## WCS B SECTION WARNING CHIME SYSTEM

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# < PRECAUTION > PRECAUTION PRECAUTIONS

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

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

#### WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### WARNING:

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

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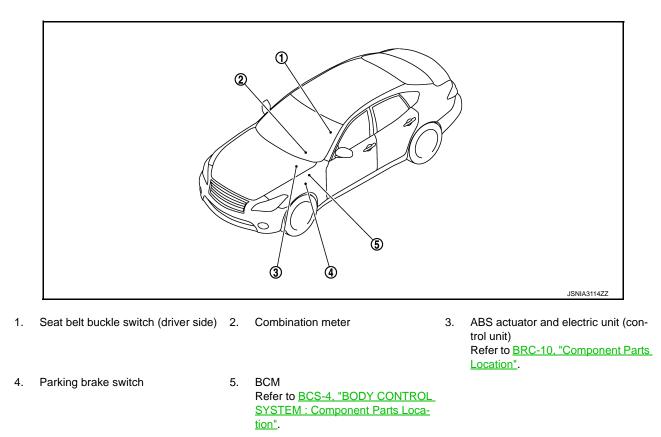
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#### < SYSTEM DESCRIPTION >

## SYSTEM DESCRIPTION COMPONENT PARTS

**Component Parts Location** 

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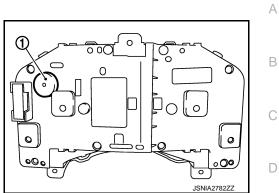
## **Component Description**

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Unit	Description	
Combination meter	<ul> <li>Receives a buzzer output signal from the BCM with CAN communication line and sounds the buzzer.</li> <li>Judges whether the parking brake is released from the vehicle speed signal received from the ABS actuator and electric unit (control unit) with CAN communication line and the parking brake switch signal from the parking brake switch, and sounds the buzzer if necessary.</li> </ul>	
BCM	Based on the signals received from various units and switches, transmits the buzzer output signal to the combination meter via CAN communication.	
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the combination meter via CAN communication.	
Parking brake switch	Transmits the parking brake switch signal to the combination meter.	
Seat belt buckle switch (driver side)	Transmits the seat belt buckle switch signal (driver side) to the combination meter.	

## **Combination Meter**

The buzzer (1) for the warning chime system is integrated in the combination meter.



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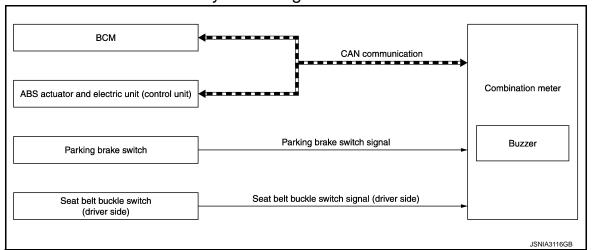
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## SYSTEM WARNING CHIME SYSTEM

## WARNING CHIME SYSTEM : System Diagram



## WARNING CHIME SYSTEM : System Description

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#### COMBINATION METER

The combination meter sounds the alarm buzzer installed in the combination meter when receiving the buzzer output signal transmitted from each unit.

#### BCM

BCM receives signals from various units and transmits a buzzer output signal to the combination meter via CAN communication if it judges that the warning buzzer should be activated.

#### WARNING CHIME FUNCTION LIST

Warning functions	Out line	Warning judgment unit	Refer to
Light reminder warning chime	The warning chime sounds when the ignition switch is in OFF or ACC position with the com- bination switch (lighting switch) in the 1st or 2nd position and the driver side door open.	BCM	WCS-8, "LIGHT RE- MINDER WARNING CHIME : Sys- tem Descrip- tion"
Front fog light reminder warning chime	The warning chime sounds when the ignition switch is turned to LOCK, OFF or ACC posi- tion from ON position, with combination switch (lighting switch) is in AUTO position and the front fog lamp switch in ON position.	BCM	WCS-10. "FRONT FOG LIGHT RE- MINDER WARNING CHIME : Sys- tem Descrip- tion"

#### < SYSTEM DESCRIPTION >

Warning functions	Out line	Warning judgment unit	Refer to	^
Seat belt warning chime	The warning chime sounds when the driver seat belt is unfastened with the ignition switch in ON position.	BCM	WCS-11, "SEAT BELT WARNING CHIME : Sys- tem Descrip- tion"	B
Parking brake release warning chime	The warning chime sounds when the ignition switch is in ON position with the parking brake in operation and the vehicle speed 7 km/h (4.3 MPH) or more.	Combination meter	WCS-12, "PARKING BRAKE RE- LEASE WARN- ING CHIME : System De- scription"	C

## WARNING CHIME SYSTEM : Fail-Safe

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#### FAIL-SAFE

The combination meter activates the fail-safe control if CAN communication with each unit is malfunctioning.

Function		Specifications
Speedometer		
Tachometer		Reset to zero by suspending communication.
Engine coolant temperat	ure gauge	
Illumination control		When suspending communication, changes to nighttime mode.
Information display	Odo/trip meter	An indicated value is maintained at communications blackout.
	Shift position indicator	The display turns OFF by suspending communication.
	Door open warning	
	Trunk open warning	The display turns OFF by suspending communication.
Buzzer		The buzzer turns OFF by suspending communication.

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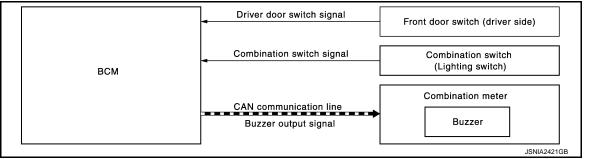
#### < SYSTEM DESCRIPTION >

Function		Specifications	
	ABS warning lamp		
	VDC warning lamp		
		VDC OFF indicator lamp	
	Brake warning lamp	<ul> <li>The lamp turns ON by suspending communication.</li> </ul>	
	IBA OFF indicator lamp		
	AWD warning lamp		
	Malfunction indicator lamp		
	CRUISE warning lamp		
		Low tire pressure warning lamp	<ul> <li>The lamp blinking caused by suspending communication.</li> </ul>
	AFS OFF indicator lamp		
Morning lown/indiantor lown	High beam indicator lamp		
Warning lamp/indicator lamp	Turn signal indicator lamp		
	Front fog lamp indicator lamp		
	Tail lamp indicator lamp		
	A/T CHECK indicator lamp		
	4WAS warning lamp	<ul> <li>The lamp turns OFF by suspending communication.</li> </ul>	
	Lane departure warning lamp		
-	LDP ON indicator lamp	_	
	Oil pressure warning lamp		
	ECO drive indicator		
	BSI ON indicator		
	BSW/BSI warning lamp		

## LIGHT REMINDER WARNING CHIME

## LIGHT REMINDER WARNING CHIME : System Diagram

INFOID:000000006039608



## LIGHT REMINDER WARNING CHIME : System Description

INFOID:000000006039609

#### WARNING CHIME OPERATION CONDITIONS

If all of the following conditions are fulfilled.

Operation conditions		
Ignition switch	OFF or ACC position	
Combination switch (Lighting switch)	1st or 2nd position	
Driver side door	Open [front door switch (driver side) ON]	

#### WARNING CHIME CANCEL CONDITIONS

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

## < SYSTEM DESCRIPTION >

Operation conditions	
Ignition switch	ON
Combination switch (Lighting switch)	OFF or AUTO position
Driver side door	Close [front door switch (driver side) OFF]

#### SIGNAL PATH

1. BCM requires warning chime output to combination meter when it judges light reminder warning chime is necessary from signals below.

Signal name	Signal path
Ignition switch signal	_
Combination switch signal	Combination switch (Lighting switch) BCM
Driver door switch signal	Front door switch (driver side) BCM

2. Combination meter sounds integrated buzzer, following the warning chime output requirement (below signal) from BCM.

Signal name	Signal path
Buzzer output signal	BCM CAN Combination meter

#### TIMING CHART

	ON – Ignition switch OFF or ACC –		l J
	1st or 2nd position – Combination switch (Lighting switch) OFF –		К
	Open – Driver door Close –		L
	ON – Buzzer OFF –		M WCS
FROM	IT FOG LIGHT REMIND	ER WARNING CHIME	
FRON	IT FOG LIGHT REMINDE	R WARNING CHIME : System Diagram	0
		Combination switch signal Combination switch (Lighting switch)	Ρ
	ВСМ	CAN communication line Buzzer output signal	
		JSNIA3117GB	

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#### < SYSTEM DESCRIPTION >

#### FRONT FOG LIGHT REMINDER WARNING CHIME : System Description INFOLD:00000000071429

#### WARNING CHIME OPERATION CONDITIONS

Warning chime sounds during 2 seconds when the ignition switch is in LOCK, OFF or ACC position, if all of below operation conditions is met.

