective tapes (A) on the part to protect it from damage.



2. Disengage optical sensor fixing pawls using a remover tool (A).

△ : Pawl



3. Disconnect optical sensor harness connector, and then remove optical sensor.

INSTALLATION

Install in the reverse order of removal.

LIGHTING & TURN SIGNAL SWITCH

Removal and Installation

INFOID:0000000013712111

REMOVAL

Remove light & turn signal switch. Refer to BCS-97, "Removal and Installation".

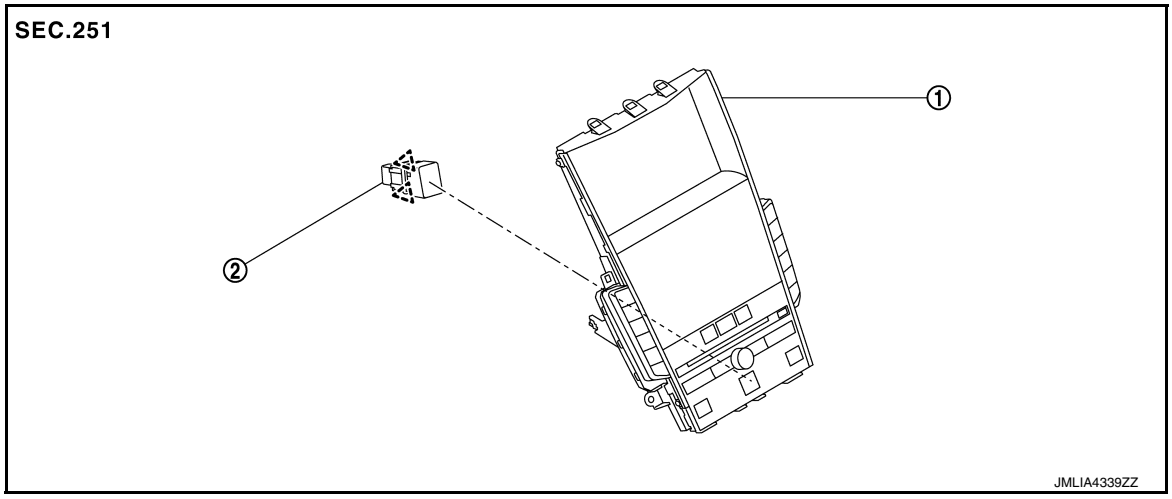
INSTALLATION

Install in the reverse order of removal.

HAZARD SWITCH

Exploded View

INFOID:0000000013712112



① Integral switch ② Hazard switch

: Pawl

Removal and Installation

INFOID:0000000013712113

REMOVAL

1. Remove integral switch. Refer to IP-13, "Removal and Installation".
2. Disengage fixing pawls, and then remove hazard switch from integral switch.

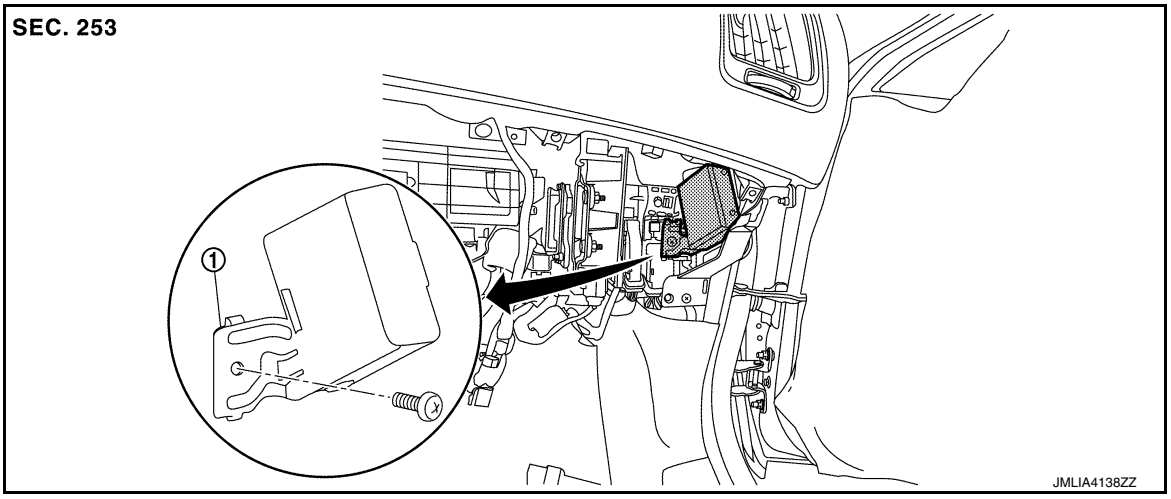
INSTALLATION

Install in the reverse order of removal.

