SECTION WCS
WARNING CHIME SYSTEM

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000013404997

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section 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 which would result in air bag inflation, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.**
- **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:

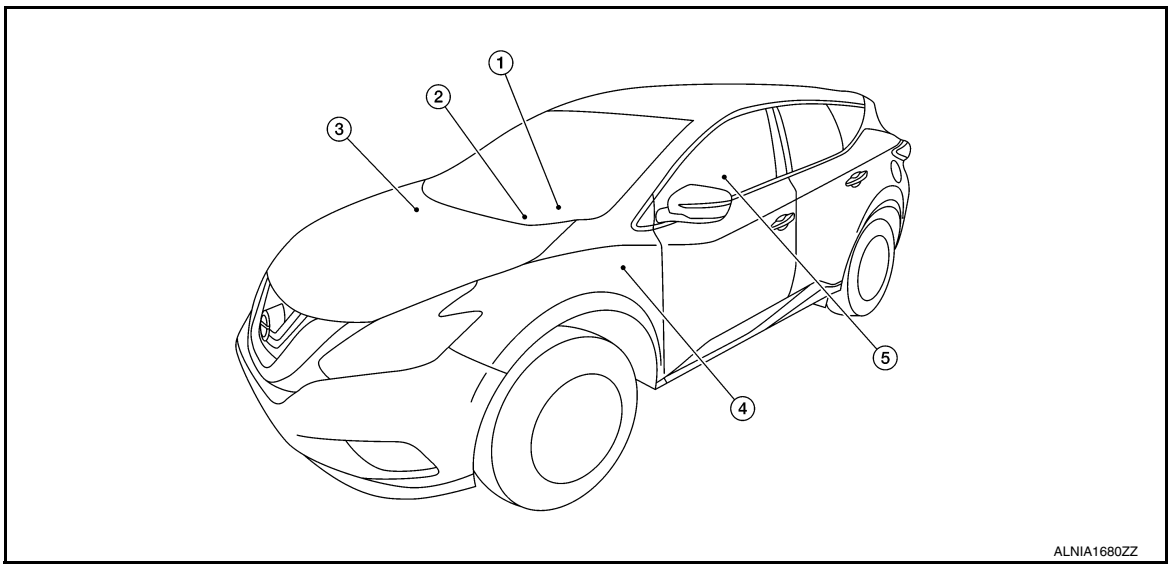
- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious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

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012874464



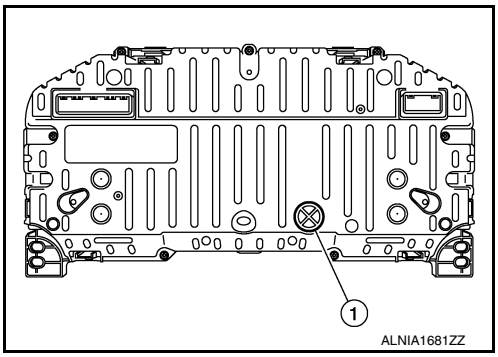
No.	Component	Function
1.	Combination meter	• Receives a buzzer output signal from the BCM via CAN communication and sounds the buzzer. • Judges whether the parking brake is released using the vehicle speed signal and the parking brake switch signal, and sounds the buzzer if necessary.
2.	BCM	Based on the signals received from various units and switches, transmits the buzzer output signal to the combination meter via CAN communication. Refer to BCS-4, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
3.	ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the combination meter via CAN communication. Refer to BRC-10, "Component Parts Location" for detailed installation location.
4.	Parking brake switch	Transmits the parking brake switch signal to the combination meter.
5.	Seat belt buckle switch LH	Transmits a seat belt buckle switch signal LH to the combination meter.

Combination Meter

INFOID:0000000012874465

The combination meter has a built-in buzzer (1) and sounds the following warnings, according to signals from each switch and unit:

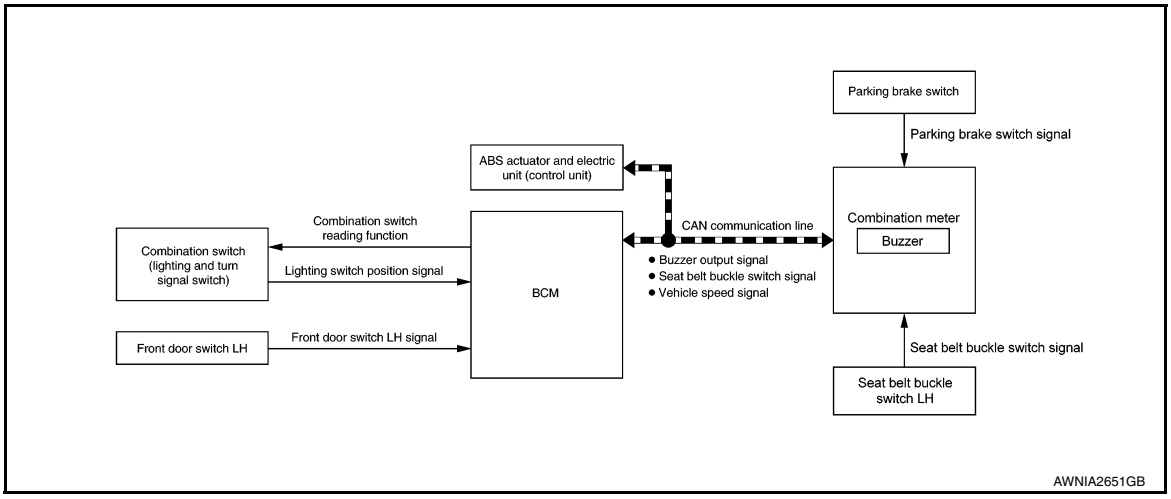
- Light reminder warning
- Parking brake release warning chime
- Seat belt warning



SYSTEM
WARNING CHIME SYSTEM
WARNING CHIME SYSTEM : System Description

INFOID:0000000012874466

SYSTEM DIAGRAM



DESCRIPTION

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	Refer to
Light reminder warning	WCS-6, "WARNING CHIME : Light Reminder Warning"
Parking brake release warning chime	WCS-7, "WARNING CHIME : Parking Brake Release Warning Chime"
Seat belt warning	WCS-8, "WARNING CHIME : Seat belt Warning"

COMBINATION METER INPUT/OUTPUT SIGNAL (CAN COMMUNICATION SIGNAL)

Input signal

Signal name	Transmit unit
Vehicle speed signal	ABS actuator and electric unit (control unit)
Buzzer output signal	BCM

Output signal

Signal name	Reception unit
Vehicle speed signal	BCM

BCM INPUT/OUTPUT SIGNAL (CAN COMMUNICATION SIGNAL)

Input signal

Signal name	Transmit unit
Vehicle speed signal	Combination meter

Output signal

Signal name	Reception unit
Buzzer output signal	Combination meter

WARNING CHIME SYSTEM : Fail-Safe

INFOID:0000000012874467

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

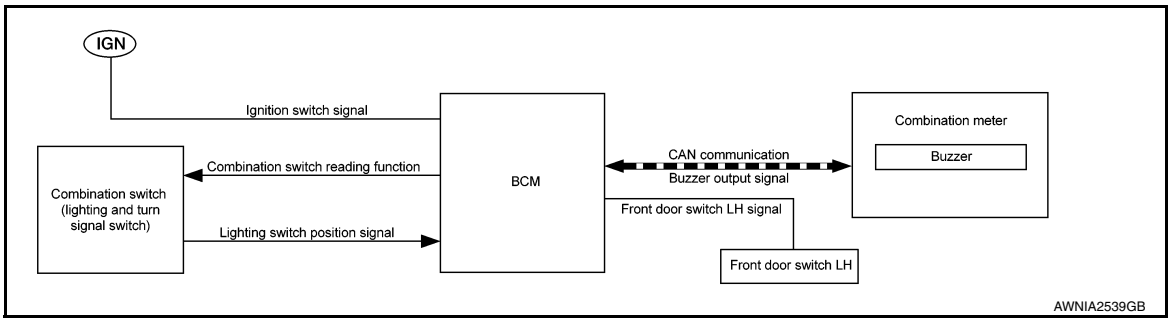
Function	Specifications
Buzzer	The buzzer turns OFF by suspending communication.

