

EXL

SECTION

EXTERIOR LIGHTING SYSTEM

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PRECAUTION

PRECAUTIONS

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

INFOID:000000006450052

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:

- 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, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

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EXL

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[XENON TYPE]

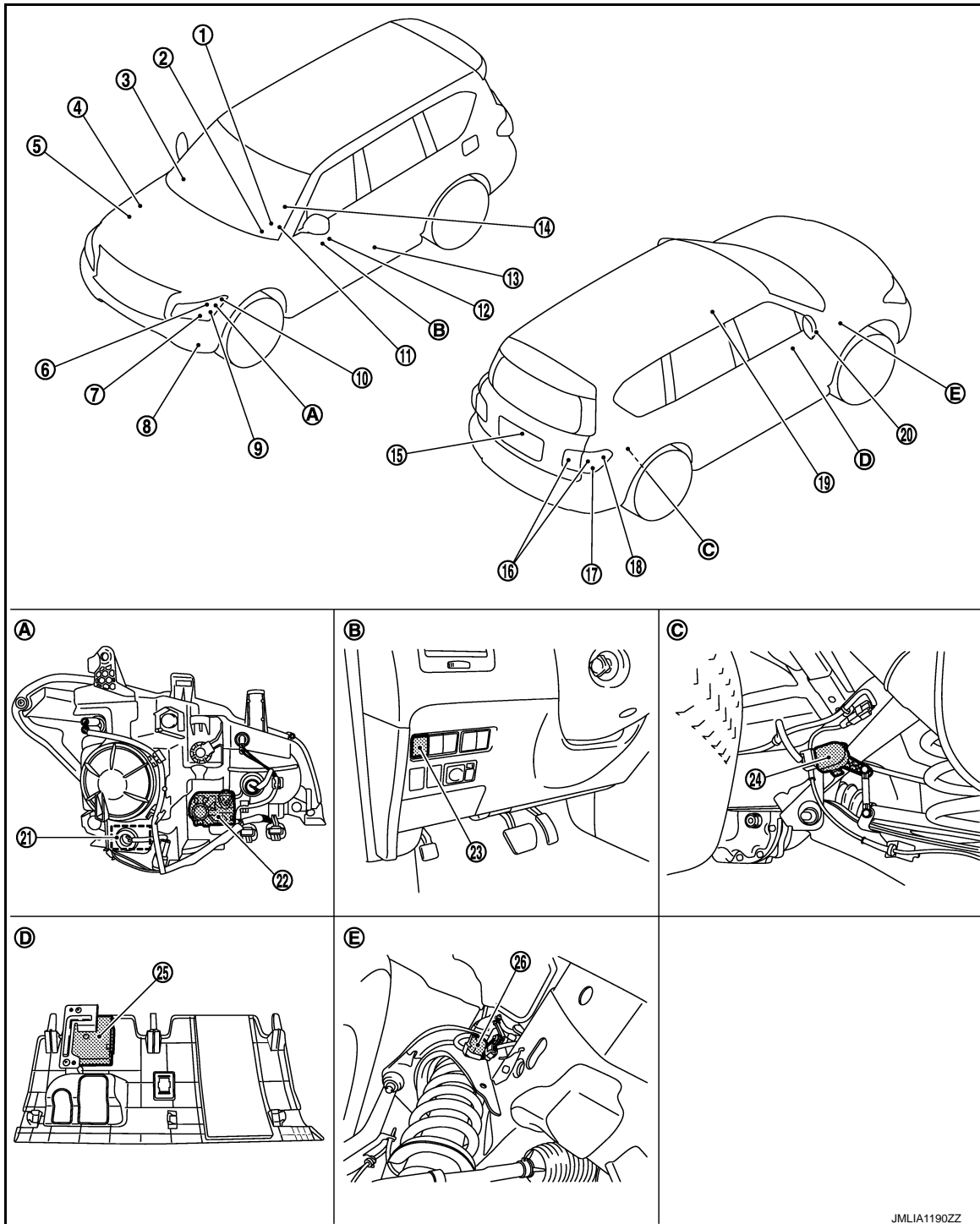
SYSTEM DESCRIPTION

COMPONENT PARTS

EXTERIOR LIGHTING SYSTEM

EXTERIOR LIGHTING SYSTEM : Component Parts Location

INFOID:000000006213887



COMPONENT PARTS

< SYSTEM DESCRIPTION >

[XENON TYPE]

- | | | | |
|---|--|--------------------------------|---|
| 1. Combination meter | 2. BCM Refer to BCS-4, "BODY CONTROL SYSTEM : Component Parts Location" | 3. Optical sensor | A |
| 4. IPDM E/R Refer to PCS-4, "Component Parts Location" | 5. ECM Refer to EC-16, "Component Parts Location" | 6. Parking lamp | B |
| 7. Front turn signal lamp | 8. Front fog lamp | 9. Headlamp | C |
| 10. Front side marker lamp | 11. Combination switch | 12. Headlamp aiming switch*1 | |
| 13. Front door switch (driver side) | 14. Steering angle sensor*2 Refer to BRC-10, "Component Parts Location" | 15. License plate lamp | D |
| 16. Tail lamp | 17. Rear turn signal lamp | 18. Rear side marker lamp | |
| 19. Hazard switch | 20. Side turn signal lamp | 21. Headlamp swivel actuator | E |
| 22. Headlamp aiming motor | 23. AFS switch*2 | 24. Rear height sensor*2 | |
| 25. AFS control unit*2 | 26. Front height sensor*2 | | |
| A. Front combination lamp (back) | B. View with instrument driver lower panel (LH) | C. Rear suspension member (RH) | F |
| D. View with instrument lower cover | E. Front suspension arm (RH) | | |

*1: With headlamp aiming control system (manual) models

*2: With AFS system models

EXTERIOR LIGHTING SYSTEM : Component Description

INFOID:000000006213888

| Part | Description | |
|--------------------|---|---|
| BCM | Controls the exterior lighting system. | |
| ECM*1 | Transmits engine speed signal to AFS control unit. (via CAN communication) | |
| TCM*1 | Transmits Shift position signal to AFS control unit. (via CAN communication) | |
| IPDM E/R | Controls the integrated relay, and supplies voltage to the load according to the request from BCM (via CAN communication). | |
| AFS control unit*1 | AFS control unit judges the vehicle condition from each signal. AFS control unit controls AFS function and the headlamp aiming. | |
| Combination meter | <ul style="list-style-type: none"> Outputs the vehicle speed signal (8-pulse) to AFS control unit. Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM (via CAN communication). Turns the tail lamp indicator lamp and high beam indicator lamp ON according to the request from BCM (via CAN communication). Turns the AFS OFF indicator lamp ON/OFF/blinking according to the request from AFS control unit (via CAN communication). | |
| Headlamp assembly | Xenon bulb | Refer to EXL-8, "FRONT COMBINATION LAMP : Xenon Headlamp" . |
| | HID control unit | Refer to EXL-9, "FRONT COMBINATION LAMP : HID control unit" . |
| | High beam solenoid | Refer to EXL-9, "FRONT COMBINATION LAMP : High Beam Solenoid" . |
| | Aiming motor | Refer to EXL-9, "FRONT COMBINATION LAMP : Aiming Motor" . |
| | Swivel actuator*1 | Refer to EXL-9, "FRONT COMBINATION LAMP : Swivel Actuator" . |
| Height sensor*1 | <ul style="list-style-type: none"> The height sensor is installed to the front suspension member and rear suspension member. The height sensor detects the suspension arm displacement as the vehicle height change. The height sensor transmits the height sensor signal to AFS control unit. <p>NOTE: The sensor angle of the unloaded vehicle position is the reference value.</p> | |
| Optical sensor | Optical sensor converts the outside brightness (lux) to voltage and transmits the optical sensor signal to BCM. | |

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[XENON TYPE]

| Part | Description |
|---|---|
| Steering angle sensor*1 | Transmits steering angle sensor signal to AFS control unit. (via CAN communication) |
| Combination switch (Lighting & turn signal switch) | Refer to BCS-7, "COMBINATION SWITCH READING SYSTEM : System Description" . |
| Door switch | Inputs the door switch signal to BCM. |
| AFS switch*1 | <ul style="list-style-type: none"> Inputs the AFS switch signal to AFS control unit. AFS switch is integrated in triple switch. |
| Headlamp aiming switch*2 | Outputs the aiming motor drive signal to aiming motor. |
| Hazard switch | Inputs the hazard switch signal to BCM. |

*1: With AFS system models

*2: With headlamp aiming control system (manual) models

FRONT COMBINATION LAMP

FRONT COMBINATION LAMP : Xenon Headlamp

INFOID:000000006213889

OUTLINE

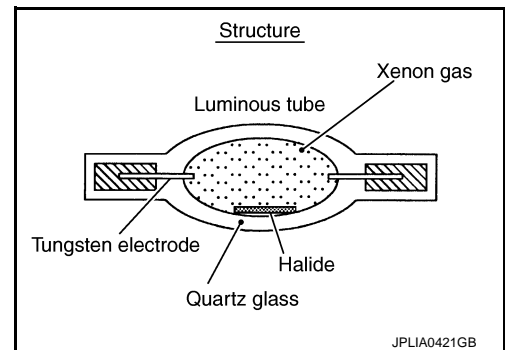
- The lamp light source is by the arc discharge by applying high voltage into the xenon gas-filled bulb instead of the halogen bulb filament.
- Sight becomes more natural and brighter because the amount of light are gained adequately and the color of light is sunshine-like white.
- The xenon bulb drops the amount of light, repeats blinking, and illuminates in red if the bulb reaches the service life.

ILLUMINATION PRINCIPLE

- Discharging starts in high voltage pulse between bulb electrodes.
- Xenon gas is activated by current between electrodes. Pale light is emitted.
- The luminous tube (bulb) temperature elevates. Evaporated halide is activated by discharge. The color of light changes into white.

NOTE:

- Brightness and the color of light may change slightly immediately after the headlamp turned ON until the xenon bulb becomes stable. This is not malfunction.
- Illumination time lag may occur between right and left. This is not malfunction.



PRECAUTIONS FOR TROUBLE DIAGNOSIS

Representative malfunction examples are; "Light does not turn ON", "Light blinks", and "Brightness is inadequate." The cause often be the xenon bulb. Such malfunctions, however, are occurred occasionally by HID control unit malfunction or lamp case malfunction. Specify the malfunctioning part with diagnosis procedure.

WARNING:

- Never touch the harness, HID control unit, the inside and metal part of lamp when turning the headlamp ON or operating the lighting switch.
- Never work with wet hands.

CAUTION:

- Never perform HID control unit circuit diagnosis with a circuit tester or an equivalent.
- Temporarily install the headlamps on the vehicle. Connect the battery 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 fusing of the fusible link(s), open around connector, short, disconnection if the symptom is caused by electric error.

NOTE:

- Turn the switch OFF once before turning ON, if the ON/OFF is inoperative.
- The xenon bulb drops the amount of light, repeats blinking, and illuminates in red if the bulb reaches the service life.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[XENON TYPE]

FRONT COMBINATION LAMP : HID control unit

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Headlamp (LO) circuit is connected to HID control unit integrated in the headlamp. Headlamp (LO) circuit turns xenon headlamp ON.

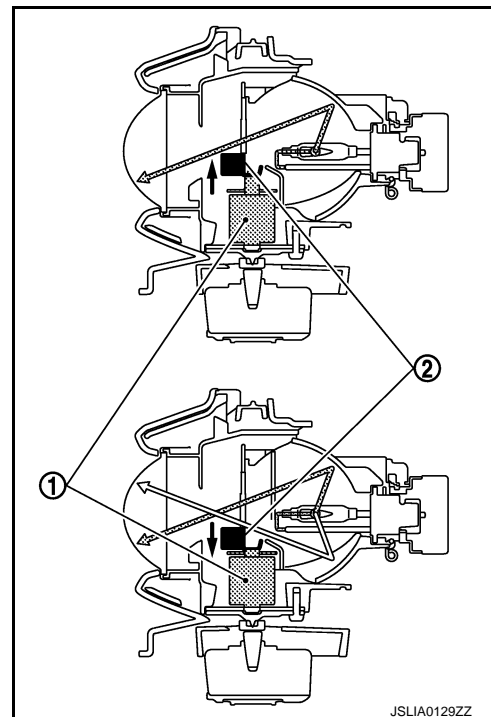
For the details of HID control unit and the xenon headlamp, refer to [EXL-8, "FRONT COMBINATION LAMP : Xenon Headlamp"](#).

FRONT COMBINATION LAMP : High Beam Solenoid

INFOID:000000006213891

The high beam solenoid drives the mobile valve shade. And the mobile valve shade switches the high beam and low beam of headlamp.

- When the headlamp high relay is turned ON, magnetic force is applied to the high beam solenoid (1) by a current. The mobile valve shade (2) is switched to the high beam position.
- When the headlamp high relay is turned OFF, the current stops. The mobile valve shade returns to the low beam position automatically.



FRONT COMBINATION LAMP : Aiming Motor

INFOID:000000006213892

The headlamp levelizer adjusts the headlamp light axis upward and downward with the aiming motor integrated in the front combination lamp.

FRONT COMBINATION LAMP : Swivel Actuator

INFOID:000000006213893

SWIVEL ACTUATOR

The swivel actuator is installed in the headlamp unit. The swivel actuator consists of the swivel motor and the swivel position sensor.

SWIVEL MOTOR

- The swivel motor is the two-phase step motor.
- The swivel motor drives headlamp by exciting the two drive coils according to the drive signal from AFS control unit.
- The rotation direction of the swivel motor is changeable by changing the exciting pattern.

SWIVEL POSITION SENSOR

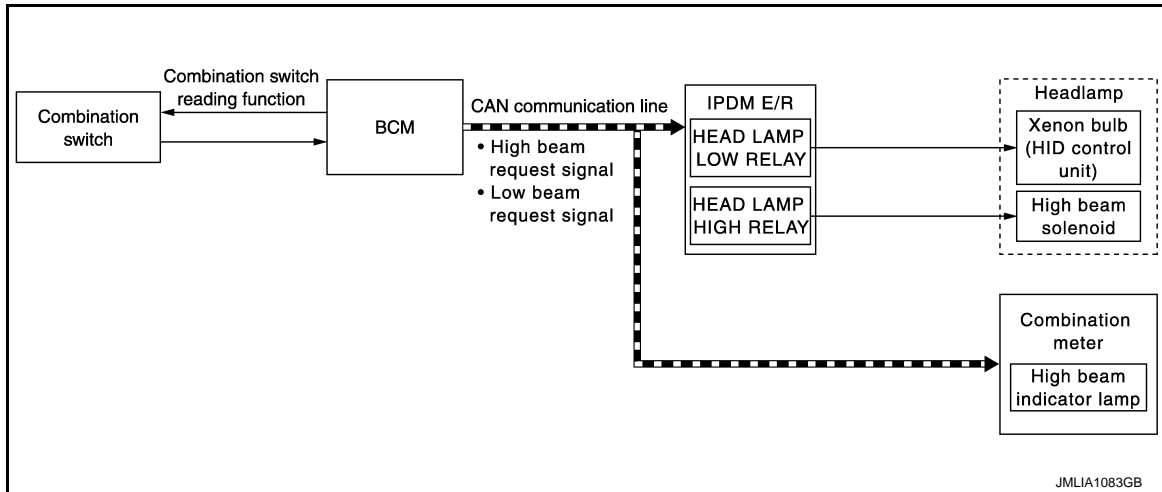
The swivel position sensor detects the headlamp swivel angle to transmit the swivel position sensor signal to AFS control unit.

SYSTEM

HEADLAMP SYSTEM

HEADLAMP SYSTEM : System Diagram

INFOID:000000006213894



HEADLAMP SYSTEM : System Description

INFOID:000000006213895

OUTLINE

Headlamp is controlled by combination switch reading function and headlamp control function of BCM, and relay 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 via CAN communication according to the headlamp (LO) ON condition.

Headlamp (LO) ON condition

- Lighting switch 2ND
- Lighting switch AUTO (auto light function ON judgment)
- Lighting switch AUTO, with the front fog lamp switch ON and the ignition switch ON
- Lighting switch PASS

- IPDM E/R turns the integrated headlamp low relay ON, and turns the headlamp ON according to the low beam request signal.

HEADLAMP (HI) OPERATION

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

Headlamp (HI) ON condition

- Lighting switch HI with the lighting switch 2ND or AUTO (auto light function ON judgment)
- Lighting switch PASS
- Lighting switch AUTO, with the front fog lamp switch ON, the ignition switch ON and lighting switch HI
- Combination meter turns the high beam indicator lamp ON according to the high beam request signal.
- IPDM E/R turns the integrated headlamp high relay ON, and turns the headlamp ON according to the high beam request signal.

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

SYSTEM

< SYSTEM DESCRIPTION >

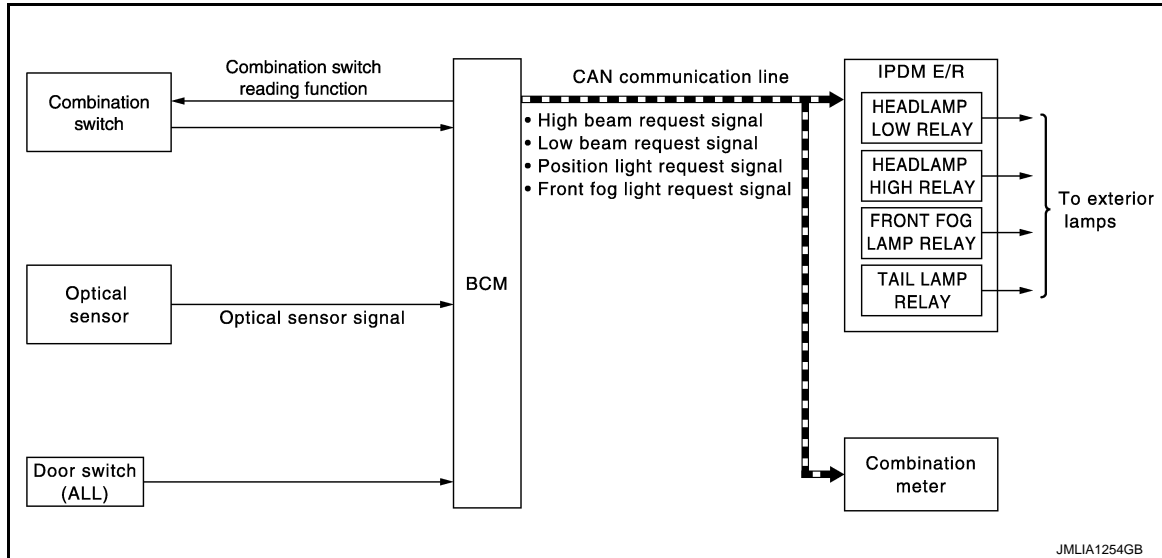
[XENON TYPE]

| Control part | Fail-safe operation |
|--------------|---|
| Headlamp | <ul style="list-style-type: none"> • Turns ON the headlamp low relay when the ignition switch is turned ON • Turns OFF the headlamp low relay when the ignition switch is turned OFF • Headlamp high relay OFF |

*: With daytime running light system

AUTO LIGHT SYSTEM

AUTO LIGHT SYSTEM : System Diagram



AUTO LIGHT SYSTEM : System Description (For CANADA)

INFOID:000000006218912

OUTLINE

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

Control by BCM

- Combination switch reading function
- Headlamp control function
- Auto light function
- Delay timer function
- Wiper linked auto lighting function
- Auto light adjustment system

Control by IPDM E/R

- Relay control function
- Auto light system has the auto light function, wiper linked auto lighting function and delay timer function.
- Auto light function automatically turns ON/OFF the exterior lamps* and each illumination automatically, depending on the outside brightness.
- Wiper linked auto lighting function automatically turns ON/OFF the exterior lamps* and each illumination when the light 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), parking lamp, side marker lamp, tail lamp and front fog lamp (Headlamp HI and front fog lamp depend on the combination switch condition.)

AUTO LIGHT FUNCTION

- BCM detects the combination switch condition with the combination switch reading function.
- BCM supplies voltage to optical sensor when the ignition switch is turned ON or ACC.
- Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.
- BCM judges outside brightness from the optical sensor signal and judges ON/OFF condition of the exterior lamp and each illumination according to the outside brightness.

SYSTEM

[XENON TYPE]

< SYSTEM DESCRIPTION >

- BCM transmits each request signal to IPDM E/R with CAN communication according to ON/OFF condition by the auto light function.

NOTE:

ON/OFF timing differs based on the sensitivity from the setting. The setting can be set by CONSULT-III. Refer to [EXL-23, "HEADLAMP : CONSULT-III Function \(BCM - HEAD LAMP\)"](#).

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 or lighting switch 2ND is operated. Refer to [INL-11, "AUTO LIGHT ADJUSTMENT SYSTEM : System Description"](#).

DELAY TIMER FUNCTION

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

- Turns the exterior lamp OFF 5 minutes after detecting that any door opens. (Door switch ON).
- Turns the exterior lamp OFF a certain period of time* after closing all doors. (Door switch ON→OFF).
- Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF.

*: The preset time is 45 seconds. The timer operating time can be set by CONSULT-III. Refer to [EXL-23, "HEADLAMP : CONSULT-III Function \(BCM - HEAD LAMP\)"](#).

NOTE:

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

AUTO LIGHT SYSTEM : System Description (Except for CANADA)

INFOID:000000006218908

OUTLINE

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

Control by BCM

- Combination switch reading function
- Headlamp control function
- Auto light function
- Delay timer function
- Wiper linked auto lighting function
- Auto light adjustment system

Control by IPDM E/R

- Relay control function
- Auto light system has the auto light function (with twilight lighting function), wiper linked auto lighting function and delay timer function.
- Auto light function automatically turns ON/OFF the exterior lamps* and each illumination automatically, depending on the outside brightness.
- Wiper linked auto lighting function automatically turns ON/OFF the exterior lamps* and each illumination when the light 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), parking lamp, side marker lamp, tail lamp and front fog lamp (Headlamp HI and front fog lamp depend on the combination switch condition.)

NOTE:

The settings of the twilight lighting function and the wiper linked auto lighting function can be changed with CONSULT-III. Refer to [EXL-23, "HEADLAMP : CONSULT-III 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 supplies voltage to the optical sensor when the ignition switch is turned ON or ACC.
- 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 the exterior lamp and each illumination, depending on the outside brightness condition (standard or twilight).

SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

- BCM transmits each request signal to IPDM E/R 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 with CONSULT-III. Refer to [EXL-23, "HEADLAMP : CONSULT-III Function \(BCM - HEAD LAMP\)"](#).

Auto Lighting Timing Table

When the light switch is in AUTO position and the ignition switch is ON, the exterior lamps turns ON/OFF in the following condition.

| Exterior lamps | Standard Light ON (Sudden increase/decrease in brightness) | Twilight Light ON (Gradual increase/decrease in brightness) |
|----------------|---|--|
| ON | Outside brightness is 1250 lx or less for 3 seconds or more. | Filtered brightness is 3000 lx or less |
| OFF | Outside brightness is 2500 lx or more for 5 seconds or more. | Filtered brightness is 5000 lx or more |

Standard Light ON

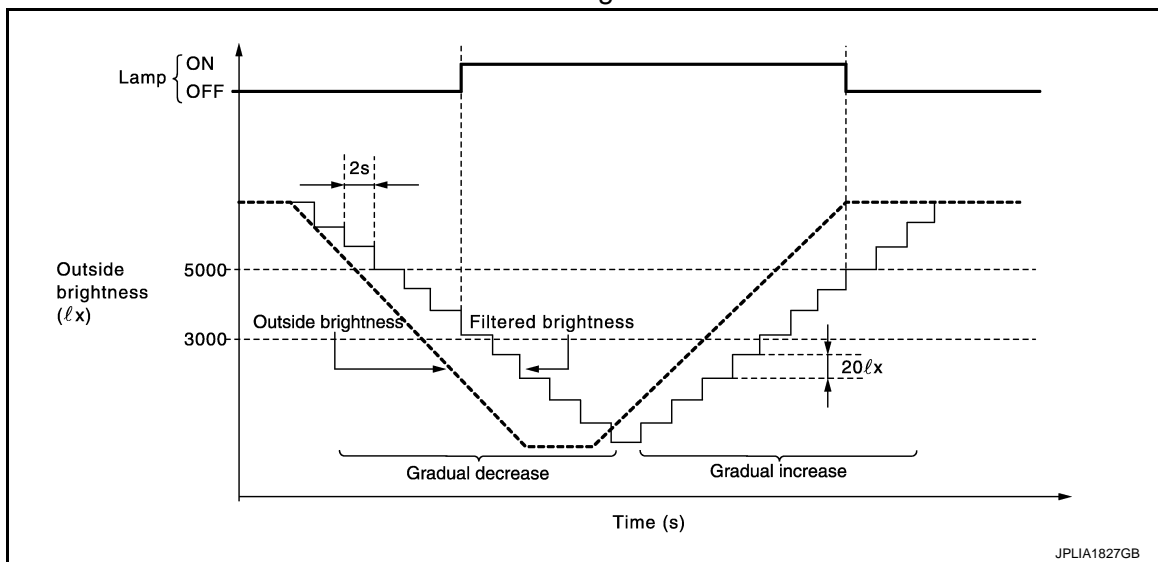
BCM turns exterior lamps ON when outside brightness obtained from the optical sensor signal is 1250 lx or less for 3 seconds or more. And BCM turns exterior lamp OFF when outside brightness from the optical sensor signal is 2500 lx or more for 5 seconds or more.

Twilight Light ON (Twilight Lighting Function)

BCM detects twilight by filtered brightness.

- BCM filters outside brightness to block the impact of the rapid change in brightness, based on the optical sensor signal, and judges outside brightness.
- BCM detects changes in outside brightness, based on outside brightness obtained from the optical sensor signal and filtered brightness and judges ON/OFF of the exterior lamps.

Filtering chart



- BCM starts filtering 0.3 seconds after the ignition switch is turned ON and the light switch is turned to AUTO.
- BCM filters signals from the optical sensor at intervals of 2 seconds. When the filtered brightness is higher than outside brightness (signal from the optical sensor), BCM decreases the filtered brightness by 20 lx*. When the filtered brightness is lower than outside brightness, BCM increases the filtered brightness by 20 lx*.
- BCM turns ON the exterior lamps when filtered brightness reaches 3000 lx and turns OFF when reaching 5000 lx.

*:When vehicle speed is 5 km/h or less, BCM decreases/increases the filtered brightness by 5 lx.

WIPER LINKED AUTO LIGHTING FUNCTION

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

NOTE:

BCM turns OFF the headlamps 3 seconds after the front wiper switch is turned from HI⇒OFF.

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 or lighting switch 2ND is operated. Refer to [INL-11, "AUTO LIGHT ADJUSTMENT SYSTEM : System Description"](#).

DELAY TIMER FUNCTION

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

- Turns the exterior lamp OFF 5 minutes after detecting that any door opens. (Door switch ON).
- Turns the exterior lamp OFF a certain period of time* after closing all doors. (Door switch ON→OFF).
- Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF.

*: The preset time is 45 seconds. The timer operating time can be set by CONSULT-III. Refer to [EXL-23, "HEADLAMP : CONSULT-III Function \(BCM - HEAD LAMP\)"](#).

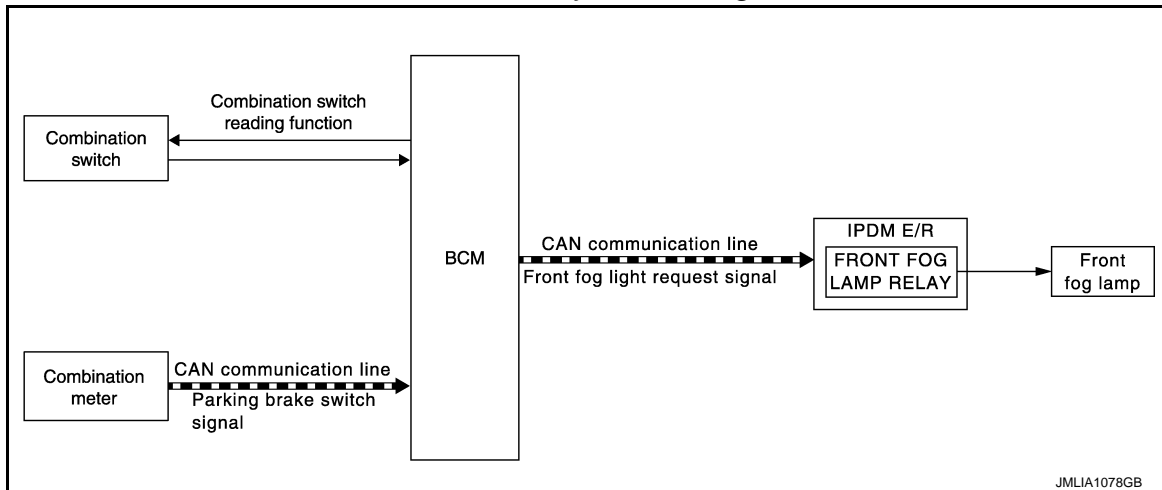
NOTE:

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

DAYTIME RUNNING LIGHT SYSTEM

DAYTIME RUNNING LIGHT SYSTEM : System Diagram

INFOID:000000006214028



DAYTIME RUNNING LIGHT SYSTEM : System Description

INFOID:000000006214029

OUTLINE

- Turns the front fog lamp ON as the daytime running light.
- 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 the vehicle condition depending on the following signals.
 - Parking brake switch signal (received from combination meter via CAN communication)
- BCM transmits the front fog light request signal to IPDM E/R via CAN communication according to the daytime running light ON condition.

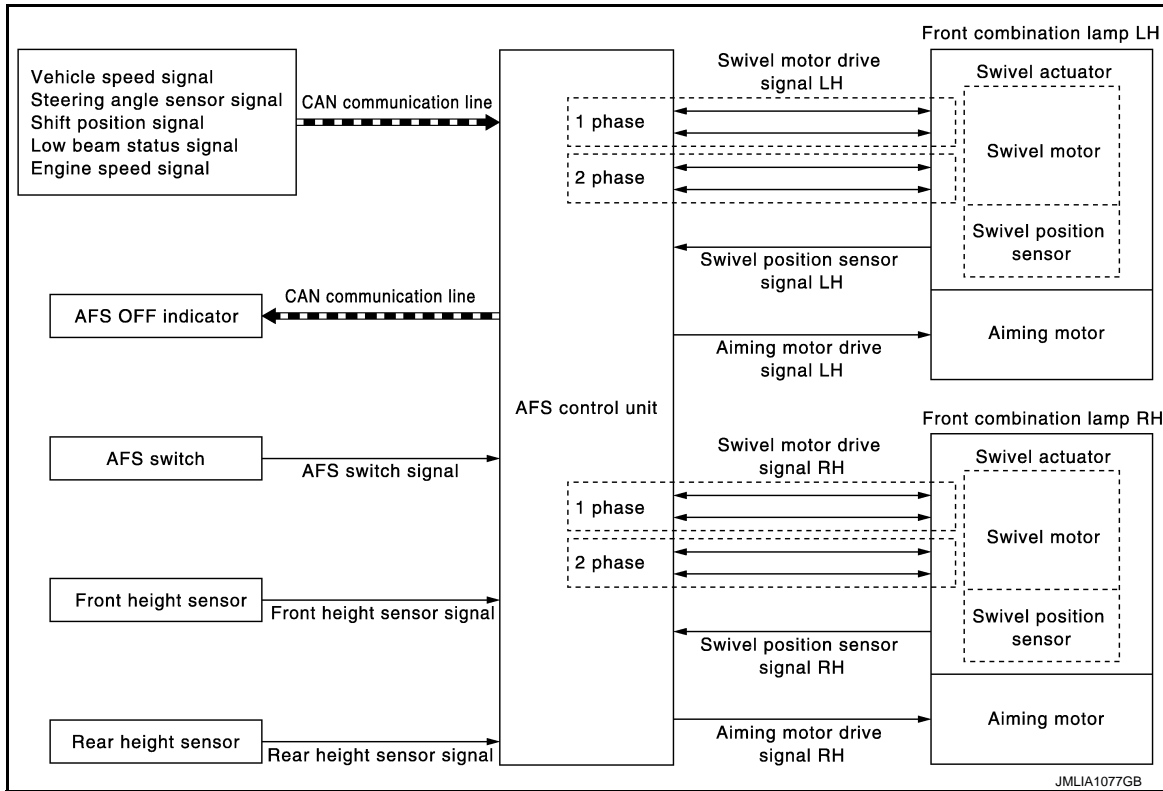
Daytime running light ON condition

- While the engine running with the parking brake released
- Lighting switch OFF
- Lighting switch AUTO (auto light function OFF judgment)
- Passing switch OFF
- Front fog lamp switch OFF
- 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.

ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM : System Diagram

INFOID:000000006213899



ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM : System Description

INFOID:000000006213900

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

AFS operation condition

- Swivel actuator initialization completed
- AFS "ON"(AFS OFF indicator lamp "OFF")
- Headlamp ON
- While the engine running
- Selector lever position other than "P" or "R"
- Vehicle speed approximately 25 km/h (15.5 MPH) or more
(Left swivel only; Right swivel activates regardless of the vehicle speed.)

Swivel Actuator Initialization

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

< SYSTEM DESCRIPTION >

- 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 drive signal to the swivel actuator when activation conditions are satisfied. And swivels the headlamp.
- The swivel starts after steering approximately 20° or more from straight-forward position.

NOTE:

- The steering angle differs between right turn and left turn.
- The swivel angle becomes the maximum angle toward the driving direction if the steering angle is approximately 90° or more depending on the vehicle speed. The swivel angle is maintained by shutting off the 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 if the operation condition is not satisfied while the swivel angle is 0°.

AFS OFF Indicator Lamp

- AFS control unit transmits AFS OFF indicator lamp signal to the combination meter via CAN communication.
- Combination meter turns AFS OFF indicator lamp ON/OFF/blinking according to AFS OFF indicator lamp signal.
- AFS OFF indicator lamp is turned ON for 1 second for the AFS OFF indicator lamp bulb check when the ignition switch is turned ON. AFS OFF indicator lamp is turned OFF within 1 second when the engine starts.
- AFS OFF indicator lamp turns ON when AFS is switched to "OFF" by operating AFS switch.
- AFS OFF indicator lamp blinks (1 second each) if AFS control unit detects a specific DTC.

NOTE:

Combination meter blinks AFS OFF indicator lamp (approximately 1 second each) if AFS OFF indicator lamp signal is not received from AFS control unit.

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 signals (front and rear)
 - Vehicle speed signal (received from combination meter via CAN communication)
 - Low beam status signal (received from IPDM E/R via CAN communication)
 - Engine speed signal (received from ECM 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

- Headlamp ON
- While the engine running
- 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 front and rear 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 front and rear vehicle 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.