AFS CONTROL UNIT

Exploded View

INFOID:0000000013712114



① AFS control unit

Removal and Installation

INFOID:0000000013712115

NOTE:
Before replacing AFS control unit, perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to EXL-124, "Description".

REMOVAL

1. Remove instrument lower panel RH. Refer to IP-13, "Removal and Installation".
2. Disconnect AFS control unit connector.
3. Remove AFS control unit mounting screw.
4. Remove AFS control unit.

INSTALLATION

Install in the reverse order of removal.

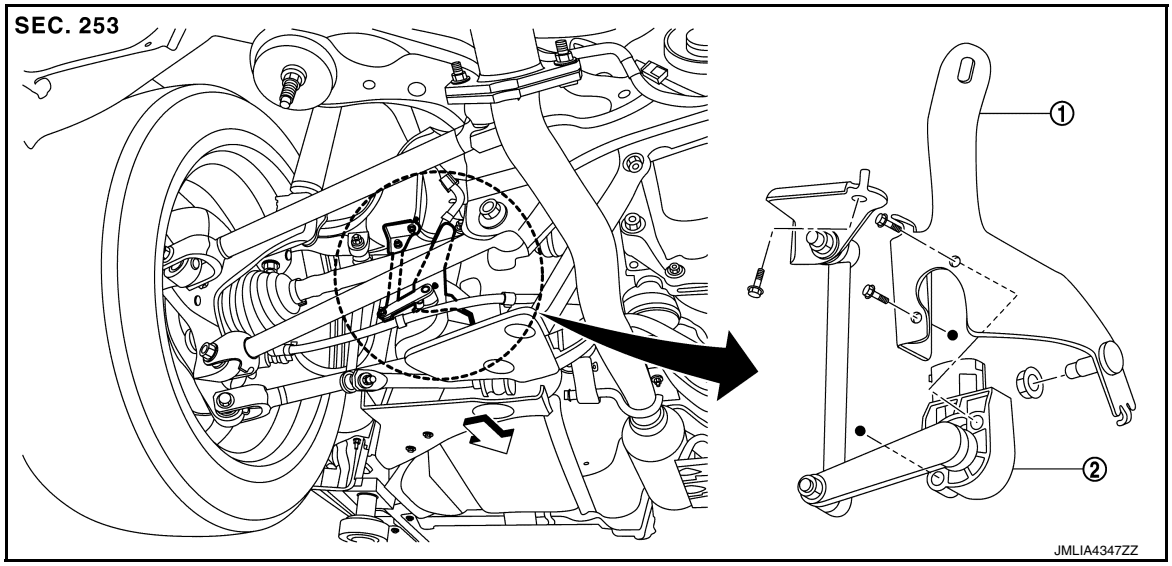
CAUTION:

- **Be sure to perform “WRITE CONFIGURATION” when replacing AFS control unit. Or not doing so, AFS control function does not operate normally. Refer to EXL-124, "Description".**
- **Be sure to perform “SENSOR INITIALIZE” when replacing AFS control unit. Refer to EXL-127, "Description".**

HEIGHT SENSOR

Exploded View

INFOID:0000000013712116



① Height sensor bracket ② Height sensor unit

⇦ : Vehicle front

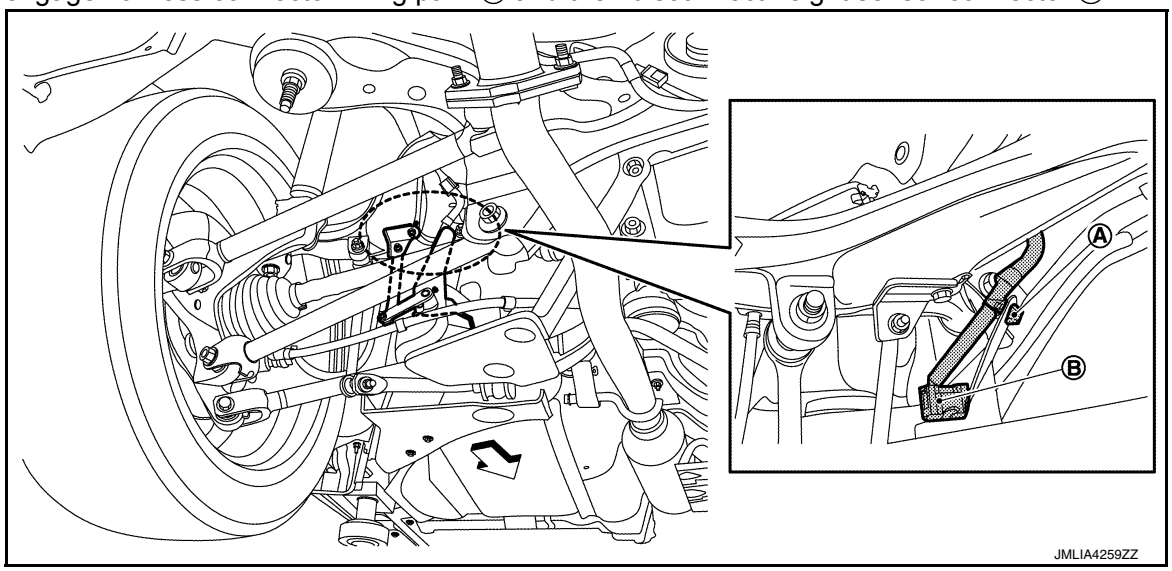
●: Indicates that the part is connected at points with same symbol in actual vehicle.