WARNING CHIME

WARNING CHIME : Light Reminder Warning

INFOID:0000000012874468

SYSTEM DIAGRAM



WARNING CHIME OPERATION CONDITIONS

If all of the following conditions are fulfilled:

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

WARNING CHIME CANCEL CONDITIONS

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

Operation conditions	
Ignition switch	ON
Combination switch (Lighting switch)	OFF or AUTO position
Driver side door	Close [front door switch LH 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 source
Ignition switch signal	—
Combination switch signal	Combination switch (Lighting switch) → BCM
Driver door switch signal	Front door switch LH → BCM

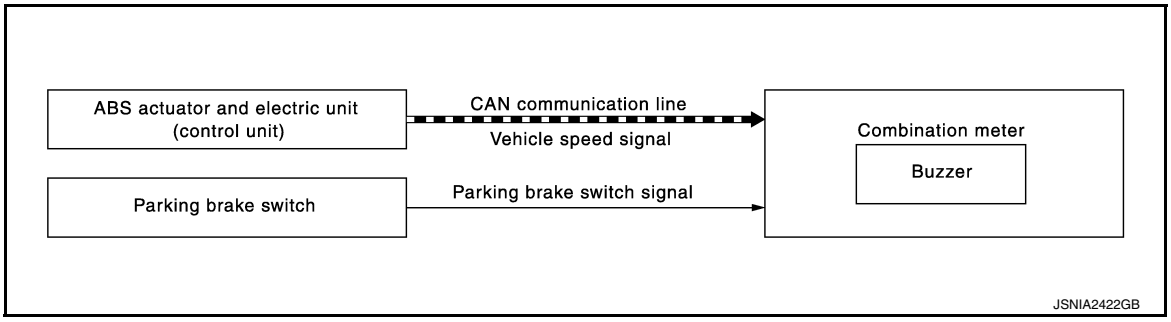
2. Combination meter sounds integrated buzzer, following the warning chime output requirement (below signal) from BCM.

Signal name	Signal source
Buzzer output signal	BCM —CAN→ Combination meter

WARNING CHIME : Parking Brake Release Warning Chime

INFOID:0000000012874469

SYSTEM DIAGRAM



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 4.3 MPH (7 km/h) 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 1.9 MPH (3 km/h) or less.

SIGNAL PATH

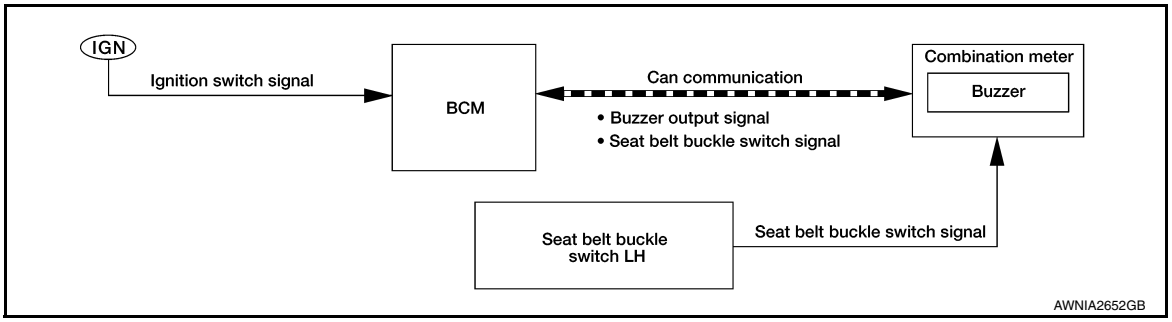
Combination meter sounds integrated buzzer when it judges that parking brake release warning chime is necessary from signals below.

Signal name	Signal source
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

WARNING CHIME : Seat belt Warning

INFOID:0000000012874470

SYSTEM DIAGRAM



WARNING OPERATION CONDITIONS

If all of the following conditions are fulfilled:

Operation conditions	
Ignition switch	ON
Seat belt buckle switch LH	Unfastened (seat belt buckle switch LH ON)

WARNING CANCEL CONDITIONS

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

Operation conditions	
Ignition switch	OFF
Seat belt buckle switch LH	Fastened (seat belt buckle switch LH 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 source
Ignition switch signal	—
Seat belt buckle switch signal LH	Seat belt buckle switch LH → Combination meter (CAN) → BCM

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

Signal name	Signal source
Buzzer output signal	BCM (CAN) → Combination meter

DIAGNOSIS SYSTEM (COMBINATION METER)

On Board Diagnosis Function

INFOID:0000000013399251

COMBINATION METER SELF-DIAGNOSIS MODE

The following meter functions can be checked during Combination Meter Self-Diagnosis Mode:

- Pointer sweep of speedometer, tachometer and gauges
- Illumination of all LCD segments and color patterns for meter displays
- Illumination of all lamps/LEDs that are controlled by the combination meter (regardless of switch status)

STARTING COMBINATION METER SELF-DIAGNOSIS MODE

NOTE:

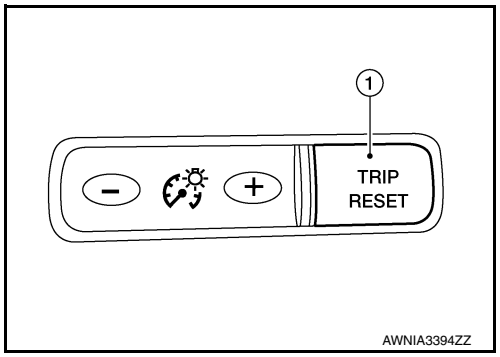
- Check combination meter power supply and ground circuits if self-diagnosis mode does not start. Refer to WCS-25, "COMBINATION METER : Diagnosis Procedure". Replace combination meter if power supply and ground circuits are found to be normal and self-diagnosis mode does not start. Refer to MWI-72, "Removal and Installation".
- Combination meter self-diagnosis mode will function with the ignition switch in ON. Combination meter self-diagnosis mode will exit upon turning the ignition switch to OFF.

How to Initiate Self-Diagnosis Mode

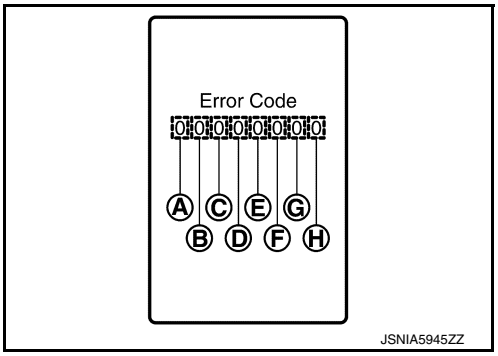
1. Turn ignition switch OFF.
2. While pressing the trip reset switch (1), turn ignition switch ON.
3. Keep pressing the trip reset switch for 1 second or more.
4. Press the trip reset switch at least 3 times within 7 seconds after the ignition switch is turned ON.
5. “Work instruction code” is indicated in the top portion of information display and self-diagnosis is started.
6. The mode switches in the order shown below each time the trip reset switch is pressed.