CAUTION:

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

SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM : Fail-Safe

INFOID:00000006422028

| DTC | Fail-safe | AFS OFF indicator lamp | Cancellation |
|-----------------------------|---|------------------------|--|
| U1000: CAN COMM CIRCUIT | <ul style="list-style-type: none"> Right and left swivel motors stop at the position when DTC is detected. Right and left aiming motors stop at the position when DTC is detected. | Blinks 1 second each. | Ignition switch OFF |
| U1010: CONTROL UNIT (CAN) | <ul style="list-style-type: none"> Right and left swivel motors stop at the position when DTC is detected. Right and left aiming motors stop at the position when DTC is detected. | Blinks 1 second each. | Ignition switch OFF |
| B2503: SWIVEL ACTUATOR [RH] | <ul style="list-style-type: none"> Right swivel motors stop at the position when DTC is detected. The signal, approximately 2 V decreased from the levelizer signal when DTC detected, is output. | Blinks 1 second each. | Ignition switch OFF |
| B2504: SWIVEL ACTUATOR [LH] | <ul style="list-style-type: none"> Left swivel motors stop at the position when DTC is detected. The signal, approximately 2 V decreased from the levelizer signal when DTC detected, is output. | Blinks 1 second each. | Ignition switch OFF |
| B2513: HI SEN UNUSUAL [FR] | <ul style="list-style-type: none"> Right and left aiming motors stop at the position when DTC is detected. | — | Ignition switch OFF |
| B2514: HI SEN UNUSUAL [RR] | <ul style="list-style-type: none"> Right and left aiming motors stop at the position when DTC is detected. | — | Ignition switch OFF |
| C0126: ST ANG SEN SIG | <ul style="list-style-type: none"> Right and left swivel motor swivel angle returns to 0° and fixed. | Blinks 1 second each. | Ignition switch OFF |
| B2516: SHIFT SIG [P, R] | <ul style="list-style-type: none"> Right and left swivel motor swivel angle returns to 0° and fixed. | Blinks 1 second each. | Ignition switch OFF |
| B2517: VEHICLE SPEED SIG | <ul style="list-style-type: none"> Right and left swivel motor swivel angle returns to 0° and fixed. Right and left aiming motors stop at the position when DTC is detected. | Blinks 1 second each. | Ignition switch OFF |
| B2519: LEVELIZER CALIB | <ul style="list-style-type: none"> Right and left aiming motors stop at the position when DTC is detected. | — | When the levelizer adjustment is completed. |
| C0428: ST ANGLE SEN CALIB | <ul style="list-style-type: none"> Right and left swivel motor swivel angle returns to 0° and fixed. | Blinks 1 second each. | When the steering angle sensor neutral position registration is completed. |
| B2521: ECU CIRC | <ul style="list-style-type: none"> Right and left swivel motors stop at the position when DTC is detected. Right and left aiming motors stop at the position when DTC is detected. | Blinks 1 second each. | Ignition switch OFF |

HEADLAMP AIMING CONTROL (MANUAL)

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HEADLAMP AIMING CONTROL (MANUAL) : System Description

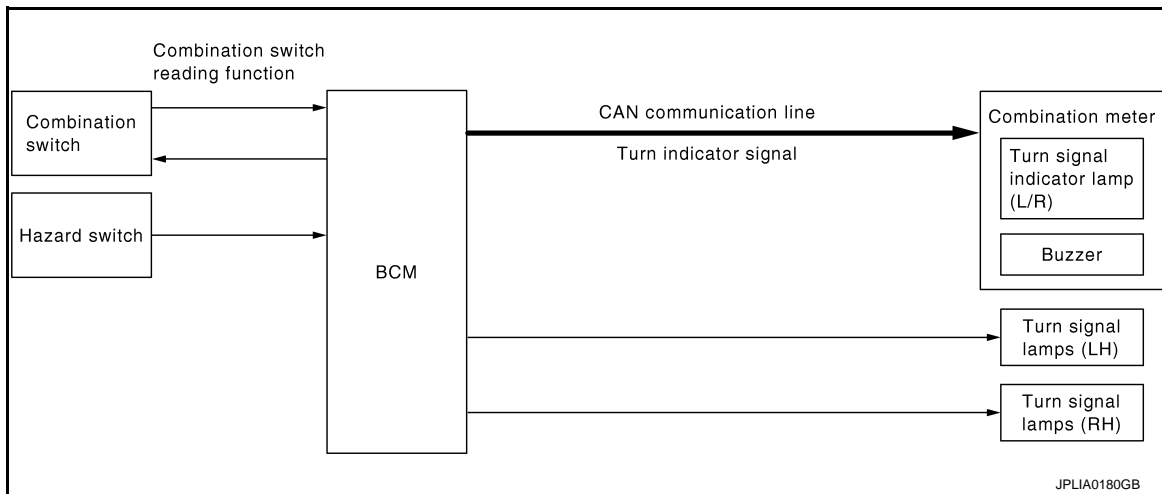
INFOID:000000006216751

The headlamp levelizer adjusts the headlamp light axis upward and downward with the aiming motor integrated in the front combination lamp.

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Diagram

INFOID:000000006213901



TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

INFOID:000000006213902

OUTLINE

Turn signal and the hazard warning lamp is controlled by combination switch reading function, flasher control function and auto hazard 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 turned 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 circuit when the hazard switch is turned ON. BCM blinks the hazard warning lamp.

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

- BCM transmits the turn indicator signal to the combination meter via CAN communication while the turn signal lamp and the hazard warning lamp 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.

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:

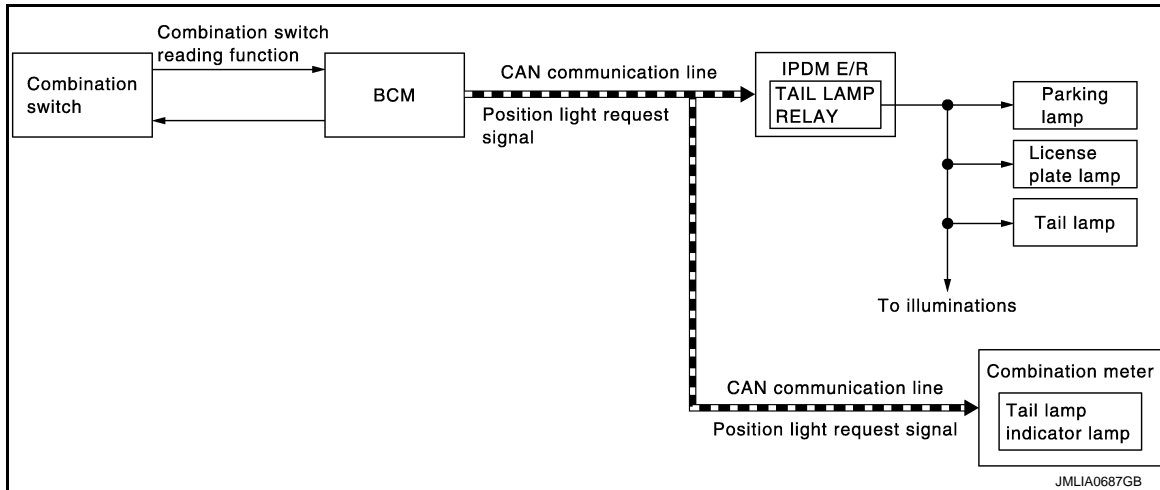
The blinking speed is normal while operating the hazard warning lamp.

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM

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

agram

INFOID:000000006213903



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

INFOID:000000006213904

OUTLINE

Parking, license plate, side marker and tail lamps are controlled by combination switch reading function and headlamp 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 ON/OFF condition of the parking, license plate, side marker and tail lamps.

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

- Lighting switch 1ST
- Lighting switch 2ND
- Lighting switch AUTO, and the auto light function ON judgment
- Lighting switch AUTO, with the front fog lamp switch ON and the ignition switch ON
- 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 tail lamp indicator lamp ON according to the position light request signal.

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

INFOID:000000006213905

EXL

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 |
|---|--|
| <ul style="list-style-type: none"> • Parking lamps • License plate lamps • Illuminations • Tail lamps | <ul style="list-style-type: none"> • 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 |

*: With daytime running light system

FRONT FOG LAMP SYSTEM

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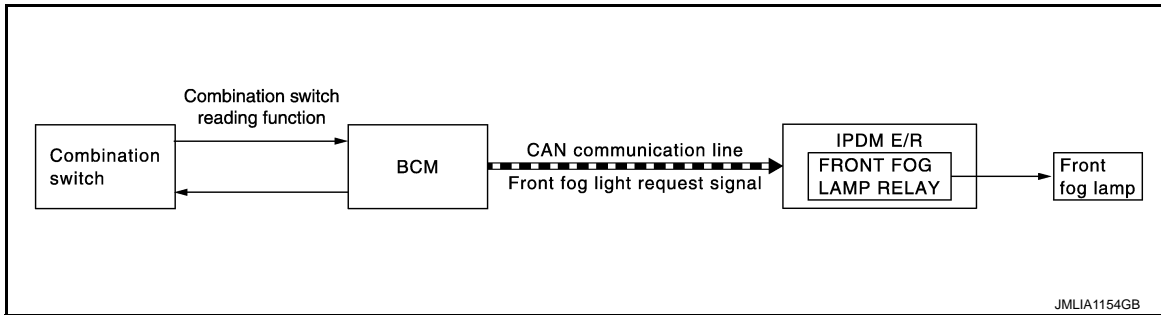
SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

FRONT FOG LAMP SYSTEM : System Diagram

INFOID:000000006213906



FRONT FOG LAMP SYSTEM : System Description

INFOID:000000006213907

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 lights request signal to IPDM E/R 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 followings. (except for the high beam ON)

- Lighting switch 2ND
- Lighting switch AUTO (auto light function ON judgment)

IPDM E/R turns the integrated front fog lamp relay ON, and turns the front fog lamp ON according to the front fog lights request signal.

FRONT FOG LAMP SYSTEM : Fail-Safe

INFOID:000000006422123

CAN COMMUNICATION CONTROL

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

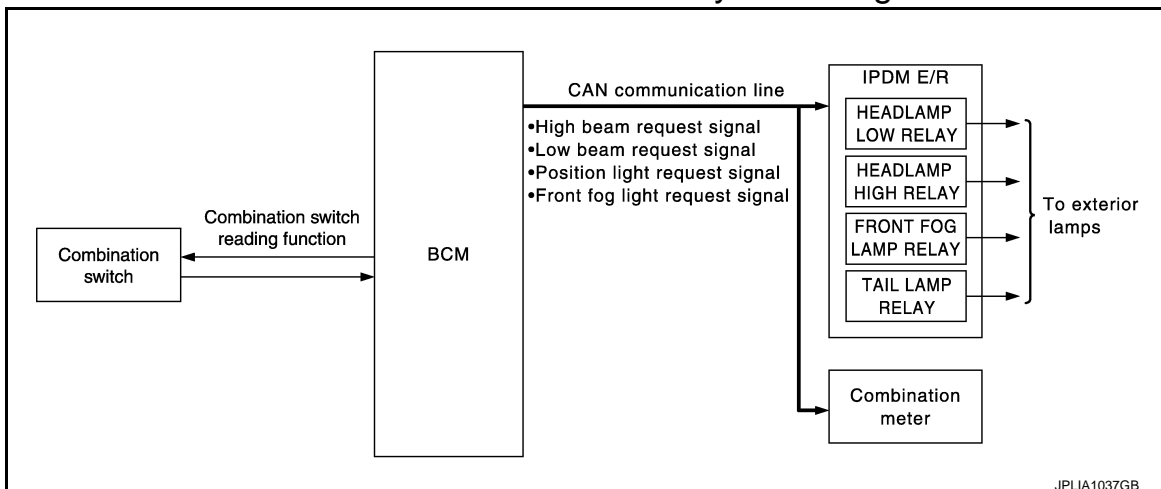
If No CAN Communication Is Available With BCM

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

EXTERIOR LAMP BATTERY SAVER SYSTEM

EXTERIOR LAMP BATTERY SAVER SYSTEM : System Diagram

INFOID:000000006213908



EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description

INFOID:000000006213909

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OUTLINE

- Exterior lamp battery saver system is controlled by each function of BCM and IPDM E/R.

Control by BCM

- Combination switch reading function
- Headlamp control function
- Exterior lamp battery saver function

Control by IPDM E/R

- Relay control function
- BCM turns the exterior lamp* OFF after a period of time to prevent the battery from over-discharge when the ignition switch is turned OFF with the exterior lamp ON.
- *: Headlamp (LO/HI), parking lamp, tail lamp, side marker lamp, license plate lamp and front fog lamp

EXTERIOR LAMP BATTERY SAVER ACTIVATION

BCM activates the timer and turns the exterior lamp OFF 5 minutes after the ignition switch is turned from ON → OFF with the exterior lamps ON.

NOTE:

- Headlamp control function turns the exterior lamps ON normally when the ignition switch is turned ACC or the engine started (both before and after the exterior lamp battery saver is turned OFF).
- The timer starts at the time that the lighting switch is turned from OFF → 1ST or 2ND with the exterior lamp OFF.

DIAGNOSIS SYSTEM (BCM)

[XENON TYPE]

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)

INFOID:000000006368037

APPLICATION ITEM

CONSULT-III 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. Refer to BCS-57, "DTC Index" . |
| CAN Diag Support Monitor | Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III operation manual. |
| 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 | <ul style="list-style-type: none"> 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* | | × | × |
| <ul style="list-style-type: none"> Intelligent Key system Engine start system | INTELLIGENT KEY | × | × | × |
| Combination switch | COMB SW | | × | |
| Body control system | BCM | × | | |
| IVIS | IMMU | × | × | × |
| Interior room lamp battery saver | BATTERY SAVER | × | × | × |
| Back door | TRUNK | | × | |
| Vehicle security system | THEFT ALM | × | × | × |
| RAP system | RETAINED PWR | | × | |
| Signal buffer system | SIGNAL BUFFER | | × | × |

*: This item is indicated, but 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-III.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[XENON TYPE]

| CONSULT screen item | Indication/Unit | Description | |
|---------------------|---|--|-----|
| Vehicle Speed | km/h | Vehicle speed of the moment a particular DTC is detected | A |
| Odo/Trip Meter | km | Total mileage (Odometer value) of the moment a particular DTC is detected | B |
| Vehicle Condition | SLEEP>LOCK | While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK") | C |
| | SLEEP>OFF | While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".) | D |
| | LOCK>ACC | While turning power supply position from "LOCK" to "ACC" | E |
| | ACC>ON | While turning power supply position from "ACC" to "IGN" | F |
| | RUN>ACC | While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.) | G |
| | CRANK>RUN | While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it) | H |
| | RUN>URGENT | While turning power supply position from "RUN" to "ACC" (Emergency stop operation) | I |
| | ACC>OFF | While turning power supply position from "ACC" to "OFF" | J |
| | OFF>LOCK | While turning power supply position from "OFF" to "LOCK" | K |
| | OFF>ACC | While turning power supply position from "OFF" to "ACC" | EXL |
| | ON>CRANK | While turning power supply position from "IGN" to "CRANKING" | M |
| | OFF>SLEEP | While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode | N |
| | LOCK>SLEEP | While turning BCM status from normal mode (Power supply position is "LOCK".) to low power consumption mode | O |
| | LOCK | Power supply position is "LOCK" (Ignition switch OFF with steering is locked.) | P |
| | OFF | Power supply position is "OFF" (Ignition switch OFF with steering is unlocked.) | |
| | 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 <ul style="list-style-type: none"> 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. | |

HEADLAMP

HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)

INFOID:000000006213911

WORK SUPPORT

| Service item | Setting item | Setting |
|------------------------|--------------|---|
| CUSTOM A/LIGHT SETTING | MODE 1*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) |

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[XENON TYPE]

| Service item | Setting item | Setting | |
|------------------------|--------------|--|--|
| BATTERY SAVER SET | On*1 | With the exterior lamp battery saver function | |
| | Off | Without the exterior lamp battery saver function | |
| ILL DELAY SET | MODE 1*1 | 45 sec. | Sets delay timer function timer operation time (All doors closed) |
| | MODE 2 | Without the 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. | |
| AUTO LIGHT LOGIC SET*2 | MODE 1*1 | With twilight ON custom & with wiper INT, LO and HI | |
| | MODE 2 | With twilight ON custom & with wiper LO and HI | |
| | MODE 3 | With twilight ON custom & without | |
| | MODE 4 | Without twilight ON custom & with wiper INT, LO and HI | |
| | MODE 5 | Without twilight ON custom & with wiper LO and HI | |
| | MODE 6 | Without twilight ON custom & without | |

*1: Factory setting

*2: For models for Canada, this item is displayed but is not operated.

DATA MONITOR

| Monitor item [Unit] | Description | |
|--|--|---|
| PUSH SW [On/Off] | The switch status input from push-button ignition switch | |
| ENGINE STATE [Stop/Stall/Crank/Run] | The engine status received from ECM via CAN communication | |
| VEH SPEED 1 [km/h] | The value of the vehicle speed received from combination meter via CAN communication | |
| 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 is indicated, but can not monitored |

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[XENON TYPE]

| Monitor item [Unit] | Description |
|----------------------------|---|
| DOOR SW-DR [On/Off] | The switch status input from front door switch (driver side) |
| DOOR SW-AS [On/Off] | The switch status input from front door switch (passenger side) |
| DOOR SW-RR [On/Off] | The switch status input from rear door switch RH |
| DOOR SW- RL [On/Off] | The switch status input from rear door switch LH |
| DOOR SW-BK [On/Off] | The switch status input from back door switch |
| OPTICAL SENSOR [On/Off] | The sensor status input from optical sensor |
| 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 |

ACTIVE TEST

| Test item | Operation | Description |
|------------------------|-----------|--|
| TAIL LAMP | On | Transmits the position light request signal to IPDM E/R via CAN communication to turn the tail lamp ON |
| | Off | Stops the tail lamp request signal transmission |
| HEAD LAMP | Hi | Transmits the high beam request signal via CAN communication to turn the headlamp (HI) |
| | Lo | Transmits the low beam request signal via CAN communication to turn the headlamp (LO) |
| | Off | Stops the high & low beam request signal transmission |
| FR FOG LAMP | On | Transmits the front fog lights request signal to IPDM E/R via CAN communication to turn the front fog lamp ON |
| | Off | Stops the front light request signal transmission |
| RR FOG LAMP | On | NOTE: This item is indicated, but can not tested |
| | Off | |
| DAYTIME RUNNING LIGHT* | On | Transmits the front fog lights request signal to IPDM E/R via CAN communication to turn the front fog lamp ON (daytime running light system) |
| | Off | Stops the front light request signal transmission (daytime running light system) |
| ILL DIM SIGNAL | On | <ul style="list-style-type: none"> Transmits the dimmer signal to combination meter via CAN communication and dims combination meter Transmits the dimmer signal to AV control unit and dims display |
| | Off | Stops the dimmer signal transmission |

*: Only models for Canada display this item.

FLASHER

FLASHER : CONSULT-III Function (BCM - FLASHER)

INFOID:000000006213912

WORK SUPPORT

DIAGNOSIS SYSTEM (BCM)

[XENON TYPE]

< SYSTEM DESCRIPTION >

| Service item | Setting item | Setting | |
|--------------------|--------------|------------------------|--|
| HAZARD ANSWER BACK | Lock Only | With locking only | Sets the hazard warning lamp answer back function when the door is lock/unlock with the request switch or the key fob. |
| | Unlk Only | With unlocking only | |
| | Lock&Unlk* | With locking/unlocking | |
| | Off | Without the function | |

*: Factory setting

DATA MONITOR

| Monitor item [Unit] | Description |
|---------------------------|--|
| REQ SW-DR [On/Off] | The switch status input from the request switch (driver side) |
| REQ SW-AS [On/Off] | The switch status input from the request switch (passenger side) |
| PUSH SW [On/Off] | The switch status input from the 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] | Lock signal status received from the remote keyless entry receiver |
| RKE-UNLOCK [On/Off] | Unlock signal status received from the remote keyless entry receiver |
| RKE-PANIC [On/Off] | Panic alarm signal status received from the remote keyless entry receiver |

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:000000006368066

AUTO ACTIVE TEST

Description

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

- Oil pressure warning lamp
- Rear window defogger
- Front wiper (LO, HI)
- Parking lamp
- License plate lamp
- Tail lamp
- Side marker lamp
- Front fog lamp
- Headlamp (LO, HI)
- A/C compressor (magnet clutch)

Operation Procedure

CAUTION:

Never perform auto active test in the following conditions.

- **Engine is running.**
 - **CONSULT-III is connected.**
1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)
NOTE:
 When auto active test is performed with hood opened, sprinkle water on windshield beforehand.
 2. Turn the ignition switch OFF.
 3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.
CAUTION:
Close passenger door.
 4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
CAUTION:
Engine starts when ignition switch is turned ON while brake pedal is depressed.
 5. The oil pressure warning lamp starts blinking when the auto active test starts.
 6. After a series of the following operations is repeated 3 times, auto active test is completed.

NOTE:

- When auto active test has to be cancelled halfway through test, turn the ignition switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to [DLK-117](#), "[Component Function Check](#)".

Inspection in Auto Active Test

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

| Operation sequence | Inspection location | Operation |
|--------------------|---|--|
| 1 | Oil pressure warning lamp | Blinks continuously during operation of auto active test |
| 2 | Rear window defogger | 10 seconds |
| 3 | Front wiper | LO for 5 seconds → HI for 5 seconds |
| 4 | <ul style="list-style-type: none"> • Parking lamp • License plate lamp • Tail lamp • Side marker lamp • Front fog lamp | 10 seconds |

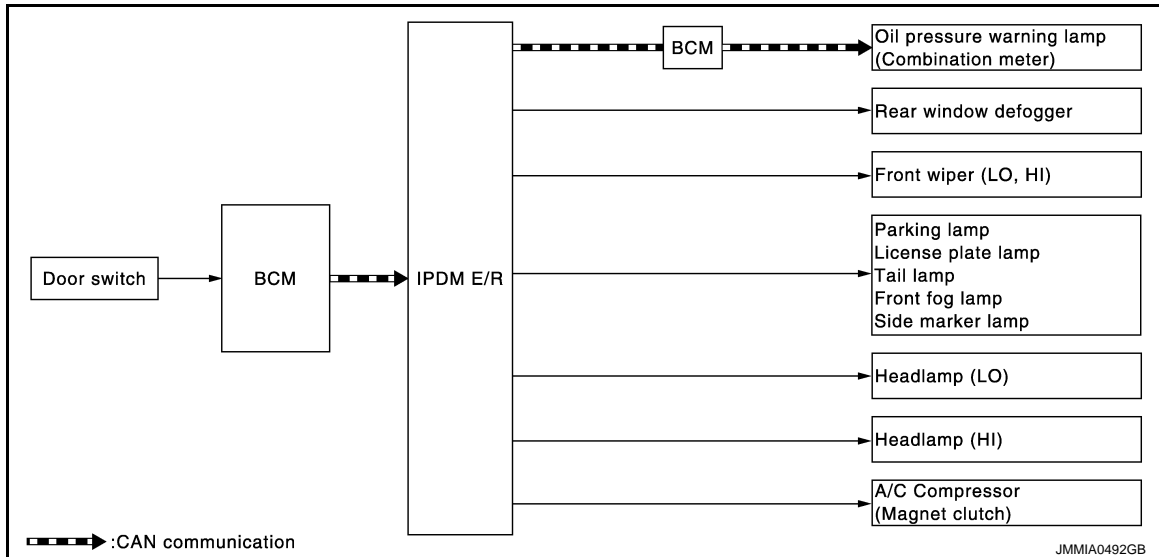
DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[XENON TYPE]

| Operation sequence | Inspection location | Operation |
|--------------------|--------------------------------|---|
| 5 | Headlamp | LO for 10 seconds → HI ON ↔ OFF 5 times |
| 6 | A/C compressor (magnet clutch) | ON ↔ OFF 5 times |

Concept of auto active test



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

Diagnosis chart in auto active test

| Symptom | Inspection contents | | Possible cause |
|---|---|-----|---|
| Rear window defogger does not operate | Perform auto active test. Does the rear window defogger operate? | YES | BCM signal input circuit |
| | | NO | <ul style="list-style-type: none"> • Rear window defogger • Rear window defogger ground circuit • Harness or connector between IPDM E/R and rear window defogger • IPDM E/R |
| Any of the following components do not operate <ul style="list-style-type: none"> • Parking lamp • License plate lamp • Tail lamp • Side marker lamp • Front fog lamp • Headlamp (HI, LO) • Front wiper (HI, LO) | Perform auto active test. Does the applicable system operate? | YES | BCM signal input circuit |
| | | NO | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • A/C auto amp. signal input circuit • CAN communication signal between A/C auto amp. and ECM • CAN communication signal between ECM and IPDM E/R |
| | | NO | <ul style="list-style-type: none"> • Magnet clutch • Harness or connector between IPDM E/R and magnet clutch • IPDM E/R |

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[XENON TYPE]

| Symptom | Inspection contents | Possible cause |
|--|--|---|
| Oil pressure warning lamp does not operate | Perform auto active test. Does the oil pressure warning lamp blink? | YES <ul style="list-style-type: none"> • Harness or connector between IPDM E/R and oil pressure switch • Oil pressure switch • IPDM E/R |
| | | NO <ul style="list-style-type: none"> • CAN communication signal between IPDM E/R and BCM • CAN communication signal between BCM and combination meter • Combination meter |

CONSULT-III Function (IPDM E/R)

INFOID:000000006368067

APPLICATION ITEM

CONSULT-III 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-22, "DTC Index"](#).

DATA MONITOR

Monitor item

| Monitor Item [Unit] | MAIN SIGNALS | Description |
|----------------------------------|--------------|---|
| RAD FAN REQ [1/2/3/4] | × | Displays the value of the cooling fan speed request signal received from ECM via CAN communication. |
| 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 auto stop 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. |

DIAGNOSIS SYSTEM (IPDM E/R)

[XENON TYPE]

< SYSTEM DESCRIPTION >

| Monitor Item [Unit] | MAIN SIG- NALS | Description |
|---|-------------------|---|
| 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. |
| IHBT RLY -REQ [Off/On] | | Displays the status of the starter control relay signal received from BCM via CAN communication. |
| ST/INH RLY [Off/ ST ON/INH ON/UNKWN] | | Displays the status of the starter relay and starter control relay judged by IPDM E/R. |
| 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] | | Displays the status of the steering lock relay signal received from BCM via CAN communication. |
| S/L STATE [LOCK/UNLK/UNKWN] | | Displays the status of the steering lock judged by IPDM E/R. |
| OIL P SW [Open/Close] | | Displays the status of the oil pressure switch judged by IPDM E/R. |
| HOOD SW [Off/On] | | Displays the status of the hood switch judged by IPDM E/R. |
| HL WASHER REQ [Off/On] | | Displays the status of the headlamp washer request signal received from BCM via CAN communication. |
| 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. |

ACTIVE TEST

Test item

| Test item | Operation | Description |
|------------------|-----------|--|
| CORNERING LAMP | LH | NOTE: This item is indicated, but cannot be tested. |
| | RH | |
| HORN | On | Operates horn relay for 20 ms. |
| REAR DEFOGGER | Off | OFF |
| | On | Operates the rear window defogger relay. |
| FRONT WIPER | Off | OFF |
| | Lo | Operates the front wiper relay. |
| | Hi | Operates the front wiper relay and front wiper high relay. |
| MOTOR FAN* | 1 | OFF |
| | 2 | Transmits 50% pulse duty signal (PWM signal) to the cooling fan control module. |
| | 3 | Transmits 75% pulse duty signal (PWM signal) to the cooling fan control module. |
| | 4 | Transmits 100% pulse duty signal (PWM signal) to the cooling fan control module. |
| HEAD LAMP WASHER | On | Operates the headlamp washer relay for 1 second. |

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[XENON TYPE]

| Test item | Operation | Description |
|----------------|-----------|---|
| 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. |

*: Operates while the engine is running.

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DIAGNOSIS SYSTEM (AFS)

< SYSTEM DESCRIPTION >

[XENON TYPE]

DIAGNOSIS SYSTEM (AFS)

CONSULT-III Function (ADAPTIVE LIGHT)

INFOID:000000006213915

APPLICATION ITEM

| Diagnostic 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 | Sets each sensor. |
| Data monitor | Indicates AFS control unit input data in real time. |
| Active test | Provides the drive signal to the load. Checks operation. |

WORK SUPPORT

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

*: Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to [BRC-64, "Work Procedure"](#).

DATA MONITOR

| Monitor item [Unit] | Description |
|---------------------------------|--|
| STR ANGLS SIG [deg] | 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/FF] | The selector lever status judged by the position indicator signal received from TCM via CAN communication |
| HEAD LAMP [On/Off] | The headlamp On/Off status judged by the low beam headlamp (ON) signal received from IPDM E/R via CAN communication |
| AFS SW [On/Off] | The AFS On/Off status judged by AFS control unit |
| HI SEN OTP RR [V] | The rear height sensor signal voltage value input from the rear height sensor |
| HI SEN OTP FR [V] | The front height sensor signal voltage value input from the front height sensor |
| LEV ACTR VLTG [%] | The ratio value to the battery voltage generated by the levelizer activation signal control value judged by AFS control unit |
| SWVL SEN RH* [deg] | The head lamp swivel angle value judged by AFS control unit received from the swivel position sensor signal input from the swivel actuator |
| SWVL SEN LH* [deg] | |
| SWVL ANGLE RH* [deg] | The swivel angle command value to the swivel motor judged by AFS control unit |
| SWVL ANGLE LH* [deg] | |

*: The swivel angle "0°" (feedback value) of the swivel position sensor signal may differ from the swivel angle "0°" of the swivel motor (AFS control unit command value). This causes that the swivel motor initializes the value based on the step number from the stopper.

ACTIVE TEST

DIAGNOSIS SYSTEM (AFS)

< SYSTEM DESCRIPTION >

[XENON TYPE]

CAUTION:

Start the engine when using “ACTIVE TEST”.

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| Test item | Operation Item | Description |
|---------------------|----------------|--|
| LOW BEAM TEST RIGHT | Origin Fast | Swivels the right headlamp to the swivel angle 0° in the normal speed. |
| | Peak Fast | Swivels the right headlamp to the swivel angle approximately 15° in the normal speed. |
| | Origin Slow | Swivels the right headlamp to the swivel angle 0° in the speed at the initialization. |
| | Peak Slow | Swivels the right headlamp to the swivel angle approximately 15° in the speed at the initialization. |
| LOW BEAM TEST LEFT | Origin Fast | Swivels the left headlamp to the swivel angle 0° in the normal speed. |
| | Peak Fast | Swivels the left headlamp to the swivel angle approximately 17° in the normal speed. |
| | Origin Slow | Swivels the left headlamp to the swivel angle 0° in the speed at the initialization. |
| | Peak Slow | Swivels the left headlamp to the swivel angle approximately 17° in the speed at the initialization. |
| LEVELIZER TEST | Origin | Changes the aiming motor drive signal to approximately 70% of the battery voltage. Moves the headlamp upward and downward. |
| | Peak | Changes the aiming motor drive signal to approximately 15% of the battery voltage. Moves the headlamp upward and downward. |

NOTE:

“Fast” operation speed is as three times fast as “Slow”.

