

# SECTION WCS

## WARNING CHIME SYSTEM

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# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

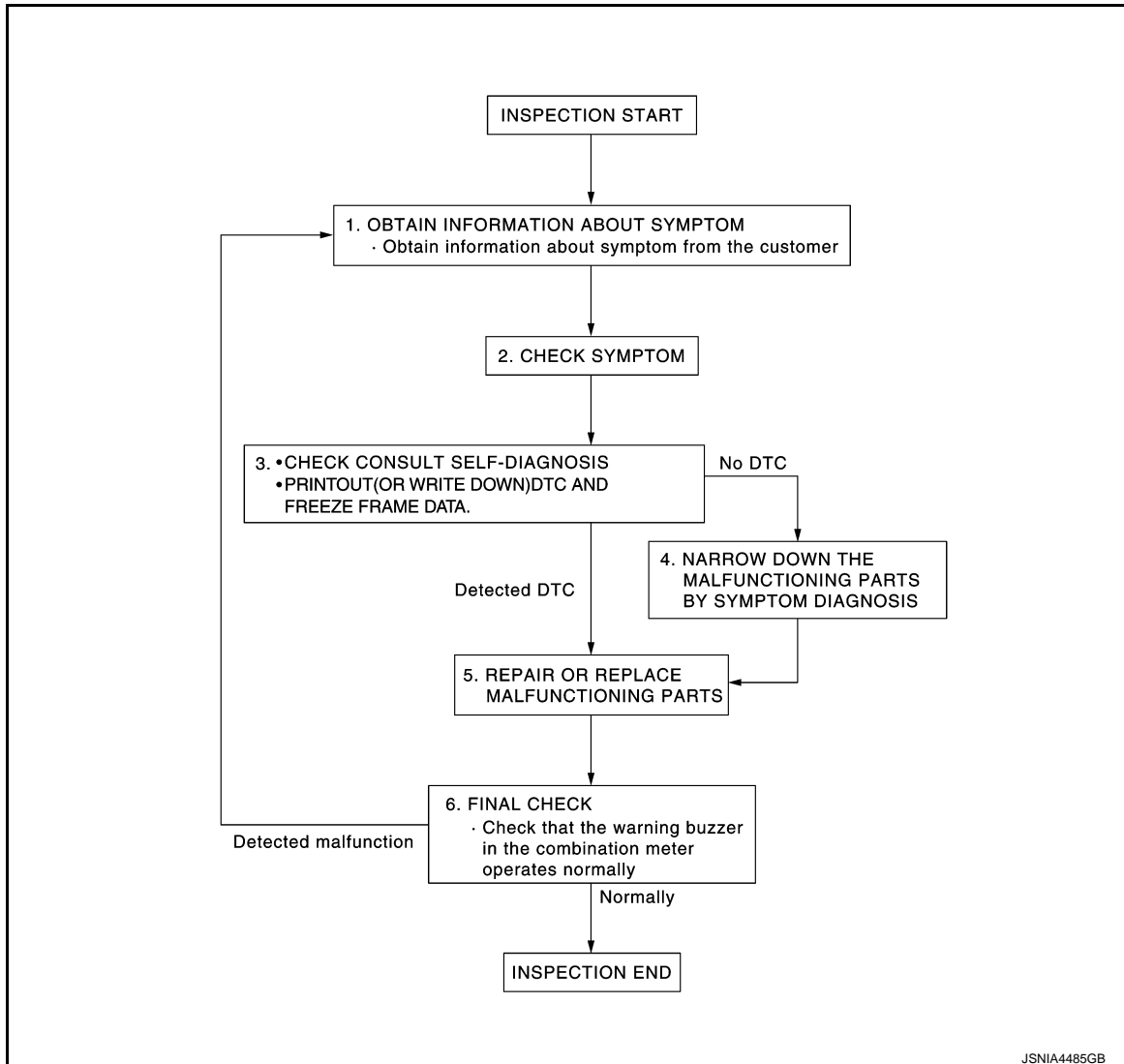
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000007352892

#### OVERALL SEQUENCE



#### DETAILED FLOW

##### 1.OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain as much information as possible about the conditions and environment under which the malfunction occurred.

>> GO TO 2.

##### 2.CHECK SYMPTOM

- Check the symptom based on the information obtained from the customer.
- Check if any other malfunctions are present.

>> GO TO 3.

##### 3.CHECK CONSULT SELF-DIAGNOSIS RESULTS

1. Connect CONSULT and perform self-diagnosis. Refer to [MWI-40, "DTC Index"](#).

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WCS

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## DIAGNOSIS AND REPAIR WORKFLOW

### < BASIC INSPECTION >

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2. When DTC is detected, follow the instructions below:

- Record DTC and Freeze Frame Data.

#### If any DTC detected?

YES >> GO TO 5.

NO >> GO TO 4.

### 4. NARROW DOWN THE MALFUNCTIONING PARTS BY SYMPTOM DIAGNOSIS

---

Perform symptom diagnosis and narrow down the malfunctioning parts.

>> GO TO 5.

### 5. REPAIR OR REPLACE MALFUNCTIONING PARTS

---

Repair or replace malfunctioning parts.

#### **NOTE:**

If DTC is displayed, erase DTC after repair or replace malfunctioning parts.

>> GO TO 6.

### 6. FINAL CHECK

---

Check that the warning buzzer in the combination meter operates normally.

#### Does it operate normally?

YES >> INSPECTION END

NO >> GO TO 1.

# WARNING CHIME SYSTEM

< SYSTEM DESCRIPTION >

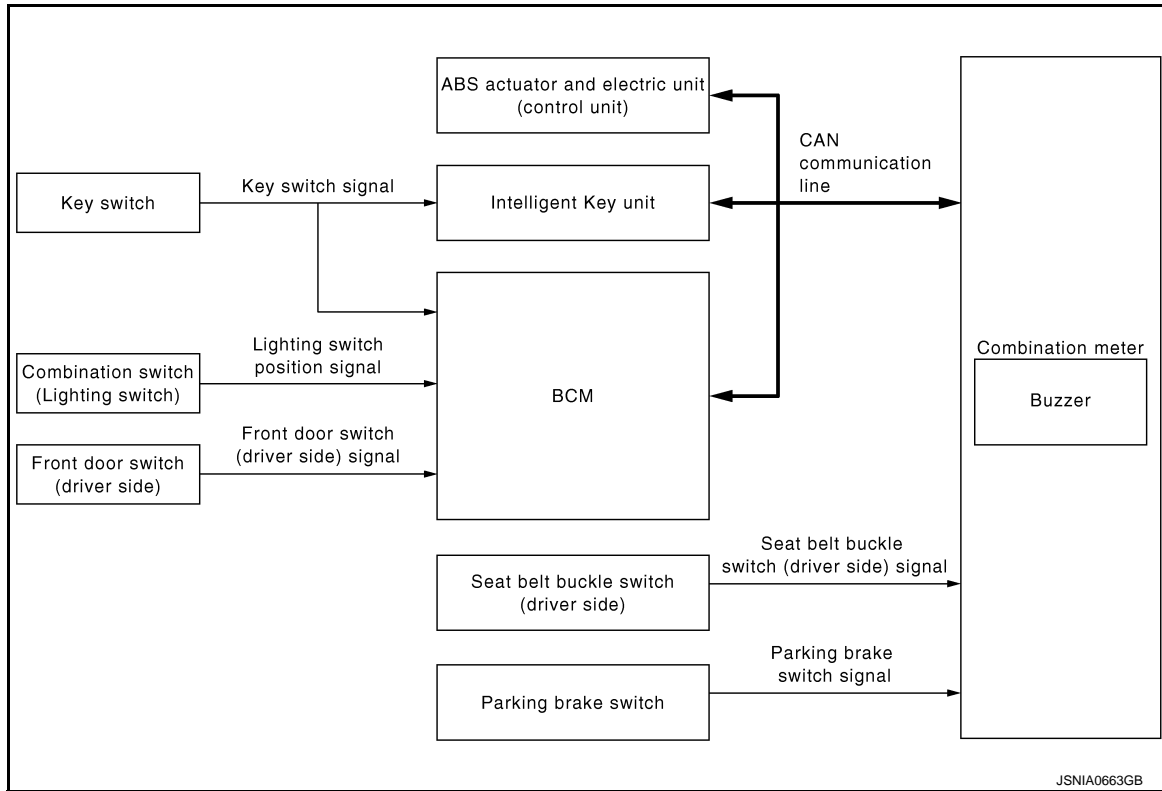
## SYSTEM DESCRIPTION

### WARNING CHIME SYSTEM

### WARNING CHIME SYSTEM

### WARNING CHIME SYSTEM : System Diagram

INFOID:000000007352893



### WARNING CHIME SYSTEM : System Description

INFOID:000000007352894

The buzzer for the warning chime system is integrated in the combination meter. Combination meter sounds warning buzzer in the following conditions.

- When receiving the buzzer output signal (light reminder warning chime, key warning chime, seat belt reminder warning chime) from BCM.
- When it judges the necessity of buzzer output according to vehicle speed signal received from ABS actuator and electric unit (control unit) with CAN communication and parking brake switch signal received from parking brake switch.
- When receiving the buzzer output signal (Intelligent Key warning chime) from Intelligent Key unit. For the further details, refer to [DLK-32, "KEY REMINDER FUNCTION : System Description"](#).

### WARNING CHIME FUNCTION LIST

WCS

Warning functions	Signal name	Warning chime judge unit
Light reminder warning chime	<ul style="list-style-type: none"><li>• Ignition switch signal</li><li>• Lighting switch position signal</li><li>• Front door switch signal (driver side)</li></ul>	BCM
Key warning chime	<ul style="list-style-type: none"><li>• Ignition switch signal</li><li>• Key switch signal</li><li>• Front door switch signal (driver side)</li></ul>	
Seat belt reminder warning chime	<ul style="list-style-type: none"><li>• Seat belt buckle switch (driver side) signal</li><li>• Ignition switch signal</li></ul>	

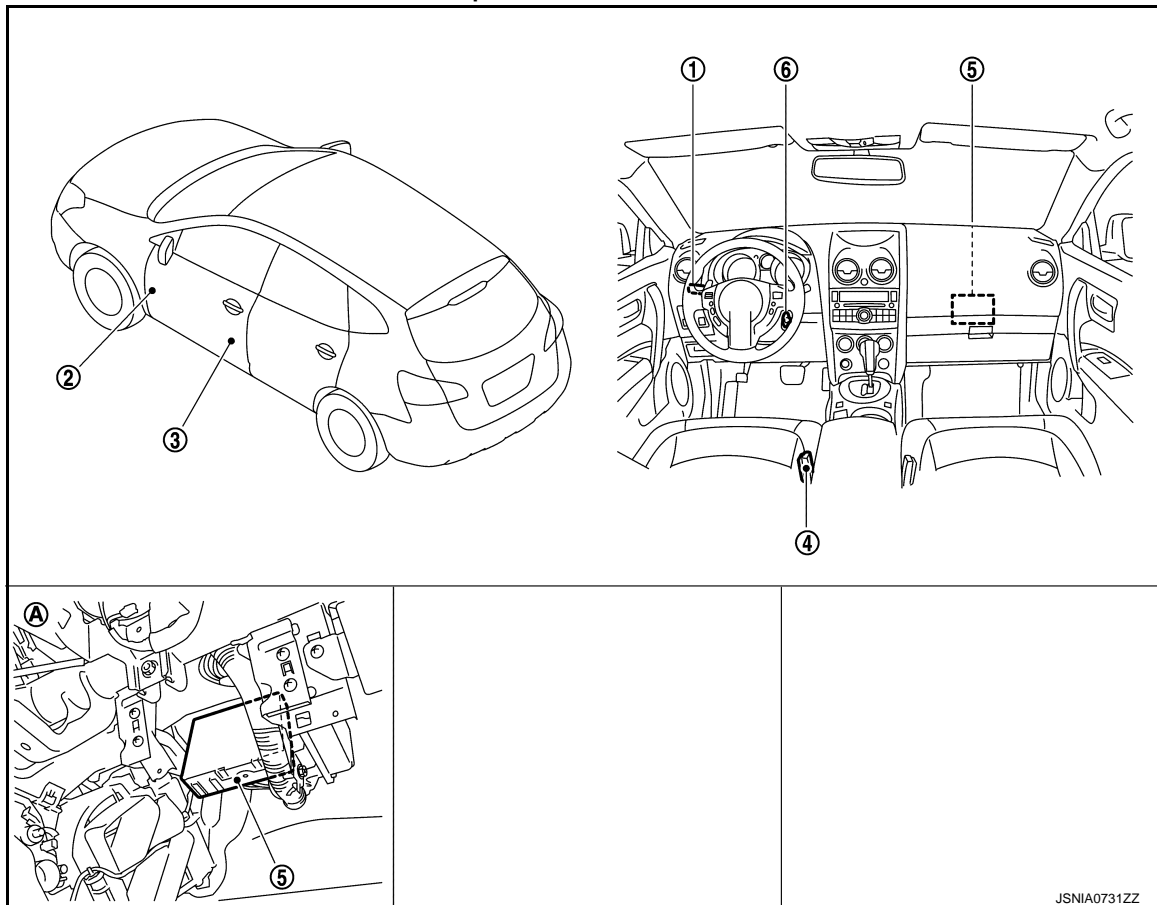
# WARNING CHIME SYSTEM

## < SYSTEM DESCRIPTION >

Warning functions	Signal name	Warning chime judge unit
Parking brake release warning chime	<ul style="list-style-type: none"> <li>Vehicle speed signal</li> <li>Parking brake switch signal</li> </ul>	Combination meter
Intelligent Key warning chime	Refer to <a href="#">DLK-32, "KEY REMINDER FUNCTION : System Description"</a> .	Intelligent Key unit

## WARNING CHIME SYSTEM : Component Parts Location

INFOID:000000007352895



- |  |                         |                                    |
|--|-------------------------|------------------------------------|
| 1. Combination switch (Lighting switch)  | 2. Parking brake switch | 3. Front door switch (driver side) |
| 4. Seat belt buckle switch (driver side) | 5. BCM                  | 6. Key switch                      |
| A. Over the glove box                    |                         |                                    |

## WARNING CHIME SYSTEM : Component Description

INFOID:000000007352896

Unit	Description
Combination meter	<ul style="list-style-type: none"> <li>Receives the buzzer output signal from BCM and Intelligent Key unit with the CAN communication line and sounds the buzzer.</li> <li>Judges the parking brake release warning according to the vehicle speed signal received from the ABS actuator and electric unit (control unit) via CAN communication and the parking brake switch signal from parking brake switch and sounds the warning buzzer.</li> </ul>
BCM	Transmits signals received from each unit to the combination meter with the CAN communication line.
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to combination meter with the CAN communication line.
Seat belt buckle switch (driver side)	Transmits the seat belt buckle switch (driver side) signal to the combination meter.

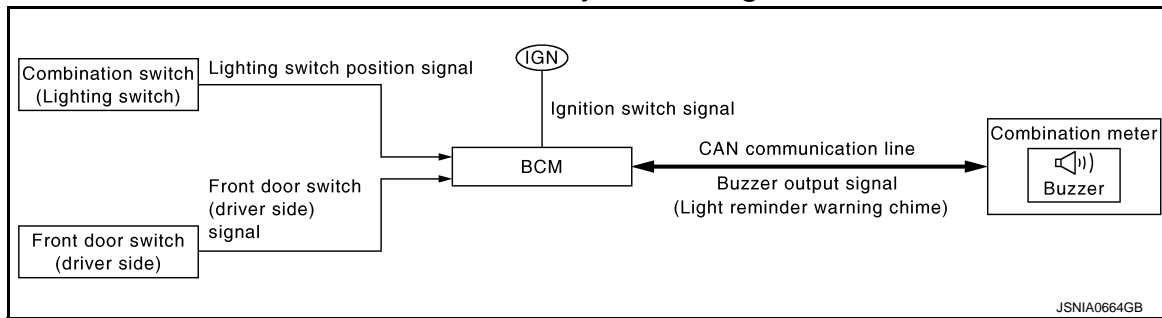
# WARNING CHIME SYSTEM

## < SYSTEM DESCRIPTION >

Unit	Description
Combination switch (Lighting switch)	Transmits the lighting switch position signal to BCM.
Front door switch (driver side)	Transmits the front door switch (driver side) signal to BCM.
Key switch	Transmits the key switch signal to BCM and Intelligent Key unit.
Parking brake switch	Refer to <a href="#">WCS-25. "Description"</a> .

## LIGHT REMINDER WARNING CHIME

### LIGHT REMINDER WARNING CHIME : System Diagram



### LIGHT REMINDER WARNING CHIME : System Description

INFOID:000000007352898

#### DESCRIPTION

With ignition switch except in ON or START position, driver door open, and lighting switch in 1ST or 2ND position, the light reminder warning chime will sound.