NOTE:

If the trip reset switch is not operated for 20 seconds or more, the self-diagnosis mode is automatically canceled.



Test order	Test item	Description
1	Work instruction code	This item is displayed, but not used.
2	Part number	
3	Software code	
4	EEPROM code	
5	Hardware code	
6	P.C.B code	
7	Circuit check	The pointer of the following items moves from 0 to MAX twice. • Speedometer • Tachometer • Engine coolant temperature gauge • Fuel gauge **NOTE:** If any of the pointers does not sweep, replace combination meter.
8	Color check	Performs the color check of the information display.
9	Error code	Displays the error code of the following items: • Speedometer • Tachometer • Engine coolant temperature gauge • Fuel gauge • Meter control switch
10	Warning/indicator lamp check	All warning/indicator lamps illuminate.



Item		Code	Description	Action to take/Reference
Ⓐ	Speedometer	0	Normal	—
		1	A vehicle speed signal cannot be received from ABS actuator and electric unit (control unit).	Perform “Self Diagnostic Result” of “ABS.” Refer to MWI-29, "DTC Index".
		2	A vehicle speed signal received from the ABS actuator and electric unit (control unit) is abnormal.	
Ⓑ	Tachometer	0	Normal	—
		1	An engine speed signal cannot be received from ECM.	Perform “Self Diagnostic Result” of “ECM.” Refer to MWI-29, "DTC Index".
Ⓒ	Fuel gauge	0	Normal	—
		1	Fuel gauge circuit is shorted.	Refer to MWI-57, "Component Function Check".
		2	Fuel gauge circuit is open.	
Ⓓ	Engine coolant temperature gauge	0	Normal	—
		1	An engine coolant temperature signal cannot be received from ECM.	Perform “Self Diagnostic Result” of “ECM.” Refer to MWI-29, "DTC Index".
Ⓔ	Meter control switch	0	Normal	—
		1	When judging that the illumination control switch signal circuit is shorted for 5 minutes or more.	Refer to MWI-55, "Diagnosis Procedure".
		2	When judging that the trip reset switch signal circuit is shorted for 5 minutes or more.	
		3	When judging that both switch signal circuit are shorted for 5 minutes or more.	
Ⓕ	—	0	Displays “0” constantly.	—
Ⓖ	—	0	Displays “0” constantly.	—
Ⓗ	—	0	Displays “0” constantly.	—

How to Reset Error Code

Error codes stored in combination meter can be reset by following the instructions below:

1. Turn ignition switch OFF.
2. While pressing the trip reset switch, turn ignition switch ON.
3. Keep pressing the trip reset switch for 1 second or more.
4. Press the trip reset switch at least 3 times within 7 seconds after the ignition switch is turned ON.
5. Turn ignition switch OFF.
6. Perform self-diagnosis and check that the error codes are reset.

CONSULT Function (METER/M&A)

INFOID:0000000013399252

APPLICATION ITEMS

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

METER/M&A Diagnosis mode	Description
Self Diagnostic Result	Displays combination meter self-diagnosis results.
Data Monitor	Displays combination meter input/output data in real time.
Work support	Displays diagnosis procedure of each work item.
Warning History	Lighting history of the warning lamp and indicator lamp can be checked.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

SELF DIAG RESULT

Refer to MWI-29, "DTC Index".

DATA MONITOR

Display Item List

X: Applicable

Display item [Unit]	MAIN SIGNALS	Description
SPEED METER	X	Displays the value of vehicle speed signal.
SPEED OUTPUT [mph or km/h]	X	Vehicle speed signal value transmitted to other units via CAN communication.
ODO OUTPUT [mph or km/h]		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.
FUEL METER [L]	X	Fuel level indicated on combination meter.
W TEMP METER [°F] or [°C]	X	Displays the value of engine coolant temperature signal, which is input from ECM.
ABS W/L [On/Off]		Displays [ON/OFF] condition of ABS warning indicator.
VDC/TCS IND [On/Off]		Displays [ON/OFF] condition of VDC OFF indicator lamp.
SLIP IND [On/Off]		Displays [ON/OFF] condition of SLIP indicator lamp.
BRAKE W/L [On/Off]		Displays [ON/OFF] condition of brake warning indicator.
DOOR W/L [On/Off]		Displays [ON/OFF] condition of door or back door warning message in the information display.
HI-BEAM IND [On/Off]		Displays [ON/OFF] condition of high beam indicator.
TURN IND [On/Off]		Displays [ON/OFF] condition of turn indicator.
LIGHT IND [On/Off]		Displays [ON/OFF] condition of light indicator.
FR FOG IND [On/Off]		Displays [ON/OFF] condition of front fog lamp indicator.
OIL W/L [On/Off]		Displays [ON/OFF] condition of low oil pressure warning message in the information display.
MIL [On/Off]		Displays [ON/OFF] condition of malfunction indicator.

Display item [Unit]	MAIN SIGNALS	Description
BA W/L [On/Off]		Displays [ON/OFF] condition of FEB warning lamp indicator.
ATC/T-AMT W/L [On/Off]		Displays [ON/OFF] condition of CVT check warning message in the information display.
CHAGE W/L [On/Off]		Displays [ON/OFF] condition of charge warning indicator.
4WD W/L [On/Off]		Displays [ON/OFF] condition of AWD warning message in the information display.
FUEL W/L [On/Off]		Displays [ON/OFF] condition of low-fuel warning message in the information display.
WASHER W/L [On/Off]		Displays [ON/OFF] condition of low washer fluid warning message in the information display.
AIR PRES W/L [On/Off]		Displays [ON/OFF] condition of tire pressure warning lamp.
KEY G/Y W/L [On/Off]		Displays [ON/OFF] condition of key green warning lamp.
EPS W/L [On/Off]		Displays [ON/OFF] condition of EPS warning indicator.
LCD		Displays the value of Intelligent Key system message indication.
ACC TARGET [On/Off]		Displays [ON/OFF] condition of vehicle ahead detection indicator in the information display.
ACC DISTANCE [Off, Short, Middle, Long]		Displays [Off, Short, Middle, Long] condition of set distance indicator in the information display.
SHIFT IND [P, R, N, D, L]		Displays shift selector position.
FUEL CAP W/L [On/Off]		Displays [ON/OFF] condition of loose fuel cap warning message in the information display.
PKB SW [On/Off]		Displays [ON/OFF] condition of parking brake switch.
BUCKLE SW [On/Off]		Displays [ON/OFF] condition of seat belt buckle switch LH.
BRAKE OIL SW [On/Off]		Displays [ON/OFF] condition of brake fluid level switch.
DISTANCE [Mi] or [km]		Displays distance to empty.
OUTSIDE TEMP [°F or °C]		Displays the ambient air temperature which is input from the ambient sensor.
FUEL LOW SIG [On/Off]		Displays [ON/OFF] condition of low-fuel warning signal.
STRG SW INPUT [SW 1-SW 10, NOT INPUT]		Displays [SW 1-SW 10, NOT INPUT] condition of steering switches.
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.
BATTERY CIRCUIT STATUS [Normal/Open]		Displays [Normal/Open] condition of battery power supply circuit.
TPMS PRESS L [On/Off]		Displays [ON/OFF] condition of tire pressure low message in the information display.
BSW IND [On/Off]		Displays [ON/OFF] condition of blind spot warning indicator.
BSW W/L [On/Off]		Displays [ON/OFF] condition of blind spot warning in the information display.

