SECTION MWI
METER, WARNING LAMP & INDICATOR

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PRECAUTION

PRECAUTIONS

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

INFOID:0000000013381901

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.**

Precaution for Work

INFOID:0000000012874391

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:

- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:

- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

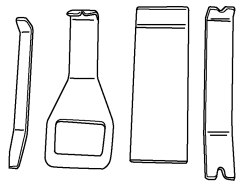
PREPARATION

PREPARATION

Special Service Tool

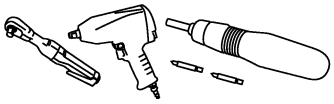
INFOID:0000000012874392

The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim tool set  AWJIA0483ZZ	Removing trim components

Commercial Service Tools

INFOID:0000000012874393

(TechMate No.) Tool name	Description
(—) Power tool  PIIB1407E	Loosening nuts, screws and bolts

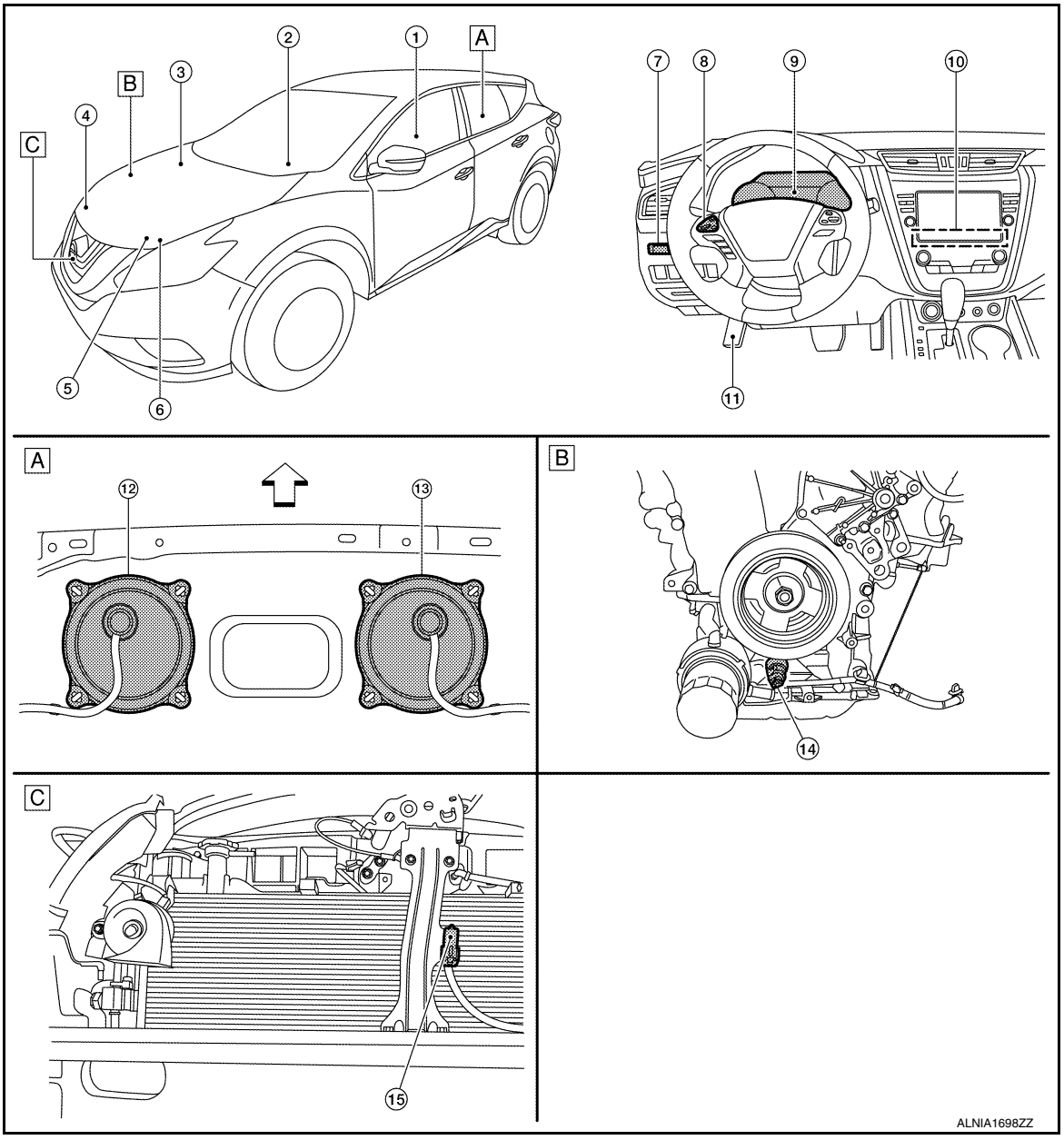
SYSTEM DESCRIPTION

COMPONENT PARTS

METER SYSTEM

METER SYSTEM : Component Parts Location

INFOID:0000000012874394



⇦ :Vehicle front

A. View of the inspection hole covers with the second row seat removed

B. View of front engine assembly

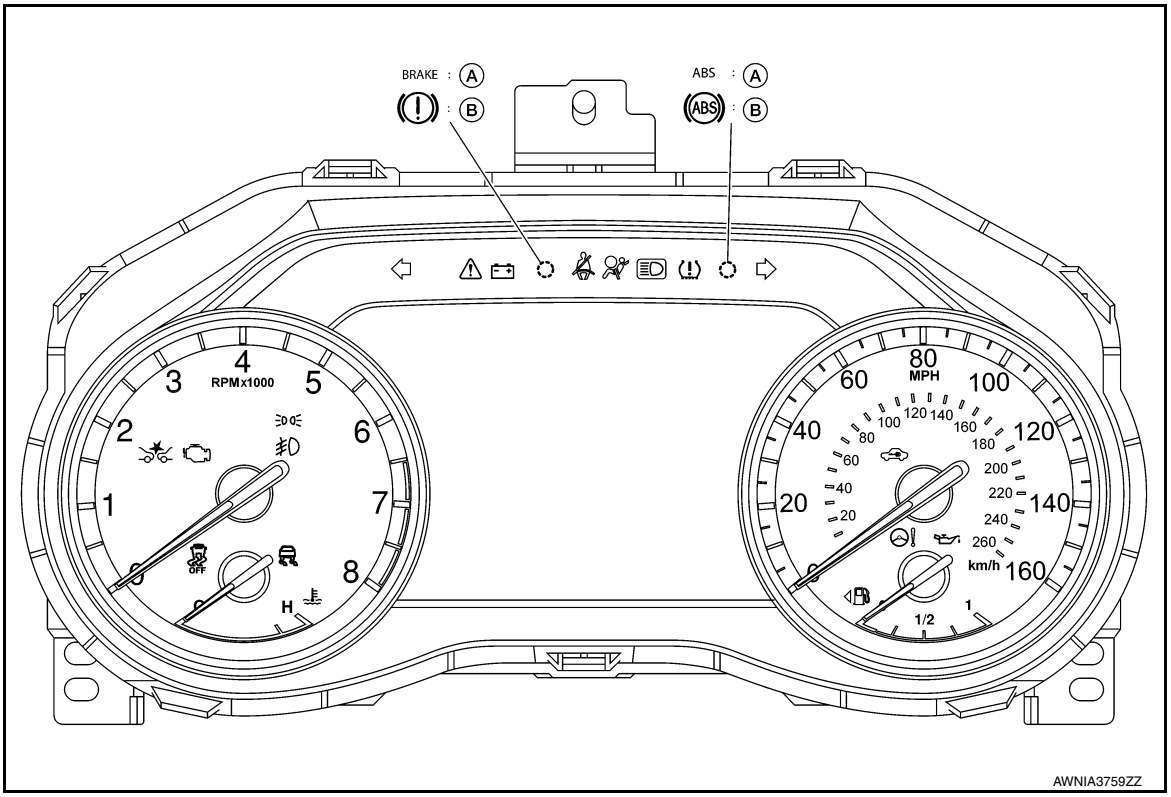
C. View with front fascia removed

No.	Component	Function
1.	Seat belt buckle switch LH	Transmits the seat belt buckle switch LH signal to the combination meter.
2.	BCM	• Transmits each signal to the combination meter via CAN communication. Refer to MWI-9, "METER SYSTEM : System Description". • Refer to BCS-4, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
3.	ABS actuator and electric unit (control unit)	• Transmits each signal to the combination meter via CAN communication. Refer to MWI-9, "METER SYSTEM : System Description". • Refer to BRC-10, "Component Parts Location" (without ICC) or BRC-180, "Component Parts Location" (with ICC) for detailed installation location.
4.	Washer fluid level switch	• Transmits the washer fluid level switch signal to the combination meter. • Refer to WW-6, "Component Parts Location" for detailed installation location.
5.	ECM	• Transmits each signal to the combination meter via CAN communication. Refer to MWI-9, "METER SYSTEM : System Description". • Refer to EC-15, "ENGINE CONTROL SYSTEM : Component Parts Location" for detailed installation location.
6.	TCM	• Transmits each signal to the combination meter via CAN communication. Refer to MWI-9, "METER SYSTEM : System Description". • Refer to TM-11, "CVT CONTROL SYSTEM : Component Parts Location" for detailed installation location.
7.	Meter control switch	Refer to MWI-17, "Switch Name and Function".
8.	Steering switches	Refer to MWI-17, "Switch Name and Function".
9.	Combination meter	Refer to MWI-9, "METER SYSTEM : System Description".
10.	A/C auto amp.	• Transmits the ambient sensor signal to the combination meter via CAN communication. • Refer to HAC-6, "Component Parts Location" for detailed installation location.
11.	Parking brake switch	Transmits the parking brake switch signal to the combination meter.
12.	Fuel level sensor unit and fuel pump (fuel level sensor)	Transmits the fuel level sensor signal to the combination meter.
13.	Fuel level sensor unit (sub)	Transmits the fuel level sensor signal to the combination meter.
14.	Engine oil pressure sensor	Transmits the engine oil pressure sensor signal to the ECM.
15.	Ambient sensor	• Transmits the ambient sensor signal to the A/C auto amp. • Refer to HAC-6, "Component Parts Location" for detailed installation location.

METER SYSTEM : Design

INFOID:0000000012874395

ARRANGEMENT OF COMBINATION METER



A: USA B: Except USA

METER SYSTEM : Combination Meter

INFOID:0000000012874396

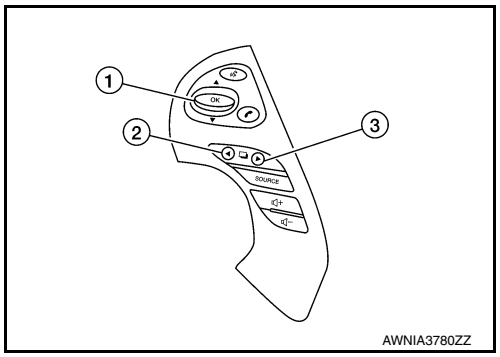
The combination meter controls the following items according to the signals received from each unit via CAN communication and the signals from switches and sensors:

- Speedometer
- Tachometer
- Engine coolant temperature gauge
- Fuel gauge
- Indicator lamps
- Warning lamps
- Meter illumination control
- Meter effect function
- Information display

METER SYSTEM : Steering Switches

INFOID:0000000012874397

- The steering switches are located on the steering wheel.
- The meter system transmits the steering switch signal to the combination meter.