- BCM detects ignition switch except in ON or START position, front door switch (driver side) ON, and lighting switch in 1ST or 2ND position. And then transmits buzzer output signal (light reminder warning chime) to combination meter with CAN communication line.
- When combination meter receives buzzer output signal (light reminder warning chime), it sounds the buzzer.

#### WARNING OPERATION CONDITIONS

If all of the following conditions are fulfilled.

- Lighting switch at 1ST or 2ND position
- Ignition switch except at ON or START
- Front door switch (driver side) ON

#### WARNING CANCEL CONDITIONS

Warning is canceled if any of the following conditions is fulfilled.

- Lighting switch OFF
- Ignition switch ON
- Front door switch (driver side) OFF

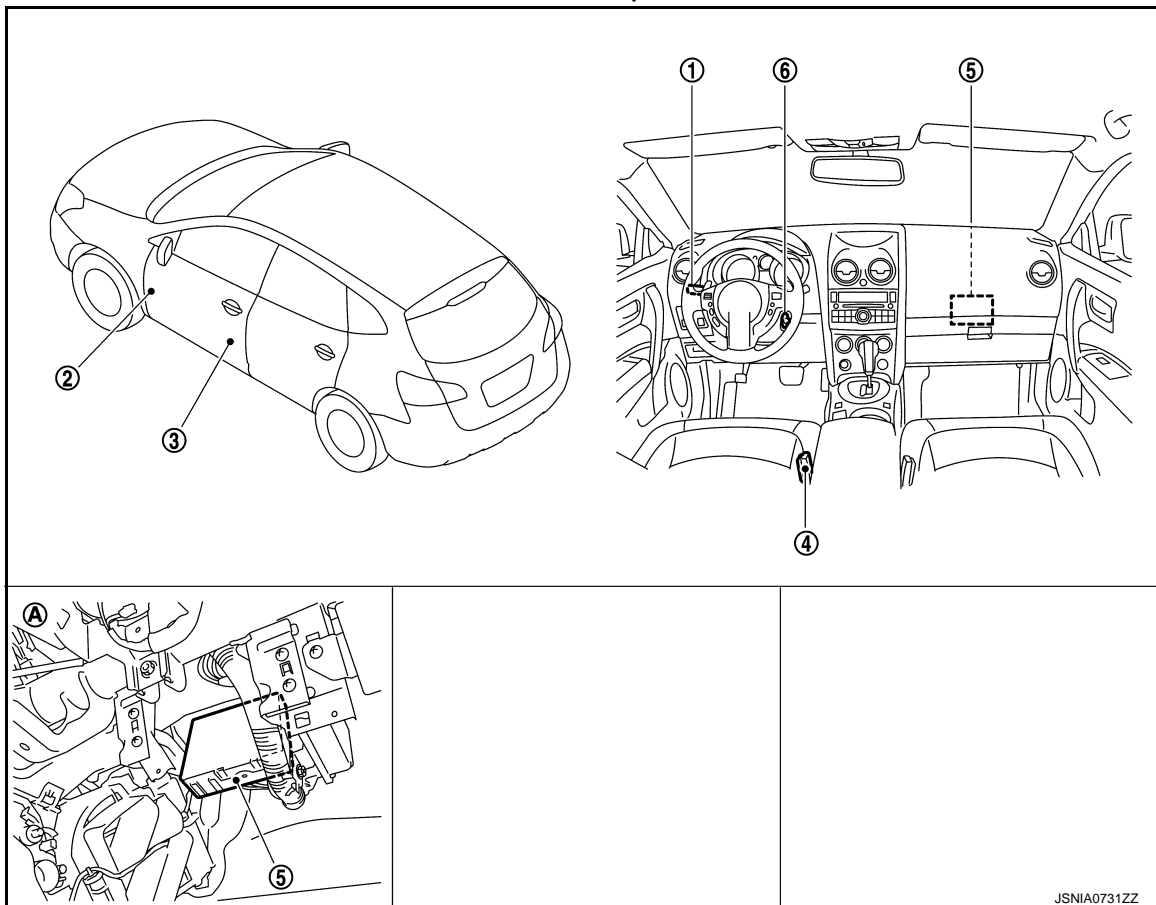
WCS

## WARNING CHIME SYSTEM

< SYSTEM DESCRIPTION >

### LIGHT REMINDER WARNING CHIME : Component Parts Location

INFOID:000000007547352



- |  |                         |                                    |
|--|-------------------------|------------------------------------|
| 1. Combination switch (Lighting switch)  | 2. Parking brake switch | 3. Front door switch (driver side) |
| 4. Seat belt buckle switch (driver side) | 5. BCM                  | 6. Key switch                      |
| A. Over the glove box                    |                         |                                    |

### LIGHT REMINDER WARNING CHIME : Component Description

INFOID:000000007352900

Unit	Description
Combination meter	Receives a buzzer output signal from the BCM and sounds the buzzer.
BCM	Judges light reminder warning according to the front door switch (driver side) signal from the front door switch (driver side) and the lighting position signal from the combination switch (lighting switch) and transmits the buzzer output signal to the combination meter via CAN communication.
Combination switch (Lighting switch)	Transmits the lighting switch position signal to BCM.
Front door switch (driver side)	Transmits the front door switch (driver side) signal to BCM.

### SEAT BELT REMINDER WARNING CHIME

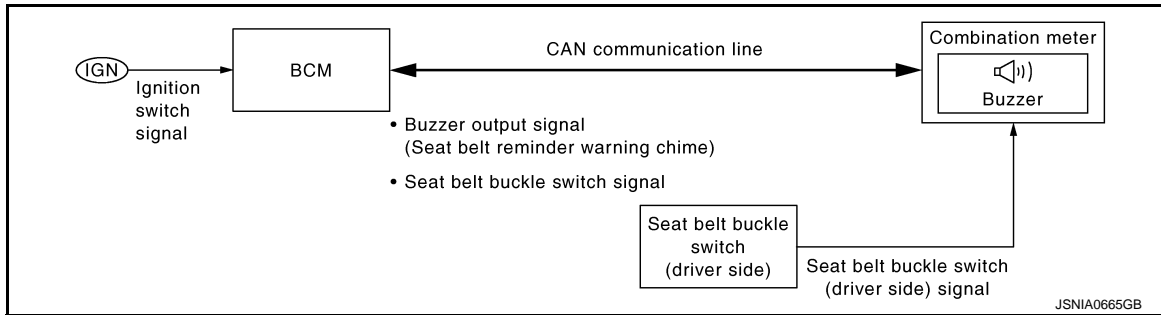


# WARNING CHIME SYSTEM

## < SYSTEM DESCRIPTION >

### SEAT BELT REMINDER WARNING CHIME : System Diagram

INFOID:000000007352901



### SEAT BELT REMINDER WARNING CHIME : System Description

INFOID:000000007352902

#### DESCRIPTION

With ignition switch turned ON and driver seat belt unfastened, seat belt warning chime will sound for approximately 6 seconds.

- BCM receives seat belt buckle switch signal from combination meter with CAN communication line.
- BCM detects ignition switch turned ON and seat belt buckle switch (driver side) ON. And then transmits buzzer output signal (seat belt warning chime) to combination meter with CAN communication line.
- When combination meter receives buzzer output signal (seat belt warning chime), it sounds the buzzer.

#### WARNING OPERATION CONDITIONS

If all of the following conditions are fulfilled.

- Ignition switch OFF→ON
- Seat belt buckle switch (driver side) is ON (driver seat belt not fastened)

#### WARNING CANCEL CONDITIONS

Warning is canceled if any of the following conditions is fulfilled.

- Ignition switch OFF
- Seat belt buckle switch (driver side) is OFF (driver seat belt fastened)

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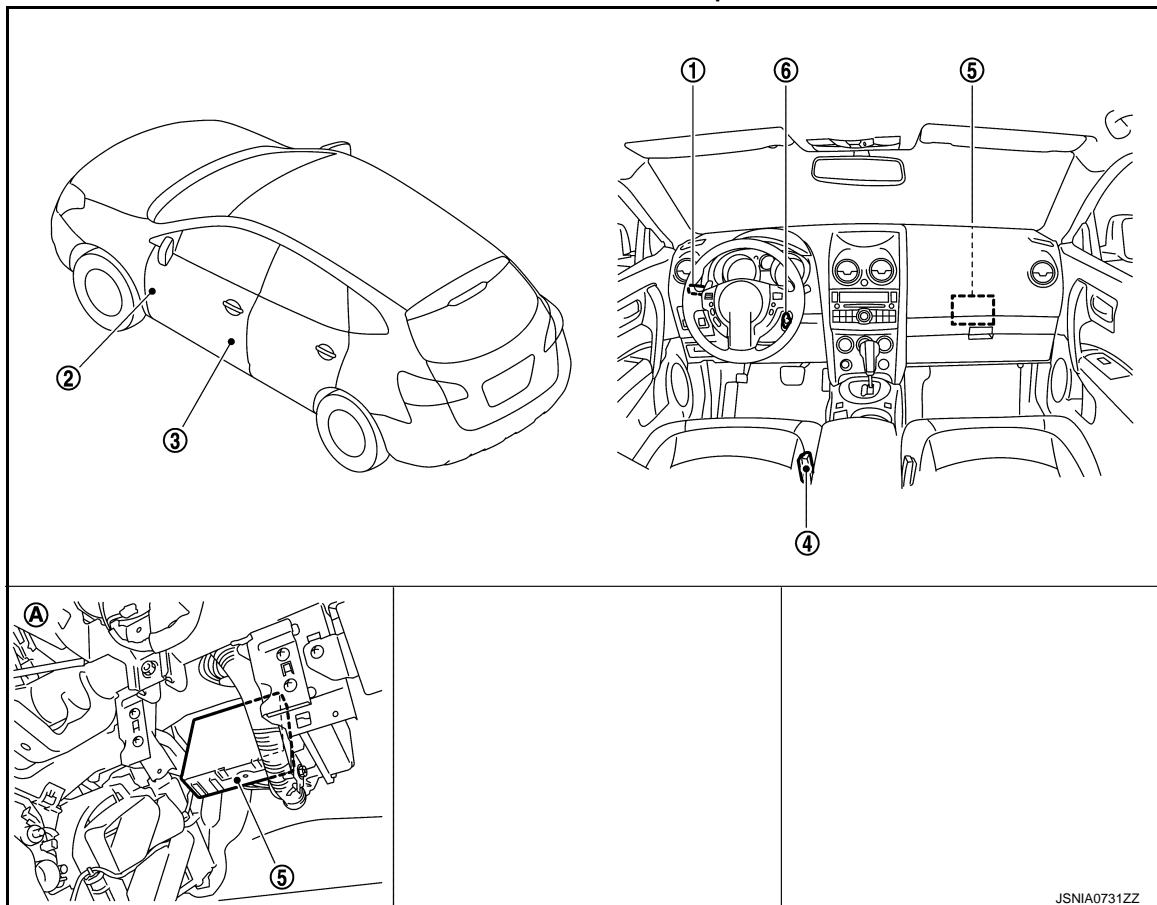
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## WARNING CHIME SYSTEM

< SYSTEM DESCRIPTION >

### SEAT BELT REMINDER WARNING CHIME : Component Parts Location

INFOID:000000007547353



- |   |                         |                                    |
|---|-------------------------|------------------------------------|
| 1. Combination switch<br>(Lighting switch)  | 2. Parking brake switch | 3. Front door switch (driver side) |
| 4. Seat belt buckle switch<br>(driver side) | 5. BCM                  | 6. Key switch                      |
| A. Over the glove box                       |                         |                                    |

### SEAT BELT REMINDER WARNING CHIME : Component Description

INFOID:000000007352904

Unit	Description
Combination meter	Receives a buzzer output signal from the BCM and sounds the buzzer.
BCM	Judges the seat belt warning condition from the seat belt buckle switch (driver side) signal received from the combination meter and transmits a buzzer output signal to the combination meter via CAN communication line if necessary.
Seat belt buckle switch (driver side)	Refer to <a href="#">WCS-23, "Description"</a> .

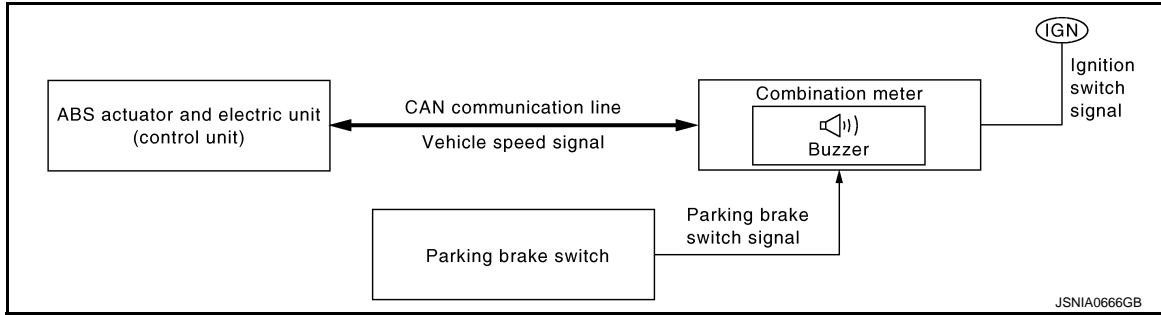
### PARKING BRAKE RELEASE WARNING CHIME

# WARNING CHIME SYSTEM

< SYSTEM DESCRIPTION >

## PARKING BRAKE RELEASE WARNING CHIME : System Diagram

INFOID:000000007352905



## PARKING BRAKE RELEASE WARNING CHIME : System Description

INFOID:000000007352906

### DESCRIPTION

Parking brake release warning chime judges the remaining parking brake according to the vehicle speed signal received from the ABS actuator and electric unit (control unit) via CAN communication and the parking brake switch signal from parking brake switch to sound the warning buzzer.

### WARNING OPERATION CONDITIONS

IF all of the following conditions are fulfilled.

- Vehicle speed is 7 km/h (4.3 MPH) or more
- Parking brake switch ON

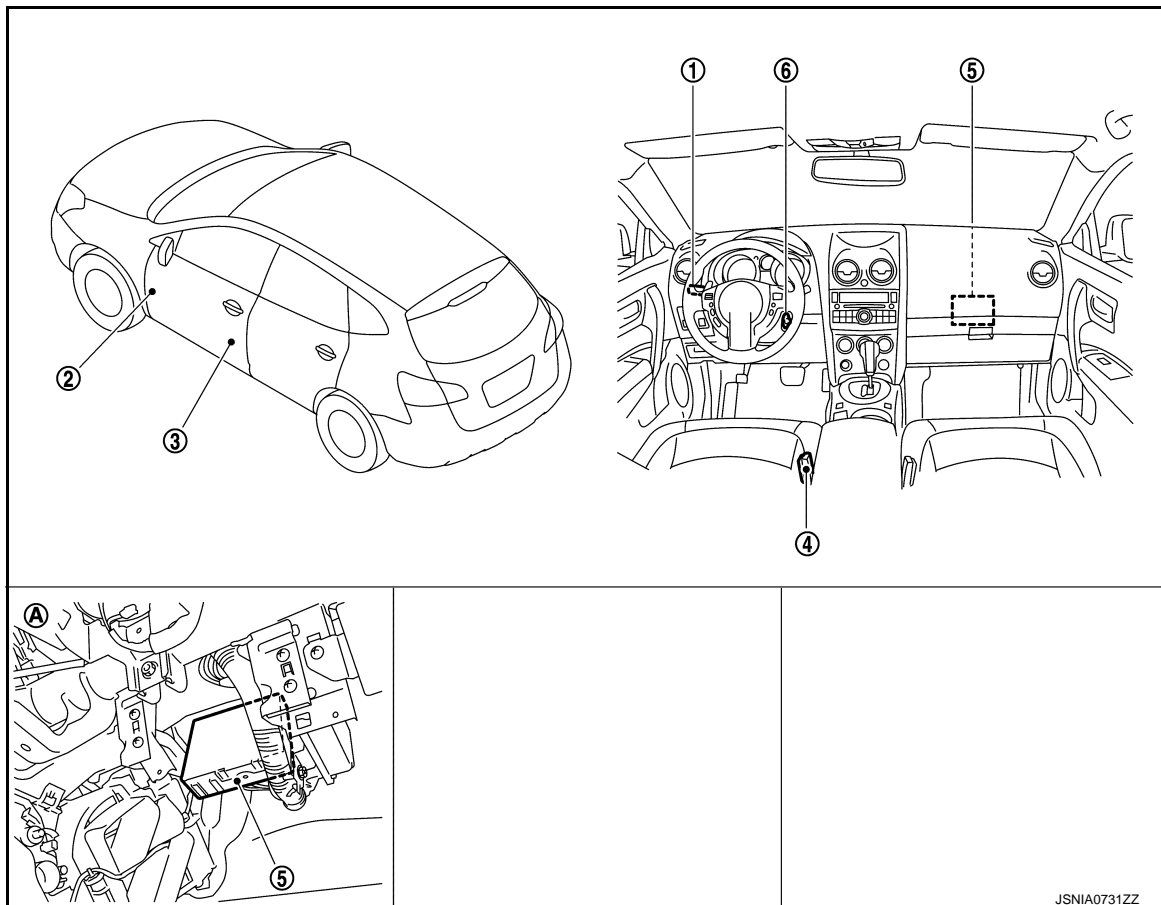
### WARNING CANCEL CONDITIONS

Warning is canceled if any of the following conditions is fulfilled.