Removal and Installation

INFOID:0000000013712117

REMOVAL

1. Disengage harness connector fixing pawl Ⓐ and then disconnect height sensor connector Ⓑ.



⇦ : Vehicle front

2. Remove height sensor assembly mounting nut and bolt.
3. Remove height sensor assembly.

INSTALLATION

Note the following item, and then install in the reverse order of removal.

CAUTION:

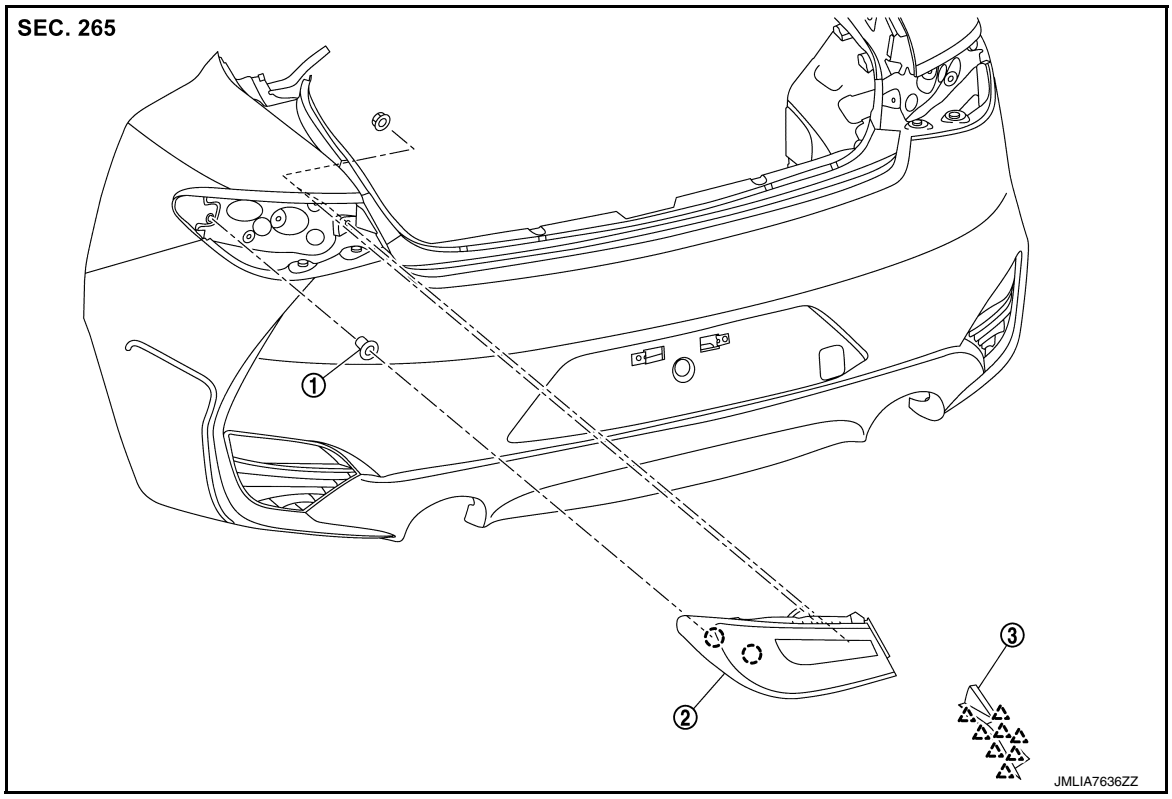
Be sure to perform "SENSOR INITIALIZE" when removing height sensor. Refer to EXL-127, "Description".