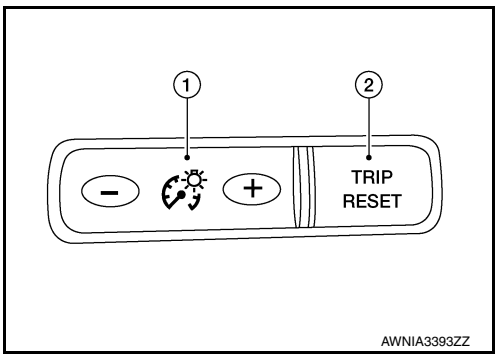
No.	Switch name	Operation	Description
1.	Enter/Up/Down switch	Press	The information display settings can be changed.
2.	Back switch		
3.	Display switch		

METER SYSTEM : Meter Control Switch

INFOID:0000000012874398

- The meter control switch is located on the instrument lower panel LH.
- The meter control switch transmits the following signals to the combination meter:

- Trip reset switch signal
- Illumination control switch signal (+)
- Illumination control switch signal (−)

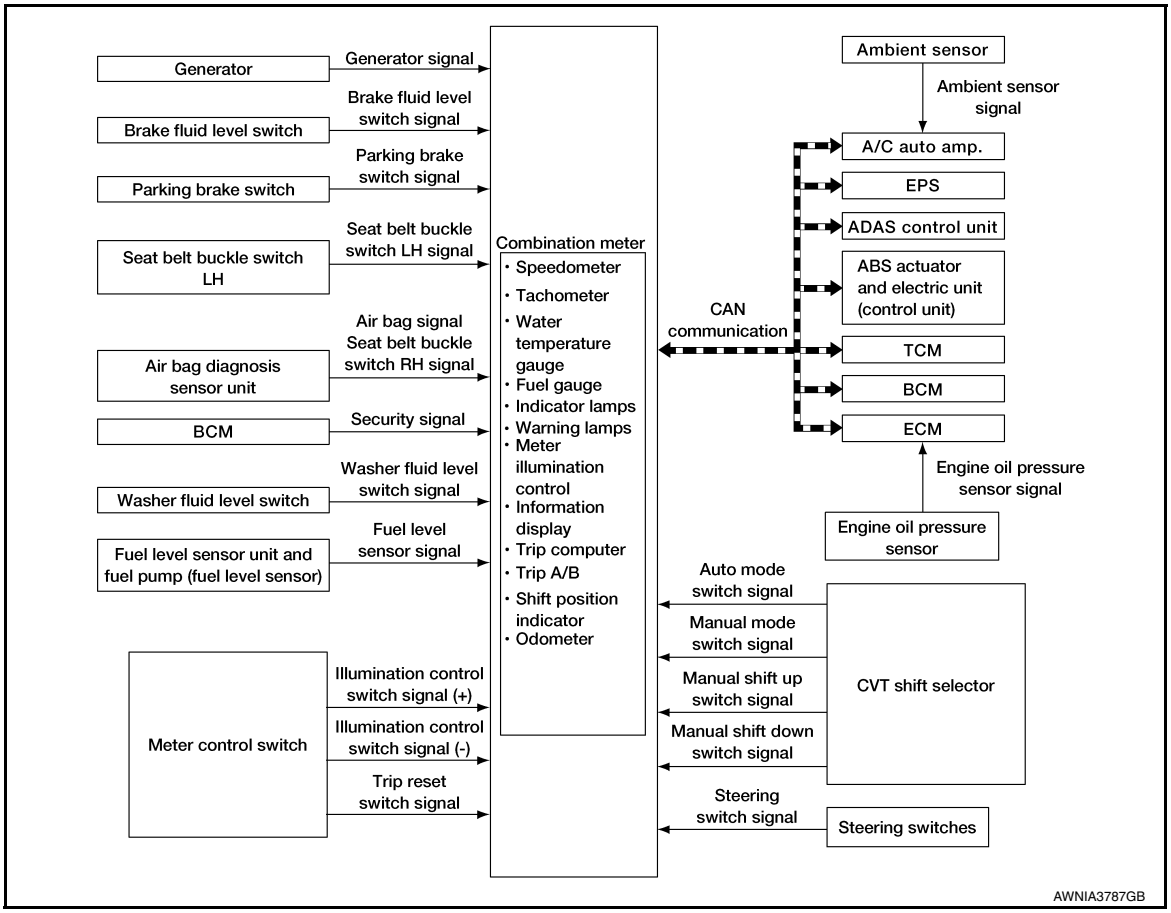


No.	Switch name	Operation	Description
1.	Illumination control switch	Press	An illuminance level of the back light of the combination meter can be adjusted.
2.	Trip reset switch	Press	• The trip meter can be switched between A and B. • Trip meter A/B can be reset by pressing and holding the trip reset switch. • A trip computer value displayed on the information display can be reset by pressing and holding the trip reset switch for 1 second or more. • All trip computer values can be reset by pressing and holding the trip reset switch for 3 seconds or more.

SYSTEM
METER SYSTEM
METER SYSTEM : System Description

INFOID:0000000012874399

SYSTEM DIAGRAM



Combination Meter Input Signal (CAN Communication Signal)

Transmit unit	Signal name
ABS actuator and electric unit (control unit)	Vehicle speed signal
	ABS warning lamp signal
	VDC warning lamp signal
	VDC OFF indicator lamp signal
	Brake warning lamp signal

Transmit unit	Signal name
BCM	Dimmer signal
	Position light request signal
	Door switch signal
	Front fog light request signal
	High beam request signal
	Meter display signal
	Sleep wake up signal
	Buzzer output signal
	Tire pressure data signal
	Key ID signal
	Turn indicator signal
	TPMS malfunction warning lamp signal
	Starter relay status signal
	Low tire pressure warning lamp signal
TCM	Shift position signal
	CVT CHECK warning lamp signal
ECM	Engine speed signal
	ASCD status signal
	Engine coolant temperature signal
	Fuel consumption monitor signal
	Malfunctioning indicator lamp signal
	Engine status signal
	Engine oil pressure sensor signal
	Fuel-filler cap warning display signal
AWD control unit	AWD warning lamp signal
A/C auto amp.	Ambient sensor signal
ADAS control unit	BSW warning lamp signal
	ICC warning lamp signal
	FEB warning lamp signal

DESCRIPTION

Combination Meter

The combination meter controls the following items according to the signals received from each unit via CAN communication and the signals from switches and sensors:

- Speedometer
- Tachometer
- Engine coolant temperature gauge
- Fuel gauge
- Warning lamps
- Indicator lamps
- Meter illumination control
- Meter effect function
- Information display

The combination meter incorporates a buzzer function that sounds an audible alarm with the integrated buzzer. Refer to WCS-5, "WARNING CHIME SYSTEM : System Description" for further details.

The combination meter includes an on board diagnosis function.

The combination meter can be diagnosed with CONSULT.

METER CONTROL FUNCTION LIST

System		Description	Reference
Measuring instruments	Speedometer	Indicates vehicle speed.	MWI-12, "SPEEDOMETER : System Description"
	Tachometer	Indicates engine speed.	MWI-13, "TACHOMETER : System Description"
	Engine coolant temperature gauge	Indicates engine coolant temperature.	MWI-13, "ENGINE COOLANT TEMPERATURE GAUGE : System Description"
	Fuel gauge	Indicates fuel level.	MWI-13, "FUEL GAUGE : System Description"
Information display		The information display displays status according to system malfunction or vehicle condition.	MWI-15, "INFORMATION DISPLAY : System Description"
Meter illumination control	Meter illumination control function	Switches back and forth between daytime mode and nighttime mode according to a light switch position.	MWI-14, "METER ILLUMINATION CONTROL : System Description"
	Back light illumination control function	The operation of the illumination control switch allows the brightness adjustment of meter illumination.	
Meter effect function	Engine-start effect function	Controls pointers of combination meter, back light illumination and information display at engine start to produce illumination effects.	MWI-14, "METER EFFECT FUNCTION : System Description"
	Driver welcome function	Controls meter illumination to produce illumination effects when getting in the vehicle.	

METER SYSTEM : Fail-safe

INFOID:0000000013434513

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

Function	Specifications
Speedometer	Reset to zero by suspending communication.
Tachometer	
Engine coolant temperature gauge	
Meter illumination control	When suspending communication, it changes to nighttime mode.
Buzzer	Turns OFF by suspending communication.

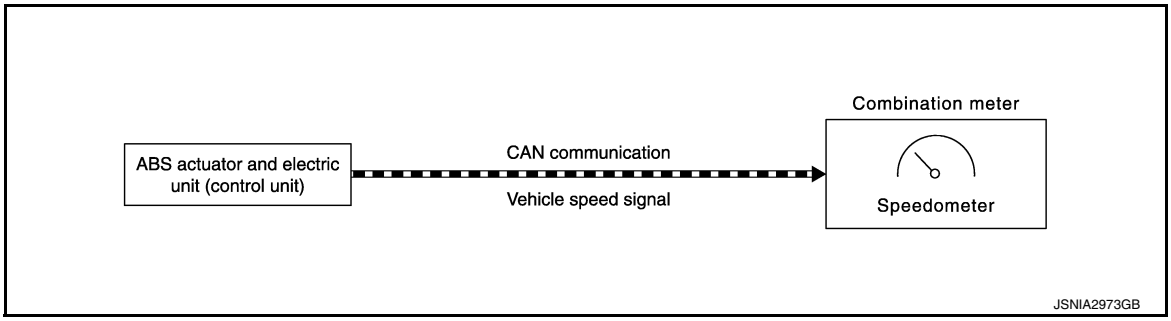
Function		Specifications
Information display	Current fuel consumption	The last result calculated during normal condition is indicated.
	Average fuel consumption	
	Average vehicle speed	
	Range (Distance to empty)	
	Driving distance	
	Door open warning	The display turns OFF by suspending communication.
	Back door open warning	
	Low tire pressure warning	
	Parking brake release warning	
	Fuel-filler cap warning	
	Oil pressure warning	
	AWD warning lamp	
	BSW warning	
	Odo/trip meter	An indicated value is maintained at communications blackout.
	Shift position indicator	The indicator turns OFF by suspending communication.
Warning lamp/indicator lamp	ABS warning lamp	Turns ON by suspending communication.
	Brake warning lamp	
	EPS warning lamp	
	VDC warning lamp	
	FEB warning lamp	
	Malfunction indicator lamp	
	Air bag warning lamp	
	Charge warning lamp	
	VDC OFF indicator lamp	Turns OFF by suspending communication.
	High beam indicator lamp	
	Turn signal indicator lamp	
	Position lamp indicator lamp	
	Front fog lamp indicator lamp	
	Low tire pressure warning lamp	After blinking for 1 minute, the lamp remains ON.

SPEEDOMETER

SPEEDOMETER : System Description

INFOID:0000000012874401

SYSTEM DIAGRAM



DESCRIPTION

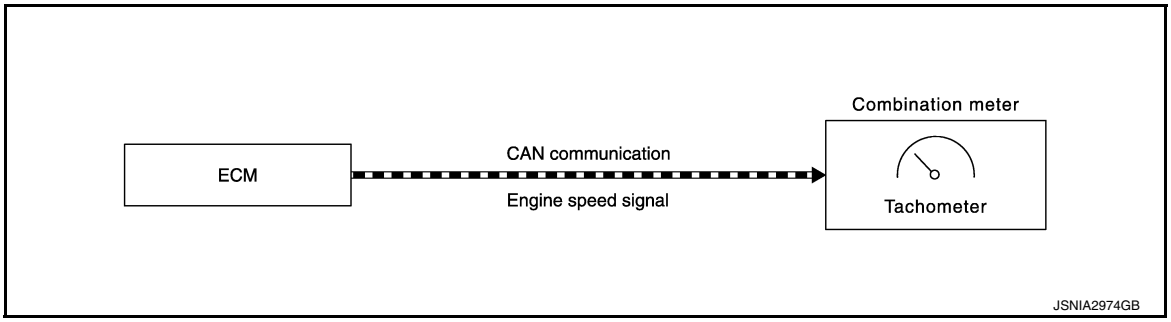
The ABS actuator and electric unit (control unit) receives each wheel speed sensor signal and provides a vehicle speed signal to the combination meter via CAN communication lines.

TACHOMETER

TACHOMETER : System Description

INFOID:0000000012874402

SYSTEM DIAGRAM



DESCRIPTION

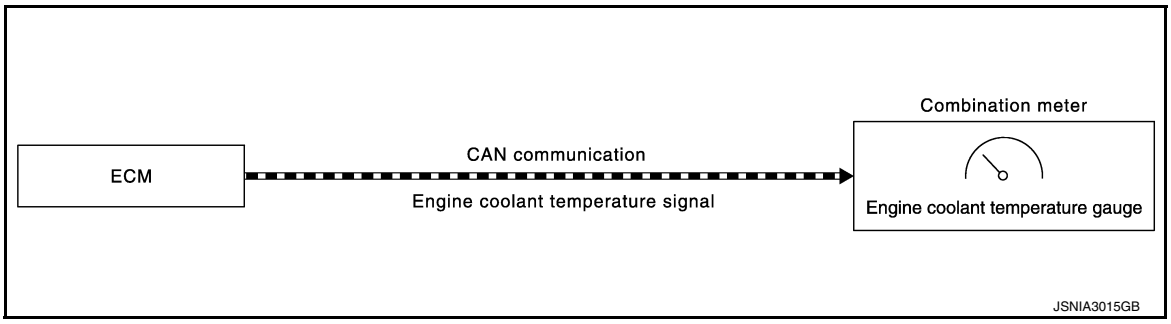
The crank position sensor sends a crankshaft position signal to the ECM. The ECM provides an engine speed signal to the combination meter via CAN communication lines. The tachometer indicates engine speed in revolutions per minute (rpm).