- Vehicle speed is approximately 3 km/h (1.9 MPH) or less
- Parking brake switch OFF

## PARKING BRAKE RELEASE WARNING CHIME : Component Parts Location

INFOID:000000007547354



# WARNING CHIME SYSTEM

## < SYSTEM DESCRIPTION >

- |  |                         |                                    |
|--|-------------------------|------------------------------------|
| 1. Combination switch (Lighting switch)  | 2. Parking brake switch | 3. Front door switch (driver side) |
| 4. Seat belt buckle switch (driver side) | 5. BCM                  | 6. Key switch                      |
| A. Over the glove box                    |                         |                                    |

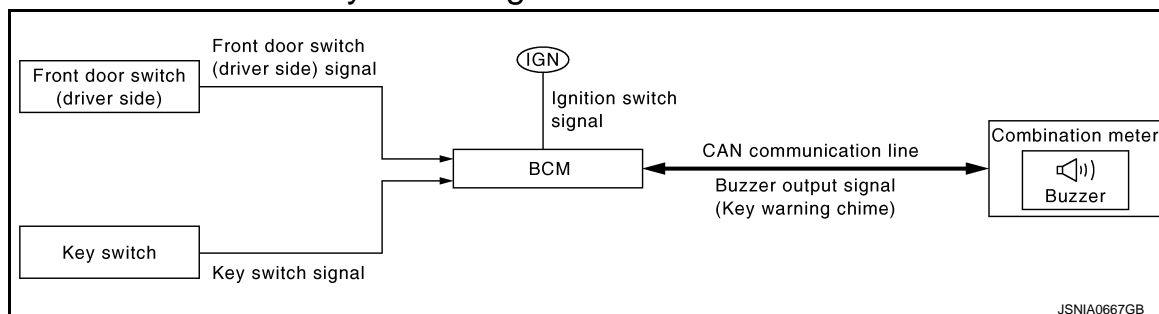
## PARKING BRAKE RELEASE WARNING CHIME : Component Description INFOID:000000007352908

Unit	Description
Combination meter	Judges the remaining parking brake according to the vehicle speed signal received from the ABS actuator and electric unit (control unit) via CAN communication and the parking brake switch signal from parking brake switch and sounds the warning buzzer.
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the combination meter via CAN communication.
Parking brake switch	Refer to <a href="#">WCS-25, "Description"</a> .

## KEY WARNING CHIME

### KEY WARNING CHIME : System Diagram

INFOID:000000007352909



### KEY WARNING CHIME : System Description

INFOID:000000007352910

#### DESCRIPTION

With the key inserted into the ignition key cylinder, and the ignition switch except in ON or START position, when driver door open, the key warning chime will sound.

- BCM detects key inserted into the ignition key cylinder, ignition switch except in ON or START position, front door switch (driver side) ON. And then transmits buzzer output signal (Key warning chime) to combination meter with CAN communication line.
- When combination meter receives buzzer output signal (Key warning chime), it sounds the buzzer.

#### NOTE:

With Intelligent Key system: refer to [DLK-32, "KEY REMINDER FUNCTION : System Description"](#).

#### WARNING OPERATION CONDITIONS

If all of the following conditions are fulfilled.

- Key inserted into the ignition key cylinder (Key switch signal ON)
- Ignition switch except in ON or START (Ignition switch signal OFF)
- Front door switch (driver side) open [Front door switch (driver side) signal ON]

#### WARNING CANCEL CONDITIONS

Warning is canceled if any of the following conditions is fulfilled.

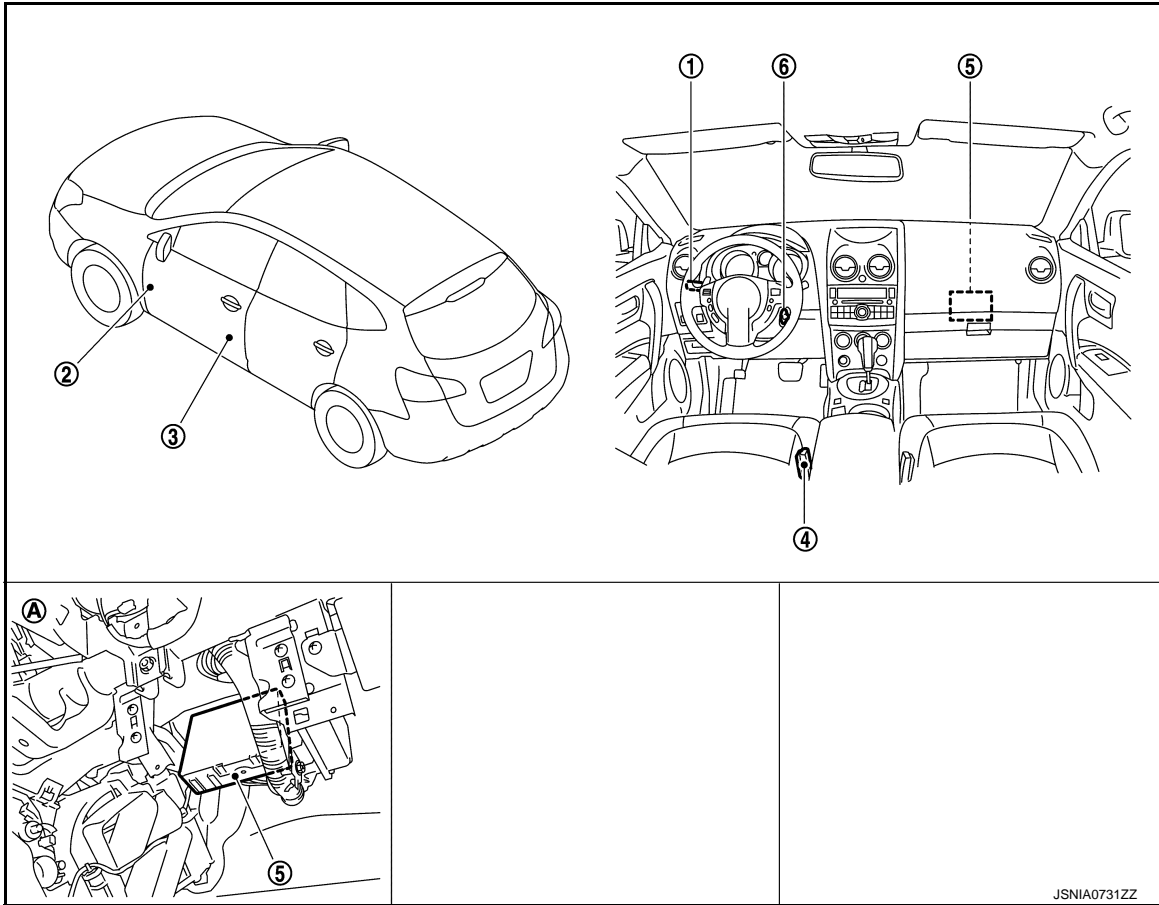
- Key removed from key cylinder (Key switch signal OFF)
- Ignition switch in ON or START (Ignition switch signal ON)
- Front door switch (driver side) close [Front door switch (driver side) signal OFF]

# WARNING CHIME SYSTEM

< SYSTEM DESCRIPTION >

## KEY WARNING CHIME : Component Parts Location

INFOID:000000007547355



- |   |                         |                                    |
|---|-------------------------|------------------------------------|
| 1. Combination switch<br>(Lighting switch)  | 2. Parking brake switch | 3. Front door switch (driver side) |
| 4. Seat belt buckle switch<br>(driver side) | 5. BCM                  | 6. Key switch                      |
| A. Over the glove box                       |                         |                                    |

## KEY WARNING CHIME : Component Description

INFOID:000000007352912

Unit	Description
Combination meter	Received a buzzer output signal from the BCM and sounds the buzzer.
BCM	Judges key warning according to the door switch signal from the front door switch (driver side) and the key switch signal from the key switch and transmits the buzzer output signal to the combination meter via CAN communication.
Front door switch (driver side)	Transmits the door switch signal to BCM.
Key switch	Transmits the key switch signal to BCM and Intelligent Key unit.

# DIAGNOSIS SYSTEM (METER)

< SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (METER)

### CONSULT Function

INFOID:000000007547356

### CONSULT APPLICATION ITEMS

CONSULT can perform the following diagnosis modes via CAN communication and the combination meter.

System	Diagnosis mode	Description
METER/M&A	Self Diagnostic Result	The combination meter checks the conditions and displays memorized errors.
	Data Monitor	Displays the combination meter input/output data in real time.
	Warning History	Lighting history of the warning lamp and indicator lamp can be checked.

### SELF DIAG RESULT

Refer to [MWI-40, "DTC Index"](#).

### DATA MONITOR

#### Display Item List

X: Applicable

Display item [Unit]	MAIN SIGNALS	Description
SPEED METER [km/h]	X	Value of vehicle speed signal received from ABS actuator and electric unit (control unit) via CAN communication. <b>NOTE:</b> 655.35 is displayed when the malfunction signal is received.
SPEED OUTPUT [km/h]	X	Vehicle speed signal value transmitted to other units via CAN communication. <b>NOTE:</b> 655.35 is displayed when the malfunction signal is received.
ODO OUTPUT [km/h or mph]		Odometer signal value transmitted to other units via CAN communication.
TACHO METER [rpm]	X	Value of the engine speed signal received from ECM via CAN communication. <b>NOTE:</b> 8191.875 is displayed when the malfunction signal is received.
FUEL METER [L]	X	Fuel level indicated on combination meter.
W TEMP METER [°C]	X	Value of engine coolant temperature signal is received from ECM via CAN communication. <b>NOTE:</b> 215 is displayed when the malfunction signal is input.
ABS W/L [On/Off]		Status of ABS warning lamp detected from ABS warning lamp signal is received from ABS actuator and electric unit (control unit) via CAN communication.
VDC/TCS IND [On/Off]		Status of VDC OFF indicator lamp detected from VDC OFF indicator lamp signal is received from ABS actuator and electric unit (control unit) via CAN communication.
SLIP IND [On/Off]		Status of VDC warning lamp detected from VDC warning lamp signal received from ABS actuator and electric unit (control unit) via CAN communication.
BRAKE W/L [On/Off]		Status of brake warning lamp detected from brake warning lamp signal is received from ABS actuator and electric unit (control unit) via CAN communication. <b>NOTE:</b> Displays "Off" if the brake warning lamp is illuminated when the valve check starts, the parking brake switch is turned ON or the brake fluid level switch is turned ON.
DOOR W/L [On/Off]		Status of door open warning detected from door switch signal received from BCM via CAN communication.
TRUNK/GLAS-H [Off]		This item is displayed, but cannot be monitored.
HI-BEAM IND [On/Off]		Status of high beam indicator lamp detected from high beam request signal is received from BCM via CAN communication.

# DIAGNOSIS SYSTEM (METER)

## < SYSTEM DESCRIPTION >

Display item [Unit]	MAIN SIGNALS	Description	
TURN IND [On/Off]		Status of turn indicator lamp detected from turn indicator signal is received from BCM via CAN communication.	A
FR FOG IND [On/Off]		This item is displayed, but cannot be monitored.	B
RR FOG IND [Off]		This item is displayed, but cannot be monitored.	C
LIGHT IND [On/Off]		Status of position lamp indicator lamp detected from position light request signal is received from BCM via CAN communication.	
OIL W/L [On/Off]		Status of oil pressure warning lamp detected from oil pressure switch signal is received from BCM via CAN communication.	D
MIL [On/Off]		Status of malfunction indicator (Yellow) detected from malfunctioning indicator signal is received from ECM via CAN communication.	E
GLOW IND [Off]		This item is displayed, but cannot be monitored.	
C-ENG2 W/L [Off]		This item is displayed, but cannot be monitored.	F
CRUISE IND [On/Off]		Status of CRUISE indicator detected from ASCD status signal is received from ECM via CAN communication.	G
SET IND [On/Off]		Status of SET indicator detected from ASCD status signal is received from ECM via CAN communication.	
O/D OFF IND [On/Off]		Status of OD OFF indicator lamp detected from OD OFF indicator signal is received from TCM via CAN communication.	H
ATC/T-AMT W/L [Off]		This item is displayed, but cannot be monitored.	I
ATF TEMP W/L [Off]		This item is displayed, but cannot be monitored.	
CVT IND [Off]		This item is displayed, but cannot be monitored.	J
4WD W/L [On/Off]		Status of AWD warning lamp judged from AWD warning lamp signal received from AWD control unit with CAN communication line.	K
4WD LOCK IND [On/Off]		Status of AWD lock indicator lamp judged from mode lamp signal received from AWD control unit with CAN communication line.	
FUEL W/L [On/Off]		Low fuel warning status detected by the identified fuel level.	L
WASHER W/L [On/Off]		Status of low washer fluid warning judged from washer level switch input to combination meter.	
AIR PRES W/L [On/Off]		Status of low tire pressure warning judged from TPMS malfunction warning lamp signal received from BCM with CAN communication line.	M
KEY G/Y W/L [On/Off]		Status of Intelligent Key system malfunction detected from KEY/LOCK warning request signal is received from BCM via CAN communication.	WCS
KEY R W/L [Off]		This item is displayed, but cannot be monitored.	
KEY KNOB W/L [Off]		This item is displayed, but cannot be monitored.	O
EPS W/L [On/Off]		Status of EPS warning lamp detected from EPS warning lamp signal is received from EPS control unit via CAN communication.	P
DDS* W/L [Off]		This item is displayed, but cannot be monitored.	
SPORT MODE IND [On/Off]		Status of SPORT mode indicator lamp detected from SPORT mode switch signal is received from ECM via CAN communication.	
DPF W/L [Off]		This item is displayed, but cannot be monitored.	

## DIAGNOSIS SYSTEM (METER)

### < SYSTEM DESCRIPTION >

Display item [Unit]	MAIN SIGNALS	Description
TRAILER IND [Off]		This item is displayed, but cannot be monitored.
SHIFT IND [P, R, N, D, L, M1, M2, M3, M4, M5, M6]		Status of shift position indicator judged from shift position signal received from TCM with CAN communication line.
O/D OFF SW [On/Off]		Status of overdrive control switch.
M RANGE SW [On/Off]		Status of manual mode switch.
NM RANGE SW [On/Off]		Status of non-manual mode switch.
AT SFT UP SW [On/Off]		Status of manual mode shift up switch.
AT SFT DWN SW [On/Off]		Status of manual mode shift down switch.
ST SFT UP SW [On/Off]		Status of paddle shifter shift up switch.
ST SFT DWN SW [On/Off]		Status of paddle shifter shift down switch.
A/C LOW TEMP [Off]		This item is displayed, but cannot be monitored.
COMP F/B SIG [Off]		This item is displayed, but cannot be monitored.
PKB SW [On/Off]		Status of parking brake switch.
BUCKLE SW [On/Off]		Status of seat belt buckle switch (driver side).
BRAKE OIL SW [On/Off]		Status of brake fluid level switch.
A/C AMP CONN [On/Off]		Status of A/C auto amp. connection recognition signal.
DISTANCE [km]		Value of distance to empty calculated by combination meter.
OUTSIDE TEMP [°C or °F]		Ambient temperature value converted from ambient sensor signal received from ambient sensor. <b>NOTE:</b> This may not match with the temperature value indicated on the information display. (Because the information display value is a corrected value from the ambient sensor input value.)
FUEL LOW SIG [On/Off]		Status of fuel level low warning signal to output to AV control unit via CAN communication.
SPORT MODE SW [On/Off]		Status of SPORT mode switch.
BUZZER [On/Off]	X	Buzzer status (in the combination meter) is detected from the buzzer output signal received from each unit via CAN communication and the warning output condition of the combination meter.
ASCD SPD BLNK [Off]		This item is displayed, but cannot be monitored.
ASCD STATUS [Off]		This item is displayed, but cannot be monitored.
ASCD REQ SPD [Off]		This item is displayed, but cannot be monitored.