ECU DIAGNOSIS INFORMATION

BCM, IPDM E/R

List of ECU Reference

INFOID:000000006213916

| ECU | Reference |
|----------|---|
| BCM | BCS-33, "Reference Value" |
| | BCS-54, "Fail-safe" |
| | BCS-56, "DTC Inspection Priority Chart" |
| | BCS-57, "DTC Index" |
| IPDM E/R | PCS-15, "Reference Value" |
| | PCS-21, "Fail-Safe" |
| | PCS-22, "DTC Index" |

AFS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

AFS CONTROL UNIT

Reference Value

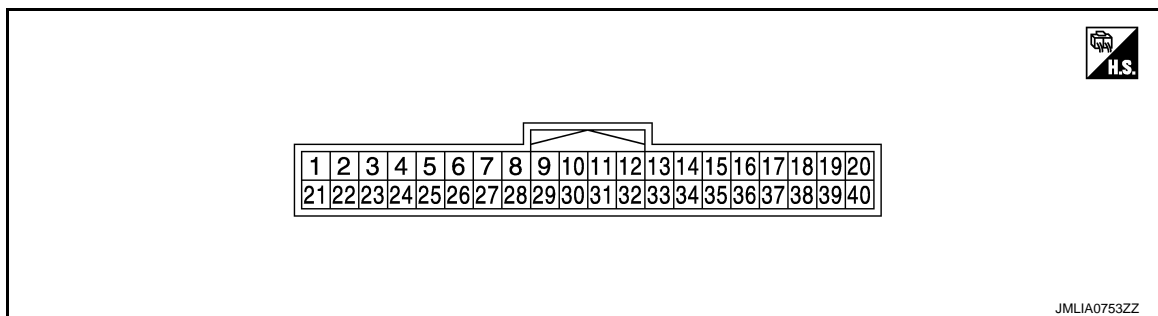
INFOID:000000006213917

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

| Monitor Item | Condition | | Value/Status |
|---------------|----------------------------------|--|-----------------------|
| STR ANGLE SIG | Steering | Straight-forward | Approx. 0° |
| | | Steering | Approx. -900° - +900° |
| VHCL SPD | Driving at 40 km/h (25 MPH) | | 40 km/h |
| SLCT LVR POSI | Selector lever operation | | P - 1 |
| HEAD LAMP | Light switch | 2ND | On |
| | | Other than 2ND | Off |
| AFS SW | AFS switch | ON | On |
| | | OFF | Off |
| HI SEN OTP FR | Vehicle front height | Unloaded vehicle condition | Approx. 3.5 V |
| | | Low (Leveling operation downward edge) | Approx. 1.6 V |
| HI SEN OTP RR | Vehicle rear height | Unloaded vehicle condition | Approx. 3.2 V |
| | | Low (Leveling operation downward edge) | Approx. 1.5 V |
| LEV ACTR VLTG | Headlamp leveling | Unloaded vehicle condition | Approx. 60.0% |
| | | Low (Leveling operation downward edge) | Approx. 58.7% |
| SWVL SEN RH | Right headlamp swivel activation | Standard position | Approx. 0° |
| | | Activation | Positive degree (+°) |
| SWVL SEN 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 (+°) |
| SWVL ANGLE LH | Left headlamp swivel activation | Standard position | Approx. 0° |
| | | Activation | Positive degree (+°) |

TERMINAL LAYOUT

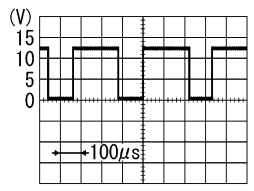
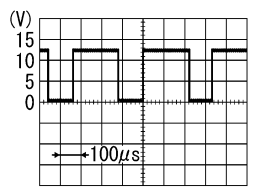


PHYSICAL VALUES

AFS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

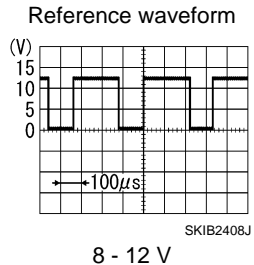
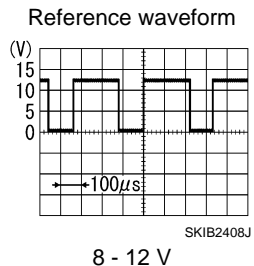
[XENON TYPE]

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|------------------------------|--------|---|------------------|-----------------------------|----------------------------------|---|
| + | - | Signal name | Input/ output | | | |
| 1 (GR) | Ground | Ignition power supply | Input | The ignition switch ON | | Battery voltage |
| 2 (LG/B) | Ground | Right swivel position sensor ground | Input | The ignition switch ON | | 0 V |
| 3 (GR/ R) | Ground | AFS switch signal | Input | AFS switch | ON | Battery voltage |
| | | | | | OFF | 0 V |
| 4 (Y/R) | Ground | Right swivel position sensor power supply | Output | The ignition switch ON | | 5 V |
| 5 (L/Y) | Ground | Front height sensor power supply | Output | The ignition switch ON | | 5 V |
| 6 (LG/R) | Ground | Rear height sensor power supply | Output | The ignition switch ON | | 5 V |
| 7 (P) | Ground | CAN-L | Input/ output | — | | — |
| 8 (B/O) | Ground | Rear height sensor ground | Input | The ignition switch ON | | 0 V |
| 9 (GR) | Ground | Right swivel position sensor signal | Output | Right headlamp swivel angle | 0° | 1.0 V |
| | | | | | 15° | 2.8 V |
| 10 (B/W) | Ground | Front height sensor ground | Input | The ignition switch ON | | 0 V |
| 11 (R) | Ground | Right swivel motor 1-phase (-) | Output | Right headlamp swivel | Activation | Reference waveform  <small>SKIB2408J</small> 8 - 12 V |
| | | | | | | 9.5 - 11.5 V |
| 13 (B) | Ground | Right swivel motor 2-phase (-) | Output | Right headlamp swivel | Stopped | 9.5 - 11.5 V |
| 15 (W) | Ground | Left swivel motor 1-phase (+) | Output | Left headlamp swivel | Activation | Reference waveform  <small>SKIB2408J</small> 8 - 12 V |
| | | | | | | 9.5 - 11.5 V |
| 17 (G) | Ground | Left swivel motor 2-phase (+) | Output | Left headlamp swivel | Stopped | 9.5 - 11.5 V |
| 19 (SB) | Ground | Right levelizer signal | Output | Right headlamp leveling | Unloaded vehicle condition | 7.5 V |
| | | | | | Leveling operation downward edge | 7.3 V |

AFS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|------------------------------|--------|--|------------------|----------------------------|--|---|
| + | - | Signal name | Input/ output | | | |
| 23 (V) | Ground | Front height sensor signal | Output | Vehicle rear height | Unloaded vehicle condition | 3.5 V |
| | | | | | Low (Leveling operation downward edge) | 1.6 V |
| 24 (L/O) | Ground | Left swivel position sensor power supply | Output | The ignition switch ON | | 5 V |
| 25 (B) | Ground | Ground | — | The ignition switch ON | | 0 V |
| 27 (BR/Y) | Ground | Left swivel position sensor ground | Input | The ignition switch ON | | 0 V |
| 28 (R/G) | Ground | Rear height sensor signal | Output | Vehicle rear height | Unloaded vehicle condition | 3.2 V |
| | | | | | Low (Leveling operation downward edge) | 1.5 V |
| 29 (BR/W) | Ground | Left swivel position sensor signal | Output | Left headlamp swivel angle | 0° | 1.0 V |
| | | | | | 17° | 3.0 V |
| 30 (L) | Ground | CAN-H | Input/ output | — | | — |
| 32 (G) | Ground | Right swivel motor 2-phase (+) | Output | Right headlamp swivel | Activation | Reference waveform  |
| | | | | | | 8 - 12 V |
| 34 (W) | Ground | Right swivel motor 1-phase (+) | Output | Right headlamp swivel | Stopped | 9.5 - 11.5 V |
| 36 (R) | Ground | Left swivel motor 2-phase (-) | Output | Left headlamp swivel | Activation | Reference waveform  |
| | | | | | | 8 - 12 V |
| 38 (B) | Ground | Left swivel motor 1-phase (-) | Output | Left headlamp swivel | Stopped | 9.5 - 11.5 V |
| 40 (GR/L) | Ground | Left levelizer signal | Output | Right headlamp leveling | Unloaded vehicle condition | 7.5 V |
| | | | | | Leveling operation downward edge | 7.3 V |

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EXL

AFS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Fail-Safe

INFOID:00000006213918

| DTC | Fail-safe | AFS OFF indicator lamp | Cancellation |
|-----------------------------|---|------------------------|--|
| U1000: CAN COMM CIRCUIT | <ul style="list-style-type: none"> • Right and left swivel motors stop at the position when DTC is detected. • Right and left aiming motors stop at the position when DTC is detected. | Blinks 1 second each. | Ignition switch OFF |
| U1010: CONTROL UNIT (CAN) | <ul style="list-style-type: none"> • Right and left swivel motors stop at the position when DTC is detected. • Right and left aiming motors stop at the position when DTC is detected. | Blinks 1 second each. | Ignition switch OFF |
| B2503: SWIVEL ACTUATOR [RH] | <ul style="list-style-type: none"> • Right swivel motors stop at the position when DTC is detected. • The signal, approximately 2 V decreased from the levelizer signal when DTC detected, is output. | Blinks 1 second each. | Ignition switch OFF |
| B2504: SWIVEL ACTUATOR [LH] | <ul style="list-style-type: none"> • Left swivel motors stop at the position when DTC is detected. • The signal, approximately 2 V decreased from the levelizer signal when DTC detected, is output. | Blinks 1 second each. | Ignition switch OFF |
| B2513: HI SEN UNUSUAL [FR] | <ul style="list-style-type: none"> • Right and left aiming motors stop at the position when DTC is detected. | — | Ignition switch OFF |
| B2514: HI SEN UNUSUAL [RR] | <ul style="list-style-type: none"> • Right and left aiming motors stop at the position when DTC is detected. | — | Ignition switch OFF |
| C0126: ST ANG SEN SIG | <ul style="list-style-type: none"> • Right and left swivel motor swivel angle returns to 0° and fixed. | Blinks 1 second each. | Ignition switch OFF |
| B2516: SHIFT SIG [P, R] | <ul style="list-style-type: none"> • Right and left swivel motor swivel angle returns to 0° and fixed. | Blinks 1 second each. | Ignition switch OFF |
| B2517: VEHICLE SPEED SIG | <ul style="list-style-type: none"> • Right and left swivel motor swivel angle returns to 0° and fixed. • Right and left aiming motors stop at the position when DTC is detected. | Blinks 1 second each. | Ignition switch OFF |
| B2519: LEVELIZER CALIB | <ul style="list-style-type: none"> • Right and left aiming motors stop at the position when DTC is detected. | — | When the levelizer adjustment is completed. |
| C0428: ST ANGLE SEN CALIB | <ul style="list-style-type: none"> • Right and left swivel motor swivel angle returns to 0° and fixed. | Blinks 1 second each. | When the steering angle sensor neutral position registration is completed. |
| B2521: ECU CIRC | <ul style="list-style-type: none"> • Right and left swivel motors stop at the position when DTC is detected. • Right and left aiming motors stop at the position when DTC is detected. | Blinks 1 second each. | Ignition switch OFF |

AFS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

DTC Inspection Priority Chart

INFOID:000000006213919

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

NOTE:

- If DTC U1000 is displayed with other DTC, first perform the trouble diagnosis for DTC U1000.
- If DTC U1010 is displayed with other DTC, first perform the trouble diagnosis for DTC U1010.

| Priority | Detected items (DTC) |
|----------|--|
| 1 | <ul style="list-style-type: none"> • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN) |
| 2 | <ul style="list-style-type: none"> • B2519: LEVELIZER CALIB • B2521: ECU CIRC • C0428: ST ANG SEN CALIB |
| 3 | <ul style="list-style-type: none"> • B2503: SWIVEL ACTUATOR [RH] • B2504: SWIVEL ACTUATOR [LH] • B2513: HI SEN UNUSUAL [FR] • B2514: HI SEN UNUSUAL [RR] • B2516: SHIFT SIG [P, R] • B2517: VEHICLE SPEED SIG • C0126: ST ANG SEN SIG |

DTC Index

INFOID:000000006213920

x: Applicable

| CONSULT display | Fail-safe | AFS OFF indicator lamp | Reference |
|-----------------------------|-----------|------------------------|------------------------|
| U1000: CAN COMM CIRCUIT | × | × | EXL-82 |
| U1010: CONTROL UNIT (CAN) | × | × | EXL-83 |
| B2503: SWIVEL ACTUATOR [RH] | × | × | EXL-63 |
| B2504: SWIVEL ACTUATOR [LH] | × | × | EXL-63 |
| B2513: HI SEN UNUSUAL [FR] | × | | EXL-68 |
| B2514: HI SEN UNUSUAL [RR] | × | | EXL-71 |
| B2516: SHIFT SIG [P, R] | × | × | EXL-74 |
| B2517: VEHICLE SPEED SIG | × | × | EXL-75 |
| B2519: LEVELIZER CALIB | × | | EXL-76 |
| B2521: ECU CIRC | × | × | EXL-77 |
| C0126: ST ANG SEN SIG | × | × | EXL-80 |
| C0428: ST ANGLE SEN CALIB | × | × | EXL-81 |

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EXL

EXTERIOR LIGHTING SYSTEM

[XENON TYPE]

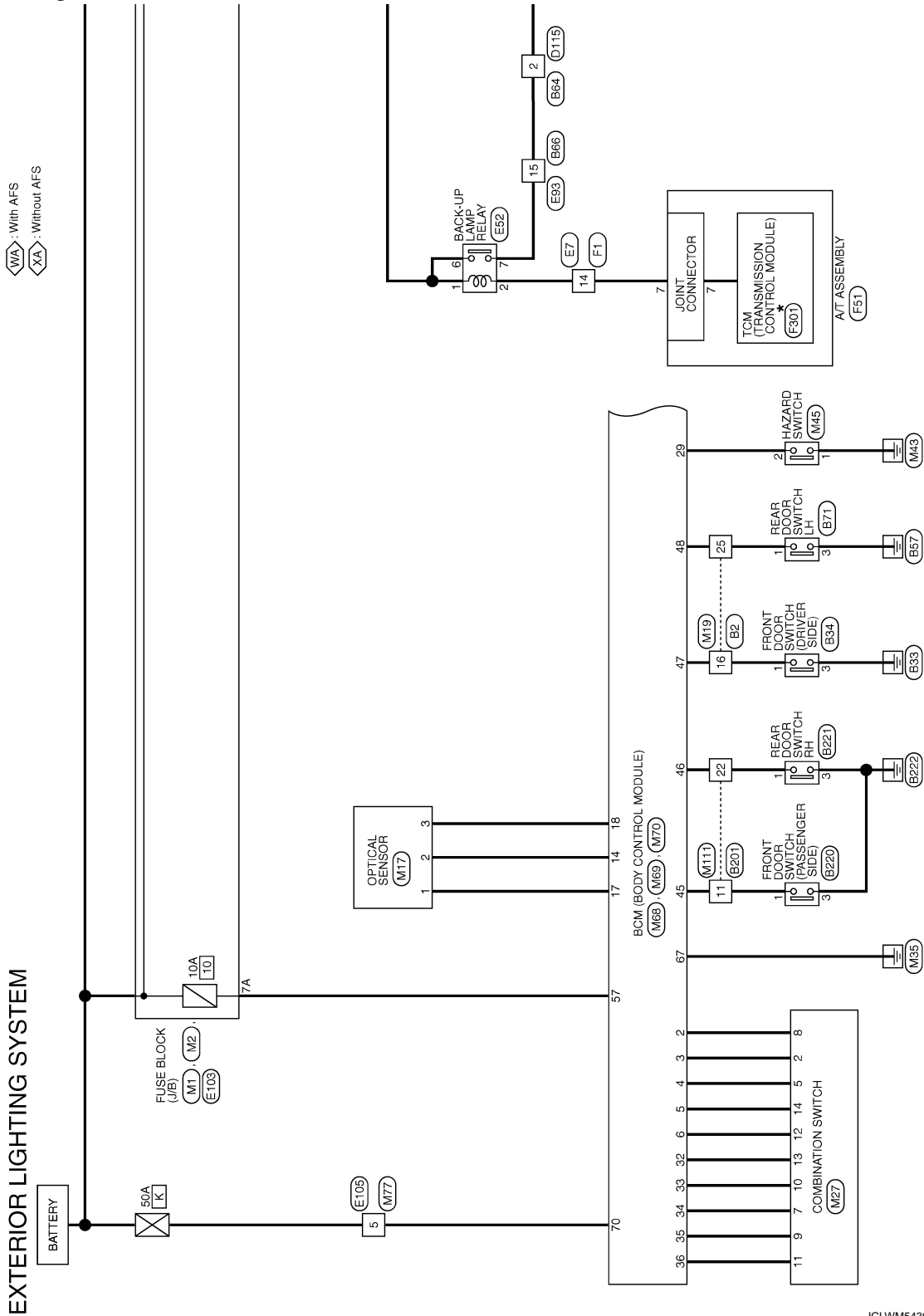
< WIRING DIAGRAM >

WIRING DIAGRAM

EXTERIOR LIGHTING SYSTEM

Wiring Diagram

INFOID:000000006213921



*: This connector is not shown in "Harness Layout".

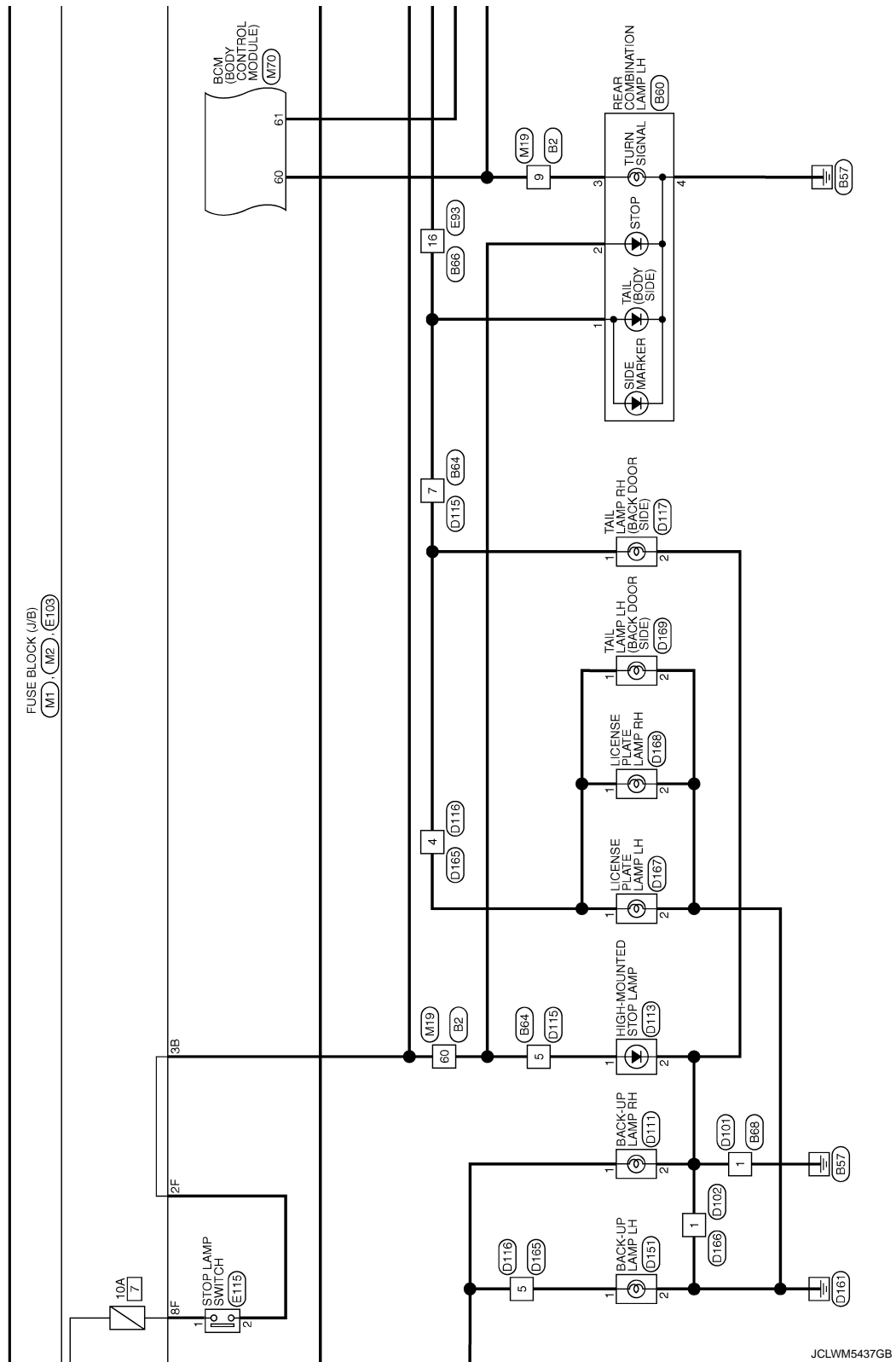
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JCLWM5436GB

EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

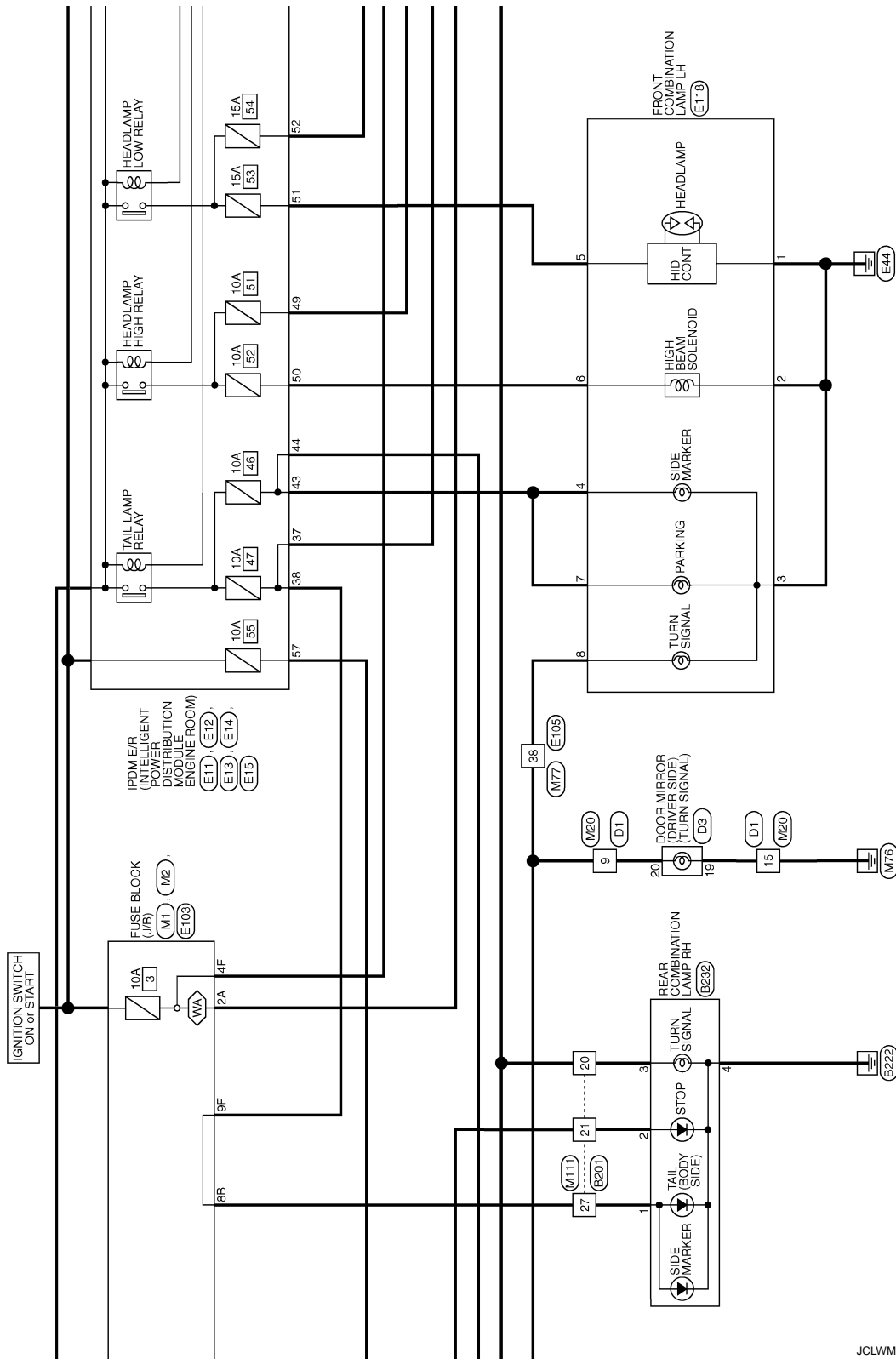


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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

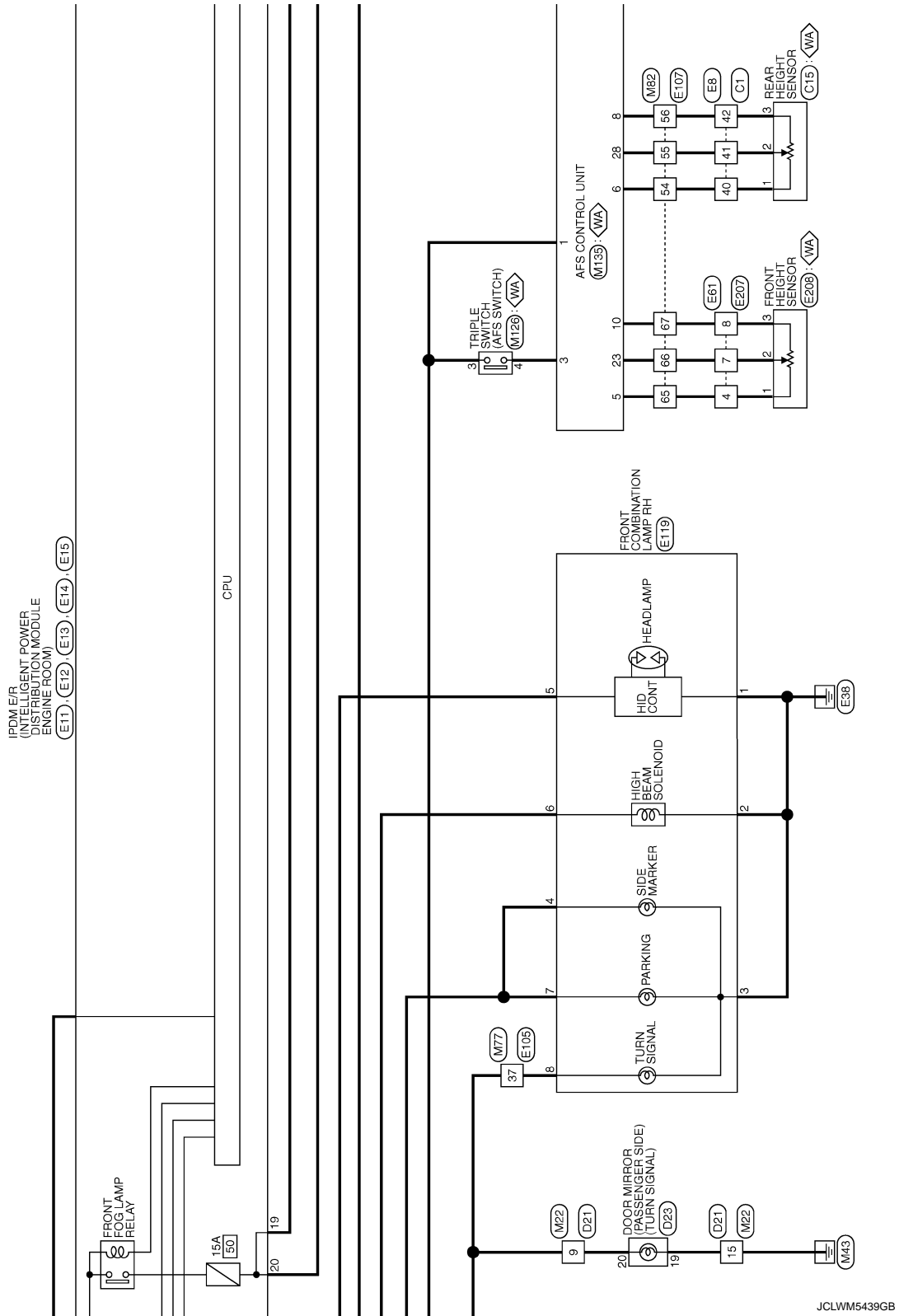


JCLWM5438GB

EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]



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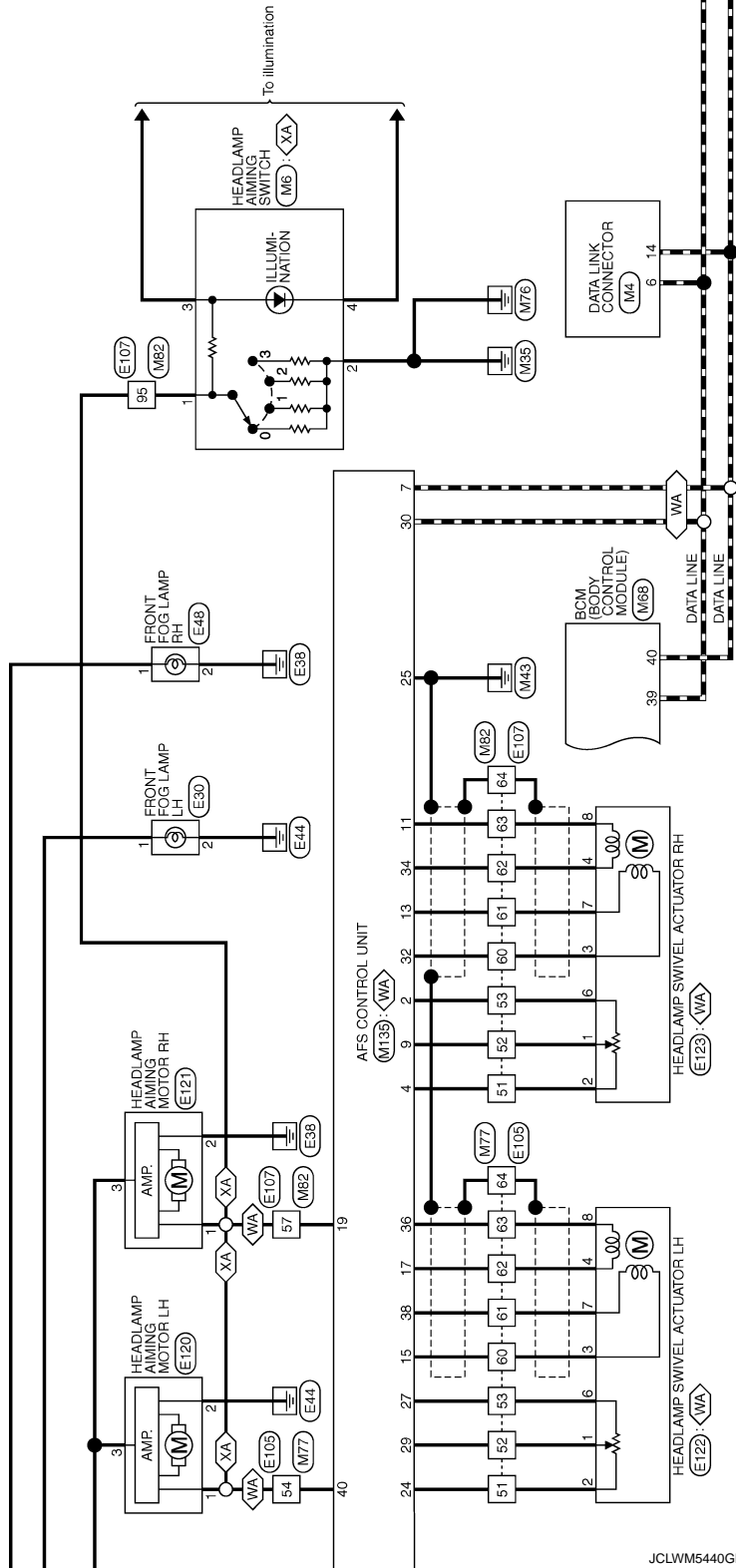
EXTERIOR LIGHTING SYSTEM

[XENON TYPE]

< WIRING DIAGRAM >

IPDM E/R
CENTRAL POWER
DISTRIBUTION MODULE
(ENGINE ROOM)
(E11) (E12) (E13) (E14) (E15)

CPU

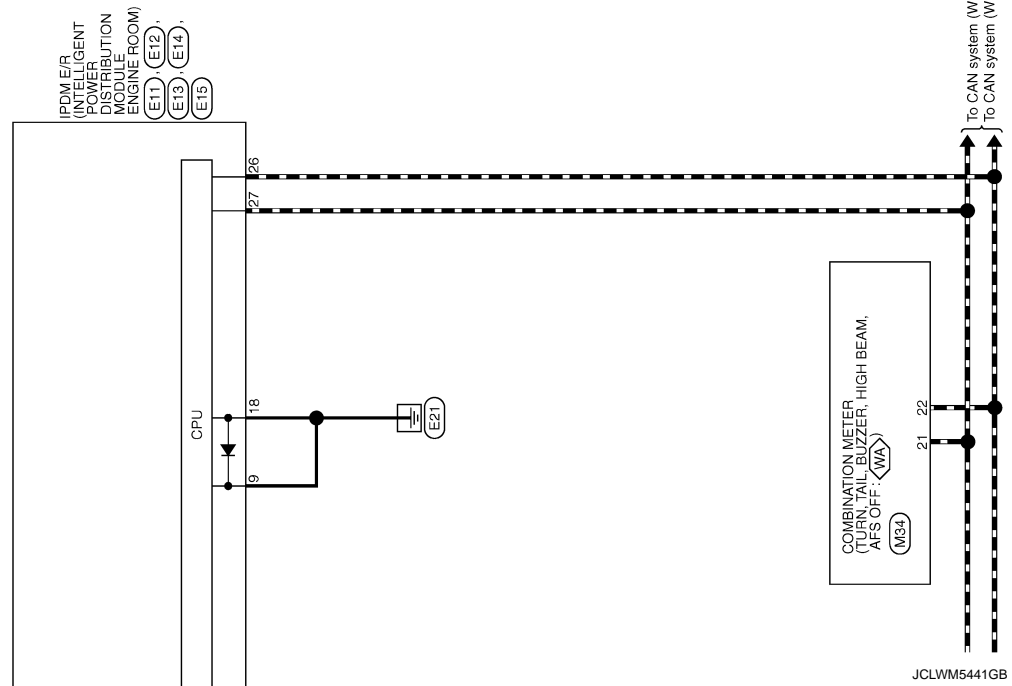


JCLWM5440GB

EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]



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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

EXTERIOR LIGHTING SYSTEM

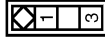
| | |
|----------------|-----------------|
| Connector No. | B2 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS1E-TM4 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 2 | L | - |
| 3 | BR | - |
| 5 | R/W | - |
| 6 | L | - |
| 7 | V | - |
| 9 | G | - |
| 11 | W/B | - |
| 12 | BR | - |
| 13 | G/R | - |
| 14 | B/Y | - |
| 15 | W/R | - |
| 16 | GR/R | - |
| 18 | G/W | - |
| 19 | V | - |
| 20 | W/G | - |
| 21 | B/W | - |
| 22 | V | - |
| 23 | SHIELD | - |
| 24 | G | - |
| 25 | O | - |
| 26 | Y | - |
| 27 | L/O | - |
| 28 | Y/R | - |
| 29 | L | - |
| 30 | R | - |
| 31 | G/Y | - |
| 32 | B/SB | - |
| 33 | LG/R | - |
| 34 | BR/W | - |
| 35 | GR/R | - |
| 36 | SB | - |
| 37 | LG | - |
| 38 | L | - |
| 39 | P | - |
| 40 | W/G | - |
| 42 | G/R | - |
| 43 | V/W | - |
| 44 | LG/B | - |

| | | |
|-----|--------|---|
| 45 | R/Y | - |
| 46 | B | - |
| 49 | GR | - |
| 50 | R/B | - |
| 51 | W/R | - |
| 52 | BR/Y | - |
| 53 | O/B | - |
| 54 | G/O | - |
| 55 | R/B | - |
| 56 | LG/R | - |
| 57 | GR/R | - |
| 58 | Y/G | - |
| 59 | V/W | - |
| 60 | R | - |
| 63 | Y | - |
| 64 | R | - |
| 65 | W | - |
| 66 | G | - |
| 67 | B | - |
| 68 | SHIELD | - |
| 69 | LG/B | - |
| 70 | P/L | - |
| 71 | L | - |
| 72 | R | - |
| 77 | Y/B | - |
| 78 | Y/L | - |
| 79 | Y | - |
| 80 | W/R | - |
| 81 | Y/L | - |
| 83 | BR | - |
| 84 | L/O | - |
| 86 | O | - |
| 87 | W/R | - |
| 88 | O | - |
| 89 | W/L | - |
| 90 | GR/L | - |
| 91 | W | - |
| 92 | G | - |
| 94 | W/R | - |
| 96 | L/W | - |
| 97 | R | - |
| 98 | V | - |
| 99 | L/W | - |
| 100 | P/B | - |

| | |
|----------------|---------------------------------|
| Connector No. | B34 |
| Connector Name | FRONT DOOR SWITCH (DRIVER SIDE) |
| Connector Type | A03FW |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | GR/R | - |
| 3 | B | - |

| | |
|----------------|--------------------------|
| Connector No. | B60 |
| Connector Name | REAR COMBINATION LAMP LH |
| Connector Type | MS4FW-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | L/W | - |
| 2 | R | - |
| 3 | G | - |
| 4 | B | - |

| | |
|----------------|--------------|
| Connector No. | B64 |
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08MW-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | GR/R | - |
| 3 | B | - |

| | | |
|---|-----|---|
| 1 | L | - |
| 2 | R/Y | - |
| 3 | G/W | - |
| 4 | R | - |
| 5 | R | - |
| 7 | L/W | - |
| 8 | V | - |

| | |
|----------------|--------------|
| Connector No. | B65 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH18MW-NH |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | R | - |
| 2 | B | - |
| 3 | G | - |
| 4 | W | - |
| 5 | SHIELD | - |
| 7 | GR | - |
| 8 | R/W | - |
| 11 | R | - |
| 12 | V | - |
| 13 | P/L | - |
| 15 | R/Y | - |
| 16 | L/W | - |

JCLWM5442GB

EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

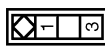
EXTERIOR LIGHTING SYSTEM

| | |
|----------------|--------------|
| Connector No. | B68 |
| Connector Name | WIRE TO WIRE |
| Connector Type | MO2MW-LC |



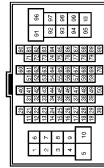
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| Terminal No. | Color of Wire | Signal Name [Specification] |
| 1 | B | - |
| 2 | R | - |

| | |
|----------------|---------------------|
| Connector No. | B71 |
| Connector Name | REAR DOOR SWITCH LH |
| Connector Type | A03FW |



| | | |
|--------------|---------------|-----------------------------|
| Terminal No. | Color of Wire | Signal Name [Specification] |
| 1 | O | - |
| 3 | B | - |

| | |
|----------------|-----------------|
| Connector No. | B201 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS1E-TM4 |



| | | |
|--------------|---------------|-----------------------------|
| Terminal No. | Color of Wire | Signal Name [Specification] |
| 1 | R/B | - |
| 2 | G | - |

| | | |
|----|--------|---|
| 3 | W | - |
| 5 | W/B | - |
| 6 | L/V | - |
| 7 | R | - |
| 8 | G/R | - |
| 9 | GR/R | - |
| 11 | W | - |
| 12 | V | - |
| 13 | Y | - |
| 16 | L/O | - |
| 17 | GR/L | - |
| 18 | R/G | - |
| 19 | L/Y | - |
| 20 | G/Y | - |
| 21 | R | - |
| 22 | GR | - |
| 27 | L/W | - |
| 29 | W | - |
| 30 | R/L | - |
| 31 | Y/L | - |
| 32 | W/R | - |
| 33 | W/G | - |
| 34 | L/R | - |
| 39 | P/B | - |
| 40 | W/R | - |
| 41 | R | - |
| 42 | L | - |
| 43 | B/W | - |
| 51 | L/B | - |
| 52 | L/R | - |
| 53 | SB | - |
| 54 | V/W | - |
| 59 | L | - |
| 60 | GR | - |
| 61 | P/L | - |
| 62 | P/SB | - |
| 63 | R/T | - |
| 64 | BR | - |
| 70 | O | - |
| 71 | G/R | - |
| 72 | SHIELD | - |
| 73 | G/O | - |
| 74 | G/Y | - |
| 77 | SB | - |
| 78 | LG | - |
| 79 | R/B | - |
| 90 | W/B | - |
| 93 | Y | - |
| 94 | L | - |
| 95 | L/R | - |
| 96 | R | - |
| 97 | W | - |

| | |
|----------------|--------------------------|
| Connector No. | E232 |
| Connector Name | REAR COMBINATION LAMP RH |
| Connector Type | NS03FW-CS |