ENGINE COOLANT TEMPERATURE GAUGE

ENGINE COOLANT TEMPERATURE GAUGE : System Description

INFOID:0000000012874403

SYSTEM DIAGRAM



DESCRIPTION

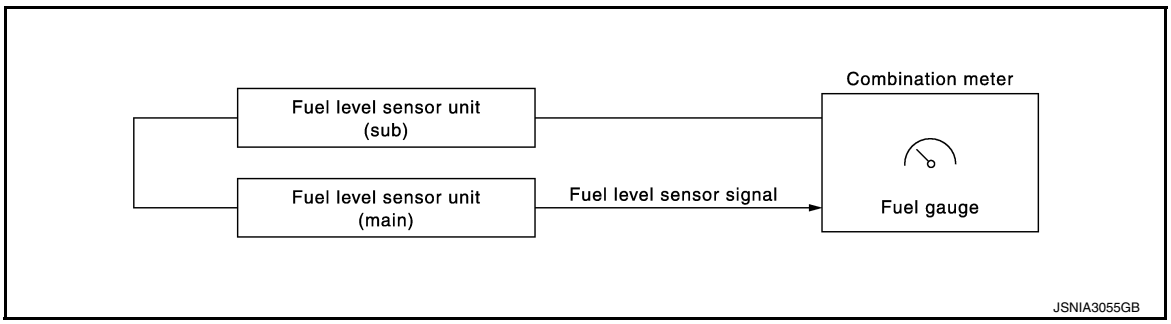
The engine coolant temperature sensor sends an engine coolant temperature signal to the ECM. The ECM provides an engine coolant temperature signal to the combination meter via CAN communication lines. The engine coolant temperature gauge indicates the engine coolant temperature.

FUEL GAUGE

FUEL GAUGE : System Description

INFOID:0000000012874404

SYSTEM DIAGRAM



DESCRIPTION

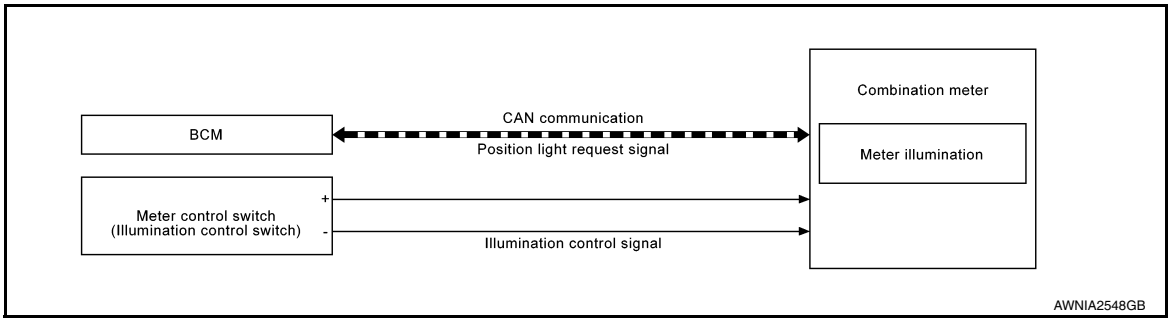
The fuel level sensor unit sends a variable resistor signal to the combination meter. The fuel gauge indicates the approximate fuel level in the fuel tank.

METER ILLUMINATION CONTROL

METER ILLUMINATION CONTROL : System Description

INFOID:0000000012874405

SYSTEM DIAGRAM



DESCRIPTION

Meter Illumination Control Function

The operation of the illumination control switch changes brightness of the meter illumination.

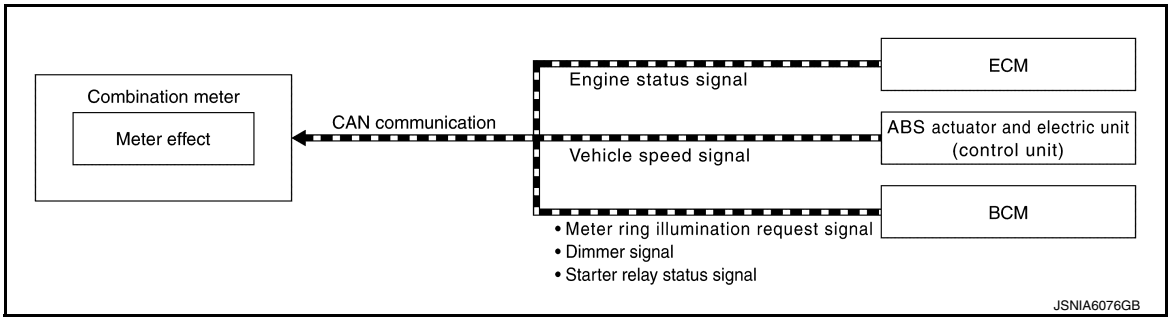
Meter illumination	The number of adjustable steps
Daytime	21
Nighttime	21

METER EFFECT FUNCTION

METER EFFECT FUNCTION : System Description

INFOID:0000000012874406

SYSTEM DIAGRAM



ENGINE-START EFFECT FUNCTION

When recognizing an engine start, the combination meter controls the following items for producing the effect:

- Speedometer
- Tachometer
- Engine coolant temperature gauge
- Fuel gauge
- Meter illumination

Meter and Illumination Operations During Engine-start Effect

The combination meter controls the following items during the engine-start effect:

Control item		Operation
Speedometer		Sweeps the pointer.
Tachometer		Sweeps the pointer.
Engine coolant temperature gauge		Stops the pointer.
Fuel gauge		Stops the pointer.
Meter illumination	Pointers	Turns on the illumination at the effect level.
	Information display	Turns on the illumination at the normal brightness level.
	Other than those above	Increases the brightness to the effect level in stages.

NOTE:
The pointers are stopped and illumination is turned off while cranking the engine.

Engine Start Judgment
The combination meter judges engine-start and activates the engine-start effect only once when the following operational conditions are all satisfied:

Condition	
Ignition switch	ON position
Vehicle speed	Less than 0.6 MPH (1 km/h)
Engine state	Other than the time of cranking the engine
	500 rpm or more
Information display (SETTING)	The setting of “EFFECT” is ON

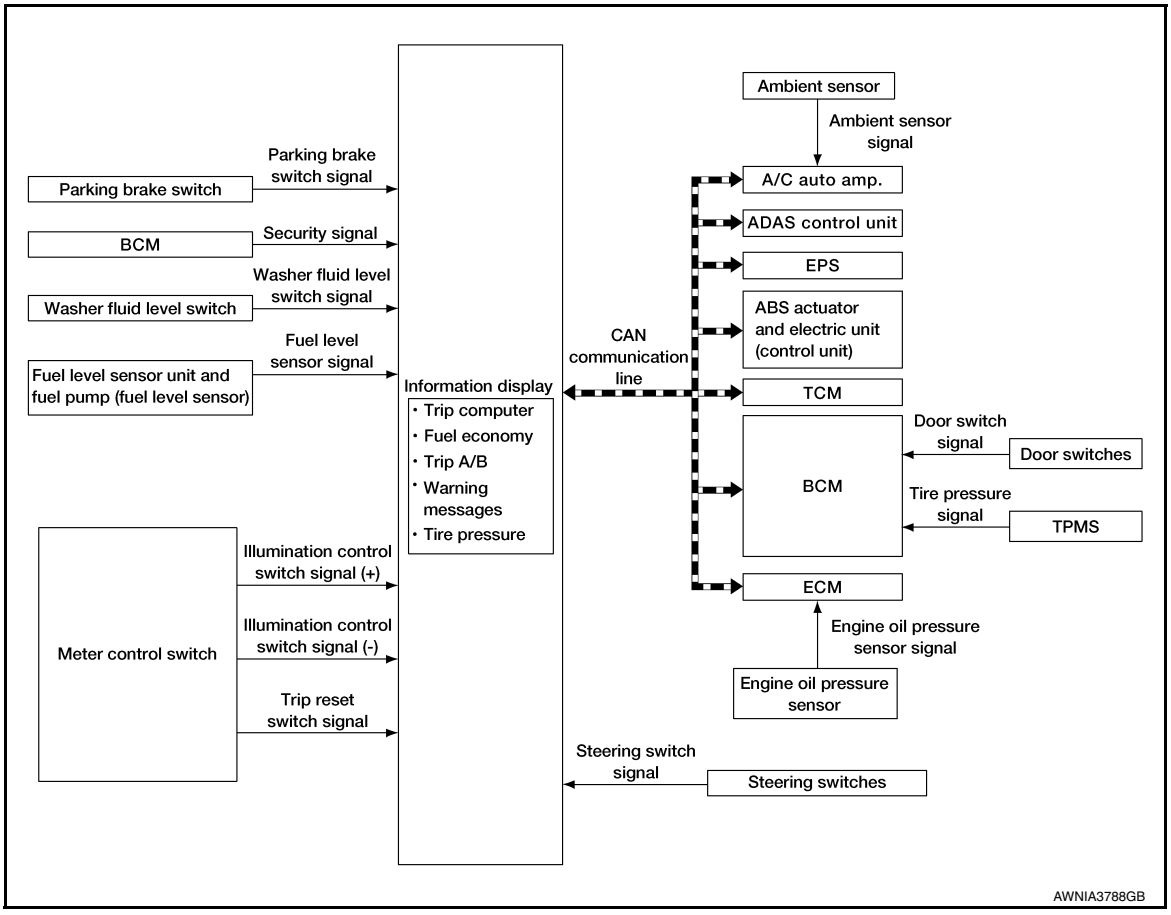
NOTE:
Engine-start effect exits when any of the above operational conditions are canceled during the engine-start effect.

INFORMATION DISPLAY

INFORMATION DISPLAY : System Description

INFOID:0000000012874407

SYSTEM DIAGRAM



FUNCTION

The information display can indicate the following items:
- Outside air temperature
- Trip computer
- Intelligent Key operation information
- Odometer

- Warning/Indication messages (door open, back door open, low oil pressure, AWD, I-Key, low fuel, low washer fluid, release parking brake, low tire pressure and loose fuel cap).

OUTSIDE AIR TEMPERATURE INDICATION

This indication displays the ambient temperature based on signal received from the A/C auto amp. via CAN communication lines.

LOOSE FUEL CAP MESSAGE

The LOOSE FUEL CAP message will display in the information display when the fuel-filler cap is not tightened correctly. The message will turn off as soon as the ECM detects the fuel-filler cap is properly tightened. The ECM provides a loose fuel cap signal to the combination meter via CAN communication lines.

LOW TIRE PRESSURE WARNING

This warning appears when the BCM detects low inflation pressure or a system malfunction. The BCM sends a signal to the combination meter via CAN communication lines to illuminate the low tire pressure warning lamp. In addition, a warning message will be displayed in the vehicle information display.

DOOR OPEN WARNING

This warning appears when the ignition switch is ON and the door is open. The BCM receives a door switch signal from the door switch of the open door. The BCM sends the door switch signal to the combination meter via CAN communication lines.

BACK DOOR OPEN WARNING

This warning appears when the ignition switch is ON and the back door is opened. The BCM receives a back door switch signal from the back door switch. The BCM sends the back door switch signal to the combination meter via CAN communication lines.

LOW FUEL WARNING

This warning appears when the fuel level in the fuel tank is low.

LOW WINDSHIELD WASHER FLUID WARNING

When the windshield washer fluid level is low, the washer fluid level switch provides a ground signal to the combination meter and the warning is displayed. Once fluid is added, the switch opens and the warning is no longer displayed.

RELEASE PARKING BRAKE WARNING

When the parking brake is applied, the parking brake switch provides a ground signal to the combination meter. When the vehicle speed is greater than 4 MPH (7 km/h), the message is displayed and the warning chime sounds.