\*: DDS (hill descent control)



## DIAGNOSIS SYSTEM (METER)

### < SYSTEM DESCRIPTION >

#### NOTE:

Some items are not available according to vehicle specification.

#### WARNING HISTORY

- Stores histories when warning/indicator lamp is turned on.
- “WARNING HISTORY” indicates the “TIME” when the warning/ indicator lamp is turned on.
- The “TIME” above is:
  - 0: The condition that the warning/indicator lamp has been turned on 1 or more times after starting the engine and waiting for 30 seconds.
  - 1 - 39: The number of times the engine was restarted after the 0 condition.
  - NO WARNING HISTORY: Stores NO (0) turning on history of warning/indicator lamp.

#### NOTE:

- WARNING HISTORY is not stored for approximately 30 seconds after the engine starts.
- Brake warning lamp does not store any history when the parking brake is applied or the brake fluid level gets low.

#### Display Item

Display item	Description
ABS W/L	Lighting history of ABS warning lamp.
VDC/TCS IND	Lighting history of VDC OFF indicator lamp.
SLIP IND	Lighting history of VDC warning lamp.
BRAKE W/L	Lighting history of brake warning lamp.
DOOR W/L	Lighting history of door open warning.
OIL W/L	Lighting history of oil pressure warning lamp.
C-ENG W/L	Lighting history of malfunction indicator lamp.
CRUISE IND	Lighting history of CRUISE indicator.
SET IND	Lighting history of SET indicator.
O/D OFF IND	Lighting history of OD OFF indicator lamp.
4WD W/L	Lighting history of AWD warning lamp.
FUEL W/L	Lighting history of low fuel level warning.
WASHER W/L	Lighting history of low washer fluid warning.
AIR PRES W/L	Lighting history of low tire pressure warning lamp.
KEY G/Y W/L	Lighting history of Intelligent Key system malfunction.
EPS W/L	Lighting history of EPS warning lamp.

#### NOTE:

In items displayed on the CONSULT screen, only those listed in the above table are used.

WCS

## DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

### DIAGNOSIS SYSTEM (BCM)

#### COMMON ITEM

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

INFOID:000000007605203

#### APPLICATION ITEM

CONSULT can display each diagnostic item using the diagnostic test modes shown following.

Diagnosis mode	Function description
ECU Identification	BCM part number is displayed.
Self-Diagnostic Result	Displays the diagnosis results judged by BCM. Refer to <a href="#">BCS-61, "DTC Index"</a> .
Data Monitor	BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Work Support	Changes the setting for each system function.
Configuration	<ul style="list-style-type: none"> <li>Read and save the vehicle specification.</li> <li>Write the vehicle specification when replacing BCM.</li> </ul>
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from 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	CONSULT 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 control	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER		×	×
<ul style="list-style-type: none"> <li>Auto air conditioning system</li> <li>Manual air conditioning system</li> </ul>	AIR CONDITONER		×	
Intelligent Key system	INTELLIGENT KEY		×	
Combination switch	COMB SW		×	
Body control system	BCM	×		
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	×
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR	×	×	×
Signal buffer system	SIGNAL BUFFER		×	×
—	FUEL LID*			
TPMS	AIR PRESSURE MONITOR	×	×	×
Panic alarm system	PANIC ALARM			×

\*: This item is displayed, but is not function.

#### BUZZER

## DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

### BUZZER : CONSULT Function (BCM - BUZZER)

INFOID:000000007352915

#### CONSULT FUNCTION (BCM – BUZZER)

Test item	Diagnosis mode	Description
Buzzer	Data Monitor	Displays BCM input data in real time.
	Active Test	Operation of electrical loads can be checked by sending driving signal to them.

#### DATA MONITOR

Display item [Unit]	Description
IGN ON SW [On/Off]	Ignition switch (ON) status judged by ignition power supply input.
KEY ON SW [On/Off]	Key switch status.
DOOR SW -DR [On/Off]	Front door switch (driver side) status judged by BCM.
LIGHT SW 1ST [On/Off]	Lighting switch status judged by the lighting switch signal read with combination switch reading function.
BUCKLE SW [On/Off]	Seat belt buckle switch (driver side) status judged by BCM.

#### ACTIVE TEST

Display item	Description
LIGHT WARN ALM	The light reminder warning chime operation can be checked by operating the relevant function (On/Off).
IGN KEY WARN ALM	The key warning chime operation can be checked by operating the relevant function (On/Off).
SEAT BELT WARN TEST	The seat belt warning chime operation can be checked by operating the relevant function (On/Off).

WCS

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## DTC/CIRCUIT DIAGNOSIS

### POWER SUPPLY AND GROUND CIRCUIT COMBINATION METER

#### COMBINATION METER : Diagnosis Procedure

INFOID:000000007547357

#### 1.CHECK FUSE

Check for blown fuses.

Terminal No.	Signal name	Fuses No.
1	Battery power supply	9
2	Ignition signal	3

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

#### 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between combination meter harness connector and ground.

Terminals			Ignition switch position	
(+)		(-)		
Combination meter			OFF	ON
Connector	Terminal			
M34	1	Ground	Battery voltage	Battery voltage
	2		Approx. 0 V	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between combination meter and fuse.

#### 3.CHECK GROUND CIRCUIT

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

Combination meter		Ground	Continuity
Connector	Terminal		
M34	3		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

### BCM (BODY CONTROL MODULE)

#### BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:000000007605202

#### 1.CHECK FUSES AND FUSIBLE LINK

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

Signal name	Fuses and fusible link No.
Battery power supply	10
	J

# POWER SUPPLY AND GROUND CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

Signal name	Fuses and fusible link No.
ACC power supply	20
Ignition power supply	1

### Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.

NO >> GO TO 2.

## 2.CHECK POWER SUPPLY CIRCUIT

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

Terminals			Ignition switch position		
(+)		(-)			
BCM			OFF	ACC	ON
Connector	Terminal				
M67	70	Ground	Battery voltage	Battery voltage	Battery voltage
	57				
M65	11		Approx. 0 V	Battery voltage	Battery voltage
	38		Approx. 0 V	Approx. 0 V	Battery voltage

### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

## 3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and the ground.

BCM		Ground	Continuity
Connector	Terminal		
M67	67		Existed

### Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

WCS

# METER BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## METER BUZZER CIRCUIT

### Description

INFOID:0000000007352918

- The buzzer for warning chime system is installed in the combination meter.
- The combination meter sounds the alarm buzzer based on the signals transmitted from various units.

### Component Function Check

INFOID:0000000007352919

#### 1.CHECK OPERATION OF METER BUZZER

1. Connect the CONSULT.
2. Perform "LIGHT WARN ALM", "IGN KEY WARN ALM" or "SEAT BELT WARN TEST" in "ACTIVE TEST" of "BCM (BUZZER)".

##### Does meter buzzer beep?

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

#### 2.CHECK COMBINATION METER INPUT SIGNAL

Select the "Data Monitor" of "METER/M&A" and check the "BUZZER" monitor value.

"BUZZER"

Under the condition of buzzer input : On

Except above : Off

##### Is the inspection result normal?

YES >> Replace combination meter. Refer to [MWI-69, "Removal and Installation"](#).  
NO >> Replace BCM. Refer to [BCS-65, "Removal and Installation"](#).

### Diagnosis Procedure

INFOID:0000000007352920

#### 1.CHECK POWER SUPPLY AND GROUND CIRCUIT OF COMBINATION METER

Check power supply and ground circuit of combination meter. Refer to [WCS-20, "COMBINATION METER : Diagnosis Procedure"](#).

##### Is the inspection result normal?

YES >> INSPECTION END  
NO >> Repair or replace malfunctioning parts.

# SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT

### Description

INFOID:000000007352921

Transmits a seat belt buckle switch signal to the combination meter.

### Component Function Check

INFOID:000000007352922

#### 1.CHECK COMBINATION METER INPUT SIGNAL

1. Connect the CONSULT.
2. Select the "Data Monitor" of "METER/M&A" and check the "BUCKLE SW" monitor value.

"BUCKLE SW"

When driver seat belt is fastened : Off

When driver seat belt is unfastened : On

>> INSPECTION END

### Diagnosis Procedure

INFOID:000000007352923

#### 1.CHECK COMBINATION METER INPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between combination meter harness connector terminal and ground.

Terminal		(-)	Condition	Voltage (Approx.)
(+)				
Combination meter				
Connector	Terminal			
M34	35	Ground	When driver seat belt is fastened	12 V
			When driver seat belt is unfastened	0 V

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

#### 2.CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter connector and seat belt buckle switch (driver side) connector.
3. Check continuity between combination meter harness connector terminal and front seat belt buckle switch (driver side) harness connector terminal.

Combination meter		Seat belt buckle switch (driver side)		Continuity
Connector	Terminal	Connector	Terminal	
M34	35	B409	1	Existed

4. Check harness continuity between combination meter harness connector terminal and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M34	35		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3.CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE) GROUND CIRCUIT

# SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

Check harness continuity between seat belt buckle switch (driver side) harness connector terminal and ground.

Seat belt buckle switch (driver side)		Ground	Continuity
Connector	Terminal		
B409	2		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

## Component Inspection

INFOID:000000007352924

### 1. CHECK SEAT BELT BUCKLE SWITCH

1. Turn ignition switch OFF.
2. Disconnect the seat belt buckle switch connector.
3. Check continuity between terminals 1 and 2.

Terminals		Condition	Continuity
1	2	When driver seat belt is fastened	Not existed
		When driver seat belt is unfastened	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace the seat belt buckle. Refer to [SB-9. "SEAT BELT BUCKLE : Removal and Installation"](#).



# PARKING BRAKE SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## PARKING BRAKE SWITCH SIGNAL CIRCUIT

### Description

INFOID:000000007352925

Transmits the parking brake switch signal to the combination meter.

### Diagnosis Procedure

INFOID:000000007352926

#### 1.CHECK COMBINATION METER INPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between combination meter harness connector terminal and ground.

Terminal		(-)	Condition	Voltage (Approx.)
(+)				
Combination meter				
Connector	Terminal			
M34	26	Ground	Parking brake ON	0 V
			Parking brake OFF	5 V

Is the inspection result normal?

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

#### 2.CHECK PARKING BRAKE SWITCH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter connector and parking brake switch connector.
3. Check continuity between combination meter harness connector terminal and parking brake switch harness connector terminal.

Combination meter		Parking brake switch		Continuity
Connector	Terminal	Connector	Terminal	
M34	26	E103	1	Existed

4. Check continuity between combination meter harness connector terminal and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M34	26		Not existed

Is the inspection result normal?

YES >> INSPECTION END  
NO >> Repair harness or connector.

### Component Inspection

INFOID:000000007352927

Refer to [BRC-50, "Component Inspection"](#) (ABS) or [BRC-151, "Component Inspection"](#) (VDC/TCS/ABS).

A  
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K  
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P

WCS


# WARNING CHIME SYSTEM

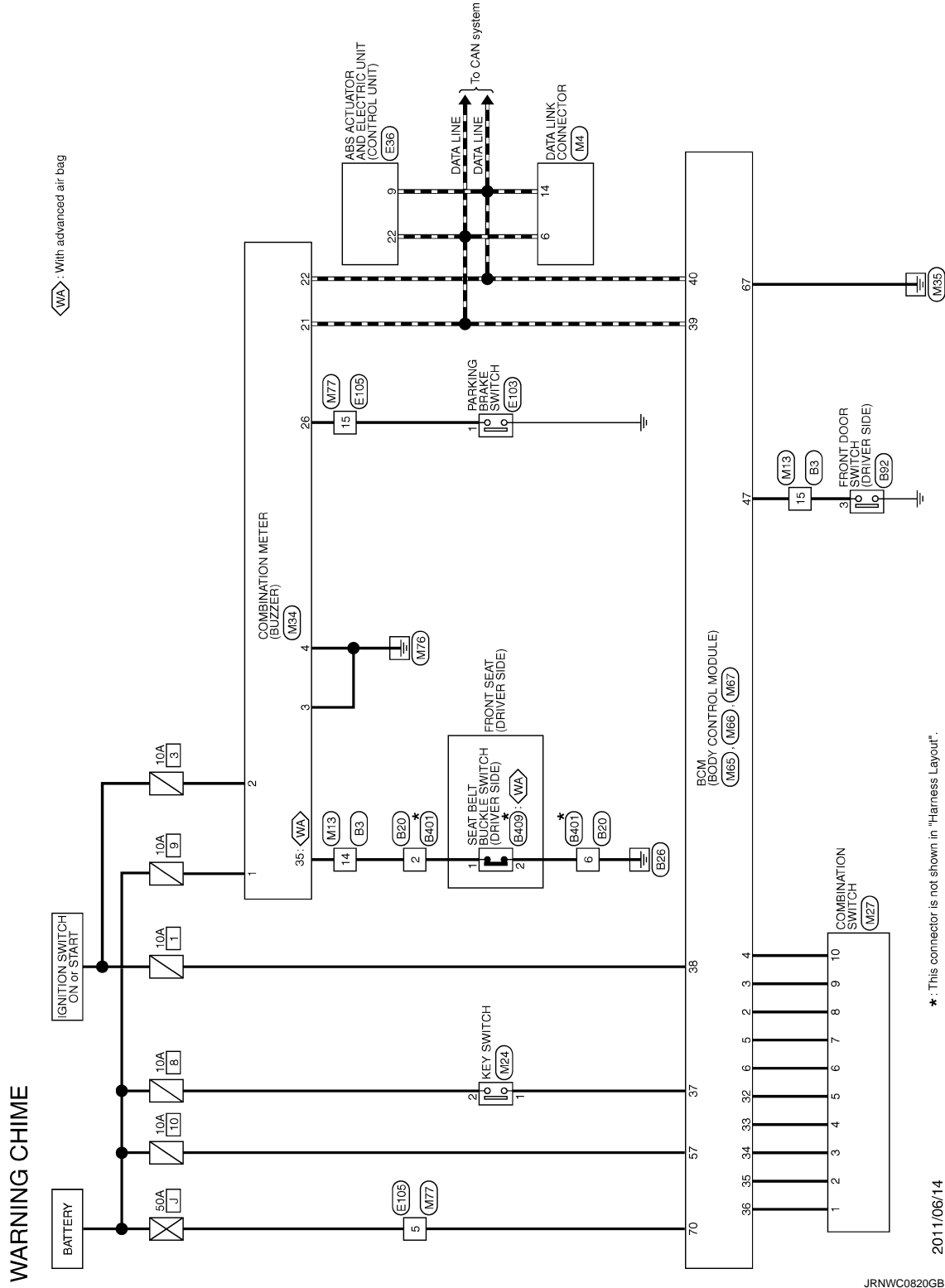
< DTC/CIRCUIT DIAGNOSIS >

## WARNING CHIME SYSTEM

### Wiring Diagram - WARNING CHIME -

INFOID:000000007352928

For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-12, "Connector Information"](#).