Operation conditions		
Ignition switch	ON position	
Combination switch (Lighting switch)	AUTO position and front fog lamp switch ON position	

#### SIGNAL PATH

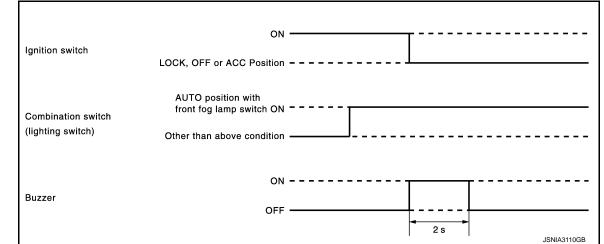
1. BCM requires warning chime output to combination meter when it judges front fog light reminder warning chime is necessary from signals below.

Signal name	Signal path
Ignition switch signal	_
Combination switch signal	Combination switch (Lighting switch)

## 2. Combination meter sounds integrated buzzer, following the warning chime output requirement (below signal) from BCM.

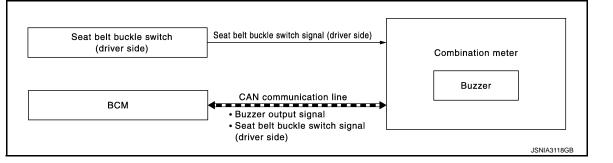
Signal name	Signal path
Buzzer output signal	BCM Combination meter

#### TIMING CHART



## SEAT BELT WARNING CHIME

## SEAT BELT WARNING CHIME : System Diagram

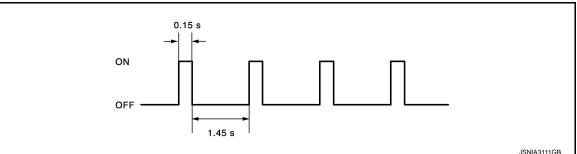


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SYSTEM DESC	RIPTIO	N >	
EAT BELT W	ARNIN	G CHIME : System Description	ID:000000006071433
ARNING OPER all of the following			
	y contaiti		
	Оре	eration conditions	
gnition switch	ON		
Driver seat belt	Unfaste	ned [seat belt buckle switch (driver side) ON]	
ARNING CANC	EL CO	NDITIONS	
/arning is cancele	d if any o	of the following conditions is fulfilled.	
		eration conditions	
Ignition switch	OFF		
Seat belt (driver side)		ed (driver side seat belt buckle switch OFF)	
6 seconds after the sta	art of warn	ing souna	
IGNAL PATH			
<ul> <li>BCM requires essary from signal</li> </ul>		chime output to combination meter when it judges seat belt warning chi	me is nec-
essary nom sig		оw.	
Signal name		Signal path	
Ignition switch signal			
Seat belt buckle switcl (driver side)	h signal	Seat belt buckle switch (driver side) Combination meter	
		nds integrated buzzer, following the warning chime output requirement	(below sig-
nal) from BCM			
Signal name		Signal path	
Signarhame			
Buzzer output signal		BCM Combination meter	
IMING CHART			
		ON	-
Ignition switc		OCK, OFF or ACC position	
		Fastened	_
Driver seat b	elt		-
		ON	
Buzzer			
		OFF	-
		6 s	
		6 s	

#### < SYSTEM DESCRIPTION >

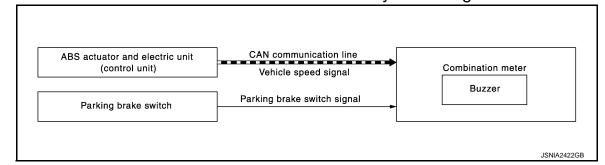
#### SOUND SPECIFICATION



## PARKING BRAKE RELEASE WARNING CHIME

PARKING BRAKE RELEASE WARNING CHIME : System Diagram

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## PARKING BRAKE RELEASE WARNING CHIME : System Description

INFOID:000000006039611

### WARNING OPERATION CONDITIONS

If all of the following conditions are fulfilled.

	Operation conditions
Ignition switch	ON
Parking brake	During the operation (parking brake switch ON)
Vehicle speed	Approximately 7 km/h (4.3 MPH) or more

#### WARNING CANCEL CONDITIONS

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

	Operation conditions
Ignition switch	OFF
Parking brake	Release condition (parking brake switch OFF)
Vehicle speed	Approximately 3 km/h (1.9 MPH) or less

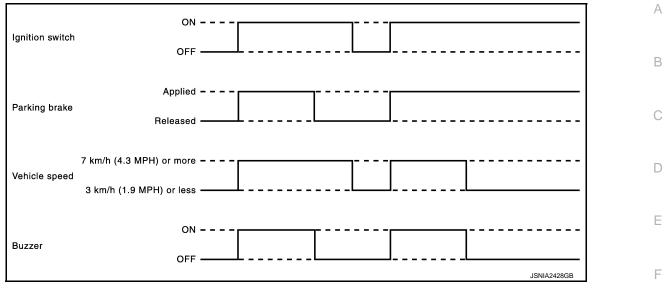
#### SIGNAL PATH

Combination meter sounds integrated buzzer when it judges that parking brake release warning chime is necessary from signals below.

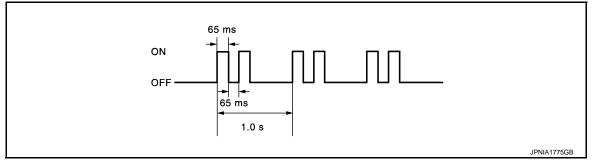
Signal name	Signal path
Ignition switch signal	-
Parking brake switch signal	Parking brake switch
Vehicle speed signal	ABS actuator and electric unit (control unit)

#### < SYSTEM DESCRIPTION >

## TIMING CHART



#### SOUND SPECIFICATION



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#### < SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (COMBINATION METER)

### **CONSULT-III** Function

INFOID:000000006113008

#### CONSULT-III APPLICATION ITEMS

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

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

#### SELF DIAG RESULT Refer to <u>MWI-43, "DTC Index"</u>.

#### 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]	Х	Fuel level indicated on combination meter.
W TEMP METER [°C]	x	Value of engine coolant temperature signal is received from ECM via CAN com- munication. <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 [On/Off]		Status of trunk open warning detected from trunk switch signal received from BCM via CAN communication.
HI-BEAM IND [On/Off]		Status of high beam indicator lamp detected from high beam request signal is re- ceived from BCM via CAN communication.