LOW OIL PRESSURE WARNING

The low oil pressure warning appears in the information display when the combination meter receives a low engine oil pressure signal from the ECM via CAN communication lines.

WARNING CHECK INDICATION

The combination meter can cause an interruption on the information display to indicate a warning, based on signals received from each unit and switch.

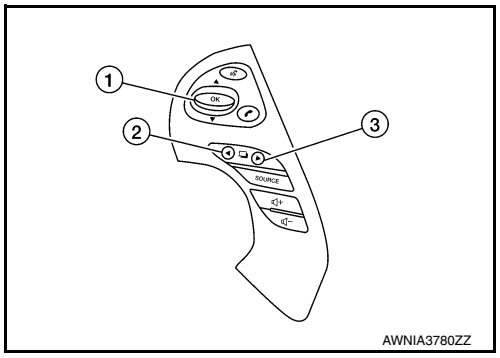
Refer to Owner’s Manual for additional information on the information display items.

OPERATION

Switch Name and Function

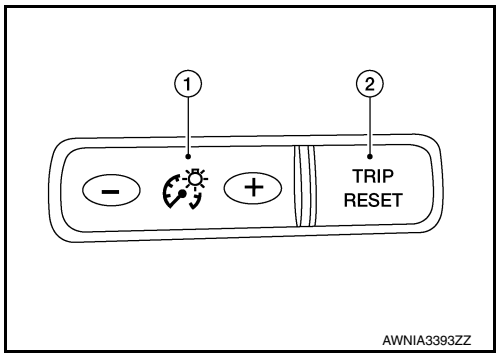
INFOID:0000000012874408

STEERING SWITCHES



No.	Switch name	Operation	Description
1.	Enter/Up/Down switch	Press	The information display settings can be changed.
2.	Back switch		
3.	Display switch		

METER CONTROL SWITCH



No.	Switch name	Operation	Description
1.	Illumination control switch	Press	An illuminance level of the back light of the combination meter can be adjusted.
2.	Trip reset switch	Press	• The trip meter can be switched between A and B. • Trip meter A/B can be reset by pressing and holding the trip reset switch. • A trip computer value displayed on the information display can be reset by pressing and holding the trip reset switch for 1 second or more. • All trip computer values can be reset by pressing and holding the trip reset switch for 3 seconds or more.

DIAGNOSIS SYSTEM (COMBINATION METER)

On Board Diagnosis Function

INFOID:0000000012874409

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:

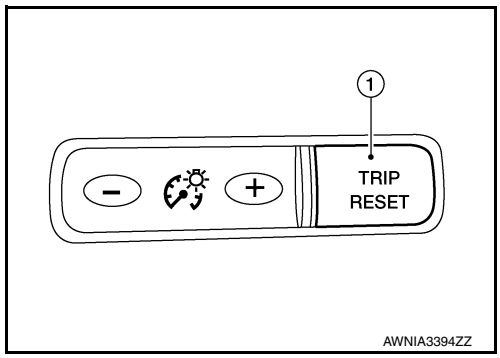
- Check combination meter power supply and ground circuits if self-diagnosis mode does not start. Refer to MWI-53, "COMBINATION METER : Diagnosis Procedure". Replace combination meter if power supply and ground circuits are found to be normal and self-diagnosis mode does not start. Refer to MWI-72, "Removal 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

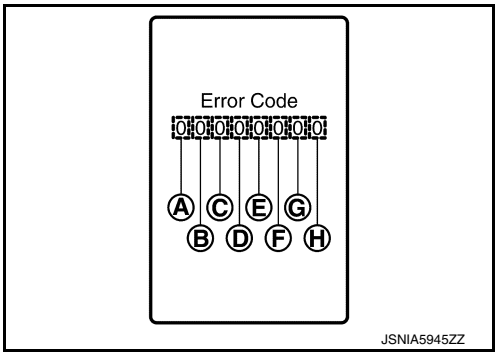
1. Turn ignition switch OFF.
2. While pressing the trip reset switch (1), turn ignition switch ON.
3. Keep pressing the trip reset switch for 1 second or more.
4. Press the trip reset switch at least 3 times within 7 seconds after the ignition switch is turned ON.
5. “Work instruction code” is indicated 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:0000000012874410

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.

ECU DIAGNOSIS INFORMATION

COMBINATION METER

Reference Value

INFOID:0000000012874411

VALUES ON THE DIAGNOSIS TOOL

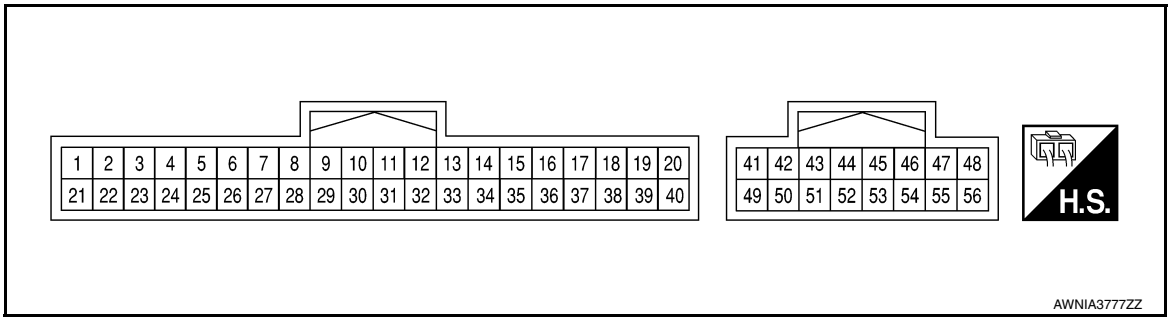
Monitor Item	Condition		Value/Status
SPEED METER [mph or km/h]	Ignition switch ON	While driving.	Input value of vehicle speed signal (CAN communication signal).
SPEED OUTPUT [mph or km/h]	Ignition switch ON	While driving.	Output value of vehicle speed signal (CAN communication signal).
ODO OUTPUT [mph or km/h]	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).
FUEL METER [L]	Ignition switch ON	—	Input value of fuel level sensor signal.
W TEMP METER [°F] or [°C]	Ignition switch ON	—	Input value of engine coolant temperature signal (CAN communication signal).
ABS W/L	Ignition switch ON	ABS warning lamp ON.	On
		ABS warning lamp OFF.	Off
VDC/TCS IND	Ignition switch ON	VDC OFF indicator lamp ON.	On
		VDC OFF indicator lamp OFF.	Off
SLIP IND	Ignition switch ON	VDC warning lamp ON.	On
		VDC warning lamp OFF.	Off
BRAKE W/L	Ignition switch ON	Brake warning lamp ON.	On*1
		Brake warning lamp OFF.	Off
DOOR W/L	Ignition switch ON	Door or back door open warning displayed.	On
		Other than the above	Off
HI-BEAM IND	Ignition switch ON	High beam indicator lamp ON.	On
		High beam indicator lamp OFF.	Off
TURN IND	Ignition switch ON	Turn signal indicator lamp ON.	On
		Turn signal indicator lamp OFF.	Off
FR FOG IND	Ignition switch ON	Front fog lamp indicator lamp ON.	On
		Front fog lamp indicator lamp OFF.	Off
LIGHT IND	Ignition switch ON	Position lamp indicator lamp ON.	On
		Position lamp indicator lamp OFF.	Off
OIL W/L	Ignition switch ON	Engine oil pressure warning displayed.	On
		Other than the above.	Off
MIL	Ignition switch ON	Malfunction indicator lamp ON.	On
		Malfunction indicator lamp OFF.	Off
BA W/L	Ignition switch ON	FEB warning lamp ON	On
		FEB warning lamp OFF	Off
ATC/T-AMT W/L	Ignition switch ON	A/T CHECK warning indication	On
		Other than the above	Off

Monitor Item	Condition		Value/Status
4WD W/L	Ignition switch ON	AWD warning displayed.	On
		Other than the above.	Off
FUEL W/L	Ignition switch ON	Low fuel warning displayed.	On
		Low fuel warning lamp OFF.	Off
WASHER W/L	Ignition switch ON	Low washer fluid warning displayed.	On
		Other than the above.	Off
AIR PRES W/L	Ignition switch ON	Low tire pressure warning lamp ON.	On
		Low tire pressure warning lamp OFF.	Off
KEY G/Y W/L	Ignition switch ON	Intelligent Key system warning indication.	On
		Other than the above.	Off
EPS W/L	Ignition switch ON	Power steering warning lamp ON.	On
		Power steering warning lamp OFF.	Off
CHAGE W/L	Ignition switch ON	Charge warning lamp ON.	On
		Charge warning lamp OFF.	Off
ACC TARGET	Ignition switch ON	During vehicle ahead detection indication.	On
		Other than the above	Off
ACC DISTANCE	Ignition switch ON	When following distance is set to “LONG”	LONG
		When following distance is set to “MID-DLE”	MID
		When following distance is set to “SHORT”	SHORT
		Set distance indicator not displayed	Off
SHIFT IND	Ignition switch ON	Shift position indicator displayed.	[P, R, N, D, L]
FUEL CAP W/L	Ignition switch ON	Fuel filler cap warning displayed.	On
		Other than the above.	Off
PKB SW	Ignition switch ON	Parking brake switch ON.	On
		Parking brake switch OFF.	Off
BUCKLE SW	Ignition switch ON	Driver seat belt not fastened.	On
		Driver seat belt fastened.	Off
BRAKE OIL SW	Ignition switch ON	Brake fluid level switch ON.	On
		Brake fluid level switch OFF.	Off
DISTANCE [mi] or [km]	Ignition switch ON	—	Distance to empty.
OUTSIDE TEMP [°F] or [°C]	Ignition switch ON	—	Displays the ambient air temperature which is input from the ambient sensor.
FUEL LOW SIG	—	Low fuel level warning.	On
		Except during low fuel level warning.	Off
BUZZER	Ignition switch ON	Buzzer ON.	On
		Buzzer OFF.	Off
BATTERY CIR-CUIT STATUS	Ignition switch ON	Battery power supply circuit is normal	Normal
		Battery power supply circuit is open	Open
LCD	Ignition switch ON	Engine start information.	B&P

Monitor Item	Condition		Value/Status
STRG SW INPUT	Ignition switch ON	BACK switch is pressed.	SW1
		MENU UP switch is pressed.	SW2
		MENU DOWN switch is pressed.	SW3
		Voice recognition switch is pressed.	SW4
		MENU OK switch is pressed.	SW5
		VOL DOWN switch is pressed.	SW6
		VOL UP switch is pressed.	SW7
		TEL switch is pressed.	SW8
		Display back switch is pressed.	SW9
		Display next switch is pressed.	SW10
		Other than the above.	NO INPUT
TPMS PRESS L	Ignition switch ON	Tire pressure is low.	On
		Tire pressure is normal.	Off
BSW IND	Ignition switch ON	Blind spot warning indicator ON.	On
		Blind spot warning indicator OFF.	Off
BSW W/L	Ignition switch ON	Blind spot warning displayed.	On
		Other than the above.	Off

*1: 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.