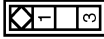


| | | |
|--------------|---------------|-----------------------------|
| Terminal No. | Color of Wire | Signal Name [Specification] |
| 1 | L/W | - |
| 2 | R | - |
| 3 | G/Y | - |
| 4 | B | - |

| | | |
|-----|-----|---|
| 98 | V | - |
| 99 | L/W | - |
| 100 | W | - |

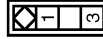


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|----------------|------------------------------------|
| Connector No. | E220 |
| Connector Name | FRONT DOOR SWITCH (PASSENGER SIDE) |
| Connector Type | A03FW |



| | | |
|--------------|---------------|-----------------------------|
| Terminal No. | Color of Wire | Signal Name [Specification] |
| 1 | W | - |
| 3 | B | - |

| | |
|----------------|---------------------|
| Connector No. | B221 |
| Connector Name | REAR DOOR SWITCH RH |
| Connector Type | A03FW |



| | | |
|--------------|---------------|-----------------------------|
| Terminal No. | Color of Wire | Signal Name [Specification] |
| 1 | GR | - |
| 3 | B | - |

JCLWM5443GB

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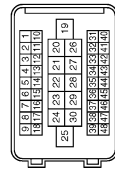
EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

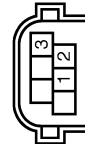
EXTERIOR LIGHTING SYSTEM

| | |
|----------------|------------------|
| Connector No. | C1 |
| Connector Name | WIRE TO WIRE |
| Connector Type | SA33FE-RS10-SJZZ |



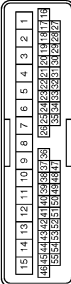
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | Y | |
| 3 | SB | |
| 4 | L/Y | |
| 5 | R | |
| 8 | V | |
| 9 | P | |
| 10 | BR/Y | |
| 11 | Y/Y | |
| 12 | V/W | |
| 14 | Y/L | |
| 17 | BR | |
| 18 | R/O | |
| 20 | G/W | |
| 22 | L/W | |
| 23 | B | |
| 24 | Y/G | |
| 25 | R | |
| 26 | SB | |
| 27 | R/G | |
| 28 | V | |
| 29 | B | |
| 40 | LG/R | |
| 41 | R/G | |
| 42 | B/R | |

| | |
|----------------|--------------------|
| Connector No. | C15 |
| Connector Name | REAR HEIGHT SENSOR |
| Connector Type | AAZ0RFE1 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | LG/R | HSV-R |
| 2 | R/G | HS-R |
| 3 | B/R | HSG-R |

| | |
|----------------|--------------|
| Connector No. | D1 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40PW-CS15 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | Y | |
| 2 | W | |
| 3 | V | |
| 4 | Y | |
| 5 | LG/R | |
| 6 | BR/W | |
| 8 | V | |
| 9 | G | |
| 10 | L | |
| 11 | L/O | |
| 13 | Y | |
| 14 | R | |
| 15 | B | |
| 16 | B | |
| 18 | R | |
| 19 | R | |
| 20 | P | |
| 22 | Y | |
| 23 | P | |
| 24 | Y/G | |
| 25 | R | |
| 26 | SB | |
| 27 | R/G | |
| 28 | V | |
| 29 | B | |
| 40 | LG/R | |
| 41 | R/G | |
| 42 | B/R | |

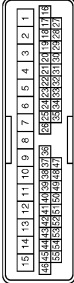
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| 45 | G | |
| 46 | W | |
| 47 | O | |
| 48 | G/W | |
| 49 | Y | |
| 50 | L/Y | |
| 51 | GR/R | |
| 52 | LG/B | |
| 53 | Y | |
| 54 | B | |
| 55 | R | |

| | |
|----------------|---------------------------|
| Connector No. | D3 |
| Connector Name | DOOR MIRROR (DRIVER SIDE) |
| Connector Type | TH24MW-NH |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 2 | BR/W | |
| 3 | W | SIDE CAMERA LH COMM |
| 5 | Y | SIDE CAMERA LH IMAGE SIGNAL |
| 6 | R | SIDE CAMERA LH POWER SUPPLY |
| 7 | L | |
| 8 | O | |
| 9 | W/B | |
| 10 | SB | |
| 11 | BR/Y | |
| 12 | L/W | |
| 14 | P | |
| 17 | G | SIDE CAMERA LH IMAGE GND |
| 18 | B | SIDE CAMERA LH GND |
| 19 | B | |
| 20 | G | |
| 21 | L/Y | |
| 22 | G/W | |
| 23 | W/L | |
| 24 | Y | |

| | |
|----------------|--------------|
| Connector No. | D21 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40PW-CS15 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | G | |
| 2 | W | |
| 3 | V | |
| 5 | P/L | |
| 6 | L/R | |
| 8 | L/W | |
| 9 | G/Y | |
| 10 | L | |
| 11 | L/O | |
| 13 | L | |
| 14 | R | |
| 15 | B | |
| 18 | B/W | |
| 19 | R | |
| 20 | P | |
| 22 | Y/R | |
| 23 | LG/B | |
| 25 | R/W | |
| 26 | W/R | |
| 36 | G/O | |
| 37 | Y/B | |
| 38 | V | |
| 39 | W/L | |
| 40 | L/O | |
| 44 | SHIELD | |
| 45 | Y | |
| 46 | W | |
| 47 | LG | |
| 48 | L/R | |
| 49 | Y | |
| 50 | R/B | |
| 52 | LG | |
| 53 | G | |
| 54 | B | |
| 55 | R | |

EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

EXTERIOR LIGHTING SYSTEM

| | |
|----------------|------------------------------|
| Connector No. | D23 |
| Connector Name | DOOR MIRROR (PASSENGER SIDE) |
| Connector Type | TH24MW-NH |



| | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|
| 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] |
|--------------|---------------|-----------------------------|
| 2 | R/W | - |
| 3 | W | SIDE CAMERA LH COMM |
| 4 | LG | SIDE CAMERA LH IMAGE SIGNAL |
| 5 | Y | SIDE CAMERA LH POWER SUPPLY |
| 6 | R | - |
| 7 | L | - |
| 8 | LG | - |
| 9 | G/O | - |
| 10 | V | - |
| 11 | Y/B | - |
| 12 | L/O | - |
| 14 | P | - |
| 17 | G | SIDE CAMERA LH IMAGE GND |
| 18 | B | SIDE CAMERA LH GND |
| 19 | B | - |
| 20 | G/Y | - |
| 21 | R/B | - |
| 22 | L/R | - |
| 23 | W/L | - |
| 24 | Y | - |



| | |
|---|---|
| 1 | 2 |
|---|---|

| | |
|----------------|--------------|
| Connector No. | D101 |
| Connector Name | WIRE TO WIRE |
| Connector Type | MD2FW-LC |

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

| | |
|----------------|--------------|
| Connector No. | D102 |
| Connector Name | WIRE TO WIRE |
| Connector Type | MD1FBR-S-LC |



| |
|---|
| 1 |
|---|

| | | |
|--------------|---------------|-----------------------------|
| Terminal No. | Color of Wire | Signal Name [Specification] |
| 1 | B | - |

| | |
|----------------|-----------------|
| Connector No. | D111 |
| Connector Name | BACK-UP LAMP RH |
| Connector Type | RS2ZFGY |



| | |
|---|---|
| 1 | 2 |
|---|---|

| | | |
|--------------|---------------|-----------------------------|
| Terminal No. | Color of Wire | Signal Name [Specification] |
| 1 | R/Y | - |
| 2 | B | - |

| | |
|----------------|------------------------|
| Connector No. | D113 |
| Connector Name | HIGH-MOUNTED STOP LAMP |
| Connector Type | TK02MBR-P |



| | |
|---|---|
| 2 | 1 |
|---|---|

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

| | |
|----------------|--------------|
| Connector No. | D115 |
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08FW-CS |



| | | | | |
|---|---|---|---|---|
| 3 | 2 | 1 | | |
| 8 | 7 | 6 | 5 | 4 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | L | - |
| 2 | R/Y | - |
| 3 | G/W | - |
| 4 | R | - |
| 5 | B | - |
| 7 | L/W | - |
| 8 | V | - |

| | |
|----------------|--------------|
| Connector No. | D116 |
| Connector Name | WIRE TO WIRE |
| Connector Type | NS08FW-CS |



| | | | |
|---|---|---|---|
| 2 | 1 | | |
| 6 | 5 | 4 | 3 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | V | - |
| 2 | R | - |
| 3 | G/W | - |
| 4 | L/W | - |
| 5 | R/Y | - |
| 6 | L | - |

| | |
|----------------|-------------------------------|
| Connector No. | D117 |
| Connector Name | TAIL LAMP RH (BACK DOOR SIDE) |
| Connector Type | T02FB |



| | |
|---|---|
| 1 | 2 |
|---|---|

| | | |
|--------------|---------------|-----------------------------|
| Terminal No. | Color of Wire | Signal Name [Specification] |
| 1 | L/W | - |
| 2 | B | - |

| | |
|----------------|-----------------|
| Connector No. | D151 |
| Connector Name | BACK-UP LAMP LH |
| Connector Type | RS2ZFGY |



| | |
|---|---|
| 1 | 2 |
|---|---|

| | | |
|--------------|---------------|-----------------------------|
| Terminal No. | Color of Wire | Signal Name [Specification] |
| 1 | R/Y | - |
| 2 | B | - |

JCLWM5445GB

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

EXTERIOR LIGHTING SYSTEM

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| Connector No. | D165 |
| Connector Name | WIRE TO WIRE |
| Connector Type | HS06MW-CS |



| | |
|---|---|
| 1 | 2 |
| 3 | 4 |
| 5 | 6 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | V | - |
| 2 | R | - |
| 3 | G/W | - |
| 4 | L/W | - |
| 5 | R/Y | - |
| 6 | L | - |

| | |
|----------------|--------------|
| Connector No. | D166 |
| Connector Name | WIRE TO WIRE |
| Connector Type | M01MBR-PS-LG |



| |
|---|
| 1 |
|---|

| | |
|-----------------------------|---|
| Terminal No. | 1 |
| Color of Wire | B |
| Signal Name [Specification] | - |

| | |
|----------------|-----------------------|
| Connector No. | D167 |
| Connector Name | LICENSE PLATE LAMP LH |
| Connector Type | TK02FBR |



| | |
|---|---|
| 2 | 1 |
|---|---|

| | |
|-----------------------------|---|
| Terminal No. | 1 |
| Color of Wire | L |
| Signal Name [Specification] | - |



| | |
|----------------|-----------------------|
| Connector No. | D168 |
| Connector Name | LICENSE PLATE LAMP RH |
| Connector Type | TK02FBR |



| | |
|---|---|
| 2 | 1 |
|---|---|

| | |
|-----------------------------|-----|
| Terminal No. | 1 |
| Color of Wire | L/W |
| Signal Name [Specification] | - |



| | |
|----------------|-------------------------------|
| Connector No. | D169 |
| Connector Name | TAIL LAMP LH (BACK DOOR SIDE) |
| Connector Type | T02FB |



| | |
|---|---|
| 1 | 2 |
|---|---|

| | |
|-----------------------------|---|
| Terminal No. | 1 |
| Color of Wire | L |
| Signal Name [Specification] | - |



| | |
|-----------------------------|---|
| Terminal No. | 2 |
| Color of Wire | B |
| Signal Name [Specification] | - |

| | |
|----------------|--------------|
| Connector No. | E7 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH22MW-NH |



| | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | W | - |
| 2 | G | - |
| 3 | L/O | - |
| 4 | L/G | - |
| 5 | W/L | - |
| 6 | G/O | - |
| 7 | L/R | - |
| 8 | L/G/R | - |
| 14 | R | - |
| 16 | SB | - |
| 17 | R/W | - |
| 18 | Y/G | - |
| 19 | BR/Y | - |
| 20 | P/B | - |
| 21 | R/B | - |
| 22 | Y | - |
| 23 | BR | - |
| 24 | P/L | - |
| 29 | P | - |
| 30 | BR | - |
| 31 | L | - |
| 32 | P | - |

| | |
|----------------|-------------------|
| Connector No. | E8 |
| Connector Name | WIRE TO WIRE |
| Connector Type | SAA38ME-RS10-SJ22 |



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

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

| | | |
|----|------|---|
| 1 | Y | - |
| 3 | SB | - |
| 4 | L/Y | - |
| 5 | R | - |
| 8 | V | - |
| 9 | P | - |
| 10 | BR/Y | - |
| 11 | Y/V | - |
| 12 | V/W | - |
| 14 | Y/L | - |
| 17 | BR | - |
| 18 | R/Y | - |
| 20 | G/W | - |
| 22 | L/W | - |
| 23 | B | - |
| 24 | Y/G | - |
| 25 | R | - |
| 26 | SS | - |
| 27 | R/G | - |
| 28 | V | - |
| 29 | B | - |
| 40 | LGR | - |
| 41 | R/G | - |
| 42 | B/R | - |

| | |
|----------------|--|
| Connector No. | E11 |
| Connector Name | FROM L/R INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM |
| Connector Type | M06FB-LC |



| | | |
|----|----|----|
| 1 | 10 | 9 |
| 14 | 13 | 12 |

| | | |
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| Terminal No. | Color of Wire | Signal Name [Specification] |
| 9 | B | - |
| 14 | L | - |

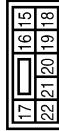
EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

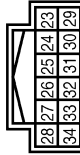
EXTERIOR LIGHTING SYSTEM

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|----------------|---|
| Connector No. | E12 |
| Connector Name | ENGINE IN INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM) |
| Connector Type | NS08FBR-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 17 | B | - |
| 18 | B | - |
| 19 | V | - |
| 20 | W | - |
| 21 | L | - |

| | |
|----------------|---|
| Connector No. | E13 |
| Connector Name | ENGINE IN INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM) |
| Connector Type | TH12FV-RH |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 23 | GE/R | - |
| 24 | W/G | - |
| 25 | L/Y | - |
| 26 | P | - |
| 27 | L | - |
| 30 | R/W | - |
| 31 | B | - |
| 32 | LG | - |
| 33 | R | - |
| 34 | P/B | - |

| | |
|----------------|---|
| Connector No. | E14 |
| Connector Name | ENGINE IN INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM) |
| Connector Type | NS12FBR-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 35 | W | - |
| 36 | V | - |
| 37 | L | - |
| 38 | Y | - |
| 39 | L/B | - |
| 41 | L/G | - |
| 42 | L | - |
| 43 | LG | - |
| 44 | L/W | - |
| 45 | Y/R | - |
| 46 | L/W | - |

| | |
|----------------|---|
| Connector No. | E15 |
| Connector Name | ENGINE IN INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM) |
| Connector Type | NS18FVW-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 48 | BR | - |
| 49 | R | - |
| 50 | LG/B | - |
| 51 | BR/Y | - |
| 52 | W | - |
| 54 | SB | - |
| 55 | O | - |
| 56 | L | - |
| 57 | V | - |
| 58 | BR/R | - |
| 59 | W/B | - |

| | |
|-----|---|
| V/R | - |
| W | - |
| SB | - |



| | |
|----------------|-------------------|
| Connector No. | E30 |
| Connector Name | FRONT FOG LAMP LH |
| Connector Type | FH202FB |



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

| | |
|----------------|-------------------|
| Connector No. | E48 |
| Connector Name | FRONT FOG LAMP RH |
| Connector Type | FH202FB |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | V | - |
| 2 | B | - |

| | |
|----------------|--------------------|
| Connector No. | E52 |
| Connector Name | BACK-UP LAMP RELAY |
| Connector Type | MB08FBR-R-LC |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | V | - |
| 2 | R | - |
| 3 | W/B | - |
| 5 | Y/L | - |
| 6 | V | - |
| 7 | R/Y | - |

| | |
|----------------|--------------|
| Connector No. | E61 |
| Connector Name | WIRE TO WIRE |
| Connector Type | FH08ME |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | W | - |
| 2 | R | - |
| 3 | L/B | - |
| 4 | L/Y | - |
| 5 | W/G | - |
| 7 | V | - |
| 8 | B/W | - |

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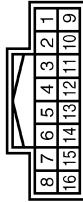
EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

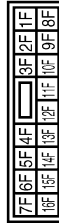
EXTERIOR LIGHTING SYSTEM

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| Connector No. | E83 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH16FW-NH |



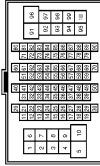
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | R | - |
| 2 | B | - |
| 3 | G | - |
| 4 | W | - |
| 5 | SHIELD | - |
| 7 | GR | - |
| 8 | R/W | - |
| 11 | R | - |
| 12 | V | - |
| 13 | P/L | - |
| 15 | R/Y | - |
| 16 | L/W | - |

| | |
|----------------|------------------|
| Connector No. | E103 |
| Connector Name | FUSE BLOCK (J/B) |
| Connector Type | NS16FW-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1F | W/B | - |
| 2F | R | - |
| 4F | GR | - |
| 6F | Y/G | - |
| 8F | L/B | - |
| 9F | Y | - |
| 10F | G | - |
| 14F | Y | - |
| 15F | L | - |

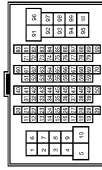
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| Connector No. | E105 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | L | - |
| 2 | L/W | - |
| 3 | R/B | - |
| 4 | L | - |
| 5 | Y | - |
| 7 | W/G | - |
| 8 | P/B | - |
| 9 | W/B | - |
| 10 | L | - |
| 11 | L | - |
| 12 | P | - |
| 13 | P/B | - |
| 14 | BR | - |
| 15 | L/B | - |
| 16 | SB | - |
| 17 | P | - |
| 18 | BR | - |
| 19 | Y/G | - |
| 20 | BR/Y | - |
| 21 | Y/V | - |
| 22 | L | - |
| 23 | Y | - |
| 24 | L/W | - |
| 26 | L | - |
| 27 | L/W | - |
| 28 | O | - |
| 29 | R/W | - |
| 30 | L/B | - |
| 31 | Y | - |
| 32 | GR/R | - |
| 34 | Y | - |
| 35 | R | - |
| 36 | B/R | - |
| 37 | G/Y | - |
| 38 | G | - |
| 40 | SB | - |
| 41 | W/R | - |
| 42 | R | - |

| | | |
|-----|--------|---|
| 43 | V | - |
| 51 | L/O | - |
| 52 | BR/W | - |
| 53 | BR/Y | - |
| 54 | GR/L | - |
| 55 | W | - |
| 61 | B | - |
| 62 | R | - |
| 63 | G | - |
| 64 | SHIELD | - |
| 91 | BR | - |
| 92 | L/W | - |
| 94 | Y/B | - |
| 95 | G/R | - |
| 97 | R | - |
| 98 | G/B | - |
| 100 | W/R | - |

| | |
|----------------|-----------------|
| Connector No. | E107 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | L | - |
| 4 | V/W | - |
| 5 | G/R | - |
| 8 | P | - |
| 9 | GR/L | - |
| 10 | Y/R | - |
| 11 | L/R | - |
| 12 | W/G | - |
| 13 | BR/Y | - |
| 14 | LG | - |
| 15 | BR/W | - |
| 17 | W/B | - |
| 18 | GR/R | - |
| 20 | W/R | - |
| 21 | B | - |
| 22 | R/L | - |
| 23 | G/R | - |
| 24 | R/W | - |
| 25 | W/L | - |

| | | |
|-----|--------|---|
| 26 | R | - |
| 27 | L | - |
| 28 | G/B | - |
| 37 | G/Y | - |
| 38 | G/Y | - |
| 39 | O | - |
| 40 | W | - |
| 41 | R | - |
| 42 | B | - |
| 43 | Y | - |
| 44 | G | - |
| 45 | SHIELD | - |
| 46 | G/O | - |
| 47 | G/R | - |
| 48 | SHIELD | - |
| 49 | W | - |
| 50 | SHIELD | - |
| 51 | Y/R | - |
| 52 | GR | - |
| 53 | LG/B | - |
| 54 | LG/B | - |
| 55 | R/G | - |
| 56 | B/R | - |
| 57 | SB | - |
| 60 | G | - |
| 61 | B | - |
| 62 | W | - |
| 63 | R | - |
| 64 | SHIELD | - |
| 65 | L/Y | - |
| 66 | V | - |
| 67 | B/W | - |
| 91 | G/R | - |
| 95 | SB | - |
| 96 | G/R | - |
| 97 | GR/L | - |
| 98 | G/W | - |
| 99 | R/Y | - |
| 100 | L | - |

EXTERIOR LIGHTING SYSTEM

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[XENON TYPE]

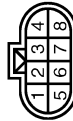
EXTERIOR LIGHTING SYSTEM

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|----------------|------------------|
| Connector No. | E115 |
| Connector Name | STOP LAMP SWITCH |
| Connector Type | MSQFW-LC |



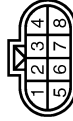
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | L/B | - |
| 2 | R | - |
| 3 | G | - |
| 4 | L/R | - |

| | |
|----------------|---------------------------|
| Connector No. | E118 |
| Connector Name | FRONT COMBINATION LAMP LH |
| Connector Type | RS08FB-PR |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | B | - |
| 2 | B | - |
| 3 | B | - |
| 4 | LG | - |
| 5 | BR/Y | - |
| 6 | LG/B | - |
| 7 | LG | - |
| 8 | G | - |

| | |
|----------------|---------------------------|
| Connector No. | E119 |
| Connector Name | FRONT COMBINATION LAMP RH |
| Connector Type | RS08FB-PR |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | B | - |
| 2 | B | - |
| 3 | B | - |
| 4 | L | - |
| 5 | W | - |
| 6 | R | - |
| 7 | L | - |
| 8 | G/Y | - |

| | |
|----------------|--------------------------|
| Connector No. | E120 |
| Connector Name | HEADLAMP AIMING MOTOR LH |
| Connector Type | HS03FGY |



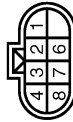
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | GR/L | - [With ICC] |
| 2 | SB | - [Without ICC] |
| 3 | G | - |

| | |
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| Connector No. | E121 |
| Connector Name | HEADLAMP AIMING MOTOR RH |
| Connector Type | HS03FGY |



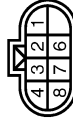
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | SB | - |
| 2 | B | - |
| 3 | G | - |

| | |
|----------------|-----------------------------|
| Connector No. | E122 |
| Connector Name | HEADLAMP SWIVEL ACTUATOR LH |
| Connector Type | RS08FGY-PR |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | BR/W | - |
| 2 | L/O | - |
| 3 | W | - |
| 4 | R | - |
| 5 | BR/Y | - |
| 6 | B | - |
| 7 | B | - |
| 8 | G | - |

| | |
|----------------|-----------------------------|
| Connector No. | E123 |
| Connector Name | HEADLAMP SWIVEL ACTUATOR RH |
| Connector Type | RS08FGY-PR |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | GR | - |
| 2 | Y/R | - |
| 3 | G | - |
| 4 | W | - |
| 5 | LG/B | - |
| 6 | B | - |
| 7 | B | - |
| 8 | R | - |

| | |
|----------------|--------------|
| Connector No. | E127 |
| Connector Name | WIRE TO WIRE |
| Connector Type | RH08FB |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | W | - |
| 2 | R | - |
| 3 | L/B | - |
| 4 | L/Y | - |
| 5 | W/G | - |
| 6 | V | - |
| 7 | V | - |
| 8 | B/W | - |

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EXTERIOR LIGHTING SYSTEM

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[XENON TYPE]

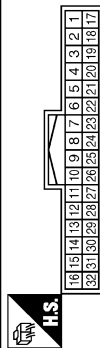
EXTERIOR LIGHTING SYSTEM

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| Connector No. | E208 |
| Connector Name | FRONT HEIGHT SENSOR |
| Connector Type | RH03FB |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | L/Y | HSV-F |
| 2 | V | HS-F |
| 3 | B/W | HSG-F |

| | |
|----------------|--------------|
| Connector No. | F1 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH02FW-NH |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | W | |
| 2 | G | |
| 3 | L/O | |
| 4 | LG | |
| 5 | W/L | |
| 6 | G/O | |
| 7 | L/R | |
| 8 | LG/R | |
| 14 | R | |
| 16 | SB | |
| 17 | R/W | |
| 18 | Y/G | |
| 19 | BR/Y | |
| 20 | P/B | |
| 21 | R/B | |
| 22 | Y | |
| 23 | BR/W | |
| 24 | P/L | |
| 28 | P | |

| | | | |
|----|----|---|-----------|
| 30 | BR | - | CAN-L |
| 31 | L | - | START-RLY |
| 32 | P | - | GND |

| | |
|----------------|--------------|
| Connector No. | F51 |
| Connector Name | A/T ASSEMBLY |
| Connector Type | RK1DFG |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | V | |
| 2 | P | |
| 3 | L | |
| 4 | SB | |
| 5 | B | |
| 6 | V | |
| 7 | R | |
| 8 | P | |
| 9 | BR | |
| 10 | B | |

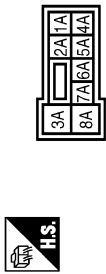
| | |
|----------------|-----------------------------------|
| Connector No. | F301 |
| Connector Name | TCM (TRANSMISSION CONTROL MODULE) |
| Connector Type | SP1DFG |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | - | VIGN |
| 2 | - | BATT |
| 3 | - | CAN-H |
| 4 | - | K LINE |
| 5 | - | GND |
| 6 | - | VIGN |
| 7 | - | REV.LAMP-RLY |

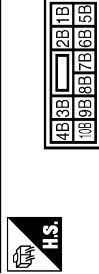
| | | | |
|----|---|---|-----------|
| 8 | - | - | CAN-L |
| 9 | - | - | START-RLY |
| 10 | - | - | GND |

| | |
|----------------|------------------|
| Connector No. | M1 |
| Connector Name | FUSE BLOCK (J/B) |
| Connector Type | NS08FW-MZ |



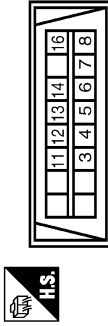
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1A | Y | |
| 2A | GR | |
| 3A | W | |
| 4A | Y/G | |
| 5A | V | |
| 6A | L/W | |
| 7A | LG | |
| 8A | W | |

| | |
|----------------|------------------|
| Connector No. | M2 |
| Connector Name | FUSE BLOCK (J/B) |
| Connector Type | NS10FW-CS |



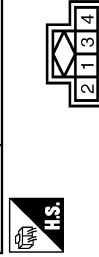
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1B | R | |
| 3B | R | |
| 4B | B | |
| 5B | BR | |
| 8B | Y | |
| 7B | G | |
| 9B | L/O | |
| 10B | W/B | |

| | |
|----------------|---------------------|
| Connector No. | M4 |
| Connector Name | DATA LINK CONNECTOR |
| Connector Type | BD16FW |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 3 | LG | |
| 4 | B | |
| 5 | B | |
| 6 | L | |
| 7 | SR | |
| 8 | GR | |
| 11 | SB | |
| 12 | R | |
| 13 | L | |
| 14 | P | |
| 16 | Y | |

| | |
|----------------|------------------------|
| Connector No. | M6 |
| Connector Name | HEADLAMP AIMING SWITCH |
| Connector Type | AG4FW |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | SB | |
| 2 | B | |
| 3 | L/O | |
| 4 | B | |

JCLWM5450GB

EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

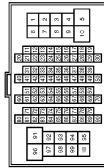
EXTERIOR LIGHTING SYSTEM

| | |
|----------------|----------------|
| Connector No. | M17 |
| Connector Name | OPTICAL SENSOR |
| Connector Type | TK03FW |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | Y/G | POWER |
| 2 | P/B | OUTPUT |
| 3 | B/Y | GND |

| | |
|----------------|-----------------|
| Connector No. | M19 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH06FW-CS16-TM4 |

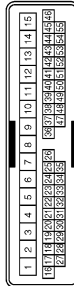


| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 2 | L | |
| 3 | BR | |
| 5 | R/W | |
| 6 | L | |
| 7 | V | |
| 9 | G | |
| 11 | W/B | |
| 12 | BR | |
| 13 | G/R | |
| 14 | B/Y | |
| 15 | W/R | |
| 16 | GR/R | |
| 18 | G/W | |
| 19 | V | |
| 20 | W/G | |
| 21 | B/W | |
| 22 | V | |
| 23 | SHIELD | |
| 24 | G | |

| | | |
|----|--------|--|
| 25 | O | |
| 26 | Y | |
| 27 | L/O | |
| 28 | Y/R | |
| 29 | L | |
| 30 | R | |
| 31 | P | |
| 32 | G/Y | |
| 33 | B/SB | |
| 34 | LG/R | |
| 35 | BR/W | |
| 36 | GR/R | |
| 37 | LG | |
| 38 | L | |
| 39 | P | |
| 40 | W/G | |
| 42 | G/R | |
| 43 | V/W | |
| 44 | LG/B | |
| 45 | R/Y | |
| 46 | B | |
| 48 | GR | |
| 50 | R/B | |
| 51 | W/R | |
| 52 | BR/Y | |
| 53 | O/B | |
| 54 | G/O | |
| 55 | R/B | |
| 56 | LG/R | |
| 57 | GR/R | |
| 58 | Y/G | |
| 59 | V/W | |
| 60 | R | |
| 63 | Y | |
| 64 | R | |
| 65 | W | |
| 66 | G | |
| 67 | B | |
| 68 | SHIELD | |
| 69 | LG/B | |
| 70 | P/L | |
| 71 | L | |
| 72 | R | |
| 77 | Y/B | |
| 78 | Y/L | |
| 79 | Y | |
| 80 | W/R | |
| 81 | Y/L | |
| 83 | BR/W | |
| 84 | L/O | |
| 86 | O | |

| | | |
|-----|------|--|
| 87 | W/R | |
| 88 | O | |
| 89 | W/L | |
| 90 | GS/L | |
| 91 | W | |
| 92 | G | |
| 94 | W/R | |
| 96 | L/W | |
| 97 | R | |
| 98 | V | |
| 99 | L/W | |
| 100 | P/B | |

| | |
|----------------|--------------|
| Connector No. | M20 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40MW-CS15 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | V | |
| 2 | W | |
| 3 | V | |
| 4 | Y | |
| 5 | LG/R | |
| 6 | BR/W | |
| 8 | V | |
| 9 | G | |
| 10 | L | |
| 11 | L/O | |
| 13 | Y | |
| 14 | R | |
| 15 | B | |
| 18 | B | |
| 19 | R | |
| 20 | P | |
| 22 | V | |
| 23 | P/B | |
| 25 | BR/W | |
| 26 | W/R | |
| 28 | W/G | |
| 33 | V/W | |
| 36 | W/B | |
| 37 | BR/Y | |

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EXL

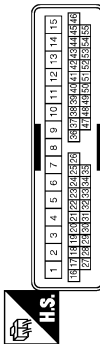
EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

EXTERIOR LIGHTING SYSTEM

| | |
|----------------|--------------|
| Connector No. | M22 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH40MW-CS15 |



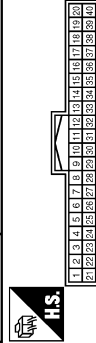
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | G | - |
| 2 | W | - |
| 3 | V | - |
| 5 | P/L | - |
| 6 | L/W | - |
| 8 | G/Y | - |
| 10 | L | - |
| 11 | L/W | - |
| 13 | L | - |
| 14 | R | - |
| 15 | B | - |
| 18 | B/W | - |
| 19 | R | - |
| 20 | P | - |
| 22 | Y/R | - |
| 23 | LG/B | - |
| 25 | W/R | - |
| 26 | G/O | - |
| 37 | Y/B | - |
| 38 | V | - |
| 39 | W/L | - |
| 40 | L/O | - |
| 44 | SHIELD | - |
| 45 | Y | - |
| 46 | W | - |
| 47 | LG | - |
| 48 | L/R | - |
| 49 | Y | - |
| 50 | R/B | - |
| 52 | LG | - |
| 53 | G | - |
| 54 | B | - |
| 55 | R | - |

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



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | W/B | RR |
| 2 | GR | OUTPUT 4 |
| 3 | L/R | FR |
| 4 | W | IGN |
| 5 | L | OUTPUT 3 |
| 6 | B | GND |
| 7 | W | INPUT 3 |
| 8 | BR/Y | OUTPUT 3 |
| 9 | R/W | INPUT 2 |
| 10 | Y | INPUT 4 |
| 11 | SB | INPUT 1 |
| 12 | V | OUTPUT 1 |
| 13 | LG | INPUT 5 |
| 14 | G | OUTPUT 2 |

| | |
|----------------|-------------------|
| Connector No. | M34 |
| Connector Name | COMBINATION METER |
| Connector Type | TH40FW-NH |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | Y | BATTERY POWER SUPPLY |
| 2 | GR | IGNITION SIGNAL |
| 3 | B | GROUND |
| 4 | B | GROUND |
| 5 | B | ILL GND |
| 7 | R | TOW MODE SIGNAL |
| 8 | P/L | TRIP RESET SWITCH SIGNAL |
| 11 | G | ENTER SWITCH SIGNAL |

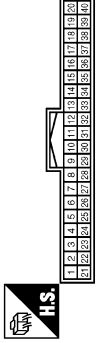
| | | |
|----|------|--|
| 12 | O | SELECT SWITCH SIGNAL |
| 13 | W/R | ILLUMINATION CONTROL SWITCH SIGNAL (+) |
| 14 | R | ILLUMINATION CONTROL SWITCH SIGNAL (-) |
| 15 | R/W | AIR BAG SIGNAL |
| 16 | W/R | AMBIENT SENSOR SIGNAL |
| 19 | V/W | A.C. AUTO AMP. CONNECTION RECOGNITION SIGNAL |
| 20 | B | AMBIENT SENSOR GROUND |
| 21 | L | CAN-H |
| 22 | P | GROUND |
| 23 | B | GROUND |
| 24 | V | FUEL LEVEL SENSOR GROUND |
| 25 | O/L | ALTERNATOR SIGNAL |
| 26 | W | PARKING BRAKE SWITCH SIGNAL |
| 28 | GR/R | SECURITY SIGNAL |
| 29 | BR | WASHER LEVEL SWITCH SIGNAL |
| 30 | SB | VEHICLE SPEED SIGNAL (2-PULSE) |
| 31 | BR/W | VEHICLE SPEED SIGNAL (8-PULSE) |
| 33 | W | SNOW MODE SIGNAL |
| 34 | BR/Y | FUEL LEVEL SENSOR SIGNAL |
| 35 | O/B | SEAT BELT FUEL LEVEL SWITCH SIGNAL (DRIVER SIDE) |
| 36 | G/Y | PASSENGER SEAT BELT WARNING SIGNAL |
| 37 | R/Y | NON-MANUAL MODE SIGNAL |
| 38 | L/W | MANUAL MODE SHIFT DOWN SIGNAL |
| 39 | Y/B | MANUAL MODE SHIFT UP SIGNAL |
| 40 | G/W | MANUAL MODE SIGNAL |



| | |
|----------------|---------------|
| Connector No. | M45 |
| Connector Name | HAZARD SWITCH |
| Connector Type | TK40FW |

| | | |
|--------------|---------------|-----------------------------|
| Terminal No. | Color of Wire | Signal Name [Specification] |
| 1 | B | - |
| 2 | W | - |
| 3 | L/O | - |
| 4 | B | - |

| | |
|----------------|---------------------------|
| Connector No. | M68 |
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FB-NH |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 2 | BR/Y | COMBI SW INPUT 5 |
| 3 | GR | COMBI SW INPUT 4 |
| 4 | L | COMBI SW INPUT 3 |
| 5 | G | COMBI SW INPUT 2 |
| 6 | V | COMBI SW INPUT 1 |
| 8 | V | POWER WINDOW SW COMM |
| 9 | R | STOP LAMP SW 1 |
| 11 | R | L/R SENSOR SERIAL LINK |
| 14 | P/B | OPTICAL SENSOR |
| 16 | L/O | DIMMER SIGNAL |
| 17 | Y/G | SENSOR PWR SPLY |
| 18 | B/Y | RECEIVER SENSOR GND |
| 19 | BR | RECEIVER PWR SPLY |
| 20 | G/R | KYLS ENT RECEIVER COMM |
| 21 | P | MATS ANT AMP. |
| 22 | W/B | KYLS ENT RECEIVER RSSI |
| 23 | GR/R | SECURITY IND CONT |
| 24 | SB | DONGLE LINK |
| 25 | LG/R | MATS ANT AMP. |
| 29 | W | HAZARD SW |
| 30 | W/L | BK DOOR ORNB SW |
| 31 | W/G | DR DOOR UNLOCK SENSOR |
| 32 | LG | COMBI SW OUTPUT 3 |
| 33 | Y | COMBI SW OUTPUT 4 |
| 34 | W | COMBI SW OUTPUT 3 |
| 35 | R/W | COMBI SW OUTPUT 2 |
| 36 | SB | COMBI SW OUTPUT 1 |
| 37 | G/Y | SHIFT P |
| 39 | L | CAN-H |
| 40 | P | CAN-L |