WORK SUPPORT

Work support item	Description
Outside air temperature diagnosis	A possible malfunction can be narrowed down by following the displayed instructions.
Fuel meter diagnosis (Analog pointer)	
Warning/Indicator lamp diagnosis	

WARNING HISTORY

Special menu

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

W/L ON HISTORY

- "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 and waiting for 30 seconds.
  - 1 - 39: The number of times the engine was restarted after the 0 condition.
  - NO W/L ON HISTORY: No warning/indicator lamp history is stored.

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.

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

INFOID:0000000013415355

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

Direct Diagnostic Mode	Description
ECU Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION
BCM can perform the following functions:

System	Sub System	Direct Diagnostic Mode						
		ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×	×		
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×	×		
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×			
Back door open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×			

FREEZE FRAME DATA (FFD)

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

CONSULT screen item	Indication/Unit	Description	
Vehicle Speed	km/h	Vehicle speed at the moment a particular DTC is detected	
Odo/Trip Meter	km	Total mileage (Odometer value) at the moment a particular DTC is detected	
Vehicle Condition	SLEEP>LOCK	Power position status at the moment a particular DTC is detected*	While turning BCM status from low power consumption mode to normal mode (Power supply position is “LOCK”*).
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is “OFF”.)
	LOCK>ACC		While turning power supply position from “LOCK” *to “ACC”
	ACC>ON		While turning power supply position from “ACC” to “IGN”
	RUN>ACC		While turning power supply position from “RUN” to “ACC” (Vehicle is stopped and selector lever is in P position.)
	CRANK>RUN		While turning power supply position from “CRANKING” to “RUN” (From cranking up the engine to run it)
	RUN>URGENT		While turning power supply position from “RUN“ to “ACC” (Emergency stop operation)
	ACC>OFF		While turning power supply position from “ACC” to “OFF”
	OFF>LOCK		While turning power supply position from “OFF” to “LOCK”*
	OFF>ACC		While turning power supply position from “OFF” to “ACC”
	ON>CRANK		While turning power supply position from “IGN” to “CRANKING”
	OFF>SLEEP		While turning BCM status from normal mode (Power supply position is “OFF”.) to low power consumption mode
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply position is “LOCK”*.) to low power consumption mode
	LOCK		Power supply position is “LOCK” (Ignition switch OFF)*
	OFF		Power supply position is “OFF” (Ignition switch OFF)
	ACC		Power supply position is “ACC” (Ignition switch ACC)
	ON		Power supply position is “IGN” (Ignition switch ON with engine stopped)
	ENGINE RUN		Power supply position is “RUN” (Ignition switch ON with engine running)
	CRANKING		Power supply position is “CRANKING” (At engine cranking)
IGN Counter	0 - 39	The number of times that ignition switch is turned ON after DTC is detected • The number is 0 when a malfunction is detected now. • The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition is switched 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:0000000013415356

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of door unlock sensor.
VEH SPEED 1 [km/h]	Indicates vehicle speed signal received from ABS on CAN communication line.
TAIL LAMP SW [On/Off]	Indicates condition of combination switch.
FR FOG SW [On/Off]	Indicates condition of front fog lamp switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.

ACTIVE TEST

Test Item	Description
SEAT BELT WARN TEST	This test is able to check seat belt warning chime operation [On/Off].
LIGHT WARN ALM	This test is able to check light warning chime operation [On/Off].
REVERSE WARNING	This test is able to check reverse warning chime operation [On/Off].

ECU DIAGNOSIS INFORMATION

BCM, COMBINATION METER

List of ECU Reference

INFOID:0000000012874475

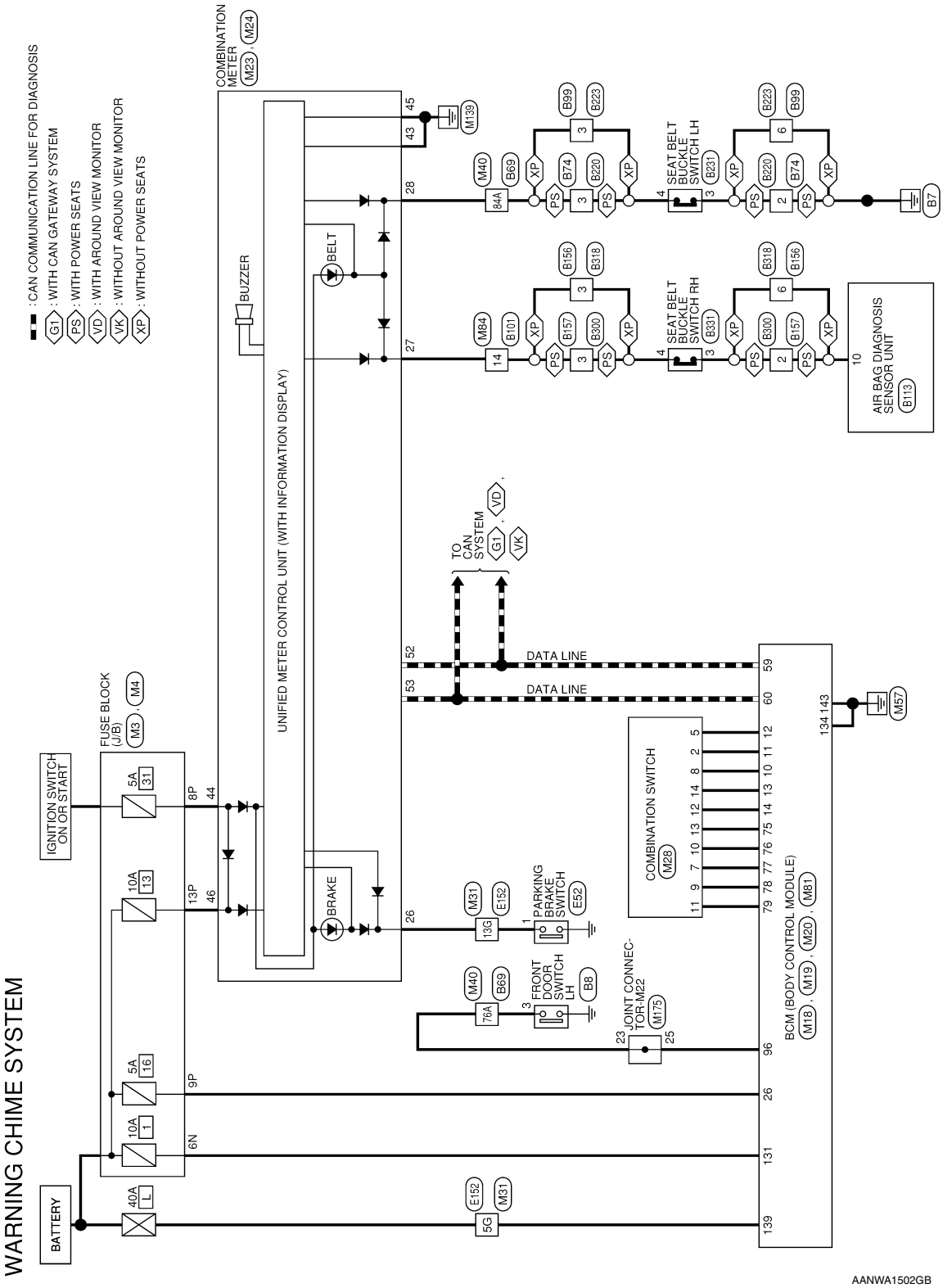
ECU	Reference
BCM	BCS-30, "Reference Value"
	BCS-50, "Fail Safe"
	BCS-51, "DTC Inspection Priority Chart"
	BCS-52, "DTC Index"
COMBINATION METER	MWI-23, "Reference Value"
	MWI-28, "Fail-safe"
	MWI-29, "DTC Index"

WIRING DIAGRAM

WARNING CHIME SYSTEM

Wiring Diagram

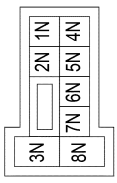
INFOID:0000000012874476



WARNING CHIME SYSTEM CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	CS06FW-M2
Connector Color	WHITE

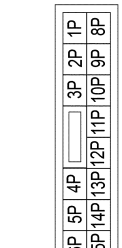
H.S.