# COMBINATION METER

< ECU DIAGNOSIS INFORMATION >

## ECU DIAGNOSIS INFORMATION

### COMBINATION METER

Reference Value

INFOID:000000007547358

#### VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition		Value/Status
SPEED METER [km/h]	Ignition switch ON	While driving	Input value of vehicle speed signal (CAN communication signal) <b>NOTE:</b> 655.35 is displayed when the malfunction signal is received
SPEED OUTPUT [km/h]	Ignition switch ON	While driving	Output value of vehicle speed signal (CAN communication signal) <b>NOTE:</b> 655.35 is displayed when the malfunction signal is received
ODO OUTPUT	Ignition switch ON	—	Output value of odometer signal (CAN communication signal)
TACHO METER [rpm]	Ignition switch ON	While driving	Input value of engine speed signal (CAN communication signal) <b>NOTE:</b> 8191.875 is displayed when the malfunction signal is received
FUEL METER [lit]	Ignition switch ON	—	Input value of fuel level sensor signal
W TEMP METER [°C]	Ignition switch ON	—	Input value of engine coolant temperature signal (CAN communication signal) <b>NOTE:</b> 215 is displayed when the malfunction signal is input
ABS W/L	Ignition switch ON	ABS warning lamp ON	On
		ABS warning lamp OFF	Off
VDC/TCS IND	Ignition switch ON	VDC OFF indicator lamp ON	On
		VDC OFF indicator lamp OFF	Off
SLIP IND	Ignition switch ON	VDC warning lamp ON	On
		VDC warning lamp OFF	Off
BRAKE W/L	Ignition switch ON	Brake warning lamp ON	On
		Brake warning lamp OFF	Off
DOOR W/L	Ignition switch ON	During door open warning indication	On
		Other than the above	Off
TRUNK/GLAS-H	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off
HI-BEAM IND	Ignition switch ON	High beam indicator lamp ON	On
		High beam indicator lamp OFF	Off
TURN IND	Ignition switch ON	Turn signal indicator lamp ON	On
		Turn signal indicator lamp OFF	Off
FR FOG IND	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off

A

B

C

D

E

F

G

H

I

J

K

L

M

WCS

O

P

# COMBINATION METER

## < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition		Value/Status
RR FOG IND	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off
LIGHT IND	Ignition switch ON	Position lamp indicator lamp ON	On
		Position lamp indicator lamp OFF	Off
OIL W/L	Ignition switch ON	Oil pressure warning lamp ON	On
		Oil pressure warning lamp OFF	Off
MIL	Ignition switch ON	Malfunction indicator (Yellow) ON	On
		Malfunction indicator (Yellow) OFF	Off
GLOW IND	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off
C-ENG2 W/L	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off
CRUISE IND	Ignition switch ON	Cruise indicator ON	On
		Cruise indicator OFF	Off
SET IND	Ignition switch ON	SET indicator ON	On
		SET indicator OFF	Off
O/D OFF IND	Ignition switch ON	OD OFF indicator lamp ON	On
		OD OFF indicator lamp OFF	Off
ATC/T-AMT W/L	Ignition switch ON	A/T CHECK indicator lamp ON	On
		A/T CHECK indicator lamp OFF	Off
ATF TEMP W/L	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off
CVT IND	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off
4WD W/L	Ignition switch ON	AWD warning lamp ON	On
		AWD warning lamp OFF	Off
4WD LOCK IND	Ignition switch ON	AWD LOCK indicator lamp ON	On
		AWD LOCK indicator lamp OFF	Off
FUEL W/L	Ignition switch ON	During low fuel warning indication	On
		Other than the above	Off
WASHER W/L	Ignition switch ON	During low washer fluid warning indication	On
		Other than the above	Off
AIR PRES W/L	Ignition switch ON	Low tire pressure warning lamp ON	On
		Other than the above	Off
KEY G/Y W/L	Ignition switch ON	Intelligent Key system malfunction ON	On
		Intelligent Key system malfunction OFF	Off
KEY R W/L	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off
KEY KNOB W/L	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off
EPS W/L	Ignition switch ON	EPS warning lamp ON	On
		EPS warning lamp OFF	Off

# COMBINATION METER

## < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition		Value/Status	
DDS W/L *	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off	A
SPORT MODE IND	Ignition switch ON	SPORT mode indicator lamp ON	On	B
		SPORT mode indicator lamp OFF	Off	
DPF W/L	Engine running	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off	C
TRAILER IND	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off	D
SHIFT IND	Ignition switch ON	During the indication of "P" by shift position indicator	P	E
		During the indication of "R" by shift position indicator	R	
		During the indication of "N" by shift position indicator	N	F
		During the indication of "D" by shift position indicator	D	G
		During the indication of "L" by shift position indicator	L	
		During the indication of "M1" by shift position indicator	M1	H
		During the indication of "M2" by shift position indicator	M2	I
		During the indication of "M3" by shift position indicator	M3	
		During the indication of "M4" by shift position indicator	M4	J
		During the indication of "M5" by shift position indicator	M5	K
O/D OFF SW	Ignition switch ON	Overdrive control switch ON	On	L
		Overdrive control switch OFF	Off	
M RANGE SW	Ignition switch ON	Selector lever in manual mode position	On	M
		Other than the above	Off	
NM RANGE SW	Ignition switch ON	Selector lever in manual mode position	Off	WCS
		Other than the above	On	
AT SFT UP SW	Ignition switch ON	Selector lever in + position	On	O
		Other than the above	Off	
AT SFT DWN SW	Ignition switch ON	Selector lever in – position	On	P
		Other than the above	Off	
ST SFT UP SW	Ignition switch ON	Paddle shifter in + position	On	
		Other than the above	Off	
ST SFT DWN SW	Ignition switch ON	Paddle shifter in – position	On	
		Other than the above	Off	
A/C LOW TEMP	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off	

# COMBINATION METER

## < ECU DIAGNOSIS INFORMATION >

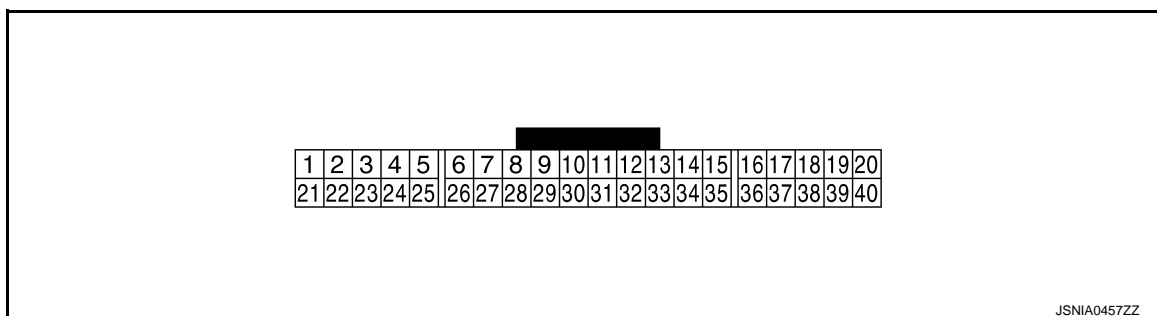
Monitor Item	Condition		Value/Status
COMP F/B SIG	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off
PKB SW	Ignition switch ON	Parking brake switch ON	On
		Parking brake switch OFF	Off
BUCKLE SW	Ignition switch ON	Driver seat belt not fastened	On
		Driver seat belt fastened	Off
BRAKE OIL SW	Ignition switch ON	Brake fluid level switch ON	On
		Brake fluid level switch OFF	Off
A/C AMP CONN	Ignition switch ON	Other than the following	On
		Receives A/C auto amp. connection recognition signal	Off
DISTANCE [km]	Ignition switch ON	—	Distance to empty calculated by combination meter
OUTSIDE TEMP [°C or °F]	Ignition switch ON	—	Input value of ambient sensor signal (CAN communication signal) <b>NOTE:</b> This may not match the indicated value on the information display.
FUEL LOW SIG	Ignition switch ON	Low fuel warning displayed	On
		Low fuel warning not displayed	Off
SPORT MODE SW	Ignition switch ON	SPORT mode switch ON	On
		SPORT mode switch OFF	Off
BUZZER	Ignition switch ON	Buzzer ON	On
		Buzzer OFF	Off
ASCD SPD BLNK	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off
ASCD STATUS	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off
ASCD REQ SPD [km/h or Off]	Ignition switch ON	<b>NOTE:</b> This item is displayed, but cannot be monitored.	Off

\*: DDS (hill descent control)

### NOTE:

Some items are not available according to vehicle specification.

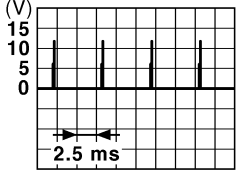
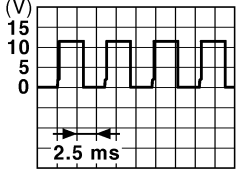
## TERMINAL LAYOUT



## PHYSICAL VALUES

# COMBINATION METER

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
1 (LG)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
2 (BG)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
3 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
4 (L)	Ground	SPORT mode switch signal	Input	Ignition switch ON	SPORT mode switch pressed	0 V
					SPORT mode switch not pressed	12 V
5 (BR)	Ground	A/C auto amp. connection recognition signal	Input	Ignition switch ON	When auto amp. is con- nected	5 V
					Other than the above	0 V
7 (GR)	Ground	Overdrive control switch signal	Input	Ignition switch ON	Overdrive control switch pressed	0 V
					Overdrive control switch not pressed	12 V
9 (L)	Ground	Paddle shifter shift up sig- nal	Input	Ignition switch ON	Paddle shifter shift up oper- ation	0 V
					Other than the above	12 V
10 (G)	Ground	Paddle shifter shift down signal	Input	Ignition switch ON	Paddle shifter shift down operation	0 V
					Other than the above	12 V
13 (Y)	Ground	Illumination control signal	Output	Ignition switch ON	<ul style="list-style-type: none"> <li>Lighting switch 1ST posi- tion</li> <li>When meter illumination is maximum</li> </ul>	
					<ul style="list-style-type: none"> <li>Lighting switch 1ST posi- tion</li> <li>When meter illumination is step 11</li> </ul>	
					<ul style="list-style-type: none"> <li>Lighting switch 1ST posi- tion</li> <li>When meter illumination is minimum</li> </ul>	12 V
15 (LG)	Ground	Air bag signal	Input	Ignition switch ON	Air bag warning lamp ON	4 V
					Air bag warning lamp OFF	0 V

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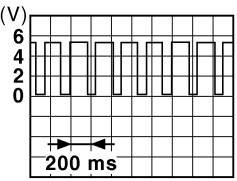
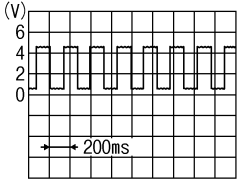
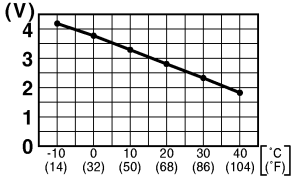
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# COMBINATION METER

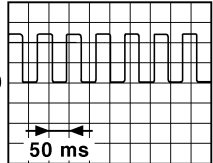
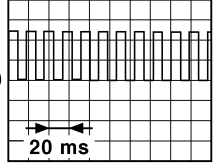
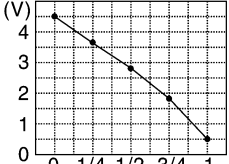
## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
16 (W)	Ground	Engine coolant temperature signal	Output	Ignition switch ON	Engine idling [Approximately 20°C (68°F)]	 PKID0590E
					Engine idling [Approximately 80°C (176°F)]	 SKIB3651J
19 (BR)	Ground	Ambient sensor signal	Input	Ignition switch ON	—	 JSNIA0014GB
20 (SB)	Ground	Ambient sensor ground	—	Ignition switch ON	—	0 V
21 (L)	—	CAN-H	—	—	—	—
22 (P)	—	CAN-L	—	—	—	—
24 (B)	Ground	Fuel level sensor signal ground	—	Ignition switch ON	—	0 V
25 (SB)	Ground	Alternator signal	Input	Ignition switch ON	Charge warning lamp ON	0 V
					Charge warning lamp OFF	12 V
26 (V)	Ground	Parking brake switch signal	Input	Ignition switch ON	Parking brake ON	0 V
					Parking brake OFF	5 V
27 (BR)	Ground	Brake fluid level switch signal	Input	Ignition switch ON	Brake fluid level is normal	5 V
					Brake fluid level is less than low level	0 V
28 (B)	Ground	Security signal	Input	Ignition switch OFF	Security warning lamp ON	0 V
					Security warning lamp OFF	12 V
29 (W)	Ground	Washer level switch signal	Input	Ignition switch OFF	Washer level switch ON	0 V
					Washer level switch OFF	12 V



# COMBINATION METER

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
30 (Y)	Ground	Vehicle speed signal (2-pulse)	Output	Ignition switch ON	Speedometer operated [When vehicle speed is ap- prox. 40 km/h (25 MPH)]	<b>NOTE:</b> The maximum voltage varies de- pending on the specification (destination unit).  JSNIA0015GB
31 (L)	Ground	Vehicle speed signal (8-pulse)	Output	Ignition switch ON	Vehicle speed is approxi- mately 40 km/h (25 MPH)	<b>NOTE:</b> The maximum voltage varies de- pending on the specification (destination unit).  JSNIA0012GB
34 (G)	Ground	Fuel level sensor signal	Input	Ignition switch ON	—	 JSNIA3463ZZ
35 (BG)	Ground	Seat belt buckle switch sig- nal (driver side)	Input	Ignition switch ON	When driver seat belt is fas- tened	12 V
					When driver seat belt is not fastened	0 V
36 (G)	Ground	Seat belt buckle switch sig- nal (passenger side)	Input	Ignition switch ON	<ul style="list-style-type: none"> <li>When getting in the pas- senger seat</li> <li>When passenger seat belt is fastened</li> </ul>	12 V
					<ul style="list-style-type: none"> <li>When getting in the pas- senger seat</li> <li>When passenger seat belt is not fastened</li> </ul>	0 V
37 (P)	Ground	Non-manual mode signal	Input	Ignition switch ON	Manual mode	12 V
					Other than the above	0 V
38 (BG)	Ground	Manual mode shift down signal	Input	Ignition switch ON	Selector lever (–) position	0 V
					Other than the above	12 V
39 (V)	Ground	Manual mode shift up sig- nal	Input	Ignition switch ON	Selector lever (+) position	0 V
					Other than the above	12 V
40 (LG)	Ground	Manual mode signal	Input	Ignition switch ON	Manual mode	0 V
					Other than the above	12 V

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
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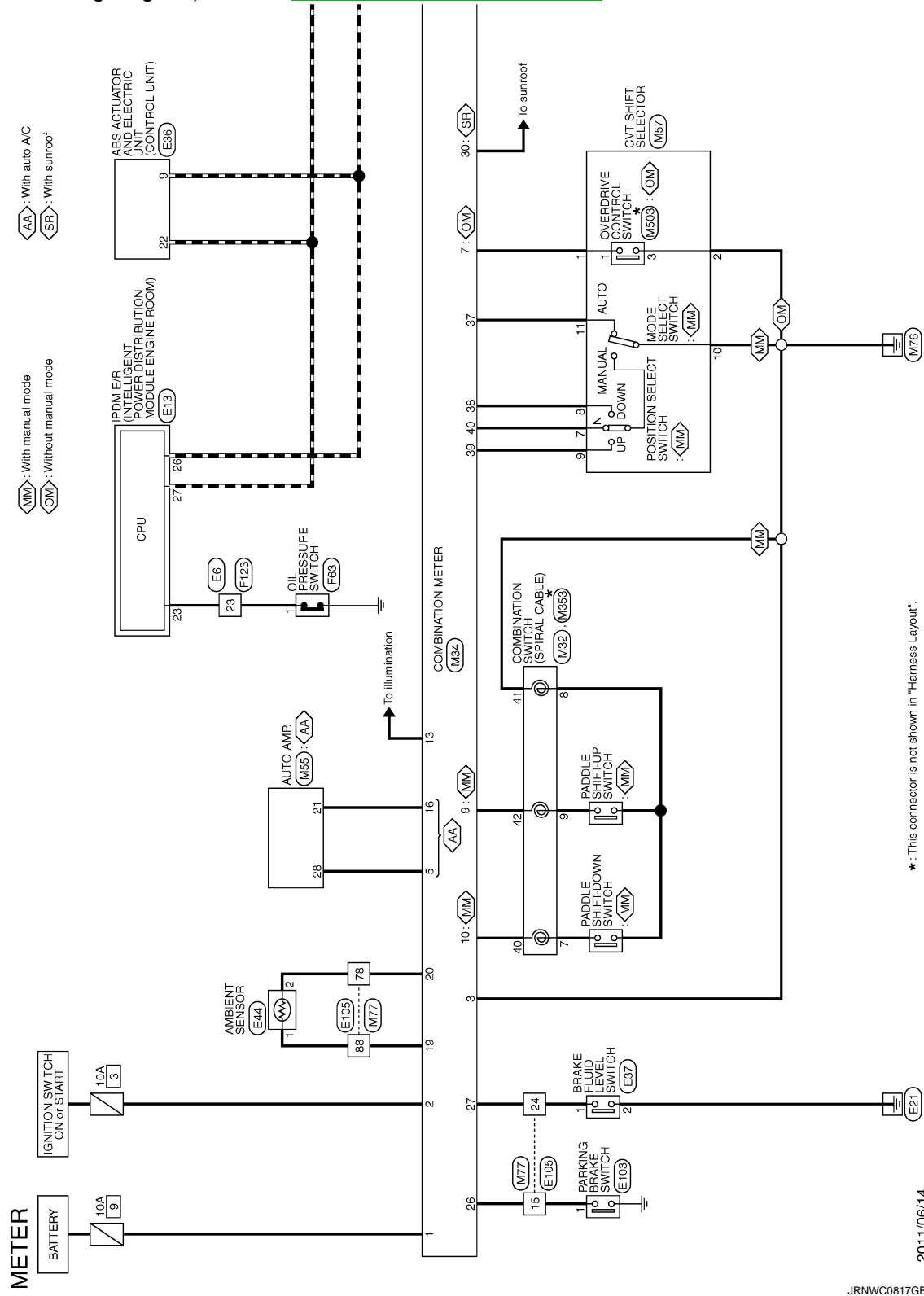
# COMBINATION METER

< ECU DIAGNOSIS INFORMATION >

## Wiring Diagram

INFOID:000000007547361

For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-12, "Connector Information"](#).