JCLWM5452GB

EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

EXTERIOR LIGHTING SYSTEM

| | |
|----------------|---------------------------|
| Connector No. | M89 |
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FB-FHA6-SA |



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

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 43 | Y/L | BK DOOR SW |
| 44 | G/W | REAR WIPER STOP POSITION |
| 45 | W | PASSENGER DOOR SW |
| 46 | GR | REAR RH DOOR SW |
| 47 | GR/R | DRIVER DOOR SW |
| 48 | GR | REAR LH DOOR SW |
| 49 | BR/Y | LUGGAGE ROOM LAMP CONT |
| 51 | W/R | BACK DOOR REG SW |
| 54 | L | REAR WIPER OUTPUT |
| 55 | G | PASS. REAR DOOR UNLK OUTPUT |

| | |
|----------------|---------------------------|
| Connector No. | M70 |
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | FEA09FW-FHA6-SA |



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

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|------------------------------|
| 56 | W/R | INT ROOM LAMP PWR SPLY |
| 57 | LG | BAT (FUSE) |
| 59 | G | PASSENGER DOOR UNLK OUTPUT |
| 60 | G | TURN SIGNAL LH OUTPUT |
| 61 | G/Y | TURN SIGNAL RH OUTPUT |
| 62 | R | STEP LAMP CONT |
| 63 | BR | ROOM LAMP TIMER CONT |
| 64 | GR/R | CRANKING REQUEST |
| 65 | R | ALL DOOR LOCK OUTPUT |
| 66 | V | DR DOOR FUEL LID UNLK OUTPUT |
| 67 | B | GND |
| 68 | Y | PWR PWR SPLY (IGN) |

| | | |
|----|---|-------------------|
| 69 | W | PW PWR SPLY (BAT) |
| 70 | Y | BAT (F/L) |

| | |
|----------------|-----------------|
| Connector No. | M77 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |



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

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | W | |
| 2 | L/W | |
| 3 | R/B | |
| 4 | L | |
| 5 | Y | |
| 7 | W/G | |
| 8 | P/B | |
| 9 | W/B | |
| 10 | L | |
| 11 | L | |
| 12 | P | - [With ICC] |
| 13 | R | - [Without ICC] |
| 14 | P/B | |
| 15 | O/L | |
| 16 | SR | |
| 17 | P | |
| 18 | BR | |
| 19 | Y/G | |
| 20 | BR/Y | |
| 21 | V | |
| 22 | L | |
| 23 | Y | |
| 24 | L/W | |
| 26 | L | |
| 27 | L/W | |
| 28 | O | |
| 29 | R/W | |
| 30 | O/L | |
| 31 | Y | |
| 32 | GR/R | |
| 34 | Y | |
| 35 | R | |
| 36 | B/O | |

| | | |
|-----|--------|--|
| 37 | G/Y | |
| 38 | G | |
| 40 | SB | |
| 41 | W/R | |
| 42 | R | |
| 43 | V | |
| 51 | L/O | |
| 52 | BR/W | |
| 53 | BR/Y | |
| 54 | GR/L | |
| 60 | W | |
| 61 | B | |
| 62 | G | |
| 63 | R | |
| 64 | SHIELD | |
| 91 | BR | |
| 92 | L/W | |
| 94 | Y/B | |
| 95 | L/R | |
| 96 | R | |
| 98 | O/L | |
| 100 | W/B | |

| | |
|----------------|-----------------|
| Connector No. | M82 |
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |



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

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | L | |
| 4 | V/W | |
| 5 | G/R | |
| 6 | P | |
| 9 | GR/L | |
| 10 | Y/R | |
| 11 | L/R | |
| 12 | W/G | |
| 13 | BR/Y | |
| 14 | LG | |
| 15 | BR/W | |
| 17 | W/B | |
| 18 | GR/R | |
| 20 | W/R | |

| | |
|-----|--------|
| 21 | B |
| 22 | R/L |
| 23 | C/R |
| 24 | R/W |
| 25 | W/L |
| 26 | R |
| 27 | L |
| 28 | B/SB |
| 37 | G/Y |
| 38 | G/Y |
| 39 | O |
| 40 | W |
| 41 | R |
| 42 | B |
| 43 | Y |
| 44 | G |
| 45 | SHIELD |
| 46 | G/O |
| 47 | G/R |
| 48 | SHIELD |
| 49 | W |
| 50 | SHIELD |
| 51 | Y/R |
| 52 | GR |
| 53 | LG/B |
| 54 | LG/R |
| 55 | R/G |
| 56 | B/O |
| 57 | SB |
| 60 | G |
| 61 | B |
| 62 | W |
| 63 | R |
| 64 | SHIELD |
| 65 | L/Y |
| 68 | V |
| 67 | B/W |
| 91 | C/R |
| 95 | SB |
| 96 | G/R |
| 97 | GR/L |
| 98 | G/W |
| 99 | P |
| 100 | L |

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

EXTERIOR LIGHTING SYSTEM

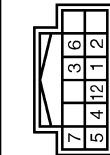
| | |
|----------------|------------------|
| Connector No. | M111 |
| Connector Name | WIRE TO WIRE |
| Connector Type | THB07V-CS16-TM44 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | R/B | - |
| 2 | G | - |
| 3 | W/R | - |
| 5 | W/B | - |
| 6 | L/Y | - |
| 7 | R | - |
| 8 | G/R | - |
| 9 | GR/R | - |
| 11 | W | - |
| 12 | V | - |
| 13 | Y | - |
| 16 | L/O | - |
| 17 | GR/L | - |
| 18 | R/G | - |
| 19 | L/Y | - |
| 20 | G/Y | - |
| 21 | R | - |
| 22 | GR | - |
| 27 | L/O | - |
| 29 | SB | - |
| 30 | R/L | - |
| 31 | Y/L | - |
| 32 | W/R | - |
| 33 | W/G | - |
| 34 | L/R | - |
| 38 | P/B | - |
| 40 | W/R | - |
| 41 | R | - |
| 42 | L/W | - |
| 43 | B/W | - |
| 51 | O/L | - |
| 52 | L/R | - |
| 53 | SB | - |
| 54 | V/W | - |
| 59 | L | - |
| 60 | GR | - |
| 61 | P/L | - |
| 62 | B/SB | - |

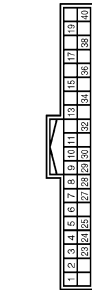
| | | |
|-----|--------|---|
| 63 | R/Y | - |
| 64 | BR | - |
| 70 | O | - |
| 71 | G/R | - |
| 72 | SHIELD | - |
| 73 | G/O | - |
| 74 | G/Y | - |
| 77 | SB | - |
| 78 | LG | - |
| 79 | R/B | - |
| 90 | W/B | - |
| 93 | Y | - |
| 94 | L | - |
| 95 | L/R | - |
| 96 | R | - |
| 97 | W | - |
| 98 | V | - |
| 99 | L/W | - |
| 100 | W | - |

| | |
|----------------|---------------|
| Connector No. | M126 |
| Connector Name | TRIPLE SWITCH |
| Connector Type | TH1ZF1-NH |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 3 | GR | - |
| 4 | GR/R | - |
| 6 | L/O | - |
| 7 | B/O | - |

| | |
|----------------|------------------|
| Connector No. | M135 |
| Connector Name | AFS CONTROL UNIT |
| Connector Type | TH40FW-NH |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1 | GR | IGN |
| 2 | LG/B | PSG-R |
| 3 | GR/R | SW |
| 4 | Y/R | PSV-R |
| 5 | L/Y | HSV-F |
| 6 | LG/R | HSV-R |
| 7 | P | CAN-L |
| 8 | B/O | HSV-R |
| 9 | GR | PS-R |
| 10 | B/W | HSG-F |
| 11 | R | SMR-Z (-) |
| 13 | B | SMR-1 (-) |
| 15 | W | SML-1 (+) |
| 17 | G | SML-2 (+) |
| 19 | SB | AMDS-R |
| 23 | V | HS-F |
| 24 | L/O | PSV-L |
| 25 | B | GND |
| 27 | BR/Y | PSG-L |
| 28 | R/G | HS-R |
| 29 | BR/W | PS-L |
| 30 | L | CAN-H |
| 32 | G | SMR-1 (+) |
| 34 | R | SMR-2 (+) |
| 38 | B | SML-1 (-) |
| 40 | GR/L | AMDS-L |

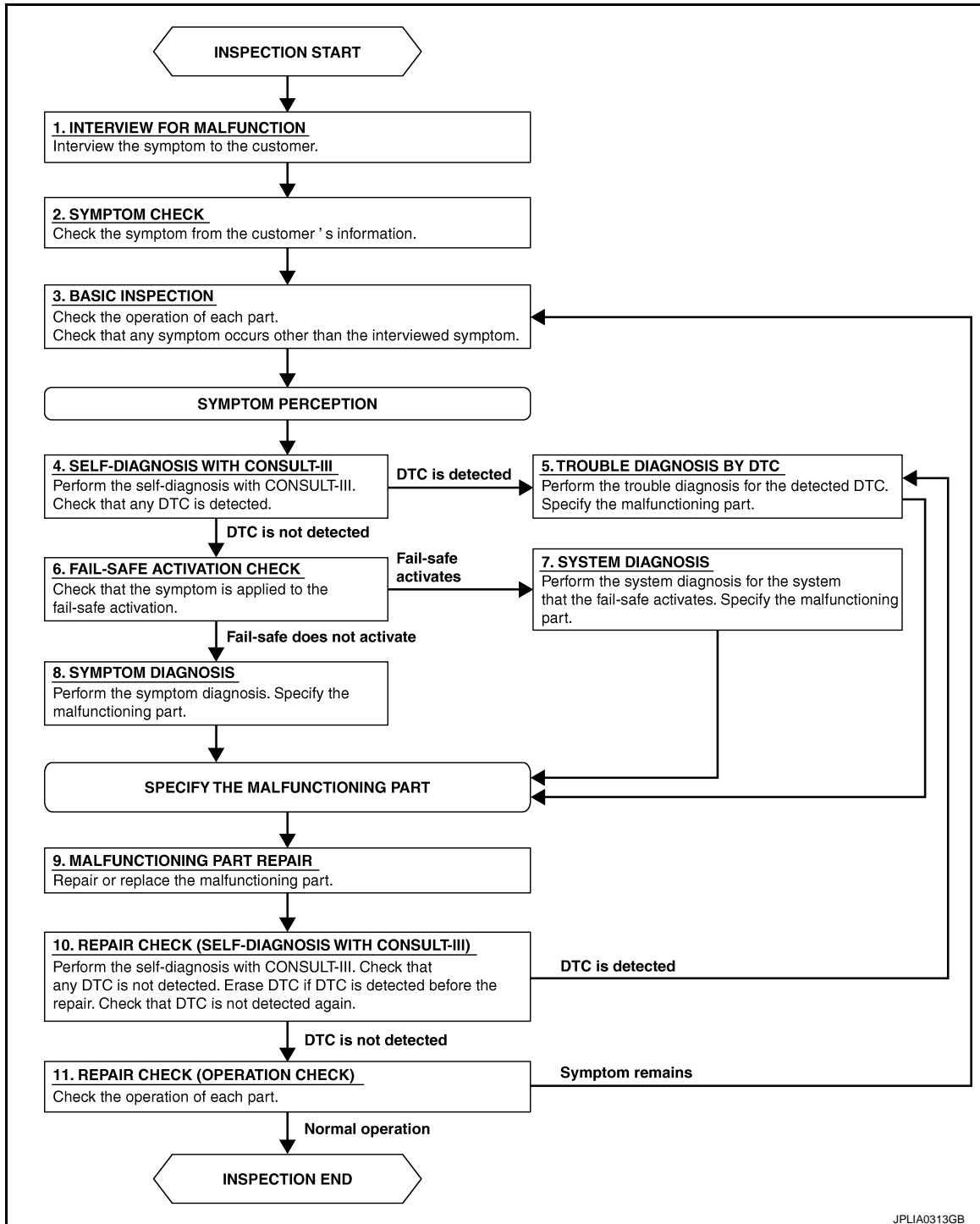
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000006213922

OVERALL SEQUENCE



DETAILED FLOW

1. INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

DIAGNOSIS AND REPAIR WORKFLOW

[XENON TYPE]

< BASIC INSPECTION >

>> GO TO 2.

2. SYMPTOM CHECK

Check the symptom from the customer's information.

>> GO TO 3.

3. BASIC INSPECTION

Check the operation of each part. Check that any symptom occurs other than the interviewed symptom.

>> GO TO 4.

4. SELF-DIAGNOSIS WITH CONSULT-III

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

Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 6.

5. TROUBLE DIAGNOSIS BY DTC

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

>> GO TO 9.

6. FAIL-SAFE ACTIVATION CHECK

Check that the symptom is applied to the fail-safe activation.

Does the fail-safe activate?

YES >> GO TO 7.

NO >> GO TO 8.

7. SYSTEM DIAGNOSIS

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

>> GO TO 9.

8. SYMPTOM DIAGNOSIS

Perform the symptom diagnosis. Specify the malfunctioning part.

>> GO TO 9.

9. MALFUNCTION PART REPAIR

Repair or replace the malfunctioning part.

>> GO TO 10.

10. REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT-III)

Perform the self-diagnosis with CONSULT-III. Check that any DTC is not detected. Erase DTC if DTC is detected before the repair. Check that DTC is not detected again.

Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 11.

11. REPAIR CHECK (OPERATION CHECK)

Check the operation of each part.

Does it operate normally?

YES >> INSPECTION END

NO >> GO TO 3.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[XENON TYPE]

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT)

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT) : Description

INFOID:000000006213923

Perform "LEVELIZER ADJUSTMENT" with CONSULT-III when replacing the AFS control unit.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT) : Special Repair Requirement

INFOID:000000006213924

1.LEVELIZER ADJUSTMENT

Perform "LEVELIZER ADJUSTMENT".

>> Refer to [EXL-61, "LEVELIZER ADJUSTMENT : Special Repair Requirement"](#).

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR)

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR) : Description

INFOID:000000006213925

Perform "LEVELIZER ADJUSTMENT" with CONSULT-III when replacing the height sensor.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR) : Special Repair Requirement

INFOID:000000006213926

1.LEVELIZER ADJUSTMENT

Perform "LEVELIZER ADJUSTMENT".

>> Refer to [EXL-61, "LEVELIZER ADJUSTMENT : Special Repair Requirement"](#).

LEVELIZER ADJUSTMENT

LEVELIZER ADJUSTMENT : Description

INFOID:000000006213927

Perform "LEVELIZER ADJUSTMENT" when installing, removing, and replacing the height sensor and the suspension components.

LEVELIZER ADJUSTMENT : Special Repair Requirement

INFOID:000000006213928

CAUTION:

If perform aiming adjustment after the levelizer initialization, be sure to start the engine running after turning ignition switch OFF.

1.CHECK VEHICLE CONDITION

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

>> GO TO 2.

2.LEVELIZER ADJUSTMENT

CONSULT-III WORK SUPPORT

1. Select "LEVELIZER ADJUSTMENT" of ADAPTIVE LIGHT work support item.
2. Select "START".
3. When "ADJUSTMENT IS COMPLETED", select "END".

CAUTION:

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INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[XENON TYPE]

If "CAN NOT BE TESTED" is indicated, AFS control unit detects that the height sensor signal changes. The levelizer adjustment is cancelled. In this case, turn the ignition switch OFF to prevent the vehicle from the height change. Perform the levelizer adjustment again.

Is the levelizer adjustment completed?

YES >> GO TO 3.

NO >> Perform the levelizer adjustment again.

3.SELF-DIAGNOSIS RESULT CHECK

Perform self-diagnosis with CONSULT-III. Check that any DTC is not detected.

Is any DTC detected?

YES >> GO TO 2.

NO >> Levelizer adjustment completed

DTC/CIRCUIT DIAGNOSIS

B2503, B2504 SWIVEL ACTUATOR

DTC Logic

INFOID:000000006213929

DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detection condition | Possible cause |
|---------|------------------------|---|---|
| B2503 | Swivel actuator [RH] | AFS control unit indicates an applicable DTC when detecting any of the following conditions continuously for 2 seconds or more. <ul style="list-style-type: none"> AFS control unit-recognized swivel position differs extremely from the swivel position sensor-input value while the swivel operating.* The swivel position sensor signal does not change even though AFS control unit transmits the swivel motor driving signal while the swivel operating*. The swivel motor short and open is detected while the swivel operating*. The swivel position sensor power supply is 6 V or more, or 4 V or less. The swivel position sensor signal is 0.25 V or less, or 4.75 V or more. | Swivel position sensor <ul style="list-style-type: none"> Swivel position sensor Harness and connector AFS control unit Swivel motor <ul style="list-style-type: none"> Swivel motor Harness and connector AFS control unit |
| B2504 | Swivel actuator [LH] | | |

*: Initialization is not included.

DTC CONFIRMATION PROCEDURE

1. DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2. CONFIRMATION DTC SELECTION

Select "B2503" or "B2504" for confirmation.

Which DTC is confirmation?

B2503 >> GO TO 3.

B2504 >> GO TO 4.

3. DTC CONFIRMATION (B2503)

1. Steer to the straight-forward position.
2. Start the engine.
3. Turn AFS switch ON.
4. Turn the headlamp ON.
5. Shift the selector lever to "N".
6. Steer to the right. (Rotate it once or more.)
7. Perform the self-diagnosis with CONSULT-III.

Is DTC "B2503" detected?

YES >> Refer to [EXL-64, "Diagnosis Procedure"](#).

NO >> Refer to [GI-40, "Intermittent Incident"](#).

4. DTC CONFIRMATION (B2504)

1. Steer to the straight-forward position.
2. Start the engine.
3. Turn AFS switch ON.
4. Turn the headlamp ON.
5. Drive at 25 km/h (15.5 MPH) or more.
6. Steer to the left. (Rotate it once or more.)

B2503, B2504 SWIVEL ACTUATOR

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

7. Stop the vehicle.
8. Perform the self-diagnosis with CONSULT-III.

Is DTC "B2504" detected?

- YES >> Refer to [EXL-64, "Diagnosis Procedure"](#).
 NO >> Refer to [GI-40, "Intermittent Incident"](#).

Diagnosis Procedure

INFOID:000000006213930

1. CHECK SWIVEL POSITION SENSOR SIGNAL INPUT

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

| (+) | | AFS control unit | (-) | Voltage (Approx.) |
|-----------|------|------------------|--------|-------------------|
| Connector | | | | |
| RH | M135 | 9 | Ground | 0.25 - 4.75 V |
| LH | | 29 | | |

Is the measurement value within the standard value?

- YES >> GO TO 2.
 Less than the standard value >> GO TO 6.
 Higher than the standard value >> GO TO 9.

2. CHECK SWIVEL MOTOR

Check swivel motor. [EXL-67, "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Replace front combination lamp.

3. CHECK SWIVEL MOTOR OPEN CIRCUIT

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

| AFS control unit | | Headlamp swivel actuator | | Continuity |
|------------------|----------|--------------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| RH | M135 | E123 | 8 | Existed |
| | | | 7 | |
| | | | 3 | |
| | | | 4 | |
| LH | M135 | E122 | 3 | |
| | | | 4 | |
| | | | 8 | |
| | | | 7 | |

Is the inspection result normal?

- YES >> GO TO 4.
 NO >> Repair or replace harnesses.

4. CHECK SWIVEL MOTOR SHORT CIRCUIT

Check continuity between AFS control unit harness connector and ground.

B2503, B2504 SWIVEL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

| AFS control unit | | Terminal | Ground | Continuity |
|------------------|------|----------|--------|-------------|
| Connector | | | | Not existed |
| RH | M135 | 11 | Ground | Not existed |
| | | 13 | | |
| | | 32 | | |
| | | 34 | | |
| LH | | 15 | | |
| | | 17 | | |
| | | 36 | | |
| | | 38 | | |

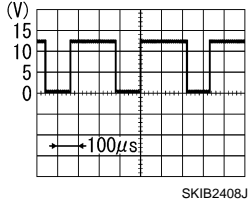
Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harnesses.

5. CHECK SWIVEL MOTOR CIRCUIT VOLTAGE OUTPUT

1. Connect AFS control unit connector.
2. Start the engine.
3. Turn the headlamp ON.
4. Select "LOW BEAM TEST RIGHT" or "LOW BEAM TEST LEFT" of ADAPTIVE LIGHT active test item.
5. With operating the test item, check voltage between AFS control unit harness connector and ground.

| (+) | | Terminal | (-) | Condition | Voltage (Approx.) | |
|------------------|------|----------|--------|-----------|---|--------------|
| AFS control unit | | | | | | |
| Connector | | | | | | |
| RH | M135 | 11 | Ground | Active |  8 - 12 V | |
| | | 32 | | | | |
| | | 15 | | | | |
| LH | | 36 | | | | Swivel motor |
| RH | | 13 | | | | |
| | | 34 | | | | |
| | | LH | | 17 | | |
| | | | | 38 | | |

Is the inspection result normal?

YES >> Replace front combination lamp.

NO >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

6. CHECK SWIVEL POSITION SENSOR POWER SUPPLY CIRCUIT INPUT VOLTAGE

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

| (+) | | Terminal | (-) | Voltage (Approx.) |
|--------------------------|------|----------|--------|-------------------|
| Headlamp swivel actuator | | | | |
| Connector | | | | |
| RH | E123 | 2 | Ground | 5 V |
| LH | E122 | | | |

B2503, B2504 SWIVEL ACTUATOR

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 8.

7. CHECK SWIVEL POSITION SENSOR SIGNAL CIRCUIT

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

| AFS control unit | | Headlamp swivel actuator | | Continuity |
|------------------|----------|--------------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| RH | M135 | 9 | E123 | Existed |
| LH | | 29 | E122 | |

4. Check continuity between AFS control unit harness connector and ground.

| AFS control unit | | Ground | Continuity |
|------------------|----------|--------|-------------|
| Connector | Terminal | | |
| RH | M135 | 9 | Not existed |
| LH | | 29 | |

Is the inspection result normal?

YES >> Replace front combination lamp.

NO >> Repair or replace harnesses.

8. CHECK SWIVEL POSITION SENSOR POWER SUPPLY CIRCUIT

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

| AFS control unit | | Headlamp swivel actuator | | Continuity |
|------------------|----------|--------------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| RH | M135 | 4 | E123 | Existed |
| LH | | 24 | E122 | |

4. Check continuity between AFS control unit harness connector and ground.

| AFS control unit | | Ground | Continuity |
|------------------|----------|--------|-------------|
| Connector | Terminal | | |
| RH | M135 | 4 | Not existed |
| LH | | 24 | |

Is the inspection result normal?

YES >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

NO >> Repair or replace harnesses.

9. CHECK SWIVEL POSITION SENSOR GROUND CIRCUIT VOLTAGE OUTPUT

Check voltage between AFS control unit harness connector and ground.

| (+) | | (-) | Voltage (Approx.) |
|------------------|----------|--------|-------------------|
| AFS control unit | | | |
| Connector | Terminal | Ground | 0 V |
| RH | M135 | | |
| LH | | 27 | |

B2503, B2504 SWIVEL ACTUATOR

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 10.

NO >> Replace AFS control unit. Refer to [EXL-135. "Removal and Installation"](#)

10. CHECK SWIVEL POSITION SENSOR GROUND OPEN CIRCUIT

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

| AFS control unit | | Headlamp swivel actuator | | Continuity |
|------------------|----------|--------------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| RH | M135 | E123 | 6 | Existed |
| LH | | 2 | | |
| | | E122 | | |

Is the inspection result normal?

YES >> Replace front combination lamp.

NO >> Repair or replace harnesses.

Component Inspection

INFOID:000000006213931

1. CHECK SWIVEL MOTOR SINGLE PART

1. Disconnect swivel actuator connector.
2. Check resistance among each swivel actuator connector terminals.

| Swivel actuator | | Resistance (Approx.) |
|-----------------|----------|-------------------------|
| Terminal | Terminal | |
| 3 | 7 | 7.2 Ω |
| 4 | 8 | |
| 3 | 4 | 10 MΩ or more |

Is the inspection result normal?

YES >> Swivel actuator is normal.

NO >> Replace front combination lamp.

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B2513 HEIGHT SENSOR UNUSUAL [FR]

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

B2513 HEIGHT SENSOR UNUSUAL [FR]

DTC Logic

INFOID:000000006213932

DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detection condition | Possible cause |
|---------|----------------------------|---|--|
| B2513 | Height sensor unusual [FR] | An applicable DTC is indicated when any of the following conditions is detected continuously for 2 seconds or more. <ul style="list-style-type: none">The front height sensor power supply is 6 V or more, or 4 V or less.The front height sensor signal is 0.25 V or less, or 4.75 V or more. | Front height sensor <ul style="list-style-type: none">Front height sensorHarness and connectorAFS control unit |

DTC CONFIRMATION PROCEDURE

1. DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2. DTC CONFIRMATION

- Start the engine.
- Turn the headlamp ON.
- Select the self-diagnosis with CONSULT-III.
- Check the self-diagnosis result. Refer to [EXL-39, "DTC Index"](#).

Is DTC "B2513" detected?

YES >> Refer to [EXL-68, "Diagnosis Procedure"](#).

NO >> Refer to [GI-40, "Intermittent Incident"](#).

Diagnosis Procedure

INFOID:000000006213933

1. CHECK HEIGHT SENSOR SIGNAL INPUT

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

| (+) | | (-) | Voltage (Approx.) |
|------------------|----------|--------|-------------------|
| AFS control unit | | | |
| Connector | Terminal | Ground | 0.25 - 4.75 V |
| M135 | 23 | | |

Is the measurement value within the standard value?

YES >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

Less than the standard value >>GO TO 2.

Higher than the standard value>>GO TO 5.

2. CHECK HEIGHT SENSOR POWER SUPPLY CIRCUIT INPUT VOLTAGE

- Turn ignition switch OFF.
- Disconnect front height sensor connector.
- Turn ignition switch ON.
- Check voltage between front height sensor harness connector and ground.

| (+) | | (-) | Voltage (Approx.) |
|---------------------|----------|--------|-------------------|
| Front height sensor | | | |
| Connector | Terminal | Ground | 5 V |
| E208 | 1 | | |

B2513 HEIGHT SENSOR UNUSUAL [FR]

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK HEIGHT SENSOR SIGNAL CIRCUIT

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

| AFS control unit | | Front height sensor | | Continuity |
|------------------|----------|---------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| M135 | 23 | E208 | 2 | Existed |

4. Check continuity between AFS control unit harness connector and ground.

| AFS control unit | | Ground | Continuity |
|------------------|----------|--------|-------------|
| Connector | Terminal | | |
| M135 | 23 | | Not existed |

Is the inspection result normal?

YES >> Replace front height sensor. Refer to [EXL-136, "Removal and Installation"](#).

NO >> Repair or replace harness.

4. CHECK HEIGHT SENSOR POWER SUPPLY CIRCUIT

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

| AFS control unit | | Front height sensor | | Continuity |
|------------------|----------|---------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| M135 | 5 | E208 | 1 | Existed |

4. Check continuity between AFS control unit harness connector and ground.

| AFS control unit | | Ground | Continuity |
|------------------|----------|--------|-------------|
| Connector | Terminal | | |
| M135 | 5 | | Not existed |

Is the inspection result normal?

YES >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

NO >> Repair or replace harness.

5. CHECK HEIGHT SENSOR GROUND CIRCUIT VOLTAGE OUTPUT

Check voltage between AFS control unit harness connector and ground.

| (+) | | (-) | Voltage (Approx.) |
|------------------|----------|--------|-------------------|
| AFS control unit | | | |
| Connector | Terminal | | |
| M135 | 10 | Ground | 0 V |

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

6. CHECK HEIGHT SENSOR GROUND OPEN CIRCUIT

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

B2513 HEIGHT SENSOR UNUSUAL [FR]

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

| AFS control unit | | Front height sensor | | Continuity |
|------------------|----------|---------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| M135 | 10 | E208 | 3 | Existed |

Is the inspection result normal?

- YES >> Replace front height sensor. Refer to [EXL-136, "Removal and Installation"](#).
- NO >> Repair or replace harness.

B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

B2514 HEIGHT SENSOR UNUSUAL [RR]

DTC Logic

INFOID:000000006213934

DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detection condition | Possible cause |
|---------|----------------------------|--|---|
| B2514 | Height sensor unusual [RR] | An applicable DTC is indicated when any of the following conditions is detected continuously for 2 seconds or more. <ul style="list-style-type: none"> The rear height sensor power supply is 6 V or more, or 4 V or less. The rear height sensor signal is 0.25 V or less, or 4.75 V or more. | <ul style="list-style-type: none"> Rear height sensor Rear height sensor Harness and connector AFS control unit |

DTC CONFIRMATION PROCEDURE

1. DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2. DTC CONFIRMATION

- Start the engine.
- Turn the headlamp ON.
- Select the self-diagnosis with CONSULT-III.
- Check the self-diagnosis result. Refer to [EXL-39, "DTC Index"](#).

Is DTC "B2514" detected?

- YES >> Refer to [EXL-71, "Diagnosis Procedure"](#).
NO >> Refer to [GI-40, "Intermittent Incident"](#).

Diagnosis Procedure

INFOID:000000006213935

1. CHECK HEIGHT SENSOR SIGNAL INPUT

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

| (+) | | (-) | Voltage (Approx.) |
|------------------|----------|--------|-------------------|
| AFS control unit | | | |
| Connector | Terminal | | |
| M135 | 28 | Ground | 0.25 - 4.75 V |

Is the measurement value within the standard value?

- YES >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)
Less than the standard value >>GO TO 2.
Higher than the standard value>>GO TO 5.

2. CHECK HEIGHT SENSOR POWER SUPPLY CIRCUIT INPUT VOLTAGE

- Turn ignition switch OFF.
- Disconnect rear height sensor connector.
- Turn ignition switch ON.
- Check voltage between rear height sensor harness connector and ground.

| (+) | | (-) | Voltage (Approx.) |
|--------------------|----------|--------|-------------------|
| Rear height sensor | | | |
| Connector | Terminal | | |
| C15 | 1 | Ground | 5 V |

B2514 HEIGHT SENSOR UNUSUAL [RR]

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 4.

3.CHECK HEIGHT SENSOR SIGNAL CIRCUIT

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

| AFS control unit | | Rear height sensor | | Continuity |
|------------------|----------|--------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| M135 | 28 | C15 | 2 | Existed |

4. Check continuity between AFS control unit harness connector and ground.

| AFS control unit | | Ground | Continuity |
|------------------|----------|--------|-------------|
| Connector | Terminal | | |
| M135 | 28 | | Not existed |

Is the inspection result normal?

YES >> Replace rear height sensor. Refer to [EXL-136, "Removal and Installation"](#).

NO >> Repair or replace harness.

4.CHECK HEIGHT SENSOR POWER SUPPLY CIRCUIT

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

| AFS control unit | | Rear height sensor | | Continuity |
|------------------|----------|--------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| M135 | 6 | C15 | 1 | Existed |

4. Check continuity between AFS control unit harness connector and ground.

| AFS control unit | | Ground | Continuity |
|------------------|----------|--------|-------------|
| Connector | Terminal | | |
| M135 | 6 | | Not existed |

Is the inspection result normal?

YES >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

NO >> Repair or replace harness.

5.CHECK HEIGHT SENSOR GROUND CIRCUIT VOLTAGE OUTPUT

Check voltage between AFS control unit harness connector and ground.

| (+) | | (-) | Voltage (Approx.) |
|------------------|----------|--------|-------------------|
| AFS control unit | | | |
| Connector | Terminal | | |
| M135 | 8 | Ground | 0 V |

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

6.CHECK HEIGHT SENSOR GROUND OPEN CIRCUIT

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

B2514 HEIGHT SENSOR UNUSUAL [RR]

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

| AFS control unit | | Rear height sensor | | Continuity |
|------------------|----------|--------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| M135 | 8 | C15 | 3 | Existed |

Is the inspection result normal?

YES >> Replace rear height sensor. Refer to [EXL-136, "Removal and Installation"](#).

NO >> Repair or replace harness.

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EXL

B2516 SHIFT SIGNAL [P, R]

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

B2516 SHIFT SIGNAL [P, R]

DTC Logic

INFOID:000000006213936

DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detection condition | Possible causes |
|---------|------------------------|--|--|
| B2516 | Shift signal [P, R] | The shift position signal is not received. | <ul style="list-style-type: none">• TCM• AFS control unit |

DTC CONFIRMATION PROCEDURE

1. DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2. DTC CONFIRMATION

1. Turn ignition ON.
2. Select the self-diagnosis with CONSULT-III.
3. Check the self-diagnosis result. Refer to [EXL-39, "DTC Index"](#).

Is DTC "B2516" detected?

- YES >> Refer to [EXL-74, "Diagnosis Procedure"](#).
NO >> Refer to [GI-40, "Intermittent Incident"](#).

Diagnosis Procedure

INFOID:000000006213937

1. TCM SELF-DIAGNOSIS

Check the self-diagnosis result with CONSULT-III. Check that TCM does not detect any DTCs.

Is any DTC detected?

- YES >> Check TCM. Refer to [TM-78, "DTC Index"](#).
NO >> GO TO 2.

2. DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

Is the memory erased?

- YES >> INSPECTION END.
NO >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

B2517 VEHICLE SPEED SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

B2517 VEHICLE SPEED SIGNAL

DTC Logic

INFOID:000000006213938

DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detection condition | Possible causes |
|---------|------------------------|---|--|
| B2517 | Vehicle speed signal | The vehicle speed signal is not received. | <ul style="list-style-type: none">Combination meterAFS control unit |

DTC CONFIRMATION PROCEDURE

1. DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2. DTC CONFIRMATION

- Turn ignition ON.
- Select the self-diagnosis with CONSULT-III.
- Check the self-diagnosis result. Refer to [EXL-39, "DTC Index"](#).

Is DTC "B2517" detected?

- YES >> Refer to [EXL-75, "Diagnosis Procedure"](#).
NO >> Refer to [GI-40, "Intermittent Incident"](#).