REAR COMBINATION LAMP

Exploded View

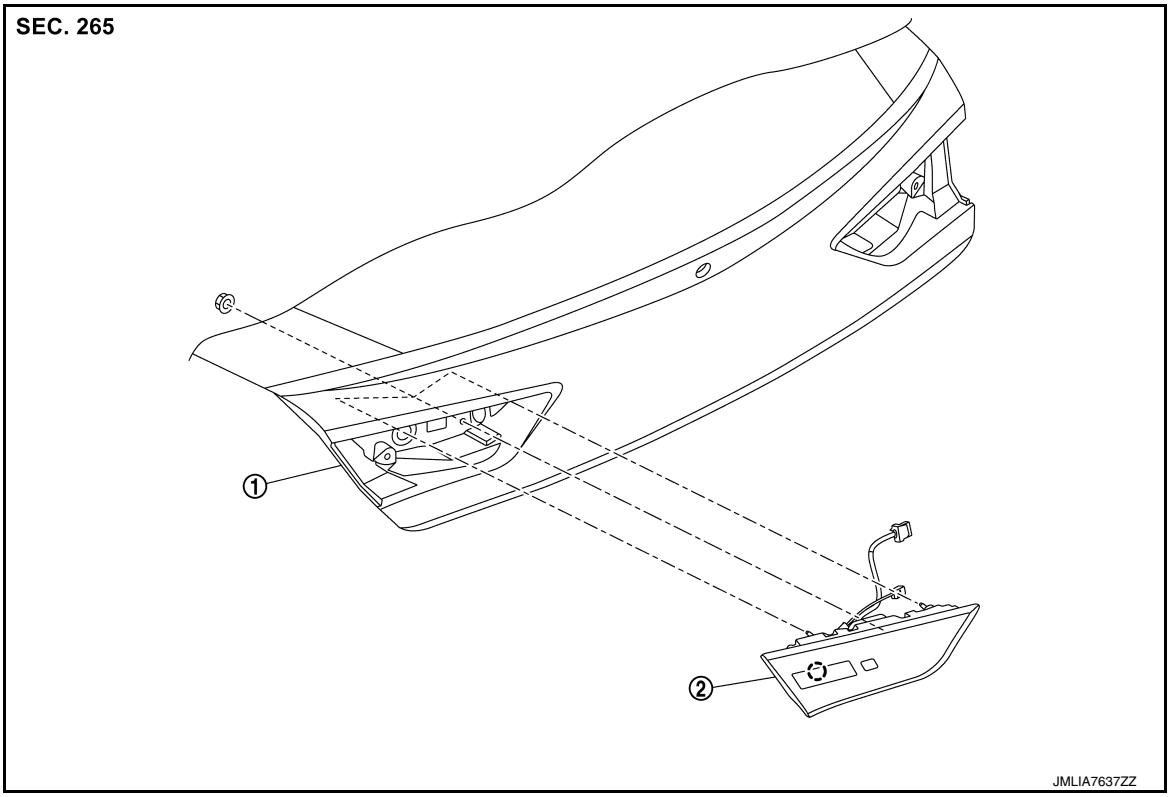
INFOID:0000000013712118

BODY SIDE



① Grommet
② Rear combination lamp (body side)
③ Rear combination lamp finisher
: Clip
: Pawl

TRUNK LID SIDE



① Trunk lid panel assembly
② Rear combination lamp (trunk lid side)
: Clip

REAR COMBINATION LAMP (BODY SIDE)

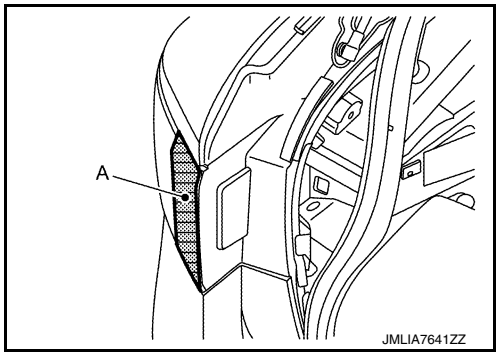
REAR COMBINATION LAMP (BODY SIDE) : Removal and Installation

INFOID:0000000013712119

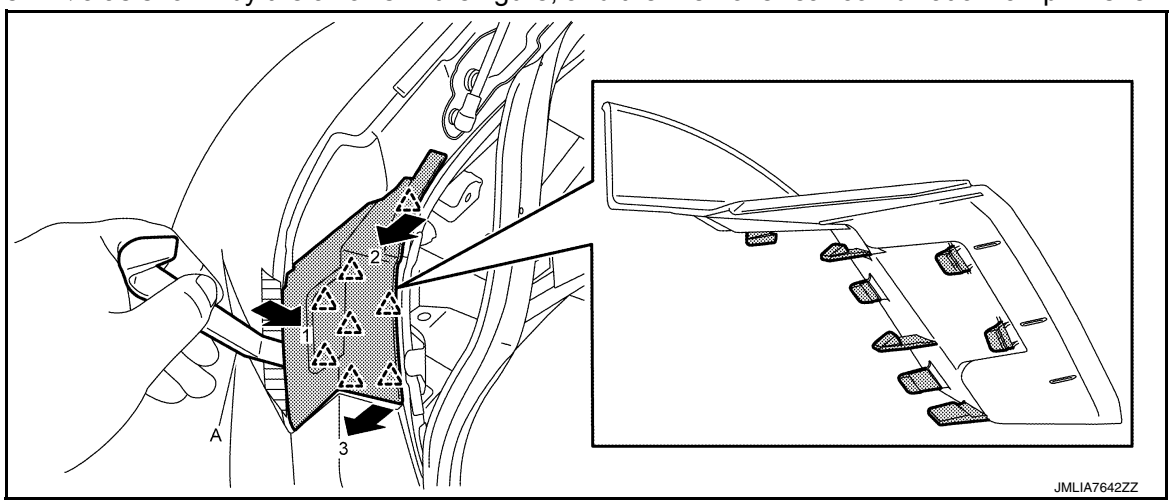
CAUTION:
- **Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to EXL-5, "Precautions for Removing Battery Terminal".**
- **When removing, always use a remover tool that is made of plastic.**

