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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:

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.

Precautions for Removing of Battery Terminal

 When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

NOTE:

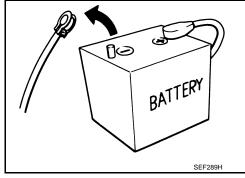
ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

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

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

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

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



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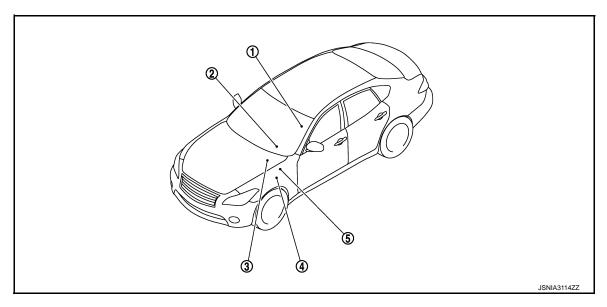
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SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

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- Seat belt buckle switch (driver side) 2. Combination meter
- 3. ABS actuator and electric unit (control unit) Refer to BRC-10, "Component Parts

Location".

- Parking brake switch
- BCM Refer to BCS-4, "BODY CONTROL SYSTEM: Component Parts Location".

Component Description

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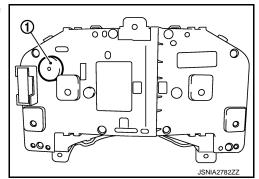
Unit	Description	
Combination meter	 Receives a buzzer output signal from the BCM with CAN communication line and sounds the buzzer. Judges whether the parking brake is released from the vehicle speed signal received from the ABS actuator and electric unit (control unit) with CAN communication line and the parking brake switch signal from the parking brake switch, and sounds the buzzer if necessary. 	
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.	

COMPONENT PARTS

< SYSTEM DESCRIPTION >

Combination Meter

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



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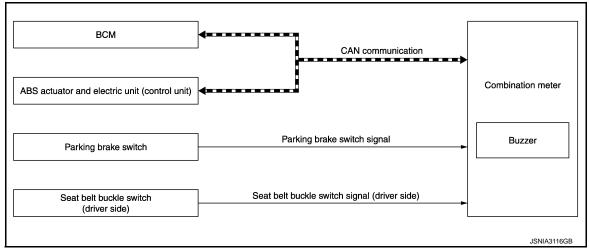
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SYSTEM

WARNING CHIME SYSTEM

WARNING CHIME SYSTEM: System Diagram

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WARNING CHIME SYSTEM: System Description

INFOID:0000000010102176

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 combination switch (lighting switch) in the 1st or 2nd position and the driver side door open.	ВСМ	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 position from ON position, with combination switch (lighting switch) is in AUTO position and the front fog lamp switch in ON position.	ВСМ	WCS-10. "FRONT FOG LIGHT RE- MINDER WARNING CHIME: Sys- tem Descrip- tion"

SYSTEM

< 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.	ВСМ	WCS-11, "SEAT BELT WARNING CHIME: System Description"
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"

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 temperature gauge			
Illumination control		When suspending communication, changes to nighttime mode.	
	Odo/trip meter	An indicated value is maintained at communications blackout.	
	Shift position indicator	The display turns OFF by suspending communication.	
Information display	Door open warning		
Information display	Trunk open warning	The display turns OFF by suspending communication.	
	Fuel filler cap warning		
	Low tire pressure warning		
Buzzer	,	The buzzer turns OFF by suspending communication.	

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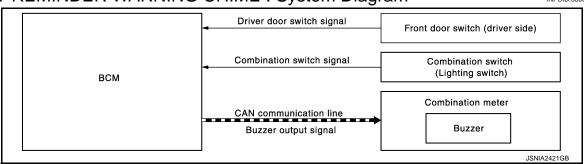
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	Function	Specifications	
	ABS warning lamp		
	VDC warning lamp		
	VDC OFF indicator lamp Brake warning lamp	The leave towns ON by some or discussions is still	
	IBA OFF indicator lamp	The lamp turns ON by suspending communication.	
	AWD warning lamp		
	Malfunction indicator lamp		
	CRUISE warning lamp		
	Low tire pressure warning lamp	The lamp blinking caused by suspending communication.	
	AFS OFF indicator lamp	The lamp blinking caused by suspending communication.	
Warning lamp/indicator lamp	High beam indicator lamp		
5 1 1	Turn signal indicator lamp		
	Front fog lamp indicator lamp		
	Tail lamp indicator lamp		
	A/T CHECK indicator lamp		
	Lane departure warning lamp	The lamp turns OFF by suspending communication.	
	LDP ON indicator lamp		
	Oil pressure warning lamp		
	ECO drive indicator		
	Blind Spot Intervention ON indicator		
	BSW/Blind Spot Intervention warning lamp	-	

LIGHT REMINDER WARNING CHIME

LIGHT REMINDER WARNING CHIME: System Diagram

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LIGHT REMINDER WARNING CHIME: System Description

INFOID:0000000010102179

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.

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

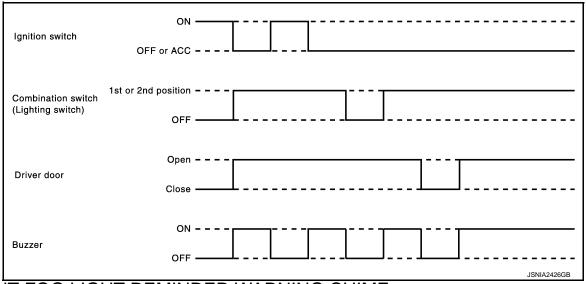
BCM requires warning chime output to combination meter when it judges light reminder warning chime is necessary from signals below.