Terminal No.	Color of Wire	Signal Name
6N	W	-

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FW-CS
Connector Color	WHITE

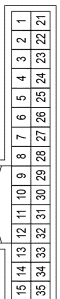
H.S.



Terminal No.	Color of Wire	Signal Name
8P	BG	-
9P	L	-
13P	W	-

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH
Connector Color	GREEN

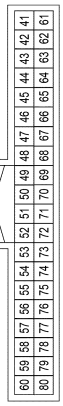
H.S.



Terminal No.	Color of Wire	Signal Name
10	W	COMBI SW IN 5
11	BG	COMBI SW IN 4
12	R	COMBI SW IN 3
13	G	COMBI SW IN 2
14	P	COMBI SW IN 1
26	L	SHORTING INPUT

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH
Connector Color	BLACK

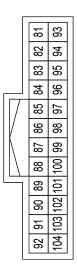
H.S.



Terminal No.	Color of Wire	Signal Name
59	P	CAN-L
60	L	CAN-H
75	BG	COMBI SW OUT 5
76	P	COMBI SW OUT 4
77	R	COMBI SW OUT 3
78	G	COMBI SW OUT 2
79	W	COMBI SW OUT 1

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH24FGY-NH
Connector Color	GRAY

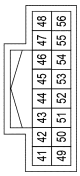
H.S.



Terminal No.	Color of Wire	Signal Name
96	BG	DR DOOR SW

Connector No.	M23
Connector Name	COMBINATION METER
Connector Type	TH16FW-NH
Connector Color	WHITE

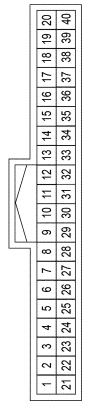
H.S.



Terminal No.	Color of Wire	Signal Name
43	B	GND1
44	BG	POWER (IGN)
45	B	GND2
46	W	POWER (BAT)
52	P	CAN-L
53	L	CAN-H

Connector No.	M24
Connector Name	COMBINATION METER
Connector Type	TH40FW-NH
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
26	BR	PKB SW
27	BR	SEAT BELT SW (AS)
28	Y	SEAT BELT SW (DR)