REMOVAL

1. Fully open trunk lid.
2. Remove trunk side finisher. Refer to INT-43, "Removal and Installation".
3. Apply protective tape (A) on the part to protect it from damage.

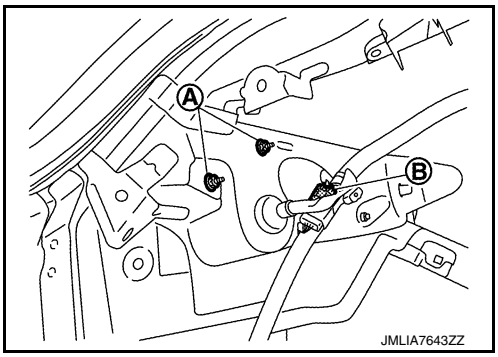


4. Disengage rear combination lamp finisher fixing pawls using a remover tool (A) according to the numerical order 1→3 as shown by the arrows in the figure, and then remove rear combination lamp finisher.

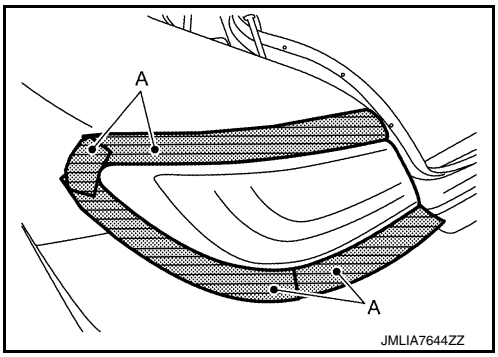


△ : Pawl

5. Remove rear combination lamp mounting nuts Ⓐ and disconnect harness connector Ⓑ.

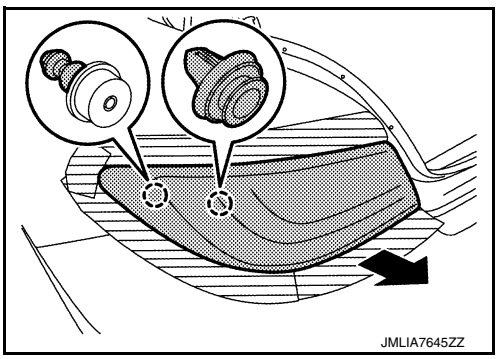


6. Apply protective tapes (A) on the part to protect it from damage.

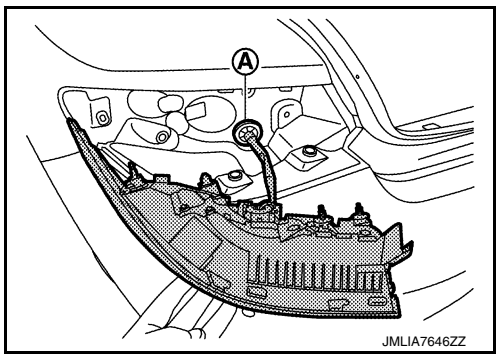


7. Pull rear combination lamp toward vehicle rear to disengage fixing clips.

◌ : Clip



8. Remove rear combination lamp grommet Ⓐ, and then remove rear combination lamp.



INSTALLATION

Install in the reverse order of removal.

REAR COMBINATION LAMP (BODY SIDE) : Replacement

INFOID:0000000013712120

TAIL LAMP

CAUTION:

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace rear combination lamp assembly as a set. Refer to EXL-203, "REAR COMBINATION LAMP (BODY SIDE) : Removal and Installation".

STOP LAMP

CAUTION:

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace rear combination lamp assembly as a set. Refer to EXL-203, "REAR COMBINATION LAMP (BODY SIDE) : Removal and Installation".

REAR TRUN SIGNAL LAMP

CAUTION:

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace rear combination lamp assembly as a set. Refer to EXL-203, "REAR COMBINATION LAMP (BODY SIDE) : Removal and Installation".