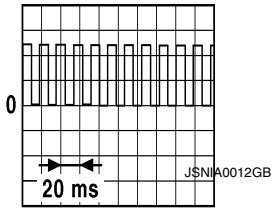
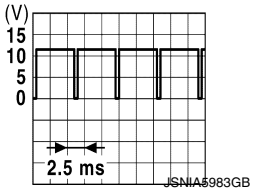
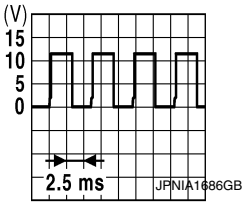
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
7 (V)	Ground	Security signal	Input	Ignition switch OFF	Security indicator ON.	0 V
					Security indicator OFF.	Battery voltage
10 (B)	Ground	Ground	—	—	—	0 V
11 (BG)	Ground	Alternator signal	—	Ignition switch ON	Charge warning lamp ON	2 V
					Charge warning lamp OFF	Battery voltage
12 (Y)	Ground	LED headlamp RH warning signal	Input	Ignition switch ON	Headlamp ON	1.0 V
					Headlamp OFF	Battery voltage
13 (GR)	Ground	LED headlamp LH warning signal	Input	Ignition switch ON	Headlamp ON	1.0 V
					Headlamp OFF	Battery voltage

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
14 (P)	Ground	ACC power supply	—	Ignition switch ACC	—	Battery voltage
17 (G)	Ground	Meter control switch ground	—	—	—	0 V
18 (LG)	Ground	Trip/reset switch signal	Input	Ignition switch OFF or ON	Trip/Reset switch is pressed.	0 V
					Other than the above.	5.0 V
21 (R)	Ground	Steering switch ground	—	—	—	0 V
22 (P)	Ground	Steering switch input 1	—	—	—	—
23 (BG)	Ground	Steering switch input 2	—	—	—	—
24 (P)	Ground	Washer fluid level switch signal	Input	Ignition switch ON	Washer fluid level switch ON.	0 V
					Washer fluid level switch OFF.	Battery voltage
25 (G)	Ground	Brake fluid level switch signal	Input	Ignition switch ON	Brake fluid level low.	0 V
					Brake fluid level normal.	Battery voltage
26 (BR)	Ground	Parking brake switch signal	Input	Ignition switch ON	Parking brake applied.	0 V
					Parking brake released.	Battery voltage
27 (BR)	Ground	Seat belt buckle switch signal RH	Input	Ignition switch ON	When passenger seat belt is fastened.	—
					When passenger seat belt is unfastened.	—
28 (Y)	Ground	Seat belt buckle switch signal LH	Input	Ignition switch ON	When driver seat belt is fastened.	Battery voltage
					When driver seat belt is unfastened.	0 V
30 (V)	Ground	Manual mode signal	Input	Ignition switch ON	Selector lever manual mode position	0 V
					Other than the above	Battery voltage
31 (P)	Ground	Non-manual mode signal	Input	Ignition switch ON	Selector lever manual mode position	Battery voltage
					Other than the above	0 V
32 (BG)	Ground	Manual mode shift up signal	Input	Ignition switch ON	Selector lever UP operation	0 V
					Other than the above	Battery voltage
33 (W)	Ground	Manual mode shift down signal	Input	Ignition switch ON	Selector lever DOWN operation	0 V
					Other than the above	Battery voltage
36 (BR)	Ground	Illumination control switch signal (+)	Input	Ignition switch OFF or ON	When illumination control switch (+) is pressed.	0 V
					Other than the above.	5.0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
37 (Y)	Ground	Illumination control switch signal (-)	Input	Ignition switch OFF or ON	When illumination control switch (-) is pressed.	0 V
					Other than the above.	5.0 V
38 (BR)	Ground	Vehicle speed signal (8-pulse)	Output	Ignition switch ON	Speedometer operated [When vehicle speed is approx. 25 MPH (40 km/h)].	**NOTE:** The maximum voltage varies depending on the specification (destination unit). 
42 (B)	Ground	Illumination control signal	Output	Ignition switch ON	• Lighting switch 1st position • When meter illumination is minimum.	
					• Lighting switch 1st position • When meter illumination is step 11.	
					• Lighting switch 1st position • When meter illumination is maximum.	0 V
43 (B)	Ground	Ground	—	—	—	0 V
44 (BG)	Ground	Ignition signal	—	Ignition switch ON or START	—	Battery voltage
45 (B)	Ground	Ground	—	—	—	0 V
46 (W)	Ground	Battery power supply	—	—	—	Battery voltage
47 (R)	Ground	Welcome lighting illumination control	—	—	—	—
48 (W)	Ground	Fuel level sensor signal	—	Ignition switch ON	Fuel gauge indication position.	Battery voltage

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
49 (LG)	Ground	M CAN low	—	—	—	—
50 (SB)	Ground	M CAN high	—	—	—	—
52 (P)	Ground	CAN low	—	—	—	—
53 (L)	Ground	CAN high	—	—	—	—
54 (R)	Ground	Fuel level sensor ground	—	Ignition switch ON	—	0 V

Fail-safe

INFOID:0000000012874412

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

Function		Specifications
Speedometer		Reset to zero by suspending communication.
Tachometer		
Engine coolant temperature gauge		
Meter illumination control		When suspending communication, it changes to nighttime mode.
Buzzer		Turns OFF by suspending communication.
Information display	Current fuel consumption	The last result calculated during normal condition is indicated.
	Average fuel consumption	
	Average vehicle speed	
	Range (Distance to empty)	
	Driving distance	
	Door open warning	The display turns OFF by suspending communication.
	Back door open warning	
	Low tire pressure warning	
	Parking brake release warning	
	Fuel-filler cap warning	
	Oil pressure warning	
	AWD warning lamp	
	BSW warning	
	Odo/trip meter	An indicated value is maintained at communications blackout.
	Shift position indicator	The indicator turns OFF by suspending communication.

Function		Specifications
Warning lamp/indicator lamp	ABS warning lamp	Turns ON by suspending communication.
	Brake warning lamp	
	EPS warning lamp	
	VDC warning lamp	
	FEB warning lamp	
	Malfunction indicator lamp	
	Air bag warning lamp	
	Charge warning lamp	
	VDC OFF indicator lamp	Turns OFF by suspending communication.
	High beam indicator lamp	
	Turn signal indicator lamp	
	Position lamp indicator lamp	
	Front fog lamp indicator lamp	
	Low tire pressure warning lamp	After blinking for 1 minute, the lamp remains ON.

DTC Index

INFOID:0000000012874413

Display contents of CONSULT	Diagnostic item is detected when...	Refer to
CAN COMM CIRCUIT [U1000]	Combination meter is not transmitting or receiving CAN communication signal for 2 seconds or more.	MWI-48
CONTROL UNIT (CAN) [U1010]	Detecting error during the initial diagnosis of CAN controller of combination meter.	MWI-49
VEHICLE SPEED [B2205]	The abnormal vehicle speed signal is input from ABS actuator and electric unit (control unit) for 2 seconds or more.	MWI-50
ENGINE SPEED [B2267]	ECM continuously transmits abnormal engine speed signals for 2 seconds or more.	MWI-51
WATER TEMP [B2268]	ECM continuously transmits abnormal engine coolant temperature signals for 60 seconds or more.	MWI-52

BCM (BODY CONTROL MODULE)

List of ECU Reference

INFOID:0000000012874414

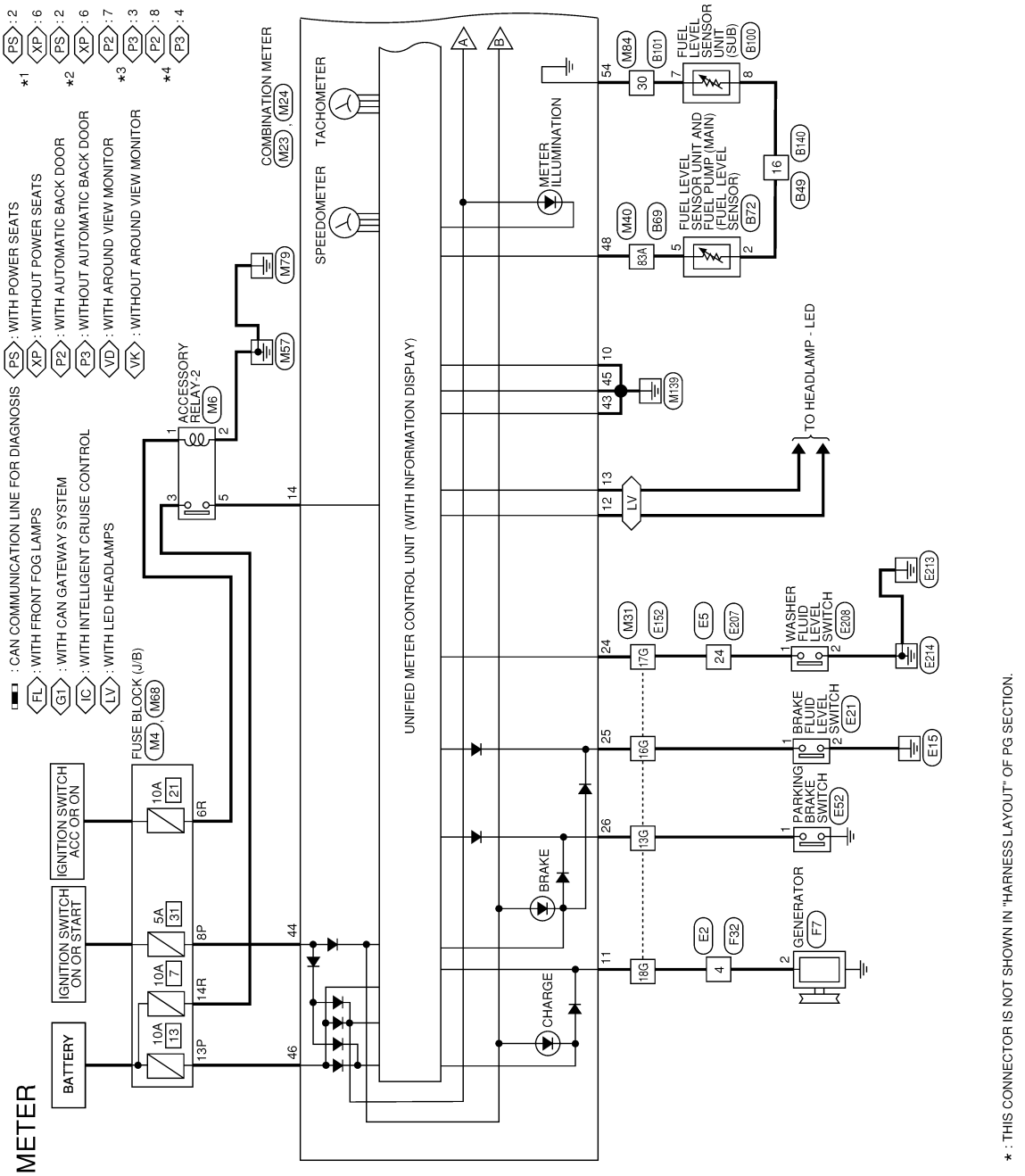
ECU	Reference
BCM	BCS-30, "Reference Value"
	BCS-55, "Wiring Diagram"
	BCS-50, "Fail Safe"
	BCS-51, "DTC Inspection Priority Chart"
	BCS-52, "DTC Index"