## < ECU DIAGNOSIS INFORMATION >

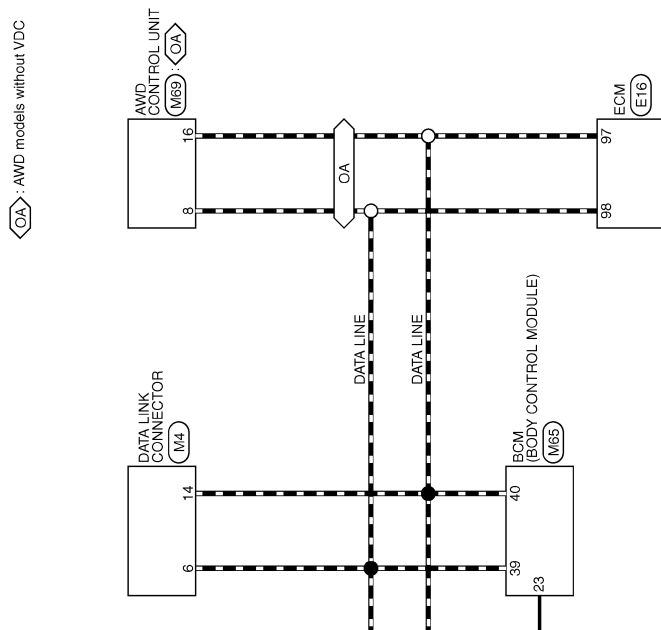


**\*\***: This connector is not shown in "Harness Layout".

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# COMBINATION METER

< ECU DIAGNOSIS INFORMATION >



JRNWC0819GB

## Fail-safe

INFOID:000000007547359

The combination meter activates the fail-safe control if the CAN communication lines between each unit are malfunctioning.

# COMBINATION METER

## < ECU DIAGNOSIS INFORMATION >

Function			Specifications	
Speedometer			Reset to zero by suspending communication.	A
Tachometer				B
Engine coolant temperature gauge				C
Meter illumination control			When suspending communication, changes to nighttime mode.	
Buzzer			Turned off by suspending communication.	
Information display	Trip computer	Current fuel consumption	<ul style="list-style-type: none"><li>When reception time of an abnormal signal is 2 seconds or less, the last received datum is used for calculation to indicate the result.</li><li>When reception time of an abnormal signal is more than 2 seconds, the last result calculated during normal condition is indicated.</li></ul>	D
		Average fuel consumption		E
		Average vehicle speed		
		Range (Distance to empty)		
		Driving distance	An indicated value is maintained at communications blackout.	
	Interrupt indication	Door open warning	The indicator turns OFF by suspending communication.	F
		Low tire pressure warning		G
		Fuel filler cap warning		
	Odo/trip meter		An indicated value is maintained at communications blackout.	
	Shift position indicator		The indicator turns OFF by suspending communication.	H
Warning lamp/indicator lamp	ABS warning lamp		Turned on by suspending communication.	I
	Brake warning lamp			J
	EPS warning lamp			
	VDC warning lamp			
	AWD warning lamp			
	Malfunction indicator lamp			
	VDC OFF indicator lamp		Turned off by suspending communication.	K
	SPORT mode indicator lamp			L
	AWD LOCK indicator lamp			
	Oil pressure warning lamp			
	High beam indicator lamp			
	Turn signal indicator lamp			M
	Position lamp indicator lamp			
	A/T CHECK indicator lamp			
	OD OFF indicator lamp			
	Low tire pressure warning lamp		After blinking for 1 minute, the lamp remains ON.	WCS

## DTC Index

INFOID:000000007547360

Display contents of CONSULT	Time	Diagnostic item is detected when...	Refer to	
CAN COMM CIRCUIT [U1000]	CRNT, 1 - 39	Combination meter is not transmitting or receiving CAN communication signal for 2 seconds or more.	<a href="#">MWI-50</a>	P
CONTROL UNIT (CAN) [U1010]	CRNT, 1 - 39	Detecting error during the initial diagnosis of CAN controller of combination meter.	<a href="#">MWI-51</a>	
VEHICLE SPEED [B2205]	CRNT, 1 - 39	The abnormal vehicle speed signal is input from ABS actuator and electric unit (control unit) for 2 seconds or more.	<a href="#">MWI-52</a>	

## COMBINATION METER

### < ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Time	Diagnostic item is detected when...	Refer to
ENGINE SPEED [B2267]	CRNT, 1 - 39	ECM continuously transmits abnormal engine speed signals for 2 seconds or more.	<a href="#">MWI-53</a>
WATER TEMP [B2268]	CRNT, 1 - 39	ECM continuously transmits abnormal engine coolant temperature signals for 60 seconds or more.	<a href="#">MWI-54</a>

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

## BCM (BODY CONTROL MODULE)

### Reference Value

INFOID:000000007605197

### VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
IGN ON SW	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
KEY ON SW	Mechanical key is removed from key cylinder	Off
	Mechanical key is inserted to key cylinder	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the lock side	On
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the unlock side	On
DOOR SW-DR	Driver's door closed	Off
	Driver's door opened	On
DOOR SW-AS	Passenger door closed	Off
	Passenger door opened	On
DOOR SW-RR	Rear RH door closed	Off
	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
	Rear LH door opened	On
BACK DOOR SW	Back door closed	Off
	Back door opened	On
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off
	Driver door key cylinder LOCK position	On
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off
	Driver door key cylinder UNLOCK position	On
KEYLESS LOCK	"LOCK" button of key fob is not pressed	Off
	"LOCK" button of key fob is pressed	On
KEYLESS UNLOCK	"UNLOCK" button of key fob is not pressed	Off
	"UNLOCK" button of key fob is pressed	On
I-KEY LOCK	"LOCK" button of Intelligent Key or door request switch are not pressed	Off
	"LOCK" button of Intelligent Key or door request switch are pressed	On
I-KEY UNLOCK	"UNLOCK" button of Intelligent Key or door request switch are not pressed	Off
	"UNLOCK" button of Intelligent Key or door request switch are pressed	On
ACC ON SW	Ignition switch OFF	Off
	Ignition switch ACC or ON	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
LIGHT SW 1ST	Lighting switch OFF	Off
	Lighting switch 1ST	On

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## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
BUCKLE SW	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF]	Off
	The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON]	On
KEYLESS PANIC	PANIC button of key fob is not pressed	Off
	PANIC button of key fob is pressed	On
KEYLESS TRUNK	<b>NOTE:</b> The item is indicated, but not monitored.	Off
TRNK OPN MNTR	<b>NOTE:</b> The item is indicated, but not monitored.	Off
RKE LCK-UNLCK	LOCK/UNLOCK button of key fob is not pressed and held simultaneously	Off
	LOCK/UNLOCK button of key fob is pressed and held simultaneously	On
RKE KEEP UNLK	UNLOCK button of key fob is not pressed	Off
	UNLOCK button of key fob is pressed and held	On
HI BEAM SW	Lighting switch OFF	Off
	Lighting switch HI	On
HEAD LAMP SW 1	Lighting switch OFF	Off
	Lighting switch 2ND	On
HEAD LAMP SW 2	Lighting switch OFF	Off
	Lighting switch 2ND	On
AUTO LIGHT SW	Other than lighting switch AUTO	Off
	Lighting switch AUTO	On
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
RR FOG SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
TURN SIGNAL R	Turn signal switch OFF	Off
	Turn signal switch RH	On
TURN SIGNAL L	Turn signal switch OFF	Off
	Turn signal switch LH	On
ENGINE RUN	Engine stopped	Off
	Engine running	On
PKB SW	Parking brake switch is OFF	Off
	Parking brake switch is ON	On
CARGO LAMP SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5 V
	Dark outside of the vehicle	Close to 0 V
IGN SW CAN	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
FR WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On



# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
FR WIPER LOW	Front wiper switch OFF	Off	A
	Front wiper switch LO	On	
FR WIPER INT	Front wiper switch OFF	Off	B
	Front wiper switch INT	On	
FR WASHER SW	Front washer switch OFF	Off	C
	Front washer switch ON	On	
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7	
FR WIPER STOP	Any position other than front wiper stop position	Off	D
	Front wiper stop position	On	
VEHICLE SPEED	While driving	Equivalent to speedometer reading	
RR WIPER ON	Rear wiper switch OFF	Off	E
	Rear wiper switch ON	On	
RR WIPER INT	Rear wiper switch OFF	Off	F
	Rear wiper switch INT	On	
RR WASHER SW	Rear washer switch OFF	Off	G
	Rear washer switch ON	On	
RR WIPER STOP	Rear wiper stop position	Off	H
	Other than rear wiper stop position	On	
RR WIPER STP2	<b>NOTE:</b> The item is indicated, but not monitored.	Off	
H/L WASH SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off	I
HAZARD SW	Hazard switch OFF	Off	J
	Hazard switch ON	On	
BRAKE SW	Brake pedal is not depressed	Off	K
	Brake pedal is depressed	On	
FAN ON SIG	Blower fan motor switch OFF	Off	L
	Blower fan motor switch ON (other than OFF)	On	
AIR COND SW	<ul style="list-style-type: none"> <li>A/C conditioner OFF (A/C switch indicator OFF) (Automatic air conditioner)</li> <li>A/C switch OFF (Manual air conditioner)</li> </ul>	Off	M
	<ul style="list-style-type: none"> <li>A/C conditioner ON (A/C switch indicator ON) (Automatic air conditioner)</li> <li>A/C switch ON (Manual air conditioner)</li> </ul>	On	
I-KEY TRUNK	<b>NOTE:</b> The item is indicated, but not monitored.	Off	WCS
I-KEY PW DWN	UNLOCK button of Intelligent Key is not pressed	Off	
	UNLOCK button of Intelligent Key is pressed and held	On	
I-KEY PANIC	PANIC button of Intelligent Key is not pressed	Off	O
	PANIC button of Intelligent Key is pressed	On	
PUSH SW	Return to ignition switch to "LOCK" position	Off	P
	Press ignition switch	On	
TRNK OPNR SW	When back door opener switch is not pressed	Off	
	When back door opener switch is pressed	On	
TRUNK CYL SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off	

## BCM (BODY CONTROL MODULE)

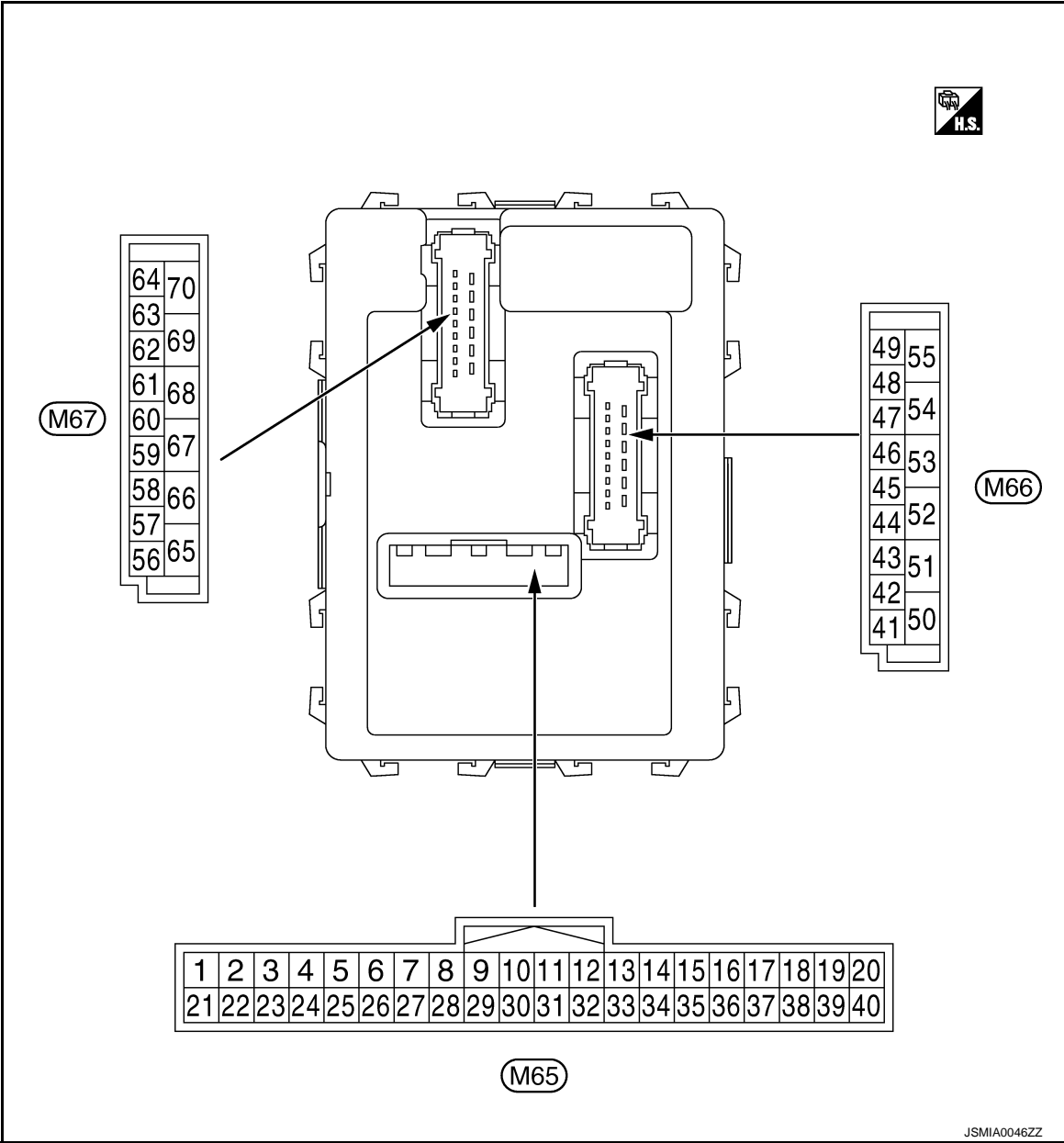
### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
HOOD SW	Close the hood <b>NOTE:</b> Vehicles of except for Mexico are OFF-fixed	Off
	Open the hood	On
OIL PRESS SW	<ul style="list-style-type: none"> <li>Ignition switch OFF or ACC</li> <li>Engine running</li> </ul>	Off
	Ignition switch ON	On
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	ID of front LH tire transmitter is registered	Done
	ID of front LH tire transmitter is not registered	Yet
ID REGST FR1	ID of front RH tire transmitter is registered	Done
	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
	ID of rear RH tire transmitter is not registered	Yet
ID REGST RL1	ID of rear LH tire transmitter is registered	Done
	ID of rear LH tire transmitter is not registered	Yet
WARNING LAMP	Tire pressure indicator OFF	Off
	Tire pressure indicator ON	On
BUZZER	Tire pressure warning alarm is not sounding	Off
	Tire pressure warning alarm is sounding	On

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

## TERMINAL LAYOUT



## PHYSICAL VALUES

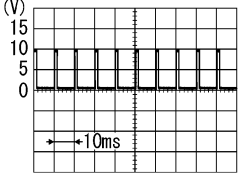
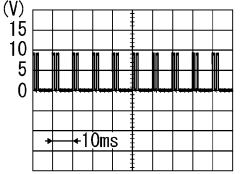
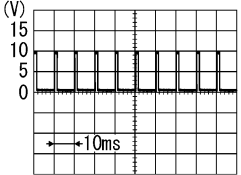
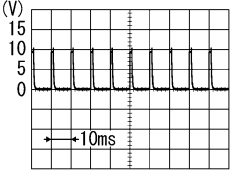
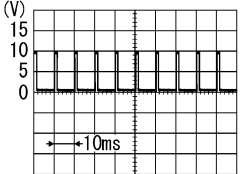
### CAUTION:

- Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF is not to be fluctuated by being overloaded.
- Turn wiper intermittent dial position to 4 except when checking waveform or voltage of wiper intermittent dial position. Wiper intermittent dial position can be confirmed on CONSULT. Refer to [BCS-26, "COMB SW : CONSULT Function \(BCM - COMB SW\)"](#).
- BCM reads the status of the combination switch at 10 ms internal normally. Refer to [BCS-9, "System Diagram"](#).