REAR SIDE MARKER LAMP

CAUTION:

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace rear combination lamp assembly as a set. Refer to EXL-203, "REAR COMBINATION LAMP (BODY SIDE) : Removal and Installation".

REAR COMBINATION LAMP (TRUNK LID SIDE)

REAR COMBINATION LAMP (TRUNK LID SIDE) : Removal and Installation

INFOID:0000000014194423

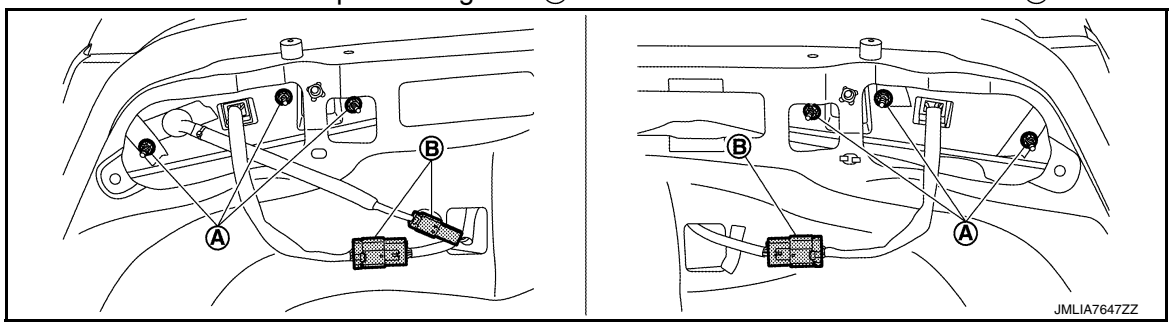
CAUTION:

- **Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to EXL-5, "Precautions for Removing Battery Terminal".**
- **When removing, always use a remover tool that is made of plastic.**

REMOVAL

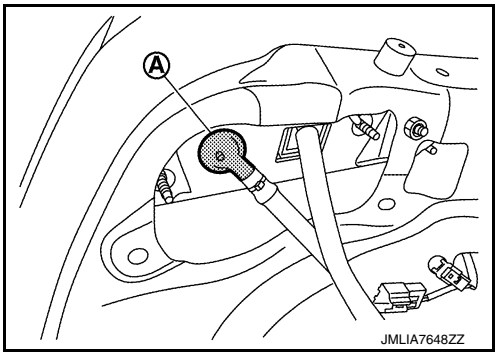
1. Fully open trunk lid.
2. Remove trunk lid inner finisher. Refer to INT-43, "Removal and Installation".

3. Remove rear combination lamp mounting nuts Ⓐ and disconnect harness connectors Ⓑ.

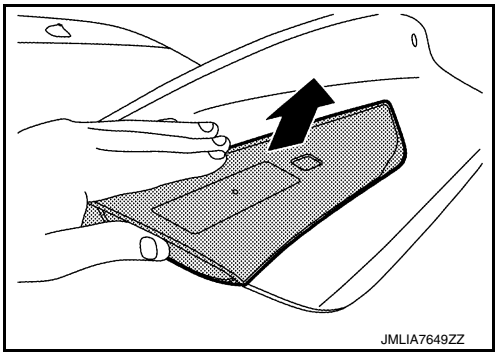


LH side	RH side

4. Remove rear combination lamp grommet Ⓐ.



5. Pull rear combination lamp out off trunk lid panel and remove it.



INSTALLATION

Install in the reverse order of removal.

REAR COMBINATION LAMP (TRUNK LID SIDE) : Replacement

INFOID:0000000014194424

TAIL LAMP

CAUTION:

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace rear combination lamp assembly as a set. Refer to EXL-205, "REAR COMBINATION LAMP (TRUNK LID SIDE) : Removal and Installation".

BACK-UP LAMP

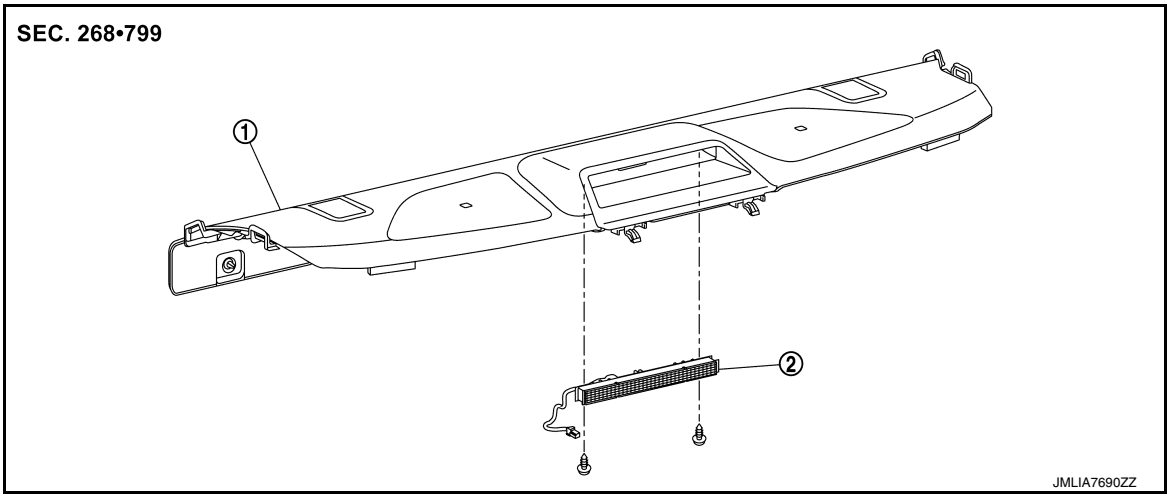
CAUTION:

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace rear combination lamp assembly as a set. Refer to EXL-205, "REAR COMBINATION LAMP (TRUNK LID SIDE) : Removal and Installation".

HIGH-MOUNTED STOP LAMP

Exploded View

INFOID:0000000013712121



① Rear parcel shelf finisher ② High-mounted stop lamp

Removal and Installation

INFOID:0000000013712122

CAUTION:
Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to EXL-5, "Precautions for Removing Battery Terminal".

REMOVAL

1. Remove rear parcel shelf finisher. Refer to INT-27, "Removal and Installation".
2. Remove high-mounted stop lamp fixing screws, and then remove high-mounted stop lamp.

INSTALLATION

Install in the reverse order of removal.

Replacement

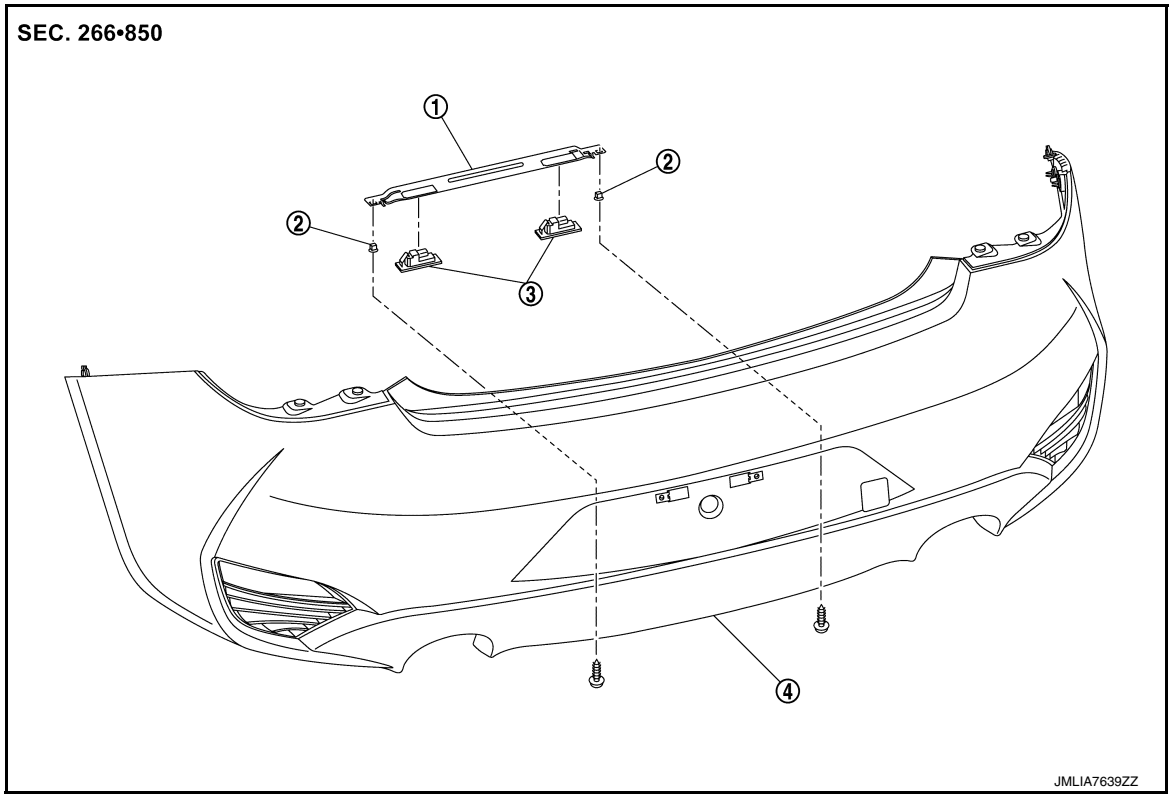
INFOID:0000000013712123

CAUTION:
Replacement of a single part is not possible due to the adoption of LED. For replacement, replace high-mounted stop lamp unit as a set. Refer to EXL-207, "Removal and Installation".