#### < 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.
FR FOG IND [On/Off]		Status of front fog light indicator lamp detected from front fog light request signal is received from BCM via CAN communication.
LIGHT IND [On/Off]		Status of light indicator lamp detected from position light request signal is received from BCM via CAN communication.
OIL W/L [On/Off]		<ul> <li>Status of oil pressure warning lamp detected from oil pressure switch signal is received from BCM via CAN communication. (VQ37VHR engine models)</li> <li>Status of oil pressure warning lamp detected from oil pressure warning lamp signal is received from ECM via CAN communication. (VK56VD engine models)</li> </ul>
MIL [On/Off]		Status of malfunction indicator lamp detected from malfunctioning indicator lamp signal is received from ECM via CAN communication.
GLOW IND [Off]		This item is displayed, but cannot be monitored.
CRUISE IND [On/Off]		<ul> <li>Status of CRUISE indicator detected from ASCD status signal is received from ECM via CAN communication. (ASCD models)</li> <li>Status of CRUISE indicator detected from meter display signal is received from ADAS control unit via CAN communication. (ICC models)</li> </ul>
SET IND [On/Off]		<ul> <li>Status of SET indicator detected from ASCD status signal is received from ECM via CAN communication. (ASCD models)</li> <li>Status of SET indicator detected from meter display signal is received from ADAS control unit via CAN communication. (ICC models)</li> </ul>
CRUISE W/L [On/Off]		Status of ICC warning lamp detected from ICC warning lamp signal is received from ADAS control unit via CAN communication.
BA W/L [On/Off]		Status of IBA OFF indicator lamp judged from IBA OFF indicator lamp signal re- ceived from ADAS control unit with CAN communication line.
ATC/T-AMT W/L [On/Off]		Status of A/T CHECK warning lamp judged from A/T CHECK indicator lamp signal received from TCM with CAN communication line.
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.
FUEL W/L [On/Off]		Low fuel warning status detected by the identified fuel level.
WASHER W/L [On/Off]		Status of low washer fluid warning judged from washer level switch input to com- bination meter.
AIR PRES W/L [On/Off]		Status of low tire pressure warning lamp judged from low tire pressure warning lamp signal received from BCM with CAN communication line.
KEY G/Y W/L [On/Off]		Status of Intelligent Key system malfunction detected from Intelligent Key warning display signal is received from BCM via CAN communication.
AFS OFF IND [On/Off]		Status of AFS OFF indicator lamp judged from AFS OFF indicator lamp signal re- ceived from AFS control unit with CAN communication line.
4WAS/RAS W/L [On/Off]		Status of 4WAS warning lamp judged from 4WAS warning lamp signal received from 4WAS main control unit with CAN communication line.
LANE W/L [On/Off]		Status of lane departure warning lamp judged from lane departure warning lamp signal received from ADAS control unit with CAN communication line.
LDP IND [On/Off]		Status of LDP ON indicator lamp judged from LDP ON indicator lamp signal re- ceived from ADAS control unit with CAN communication line.
LCD [B&P N, B&P I, ID NG, ROTAT, SFT P, INSRT, BATT, NO KY, OUTKY, LK WN]		Displays status of Intelligent Key system warning judged from meter display signal received from BCM with CAN communication line.
ACC TARGET [On/Off]		Status of vehicle ahead detection indicator judged from meter display signal re- ceived from ADAS control unit with CAN communication line.
ACC DISTANCE [Off, Short, Middle, Long]		Status of set distance indicator judged from meter display signal received from ADAS control unit with CAN communication line.

#### < SYSTEM DESCRIPTION >

Display item [Unit]	MAIN SIGNALS	Description
ACC OWN VHL [On/Off]		Status of own vehicle indicator judged from meter display signal received from ADAS control unit with CAN communication line.
ACC SET SPEED [On/Off]		Status of set vehicle speed indicator judged from meter display signal received from ADAS control unit with CAN communication line.
ACC UNIT [km/h/Off]		Status of display unit judged from meter display signal received from ADAS con- trol unit with CAN communication line.
SHIFT IND [P, R, N, D, M1, M2, M3, M4, M5, M6, M7]		Status of shift position indicator judged from shift position signal received from TCM with CAN communication line.
ECO DRIVE IND G [On/Off]		Status of ECO drive indicator (green) judged from ECO drive indicator control sig- nal received from ECM with CAN communication line.
ECO DRIVE IND O [On/Off]		Status of ECO drive indicator (orange) judged from ECO drive indicator control signal received from ECM with CAN communication line.
BSW IND [On/Off]		Status of BSI ON indicator (green) judged from BSI ON indicator signal received from ADAS control unit with CAN communication line.
BSW W/L [On/Off]		Status of BSW/BSI warning lamp (yellow) judged from BSW/BSI warning lamp signal received from ADAS control unit with CAN communication line.
DRIVE MODE STATS [SNOW, SN-EC, ECO, EC-ST, STD, ST-SP, SPORT, ERROR]		Status of drive mode select 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.
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.
ENTER SW [On/Off]		Status of 📮 (ENTER) switch.
SELECT SW [On/Off]		Status of (SELECT) switch.
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 dis- play. (Because the information display value is a corrected value from the ambient sensor input value.)

#### < SYSTEM DESCRIPTION >

Display item [Unit]	MAIN SIGNALS	Description	А
FUEL LOW SIG [On/Off]		Status of fuel level low warning signal to output to AV control unit via CAN com- munication.	
BUZZER [On/Off]	х	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.	В

#### NOTE:

Some items are not available according to vehicle specification.

#### SPECIAL FUNCTION

Special menu

Display item	Description	Е
W/L ON HISTORY	Lighting history of warning lamp and indicator lamp can be checked.	

W/L ON HISTORY

- Stores histories when warning/indicator lamp is turned on.
- "W/L ON 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 G and waiting for 30 seconds.
- 1 39: The number of times the engine was restarted after the 0 condition.
- NO W/L ON HISTORY: Stores NO (0) turning on history of warning/indicator lamp.

#### NOTE:

- W/L ON 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	Description	J
ABS W/L	Lighting history of ABS warning lamp.	
VDC/TCS IND	Lighting history of VDC OFF indicator lamp.	K
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.	L
TRUNK/GLAS-H	Lighting history of trunk open warning.	
OIL W/L	Lighting history of oil pressure warning lamp.	M
C-ENG W/L	Lighting history of malfunction indicator lamp.	111
C-ENG2 W/L	This item is displayed, but cannot be monitored.	
CRUISE IND	Lighting history of CRUISE indicator.	WCS
SET IND	Lighting history of SET indicator.	
CRUISE W/L	Lighting history of ICC warning lamp.	
BA W/L	Lighting history of IBA OFF indicator lamp.	0
O/D OFF IND	This item is displayed, but cannot be monitored.	
ATC/T-AMT W/L	Lighting history of A/T CHECK warning lamp.	P
ATF TEMP W/L	This item is displayed, but cannot be monitored.	
CVT IND	This item is displayed, but cannot be monitored.	
SPORT IND	This item is displayed, but cannot be monitored.	
4WD W/L	Lighting history of AWD warning lamp.	
FUEL W/L	Lighting history of low fuel level warning.	

#### Display Item

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#### < SYSTEM DESCRIPTION >

Display item	Description
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.
KEY R W/L	This item is displayed, but cannot be monitored.
KEY KNOB W/L	This item is displayed, but cannot be monitored.
EPS W/L	This item is displayed, but cannot be monitored.
e-4WD	This item is displayed, but cannot be monitored.
AFS OFF IND	Lighting history of AFS OFF indicator lamp.
4WAS/RAS W/L	Lighting history of 4WAS warning lamp.
HDC W/L	This item is displayed, but cannot be monitored.
SYS FAIL W/L	This item is displayed, but cannot be monitored.
SFT POSI W/L	This item is displayed, but cannot be monitored.
HV BAT W/L	This item is displayed, but cannot be monitored.
HEV BRAKE W/L	This item is displayed, but cannot be monitored.
SFT OPER W/L	This item is displayed, but cannot be monitored.
LANE W/L	Lighting history of lane departure warning lamp.
CHAGE W/L	This item is displayed, but cannot be monitored.
OIL LEV LOW	This item is displayed, but cannot be monitored.
DPF W/L	This item is displayed, but cannot be monitored.
TRAILER IND	This item is displayed, but cannot be monitored.
RUN FLAT W/L	This item is displayed, but cannot be monitored.
E-SUS W/L	This item is displayed, but cannot be monitored.
LAUNCH CNT W/L	This item is displayed, but cannot be monitored.
BSW W/L	Lighting history of BSW/BSI warning lamp (yellow).
FILTER W/L	This item is displayed, but cannot be monitored.
BRAKE PAD W/L	This item is displayed, but cannot be monitored.

# < SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:000000006113019

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#### APPLICATION ITEM

CONSULT-III performs the following functions via CAN communication with BCM.

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

#### 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.

0		Diagnosis mode		
System	Sub system selection item	Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
—	AIR CONDITONER*		×	×
<ul><li>Intelligent Key system</li><li>Engine start system</li></ul>	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
IVIS - NATS	IMMU	×	×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk lid open	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×

\*: This item is not used.

#### FREEZE FRAME DATA (FFD)

The BCM records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT-III.