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
1 (V)	Ground	Ignition key hole illumination control	Output	Ignition key hole illumination	OFF	Battery voltage
					ON	0 V

# BCM (BODY CONTROL MODULE)

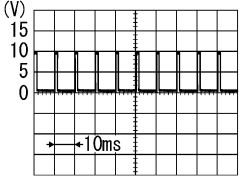
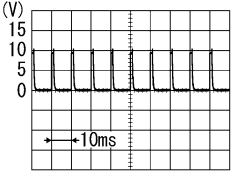
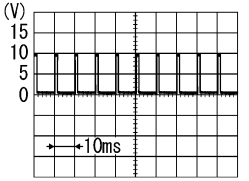
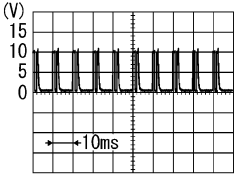
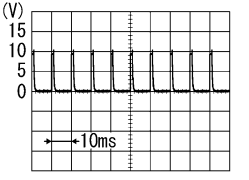
## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
2 (G)	Ground	Combination switch INPUT 5	Input	All switch OFF	0 V
				Turn signal switch RH	 <p>PKIB4959J</p>
				Lighting switch HI	
				Lighting switch 1ST	
				Lighting switch 2ND	 <p>PKIB4953J</p>
3 (Y)	Ground	Combination switch INPUT 4	Input	All switch OFF	0 V
				Turn signal switch LH	 <p>PKIB4959J</p>
				Lighting switch PASS	
				Lighting switch 2ND	
				Front fog lamp switch ON	 <p>PKIB4955J</p>
4 (W)	Ground	Combination switch INPUT 3	Input	All switch OFF	0 V
				Lighting switch AUTO	 <p>PKIB4959J</p>
				Front wiper switch LO	
				Front wiper switch MIST	
				Front wiper switch INT	

1.0 V

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
5 (R)	Ground	Combination switch INPUT 2	Input	Combination switch	All switch OFF (Wiper intermittent dial 4) 0 V
					Front washer switch (Wiper intermittent dial 4)
					Rear washer ON (Wiper intermittent dial 4)
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6
					 1.0 V
6 (P)	Ground	Combination switch INPUT 1	Input	Combination switch	Rear wiper switch ON (Wiper intermittent dial 4)  0.8 V
					All switch OFF (Wiper intermittent dial 4) 0 V
					Front wiper switch HI (Wiper intermittent dial 4)
					Rear wiper switch INT (Wiper intermittent dial 4)
					Wiper intermittent dial 3 (All switch OFF)  1.0 V
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2  1.7 V
					Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7  0.8 V

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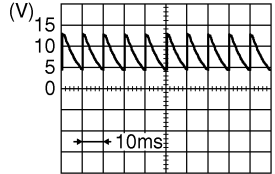
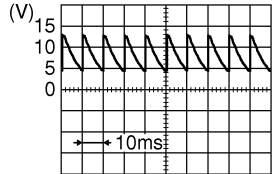
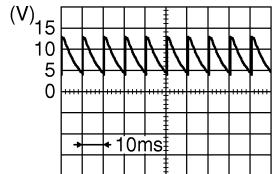
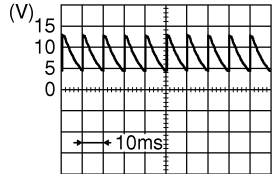
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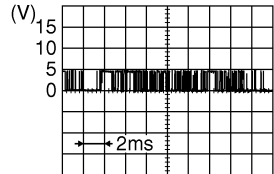
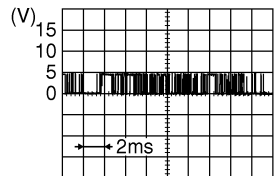
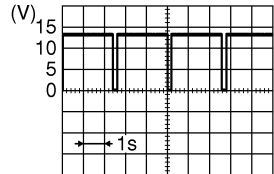
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
7 (L)	Ground	Door key cylinder switch UNLOCK signal	Input	Door key cylinder switch	NEUTRAL position	 <p>JPMIA0587GB</p> <p>8.0 - 8.5 V</p>
				Door key cylinder switch	UNLOCK position	0 V
8 (R)	Ground	Door key cylinder switch LOCK signal	Input	Door key cylinder switch	NEUTRAL position	 <p>JPMIA0587GB</p> <p>8.0 - 8.5 V</p>
				Door key cylinder switch	LOCK position	0 V
9 (R)	Ground	Stop lamp switch	Input	Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
				Stop lamp switch	ON (Brake pedal is depressed)	Battery voltage
10 (SB)	Ground	Rear window defogger switch	Input	Rear window defogger switch	Not pressed	Battery voltage
				Rear window defogger switch	Pressed	0 V
11 (SB)	Ground	Ignition switch ACC	Input	Ignition switch OFF		0 V
				Ignition switch ACC or ON		Battery voltage
12 (P)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	 <p>JPMIA0586GB</p> <p>7.5 - 8.0 V</p>
				Passenger door switch	ON (When passenger door opened)	0 V
13 (LG)	Ground	Rear door switch RH	Input	Rear door switch RH	OFF (When rear door RH closed)	 <p>JPMIA0587GB</p> <p>8.0 - 8.5 V</p>
				Rear door switch RH	ON (When rear door RH opened)	0 V

# BCM (BODY CONTROL MODULE)

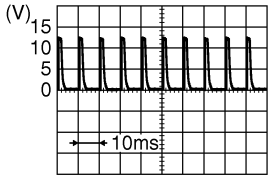
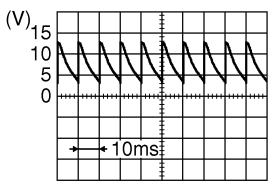
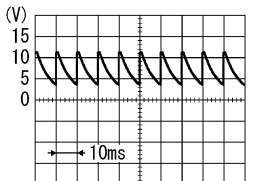
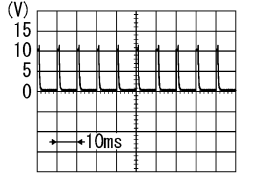
## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	−	Signal name	Input/ Output			
14 (G)	Ground	Optical sensor	Input	Ignition switch ON	When bright outside of the vehicle	Close to 5 V
					When dark outside of the vehicle	Close to 0 V
17 (W)	Ground	Optical sensor pow- er supply	Output	Ignition switch	OFF, ACC	0 V
					ON	5 V
18* (R)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V
19* (V)	Ground	Remote keyless en- try receiver power supply	Input	Without Intelli- gent Key sys- tem	At any condition	5 V
				With Intelligent Key system	<ul style="list-style-type: none"><li>Ignition switch OFF</li><li>For 3 seconds after ig- nition switch OFF to ON</li></ul>	0 V
					3 seconds or later after ig- nition switch OFF to ON	5 V
20* (GR)	Ground	Remote keyless en- try receiver signal	Input	Without Intelli- gent Key sys- tem	At any condition	 JPMIA0589GB <b>NOTE:</b> The wave form changes accord- ing to signal-receiving condition.
						With Intelligent Key system
				3 seconds or later after ig- nition switch OFF to ON	 JPMIA0589GB <b>NOTE:</b> The wave form changes accord- ing to signal-receiving condition.	
					21 (G)	Ground
23 (B)	Ground	Security indicator signal	Input	Security indica- tor	ON	0 V
					Blinking (Ignition switch OFF)	 JPMIA0590GB 12.0 V
					OFF	Battery voltage

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# BCM (BODY CONTROL MODULE)

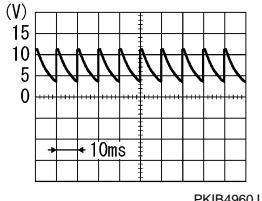
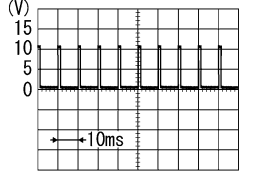
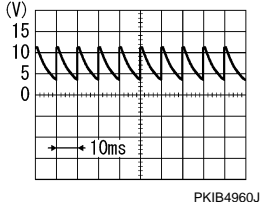
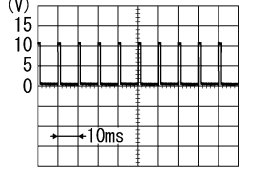
## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
25 (BR)	Ground	NATS antenna amp.	Input/ Output	Just after inserting ignition key in key cylinder		Pointer of tester should move
27 (Y)	Ground	A/C switch	Input	Ignition switch OFF		
				Ignition switch ON	A/C switch OFF	
					A/C switch ON	0 V
28 (LG)	Ground	Blower fan switch	Input	Ignition switch OFF		
				Ignition switch ON	Blower fan switch OFF	
					Blower fan switch ON	0 V
29 (W)	Ground	Hazard switch	Input	Hazard switch	OFF	Battery voltage
					ON	0 V
30 (G)	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	Battery voltage
					Pressed	0 V
32 (BR)	Ground	Combination switch OUTPUT 5	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	
					Front fog lamp switch ON (Wiper intermittent dial 4)	
					Rear wiper switch ON (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF <ul style="list-style-type: none"> <li>Wiper intermittent dial 1</li> <li>Wiper intermittent dial 2</li> <li>Wiper intermittent dial 6</li> <li>Wiper intermittent dial 7</li> </ul>	0 V



# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
33 (GR)	Ground	Combination switch OUTPUT 4	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 <p>7.2 V</p>
					Lighting switch 1ST (Wiper intermittent dial 4)	 <p>1.2 V</p>
					Lighting switch AUTO (Wiper intermittent dial 4)	
					Rear wiper switch INT (Wiper intermittent dial 4)	
34 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch	Any of the condition below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 5</li> <li>• Wiper intermittent dial 6</li> </ul>	 <p>7.2 V</p>
					Lighting switch 2ND (Wiper intermittent dial 4)	 <p>1.2 V</p>
					Lighting switch HI (Wiper intermittent dial 4)	
					Rear washer switch ON (Wiper intermittent dial 4)	

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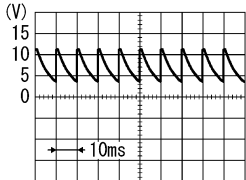
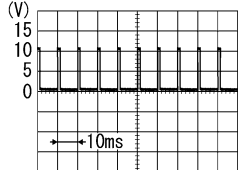
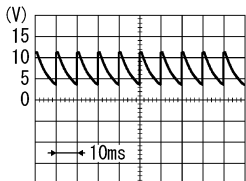
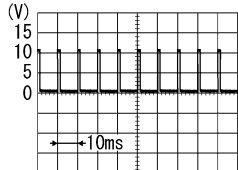
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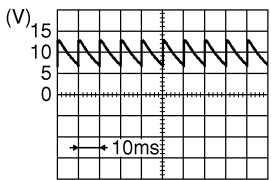
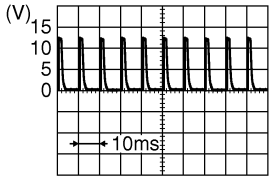
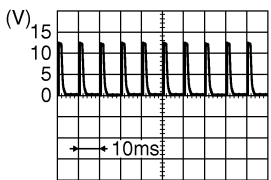
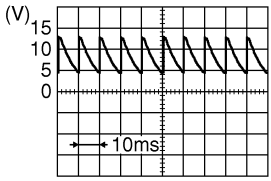
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
35 (B)	Ground	Combination switch OUTPUT 2	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	 7.2 V
					Lighting switch 2ND	 1.2 V
					Lighting switch PASS	
					Front wiper switch INT	
					Front wiper switch HI	
36 (V)	Ground	Combination switch OUTPUT 1	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	 7.2 V
					Turn signal switch RH	 1.2 V
					Turn signal switch LH	
					Front wiper switch LO (Front wiper switch MIST)	
					Front washer switch ON	
37 (LG)	Ground	Key switch	Input	Insert mechanical key into ignition key cylinder		Battery voltage
				Remove mechanical key from ignition key cylinder		0 V
38 (G)	Ground	Ignition switch ON	Input	Ignition switch OFF or ACC		0 V
				Ignition switch ON or START		Battery voltage
39 (L)	Ground	CAN-H	Input/ Output	—		—
40 (P)	Ground	CAN-L	Input/ Output	—		—

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

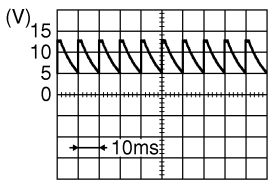
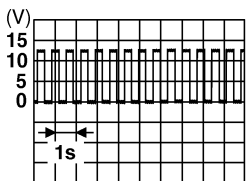
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
43 (V)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	 JPMIA0593GB 9.5 - 10.0 V
				Back door switch	ON (When back door opened)	0 V
44 (B)	Ground	Rear wiper auto stop position	Input	Ignition switch	Rear wiper stop position	0 V
				Ignition switch	Any position other than rear wiper stop position	Battery voltage
45 (P)	Ground	Door lock and unlock switch LOCK signal	Input	Door lock and unlock switch	NEUTRAL position	 JPMIA0591GB 1.6 V
				Door lock and unlock switch	LOCK position	0 V
46 (BR)	Ground	Door lock and unlock switch UNLOCK signal	Input	Door lock and unlock switch	NEUTRAL position	 JPMIA0591GB 1.6 V
				Door lock and unlock switch	UNLOCK position	0 V
47 (W)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	 JPMIA0587GB 8.0 - 8.5 V
				Driver door switch	ON (When driver door opened)	0 V

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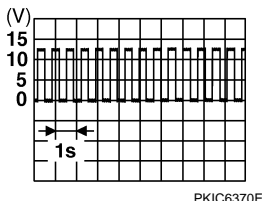
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
48 (GR)	Ground	Rear door switch LH	Input	Rear door switch LH	OFF (When rear door LH closed)	 8.5 - 9.0 V
				Rear door switch LH	ON (When rear door LH opened)	0 V
49 (L)	Ground	Luggage room lamp control	Output	Luggage room lamp switch DOOR position	Back door is closed (Luggage room lamp turns OFF)	Battery voltage
					Back door is opened (Luggage room lamp turns ON)	0 V
53 (V)	Ground	Back door open	Output	Back door opener switch	Not pressed (Back door actuator is activated)	0 V
					Pressed (Back door actuator is activated)	Battery voltage
55 (SB)	Ground	Rear wiper motor	Output	Ignition switch ON	Rear wiper switch OFF	0 V
					Rear wiper switch ON	Battery voltage
56 (Y)	Ground	Interior room lamp power supply	Output	After passing the interior room lamp battery saver operation time		0 V
				Any other time after passing the interior room lamp battery saver operation time		Battery voltage
57 (G)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
59 (L)	Ground	Driver door UN-LOCK	Output	Driver door	UNLOCK (Actuator is activated)	Battery voltage
					Other then UNLOCK (Actuator is not activated)	0 V
60 (BR)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch LH	 6.0 V

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
61 (GR)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch RH	 6.0 V
63 (R)	Ground	Interior room lamp timer control	Output	Interior room lamp	OFF	Battery voltage
					ON	0 V
65 (V)	Ground	All doors LOCK	Output	All doors	LOCK (Actuator is activated)	Battery voltage
					Other then LOCK (Actuator is not activated)	0 V
66 (G)	Ground	Passenger door and rear door UNLOCK	Output	Passenger door and rear door	UNLOCK (Actuator is activated)	Battery voltage
					Other then UNLOCK (Actuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Ignition switch ON		0 V
68 (L)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
69 (P)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF		Battery voltage
70 (Y)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage


\*: Except for Mexico with Intelligent Key

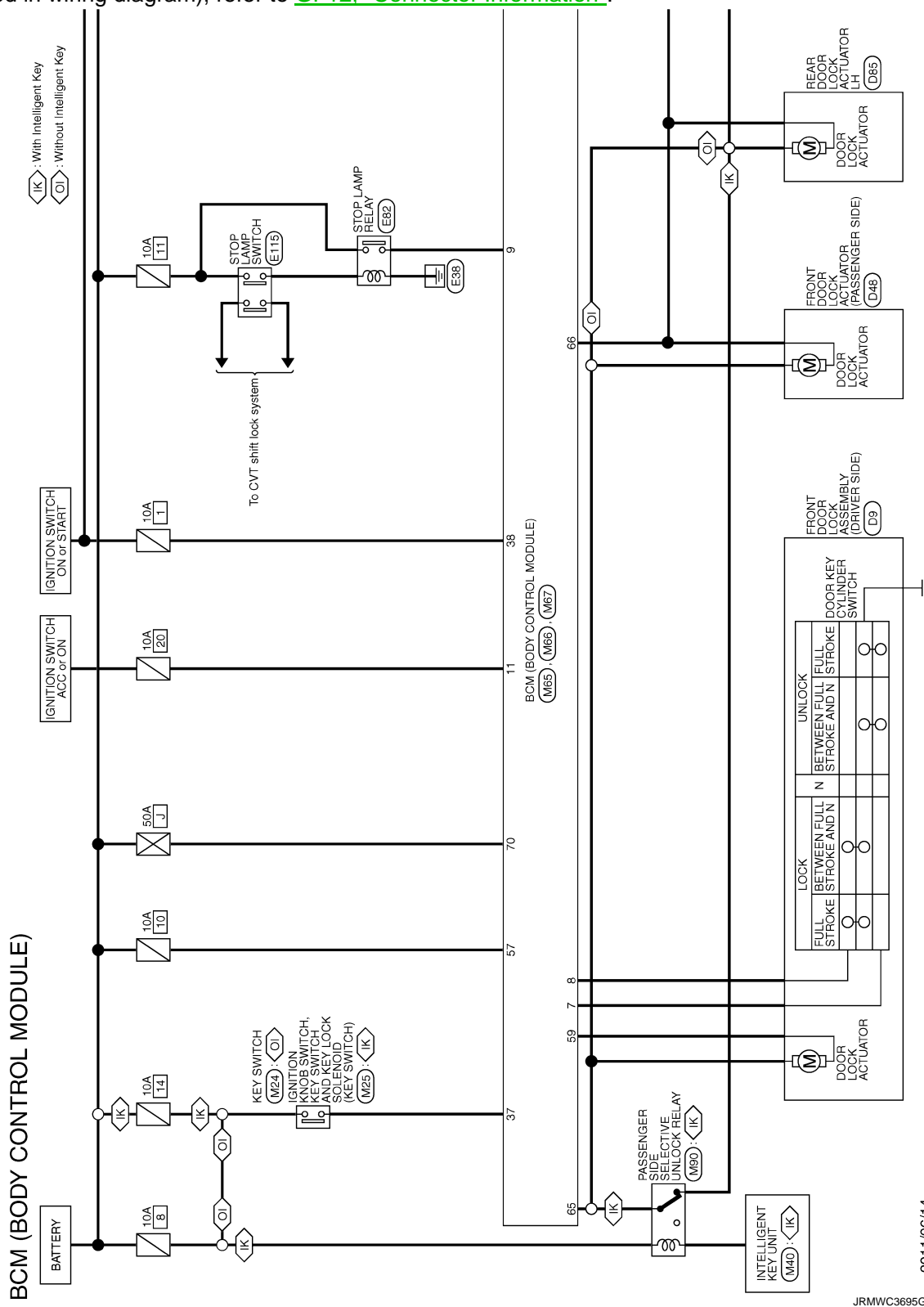
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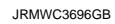
## Wiring Diagram - BCM -

INFOID:0000000007605198

For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-12, "Connector Information"](#).