LICENSE PLATE LAMP

Exploded View

INFOID:0000000013712124



1. License plate lamp bracket
2. Grommet
3. License plate lamp
4. Rear bumper fascia

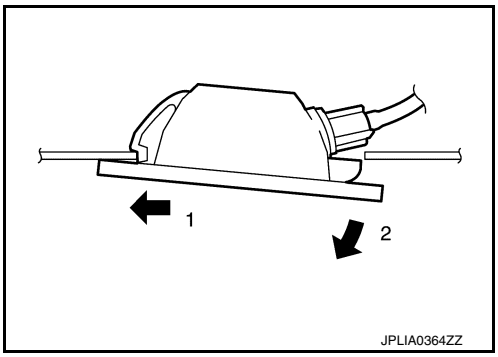
Removal and Installation

INFOID:0000000013712125

CAUTION:
Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to EXL-5, "Precautions for Removing Battery Terminal".

REMOVAL

1. While pressing license plate lamp to direction right side, pull it to direction outside and then remove it.



2. Disconnect license plate lamp harness connector, and then remove license plate lamp.

INSTALLATION
Install in the reverse order of removal.

Replacement

INFOID:0000000013712126

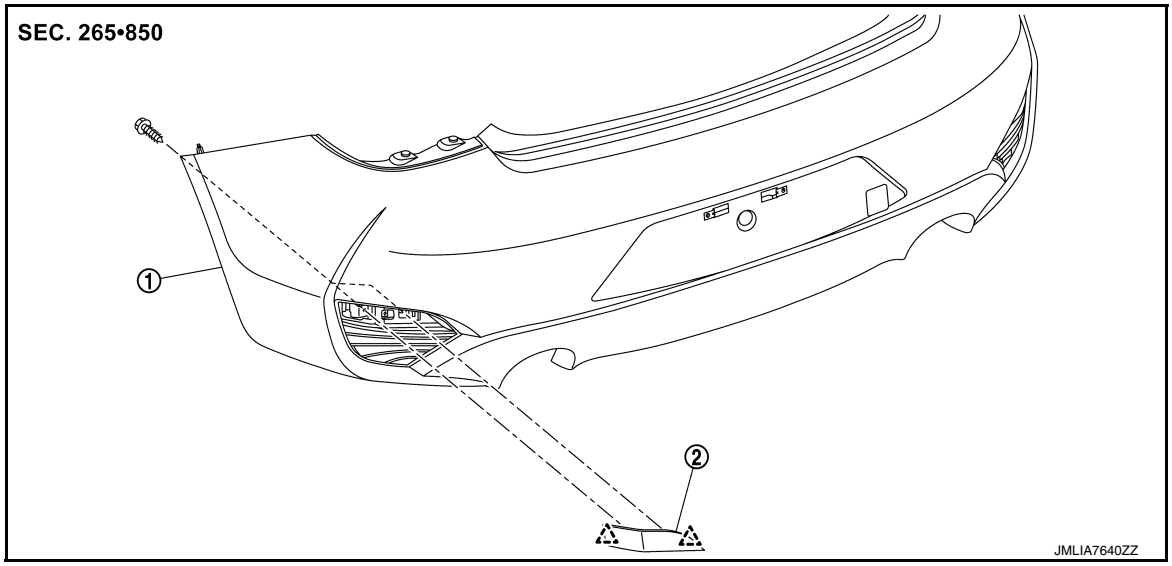
CAUTION:

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace front fog lamp assembly as a set. Refer to EXL-208, "Removal and Installation".

REAR REFLEX REFLECTOR

Exploded View

INFOID:0000000013712127



① Rear bumper fascia ② Rear reflex reflector

: Pawl

Removal and Installation

INFOID:0000000013712128

REMOVAL

1. Remove rear bumper fascia. Refer to EXT-28, "Removal and Installation".
2. Remove rear reflex reflector fixing screws and pawls and then remove rear reflex reflector.

INSTALLATION

Install in the reverse order of removal.

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Bulb Specifications

INFOID:0000000013712129

Item		Type	Wattage (W)
Front combination lamp	Headlamp (High beam)	LED	—
	Headlamp (Low beam)		
	Parking lamp (lower side) Daytime running light (lower side) Front turn signal lamp (lower side)		
	Parking lamp (upper side) Daytime running light (upper side) Front turn signal lamp (upper side)		
	Front side marker lamp		
Front fog lamp			
Side turn signal lamp (built in door mirror)			
Rear combination lamp (body side)	Tail lamp		
	Stop lamp		
	Tail/Stop lamp		
	Rear turn signal lamp		
	Rear side marker lamp		
Rear combination lamp (trunk lid side)	Tail lamp		
	Back-up lamp		
License plate lamp			
High-mounted stop lamp			