## **DIAGNOSIS SYSTEM (BCM)**

#### < SYSTEM DESCRIPTION >

CONSULT screen item	Indication/Unit		Description	
Vehicle Speed	km/h	Vehicle speed of the mo	ment a particular DTC is detected	
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected		
	SLEEP>LOCK		While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK")	
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)	
	LOCK>ACC		While turning power supply position from "LOCK" to "ACC"	
	ACC>ON		While turning power supply position from "ACC" to "IGN"	
	RUN>ACC		While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)	
	CRANK>RUN		While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it)	
	RUN>URGENT		While turning power supply position from "RUN" to "ACC" (Emer- gency stop operation)	
	ACC>OFF		While turning power supply position from "ACC" to "OFF"	
	OFF>LOCK	Power position status of the moment a particular DTC is detected	While turning power supply position from "OFF" to "LOCK"	
Vehicle Condition	OFF>ACC		While turning power supply position from "OFF" to "ACC"	
	ON>CRANK		While turning power supply position from "IGN" to "CRANKING"	
	OFF>SLEEP		While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode	
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply position is "LOCK".) to low power consumption mode	
	LOCK		Power supply position is "LOCK" (Ignition switch OFF with steer- ing is locked.)	
	OFF		Power supply position is "OFF" (Ignition switch OFF with steering is unlocked.)	
	ACC		Power supply position is "ACC" (Ignition switch ACC)	
	ON		Power supply position is "IGN" (Ignition switch ON with engine stopped)	
	ENGINE RUN		Power supply position is "RUN" (Ignition switch ON with engine running)	
	CRANKING		Power supply position is "CRANKING" (At engine cranking)	
IGN Counter	0 - 39	<ul> <li>The number is 0 wher</li> <li>The number increases whenever ignition swit</li> </ul>	t ignition switch is turned ON after DTC is detected a malfunction is detected now. s like $1 \rightarrow 2 \rightarrow 338 \rightarrow 39$ after returning to the normal condition ich OFF $\rightarrow$ ON. o 39 until the self-diagnosis results are erased if it is over 39.	

## BUZZER

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

INFOID:000000006039614

#### CONSULT-III APPLICATION ITEMS

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

#### DATA MONITOR

## **DIAGNOSIS SYSTEM (BCM)**

#### < SYSTEM DESCRIPTION >

Display item [Unit]	Description
PUSH SW Dn/Off]	Status of push-button ignition switch judged by BCM.
JNLK SEN-DR On/Off]	Status of unlock sensor judged by BCM.
/EH SPEED 1 km/h]	Value of vehicle speed signal received from combination meter with CAN communication line.
AIL LAMP SW On/Off]	Status of lighting switch judged by BCM using the combination switch readout function.
R FOG SW On/Off]	Status of front fog lamp switch judged by BCM using the combination switch readout function.
DOOR SW-DR On/Off]	Status of driver side door switch judged by BCM.
CDL LOCK SW On/Off]	Status of door lock unlock switch judged by BCM.

#### ACTIVE TEST

Display item [Unit]	Description	G
SEAT BELT WARN TEST	The seat belt warning chime operation can be checked by operating the relevant function (On/Off).	-
LIGHT WARN ALM	The light warning chime operation can be checked by operating the relevant function (On/Off).	Н

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## ECU DIAGNOSIS INFORMATION COMBINATION METER

#### **Reference Value**

INFOID:000000006106599

#### 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 malfunc- tion 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 malfunc- tion signal is received
ODO OUTPUT [km/h or mph]	Ignition switch ON	_	Output value of odometer signal (CAN communication signal)
TACHO METER [rpm]	Ignition switch ON	Engine running	Input value of engine speed signal (CAN communication signal) <b>NOTE:</b> 8191.875 is displayed when the mal- function signal is received
FUEL METER [L]	Ignition switch ON	_	Input value of fuel level sensor signal
W TEMP METER [°C]	Ignition switch ON	_	Input value of engine coolant tempera- ture signal (CAN communication sig- nal) <b>NOTE:</b> 215 is displayed when the malfunction signal is input
ABS W/L	Ignition switch	ABS warning lamp ON	On
ABS W/L	ON	ABS warning lamp OFF	Off
VDC/TCS IND	Ignition switch	VDC OFF indicator lamp ON	On
	ON	VDC OFF indicator lamp OFF	Off
SLIP IND	Ignition switch	VDC warning lamp ON	On
	ON	VDC warning lamp OFF	Off
BRAKE W/L	Ignition switch	Brake warning lamp ON	On
	ON	Brake warning lamp OFF	Off
DOOR W/L	Ignition switch	Door open warning ON	On
boontine	ON	Door open warning OFF	Off
TRUNK/GLAS-H	Ignition switch	Trunk open warning ON	On
	ON	Trunk open warning OFF	Off
HI-BEAM IND	Ignition switch	High-beam indicator lamp ON	On
	ON	High-beam indicator lamp OFF	Off
TURN IND	Ignition switch	Turn signal indicator lamp ON	On
	ON	Turn signal indicator lamp OFF	Off
FR FOG IND	Ignition switch	Front fog lamp indicator lamp ON	On
	ON	Front fog lamp indicator lamp OFF	Off

## < ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Value/Status	Α
LIGHT IND	Ignition switch	Light indicator lamp ON	On	Α
	<b>ON</b>	Tail lamp indicator lamp OFF	Off	
OIL W/L	Ignition switch	Oil pressure warning lamp ON	On	В
	ON	Oil pressure warning lamp OFF	Off	
NAU	Ignition switch	Malfunction indicator lamp ON	On	
MIL	ŌN	Malfunction indicator lamp OFF	Off	С
GLOW IND	Ignition switch ON	NOTE: This item is displayed, but cannot be moni- tored.	Off	D
	Ignition switch	CRUISE indicator ON	On	
CRUISE IND	ŎN	CRUISE indicator OFF	Off	
	Ignition switch	SET indicator ON	On	E
SET IND	ŎN	SET indicator OFF	Off	
	Ignition switch	CRUISE warning lamp ON	On	F
CRUISE W/L	<b>ON</b>	CRUISE warning lamp OFF	Off	
BA W/L	Ignition switch	IBA OFF indicator lamp ON	On	
ŐN		IBA OFF indicator lamp OFF	Off	G
ATC/T-AMT W/L	Ignition switch	A/T check warning lamp ON	On	
	ON	A/T check warning lamp OFF	Off	H
4WD W/L	Ignition switch	AWD warning lamp ON	On	
4000 W/L	ON	AWD warning lamp OFF	Off	
FUEL W/L	Ignition switch	During low fuel warning indication	On	
	ON	Other than the above	Off	
WASHER W/L	Ignition switch	During low washer fluid warning indication	On	J
WASHER W/L	ON	Other than the above	Off	
AIR PRES W/L	Ignition switch	Low tire pressure warning lamp ON	On	
AIR FRES W/E	ON	Low tire pressure warning lamp OFF	Off	K
KEY G/Y W/L	Ignition switch ON	During Intelligent Key system malfunction indication	On	
	ON	Other than the above	Off	L
AFS OFF IND	Ignition switch	AFS OFF indicator lamp ON	On	
	ON	AFS OFF indicator lamp OFF	Off	M
4WAS/RAS W/L	Ignition switch	4WAS warning lamp ON	On	
	ON	4WAS warning lamp OFF	Off	
LANE W/L	Ignition switch	Lane departure warning lamp ON	On	WC
	ŌN	Lane departure warning lamp OFF	Off	
LDP IND	Ignition switch	LDP ON indicator lamp ON	On	0
	<b>ON</b>	LDP ON indicator lamp OFF	Off	0

## < ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Value/Status
	Ignition switch ON	During engine start information indication	B&P I
	Ignition switch ACC	During engine start information indication	B&P N
	Ignition switch LOCK	During key ID warning indication	ID NG
	Ignition switch LOCK	During steering lock information indication	ROTAT
	Ignition switch LOCK	During P position warning indication	SFT P
LCD	Ignition switch LOCK	During Intelligent Key insert information in- dication	INSRT
	Ignition switch LOCK	During Intelligent Key low battery warning indication	BATT
	Ignition switch ON	During take away warning indication	NO KY
	Ignition switch LOCK	During key warning indication	OUTKY
	Ignition switch ON	During ACC warning indication	LK WN
ACC TARGET	Ignition switch	During vehicle ahead detection indicator in- dication	On
	ON	Other than the above	Off
		When following distance set to "LONG"	LONG
	Ignition switch	When following distance set to "MIDDLE"	MID
ACC DISTANCE	<b>ON</b>	When following distance set to "SHORT"	SHORT
		Set distance indicator not displayed	Off
ACC OWN VHL	Ignition switch	During own vehicle indicator indication	On
	ON	Other than the above	Off
ACC SET SPEED	Ignition switch	During set vehicle speed indicator not dis- played	Off
NOU OLI OF EED	ON	During set vehicle speed indicator dis- played	Indicates the set vehicle speed
ACC UNIT	Ignition switch	Set vehicle speed indicator unit display ON	On
	ON	Set vehicle speed indicator unit display OFF	Off

#### < ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Value/Status
		During the indication of "P" by shift position indicator	Р
		During the indication of "R" by shift position indicator	R
		During the indication of "N" by shift position indicator	Ν
		During the indication of "D" by shift position indicator	D
		During the indication of "M1" by shift posi- tion indicator	M1
SHIFT IND	Ignition switch ON	During the indication of "M2" by shift posi- tion indicator	M2
		During the indication of "M3" by shift posi- tion indicator	М3
		During the indication of "M4" by shift posi- tion indicator	M4
		During the indication of "M5" by shift posi- tion indicator	M5
		During the indication of "M6" by shift posi- tion indicator	M6
		During the indication of "M7" by shift posi- tion indicator	M7
ECO DRIVE IND G	Ignition switch	ECO drive indicator (green) ON	On
	ON	ECO drive indicator (green) OFF	Off
ECO DRIVE IND O	Ignition switch	ECO drive indicator (orange) ON	On
	ON	ECO drive indicator (orange) OFF	Off
SW IND		BSI ON indicator (green) ON	On
	ON	BSI ON indicator (green) OFF	Off
BSW W/L	Ignition switch	BSW/BSI warning lamp (yellow) ON	On
	ON	BSW/BSI warning lamp (yellow) OFF	Off
		Drive mode select switch in SNOW position	SNOW
		Drive mode select switch in between SNOW and ECO position	SN-EC
		Drive mode select switch in ECO position	ECO
		Drive mode select switch in between ECO and ● (STANDARD mode)	EC-ST
DRIVE MODE STATS	Ignition switch ON	Drive mode select switch • (STANDARD mode) position	STD
		Drive mode select switch in between ● (STANDARD mode) and SPORT	ST-SP
		Drive mode select switch in SPORT posi- tion	SPORT
		Reception of an abnormal signal other than those above	ERROR
M RANGE SW	Ignition switch	Selector lever in manual mode position	On
	ON	Other than the above	Off
NM RANGE SW	Ignition switch	Selector lever in manual mode position	Off
	ON	Other than the above	On
AT SFT UP SW	Ignition switch	Selector lever in + position	On
	ON	Other than the above	Off

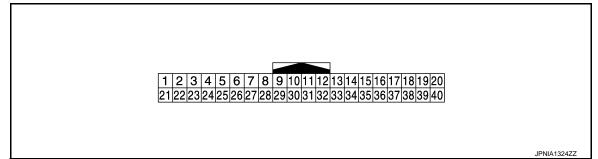
#### < ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Value/Status
AT SFT DWN SW	Ignition switch	Selector lever in – position	On
AT SET DIVIN SW	ON	Other than the above	Off
ST SFT UP SW	Ignition switch	Paddle shifter in + position	On
31 3FT UF 3W	ON	Other than the above	Off
ST SFT DWN SW	Ignition switch	Paddle shifter in – position	On
ST SFT DWIN SW	ON	Other than the above	Off
PKB SW	Ignition switch	Parking brake switch ON	On
PKD SW	ON	Parking brake switch OFF	Off
BUCKLE SW	Ignition switch	Driver seat belt not fastened	On
BUCKLE SW	ŌN	Driver seat belt fastened	Off
	Ignition switch	Brake fluid level switch ON	On
BRAKE OIL SW	<b>ON</b>	Brake fluid level switch OFF	Off
ENTER SW	Ignition switch ON	When 🖬 switch (enter switch) is pressed	On
		Other than above	Off
SELECT SW	Ignition switch	When switch (select switch) is pressed	On
	ON	Other than above	Off
DISTANCE [km]	Ignition switch ON	_	Distance to empty calculated by com- bination 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	During low fuel warning indication	On
FUEL LUW SIG	ŌN	Other than above	Off
BUZZER	Ignition switch	Buzzer ON	On
DULLER	ŎN	Buzzer OFF	Off

#### NOTE:

Some items are not available according to vehicle specification.

#### **TERMINAL LAYOUT**



#### PHYSICAL VALUES

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
2 (BG)	Ground	Ignition signal	Input	Ignition switch ON	_	Battery voltage
3 (GR)	Ground	Vehicle speed signal (2-pulse)	Output	Ignition switch ON	Speedometer operated [When vehicle speed is ap- prox. 40 km/h (25 MPH)]	NOTE: The maximum voltage varies depending on the specification (destination unit).
4 (R)	Ground	Vehicle speed signal (8-pulse)	Output	Ignition switch ON	Speedometer operated [When vehicle speed is ap- prox. 40 km/h (25 MPH)]	NOTE: The maximum voltage varies de- pending on the specification (destination unit). 0 0 0 0 0 0 0 0 0 0 0 0 0
					<ul> <li>Lighting switch 1ST position</li> <li>When meter illumination is maximum</li> </ul>	(V) 15 10 5 0 2.5 ms JPNIA1687GB
5 (B)	Ground	Illumination control signal	Output	Ignition switch ON	<ul> <li>Lighting switch 1ST position</li> <li>When meter illumination is step 11</li> </ul>	(V) 15 0 2.5 ms JPNIA1686GB
					<ul> <li>Lighting switch 1ST position</li> <li>When meter illumination is minimum</li> </ul>	12 V
7 (SB)	6 (B)	Enter switch signal	Input	Ignition switch	When 📮 switch (enter switch) is pressed	0 V
()	(-)			ON	Other than the above	5 V

#### < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description			Condition	Value
+	_	Signal name	Input/ Output	Condition		(Approx.)
8 (LG)	6 (B)	Select switch signal	Input	Ignition switch	When switch (select switch) is pressed	0 V
(/	(-)			ON	Other than the above	5 V
9 (G)	6 (B)	Illumination control switch signal (+)	Input	Ignition switch ON	When C <sup>*</sup> switch [illumi- nation control switch (+)] is pressed	0 V
				-	Other than the above	5 V
10 (GR)	6 (B)	Illumination control switch signal (–)	Input	Ignition switch ON	When C switch [illumi- nation control switch (-)] is pressed	0 V
					Other than the above	5 V
11 (L)	6 (B)	Trip reset switch signal	Input	Ignition switch	When trip reset switch is pressed	0 V
(Ľ)	(B)			ON	Other than the above	5 V
12 (B)	Ground	Ground	_	Ignition switch ON	_	0 V
14 (L)	_	CAN-H	_		_	_
15 (P)	_	CAN-L		_	_	_
16	Oraciand		la a st	Ignition	Air bag warning lamp ON	3 V
(R)	Ground	Air bag signal	Input	switch ON	Air bag warning lamp OFF	0 V
23 (B)	Ground	Ground	_	Ignition switch ON	_	0 V
25				Ignition	Charge warning lamp ON	2 V
(W)	Ground	Alternator signal	Input	switch ON	Charge warning lamp OFF	Battery voltage
26				Ignition	Parking brake applied	0 V
(V)	Ground	Parking brake switch signal	Input	switch ON	Parking brake released	12 V
27		Brake fluid level switch sig-		Ignition	Brake fluid level is normal	12 V
(V)	Ground	nal	Input	switch ON	The brake fluid level is low- er than the low level	0 V
28				Ignition	Security indicator lamp ON	0 V
(G)	Ground	Security signal	Input	switch ON	Security indicator lamp OFF	12 V
29	0	Mechanization to the state of the	less (	Ignition	Washer level switch ON	0 V
(L)	Ground	Washer level switch signal	Input	switch ON	Washer level switch OFF	5 V
32 (G)	Ground	Paddle shifter shift down signal	Input	Ignition switch	Paddle shifter shift down operation	0 V
				ON	Other than the above	12 V
33 (BG)	Ground	Paddle shifter shift up sig- nal	Input	Ignition switch	Paddle shifter shift up oper- ation	0 V
(50)				ON	Other than the above	12 V

#### < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description			Condition	Value		
+	_	Signal name	Input/ Output		Condition	(Approx.)		
34 (G)	24 (B)	Fuel level sensor signal	Input	Ignition switch ON		(V) 8 7 6 5 0 1/4 1/2 3/4 1 JSNIA2672ZZ		
35	Ground	Seat belt buckle switch sig-	Input	Ignition switch	When driver seat belt is fas- tened	12 V		
(W)	Cround	nal (driver side)	mpar	ON	When driver seat belt is un- fastened	0 V		
36	Ground	Passenger seat belt warn-	lpr::t	Ignition	<ul> <li>When driver seat belt is fastened</li> <li>When getting in the passenger seat</li> <li>When passenger seat belt is fastened</li> </ul>	12 V		
(G)	Ground	ing signal	Input		switch ON	<ul> <li>When driver seat belt is fastened</li> <li>When getting in the passenger seat</li> <li>When passenger seat belt is unfastened</li> </ul>	0 V	
37 (G)	Ground	Non-manual mode signal	Input	Ignition switch	Selector manual mode po- sition	12 V		
(0)				ON	Other than the above	0 V		
38 (V)	Ground	Manual mode shift down	Input	Ignition switch	Selector lever shift down operation	0 V		
(v)		S	signal	signai	signal	ON	Other than the above	12 V
39 (L)	Ground	Manual mode shift up sig- nal	Input	Ignition switch	Selector lever shift up oper- ation	0 V		
(-)				ON	Other than the above	12 V		
40 (W)	Ground	Manual mode signal	Input	Ignition switch	Selector manual mode po- sition	0 V		
(**)				ON	Other than the above	12 V		

## Fail-Safe

INFOID:000000006106600

#### FAIL-SAFE

The combination meter activates the fail-safe control if CAN communication with each unit is malfunctioning.