< ECU DIAGNOSIS INFORMATION >

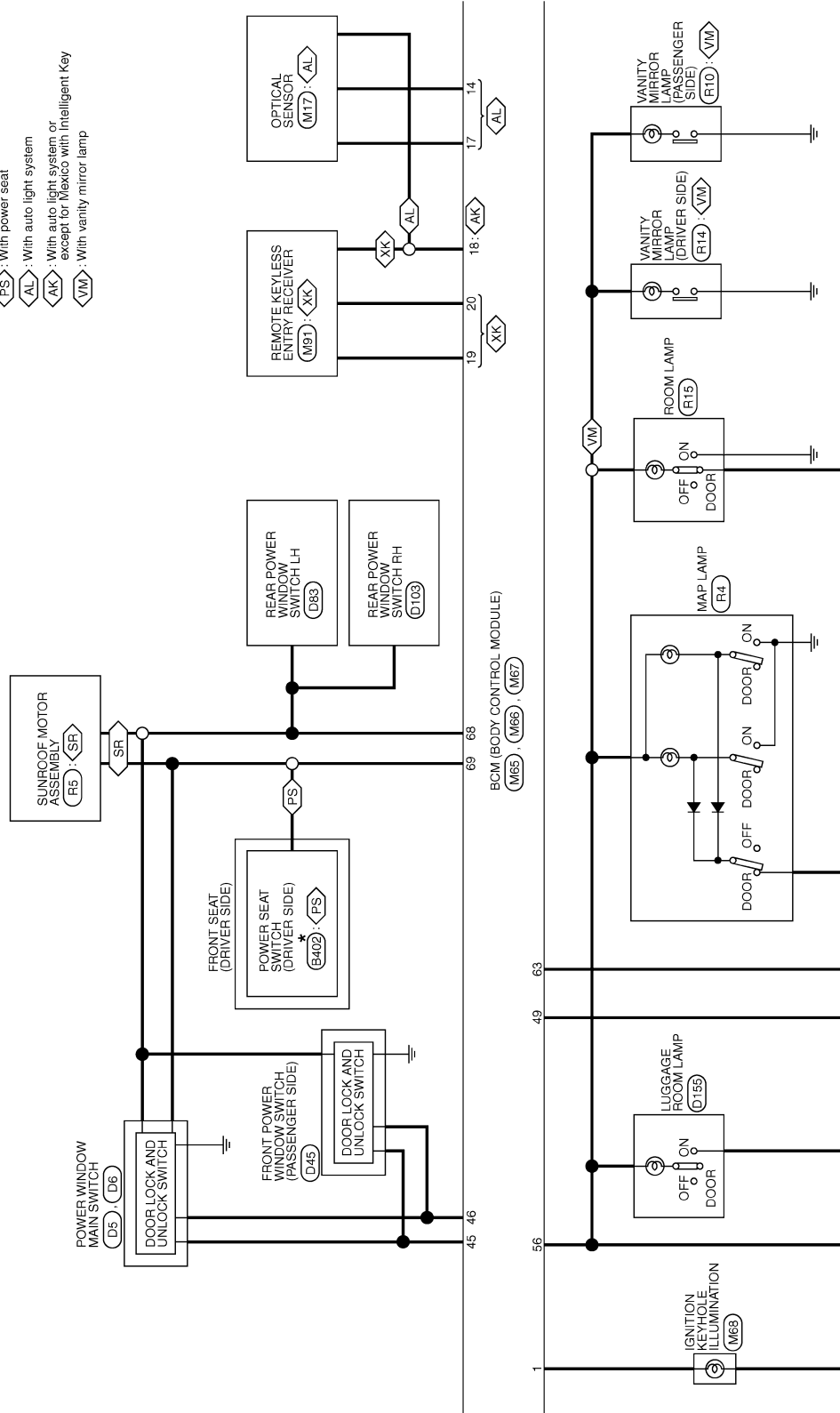


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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

- <XK> : Except for Mexico with Intelligent Key
- <SR> : With sunroof
- <PS> : With power seat
- <AL> : With auto light system
- <AK> : With auto light system or except for Mexico with Intelligent Key
- <VM> : With vanity mirror lamp



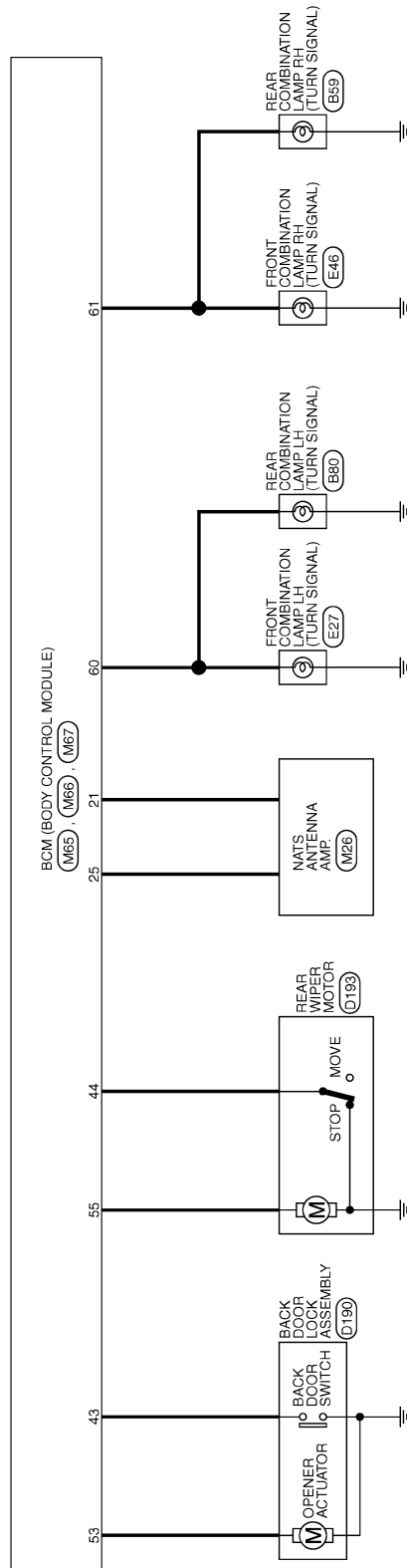
★: This connector is not shown in "Harness Layout".

JRMWC3697GB



# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >



JRMWC3698GB

INFOID:000000007605199

## Fail-safe

### REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper stop position signal. When the rear wiper stop position signal does not change more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

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## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

1. Pass more than 1 minute after the rear wiper stop.
2. Turn the rear wiper switch OFF.
3. Operate the rear wiper switch or rear washer switch.

### DTC Inspection Priority Chart

INFOID:000000007605200

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

Priority	DTC
1	U1000: CAN COMM CIRCUIT
2	C1735: IGN CIRCUIT OPEN
3	<ul style="list-style-type: none"> <li>• C1704: LOW PRESSURE FL</li> <li>• C1705: LOW PRESSURE FR</li> <li>• C1706: LOW PRESSURE RR</li> <li>• C1707: LOW PRESSURE RL</li> <li>• C1708: [NO DATA] FL</li> <li>• C1709: [NO DATA] FR</li> <li>• C1710: [NO DATA] RR</li> <li>• C1711: [NO DATA] RL</li> <li>• C1716: [PRESS DATA ERR] FL</li> <li>• C1717: [PRESS DATA ERR] FR</li> <li>• C1718: [PRESS DATA ERR] RR</li> <li>• C1719: [PRESS DATA ERR] RL</li> <li>• C1729: VHCL SPEED SIG ERR</li> </ul>

### DTC Index

INFOID:000000007605201

#### NOTE:

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

CONSULT display	Tire pressure monitor warning lamp ON	Reference
U1000: CAN COMM CIRCUIT	—	<a href="#">BCS-34</a>
C1704: LOW PRESSURE FL	×	<a href="#">WT-14</a>
C1705: LOW PRESSURE FR	×	
C1706: LOW PRESSURE RR	×	
C1707: LOW PRESSURE RL	×	
C1708: [NO DATA] FL	×	<a href="#">WT-16</a>
C1709: [NO DATA] FR	×	
C1710: [NO DATA] RR	×	
C1711: [NO DATA] RL	×	
C1716: [PRESS DATA ERR] FL	×	<a href="#">WT-19</a>
C1717: [PRESS DATA ERR] FR	×	
C1718: [PRESS DATA ERR] RR	×	
C1719: [PRESS DATA ERR] RL	×	
C1729: VHCL SPEED SIG ERR	×	<a href="#">WT-21</a>
C1735: IGN CIRCUIT OPEN	—	<a href="#">BCS-35</a>

# THE LIGHT REMINDER WARNING DOES NOT SOUND

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### THE LIGHT REMINDER WARNING DOES NOT SOUND

#### Description

INFOID:000000007352938

The light reminder warning chime does not sound under the following conditions.

- Lighting switch 1ST or 2ND position
- Driver door open
- Ignition switch except ON or START

#### Diagnosis Procedure

INFOID:000000007352939

#### 1.CHECK COMBINATION SWITCH (LIGHTING SWITCH) OPERATION

Check that the headlamps operate normally by operating the combination switch (lighting switch).

Do they operate normally?

YES >> GO TO 2.

NO >> Refer to [EXL-94. "Symptom Table"](#) (xenon type), [EXL-214. "Symptom Table"](#) (halogen type).

#### 2.CHECK FRONT DOOR SWITCH (DRIVER SIDE) SIGNAL CIRCUIT

Check the front door switch (driver side) signal circuit. Refer to [DLK-57. "Diagnosis Procedure"](#) (with Intelligent Key system), [DLK-277. "Diagnosis Procedure"](#) (without Intelligent Key system).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3.CHECK FRONT DOOR SWITCH (DRIVER SIDE)

Check the front door switch (driver side). Refer to [DLK-59. "Component Inspection"](#) (with Intelligent Key system), [DLK-279. "Component Inspection"](#) (without Intelligent Key system).

Is the inspection result normal?

YES >> Replace the BCM. Refer to [BCS-65. "Removal and Installation"](#).

NO >> Replace the front door switch (driver side). Refer to [DLK-242. "Removal and Installation"](#) (with Intelligent Key system), [DLK-409. "Removal and Installation"](#) (without Intelligent Key system).

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# THE SEAT BELT REMINDER WARNING DOES NOT SOUND

< SYMPTOM DIAGNOSIS >

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## THE SEAT BELT REMINDER WARNING DOES NOT SOUND

### Description

INFOID:000000007352940

Seat belt reminder warning chime does not sound.

### Trouble diagnosis procedure

INFOID:000000007352941

#### 1.CHECK COMBINATION METER INPUT SIGNAL

---

1. Connect the CONSULT.
2. Select the "Data Monitor" of "METER/M&A" and check the "BUCKLE SW" monitor value. Refer to [WCS-23. "Component Function Check"](#).

Is the inspection result normal?

- YES >> Replace combination meter.  
NO >> GO TO 2.

#### 2.CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE) SIGNAL CIRCUIT

---

Check the seat belt buckle switch (driver side) signal circuit. Refer to [WCS-23. "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.  
NO >> Repair the harnesses or connectors.

#### 3.CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE)

---

Check the seat belt buckle switch (driver side). Refer to [WCS-24. "Component Inspection"](#).

Is the inspection result normal?

- YES >> Replace combination meter.  
NO >> Replace the seat belt buckle switch (driver side). Refer to [SB-9. "SEAT BELT BUCKLE : Removal and Installation"](#).

# THE PARKING BRAKE RELEASE WARNING DOES NOT SOUND

< SYMPTOM DIAGNOSIS >

## THE PARKING BRAKE RELEASE WARNING DOES NOT SOUND

### Description

INFOID:000000007352942

The parking brake warning chime does not sound at all even though driving the vehicle with the parking brake applied.

### Diagnosis Procedure

INFOID:000000007352943

#### 1.CHECK PARKING BRAKE WARNING LAMP OPERATION

1. Connect the CONSULT.
2. Select the "Data Monitor" of "METER/M&A" and check the "PKB SW" monitor value. Refer to [WCS-23. "Component Function Check"](#).

Is the inspection result normal?

- YES >> Replace combination meter.  
NO >> GO TO 2.

#### 2.CHECK PARKING BRAKE SWITCH SIGNAL CIRCUIT

Check the parking brake switch signal circuit. Refer to [WCS-25. "Diagnosis Procedure"](#).

Is the inspection result normal?

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

#### 3.CHECK PARKING BRAKE SWITCH

Check the parking brake switch. Refer to [WCS-25. "Component Inspection"](#).

Is the inspection result normal?

- YES >> Replace combination meter. Refer to [MWI-69. "Removal and Installation"](#).  
NO >> Replace parking brake switch.

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# THE KEY WARNING DOES NOT SOUND

< SYMPTOM DIAGNOSIS >

## THE KEY WARNING DOES NOT SOUND

### Description

INFOID:000000007352944

The key warning chime does not sound under the following conditions.

- Key inserted into the ignition key cylinder (Key switch signal ON)
- Ignition switch except in ON or START (Ignition switch signal OFF)
- Front door switch (driver side) open. [Front door switch (driver side) signal ON]

### Diagnosis Procedure

INFOID:000000007352945

#### 1.CHECK BCM INPUT SIGNAL

1. Connect the CONSULT.
2. Select the "Data Monitor" of "BCM (BUZZER)" and check the "KEY ON SW" monitor value. Refer to [BCS-42, "Reference Value"](#).

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-65, "Removal and Installation"](#).  
NO >> GO TO 2.

#### 2.CHECK KEY SWITCH SIGNAL CIRCUIT

Check the key switch signal circuit. Refer to [DLK-285, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.  
NO >> Check applicable parts, and repair or replace corresponding parts.

#### 3.CHECK FRONT DOOR SWITCH (DRIVER SIDE) SIGNAL CIRCUIT

Check the front door switch (driver side) signal circuit. Refer to [DLK-277, "Diagnosis Procedure"](#).

Is the inspection result normal?

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

#### 4.CHECK FRONT DOOR SWITCH (DRIVER SIDE)

Check the front door switch (driver side). Refer to [DLK-279, "Component Inspection"](#).

Is the inspection result normal?

- YES >> Replace the BCM. Refer to [BCS-65, "Removal and Installation"](#).  
NO >> Replace the front door switch (driver side). Refer to [DLK-409, "Removal and Installation"](#).

# PRECAUTIONS

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## PRECAUTION

### PRECAUTIONS

#### FOR USA AND CANADA

#### FOR USA AND CANADA : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000007352946

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

#### **WARNING:**

**Always observe the following items for preventing accidental activation.**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, 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 "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### **WARNING:**

**Always observe the following items for preventing accidental activation.**

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

#### FOR MEXICO

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

INFOID:000000007352947

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

#### **WARNING:**

**Always observe the following items for preventing accidental activation.**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, 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 "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### **WARNING:**

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## PRECAUTIONS

### < PRECAUTION >

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Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.