Diagnosis Procedure

INFOID:000000006213939

1. COMBINATION METER SELF-DIAGNOSIS

Check the self-diagnosis result with CONSULT-III. Check that the combination meter does not detect any DTCs.

Is any DTC detected?

- YES >> Check the combination meter Refer to [MWI-43, "DTC Index"](#).
NO >> GO TO 2.

2. DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

Is the memory erased?

- YES >> INSPECTION END.
NO >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

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B2519 LEVELIZER CALIBRATION

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

B2519 LEVELIZER CALIBRATION

DTC Logic

INFOID:000000006213940

| DTC No. | Trouble diagnosis name | DTC detection condition | Possible causes |
|---------|------------------------|--|------------------|
| B2519 | Levelizer calibration | The height sensor adjustment position is not recognized. | AFS control unit |

Diagnosis Procedure

INFOID:000000006213941

1.LEVELIZER ADJUSTMENT

Perform the levelizer adjustment.

>> Refer to [EXL-61. "LEVELIZER ADJUSTMENT : Special Repair Requirement"](#).

B2521 ECU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

B2521 ECU CIRCUIT

DTC Logic

INFOID:000000006213942

DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | Error detection condition | Possible cause |
|---------|------------------------|--|---|
| B2512 | ECU circuit | <ul style="list-style-type: none"> • AFS control unit indicates an applicable DTC when detecting any of the following conditions continuously for 2 seconds or more. - The swivel position sensor is shorted to the power supply or the ground. - The swivel position sensor signal is shorted to the ground. - The height sensor power supply is shorted to the power supply or the ground. - The height sensor signal is shorted to the ground. • AFS control unit RAM/ROM error | Swivel position sensor <ul style="list-style-type: none"> • Swivel position sensor • Harness and connector AFS control unit <ul style="list-style-type: none"> • AFS control unit Height sensor <ul style="list-style-type: none"> • Height sensor • Harness and connector AFS control unit (RAM/ROM) <ul style="list-style-type: none"> • AFS control unit |

DTC CONFIRMATION PROCEDURE

1. DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2. DTC CONFIRMATION PROCEDURE

1. Turn ignition ON.
2. Select the self-diagnosis with CONSULT-III.
3. Check the self-diagnosis result. Refer to [EXL-39, "DTC Index"](#).

Is DTC "B2521" detected?

- YES >> Refer to [EXL-77, "Diagnosis Procedure"](#).
 NO >> Refer to [GI-40, "Intermittent Incident"](#).

Diagnosis Procedure

INFOID:000000006213943

1. CHECK EACH SENSOR POWER SUPPLY

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

| (+) | | (-) | Voltage (Approx.) |
|------------------|----------|--------|-------------------|
| AFS control unit | | | |
| Connector | Terminal | Ground | 5 V |
| M135 | 4 | | |
| | 5 | | |
| | 6 | | |
| | 24 | | |

Is the measurement value within the standard value?

- YES >> GO TO 2.
 Less than the standard value >> GO TO 3.
 Higher than the standard value >> GO TO 4.

2. CHECK EACH SENSOR SIGNAL

Check voltage between AFS control unit harness connector and ground.

B2521 ECU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

| (+) | | (-) | Voltage (Approx.) |
|------------------|----------|--------|-------------------|
| AFS control unit | | | |
| Connector | Terminal | Ground | 0.25 - 4.75 V |
| M135 | 9 | | |
| | 23 | | |
| | 28 | | |
| | 29 | | |

Is the measurement value within the standard value?

YES >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

Less than the standard value >>GO TO 5.

Higher than the standard value>>GO TO 6.

3.CHECK EACH SENSOR POWER SUPPLY SHORT CIRCUIT

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

| AFS control unit | | Ground | Continuity |
|------------------|----------|--------|-------------|
| Connector | Terminal | | Not existed |
| M135 | 4 | | |
| | 5 | | |
| | 6 | | |
| | 24 | | |

Is the inspection result normal?

YES >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

NO >> Repair or replace harness.

4.CHECK EACH SENSOR POWER SUPPLY SHORT CIRCUIT

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

| (+) | | (-) | Voltage (Approx.) |
|------------------|----------|--------|-------------------|
| AFS control unit | | | |
| Connector | Terminal | Ground | 0 V |
| M135 | 4 | | |
| | 5 | | |
| | 6 | | |
| | 24 | | |

Is the inspection result normal?

YES >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

NO >> Repair or replace harness.

5.CHECK EACH SENSOR SIGNAL SHORT CIRCUIT

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

B2521 ECU CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

| AFS control unit | | Ground | Continuity |
|------------------|----------|--------|-------------|
| Connector | Terminal | | |
| M135 | 9 | Ground | Not existed |
| | 23 | | |
| | 28 | | |
| | 29 | | |

Is the inspection result normal?

YES >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

NO >> Repair or replace harness.

6. CHECK EACH SENSOR SIGNAL SHORT CIRCUIT

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

| AFS control unit | | (-) | Voltage (Approx.) |
|------------------|----------|--------|----------------------|
| Connector | Terminal | | |
| M135 | 9 | Ground | 0 V |
| | 23 | | |
| | 28 | | |
| | 29 | | |

Is the inspection result normal?

YES >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

NO >> Repair or replace harness.

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EXL

C0126 STEERING ANGLE SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

C0126 STEERING ANGLE SENSOR SIGNAL

DTC Logic

INFOID:000000006213944

DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detection condition | Possible causes |
|---------|------------------------------|--|--|
| C0126 | Steering angle sensor signal | In any of the following conditions <ul style="list-style-type: none">The steering angle sensor signal is not received.The steering angle sensor signal error is received.Out-of-standard signal (-900°-+900°) is received. | <ul style="list-style-type: none">Steering angle sensorAFS control unit |

DTC CONFIRMATION PROCEDURE

1. DTC ERASE

Erase the DTC memory of AFS with CONSULT-III.

>> GO TO 2.

2. DTC CONFIRMATION

1. Start the engine.
2. Turn the steering wheel to the maximum right/left.
3. Select the self-diagnosis with CONSULT-III.
4. Check the self-diagnosis result. Refer to [EXL-39, "DTC Index"](#).

Is DTC "C0126" detected?

YES >> Refer to [EXL-80, "Diagnosis Procedure"](#).

NO >> Refer to [GI-40, "Intermittent Incident"](#).

Diagnosis Procedure

INFOID:000000006213945

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

Check the self-diagnosis result with CONSULT-III. Check that ABS actuator and electrical unit (control unit) does not detect any DTCs.

Is any DTC detected?

YES >> Check ABS actuator and electrical unit (control unit). Refer to [BRC-51, "DTC Index"](#).

NO >> GO TO 2.

2. DTC ERASE

Erase DTC memory of AFS with CONSULT-III.

Is the memory erased?

YES >> Inspection end.

NO >> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

C0428 STEERING ANGLE SENSOR CALIBRATION

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

C0428 STEERING ANGLE SENSOR CALIBRATION

DTC Logic

INFOID:000000006213946

| DTC No. | Trouble diagnosis name | DTC detection condition | Possible causes |
|---------|-----------------------------------|---|-----------------------|
| C0428 | Steering angle sensor calibration | The steering angle sensor neutral position is not recognized. | Steering angle sensor |

Diagnosis Procedure

INFOID:000000006213947

1. STEERING ANGLE SENSOR NEUTRAL POSITION ADJUSTMENT

Perform the steering angle sensor neutral position adjustment.

CAUTION:

Perform the steering angle sensor neutral position adjustment on VDC side. VDC may activate incorrectly.

>> Refer to [BRC-64. "Work Procedure"](#).

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U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

U1000 CAN COMM CIRCUIT

Description

INFOID:000000006213948

CAN (Controller Area Network) is the serial transmission for real time application. CAN is the multiplex communication for the vehicle with superior data transmission speed and error detection ability. Many electronic control units are equipped on the vehicle. These control units do not operate individually, but associates with other control units by sharing information. In CAN communication, each control unit is connected with two communication lines (CAN-H and CAN-L). Much information is transmitted with fewer communication lines than before. Each control unit transmits/receives data and reads the necessary data only.

CAN Communication Signal Chart. Refer to [LAN-27, "CAN COMMUNICATION SYSTEM : CAN System Specification Chart"](#).

DTC Logic

INFOID:000000006213949

DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detection condition | Possible causes |
|---------|---------------------------|---|--------------------------|
| U1000 | CAN communication circuit | When AFS control unit does not transmit/receive CAN communication signal continuously for 2 seconds or more | CAN communication system |

Diagnosis Procedure

INFOID:000000006213950

1. PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result".

Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to [LAN-18, "Trouble Diagnosis Flow Chart"](#).
NO >> Refer to [GI-40, "Intermittent Incident"](#).

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:000000006213951

DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detection condition | Possible cause |
|---------|------------------------|---|------------------|
| U1010 | Control unit (CAN) | AFS control unit detected internal CAN communication circuit malfunction. | AFS control unit |

Diagnosis Procedure

INFOID:000000006213952

1. REPLACE AFS CONTROL UNIT

When DTC [U1010] is detected, replace AFS control unit.

>> Replace AFS control unit. Refer to [EXL-135, "Removal and Installation"](#)

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

POWER SUPPLY AND GROUND CIRCUIT

AFS CONTROL UNIT

AFS CONTROL UNIT : Diagnosis Procedure

INFOID:000000006213953

1. FUSE INSPECTION

Check that the following fuses are not fusing.

| Signal name | Connection position | Fuse No. | Capacity |
|-----------------------|---------------------|----------|----------|
| Ignition power supply | FUSE BLOCK (J/B) | 3 | 10 A |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the applicable circuit. And then replace the fuse.

2. CHECK POWER SUPPLY CIRCUIT

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

| (+) | | (-) | Voltage (Approx.) |
|------------------|----------|--------|----------------------|
| AFS control unit | | | |
| Connector | Terminal | Ground | Battery voltage |
| M135 | 1 | | |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

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

| AFS control unit | | Ground | Continuity |
|------------------|----------|--------|------------|
| Connector | Terminal | | |
| M135 | 25 | | Existed |

Is the inspection result normal?

YES >> Power supply and ground circuit are normal.

NO >> Repair harness or connector.

EXTERIOR LAMP FUSE

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

EXTERIOR LAMP FUSE

Diagnosis Procedure

INFOID:000000006213954

1. CHECK FUSE

Check that the following fuses are not fusing.

| Unit | Location | Fuse No. | Capacity |
|---|------------------|----------|----------|
| Headlamp HI (LH) | IPDM E/R | #52 | 10 A |
| Headlamp HI (RH) | IPDM E/R | #51 | 10 A |
| Headlamp LO (LH) | IPDM E/R | #53 | 15 A |
| Headlamp LO (RH) | IPDM E/R | #54 | 15 A |
| Front fog lamp | IPDM E/R | #50 | 15 A |
| <ul style="list-style-type: none">• Parking lamp (LH)• Front side marker lamp (LH) | IPDM E/R | #46 | 10 A |
| <ul style="list-style-type: none">• Parking lamp (RH)• Front side marker lamp (RH) | IPDM E/R | #47 | 10 A |
| <ul style="list-style-type: none">• Tail lamp (Back door side LH/RH)• Tail lamp (Body side LH)• License plate lamp• Rear side marker lamp (LH) | IPDM E/R | #46 | 10 A |
| <ul style="list-style-type: none">• Tail lamp (Body side RH)• Rear side marker lamp (RH) | IPDM E/R | #47 | 10 A |
| Stop lamp | FUSE BLOCK (J/B) | #7 | 10 A |
| Back-up lamp | IPDM E/R | #55 | 10 A |

Is the inspection result normal?

YES >> The fuse is normal.

NO >> Repair the applicable circuit. And then replace the fuse.

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HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

HEADLAMP (HI) CIRCUIT

Component Function Check

INFOID:000000006213955

1. CHECK HEADLAMP (HI) OPERATION

CONSULT-III ACTIVE TEST

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

Hi : Headlamp (HI) ON

Off : Headlamp (HI) OFF

NOTE:

ON/OFF is repeated 1 second each.

Is the inspection result normal?

YES >> Headlamp (HI) circuit is normal.

NO >> Refer to [EXL-86, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000006213956

1. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

| (+) | | Terminal | (-) | Test item | Voltage (Approx.) | |
|-----------|-----|----------|--------|----------------|-------------------|-----------------|
| IPDM E/R | | | | | | |
| Connector | | | | | | |
| RH | E15 | 49 | Ground | EXTERNAL LAMPS | Hi | Battery voltage |
| | | | | | Off | 0 V |
| LH | | 50 | | | Hi | Battery voltage |
| | | | | | Off | 0 V |

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

2. CHECK HEADLAMP (HI) OPEN CIRCUIT

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

| IPDM E/R | | Front combination lamp | | Continuity |
|-----------|----------|------------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| RH | E15 | E119 | 6 | Existed |
| LH | | 50 | | |

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

3. CHECK HEADLAMP (HI) FUSE

1. Turn ignition switch OFF.

HEADLAMP (HI) CIRCUIT

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

2. Check that the following fuses are not fusing.

| Unit | Location | Fuse No. | Capacity |
|------------------|----------|----------|----------|
| Headlamp HI (RH) | IPDM E/R | #51 | 10 A |
| Headlamp HI (LH) | | #52 | |

Is the inspection result normal?

YES >> Replace IPDM E/R.

NO >> GO TO 4.

4.CHECK HEADLAMP HIGH (HI) SHORT CIRCUIT

1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector and ground.

| IPDM E/R | | Ground | Continuity |
|-----------|----------|--------|-------------|
| Connector | Terminal | | |
| RH | E15 | 49 | Not existed |
| LH | | 50 | |

Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if the fuse is fusing again.)

NO >> Repair or replace harness. And then replace the fuse.

5.CHECK HEADLAMP (HI) GROUND OPEN CIRCUIT

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

| Front combination lamp | | Ground | Continuity |
|------------------------|----------|--------|------------|
| Connector | Terminal | | |
| RH | E119 | 2 | Existed |
| LH | E118 | | |

Is the inspection result normal?

YES >> Replace front combination lamp.

NO >> Repair or replace harness.

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EXL

HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

HEADLAMP (LO) CIRCUIT

Component Function Check

INFOID:000000006213957

1.CHECK HEADLAMP (LO) OPERATION

CONSULT-III ACTIVE TEST

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

Lo : Headlamp (LO) ON

Off : Headlamp (LO) OFF

Is the inspection result normal?

- YES >> Headlamp (LO) is normal.
NO >> Refer to [EXL-88, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000006213958

1.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

| (+) | | Terminal | (-) | Test item | Voltage (Approx.) |
|-----------|-----|----------|--------|-----------|-------------------|
| IPDM E/R | | | | | |
| Connector | | | | | |
| RH | E15 | 52 | Ground | Lo | Battery voltage |
| | | | | | Off |
| LH | | 51 | | Lo | Battery voltage |
| | | | | Off | 0 V |

Is the inspection result normal?

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

2.CHECK HEADLAMP (LO) OPEN CIRCUIT

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

| IPDM E/R | | Front combination lamp | | Continuity |
|-----------|----------|------------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| RH | E15 | E119 | 5 | Existed |
| LH | | 52 | | |
| | | E118 | | |

Is the inspection result normal?

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

3.CHECK HEADLAMP (LO) FUSE

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

HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

| Unit | Lotion | Fuse No. | Capacity |
|------------------|----------|----------|----------|
| Headlamp LO (RH) | IPDM E/R | #54 | 15 A |
| Headlamp LO (LH) | | #53 | |

Is the inspection result normal?

YES >> Replace IPDM E/R.

NO >> GO TO 4.

4.CHECK HEADLAMP (LO) SHORT CIRCUIT

1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector and ground.

| IPDM E/R | | | Ground | Continuity |
|-----------|----------|----|--------|-------------|
| Connector | Terminal | | | |
| RH | E15 | 52 | | Not existed |
| LH | | 51 | | |

Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if the fuse is fusing again.)

NO >> Repair or replace harness. And then replace the fuse.

5.CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT

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

| Front combination lamp | | | Ground | Continuity |
|------------------------|----------|---|--------|------------|
| Connector | Terminal | | | |
| RH | E119 | 1 | | Existed |
| LH | E118 | | | |

Is the inspection result normal?

YES >> Perform the xenon headlamp diagnosis. Refer to [EXL-90, "Diagnosis Procedure"](#).

NO >> Repair or replace harness.

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EXL

XENON HEADLAMP

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

XENON HEADLAMP

Diagnosis Procedure

INFOID:000000006213959

1.CHECK XENON BULB

Install the normal bulb to the applicable headlamp. Turn the lighting switch ON.

Is the headlamp turned ON?

- YES >> Replace xenon bulb.
- NO >> GO TO 2.

2.CHECK HID CONTROL UNIT

Install the normal HID control unit to the applicable headlamp. Turn the lighting switch ON

Is the headlamp turned ON?

- YES >> Replace HID control unit.
- NO >> Xenon headlamp is normal. Check headlamp control system.

HEADLAMP LEVELIZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

HEADLAMP LEVELIZER CIRCUIT

Component Function Check

INFOID:000000006213960

1.CHECK AIMING MOTOR OPERATION

CONSULT-III ACTIVE TEST

1. Start the engine.
2. Turn the lighting switch 2ND.
3. Select "LEVELIZER TEST" of ADAPTIVE LIGHT active test item.
4. With operating the test item, check the operation.

| Test item | Optical axis |
|----------------|-------------------|
| LEVELIZER TEST | |
| Origin | Standard position |
| Peak | Lowest position |

Is the operation normal?

- YES >> Headlamp levelizer circuit is normal.
 NO >> Refer to [EXL-91, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000006213961

1.CHECK AIMING MOTOR DRIVE SIGNAL OUTPUT

CONSULT-III ACTIVE TEST

1. Start the engine.
2. Turn light switch 2ND.
3. Select "LEVELIZER TEST" of ADAPTIVE LIGHT active test item.
4. With operating the test item, check voltage between AFS control unit harness connector and ground.

| (+) | | | (-) | Test item | Voltage (Approx.) | | |
|------------------|----------|------|--------|----------------|-------------------|--------|-------|
| AFS control unit | | | | | | | |
| Connector | Terminal | | Ground | LEVELIZER TEST | | | |
| RH | M135 | 19 | | | | Origin | 7.5 V |
| | | Peak | | | | 7.3 V | |
| LH | M135 | 40 | | | | Origin | 7.5 V |
| | | Peak | 7.3 V | | | | |

Is the inspection result normal?

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

2.CHECK AIMING MOTOR DRIVE SIGNAL OPEN CIRCUIT

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 head lamp aiming motor harness connector.

| AFS control unit | | | Headlamp aiming motor | | Continuity |
|------------------|----------|----|-----------------------|----------|------------|
| Connector | Terminal | | Connector | Terminal | |
| RH | M135 | 19 | E121 | 1 | Existed |
| LH | | 40 | E120 | | |

Is the inspection result normal?

- YES >> Replace front combination lamp.
 NO >> Repair or replace harness.

HEADLAMP LEVELIZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

3. CHECK AIMING MOTOR DRIVE SIGNAL SHORT CIRCUIT

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 | | Ground | Continuity |
|------------------|----------|--------|-------------|
| Connector | Terminal | | |
| RH | M135 | 19 | Not existed |
| LH | | 40 | |

Is the inspection result normal?

- YES >> Replace AFS control unit. Refer to [EXL-135. "Removal and Installation"](#)
NO >> Repair or replace harness.

HEADLAMP AIMING SYSTEM (MANUAL)

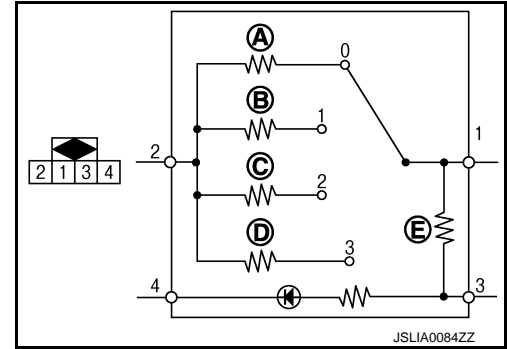
Component Inspection

INFOID:000000006216752

1. CHECK HEADLAMP AIMING SWITCH

1. Remove headlamp aiming switch.
2. Check resistance among each headlamp aiming switch terminal.

| Headlamp aiming switch | | Condition | Resistance (Approx.) |
|------------------------|---|-----------------|----------------------|
| Terminal | | Switch position | |
| 1 | 2 | 0 | A: 910 Ω |
| | | 1 | B: 680 Ω |
| | | 2 | C: 510 Ω |
| | | 3 | D: 390 Ω |
| | 3 | — | E: 390 Ω |



Is the inspection result normal?

- YES >> Headlamp aiming switch is normal.
 NO >> Replace the headlamp aiming switch.

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EXL

FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

FRONT FOG LAMP CIRCUIT

Component Function Check

INFOID:000000006213962

1.CHECK FRONT FOG LAMP OPERATION

ⓅCONSULT-III ACTIVE TEST

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

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

Is the inspection result normal?

- YES >> Front fog lamp circuit is normal.
NO >> Refer to [EXL-94, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000006213963

1.CHECK FRONT FOG LAMP FUSE

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

| Unit | Location | Fuse No. | Capacity |
|----------------|----------|----------|----------|
| Front fog lamp | IPDM E/R | #50 | 15 A |

Is the inspection result normal?

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

2.CHECK FRONT FOG LAMP SHORT CIRCUIT

1. Disconnect front fog lamp connector.
2. Check continuity between IPDM E/R harness connector and ground.

| IPDM E/R | | Ground | Continuity |
|-----------|----------|--------|-------------|
| Connector | Terminal | | |
| RH | E12 | 19 | Not existed |
| LH | | 20 | |

Is the inspection result normal?

- YES >> Replace fuse. (Replace IPDM E/R if the fuse is fusing again.)
NO >> Repair or replace harness. And then replace the fuse.

3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Replace bulb.

4.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

ⓅCONSULT-III ACTIVE TEST

1. Disconnect front fog lamp connector.
2. Turn ignition switch ON.
3. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
4. With operating the test items, check voltage between IPDM E/R harness connector and ground.

FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

| (+) | | (-) | Test item | Voltage (Approx.) | |
|-----------|----------|--------|----------------|-------------------|-----------------|
| IPDM E/R | | | | | |
| Connector | Terminal | | | | |
| RH | E12 | Ground | EXTERNAL LAMPS | Fog | Battery voltage |
| | | | | Off | 0 V |
| LH | 20 | | | Fog | Battery voltage |
| | | | | Off | 0 V |

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5. CHECK FRONT FOG LAMP OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R 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 | E12 | E48 | 1 | Existed |
| LH | | E30 | | |

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

6. CHECK FRONT FOG LAMP GROUND CIRCUIT OPEN CIRCUIT

Check continuity between front fog lamp harness connector and ground.

| Front fog lamp | | Ground | Continuity |
|----------------|----------|--------|------------|
| Connector | Terminal | | |
| RH | E48 | | 2 |
| LH | E30 | | |

Is the inspection result normal?

YES >> Replace front fog lamp.

NO >> Repair or replace harness.

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EXL

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

PARKING LAMP CIRCUIT

Component Function Check

INFOID:000000006213964

1. CHECK PARKING LAMP OPERATION

CONSULT-III ACTIVE TEST

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

TAIL : Parking lamp ON
Off : Parking lamp OFF

Is the inspection result normal?

- YES >> Parking lamp circuit is normal.
NO >> Refer to [EXL-96, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000006213965

1. CHECK PARKING LAMP FUSE

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

| Unit | Location | Fuse No. | Capacity |
|--------------|----------|----------|----------|
| Parking lamp | IPDM E/R | #46 | 10 A |
| | | #47 | |

Is the inspection result normal?

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

2. CHECK PARKING LAMP SHORT CIRCUIT

1. Disconnect the following connectors.
 - IPDM E/R
 - Front combination lamp
 - Rear combination lamp
 - License plate lamp
2. Check continuity between IPDM E/R harness connector and ground.

| IPDM E/R | | Ground | Continuity |
|-----------|----------|--------|-------------|
| Connector | Terminal | | |
| RH | E14 | | Not existed |
| LH | | | |
| | | 43 | |

Is the inspection result normal?

- YES >> Replace fuse. (Replace IPDM E/R if fusing is found again.)
NO >> Repair or replace harness. And then replace the fuse.

3. CHECK PARKING LAMP BULB

Check applicable lamp bulb.

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Replace bulb.

4. CHECK PARKING LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

1. Disconnect front combination lamp connector.
2. Turn ignition switch ON.

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

3. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
4. With operating the test items, check voltage between IPDM E/R harness connector and ground.

| (+) | | (-) | Test item | Voltage (Approx.) | |
|-----------|----------|--------|----------------|-------------------|-----------------|
| IPDM E/R | | | | | |
| Connector | Terminal | | | | |
| RH | E14 | Ground | EXTERNAL LAMPS | TAIL | Battery voltage |
| | | | | 37 | Off |
| LH | 43 | | | TAIL | Battery voltage |
| | | | | Off | 0 V |

Is the inspection result normal?

- YES >> GO TO 5.
 NO >> Replace IPDM E/R.

5. CHECK PARKING LAMP OPEN CIRCUIT

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

| IPDM E/R | | Front combination lamp | | Continuity |
|-----------|----------|------------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| RH | E14 | E119 | 7 | Existed |
| | | 37 | | |
| LH | | E118 | | |

Is the inspection result normal?

- YES >> GO TO 6.
 NO >> Repair or replace harness.

6. CHECK PARKING LAMP GROUND OPEN CIRCUIT

Check continuity between front combination lamp harness connector and ground.

| Front combination lamp | | Ground | Continuity |
|------------------------|----------|--------|------------|
| Connector | Terminal | | |
| RH | E119 | | 3 |
| LH | E118 | | |

Is the inspection result normal?

- YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.
 NO >> Repair or replace harness.

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EXL

FRONT SIDE MARKER LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

FRONT SIDE MARKER LAMP CIRCUIT

Component Function Check

INFOID:000000006238400

1. CHECK PARKING LAMP OPERATION

Check that the parking lamp is turned ON.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to [EXL-96, "Component Function Check"](#).

2. CHECK FRONT SIDE MARKER LAMP OPERATION

ⓐ CONSULT-III ACTIVE TEST

1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.

2. With operating the lighting switch, check that the front side marker lamp is turned ON.

TAIL : Front side marker lamp ON

Off : Front side marker lamp OFF

Is the inspection result normal?

YES >> Front side marker lamp circuit is normal.

NO >> Refer to [EXL-98, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000006238401

1. CHECK FRONT SIDE MARKER LAMP BULB

Check the applicable lamp bulb.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace bulb.

2. CHECK FRONT SIDE MARKER LAMP OPEN 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 | |
| LH | E14 | E118 | 4 | Existed |
| RH | | 37 | | |

Is the inspection result normal?

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.

NO >> Repair or replace harness.

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

TURN SIGNAL LAMP CIRCUIT

Component Function Check

INFOID:000000006213967

1. CHECK TURN SIGNAL LAMP

CONSULT-III ACTIVE TEST

1. Select "FLASHER" of BCM (FLASHER) active test item.
2. With operating the test items, check that the turn signal lamp is turned ON.

- LH** : Turn signal lamps (LH) ON
- RH** : Turn signal lamps (RH) ON
- Off** : Turn signal lamps OFF

Is the inspection result normal?

- YES >> Turn signal lamp circuit is normal.
- NO >> Refer to [EXL-99. "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000006213968

1. CHECK TURN SIGNAL LAMP BULB

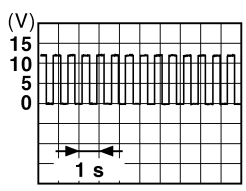
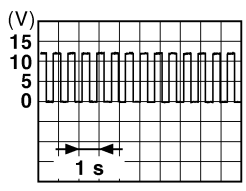
Check applicable lamp bulb.

Is the inspection result normal?

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

2. CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

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

| (+) | | (-) | Condition | Voltage (Approx.) | |
|-----------|----------|--------|--------------------|---|---|
| BCM | | | | | |
| Connector | Terminal | | | | |
| M70 | 60 | Ground | Turn signal switch | LH |  <p style="text-align: right; font-size: small;">PKID0926E</p> |
| | | | OFF | 0 V | |
| | 61 | | RH |  <p style="text-align: right; font-size: small;">PKID0926E</p> | |
| | | | OFF | 0 V | |

Is the inspection result normal?

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

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

3. CHECK TURN SIGNAL LAMP OPEN CIRCUIT

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 harness connector.

Front turn signal lamp

| BCM | | Front combination lamp | | Continuity |
|-----------|----------|------------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| LH | M70 | 60 | E118 | Existed |
| RH | | 61 | E119 | |

Side turn signal lamp

| BCM | | Door mirror | | Continuity |
|----------------|----------|-------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| Driver side | M70 | 60 | D3 | Existed |
| Passenger side | | 61 | D23 | |

Rear turn signal lamp

| BCM | | Rear combination lamp | | Continuity |
|-----------|----------|-----------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| LH | M70 | 60 | B60 | Existed |
| RH | | 61 | B232 | |

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between BCM harness connector and ground.

| BCM | | Ground | Continuity |
|-----------|----------|--------|-------------|
| Connector | Terminal | | |
| M70 | 60 | | Not existed |
| | 61 | | |

Is the inspection result normal?

YES >> Check each bulb socket for internal short circuit. Replace BCM if check result is normal. Refer to [BCS-81. "Removal and Installation"](#).

NO >> Repair or replace harness.

5. CHECK TURN SIGNAL LAMP GROUND OPEN CIRCUIT

Check continuity between front combination lamp, door mirror or rear combination lamp and ground.

Front turn signal lamp

| Front combination lamp | | Ground | Continuity |
|------------------------|----------|--------|------------|
| Connector | Terminal | | |
| LH | E118 | 3 | Existed |
| RH | E119 | | |

Side turn signal lamp

| Door mirror | | Ground | Continuity |
|----------------|----------|--------|------------|
| Connector | Terminal | | |
| Driver side | D3 | 19 | Existed |
| Passenger side | D23 | | |

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Rear turn signal lamp

| Rear combination lamp | | Terminal | Ground | Continuity |
|-----------------------|------|----------|--------|------------|
| Connector | | | | Existed |
| LH | B60 | 4 | | |
| RH | B232 | | | |

Is the inspection result normal?

- YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.
- NO >> Repair or replace harness.

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OPTICAL SENSOR

Component Function Check

INFOID:000000006213969

1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT-III

CONSULT-III DATA MONITOR

1. Turn ignition switch ON.
2. Select "OPTISEN (DTCT)" of BCM (HEADLAMP) data monitor item.
3. Turn lighting switch AUTO.
4. With the optical sensor illuminating, check the monitor status.

| Monitor item | Condition | Voltage (Approx.) |
|----------------|-------------------------|-------------------|
| OPTISEN (DTCT) | Optical sensor | |
| | When illuminating | 3.1 V or more * |
| | When shutting off light | 0.6 V or less |

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

Is the inspection result normal?

- YES >> Optical sensor is normal.
 NO >> Refer to [EXL-102, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000006213970

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 (Approx.) |
|----------------|----------|--------|-------------------|
| Optical sensor | | | |
| Connector | Terminal | | |
| M17 | 1 | Ground | 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 (Approx.) |
|----------------|----------|--------|-------------------|
| Optical sensor | | | |
| Connector | Terminal | | |
| M17 | 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.

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

| (+) | | (-) | Condition | Voltage (Approx.) |
|----------------|----------|--------|----------------|--|
| Optical sensor | | | | |
| Connector | Terminal | | | |
| M17 | 2 | Ground | Optical sensor | When illuminating 3.1 V or more * |
| | | | | When shutting off light 0.6 V or less |

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

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the optical sensor.

4.CHECK OPTICAL SENSOR OPEN 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 | |
| M17 | 1 | M68 | 17 | Existed |

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK OPTICAL SENSOR SHORT CIRCUIT

Check continuity between optical sensor harness connector and ground.

| Optical sensor | | Ground | Continuity |
|----------------|----------|--------|-------------|
| Connector | Terminal | | |
| M17 | 1 | | Not existed |

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-81, "Removal and Installation"](#).

NO >> Repair or replace harness.

6.CHECK OPTICAL SENSOR GROUND OPEN 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 | |
| M17 | 3 | M68 | 18 | Existed |

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-81, "Removal and Installation"](#).

NO >> Repair or replace harness.

7.CHECK OPTICAL SENSOR SIGNAL OPEN 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

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

| Optical sensor | | BCM | | Continuity |
|----------------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| M17 | 2 | M68 | 14 | Existed |

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

8. CHECK OPTICAL SENSOR SHORT CIRCUIT

Check continuity between optical sensor harness connector and ground.

| Optical sensor | | Ground | Continuity |
|----------------|----------|--------|-------------|
| Connector | Terminal | | |
| M17 | 2 | | Not existed |

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-81, "Removal and Installation"](#).

NO >> Repair or replace harness.

HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

HAZARD SWITCH

Component Function Check

INFOID:000000006213971

1.CHECK HAZARD SWITCH SIGNAL BY CONSULT-III

CONSULT-III DATA MONITOR

1. Turn ignition switch ON.
2. Select "HAZARD SW" of BCM (FLASHER) data monitor item.
3. 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-105. "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000006213972

1.CHECK HAZARD SWITCH SIGNAL INPUT

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

| (+) | | (-) | Voltage (Approx.) |
|---------------|----------|--------|-------------------|
| Hazard switch | | | |
| Connector | Terminal | Ground | 12 V |
| M45 | 2 | | |

Is the inspection result normal?

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

2.CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between hazard switch harness connector and BCM harness connector.

| Hazard switch | | BCM | | Continuity |
|---------------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| M45 | 2 | M68 | 29 | Existed |

Is the inspection result normal?

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

3.CHECK HAZARD SWITCH SIGNAL SHORT CIRCUIT

Check continuity between hazard switch harness connector and ground.

| Hazard switch | | Ground | Continuity |
|---------------|----------|--------|-------------|
| Connector | Terminal | | |
| M45 | 2 | | Not existed |

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-81. "Removal and Installation"](#).
 NO >> Repair or replace harness.

HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

Check continuity between hazard switch harness connector and ground.

| Hazard switch | | Ground | Continuity |
|---------------|----------|--------|------------|
| Connector | Terminal | | |
| M45 | 1 | | Existed |

Is the inspection result normal?

- YES >> Replace hazard switch.
- NO >> Repair or replace harness.

AFS SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

AFS SWITCH

Component Function Check

INFOID:000000006213973

1. CHECK AFS SWITCH SIGNAL BY CONSULT-III

CONSULT-III DATA MONITOR

1. Turn ignition switch ON.
2. Select "AFS SW" of ADAPTIVE LIGHT data monitor item.
3. With operating the AFS switch, check the monitor status.

| Monitor item | Condition | Monitor status |
|--------------|----------------|----------------|
| AFS SW | AFS switch ON | On |
| | AFS switch OFF | Off |

Is the inspection result normal?

- YES >> AFS switch circuit is normal.
 NO >> Refer to [EXL-107. "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000006213974

1. CHECK AFS SWITCH FUSE

1. Turn ignition switch OFF.
2. Check that the following fuses is not fusing.

| Location | Fuse No. | Capacity |
|------------------|----------|----------|
| Fuse block (J/B) | #3 | 10 A |

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the applicable. And then replace the fuse.

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect triple switch connector.
2. Check voltage between triple switch harness connector and ground.

| (+) | | (-) | Voltage (V) (Approx.) |
|---------------|----------|--------|--------------------------|
| Triple switch | | | |
| Connector | Terminal | Ground | Battery voltage |
| M126 | 3 | | |

Is the inspection result normal?