Function	Specifications	0
Speedometer		
Tachometer	Reset to zero by suspending communication.	Ρ
Engine coolant temperature gauge	-	
Illumination control	When suspending communication, changes to nighttime mode.	

#### < ECU DIAGNOSIS INFORMATION >

	Function	Specifications
	Odo/trip meter	An indicated value is maintained at communications blackout.
Information display	Shift position indicator	The display turns OFF by suspending communication.
intornation display	Door open warning	- The display turns OFF by suspending communication.
	Trunk open warning	
Buzzer		The buzzer turns OFF by suspending communication.
	ABS warning lamp	
	VDC warning lamp	
	VDC OFF indicator lamp	
	Brake warning lamp	<ul> <li>The lamp turns ON by suspending communication.</li> </ul>
	IBA OFF indicator lamp	
	AWD warning lamp	-
_	Malfunction indicator lamp	
	CRUISE warning lamp	
	Low tire pressure warning lamp	The laws blinking several by even anding communication
	AFS OFF indicator lamp	<ul> <li>The lamp blinking caused by suspending communication.</li> </ul>
Morning lown/indiactor lown	High beam indicator lamp	
Warning lamp/indicator lamp	Turn signal indicator lamp	-
	Front fog lamp indicator lamp	-
	Tail lamp indicator lamp	-
	A/T CHECK indicator lamp	
	4WAS warning lamp	<ul> <li>The lamp turns OFF by suspending communication.</li> </ul>
	Lane departure warning lamp	
	LDP ON indicator lamp	
	Oil pressure warning lamp	1
	ECO drive indicator	
	BSI ON indicator	
	BSW/BSI warning lamp	1

## DTC Index

INFOID:000000006106601

Display contents of CONSULT-III	Diagnostic item is detected when	Refer to
CAN COMM CIRCUIT [U1000]	When combination meter is not transmitting or receiving CAN communication signal for 2 seconds or more.	<u>MWI-65,</u> "Diagnosis Procedure"
CONTROL UNIT (CAN) [U1010]	When detecting error during the initial diagnosis of the CAN controller of combina- tion meter.	<u>MWI-66,</u> "Diagnosis Procedure"
VEHICLE SPEED [B2205]	The abnormal vehicle speed signal is input from the ABS actuator and electric unit (control unit) for 2 seconds or more.	<u>MWI-67,</u> "Diagnosis Procedure"
ENGINE SPEED [B2267]	If ECM continuously transmits abnormal engine speed signals for 2 seconds or more.	<u>MWI-68,</u> "Diagnosis Procedure"
WATER TEMP [B2268]	If ECM continuously transmits abnormal engine coolant temperature signals for 60 seconds or more.	<u>MWI-69,</u> "Diagnosis Procedure"

#### BCM

## < ECU DIAGNOSIS INFORMATION > BCM

## List of ECU Reference

INFOID:000000006106581

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ECU	Reference	
	BCS-32, "Reference Value"	
DOM	BCS-52, "Fail-safe"	C
BCM	BCS-54, "DTC Inspection Priority Chart"	
	BCS-55, "DTC Index"	_

WCS

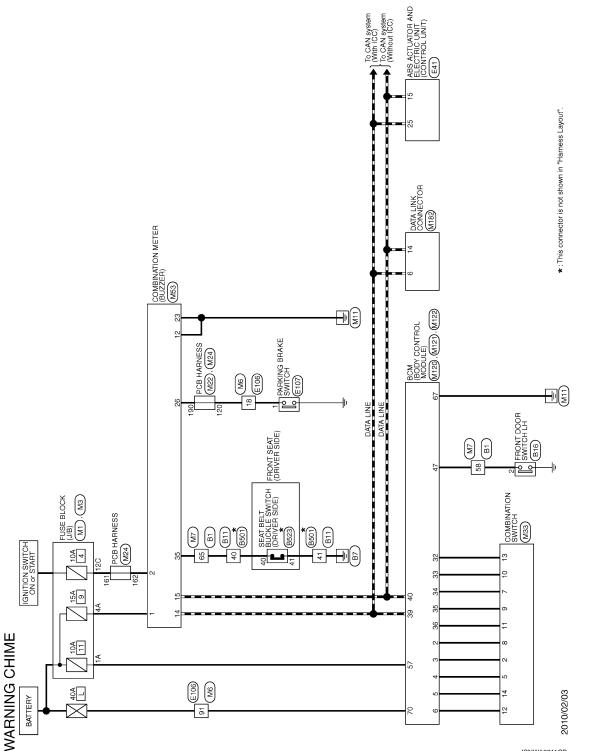
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< WIRING DIAGRAM >

## WIRING DIAGRAM

WARNING CHIME SYSTEM

Wiring Diagram

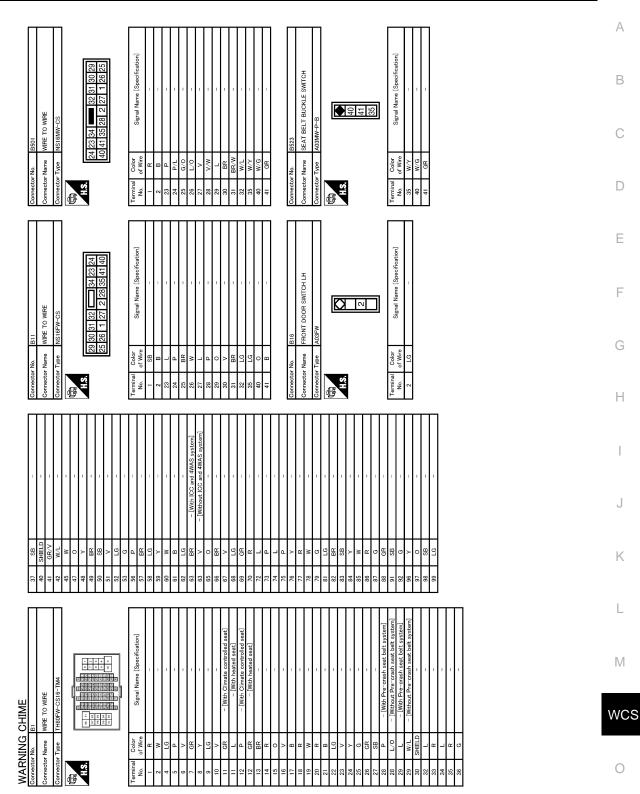


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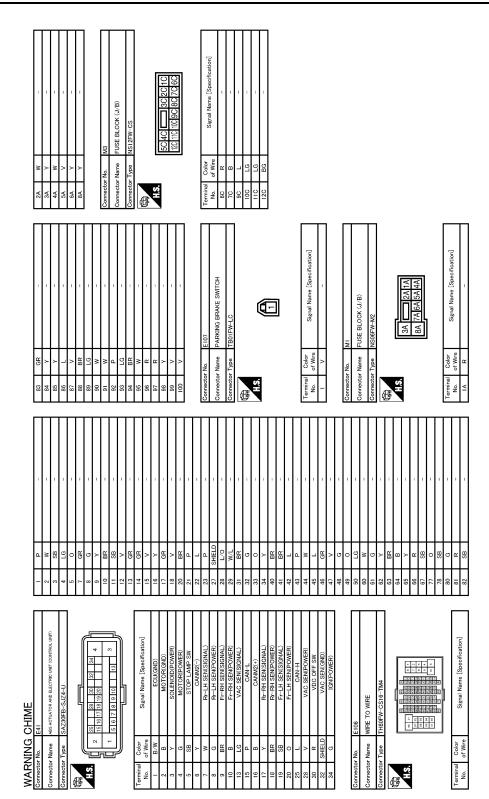
INFOID:000000006106582