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

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

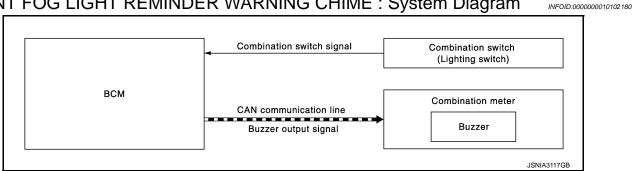
Signal name	Signal path
Buzzer output signal	BCM CAN Combination meter

TIMING CHART



FRONT FOG LIGHT REMINDER WARNING CHIME

FRONT FOG LIGHT REMINDER WARNING CHIME: System Diagram



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FRONT FOG LIGHT REMINDER WARNING CHIME: System Description INFOID:000000010102181

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

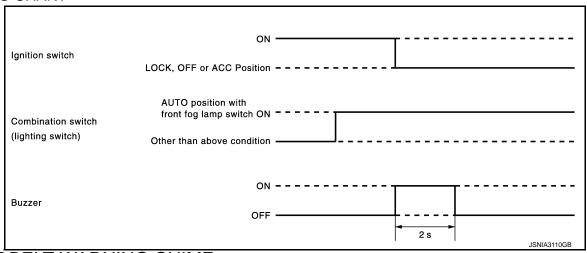
BCM requires warning chime output to combination meter when it judges front fog light reminder warning chime is necessary from signals below.

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

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



SEAT BELT WARNING CHIME

SEAT BELT WARNING CHIME: System Diagram

INFOID:0000000010102182 Seat belt buckle switch signal (driver side) Seat belt buckle switch (driver side) Combination meter Buzzer CAN communication line всм Buzzer output signal · Seat belt buckle switch signal (driver side) JSNIA3118GB

SEAT BELT WARNING CHIME: System Description

INFOID:0000000010102183

WARNING OPERATION CONDITIONS

If all of the following conditions are fulfilled.

Operation conditions		
Ignition switch	ON	
Driver seat belt	Unfastened [seat belt buckle switch (driver side) ON]	

WARNING CANCEL CONDITIONS

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

Operation conditions		
Ignition switch OFF		
Seat belt (driver side) Fastened (driver side seat belt buckle switch OFF)		
6 seconds after the start of warning sound		

SIGNAL PATH

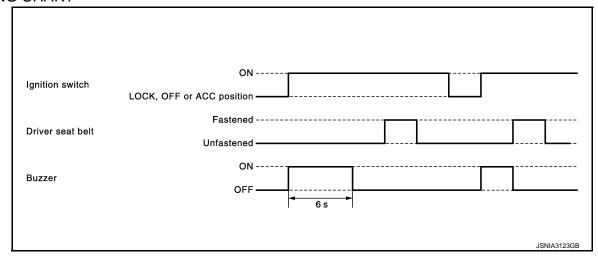
1. BCM requires warning chime output to combination meter when it judges seat belt warning chime is necessary from signals below.

Signal name	Signal path
Ignition switch signal	_
Seat belt buckle switch signal (driver side)	Seat belt buckle switch (driver side) Combination meter CAN 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



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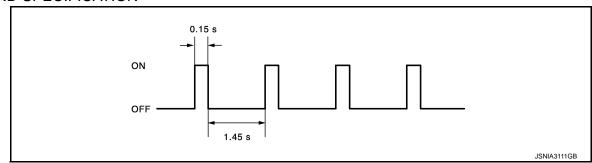
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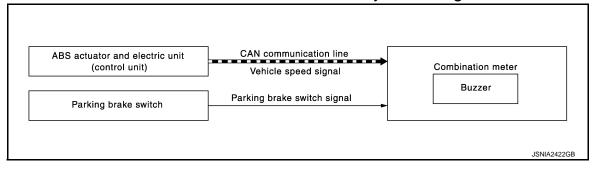
SOUND SPECIFICATION



PARKING BRAKE RELEASE WARNING CHIME

PARKING BRAKE RELEASE WARNING CHIME: System Diagram

INFOID:0000000010102184



PARKING BRAKE RELEASE WARNING CHIME: System Description

INFOID:0000000010102185

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

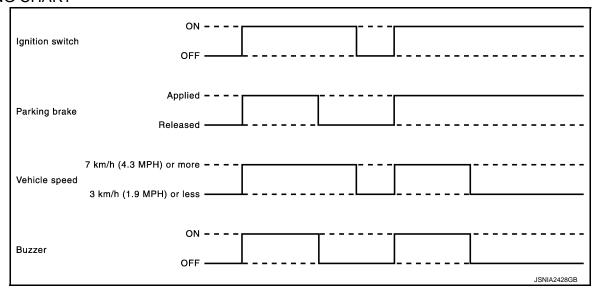
Combination meter sounds integrated buzzer when it judges that parking brake release warning chime is necessary from signals below.

Signal name	Signal path	
Ignition switch signal	_	
Parking brake switch signal	Parking brake switch Combination meter	
Vehicle speed signal	ABS actuator and electric unit (control unit) CAN Combination meter	

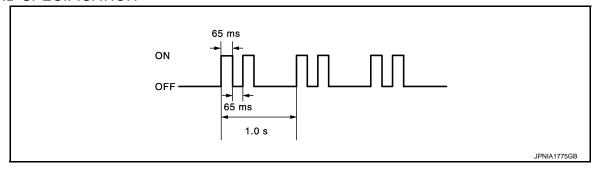
SYSTEM

< SYSTEM DESCRIPTION >

TIMING CHART



SOUND SPECIFICATION



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< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (COMBINATION METER)

CONSULT Function

INFOID:0000000010289364

CONSULT APPLICATION ITEMS

CONSULT 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.
	Warning History	Lighting history of the warning lamp and indicator lamp can be checked.

SELF DIAG RESULT

Refer to MWI-44, "DTC Index".

DATA MONITOR

NOTE:

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

Display Item List

X: Applicable

		X: Applicable
Display item [Unit]	MAIN SIGNALS	Description
SPEED METER [km/h]	х	Value of vehicle speed signal received from ABS actuator and electric unit (control unit) via CAN communication. NOTE: 655.35 is displayed when the malfunction signal is received.
SPEED OUTPUT [km/h]	Х	Vehicle speed signal value transmitted to other units via CAN communication. NOTE: 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]	Х	Value of the engine speed signal received from ECM via CAN communication. NOTE: 8191.875 is displayed when the malfunction signal is received.
FUEL METER [L]	Х	Fuel level indicated on combination meter.
W TEMP METER [°C]	х	Value of engine coolant temperature signal is received from ECM via CAN communication. NOTE: 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. NOTE: 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.