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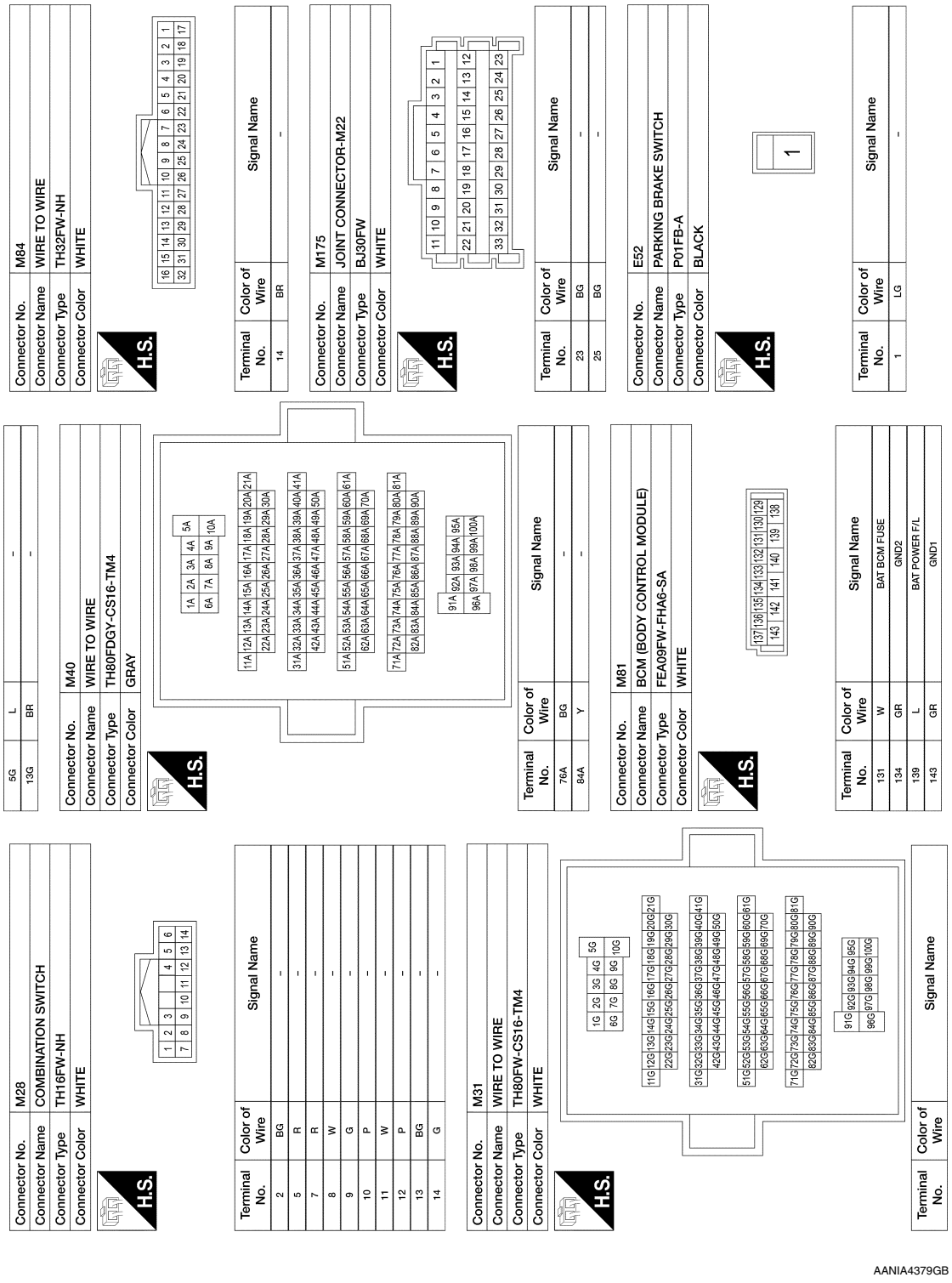
Connector No. M28
Connector Name COMBINATION SWITCH
Connector Type TH16FW-NH
Connector Color WHITE
H.S.
1 2 3 4 5 6
7 8 9 10 11 12 13 14
Terminal No. Color of Wire Signal Name
2 BG –
5 R –
7 R –
8 W –
9 G –
10 P –
11 W –
12 P –
13 BG –
14 G –
Connector No. M31
Connector Name WIRE TO WIRE
Connector Type TH80FW-CS16-TM4
Connector Color WHITE
H.S.
1G 2G 3G 4G 5G
6G 7G 8G 9G 10G
11G 12G 13G 14G 15G 16G 17G 18G 19G 20G 21G
22G 23G 24G 25G 26G 27G 28G 29G 30G
31G 32G 33G 34G 35G 36G 37G 38G 39G 40G 41G
42G 43G 44G 45G 46G 47G 48G 49G 50G
51G 52G 53G 54G 55G 56G 57G 58G 59G 60G 61G
62G 63G 64G 65G 66G 67G 68G 69G 70G
71G 72G 73G 74G 75G 76G 77G 78G 79G 80G 81G
82G 83G 84G 85G 86G 87G 88G 89G 90G
91G 92G 93G 94G 95G
96G 97G 98G 99G 100G
Terminal No. Color of Wire Signal Name
5G L –
13G BR –
Connector No. M40
Connector Name WIRE TO WIRE
Connector Type TH80FDGY-CS16-TM4
Connector Color GRAY
H.S.
1A 2A 3A 4A 5A
6A 7A 8A 9A 10A
11A 12A 13A 14A 15A 16A 17A 18A 19A 20A 21A
22A 23A 24A 25A 26A 27A 28A 29A 30A
31A 32A 33A 34A 35A 36A 37A 38A 39A 40A 41A
42A 43A 44A 45A 46A 47A 48A 49A 50A
51A 52A 53A 54A 55A 56A 57A 58A 59A 60A 61A
62A 63A 64A 65A 66A 67A 68A 69A 70A
71A 72A 73A 74A 75A 76A 77A 78A 79A 80A 81A
82A 83A 84A 85A 86A 87A 88A 89A 90A
91A 92A 93A 94A 95A
96A 97A 98A 99A 100A
Terminal No. Color of Wire Signal Name
76A BG –
84A Y –
Connector No. M81
Connector Name BCM (BODY CONTROL MODULE)
Connector Type FEA09FW-FHA6-SA
Connector Color WHITE
H.S.
137 138 135 134 133 132 131 130 129
143 142 141 140 139 138
Terminal No. Color of Wire Signal Name
131 W BAT BCM FUSE
134 GR GND2
139 L BAT POWER F/L
143 GR GND1
Connector No. M84
Connector Name WIRE TO WIRE
Connector Type TH32FW-NH
Connector Color WHITE
H.S.
16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17
Terminal No. Color of Wire Signal Name
14 BR –
Connector No. M175
Connector Name JOINT CONNECTOR-M22
Connector Type BJ30FW
Connector Color WHITE
H.S.
11 10 9 8 7 6 5 4 3 2 1
22 21 20 19 18 17 16 15 14 13 12
33 32 31 30 29 28 27 26 25 24 23
Terminal No. Color of Wire Signal Name
23 BG –
25 BG –
Connector No. E52
Connector Name PARKING BRAKE SWITCH
Connector Type P01FB-A
Connector Color BLACK
H.S.
1
Terminal No. Color of Wire Signal Name
1 LG –
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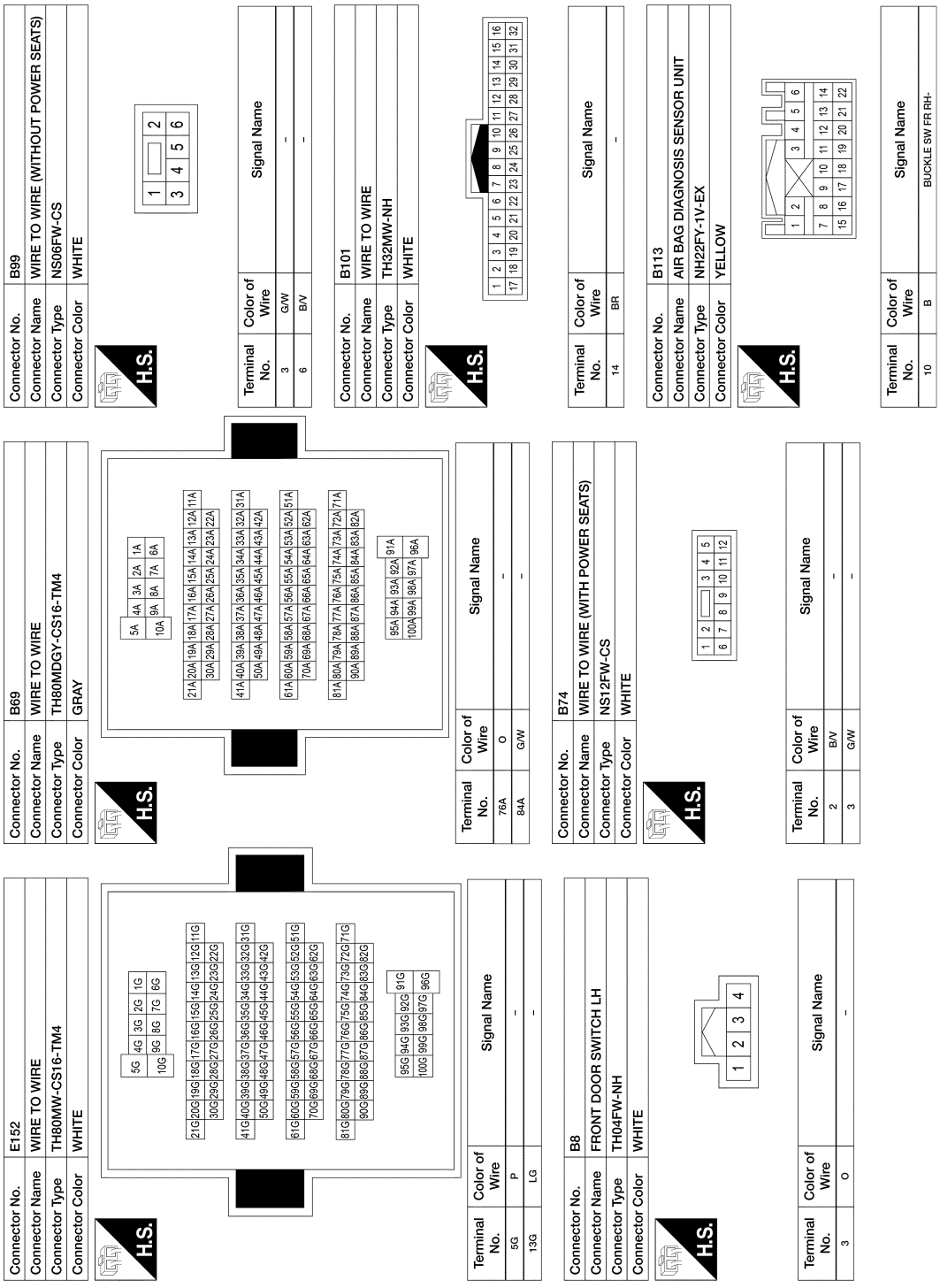

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Connector No.	B156
Connector Name	WIRE TO WIRE (WITHOUT POWER SEATS)
Connector Type	NS06FW-CS
Connector Color	WHITE

H.S.

1		2
3	4	5	6

Terminal No.	Color of Wire	Signal Name
3	BR	–
6	B	–

Connector No.	B157
Connector Name	WIRE TO WIRE
Connector Type	NS12FW-CS
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	B	–
3	BR	–

Connector No.	B220
Connector Name	WIRE TO WIRE (WITH POWER SEATS)
Connector Type	NS12MW-CS
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	P	–
3	BR	–

Connector No.	B223
Connector Name	WIRE TO WIRE
Connector Type	NS06MW-CS
Connector Color	WHITE

H.S.