## WARNING CHIME SYSTEM

< WIRING DIAGRAM >



JCNWA3212GB

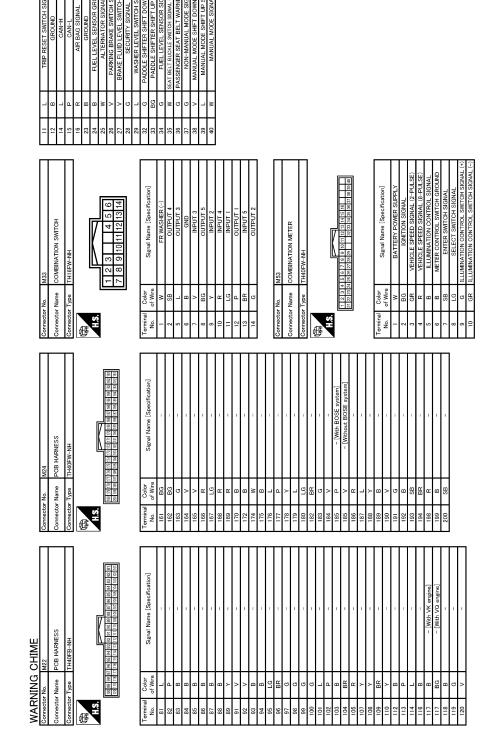


JCNWA3213GB

## WARNING CHIME SYSTEM

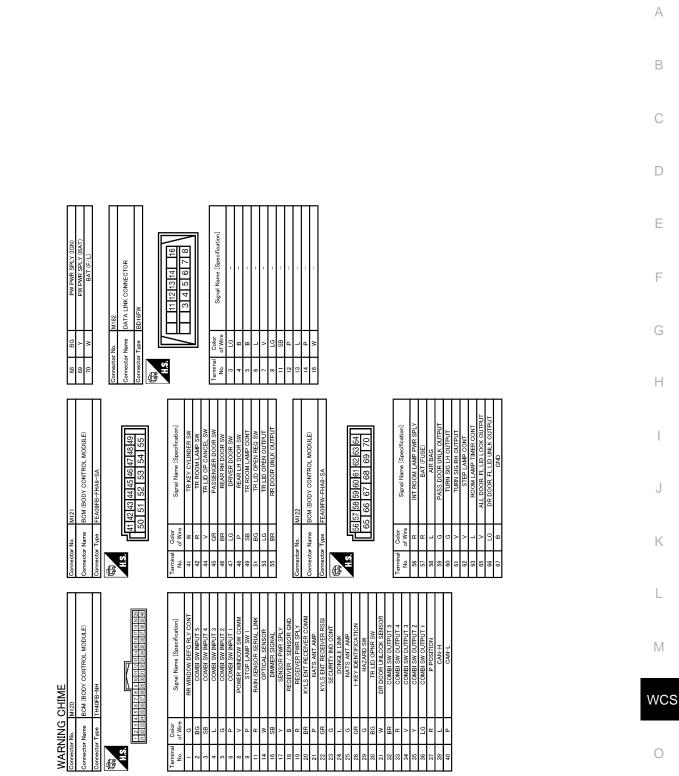
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< WIRING DIAGRAM >



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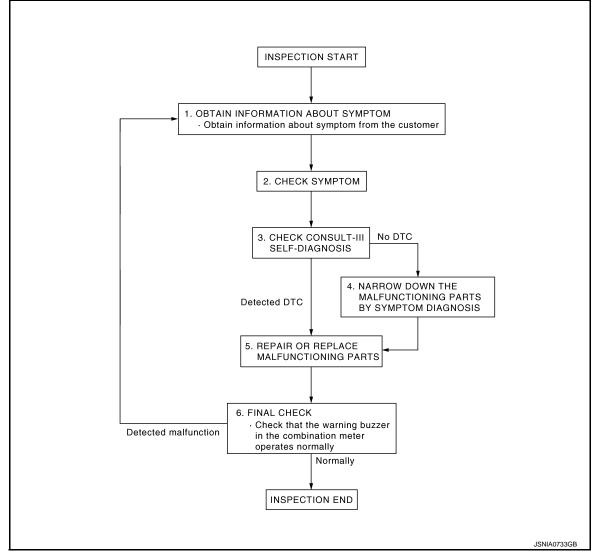
< BASIC INSPECTION >

## BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000006106583

**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-III SELF-DIAGNOSIS RESULTS

Connect CONSULT-III and perform self-diagnosis. Refer to MWI-43, "DTC Index".

## DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >	
Are self-diagnosis results normal?	
YES >> GO TO 4.	А
NO >> GO TO 5.	
4.NARROW DOWN MALFUNCTIONING PARTS BY SYMPTOM DIAGNOSIS	В
Perform symptom diagnosis and narrow down the malfunctioning parts.	
>> GO TO 5.	С
5. REPAIR OR REPLACE MALFUNCTIONING PARTS	
Repair or replace malfunctioning parts.	D
<b>NOTE:</b> If DTC is displayed, erase DTC after repairing or replacing malfunctioning parts.	
>> GO TO 6.	Е
6.FINAL CHECK	
Check that the warning buzzer in the combination meter operates normally.	F
Does it operate normally?	
YES >> INSPECTION END NO >> GO TO 1.	0
NO >> GO TO 1.	G
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#### POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## DTC/CIRCUIT DIAGNOSIS POWER SUPPLY AND GROUND CIRCUIT COMBINATION METER

**COMBINATION METER : Diagnosis Procedure** 

#### **1.**CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	9
Ignition switch ON or START	4

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 po-	Voltage
Combina	tion meter		sition	(Approx.)
Connector	Terminal	Ground		
M53	1	Ground	OFF	Pottor voltago
CCIVI	2		ON	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.

Combina	tion meter		Continuity
Connector	Terminal	Ground	Continuity
M53	12	Ciouna	Existed
10100	23		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

Revision: 2010 June

INFOID:000000006106603

## **METER BUZZER CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >	
METER BUZZER CIRCUIT	Λ
Component Function Check	A
1.CHECK OPERATION OF METER BUZZER	В
<ol> <li>Select "BUZZER" of "BCM" on CONSULT-III.</li> <li>Perform "LIGHT WARN ALM" of "Active Test".</li> </ol>	
Does meter buzzer beep?	С
YES >> INSPECTION END NO >> GO TO 2.	
2. CHECK COMBINATION METER INPUT SIGNAL	D
Select the "Data Monitor" for the "METER/M&A" and check the "BUZZER" monitor value.	
BUZZER	Е
Under the condition of buzzer input : On	
Except above : Off	F
Is the inspection result normal?	I
<ul> <li>YES &gt;&gt; Replace combination meter. Refer to <u>MWI-90, "Removal and Installation"</u>.</li> <li>NO &gt;&gt; Replace BCM. Refer to <u>BCS-79, "Removal and Installation"</u>.</li> </ul>	G
Diagnosis Procedure	
1. CHECK POWER SUPPLY OF COMBINATION METER	Н
Check power supply of combination meter. Refer to <u>WCS-40, "COMBINATION METER : Diagnosis Proce-</u> dure".	
Is the inspection result normal?	
YES >> INSPECTION END	
NO >> Repair power supply circuit of combination meter.	J
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#### SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

## SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT

#### **Component Function Check**

1. CHECK COMBINATION METER INPUT SIGNAL

Select the "Data Monitor" for the "METER/M&A" and check the "BUCKLE SW" monitor value.

BUCKLE SW

When seat belt is fastened	: Off
When seat belt is unfastened	: On

>> INSPECTION END

#### Diagnosis Procedure

INFOID:000000006106597

INFOID:00000006106596

## 1. CHECK COMBINATION METER INPUT SIGNAL

1. Turn ignition switch ON.

2. Check voltage between combination meter harness connector and ground.

	Terminals			
(-	+)	(-)	Condition	Voltage
Combinat	tion meter		Condition	(Approx.)
Connector	Terminal	Ground		
M53	35	Ground	When driver seat belt is fastened	12 V
IVIJJ	30		When driver seat belt is unfastened	0 V

Is the inspection result normal?