< SYSTEM DESCRIPTION >

Display item [Unit]	Display item [Unit] MAIN SIGNALS Description		
HI-BEAM IND [On/Off]		Status of high beam indicator lamp detected from high beam request signal is received from BCM via CAN communication.	
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]		Status of oil pressure warning lamp detected from oil pressure switch signal is received from BCM via CAN communication. (VQ37VHR engine models) Status of oil pressure warning lamp detected from oil pressure warning lamp signal is received from ECM via CAN communication. (VK56VD engine models)	
MIL [On/Off]		Status of malfunction indicator lamp detected from malfunctioning indicator lamp signal is received from ECM via CAN communication.	
GLOW IND [Off]		NOTE: This item is displayed, but cannot be monitored.	
CRUISE IND [On/Off]		Status of CRUISE indicator detected from ASCD status signal is received from ECM via CAN communication. (ASCD models) Status of CRUISE indicator detected from meter display signal is received from ADAS control unit via CAN communication. (ICC models)	
SET IND [On/Off]		Status of SET indicator detected from ASCD status signal is received from ECM via CAN communication. (ASCD models) Status of SET indicator detected from meter display signal is received from ADAS control unit via CAN communication. (ICC models)	
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 received 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 combination 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 received from AFS control unit with CAN communication line.	
4WAS/RAS W/L [Off]		NOTE: This item is displayed, but cannot be monitored.	
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 received 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, LI 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 received from ADAS control unit with CAN communication line.	

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< SYSTEM DESCRIPTION >

Display item [Unit]	MAIN SIGNALS	Description	
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.	
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 control 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 signal 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 Blind Spot Intervention ON indicator (green) judged from Blind Spot Intervention ON indicator signal received from ADAS control unit with CAN communication line.	
BSW W/L [On/Off]		Status of BSW/Blind Spot Intervention warning lamp (yellow) judged from BSW Blind Spot Intervention warning lamp signal received from ADAS control unit wit CAN communication line.	
FUEL CAP W/L [On/Off]		Status of fuel filler cap warning display detected from fuel filler cap warning display signal received from ECM via CAN communication.	
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.	

< SYSTEM DESCRIPTION >

Display item [Unit]	MAIN SIGNALS	Description
OUTSIDE TEMP [°C or °F]		
FUEL LOW SIG [On/Off]		Status of fuel level low warning signal to output to AV control unit via CAN communication.
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.

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.
TRUNK/GLAS-H	Lighting history of trunk 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.
CRUISE W/L	Lighting history of ICC warning lamp.
BA W/L	Lighting history of IBA OFF indicator lamp.
ATC/T-AMT W/L	Lighting history of A/T CHECK warning 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.
AFS OFF IND	Lighting history of AFS OFF indicator lamp.
4WAS/RAS W/L	Lighting history of 4WAS warning lamp.

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< SYSTEM DESCRIPTION >

Display item	Description	
LANE W/L	Lighting history of lane departure warning lamp.	
BSW W/L	Lighting history of BSW/Blind Spot Intervention warning lamp (yellow).	

NOTE:

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

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010271233

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

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

FREEZE FRAME DATA (FFD)

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

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^{*:} This item is not used.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

CONSULT screen item	Indication/Unit	Description		
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected		
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected		
	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" (Emergency 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 steering 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	 The number of times that ignition switch is turned ON after DTC is detected The number is 0 when a malfunction is detected now. The number increases like 1 → 2 → 338 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The number is fixed to 39 until the self-diagnosis results are erased if it is over 39. 		

NOTE:

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

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

BUZZER

BUZZER: CONSULT Function (BCM - BUZZER)

INFOID:0000000010102188

CONSULT APPLICATION ITEMS

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Test item	t 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

NOTE:

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

Display item [Unit]	Description	
PUSH SW [On/Off]	Status of push-button ignition switch judged by BCM.	
UNLK SEN-DR [On/Off]	Status of unlock sensor judged by BCM.	
VEH SPEED 1 [km/h]	Value of vehicle speed signal received from combination meter with CAN communication line.	
TAIL LAMP SW [On/Off]	Status of lighting switch judged by BCM using the combination switch readout function.	
FR 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
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).

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ECU DIAGNOSIS INFORMATION

COMBINATION METER

Reference Value

VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

Monitor Item		Condition	Value/Status
SPEED METER [km/h]	Ignition switch ON	While driving	Input value of vehicle speed signal (CAN communication signal) NOTE: 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) NOTE: 655.35 is displayed when the malfunction 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) NOTE: 8191.875 is displayed when the malfunction 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 temperature signal (CAN communication signal) NOTE: 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
VDO/100 IND	ON	VDC OFF indicator lamp OFF	Off
SLIP IND	Ignition switch	VDC warning lamp ON	On
SLIF IND	ON	VDC warning lamp OFF	Off
BRAKE W/L	Ignition switch	Brake warning lamp ON	On
DRAKE W/L	ON	Brake warning lamp OFF	Off
DOOR W/I	Ignition switch	Door open warning ON	On
DOOR W/L	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
	ŎN	High-beam indicator lamp OFF	Off
TUDNIND	Ignition switch	Turn signal indicator lamp ON	On
TURN IND	ON	Turn signal indicator lamp OFF	Off

< ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Value/Status
ED EGG IND	Ignition switch	Front fog lamp indicator lamp ON	On
FR FOG IND	ŎN	Front fog lamp indicator lamp OFF	Off
LIGHT IND	Ignition switch	Light indicator lamp ON	On
	ON	Tail lamp indicator lamp OFF	Off
OIL W/L	Ignition switch	Oil pressure warning lamp ON	On
OIL W/L	ON	Oil pressure warning lamp OFF	Off
MIL	Ignition switch	Malfunction indicator lamp ON	On
IVIIL	ON	Malfunction indicator lamp OFF	Off
GLOW IND	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
CRUISE IND	Ignition switch	CRUISE indicator ON	On
CUUISE IIND	ON	CRUISE indicator OFF	Off
SET IND	Ignition switch	SET indicator ON	On
SET IND	ON	SET indicator OFF	Off
CRUISE W/L	Ignition switch	CRUISE warning lamp ON	On
CROISE W/L	ON	CRUISE warning lamp OFF	Off
BA W/L	Ignition switch	IBA OFF indicator lamp ON	On
DA W/L	ON	IBA OFF indicator lamp OFF	Off
ATC/T-AMT W/L	Ignition switch ON	A/T check warning lamp ON	On
7(10)1 7(W)1 VV/L		A/T check warning lamp OFF	Off
4WD W/L	Ignition switch	AWD warning lamp ON	On
400 W.E	ON	AWD warning lamp OFF	Off
FUEL W/L	Ignition switch	During low fuel warning indication	On
1 OLL W/L	ON	Other than the above	Off
WASHER W/L	Ignition switch	During low washer fluid warning indication	On
W/OHER W/E	ON	Other than the above	Off
AIR PRES W/L	Ignition switch	Low tire pressure warning lamp ON	On
AIRT RES W/E	ON	Low tire pressure warning lamp OFF	Off
KEY G/Y W/L	Ignition switch	During Intelligent Key system malfunction indication	On
		Other than the above	Off
AFS OFF IND	Ignition switch	AFS OFF indicator lamp ON	On
AL9 OLL IND	ON	AFS OFF indicator lamp OFF	Off
4WAS/RAS W/L	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
1 AND 14//	Ignition switch	Lane departure warning lamp ON	On
LANE W/L	ON	Lane departure warning lamp OFF	Off
I DP IND	Ignition switch	LDP ON indicator lamp ON	On
LDP IND	ON	LDP ON indicator lamp OFF	Off

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< 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
LCD	Ignition switch LOCK	During P position warning indication	SFT P
LOD	Ignition switch LOCK	During Intelligent Key insert information indication	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 indication	On
	ON	Other than the above	Off
		When following distance set to "LONG"	LONG
ACC DICTANCE	Ignition switch	When following distance set to "MIDDLE"	MID
ACC DISTANCE	ON	When following distance set to "SHORT"	SHORT
		Set distance indicator not displayed	Off
4000004441444	Ignition switch	During own vehicle indicator indication	On
ACC OWN VHL	ON	Other than the above	Off
ACC SET SPEED	Ignition switch	During set vehicle speed indicator not displayed	Off
AGG OLI OFEED	ON	During set vehicle speed indicator displayed	Indicates the set vehicle speed
ACC UNIT	Ignition switch	Set vehicle speed indicator unit display ON	On
ACC UNIT	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	N
		During the indication of "D" by shift position indicator	D
		During the indication of "M1" by shift position indicator	M1
SHIFT IND	Ignition switch ON	During the indication of "M2" by shift position indicator	M2
		During the indication of "M3" by shift position indicator	M3
		During the indication of "M4" by shift position indicator	M4
		During the indication of "M5" by shift position indicator	M5
		During the indication of "M6" by shift position indicator	M6
		During the indication of "M7" by shift position indicator	M7
ECO DRIVE IND G	Ignition switch	ECO drive indicator (green) ON	On
EGG BIAIVE HAD G	ON	ECO drive indicator (green) OFF	Off
ECO DRIVE IND O	Ignition switch	ECO drive indicator (orange) ON	On
200 211172 1112 0	ON	ECO drive indicator (orange) OFF	Off
BSW IND	Ignition switch	Blind Spot Intervention ON indicator (green) ON	On
DOW IND	ON	Blind Spot Intervention ON indicator (green) OFF	Off
BSW W/L	Ignition switch	BSW/Blind Spot Intervention warning lamp (yellow) ON	On
DOW W/L	ON	BSW/Blind Spot Intervention warning lamp (yellow) OFF	Off
FUEL CAP W/L	Ignition switch	Fuel filler cap warning display ON	On
1 022 0711 1172	ON	Fuel filler cap warning display 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 position	SPORT
		Reception of an abnormal signal other than those above	ERROR

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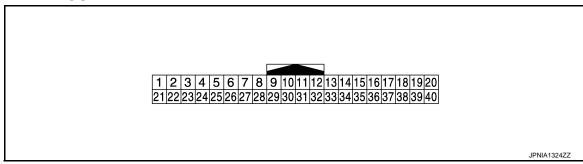
< ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Value/Status
M RANGE SW	Ignition switch	Selector lever in manual mode position	On
IVI KANGE SVV	ON	Other than the above	Off
NM RANGE SW	Ignition switch	Selector lever in manual mode position	Off
NIVI RAINGE SW	ON	Other than the above	On
AT SFT UP SW	Ignition switch	Selector lever in + position	On
AI SFI OF SW	ON	Other than the above	Off
AT SFT DWN SW	Ignition switch	Selector lever in – position	On
AT SET DWIN SW	ON	Other than the above	Off
CT CET LID CW/	Ignition switch	Paddle shifter in + position	On
ST SFT UP SW	ON	Other than the above	Off
CT CET DWALCW	Ignition switch	Paddle shifter in – position	On
ST SFT DWN SW	ON	Other than the above	Off
DKD CW	Ignition switch	Parking brake switch ON	On
PKB SW	ON	Parking brake switch OFF	Off
DUOM F OW	Ignition switch	Driver seat belt not fastened	On
BUCKLE SW	ON	Driver seat belt fastened	Off
BRAKE OIL SW	Ignition switch	Brake fluid level switch ON	On
DRAKE OIL SW	ON	Brake fluid level switch OFF	Off
ENTER SW	Ignition switch	When switch (enter switch) is pressed	On
	ON	Other than above	Off
SELECT SW	Ignition switch	When switch (select switch) is pressed	On
SELECT SW	ON	Other than above	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) NOTE: This may not match the indicated value on the information display.
	Ignition switch	During low fuel warning indication	On
FUEL LOW SIG	ON	Other than above	Off
	Ignition switch	Buzzer ON	On
BUZZER	ON	Buzzer OFF	Off

NOTE:

Some items are not available according to vehicle specification.