WIRING DIAGRAM

METER SYSTEM

Wiring Diagram

INFOID:0000000012874415



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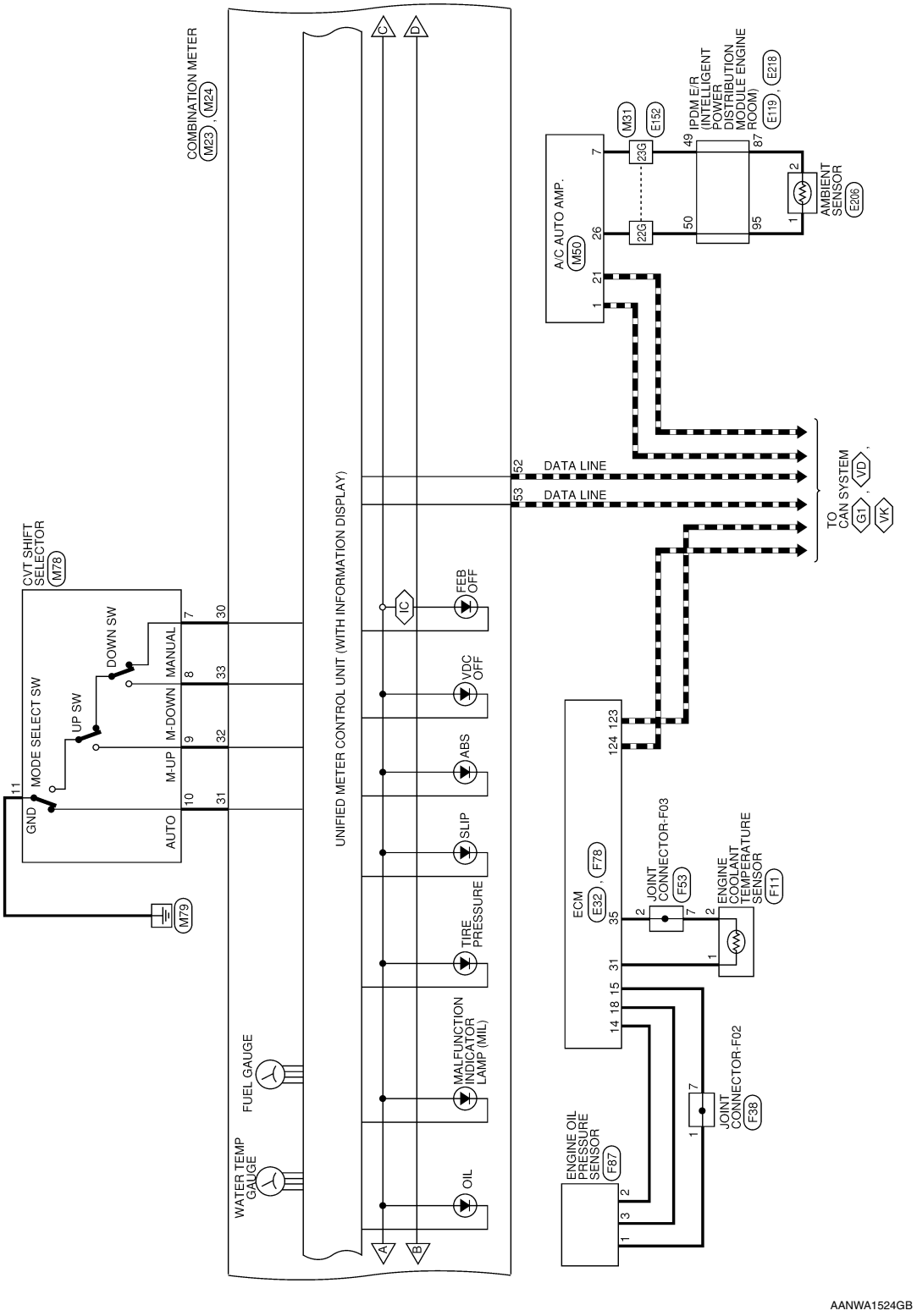
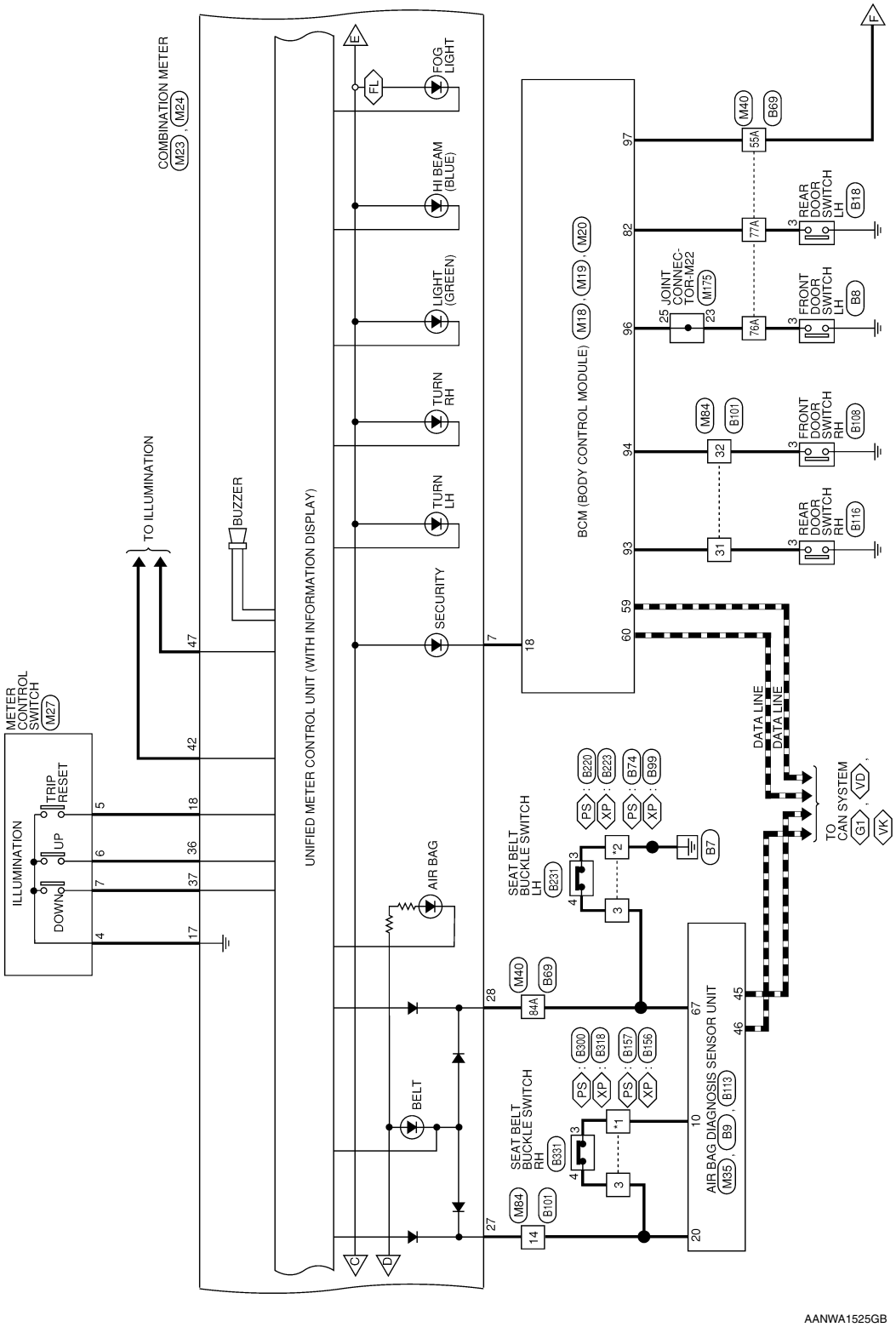
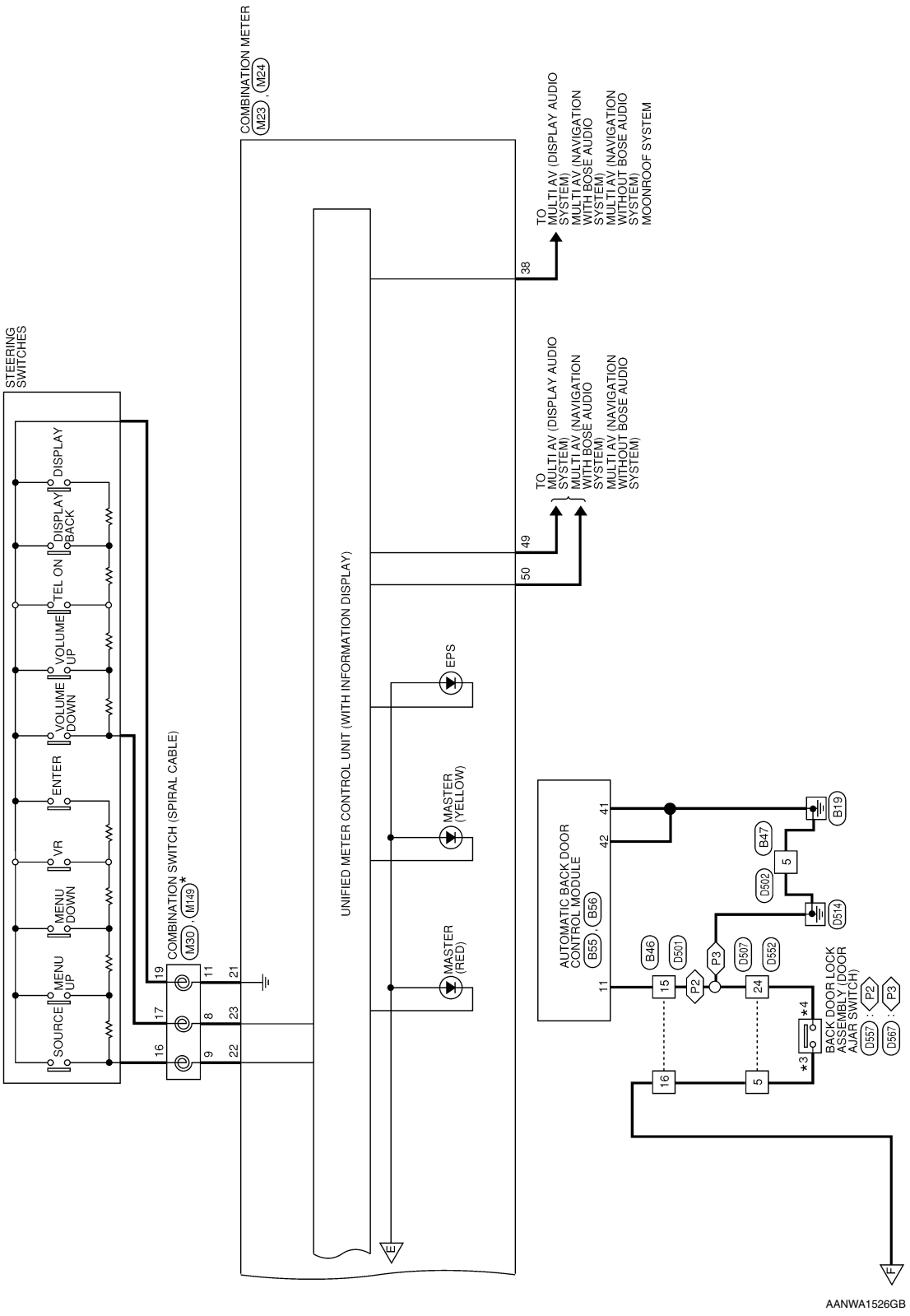

COMBINATION METER
M23
M24
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
CVT SHIFT SELECTOR
M78
MODE SELECT SW
DOWN SW
UP SW
GND
MANUAL
M-DOWN
M-UP
AUTO
M79
FUEL GAUGE
WATER TEMP GAUGE
FEB OFF
VDC OFF
ABS
SLIP
TIRE PRESSURE
MALFUNCTION INDICATOR LAMP (MIL)
OIL
DATA LINE
DATA LINE
TO CAN SYSTEM
A/C AUTO AMP.
M50
M31
E152
23G
22G
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E119
E218
AMBIENT SENSOR
E206
ECM
E32
F78
JOINT CONNECTOR-F03
F53
ENGINE COOLANT TEMPERATURE SENSOR
F11
ENGINE OIL PRESSURE SENSOR
F87
JOINT CONNECTOR-F02
F38
AANWA1524GB


COMBINATION METER
(M23), (M24)
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
FOG LIGHT
HI BEAM (BLUE)
LIGHT (GREEN)
TURN RH
TURN LH
SECURITY
BUZZER
TO ILLUMINATION
AIR BAG
BELT
METER CONTROL SWITCH (M27)
ILLUMINATION
TRIP RESET
UP
DOWN
BCM (BODY CONTROL MODULE) (M18), (M19), (M20)
DATA LINE
DATA LINE
TO CAN SYSTEM (G1), (VD), (VK)
SEAT BELT BUCKLE SWITCH LH (B231)
SEAT BELT BUCKLE SWITCH RH (B331)
AIR BAG DIAGNOSIS SENSOR UNIT (M35), (B9), (B113)
JOINT CONNEC-TOR-M22 (M175)
REAR DOOR SWITCH LH (B18)
FRONT DOOR SWITCH LH (B8)
FRONT DOOR SWITCH RH (B108)
REAR DOOR SWITCH RH (B116)
AANWA1525GB



AANWA1526GB

METER CONNECTORS

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

H.S.

7P	6P	5P	4P		3P	2P	1P
16P	15P	14P	13P	12P	11P	10P	9P	8P

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

Connector No.	M6
Connector Name	ACCESSORY RELAY-2
Connector Type	MS02FL-M2-LC
Connector Color	BLUE

H.S.

3	
5	
2	1

Terminal No.	Color of Wire	Signal Name
1	L	-
2	B	-
3	R	-
5	P	-

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

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
18	V	SECURITY INDICATOR

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

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
59	P	CAN-L
60	L	CAN-H

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

H.S.