YES >> Replace combination meter. Refer to <u>MWI-90, "Removal and Installation"</u>.

NO >> GO TO 2.

## 2. CHECK SEAT BELT BUCKLE SWITCH 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 and seat belt buckle switch (driver side) harness connector.

Combina	tion meter	Seat belt buckle	switch (driver side)	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M53	35	B523	40	Existed

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

Combina	tion meter		Continuity
Connector	Terminal	Ground	Continuity
M53	35		Not existed

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK SEAT BELT BUCKLE SWITCH GROUND CIRCUIT

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

## SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

		switch (driver side)	_	Continuity	
	inector	Terminal	Ground		_
	523	41		Existed	_
′ES >>	<u>ection resul</u> > INSPECT > Repair ha				
	ent Inspe				INFOID:000000006106598
•	•	T BUCKLE SWITCH (D	RIVER SIDE)		IN CI2.000000000000000
Discon		ch OFF. eat belt buckle switch (di between terminals.	river side) connector.		
Ter	minal	Condition	Continuity	/	
40		When seat belt is fastened	-		
40	41	When seat belt is unfasten	ned Existed		
he inspe	ection resul	t normal?			
	> INSPECT > Replace s <u>lation</u> ".	eat belt buckle (driver s	ide). Refer to <u>SB-8, "SE</u>	EAT BELT BUCKLE : R	emoval and Instal-
	> Replace s		ide). Refer to <u>SB-8, "SE</u>	EAT BELT BUCKLE : R	emoval and Instal-
	> Replace s		ide). Refer to <u>SB-8, "SE</u>	<u>EAT BELT BUCKLE : R</u>	emoval and Instal-
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	> Replace s		ide). Refer to <u>SB-8, "SE</u>	EAT BELT BUCKLE : R	emoval and Instal-
	> Replace s		ide). Refer to <u>SB-8, "SE</u>	EAT BELT BUCKLE : R	emoval and Instal-

## PARKING BRAKE SWITCH SIGNAL CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

## PARKING BRAKE SWITCH SIGNAL CIRCUIT

#### **Diagnosis Procedure**

INFOID:000000006106587

## 1. CHECK COMBINATION METER INPUT SIGNAL

#### 1. Turn ignition switch ON.

2. Check the voltage between combination meter harness connector and ground.

(+)		(-)			
Combination meter			Condition		Voltage (Approx.)
Connector	Terminal	Ground			, , , ,
M53	26	Ground	Ignition switch ON	When parking brake is applied	0 V
				When parking brake is released	12 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 and parking brake switch harness connector.

Combina	tion meter	Parking br	Continuity	
Connector	Terminal	Connector	Terminal	
M53	26	E107	1	Existed

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

Combina	tion meter		Continuity
Connector	Terminal	Ground	
M53	26		Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

#### Component Inspection

**1.**CHECK PARKING BRAKE SWITCH

Check parking brake switch. Refer to BRC-123, "Component Inspection".

Is the inspection result normal?

- YES >> INSPECTION END.
- NO >> Replace parking brake switch. Refer to <u>PB-6, "Exploded View"</u>.

INEOID:000000006106588

THE LIGHT REMINDER WARNING DOES NOT SOUND < SYMPTOM DIAGNOSIS >
SYMPTOM DIAGNOSIS
THE LIGHT REMINDER WARNING DOES NOT SOUND
Description
Light reminder warning chime does not sound even though headlamp is illuminated.
Diagnosis Procedure
1.CHECK COMBINATION SWITCH (LIGHTING SWITCH) OPERATION
Check that the headlamps operate normally by operating the combination switch (lighting switch). <u>Do they operate normally?</u>
YES >> GO TO 2.
NO >> Refer to EXL-106, "Symptom Table".
2.CHECK DRIVER SIDE DOOR SWITCH SIGNAL CIRCUIT
Perform the check for the driver side door switch signal circuit. Refer to <u>DLK-72, "Diagnosis Procedure"</u> .
<u>Is the inspection result normal?</u> YES >> GO TO 3.
NO >> Repair harness or connector.
3. CHECK DRIVER SIDE DOOR SWITCH
Perform a unit check for the driver side door switch. Refer to DLK-74, "Component Inspection".
Is the inspection result normal?
<ul> <li>YES &gt;&gt; Replace BCM. Refer to <u>BCS-79, "Removal and Installation"</u>.</li> <li>NO &gt;&gt; Replace driver side door switch. Refer to <u>DLK-185, "Removal and Installation"</u>.</li> </ul>

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## THE PARKING BRAKE RELEASE WARNING CONTINUES SOUNDING, OR DOES NOT SOUND

< SYMPTOM DIAGNOSIS >

## THE PARKING BRAKE RELEASE WARNING CONTINUES SOUNDING, OR DOES NOT SOUND

#### Description

INFOID:000000006106591

- The parking brake warning buzzer sounds continuously during vehicle travel though the parking brake is released.
- The parking brake warning buzzer does not sound at all even though driving the vehicle with the parking brake applied.

## Diagnosis Procedure

INFOID:000000006106592

#### 1.CHECK PARKING BRAKE WARNING LAMP

- 1. Start the engine.
- 2. Check the operation of the brake warning lamp by operating the parking brake.

When parking brake is applied: ONWhen parking brake is released: OFF

#### Is the inspection result normal?

YES >> Replace combination meter. Refer to <u>MWI-90, "Removal and Installation"</u>

NO >> GO TO 2.

2. CHECK PARKING BRAKE SWITCH SIGNAL CIRCUIT

Perform check for the parking brake switch signal circuit. Refer to WCS-44, "Component Inspection". Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK PARKING BRAKE SWITCH

Perform a unit check for the parking brake switch. Refer to <u>WCS-44, "Component Inspection"</u>. Is the inspection result normal?

YES >> Replace combination meter. Refer to <u>MWI-90, "Removal and Installation"</u>

NO >> Replace parking brake switch. Refer to <u>PB-6</u>, "Exploded View".

## THE SEAT BELT WARNING CONTINUES SOUNDING, OR DOES NOT SOUND < SYMPTOM DIAGNOSIS >

# THE SEAT BELT WARNING CONTINUES SOUNDING, OR DOES NOT SOUND

SOUND				
Description	268 B			
<ul><li>Seat belt warning chime does not sound.</li><li>Seat belt warning chime sounds continuously.</li></ul>				
Diagnosis Procedure				
1.CHECK SEAT BELT WARNING LAMP	D			
<ol> <li>Turn ignition switch ON.</li> <li>Check the operation of the seat belt warning lamp in the combination meter.</li> </ol>	_ D			
Seat belt fastened: OFFSeat belt not fastened: ON	Е			
Is the inspection result normal? YES >> GO TO 2. NO >> GO TO 4.	F			
2.CHECK BCM OUTPUT SIGNAL Check if the seat belt warning chime is activated by performing BCM active test. Refer to WCS-20, "BUZZER	G			
CONSULT-III Function (BCM - BUZZER)". Is the inspection result normal? YES >> INSPECTION END	<u>.</u> Н			
NO >> GO TO 3. 3. CHECK COMBINATION METER INPUT SIGNAL Check if buzzer switches to proper condition (On/Off) on data monitor of combination meter. Refer to WCS-14	 4.			
"CONSULT-III Function".	J			
Buzzer active condition: OnBuzzer non-active condition: Off				
Is the inspection result normal? YES >> Replace combination meter. Refer to <u>MWI-90, "Removal and Installation"</u> .	K			
NO >> Replace BCM. Refer to <u>BCS-79, "Removal and Installation"</u> .	L			
4. CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE) CIRCUIT	<u>_</u>			
Perform the check for the seat belt buckle switch (driver side) circuit. Refer to <u>WCS-42</u> <u>"Diagnosis Procedure"</u> . <u>Is the inspection result normal?</u>	<u>N</u>			
YES >> GO TO 5. NO >> Repair harness or connector.	WCS			
5. CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE)				
Perform a unit check for the seat belt buckle switch (driver side). Refer to <u>WCS-43</u> , "Component Inspection". Is the inspection result normal?	0			
<ul> <li>YES &gt;&gt; Replace combination meter. Refer to <u>MWI-90, "Removal and Installation"</u>.</li> <li>NO &gt;&gt; Replace seat belt buckle (driver side). Refer to <u>SB-8, "SEAT BELT BUCKLE : Removal and Installation"</u>.</li> </ul>	<u>al-</u> P			

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