TERMINAL LAYOUT



PHYSICAL VALUES

< ECU DIAGNOSIS INFORMATION >

	nal No. color)	Description			Condition	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 depending on the specification (destination unit).
					Lighting switch 1ST position When meter illumination is maximum	(V) 15 10 0 2.5 ms JPNIA1687GB
5 (B)	Ground	Illumination control signal	Output	Ignition switch ON	Lighting switch 1ST position When meter illumination is step 11	(V) 15 10 5 0 2.5 ms
					Lighting switch 1ST position When meter illumination is minimum	12 V
7 (SB)	6 (B)	Enter switch signal	Input	Ignition switch	When switch (enter switch) is pressed	0 V
(30)	(D)			ON	Other than the above	5 V

< ECU DIAGNOSIS INFORMATION >

	inal No. e 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
(LO)	(5)			ON	Other than the above	5 V
9 (G)	6 (B)	Illumination control switch signal (+)	Input	Ignition switch ON	When 🛱 + switch [illumination 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 (5 switch [illumination 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
(L)	(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				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
				Ignition	Brake fluid level is normal	12 V
27 (V)	Ground	Brake fluid level switch signal	Input	switch	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	C===	Mochar level aviit-bi	lan:-4	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
(0)		Signal		ON	Other than the above	12 V
33 (BG)	Ground	Paddle shifter shift up sig-	Input	Ignition switch	Paddle shifter shift up operation	0 V
(50)		TIMI		ON	Other than the above	12 V

< ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description			O o litto	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)	Crouna	nal (driver side)	mpat	ON	When driver seat belt is un- fastened	0 V
36		Passenger seat belt warn-		Ignition	 When driver seat belt is fastened When getting in the passenger seat When passenger seat belt is fastened 	12 V
(G)	Ground	ing signal	Input	switch ON	 When driver seat belt is fastened When getting in the passenger seat When passenger seat belt is unfastened 	0 V
37 (G)	Ground	Non-manual mode signal	Input	Ignition switch	Selector manual mode position	12 V
(-)				ON	Other than the above	0 V
38 (V)	Ground	Manual mode shift down signal	Input	Ignition switch	Selector lever shift down operation	0 V
(V)		signai		ON	Other than the above	12 V
39 (L)	Ground	Manual mode shift up sig-	Input	Ignition switch	Selector lever shift up operation	0 V
(L)		Tiai		ON	Other than the above	12 V
40	Ground	Manual mode signal	Input	Ignition switch	Selector manual mode position	0 V
(W)		-	•	ON	Other than the above	12 V

Fail-Safe

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 temperature gauge	
Illumination control	When suspending communication, changes to nighttime mode.

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< ECU DIAGNOSIS INFORMATION >

	Function	Specifications
	Odo/trip meter	An indicated value is maintained at communications blackout.
	Shift position indicator	The display turns OFF by suspending communication.
Information display	Door open warning	
illioilliation display	Trunk open warning	The display turns OFF by suspending communication.
	Fuel filler cap warning	The display turns OFF by suspending communication.
	Low tire pressure warning	
Buzzer		The buzzer turns OFF by suspending communication.
	ABS warning lamp	
	VDC warning lamp	
	VDC OFF indicator lamp	
	Brake warning lamp	The least time ON by even and in a communication
	IBA OFF indicator lamp	The lamp turns ON by suspending communication.
	AWD warning lamp	
	Malfunction indicator lamp	
	CRUISE warning lamp	
	Low tire pressure warning lamp	The lamp blinking equaed by evaponding communication
	AFS OFF indicator lamp	The lamp blinking caused by suspending communication.
Warning lamp/indicator lamp	High beam indicator lamp	
Training lamp/indicator lamp	Turn signal indicator lamp	
	Front fog lamp indicator lamp	
	Tail lamp indicator lamp	
	A/T CHECK indicator lamp	
	Lane departure warning lamp	The lamp turns OFF by suspending communication.
	LDP ON indicator lamp	The lamp tame of the by capponaling communications
	Oil pressure warning lamp	
	ECO drive indicator	
	Blind Spot Intervention ON indicator	
	BSW/Blind Spot Intervention warning lamp	

DTC Index

Display contents of CONSULT	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.	MWI-67. "Diagnosis Procedure"
CONTROL UNIT (CAN) [U1010]	When detecting error during the initial diagnosis of the CAN controller of combination meter.	MWI-68, "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.	MWI-69. "Diagnosis Procedure"
ENGINE SPEED [B2267]	If ECM continuously transmits abnormal engine speed signals for 2 seconds or more.	MWI-70. "Diagnosis Procedure"
WATER TEMP [B2268]	If ECM continuously transmits abnormal engine coolant temperature signals for 60 seconds or more.	MWI-71, "Diagnosis Procedure"

BCM

List of ECU Reference

INFOID:0000000010102192

ECU	Reference
	BCS-33, "Reference Value"
BCM	BCS-53, "Fail-safe"
BCIVI	BCS-54, "DTC Inspection Priority Chart"
	BCS-54, "DTC Index"

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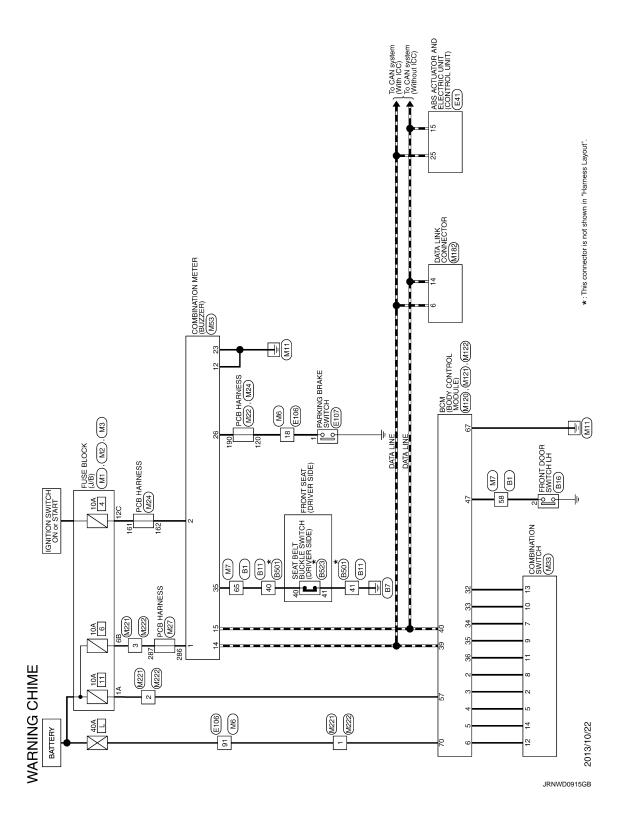
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WIRING DIAGRAM