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

3. CHECK AFS SWITCH CIRCUIT

1. Disconnect AFS control unit connector.
2. Check continuity between AFS control unit harness connector and triple switch harness connector.

| AFS control unit | | Triple switch | | Continuity |
|------------------|----------|---------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| M135 | 3 | M126 | 4 | Existed |

3. Check continuity between AFS control unit harness connector and ground.

| AFS control unit | | Ground | Continuity |
|------------------|----------|--------|-------------|
| Connector | Terminal | | |
| M135 | 3 | | Not existed |

AFS SWITCH

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

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

4.CHECK AFS SWITCH

Refer to [EXL-108. "Component Inspection"](#).

Is the inspection result normal?

- YES >> Replace AFS control unit. Refer to [EXL-135. "Removal and Installation"](#).
- NO >> Replace AFS switch.

Component Inspection

INFOID:000000006213975

1.CHECK AFS SWITCH

1. Turn ignition switch OFF.
2. Disconnect triple switch connector.
3. Check continuity between triple switch terminals.

| Triple switch | | Condition | Continuity | |
|---------------|---|------------|------------|-------------|
| Terminal | | | | |
| 3 | 4 | AFS switch | Pressed | Existed |
| | | | Released | Not existed |

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> Replace AFS switch.

TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

TAIL LAMP CIRCUIT

BODY SIDE

BODY SIDE : Component Function Check

INFOID:000000006213976

1. CHECK TAIL LAMP OPERATION

CONSULT-III ACTIVE TEST

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

TAIL : Tail Lamp ON
Off : Tail lamp OFF

Is the inspection result normal?

- YES >> Tail lamp circuit is normal.
 NO >> Refer to [EXL-109. "BODY SIDE : Diagnosis Procedure"](#).

BODY SIDE : Diagnosis Procedure

INFOID:000000006213977

1. CHECK TAIL LAMP FUSE

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

| Unit | Location | Fuse No. | Capacity |
|-----------|----------|----------|----------|
| Tail lamp | IPDM E/R | #46 | 10 A |
| | | #47 | |

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair the malfunctioning part before replacing the fuse.

2. CHECK TAIL LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

1. Disconnect rear combination lamp connector.
2. Turn ignition switch ON.
3. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
4. With operating the test items, check voltage between IPDM E/R harness connector and ground.

| (+) | | (-) | Test item | Voltage (Approx.) | |
|-----------|----------|--------|----------------|-------------------|-----------------|
| IPDM E/R | | | | | |
| Connector | Terminal | | | | |
| E14 | 38 | Ground | EXTERNAL LAMPS | TAIL | Battery voltage |
| | | | Off | 0 V | |
| | 44 | | TAIL | Battery voltage | |
| | | | Off | 0 V | |

Is the inspection result normal?

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

3. CHECK TAIL LAMP OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the following connectors.
 - IPDM E/R
 - Front combination lamp
 - Rear combination lamp

TAIL LAMP CIRCUIT

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

- Tail lamp (back door side)
- License plate lamp
- 3. Check continuity between IPDM E/R harness connector and rear combination lamp harness connector.

| IPDM E/R | | Rear combination lamp | | Continuity |
|-----------|----------|-----------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| RH | E14 | 38 | B232 | Existed |
| LH | | 44 | B60 | |

Is the inspection result normal?

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

4.CHECK TAIL LAMP SHORT CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the following connectors.
 - IPDM E/R
 - Front combination lamp
 - Rear combination lamp
 - Tail lamp (back door side)
 - License plate lamp
3. Check continuity between IPDM E/R harness connector and ground.

| IPDM E/R | | Ground | Continuity |
|-----------|----------|--------|-------------|
| Connector | Terminal | | |
| RH | E14 | | Not existed |
| LH | | | |
| | | | |
| | | | |

Is the inspection result normal?

- YES >> Replace IPDM E/R.
- NO >> Repair or replace harness.

5.CHECK TAIL LAMP GROUND OPEN CIRCUIT

Check continuity between rear combination lamp harness connector and ground.

| Rear combination lamp | | Ground | Continuity |
|-----------------------|----------|--------|------------|
| Connector | Terminal | | |
| RH | B232 | 4 | Existed |
| LH | B60 | | |

Is the inspection result normal?

- YES >> Replace rear combination lamp.
- NO >> Repair or replace harness.

BACK DOOR SIDE

BACK DOOR SIDE : Component Function Check

INFOID:000000006238402

1.CHECK TAIL LAMP (BODY SIDE) OPERATION

Check that the tail lamp (body side) is turned ON.

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Refer to [EXL-109. "BODY SIDE : Component Function Check"](#).

2.CHECK TAIL LAMP (BACK DOOR SIDE) OPERATION

ⓑCONSULT-III ACTIVE TEST

1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
2. With operating the lighting switch, check that the tail lamp (back door side) is turned ON.

TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

- TAIL** : Tail lamp (back door side) ON
Off : Tail lamp (back door side) OFF

Is the inspection result normal?

- YES >> Tail lamp (back door side) circuit is normal.
NO >> Refer to [EXL-111, "BACK DOOR SIDE : Diagnosis Procedure"](#).

BACK DOOR SIDE : Diagnosis Procedure

INFOID:000000006238403

1. CHECK TAIL LAMP (BACK DOOR SIDE) BULB

Check the applicable lamp bulb.

Is the inspection result normal?

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

2. CHECK TAIL LAMP (BACK DOOR SIDE) OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and tail lamp (back door side) connector.
3. Check continuity between IPDM E/R harness connector and tail lamp (back door side) harness connector.

| IPDM E/R | | Tail lamp (back door side) | | Continuity |
|-----------|----------|----------------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| LH | E14 | D169 | 1 | Existed |
| RH | | D117 | | |

Is the inspection result normal?

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

3. CHECK TAIL LAMP (BACK DOOR SIDE) GROUND OPEN CIRCUIT

Check continuity between tail lamp (back door side) harness connector and ground.

| Tail lamp (back door side) | | Ground | Continuity |
|----------------------------|----------|--------|------------|
| Connector | Terminal | | |
| LH | D169 | 2 | Existed |
| RH | D117 | | |

Is the inspection result normal?

- YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.
NO >> Repair or replace harness.

LICENSE PLATE LAMP CIRCUIT

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

LICENSE PLATE LAMP CIRCUIT

Component Function Check

INFOID:000000006213978

1. CHECK TAIL LAMP OPERATION

Check that the tail lamp is turned ON.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to [EXL-109, "BODY SIDE : Component Function Check"](#).

2. CHECK LICENSE PLATE LAMP OPERATION

ⓐ CONSULT-III ACTIVE TEST

1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.

2. With operating the lighting switch, check that the license plate lamp is turned ON.

TAIL : License plate lamp ON

Off : License plate lamp OFF

Is the inspection result normal?

YES >> License plate lamp circuit is normal.

NO >> Refer to [EXL-112, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000006213979

1. CHECK LICENSE PLATE LAMP BULB

Check the applicable lamp bulb.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace bulb.

2. CHECK LICENSE PLATE LAMP OPEN 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 | |
| LH | E14 | D167 | 1 | Existed |
| RH | | D168 | | |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3. CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT

Check continuity between license plate lamp harness connector and ground.

| License plate lamp | | Ground | Continuity |
|--------------------|----------|--------|------------|
| Connector | Terminal | | |
| LH | D167 | 2 | Existed |
| RH | D168 | | |

Is the inspection result normal?

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.

NO >> Repair or replace harness.

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

INFOID:000000006213980

CAUTION:

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

| Symptom | | Possible cause | Inspection item |
|---|---|---|--|
| Headlamp does not switch to the high beam. | One side | <ul style="list-style-type: none"> • Fuse • Harness between IPDM E/R and the front combination lamp • Front combination lamp (High beam solenoid) • IPDM E/R • Harness between the front combination lamp and ground | Headlamp (HI) circuit Refer to EXL-86, "Component Function Check" . |
| | Both sides | Symptom diagnosis "BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM" Refer to EXL-117, "Diagnosis Procedure" . | |
| High beam indicator lamp is not turned ON. [Headlamp (HI) is turned ON.] | | Combination meter | <ul style="list-style-type: none"> • Combination meter Data monitor "HI-BEAM IND" • BCM (HEAD LAMP) Active test "HEADLAMP" |
| Headlamp does not switch to the low beam. | One side | Front combination lamp (High beam solenoid) | — |
| | Both sides | <ul style="list-style-type: none"> • Combination switch • Harness between the combination switch and BCM • BCM | Combination switch Refer to BCS-80, "Symptom Table" . |
| | | High beam request signal | IPDM E/R Data monitor "HL HI REQ" |
| | | IPDM E/R | — |
| Headlamp is not turned ON. | One side | <ul style="list-style-type: none"> • Fuse • Xenon bulb • Harness between IPDM E/R and the front combination lamp • Front combination lamp (xenon headlamp) • IPDM E/R • Harness between the front combination lamp and ground | Headlamp (LO) circuit Refer to EXL-88, "Component Function Check" . |
| | Both sides | Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-118, "Diagnosis Procedure" . | |
| Headlamp is not turned OFF. | When the ignition switch is turned ON | Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-118, "Diagnosis Procedure" . | |
| | The ignition switch is turned OFF (After activating the battery saver). | IPDM E/R | — |

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EXTERIOR LIGHTING SYSTEM SYMPTOMS

[XENON TYPE]

< SYMPTOM DIAGNOSIS >

| Symptom | | Possible cause | Inspection item |
|---|--|--|---|
| Each lamp is not turned ON/OFF with lighting switch AUTO. | | <ul style="list-style-type: none"> • Combination switch • Harness between combination switch and BCM • BCM | Combination switch Refer to BCS-80, "Symptom Table" . |
| | | <ul style="list-style-type: none"> • Optical sensor • Harness between optical sensor and BCM • BCM | Optical sensor Refer to EXL-102, "Component Function Check" . |
| Front fog lamp is not turned ON. | One side | <ul style="list-style-type: none"> • Front fog lamp bulb • Harness between IPDM E/R and front fog lamp • Front fog lamp • IPDM E/R | Front fog lamp circuit Refer to EXL-94, "Component Function Check" . |
| | Both sides | Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-120, "Diagnosis Procedure" . | |
| Parking lamp is not turned ON. | | <ul style="list-style-type: none"> • Parking lamp bulb • Harness between IPDM E/R and front combination lamp • Front combination lamp • IPDM E/R | Parking lamp circuit Refer to EXL-96, "Component Function Check" . |
| Front side marker lamp is not turned ON. | | <ul style="list-style-type: none"> • Front side marker lamp bulb • Harness between IPDM E/R and front combination lamp • Front combination lamp • IPDM E/R | Front side marker lamp circuit Refer to EXL-98, "Component Function Check" . |
| Tail lamp or rear side marker lamp is not turned ON. | Body side | <ul style="list-style-type: none"> • Harness between IPDM E/R and rear combination lamp • Rear combination lamp | Tail lamp circuit (body side) Refer to EXL-109, "BODY SIDE : Component Function Check" . |
| | Back door side | <ul style="list-style-type: none"> • Harness between IPDM E/R and tail lamp (back door side) • Tail lamp (back door side) | Tail lamp circuit (back door side) Refer to EXL-110, "BACK DOOR SIDE : Component Function Check" . |
| License plate lamp is not turned ON. | | <ul style="list-style-type: none"> • License plate lamp bulb • Harness between IPDM E/R and license plate lamp • License plate lamp | License plate lamp circuit Refer to EXL-112, "Component Function Check" . |
| Tail lamp, rear side marker lamp and license plate lamp are not turned ON. | | <ul style="list-style-type: none"> • Fuse • Harness between IPDM E/R and rear combination lamp (LH) • IPDM E/R | Tail lamp circuit (body side) Refer to EXL-109, "BODY SIDE : Component Function Check" . |
| <ul style="list-style-type: none"> • Parking lamp, side marker lamp, tail lamp and license plate lamp are not turned ON. • Parking lamp, side marker lamp, tail lamp and license plate lamp are not turned OFF. (Each illumination is turned ON/OFF.) | | Symptom diagnosis "PARKING, LICENSE PLATE, SIDE MARKER LAMP AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-119, "Diagnosis Procedure" . | |
| Tail lamp indicator is not turned ON. (Parking, side marker lamp and tail lamps are turned ON.) | | Combination meter | <ul style="list-style-type: none"> • Combination meter • Data monitor "LIGHT IND" • BCM (HEAD LAMP) • Active test "TAIL LAMP" |
| Turn signal lamp does not blink. | Indicator lamp is normal. (Applicable side performs the high flasher activation.) | <ul style="list-style-type: none"> • Harness between BCM and each turn signal lamp • Turn signal lamp bulb | Turn signal lamp circuit Refer to EXL-99, "Component Function Check" . |
| | Indicator lamp is included. | <ul style="list-style-type: none"> • Combination switch • Harness between combination switch and BCM • BCM | Combination switch Refer to BCS-80, "Symptom Table" . |

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

| Symptom | Possible cause | Inspection item | |
|--|--|--|--|
| Turn signal indicator lamp does not blink. (Turn signal i lamp is normal.) | One side | Combination meter — | |
| | Both sides (Always) | <ul style="list-style-type: none"> • Turn signal indicator lamp signal - BCM • Combination meter | <ul style="list-style-type: none"> • Combination meter Data monitor "TURN IND" • BCM (FLASHER) Active test "FLASHER" |
| | Both sides (Only when activating hazard warning lamp with the ignition switch OFF) | <ul style="list-style-type: none"> • Combination meter power supply and ground circuit • Combination meter | Combination meter Power supply and ground circuit Refer to MWI-64, "COMBINATION METER : Diagnosis Procedure" . |
| <ul style="list-style-type: none"> • Hazard warning lamp does not activate. • Hazard warning lamp continues activating. (Turn signal is normal.) | <ul style="list-style-type: none"> • Hazard switch • Harness between hazard switch and BCM • BCM | Hazard switch Refer to EXL-105, "Component Function Check" . | |
| AFS control does not activate. | <ul style="list-style-type: none"> • Harness between AFS control unit and AFS switch. • AFS control unit | AFS switch Refer to EXL-107, "Component Function Check" . | |
| Headlamp auto aiming does not activate. (AFS is normal.) | <ul style="list-style-type: none"> • Harness between AFS control unit and aiming motor • Front combination lamp (Aiming motor) • AFS control unit | Headlamp levelizer circuit Refer to EXL-91, "Component Function Check" . | |
| AFS OFF indicator lamp is not turned ON. | <ul style="list-style-type: none"> • AFS OFF indicator lamp signal - Combination meter - AFS control unit • Combination meter | Combination meter Data monitor "AFS OFF IND" | |

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NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

NORMAL OPERATING CONDITION

Description

INFOID:000000006213981

XENON HEADLAMP

- Brightness and the color of light may change slightly immediately after turning the headlamp ON until the xenon bulb becomes stable. This is normal.
- Illumination time lag may occur between right and left. This is normal.

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.

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

Description

INFOID:000000006213982

Both side headlamps (HI) are not turned ON when setting to the lighting switch HI or PASS.

Diagnosis Procedure

INFOID:000000006213983

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to [BCS-80, "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

CONSULT-III DATA MONITOR

1. Select "HL HI REQ" of IPDM E/R data monitor item.

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 >> GO TO 3.

NO >> Replace BCM. Refer to [BCS-81, "Removal and Installation"](#).

3.HEADLAMP (HI) CIRCUIT INSPECTION

Check headlamp (HI) circuit. Refer to [EXL-86, "Component Function Check"](#).

Is the inspection result normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

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BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description

INFOID:000000006213984

Both side headlamps (LO) are not turned ON in any condition.

Diagnosis Procedure

INFOID:000000006213985

1. CHECK COMBINATION SWITCH

Check combination switch. Refer to [BCS-80. "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

ⓑ CONSULT-III DATA MONITOR

1. Select "HL LO REQ" of IPDM E/R data monitor item.
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 >> GO TO 3.

NO >> Replace BCM. Refer to [BCS-81. "Removal and Installation"](#).

3. HEADLAMP (LO) CIRCUIT INSPECTION

Check headlamp (LO) circuit. Refer to [EXL-88. "Component Function Check"](#).

Is the inspection result normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON

Description

INFOID:000000006213986

The parking, license plate, tail lamps and side marker are not turned ON in any condition.

Diagnosis Procedure

INFOID:000000006213987

1.CHECK FUSE

Check that the following fuse is fusing.

| Location | Fuse No. | Capacity |
|----------|----------|----------|
| IPDM E/R | #46 | 10 A |
| | #47 | 10 A |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the applicable circuit. And then replace the fuse.

2.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to [BCS-80, "Symptom Table"](#).

Is the combination switch normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning part.

3.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

CONSULT-III DATA MONITOR

1. Select "TAIL & CLR REQ" of IPDM E/R data monitor item.
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.

NO >> Replace BCM. Refer to [BCS-81, "Removal and Installation"](#).

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BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description

INFOID:000000006213988

The front fog lamps are not turned ON in any condition.

Diagnosis Procedure

INFOID:000000006213989

1.CHECK FUSE

Check that the following fuse is fusing.

| Unit | Location | Fuse No. | Capacity |
|----------------|----------|----------|----------|
| Front fog lamp | IPDM E/R | #50 | 15 A |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the applicable circuit. And then replace the fuse.

2.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to [BCS-80, "Symptom Table"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning part.

3.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

ⓅCONSULT-III DATA MONITOR

1. Select "FR FOG REQ" of IPDM E/R data monitor item.

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 |
| | | OFF |

Is the item status normal?

YES >> GO TO 4.

NO >> Replace BCM. Refer to [BCS-81, "Removal and Installation"](#).

4.FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to [EXL-94, "Component Function Check"](#).

Is the inspection result normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

PERIODIC MAINTENANCE

HEADLAMP AIMING ADJUSTMENT

description

INFOID:000000006213990

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:

do not remove the temporary tire, jack and on-vehicle tool.

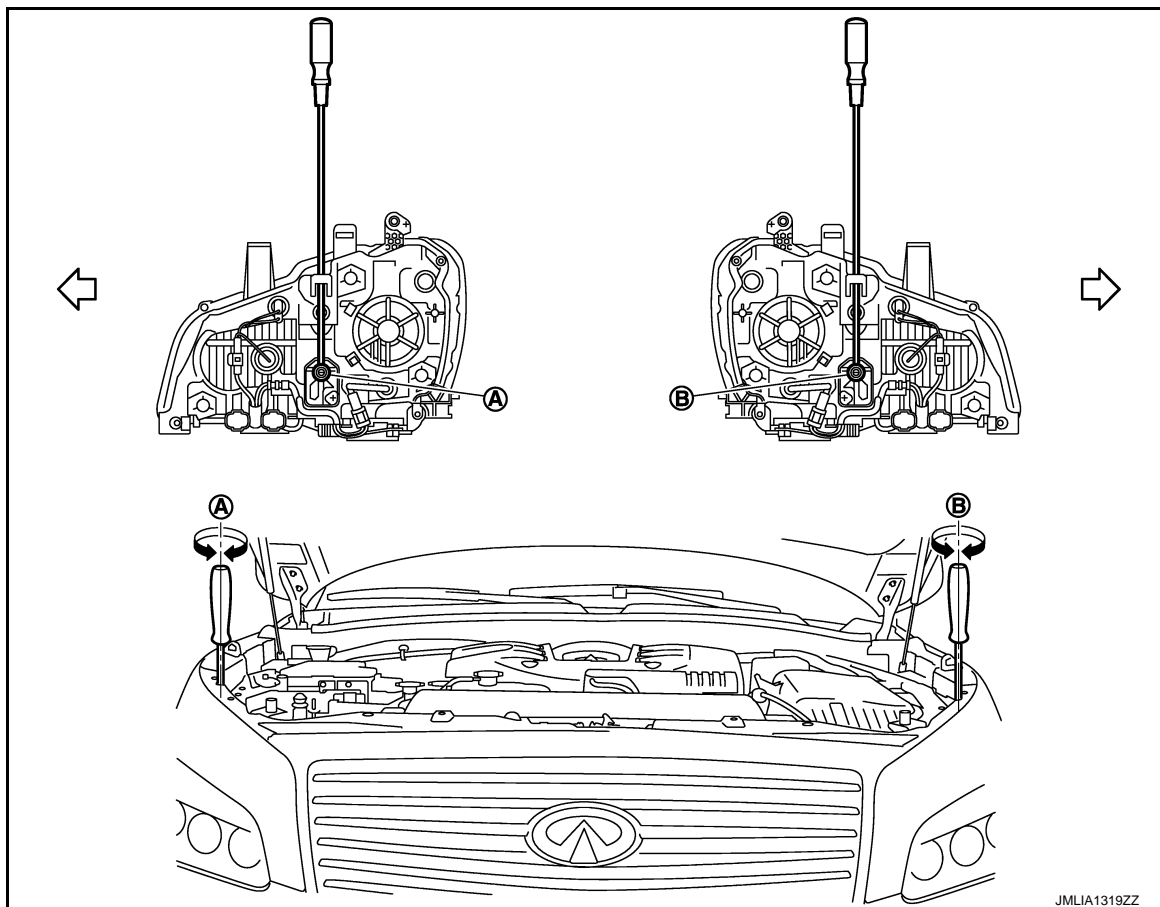
- wipe out dirt on the headlamp.

CAUTION:

never use organic solvent (thinner, gasoline etc.)

- ride alone on the driver seat.

aiming adjustment screw



A. Headlamp RH HI/LO (UP/DOWN) adjustment screw

B. Headlamp LH HI/LO (UP/DOWN) adjustment screw

↔: Vehicle center

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

| | Adjustment screw | Screw driver rotation | Facing direction |
|---|-----------------------------|-----------------------|------------------|
| A | Headlamp RH HI/LO (UP/DOWN) | Clockwise | UP |
| | | Counterclockwise | DOWN |
| B | Headlamp LH HI/LO (UP/DOWN) | Clockwise | UP |
| | | Counterclockwise | DOWN |

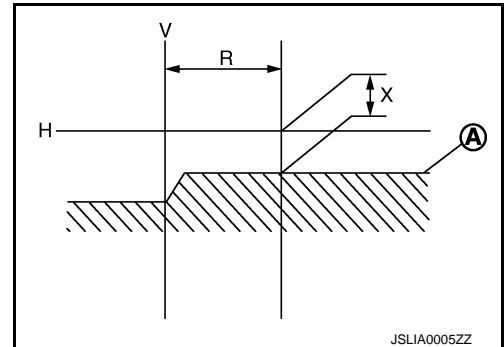
Aiming Adjustment Procedure

INFOID:000000006369513

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 a tape etc. The lens is made of resin.**
4. Measure the distance (X) between the horizontal center line of headlamp (H) and the cutoff line (A) within the light axis measurement range (R) from the vertical center line ahead of headlamp (V).

Light axis measurement range (R) : 350 ± 175 mm (13.78 ± 6.89 in)

Low beam distribution on the screen

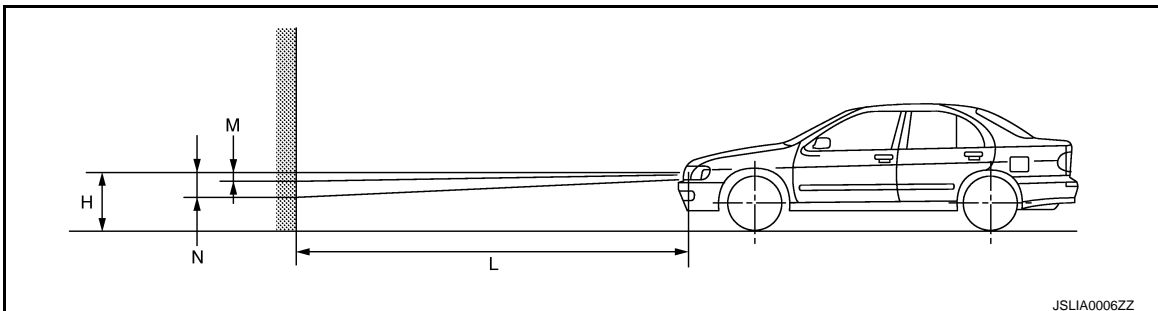


5. Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

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) |

Side view



Distance between the headlamp center and the screen (L) : 10 m (32.8 ft)

FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

FRONT FOG LAMP AIMING ADJUSTMENT

Description

INFOID:000000006213992

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 trunk room.)

NOTE:

Do not 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.

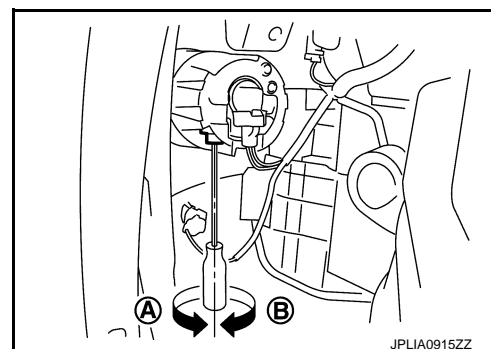
A: UP

B: DOWN

- 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.



Aiming Adjustment Procedure

INFOID:000000006213993

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 (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 200 mm (7.87 in).

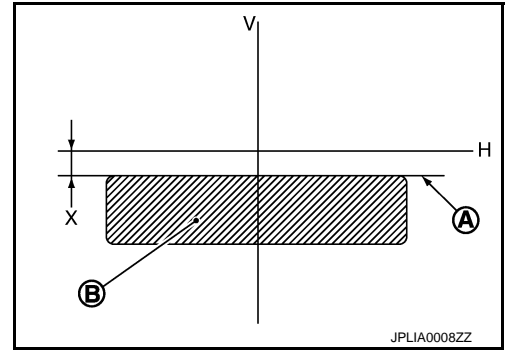
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FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

Front fog lamp light distribution on the screen



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

FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[XENON TYPE]

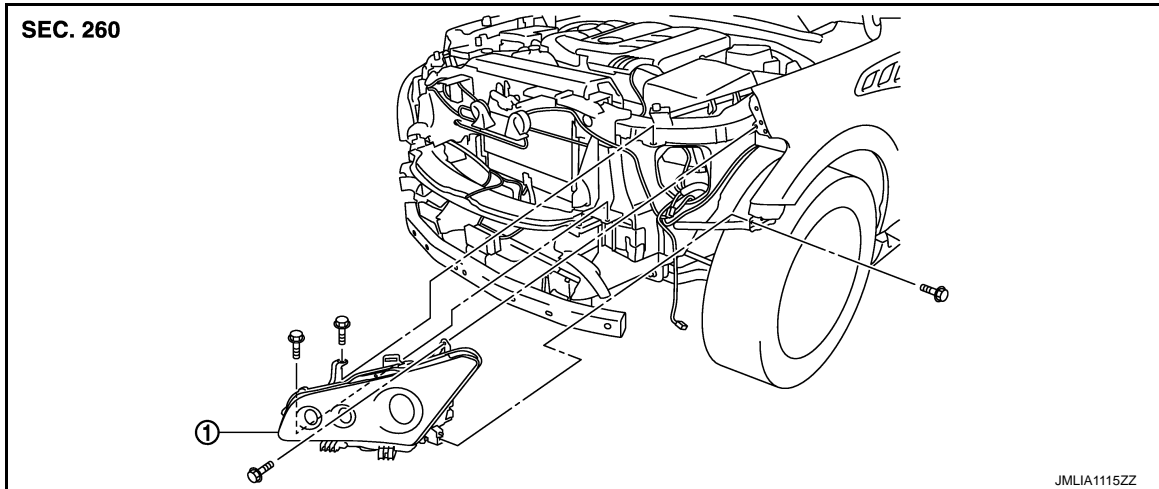
REMOVAL AND INSTALLATION

FRONT COMBINATION LAMP

Exploded View

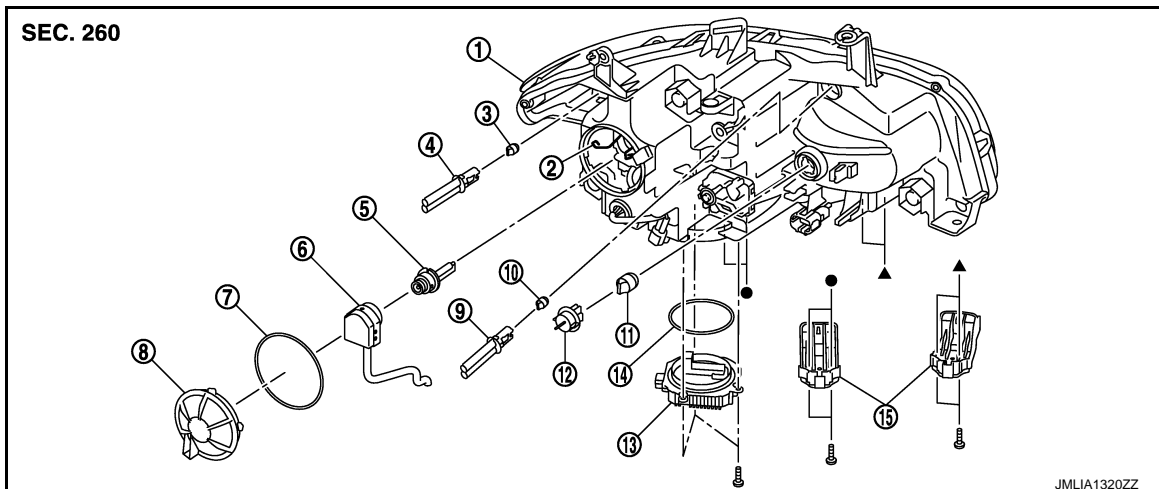
INFOID:000000006369463

REMOVAL



1. Front combination lamp

DISASSEMBLY



- | | | |
|------------------------------|---------------------------------|--|
| 1. Headlamp housing assembly | 2. Retaining spring | 3. Xenon bulb |
| 4. Side marker lamp bulb | 5. Side marker lamp bulb socket | 6. Xenon bulb socket |
| 7. Seal packing | 8. Resin cap | 9. Parking lamp bulb socket |
| 10. Parking lamp bulb | 11. Front turn signal lamp bulb | 12. Front turn signal lamp bulb socket |
| 13. HID control unit | 14. Seal packing | 15. Bumper bracket |

Refer to [GI-4, "Components"](#) for symbols not described above.

CAUTION:

HID control unit and xenon bulb socket cannot be disassembled.

Removal and Installation

INFOID:000000006369464

REMOVAL

CAUTION:

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FRONT COMBINATION LAMP

[XENON TYPE]

< REMOVAL AND INSTALLATION >

Disconnect the battery negative terminal or remove the fuse.

1. Remove front grille. Refer to [EXT-19, "Removal and Installation"](#).
2. Remove front bumper molding. Refer to [EXT-13, "Removal and Installation"](#).
3. Remove front bumper fascia. Refer to [EXT-13, "Removal and Installation"](#).
4. Remove headlamp mounting bolts.
5. Pull out headlamp assembly forward vehicle.
6. Disconnect connectors before removing headlamp assembly.

INSTALLATION

Install in the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to [EXL-121, "description"](#).

Replacement

INFOID:000000006369465

CAUTION:

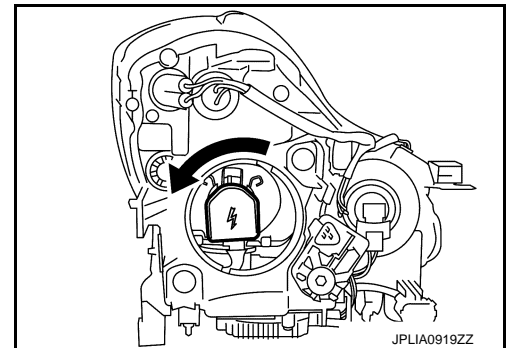
- **Disconnect the battery negative terminal or remove the fuse.**
- **After installing the bulb, install the resin cap and the bulb socket securely for watertightness.**
- **Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never touch bulb by hand while it is lit or right after being turned off.**
- **Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.**

HEADLAMP BULB (HI/LO)

1. Remove fender protector. Refer to [EXT-23, "FENDER PROTECTOR : Removal and Installation"](#).
2. Rotate resin cap counterclockwise and unlock it.
3. Rotate bulb socket counterclockwise and unlock it.
4. Remove retaining spring lock. And then remove bulb from headlamp housing assembly.

CAUTION:

Never break the xenon bulb ceramic tube when replacing the bulb.



PARKING LAMP BULB

1. Remove hood switch *.
*:When replace a right.
2. Rotate bulb socket counterclockwise and unlock it.
3. Remove bulb from bulb socket.

FRONT TURN SIGNAL LAMP BULB

1. Remove hood switch *.
*:When replace a right.
2. Rotate bulb socket counterclockwise and unlock it.
3. Remove bulb from bulb socket.

SIDE MARKER LAMP BULB

1. Remove fender protector. Refer to [EXT-23, "FENDER PROTECTOR : Removal and Installation"](#)
2. Rotate bulb socket counterclockwise and unlock it.
3. Remove bulb from bulb socket.

FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[XENON TYPE]

Disassembly and Assembly

INFOID:000000006369466

DISASSEMBLY

1. Rotate resin cap counterclockwise and unlock it.
2. Rotate xenon bulb socket counterclockwise and unlock it.
3. Remove retaining spring lock. Remove xenon bulb.
4. Remove bumper bracket.
5. Rotate parking lamp bulb socket counterclockwise and unlock it.
6. Remove bulb from parking lamp bulb socket.
7. Rotate front turn signal lamp bulb socket counterclockwise and unlock it.
8. Remove bulb from front turn signal lamp bulb socket.
9. Rotate side marker lamp bulb socket counterclockwise and unlock it.
10. Remove bulb from bulb socket.

ASSEMBLY

Assemble in the reverse order of disassembly.

CAUTION:

- **HID control unit and xenon bulb socket cannot be disassembled.**
- **After installing the bulb, install the resin cap and the bulb socket securely for watertightness.**

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FRONT FOG LAMP

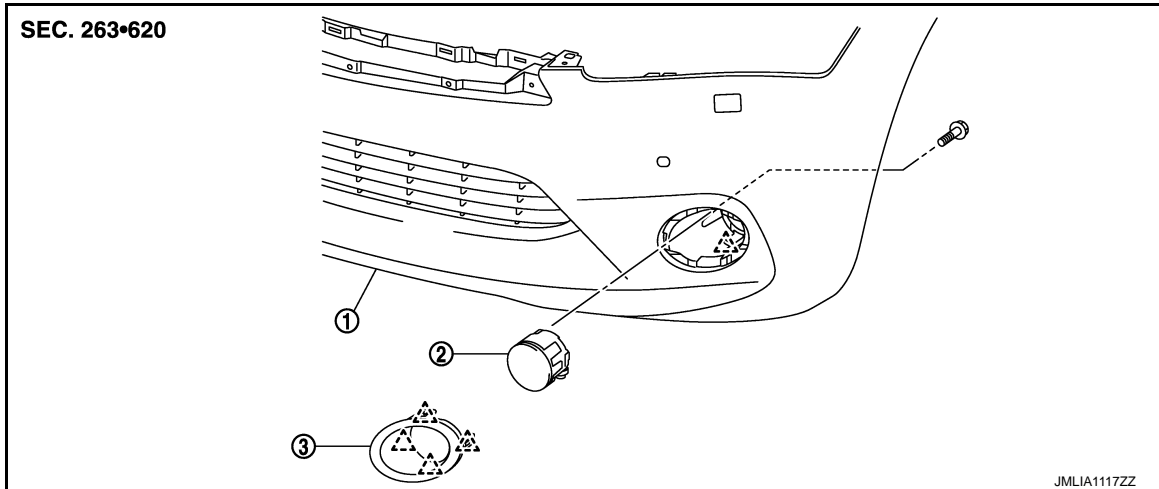
< REMOVAL AND INSTALLATION >

[XENON TYPE]

FRONT FOG LAMP

Exploded View


INFOID:000000006369467



1. Front bumper

2. Front fog lamp

3. Front fog lamp finisher

 : Pawl

Removal and Installation

INFOID:000000006369468

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

1. Remove front fender protector. Refer to [EXT-23, "FENDER PROTECTOR : Removal and Installation"](#).
2. Remove front fog lamp finisher.
3. Disconnect front fog lamp harness connector.
4. Remove front fog lamp fixing screw.
5. Disengage pawl, and then remove front fog lamp.