2		1
6	5	4	3

Terminal No.	Color of Wire	Signal Name
3	BR	–
6	P	–

Connector No.	B231
Connector Name	SEAT BELT BUCKLE SWITCH LH
Connector Type	TH04MW-NH
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
3	P	–
4	BR	–

Connector No.	B300
Connector Name	WIRE TO WIRE
Connector Type	NS12MW-CS
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	B	–
3	BG	–

Connector No.	B318
Connector Name	WIRE TO WIRE (WITHOUT POWER SEATS)
Connector Type	NS06MW-CS
Connector Color	WHITE

H.S.

2		1
6	5	4	3

Terminal No.	Color of Wire	Signal Name
3	BR	–
6	P	–

Connector No.	B331
Connector Name	SEAT BELT BUCKLE SWITCH RH
Connector Type	TH04MW-NH
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
3	P	–
4	BR	–

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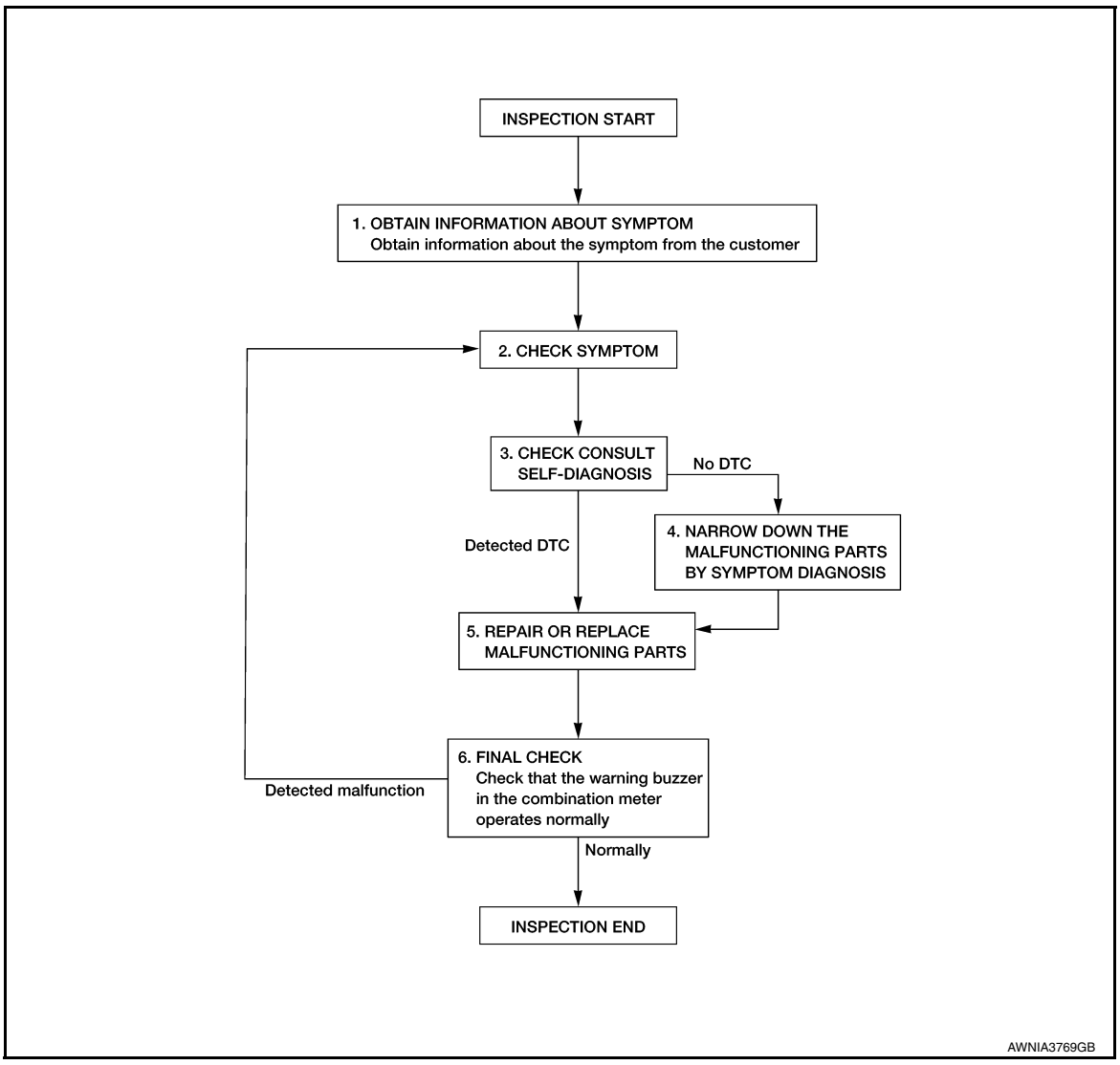
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000012874477

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

Perform self-diagnosis. Refer to MWI-29, "DTC Index".

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 5.

4. NARROW DOWN MALFUNCTIONING PARTS BY SYMPTOM DIAGNOSIS

Perform symptom diagnosis. Refer to WCS-31, "Symptom Table".

>> 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.

Is the inspection result normal?

YES >> Inspection End.
NO >> GO TO 2.

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT
COMBINATION METER

COMBINATION METER : Diagnosis Procedure

INFOID:0000000013399253

Regarding Wiring Diagram information, refer to MWI-31, "Wiring Diagram".

1.CHECK FUSES

Check that the following fuses are not blown:

Unit	Power source	Fuse No.
Combination meter	Battery	13
	Ignition switch ON or ACC	21
	Ignition switch ON or START	31

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Disconnect combination meter harness connector M24.
2. Check voltage between combination meter harness connector M24 and ground.

Combination meter		Ground	Ignition switch position		
Connector	Terminal		OFF	ON or ACC	START
M24	14	(–)	0 V	Battery voltage	Battery voltage
M23	44		0 V	Battery voltage	Battery voltage
	46		Battery voltage	Battery voltage	Battery voltage

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between combination meter harness connector M23, M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	10	(–)	Yes
M23	43		
	45		

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace harness or connector.

BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:0000000013415357

Regarding Wiring Diagram information, refer to BCS-55, "Wiring Diagram".

1. CHECK FUSE AND FUSIBLE LINK

Check that the following fuse and fusible link are not blown.

Signal name	Fuse and fusible link No.
Fusible link battery power	L (40A)
BCM battery fuse	1 (10A)

Is the fuse or fusible link blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M81.
2. Check voltage between BCM connector M81 terminals 131, 139 and ground.

BCM		Ground	Voltage (Approx.)
Connector	Terminal		
M81	131	—	Battery voltage
	139		

Is the inspection result normal?

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

3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M81 terminals 134, 143 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M81	134	—	Yes
	143		

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace harness or connectors.

METER BUZZER CIRCUIT

Component Function Check

INFOID:0000000012874480

1. CHECK OPERATION OF METER BUZZER

CONSULT
1. Select “BUZZER” of “BCM”.
2. Select “LIGHT WARN ALM” in “Active Test” mode.

Is the inspection result normal?

YES >> Inspection End.
NO >> Refer to WCS-27, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012874481

1. CHECK POWER SUPPLY OF COMBINATION METER

Check power supply of combination meter. Refer to MWI-53, "COMBINATION METER : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-72, "Removal and Installation".
NO >> Repair power supply circuit of combination meter.

SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT

Component Function Check

INFOID:0000000012874482

1. CHECK COMBINATION METER INPUT SIGNAL

CONSULT
1. Select “Data Monitor” mode of “METER/M&A”.
2. Select “BUCKLE SW”.
3. Check that the function operates normally according to the following conditions:

Monitor item	Condition	Status
BUCKLE SW	When seat belt LH is fastened	OFF
	When seat belt LH is unfastened	ON

Is the inspection result normal?