WARNING CHIME SYSTEM

Wiring Diagram



WARNING CHIME SYSTEM

		SB SHIELD GR/V W/L		86 6	8 2	1 1	Connector Name FRONT DOOR SWITCH LH
		SHIELD GR/V		88	R 91		
	ППП	GR/V W/L			3		
	43	J/W	-				Connector Type A03FW
	43						П
	44	-		Connector No	Γ	B11	€ Œ
지 후 의 는 명 이 및 지역되어 교육 하는 명 이 및	1	8		L	Ι		三
	45	×		Connector Name		WIRE TO WIRE	× ×
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	202	g		手		IF]
	12	3		Ų.	,	29 30 31 32	
[Specification]	5 62				9		No Wire Signal Name [Specification]
T	3 2	3				1 27 2 28 35 41	0 -
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	3 9	3 >		No.	Wire	Signal Name [Specification]	ı
	9	3		-	9		Connector Name WIRE TO WIRE
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Ī	6	9		4 5			Comingorous 1906 Inching Co.
	2	3		24	۵	- [Without CAN astowey]	₫.
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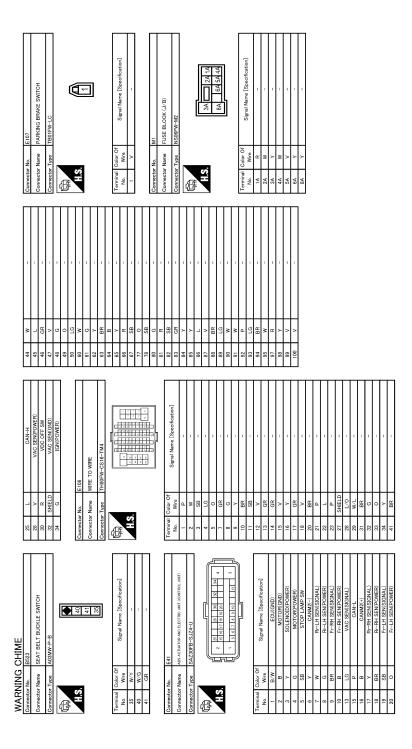
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WARNING CHIME SYSTEM

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63	3 8		8	-		Connector Name	me PCB HARNESS	
65	3		83	۵	-	Connector Type	THADEW-NH	Connector No M33
99	· a		8	. «			7	CONTROCTOR INCO
67	>		85			Œ		Connector Name COMBINATION SWITCH
89	. 57	1	98	0		至于		Connector Type TH16FW-NH
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73	۵	-	16	>	-			
74	7	-	95	>	-			1 2 5 6
75	Ь	-	93	В	-	Terminal Color Of	lor Of Simul Mana [Specification]	7 8 9 10 11 12 13 14
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78	SB	-	96	BR	-	162 E	BG -	Terminal Color Of Signal Manua [Separation]
79	W		97	9		163	- 5	No. Wire Signal Marine Especification
80	BR	1	86	9	1	164	^	1 W FR WASHER (-)
81	ΡΠ		66	g		165	- ^	2 SB OUTPUT 4
82	H	1	100	o	-	┞	1	
83	BG	-	101	L	-	┞	- DT	6 B GND
8		-	102	۵		┞	ı	
82	*	-	103	8		L	ı c	8 BG OUTPUT 5
98	9		104	BR	,	L		9 Y
87	œ	1	105	œ	1	Ł		10 R INPUT 4
88	5	1	107	>	-	174	- A	11 LG INPUT 1
91	W	1	108	>	1	Ł		
92	g	1	109	ä	-	176	-	13 BR INPUT 5
96	*	1	110	>	1	177	1	14 G OUTPUT 2
97	BG	1	112	a	1	178	-	
86	>		113	۵	1	179		
66	ΡŢ		114	_		180	- 57	Connector No. M53
			116	В	-	182	BR - [With VQ engine or with VK engine without ICC]	GENERAL MOST ANIMAN CO.
			117	8	- [With VK engine]	182	R - [With VK engine with ICC]	CONTROCTOR NATIVE COMBINATION METERS
Connector No.		M22	117	BG	- [With VQ engine]	183	- 5	Connector Type TH40FW-NH
Constant Name		SSUNDAN GOD	118	80	-	184		
O D D D D D D D D D D D D D D D D D D D		LOD HANNESS	119	9	-		P - [With BOSE system]	
Connector Type		TH40FB-NH	120	>	-	185	V - [Without BOSE system]	
(-					\dashv		1 2 2 4 5 8 7 8 9 10 11 12 15 18
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						198		4 R VEHICLE SPEED SIGNAL (8-PULSE)
						Н	B .	5 B ILLUMINATION CONTROL SIGNAL