92	91	90	89	88	87	86	85	84	83	82	81
104	103	102	101	100	99	98	97	96	95	94	93

Terminal No.	Color of Wire	Signal Name
82	W	RL DOOR SW
93	R	RR DOOR SW

94	G	AS DOOR SW
96	BG	DR DOOR SW
97	W	BACK DOOR SW

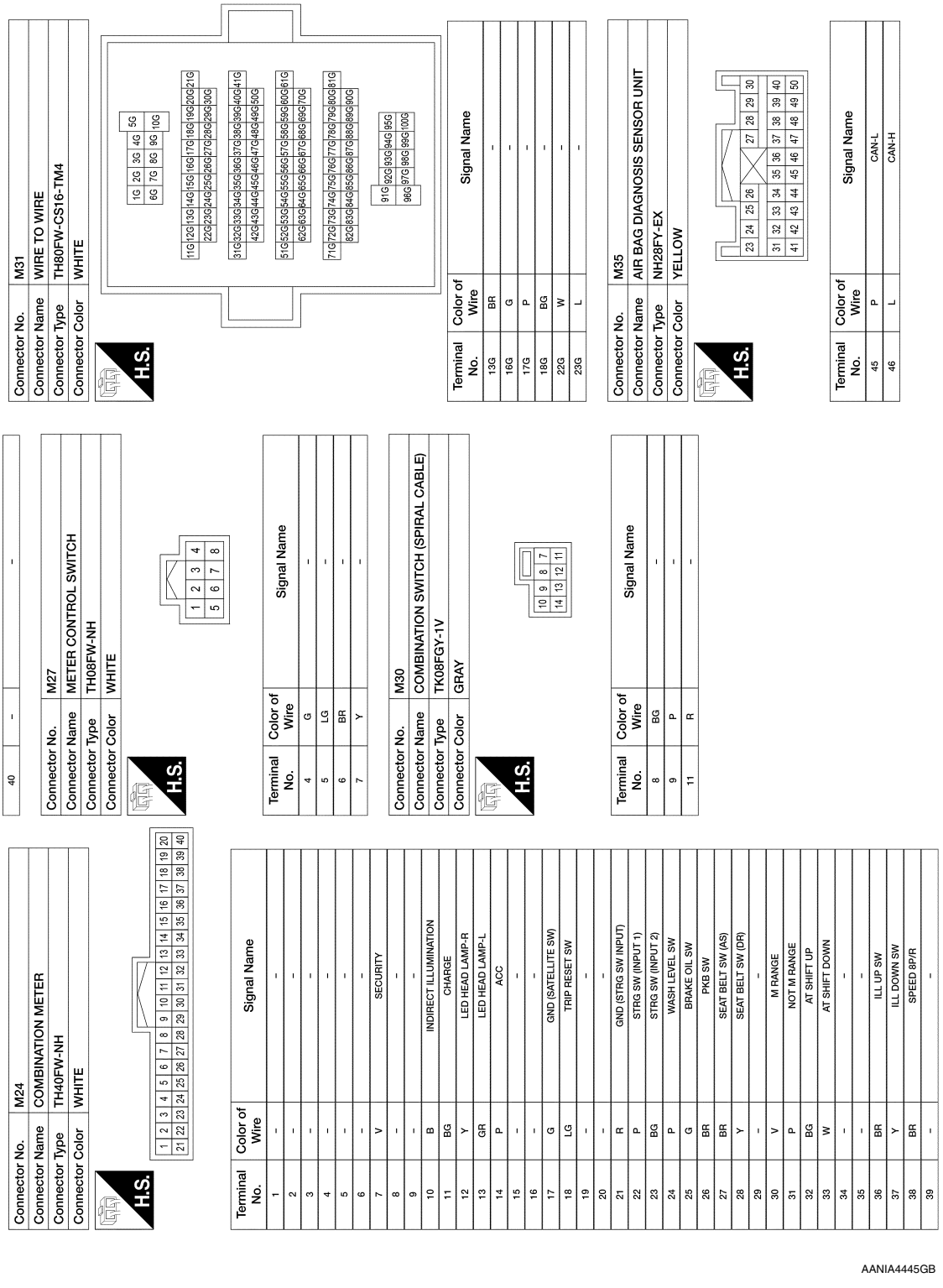
Connector No.	M23
Connector Name	COMBINATION METER
Connector Type	TH16FW-NH
Connector Color	WHITE

H.S.

41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56

Terminal No.	Color of Wire	Signal Name
41	-	-
42	B	ILL CONT OUT
43	B	GND1
44	BG	POWER (IGN)
45	B	GND2
46	W	POWER (BAT)
47	R	INDIRECT ILL CONT OUT
48	W	FUEL SENSOR
49	LG	M-CAN (LOW)
50	SB	M-CAN (HI)
51	-	-
52	P	CAN-L
53	L	CAN-H
54	R	FUEL SENS GND
55	-	-
56	-	-

AANIA4444GB



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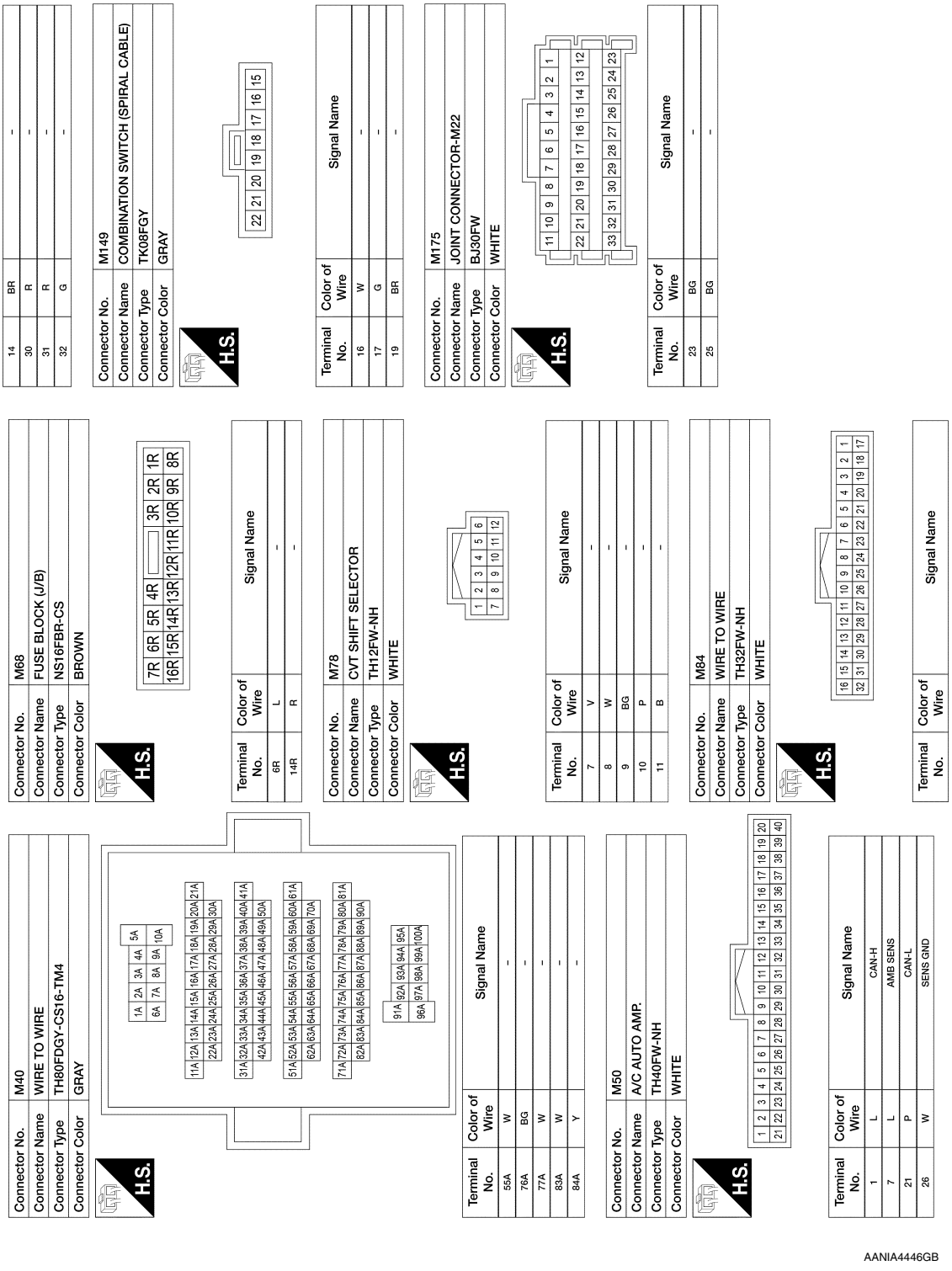

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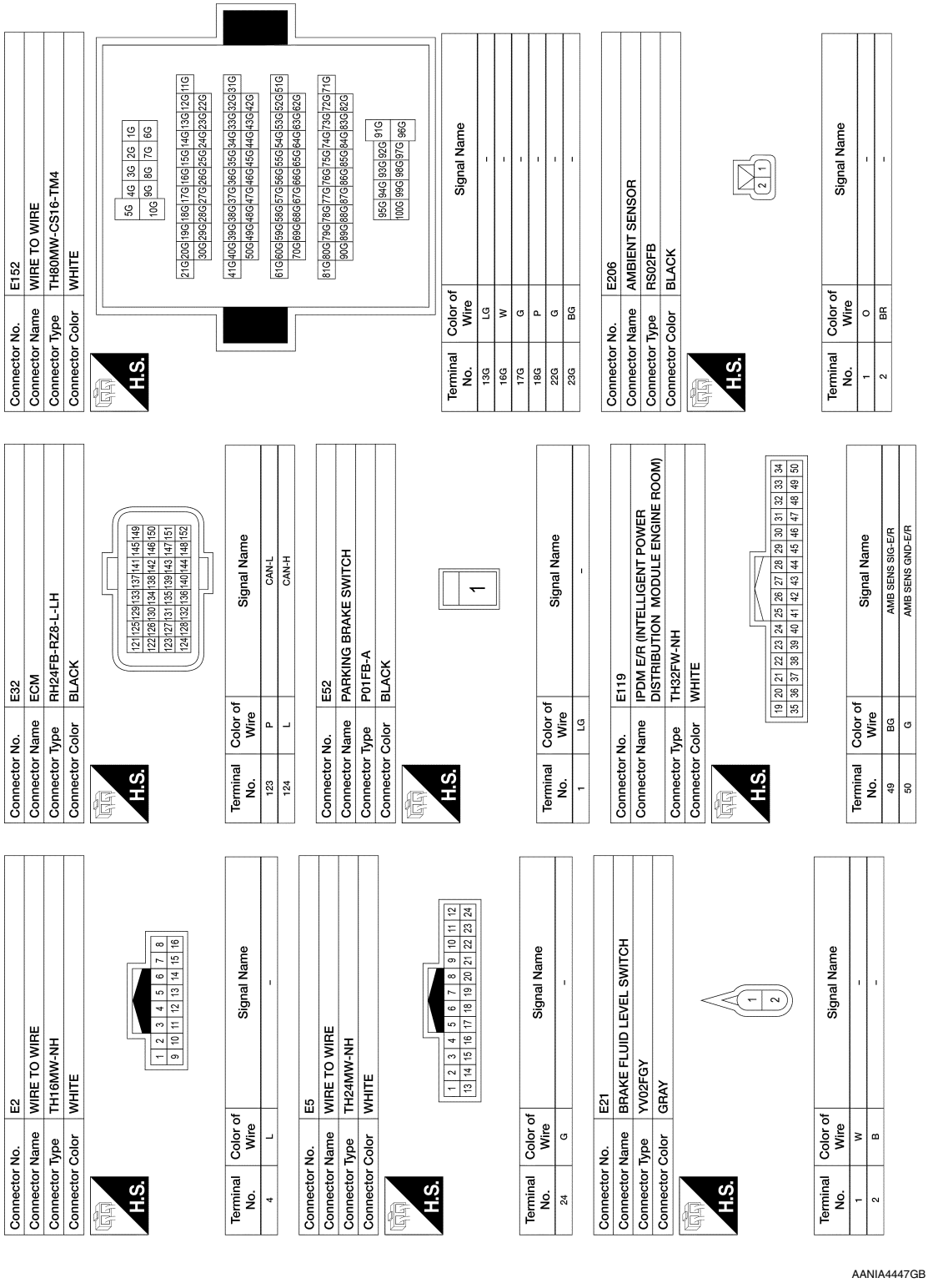