YES >> Inspection End.
NO >> Refer to WCS-28, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012874483

Regarding Wiring Diagram information, refer to WCS-18, "Wiring Diagram".

1. CHECK COMBINATION METER INPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between combination meter harness connector M24 terminal 28 and ground.

Combination meter			Condition	Voltage (Approx.)
Connector	Terminals			
M24	28	Ground	When driver seat belt is fastened	Battery voltage
			When driver seat belt is unfastened	0 V

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-72, "Removal and Installation".
NO >> GO TO 2.

2. CHECK SEAT BELT BUCKLE SWITCH LH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter harness connector M24 and seat belt buckle switch LH harness connector B231.
3. Check continuity between combination meter harness connector M24 terminal 28 and seat belt buckle switch LH harness connector B231 terminal 4.

Combination meter		Seat belt buckle switch LH		Continuity
Connector	Terminal	Connector	Terminal	
M24	28	B231	4	Yes

4. Check continuity between combination meter harness connector M24 terminal 28 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	28		No

Is the inspection result normal?

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

3. CHECK SEAT BELT BUCKLE SWITCH LH GROUND CIRCUIT

Check harness continuity between seat belt buckle switch LH harness connector B231 terminal 3 and ground.

Seat belt buckle switch LH		Ground	Continuity
Connector	Terminal		
B231	3		Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace harness or connector.

Component Inspection

INFOID:0000000012874484

1. CHECK SEAT BELT BUCKLE SWITCH LH

1. Turn ignition switch OFF.
2. Disconnect the seat belt buckle switch LH connector.
3. Check continuity between the seat belt buckle switch LH terminals 3 and 4.

Condition	Terminal	Continuity
When seat belt buckle LH is fastened	3– 4	No
When seat belt buckle LH is unfastened		Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace the seat belt buckle switch LH. Refer to SR-32, "Removal and Installation".

PARKING BRAKE SWITCH SIGNAL CIRCUIT

Component Function Check

INFOID:0000000012874485

1.COMBINATION METER INPUT SIGNAL

CONSULT
1. Select “Data Monitor” mode of “METER/M&A”.
2. Select “PKB SW”.
3. Check that the function operates normally according to the following conditions:

Monitor item	Condition	Status
PKB SW	When parking brake is applied	ON
	When parking brake is released	OFF

Is the inspection result normal?

YES >> Inspection End.
NO >> Refer to WCS-30, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012874486

Regarding Wiring Diagram information, refer to WCS-18, "Wiring Diagram".

1.CHECK PARKING BRAKE SWITCH CIRCUIT

1. Disconnect combination meter harness connector M24 and parking brake switch harness connector E52.
2. Check continuity between combination meter harness connector M24 terminal 26 and parking brake switch harness connector E52 terminal 1.

Combination meter		Parking brake switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	26	E52	1	Yes

3. Check continuity between combination meter harness connector M24 terminal 26 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	26		No

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace harness or connector.

Component Inspection

INFOID:0000000012874487

1.CHECK PARKING BRAKE SWITCH

Check continuity between parking brake switch terminal 1 and switch case ground.

Component	Terminal	Condition	Continuity
Parking brake switch	1	Parking brake applied	Yes
		Parking brake released	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace parking brake switch. Refer to PB-10, "Removal and Installation".

SYMPTOM DIAGNOSIS

WARNING CHIME SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000012874488

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

Symptom	Possible cause	Inspection item
The light reminder warning does not sound.	• Harness between BCM and front door switch LH. • Front door switch LH. • BCM • Combination meter	Refer to WCS-32.
The parking brake release warning continues sounding or does not sound.	• Harness between combination meter and parking brake switch. • Parking brake switch • BCM • Combination meter	Refer to WCS-34.
The seat belt warning continues sounding or does not sound.	• Harness between combination meter and seat belt buckle switch LH. • Seat belt buckle switch LH. • BCM • Combination meter	Refer to WCS-33.
Warning chime does not sound at all.	Combination meter	Refer to WCS-27.

THE LIGHT REMINDER WARNING DOES NOT SOUND

Description

INFOID:0000000012874489

Light reminder warning does not sound even though headlamp is illuminated.

Diagnosis Procedure

INFOID:0000000012874490

1.CHECK COMBINATION SWITCH (LIGHTING SWITCH) OPERATION

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

Do they operate normally?

YES >> GO TO 2.
NO >> Refer to EXL-98, "Symptom Table" (with LED headlamps) or EXL-217, "Symptom Table" (with halogen headlamps).

2.CHECK FRONT DOOR SWITCH LH SIGNAL CIRCUIT

Check the front door switch LH signal circuit. Refer to DLK-202, "Diagnosis Procedure".

Is the inspection result normal?

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

3.CHECK FRONT DOOR SWITCH LH

Check the front door switch LH. Refer to DLK-203, "Component Inspection".

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".
NO >> Replace front door switch LH. Refer to DLK-332, "Removal and Installation".

THE SEAT BELT WARNING CONTINUES SOUNDING, OR DOES NOT SOUND

Description

INFOID:0000000012874491

- Seat belt warning does not sound even though driver seat belt is not fastened.
- Seat belt warning sounds even though driver seat belt is fastened.

Diagnosis Procedure

INFOID:0000000012874492

1.CHECK WARNING CHIME OPERATION

CONSULT
1. Select “BUZZER” of “BCM”.
2. Select “SEAT BELT WARN TEST” in “Active Test” mode.
3. Touch “ON/OFF” to check that the function operates normally.

Component	CONSULT	Condition
Buzzer	SEAT BELT WARN TEST	ON
		OFF

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace combination meter. Refer to MWI-72, "Removal and Installation".

2.CHECK COMBINATION METER INPUT SIGNAL

Check the combination meter input signal. Refer to WCS-28, "Component Function Check".

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".
NO >> GO TO 3.

3.CHECK SEAT BELT BUCKLE SWITCH LH CIRCUIT

Check the seat belt buckle switch LH circuit. Refer to WCS-28, "Diagnosis Procedure".

Is the inspection result normal?

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

4.CHECK SEAT BELT BUCKLE SWITCH LH

Check the seat belt buckle switch LH. Refer to WCS-29, "Component Inspection".

Is the inspection result normal?

YES >> Replace the combination meter. Refer to MWI-72, "Removal and Installation".
NO >> Replace the seat belt buckle switch LH. Refer to SR-32, "Removal and Installation".

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

Description

INFOID:0000000012874493

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

Diagnosis Procedure

INFOID:0000000012874494

1. CHECK PARKING BRAKE WARNING LAMP

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

Condition	Warning lamp status
Parking brake applied	ON
Parking brake released	OFF

Is the inspection result normal?

YES >> Replace the combination meter. Refer to MWI-72, "Removal and Installation".
NO >> GO TO 2.

2. CHECK PARKING BRAKE SWITCH SIGNAL CIRCUIT

Check the parking brake switch signal circuit. Refer to WCS-30, "Diagnosis Procedure".

Is the inspection result normal?

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

3. CHECK PARKING BRAKE SWITCH UNIT

Check the parking brake switch. Refer to WCS-30, "Component Inspection".

Is the inspection result normal?

YES >> Replace the combination meter. Refer to MWI-72, "Removal and Installation".
NO >> Replace the parking brake switch. Refer to PB-10, "Removal and Installation".