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WAF	SNING	WARNING CHIME	,									1
9	8	METER CONTROL SWITCH GROUND	Ξ	۳	RAIN SENSOR SERIAL LINK	55	BR	RR DOOR UNLK OUTPUT	9	Г	CAN-H	
7	SB	L	7	>	OPTICAL SENSOR				7	>	KLINE	_
œ	PT	SELECT SWITCH SIGNAL	16	SB	DIMMER SIGNAL				8	PT	IGN_SW	
6	5	Г	17	>	SENSOR PWR SPLY	Connector No.	Γ	M122	Ξ	SB	M-CAN'H	_
10	GR	ILLUMINATION CON	18	8	RECEIVER / SENSOR GND	2		CHINGON LOGINGS AGGS NOG	12	۵	CAN-L	
Ξ	7	TRIP RESET SWITCH SIGNAL	19	œ	RECEIVER PWR SPLY	Collinector		SOM (BOD) CONTROL MODULE)	13	_	CAN-H	
12	В	GROUND	50	BR	KYLS ENT RECEIVER COMM	Connector Type	П	FEA09FW-FHA6-SA	14	а	CAN-L	
14	1	CAN-H	21	а	NATS ANT AMP.		,		16	W	POWER	
15	۵	CAN-L	22	æ	KYLS ENT RECEIVER RSSI	Œ						1
91	œ	AIR BAG SIGNAL	23	5	SECURITY IND CONT	ŧ						
23	В	GROUND	24	-	DONGLE LINK	H.S.		F 50 80 80 80 83	Connector No.	o. M221		
24	В	FUEL LEVEL SENSOR GROUND	52	5	NATS ANT AMP.			20 20 00 00 00 00	2	TOTAL TOTAL	ughn	_
25	W	ALTERNATOR SIGNAL	56	9	I-KEY IDENTIFICATION				Collinector IVS		WINE	_
26	>	PARKING BRAKE SWITCH SIGNAL	59	g	HAZARD SW				Connector Type	pe M03FW-LC	0	
27	>	BRAKE FLUID LEVEL SWITCH SIGNAL	30	0	TR LID OPNR SW				ú			l
28	9	SECURITY SIGNAL	31	W	DR DOOR UNLK SENSOR	Terminal	Color Of	Sinnal Nama [Spacification]				
29	٦		32	BR	COMBI SW OUTPUT 5	No.	Wire	Signal Marrie Especificacioni				
32	9	PADDLE SHIFTER	33	œ	COMBI SW OUTPUT 4	26	œ	INT ROOM LAMP PWR SPLY	Ę.		_	
33	BG	PADDLE SHIFTE	34	>	COMBI SW OUTPUT 3	57	œ	BAT (FUSE)			C	
34	ŋ	FUEL LEVEL SENSOR SIGNAL	32	>	COMBI SW OUTPUT 2	28	_	SENS CANCEL SW			7 (
32	>		36	PC	COMBI SW OUTPUT 1	59	g	PASS DOOR UNLK OUTPUT				
36	ŋ		37	œ	P POSITION	09	ŋ	TURN SIG LH OUTPUT				
37	9	NON-MANUAL MODE SIGNAL	38	7	CAN-H	61	۸	TURN SIG RH OUTPUT	Terminal Color Of	ilor Of	Cincol Name [Consideration]	
38	>	MANUAL MODE SHIFT DOWN SIGNAL	40	۵	CAN-L	62	>	STEP LAMP CONT	No.	Wire	olgnal Mame [opedification]	
33	7					63	_	ROOM LAMP TIMER CONT	-	W		
40	*	MANUAL MODE SIGNAL				65	>	ALL DOOR, FL LID LOCK OUTPUT	2	œ	1	_
			Connector No.	or No.	M121	99	PT	DR DOOR, FL LID UNLK OUTPUT	3		_	
			Connect	Connector Name	BOM (BODY CONTROL MODILLE)	67	8	GND				ı
Connector No.	or No.	M120	Connect	or Name	BOM (BODT CONTROL MODULE)	89	0	PW PWR SPLY (IGN)				
Sound	Connector Name	BOM (BODY CONTROL MODILLE)	Connector Type	or Type	FEA09FB-FHA6-SA	69	>	PW PWR SPLY (BAT)	Connector No.	o. M222		
000	o Mairie					70	W	BAT (F/L)	Connector Name	HELD TO WIRE	MIRE	
Connect	Connector Type	TH40FB-NH	ß	_						╗		_
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) E	(*				51 53 55	Connector Name		DATA LINK CONNECTOR	厚			
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-	2	DD WINDOW DEED DI V CONT	7 7	>	TD ID OD CANCEL SW			0		Wire	Signal Name [Specification]	
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4 6	8 8	COMBI	46	6 8	BEAR BH DOOR SW				- 6	α.	1	_
4	-	COMBI SW INPUT 3	47	97	DRIVER DOOR SW	Terminal	Color Of			: >-	11	_
ß	g	COMBI SW INPUT 2	48	۵	REAR LH DOOR SW	Š	Wire	Signal Name [Specification]				1
9	<u>a</u>	COMBI SW INPUT 1	49	SS SB	TR ROOM LAMP CONT	6	97	M-CAN_L				
80	>	POWER WINDOW SW COMM	51	BG	TR LID OPEN REQ SW	4	8	EARTH				
6	۵	STOP LAMP SW 1	53	ΓG	TRUNK LID OPEN REQUEST	2	В	EARTH				

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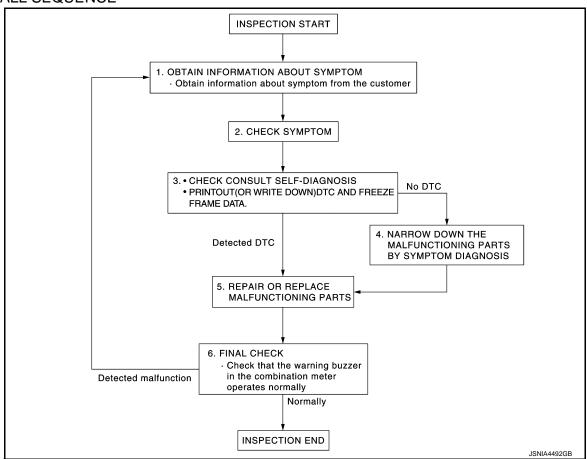
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

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 WCS-30, "DTC Index".
- 2. When DTC is detected, follow the instructions below:
- Record DTC and Freeze Frame Data.

Are self-diagnosis results normal?

YES >> GO TO 4.