INSTALLATION

Install in the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to [EXL-123, "Description"](#).

Replacement

INFOID:000000006369469

CAUTION:

- Disconnect the battery negative terminal or remove the fuse.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

FRONT FOG LAMP BULB

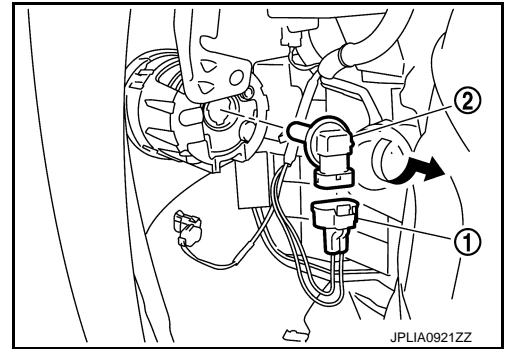
1. Remove front fender protector. Keep the service area. Refer to [EXT-23, "FENDER PROTECTOR : Removal and Installation"](#).

FRONT FOG LAMP

< REMOVAL AND INSTALLATION >

[XENON TYPE]

2. Remove front fog lamp bulb connector (1).
3. Rotate bulb (2) counterclockwise and unlock it.



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SIDE TURN SIGNAL LAMP

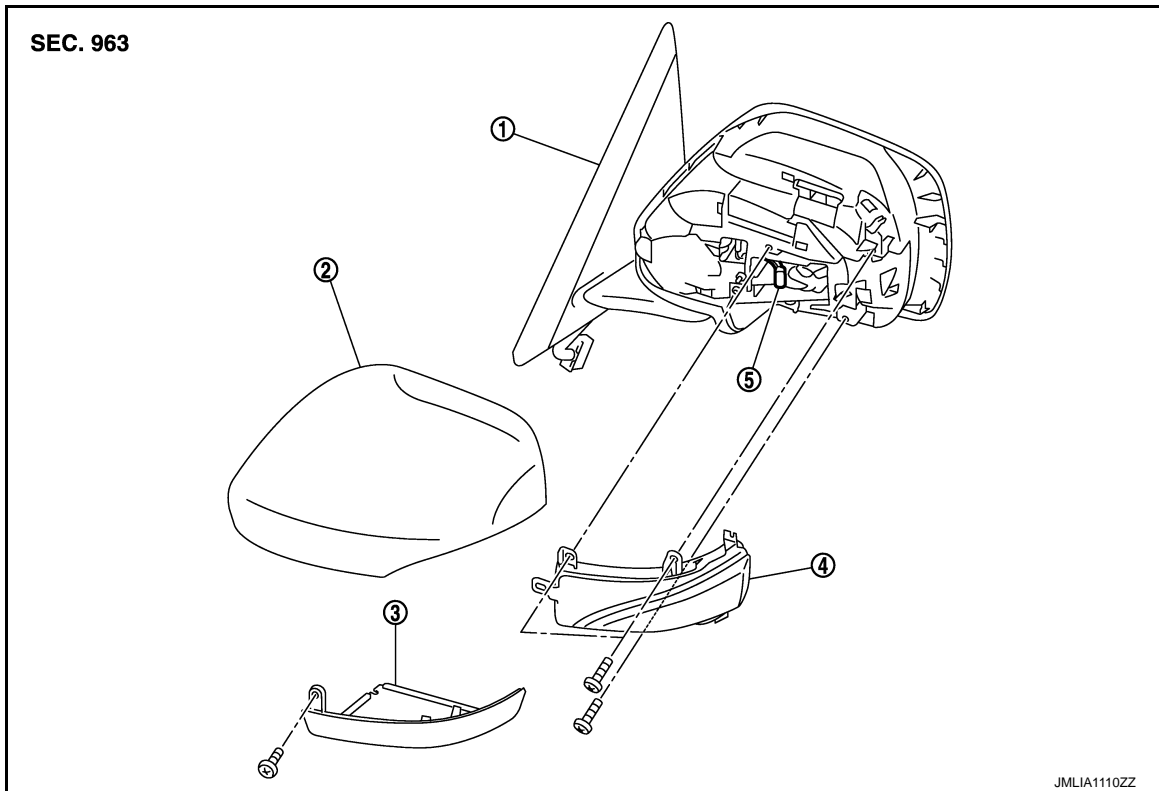
< REMOVAL AND INSTALLATION >

[XENON TYPE]

SIDE TURN SIGNAL LAMP

Exploded View

INFOID:000000006369470



- | | | |
|----------------------------------|-------------------------------|-------------------------|
| 1. Door mirror assembly | 2. Door mirror cover | 3. Side camera finisher |
| 4. Side turn signal lamp housing | 5. Side turn signal lamp bulb | |

Removal and Installation

INFOID:000000006369471

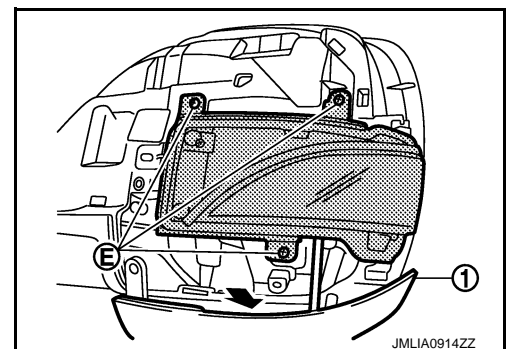
CAUTION:
Disconnect battery negative terminal or remove the fuse.

REMOVAL

1. Remove the door mirror. Refer to [MIR-32. "DOOR MIRROR ASSEMBLY : Removal and Installation"](#).
2. Remove the door mirror glass. Refer to [MIR-35. "GLASS MIRROR : Removal and Installation"](#).
3. Remove the side camera finisher. Refer to [MIR-33. "DOOR MIRROR ASSEMBLY : Disassembly and Assembly"](#).
4. Remove side turn signal lamp fixing screws (E), and then remove side turn signal lamp (with side turn signal lamp models only).

NOTE:

Pull slightly side camera finisher (1) covering side turn signal lamp bottom screw.



INSTALLATION

Install in the reverse order of removal.

OPTICAL SENSOR

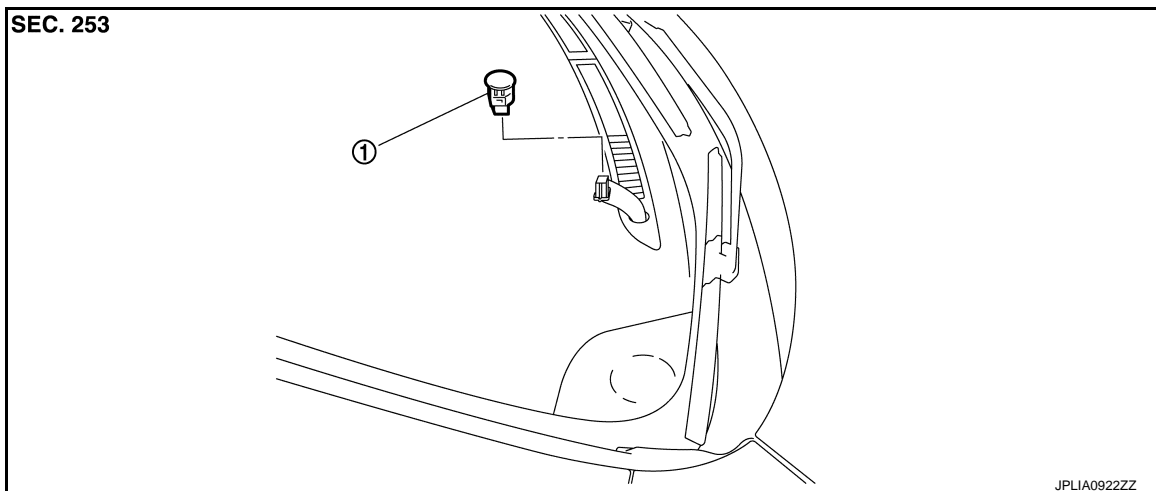
< REMOVAL AND INSTALLATION >

[XENON TYPE]

OPTICAL SENSOR

Exploded View

INFOID:000000006369472



1. Optical sensor

Removal and Installation

INFOID:000000006369473

REMOVAL

1. Insert an appropriate tool between the optical sensor and the instrument upper panel. Pull out the optical sensor upward.
2. Disconnect optical sensor connector, and then remove optical sensor.

INSTALLATION

Install in the reverse order of removal.

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LIGHTING & TURN SIGNAL SWITCH

< REMOVAL AND INSTALLATION >

[XENON TYPE]

LIGHTING & TURN SIGNAL SWITCH

Exploded View

INFOID:000000006369474

The lighting & turn signal switch is integrated in the combination switch. [BCS-82. "Removal and Installation"](#).

HAZARD SWITCH

< REMOVAL AND INSTALLATION >

[XENON TYPE]

HAZARD SWITCH

Exploded View

INFOID:000000006369475

The hazard switch is integrated in the multifunction switch. Refer to [AV-226. "Removal and Installation"](#).

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AFS SWITCH

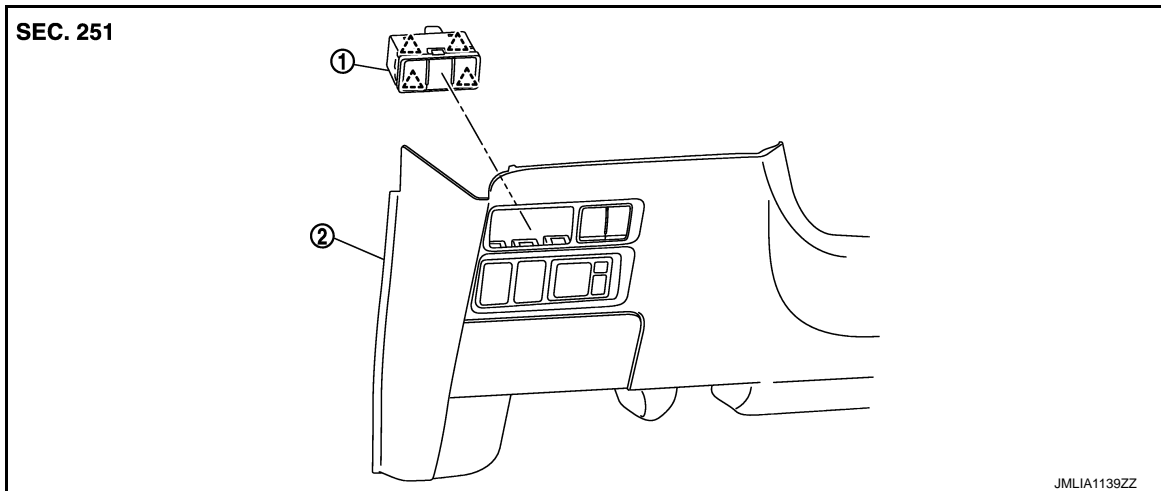
< REMOVAL AND INSTALLATION >

[XENON TYPE]

AFS SWITCH


Exploded View

INFOID:000000006369476



1. AFS switch

2. Instrument lower panel HL

 :Pawl

Removal and Installation

INFOID:000000006369477

REMOVAL

1. Remove instrument lower panel LH. Refer to [IP-14. "Removal and Installation"](#).
2. Disengage pawl. And then remove AFS switch.

INSTALLATION

Install in the reverse order of removal.

AFS CONTROL UNIT

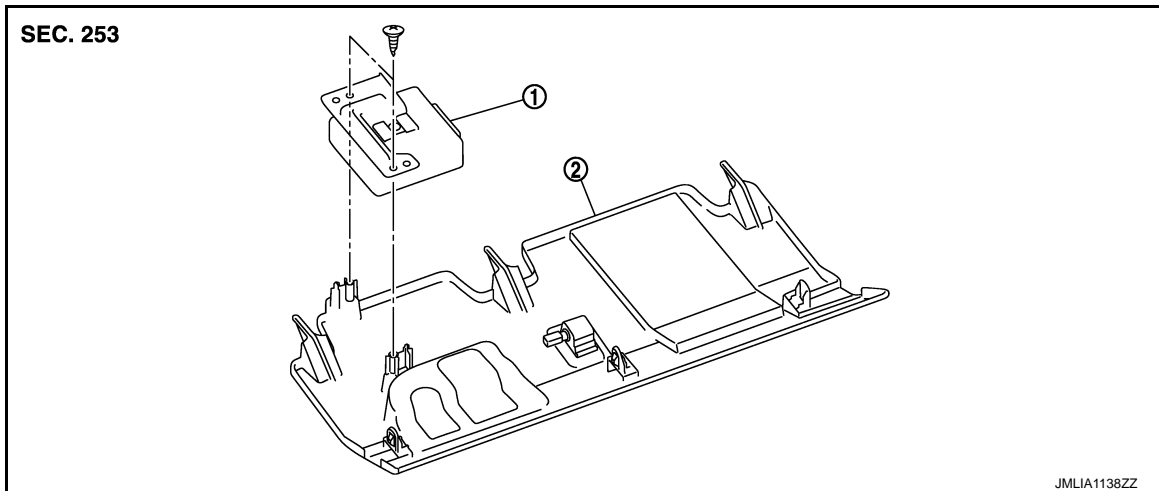
< REMOVAL AND INSTALLATION >

[XENON TYPE]

AFS CONTROL UNIT

Exploded View

INFOID:000000006369478



1. AFS control unit

2. Instrument lower cover

Removal and Installation

INFOID:000000006369479

REMOVAL

1. Remove instrument driver lower panel. Refer to [IP-14. "Removal and Installation"](#).
2. Remove AFS control unit mounting bolt.
3. Disconnect AFS control unit connector.
4. Remove AFS control unit.

INSTALLATION

Install in the reverse order of removal.

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HEIGHT SENSOR

< REMOVAL AND INSTALLATION >

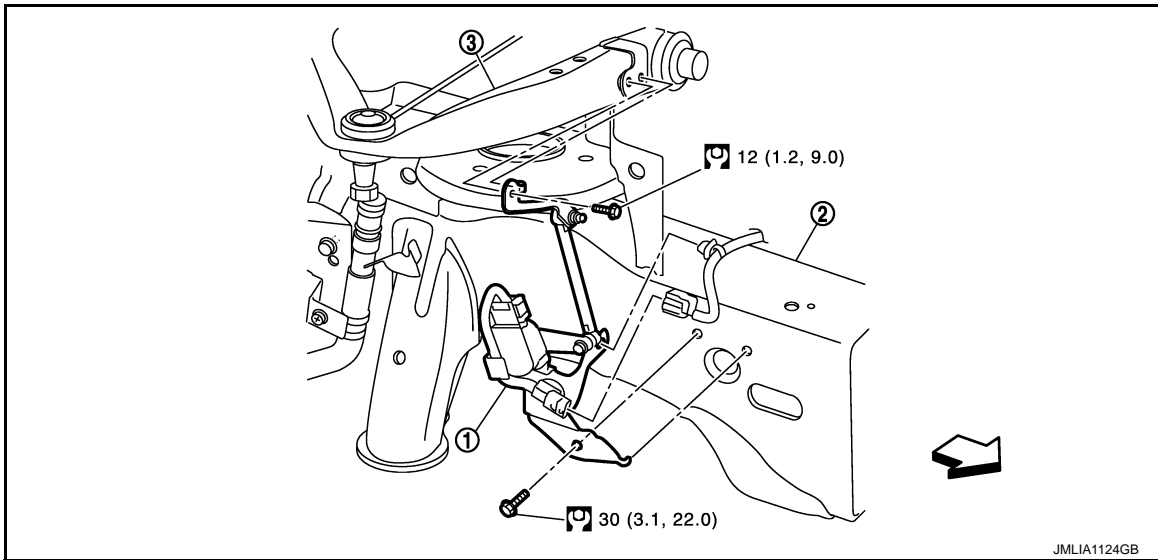
[XENON TYPE]

HEIGHT SENSOR

Exploded View

INFOID:00000006369480

FRONT HEIGHT SENSOR



1. Front height sensor

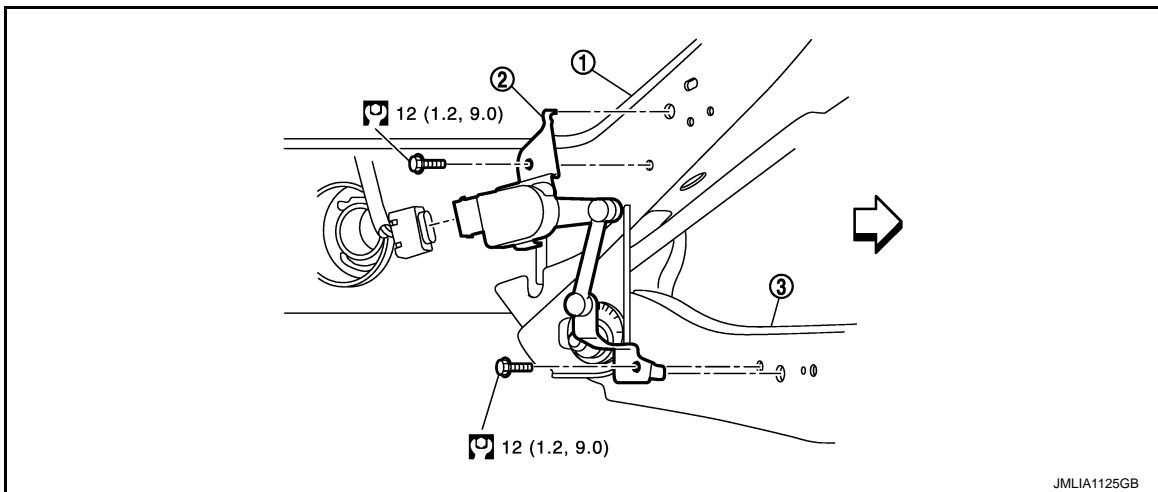
2. Front member side RH

3. Front suspension upper link

↔ : Vehicle front

Refer to [GI-4. "Components"](#) for symbols in the figure.

REAR HEIGHT SENSOR



1. Rear suspension member

2. Rear height sensor

3. Rear suspension lower link

↔ : Vehicle front

Refer to [GI-4. "Components"](#) for symbols in the figure.

Removal and Installation

INFOID:00000006369481

REMOVAL

Front height sensor

1. Disconnect height sensor connector.
2. Remove height sensor mounting nuts.

HEIGHT SENSOR

< REMOVAL AND INSTALLATION >

[XENON TYPE]

3. Remove height sensor.

Rear height sensor

1. Disconnect height sensor connector.
2. Remove height sensor mounting nuts.
3. Remove height sensor.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Perform the levelizer adjustment when removing the height sensor. Refer to [EXL-61, "LEVELIZER ADJUSTMENT : Special Repair Requirement"](#).

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REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

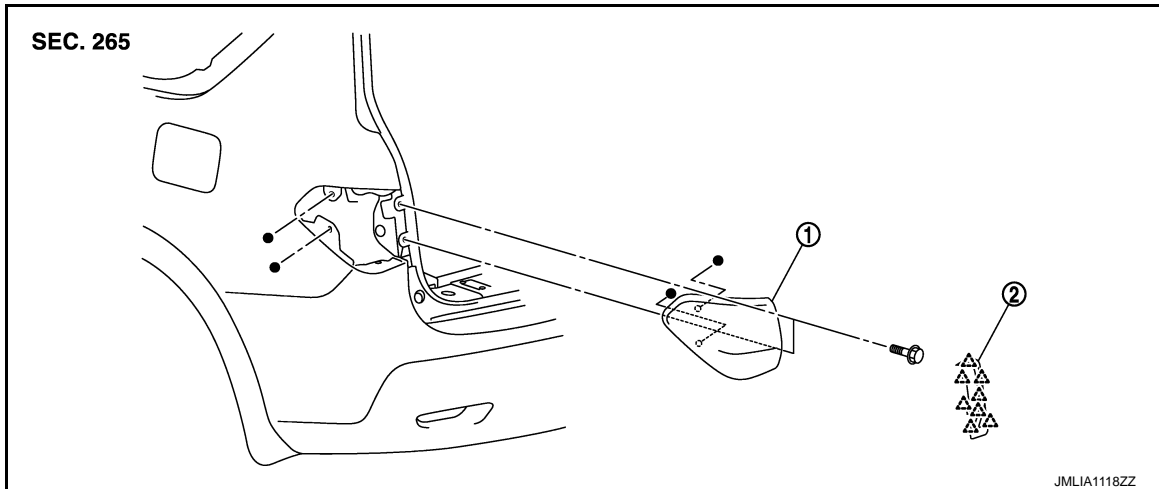
[XENON TYPE]

REAR COMBINATION LAMP

Exploded View

INFOID:000000006369482

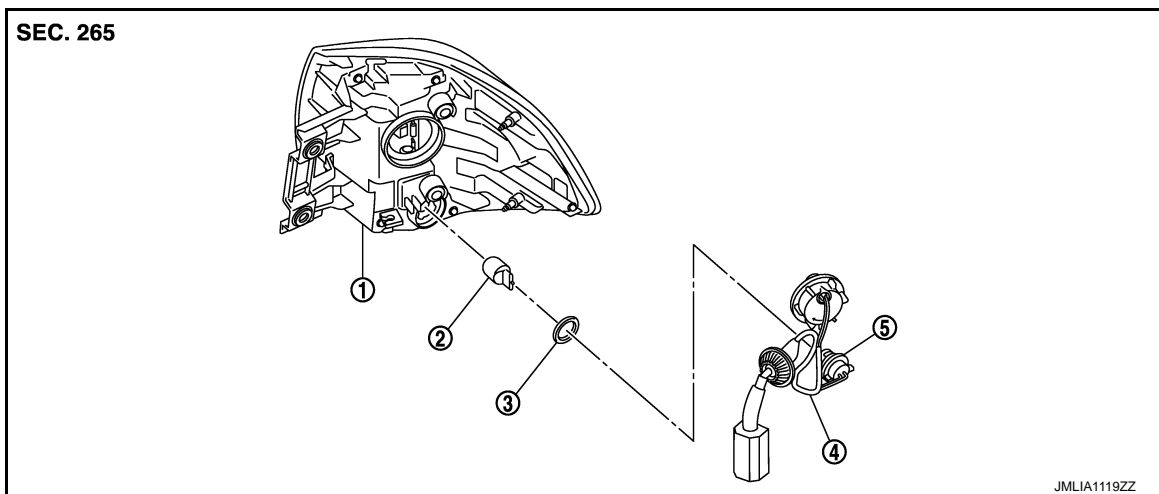
REMOVAL



1. Rear combination lamp 2. Rear combination lamp finisher

△ :Pawl

DISASSEMBLY



1. Rear combination lamp 2. Rear turn signal bulb 3. Seal packing
4. Rear turn signal bulb socket 5. Rear combination lamp harness

Removal and Installation

INFOID:000000006369483

CAUTION:
Disconnect the battery negative terminal or remove the fuse.

REMOVAL

1. Remove rear combination lamp finisher.
2. Remove rear combination lamp mounting bolts.
3. Pull rear combination lamp toward vehicle outside.
4. Disconnect rear combination lamp connector.
5. Remove rear combination lamp.

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[XENON TYPE]

INSTALLATION

Install in the reverse order of removal.

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HIGH-MOUNTED STOP LAMP

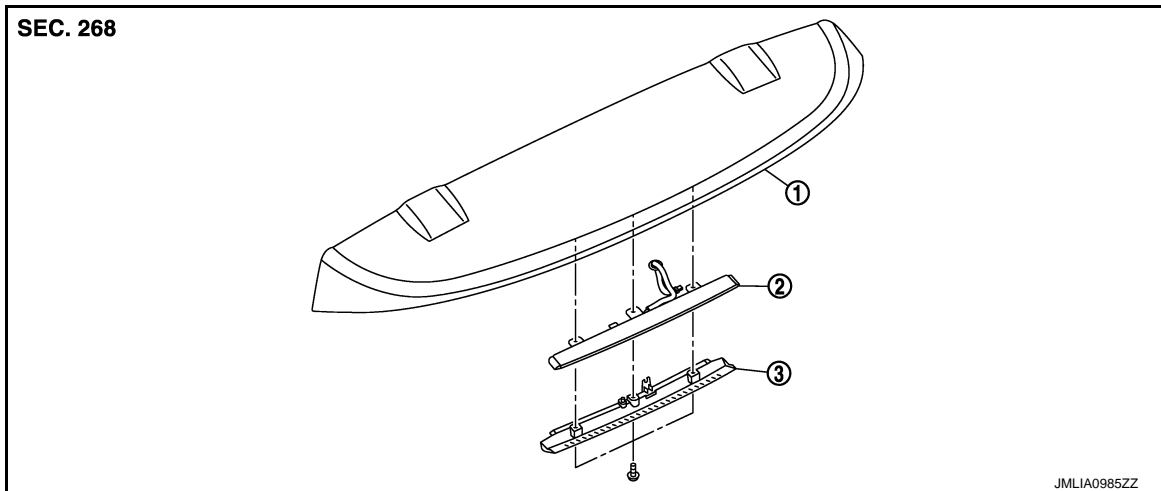
< REMOVAL AND INSTALLATION >

[XENON TYPE]

HIGH-MOUNTED STOP LAMP

Exploded View

INFOID:000000006369484



1. Rear spoiler

2. High-mounted stop lamp

3. High-mounted stop lamp cover

Removal and Installation

INFOID:000000006369485

REMOVAL

1. Remove rear spoiler. Refer to [EXT-41. "Removal and Installation"](#).
2. Remove high-mounted stop lamp mounting screws.
3. Remove high-mounted stop lamp cover, and then remove high-mounted stop lamp.

INSTALLATION

Install in the reverse order of removal.

BACK-UP LAMP

< REMOVAL AND INSTALLATION >

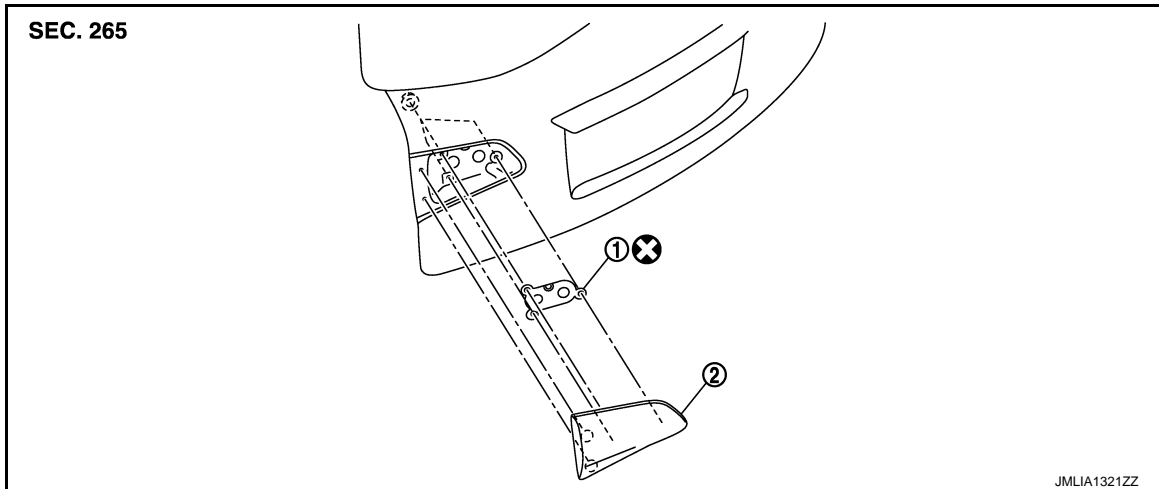
[XENON TYPE]

BACK-UP LAMP

Exploded View

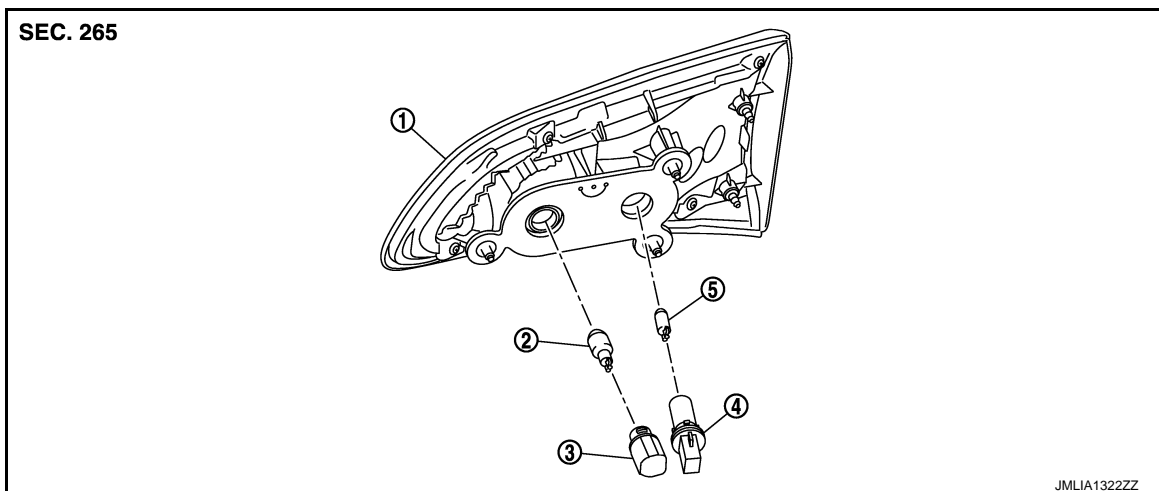
INFOID:000000006369486

REMOVAL



1. Seal packing
 2. Back-up lamp
- Refer to [GI-4, "Components"](#) for symbols not described above.

DISASSEMBLY



1. Back-up lamp
2. Back-up lamp bulb
3. Back-up lamp bulb socket
4. Tail lamp bulb socket
5. Tail lamp bulb

Removal and Installation

INFOID:000000006369487

CAUTION:
Disconnect the battery negative terminal or remove the fuse.

REMOVAL

1. Remove lamp mask. Refer to [INT-39, "Exploded View"](#).
2. Disconnect back-up lamp connector.
3. Remove back-up lamp mounting nuts, and then remove back-up lamp.

INSTALLATION

Install in the reverse order of removal.

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BACK-UP LAMP

< REMOVAL AND INSTALLATION >

[XENON TYPE]

Replacement

INFOID:000000006369488

CAUTION:

- Disconnect the battery negative terminal or remove the fuse.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

TAIL LAMP BULB

1. Remove lamp mask. Refer to [INT-39, "Exploded View"](#).
2. Disconnect tail lamp connector.
3. Tail bulb socket counterclockwise and unlock it.
4. Remove bulb from bulb socket.

BACK-UP LAMP BULB

1. Remove lamp mask. Refer to [INT-39, "Exploded View"](#).
2. Disconnect back-up lamp connector.
3. Turn bulb socket counterclockwise and unlock it.
4. Remove bulb from bulb socket.

LICENSE PLATE LAMP

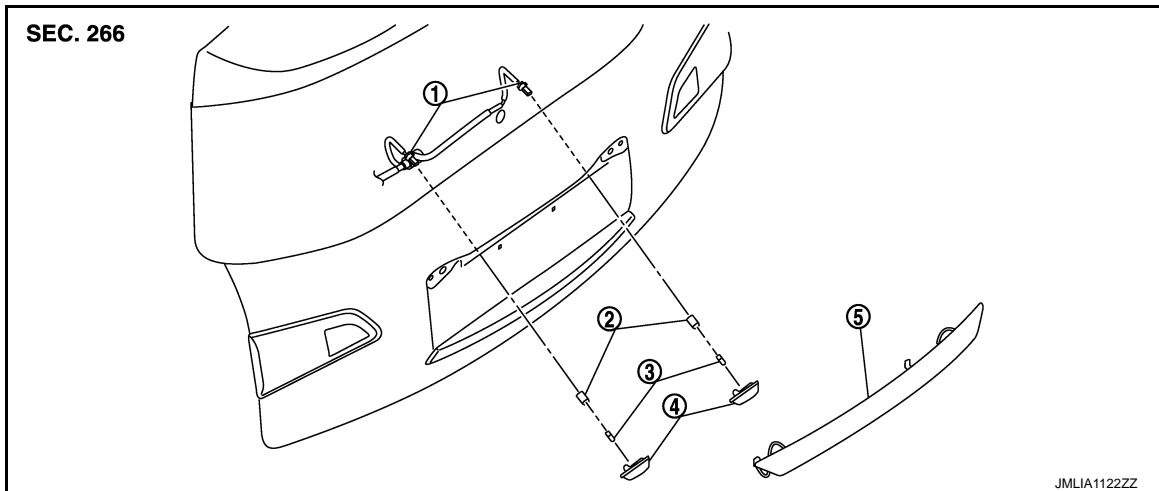
< REMOVAL AND INSTALLATION >

[XENON TYPE]

LICENSE PLATE LAMP

Exploded View

INFOID:000000006369489



1. License plate lamp harness
2. License plate lamp bulb socket
3. License plate lamp bulb
4. License plate lamp
5. Back door finisher center upper

Removal and Installation

INFOID:000000006369490

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

1. Remove back door trim. Refer to [INT-39, "Removal and Installation"](#).
2. Disconnect license plate lamp connector.
3. Remove back door finisher center upper.
4. Remove license plate lamp while pushing a resin clip, and then remove license plate lamp.

INSTALLATION

Install in the reverse order of removal.

Replacement

INFOID:000000006369491

CAUTION:

- **Disconnect the battery negative terminal or remove the fuse.**
- **Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never touch bulb by hand while it is lit or right after being turned off.**
- **Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.**

LICENSE PLATE LAMP BULB

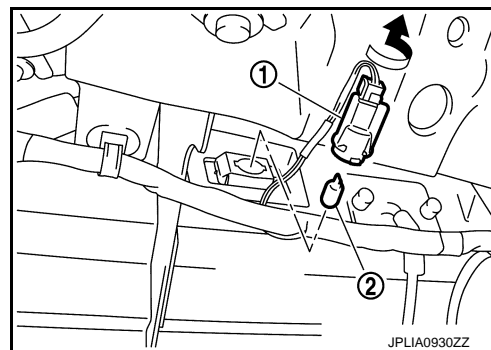
1. Remove back door trim. Refer to [INT-39, "Removal and Installation"](#).
2. Disconnect license plate lamp connector.

LICENSE PLATE LAMP

< REMOVAL AND INSTALLATION >

[XENON TYPE]

3. Turn bulb socket (1) counterclockwise and unlock it.
4. Remove bulb (2) from socket.



SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[XENON TYPE]

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Bulb Specifications

INFOID:000000006369512

| Item | | Type | Wattage (W) |
|------------------------|------------------------|---|-------------|
| Front combination lamp | Headlamp (HI/LO) | D2S (Xenon) | 35 |
| | Front turn signal lamp | WY21W (Amber) | 21 |
| | Parking lamp | W5W | 5 |
| Front fog lamp | | H8 | 35 |
| Side turn signal lamp | | Replace as an assembly because it cannot be disassembled. | |
| Rear combination lamp | Stop lamp/Tail lamp | LED | — |
| | Rear turn signal lamp | WY21W | 21 |
| Back-up lamp | | W16W | 16 |
| Tail lamp | | W5W | 5 |
| License plate lamp | | W5W | 5 |
| High-mounted stop lamp | | LED | — |

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