NO >> GO TO 5.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

4. NARROW DOWN 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 repairing or replacing 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.

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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

INFOID:0000000010325689

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	6
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	Pottory voltogo
CGIVI	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	Giodila	Existed
IVIOO	23		LXISIEG

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

METER BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS > METER BUZZER CIRCUIT Α Component Function Check INFOID:0000000010102196 1. CHECK OPERATION OF METER BUZZER В Select "BUZZER" of "BCM" on CONSULT. Perform "LIGHT WARN ALM" of "Active Test". Does meter buzzer beep? YES >> INSPECTION END NO >> GO TO 2. D 2.CHECK COMBINATION METER INPUT SIGNAL Select the "Data Monitor" for the "METER/M&A" and check the "BUZZER" monitor value. Е **BUZZER** Under the condition of buzzer input : On Except above : Off F Is the inspection result normal? YES >> Replace combination meter. Refer to MWI-92, "Removal and Installation". NO >> Replace BCM. Refer to BCS-90, "Removal and Installation". Diagnosis Procedure INFOID:0000000010102197 1. CHECK POWER SUPPLY OF COMBINATION METER Н Check power supply of combination meter. Refer to WCS-40, "COMBINATION METER: Diagnosis Procedure". Is the inspection result normal? >> INSPECTION END YES NO >> Repair power supply circuit of combination meter. M

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SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT

Component Function Check

INFOID:0000000010102198

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:0000000010102199

1. CHECK COMBINATION METER INPUT SIGNAL

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

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

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-92, "Removal and Installation".

NO >> GO TO 2.

2.CHECK SEAT BELT BUCKLE SWITCH CIRCUIT

- 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	Combination meter		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 >

Seat belt buckle	switch (driver side)		Continuity
Connector	Terminal	Ground	Continuity
B523	41		Existed

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Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

INFOID:0000000010102200

Component Inspection

1. CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE)

- I. Turn ignition switch OFF.
- 2. Disconnect the seat belt buckle switch (driver side) connector.
- Check continuity between terminals.

Terr	minal	Condition	Continuity
40	41	When seat belt is fastened	Not existed
40	71	When seat belt is unfastened	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace seat belt buckle (driver side). Refer to <u>SB-11, "SEAT BELT BUCKLE : Removal and Installation"</u>.

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PARKING BRAKE SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

PARKING BRAKE SWITCH SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000010102201

1. CHECK COMBINATION METER INPUT SIGNAL

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

(-	+)	(-)) () () () ()
Combina	tion meter			Condition	Voltage (Approx.)
Connector	Terminal	Ground			(11)
M53	26	Orodria	Ignition	When parking brake is applied	0 V
IVIOO	20		switch ON	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

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

	Termi	inals		
Combina	tion meter	Parking bi	ake switch	Continuity
Connector	Terminal	Connector	Terminal	
M53	26	E107	1	Existed

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

Terminals			
Combination meter			Continuity
Connector	Terminal	Ground	
M53	26		Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

Component Inspection

INFOID:0000000010102202

1. CHECK PARKING BRAKE SWITCH

Check parking brake switch. Refer to BRC-132, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END

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

THE LIGHT REMINDER WARNING DOES NOT SOUND

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS Α THE LIGHT REMINDER WARNING DOES NOT SOUND Description INFOID:0000000010102203 В Light reminder warning chime does not sound even though headlamp is illuminated. Diagnosis Procedure INFOID:0000000010102204 1. CHECK COMBINATION SWITCH (LIGHTING SWITCH) OPERATION D Check that the headlamps operate normally by operating the combination switch (lighting switch). Do they operate normally? YFS >> GO TO 2. Е NO >> Refer to EXL-111, "Symptom Table". 2.CHECK DRIVER SIDE DOOR SWITCH SIGNAL CIRCUIT Perform the check for the driver side door switch signal circuit. Refer to DLK-77, "Diagnosis Procedure". F Is the inspection result normal? 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-79, "Component Inspection". Н Is the inspection result normal? YES >> Replace BCM. Refer to BCS-90, "Removal and Installation". NO >> Replace driver side door switch. Refer to <u>DLK-198</u>, "Removal and Installation". K M

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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:000000010102205

- 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:0000000010102206

1. CHECK PARKING BRAKE WARNING LAMP

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

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

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-92, "Removal and Installation"

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 WCS-44, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-92, "Removal and Installation"

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

THE SEAT BELT WARNING CONTINUES SOUNDING, OR DOES NOT SOUND

< SYMPTOM DIAGNOSIS > THE SEAT BELT WARNING CONTINUES SOUNDING, OR DOES NOT SOUND Description INFOID:0000000010102207 В Seat belt warning chime does not sound. Seat belt warning chime sounds continuously. Diagnosis Procedure INFOID:0000000010102208 1. CHECK SEAT BELT WARNING LAMP D Turn ignition switch ON. Check the operation of the seat belt warning lamp in the combination meter. Е Seat belt fastened : OFF Seat belt not fastened : ON Is the inspection result normal? F YES >> GO TO 2. NO >> GO TO 4. 2.CHECK BCM OUTPUT SIGNAL Check if the seat belt warning chime is activated by performing BCM active test. Refer to WCS-20, "BUZZER CONSULT Function (BCM - BUZZER)". Is the inspection result normal? Н YES >> INSPECTION END 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, "CONSULT Function". : On Buzzer active condition Buzzer non-active condition : Off

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-92, "Removal and Installation".

NO >> Replace BCM. Refer to BCS-90, "Removal and Installation".

 $oldsymbol{4}.$ CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE) CIRCUIT

WCS-42. Perform the check for the seat belt buckle switch (driver side) circuit. Refer "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 5.

NO

NO >> Repair harness or connector.

5.CHECK SEAT BELT BUCKLE SWITCH (DRIVER SIDE)

Perform a unit check for the seat belt buckle switch (driver side). Refer to WCS-43, "Component Inspection". Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-92, "Removal and Installation".

>> Replace seat belt buckle (driver side). Refer to SB-11, "SEAT BELT BUCKLE: Removal and Installation".

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