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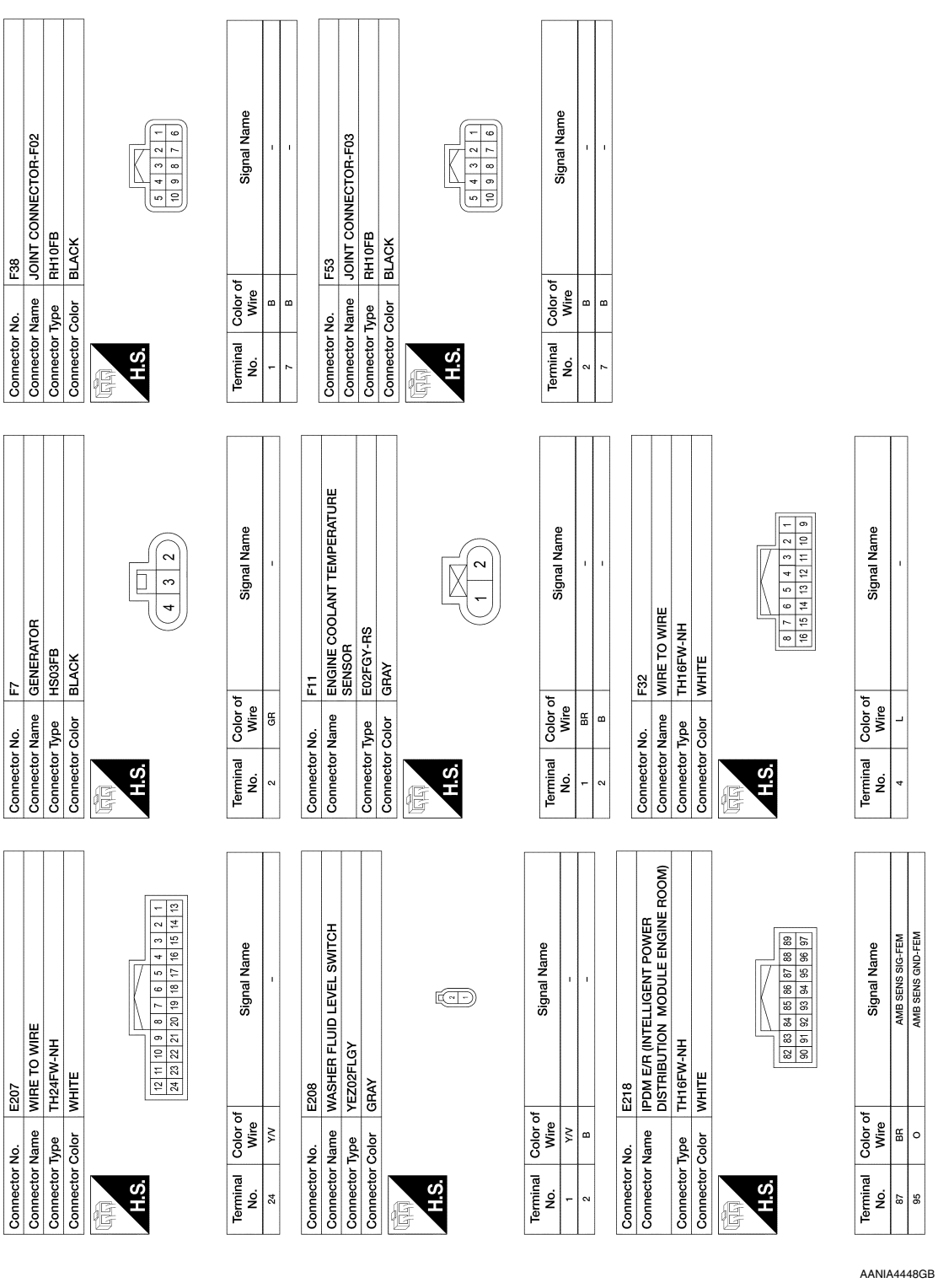

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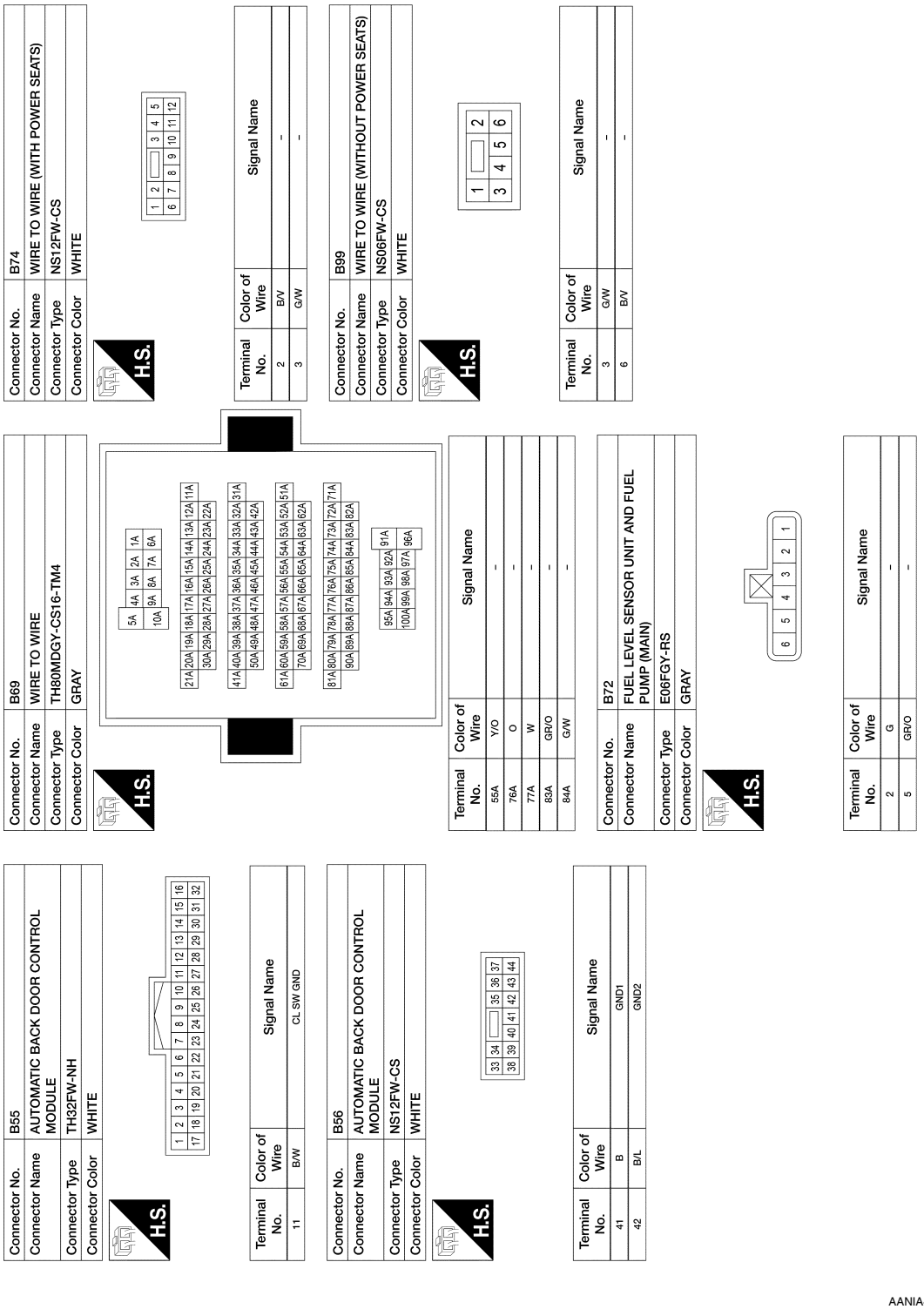
AANIA4449GB



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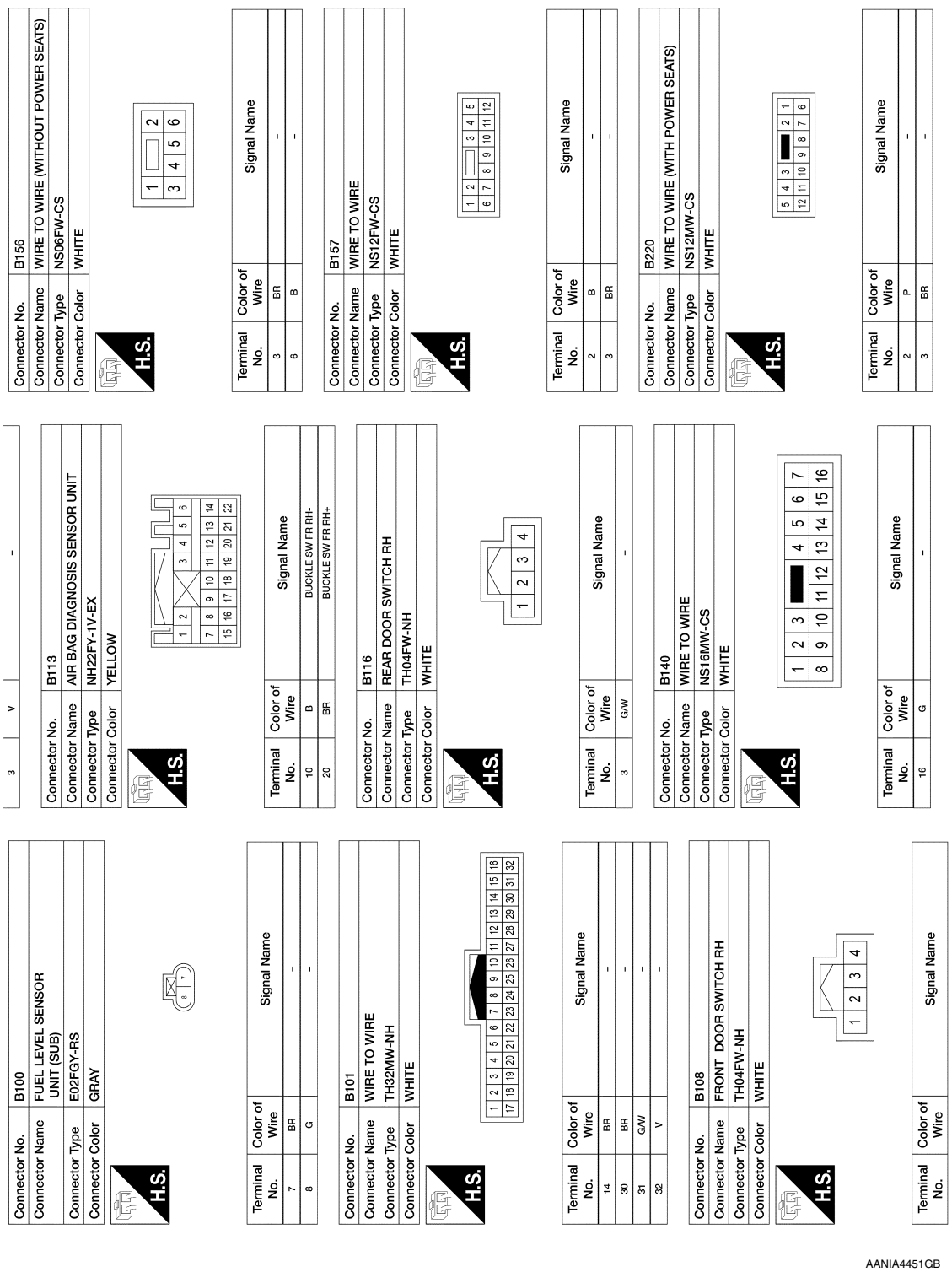


AANIA4451GB

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

H.S.

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.

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.

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.

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.

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

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
15	B	–
16	P	–

Connector No.	D502
Connector Name	WIRE TO WIRE
Connector Type	M08FW-GY-LC
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
5	B	–

Connector No.	D507
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
5	P	–
24	B	–

Connector No.	D552
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH
Connector Color	WHITE

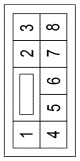
H.S.

Terminal No.	Color of Wire	Signal Name
5	P	–
24	B	–

AANIA4452GB

Connector No.	D557
Connector Name	BACK DOOR LOCK ASSEMBLY (WITH AUTOMATIC BACK DOOR)
Connector Type	NS08FW-CS
Connector Color	WHITE

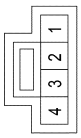
H.S.



Terminal No.	Color of Wire	Signal Name
7	P	–
8	B	–

Connector No.	D567
Connector Name	BACK DOOR LOCK ASSEMBLY (WITHOUT AUTOMATIC BACK DOOR)
Connector Type	NS04FW-CS
Connector Color	WHITE

H.S.



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

AANIA4453GB

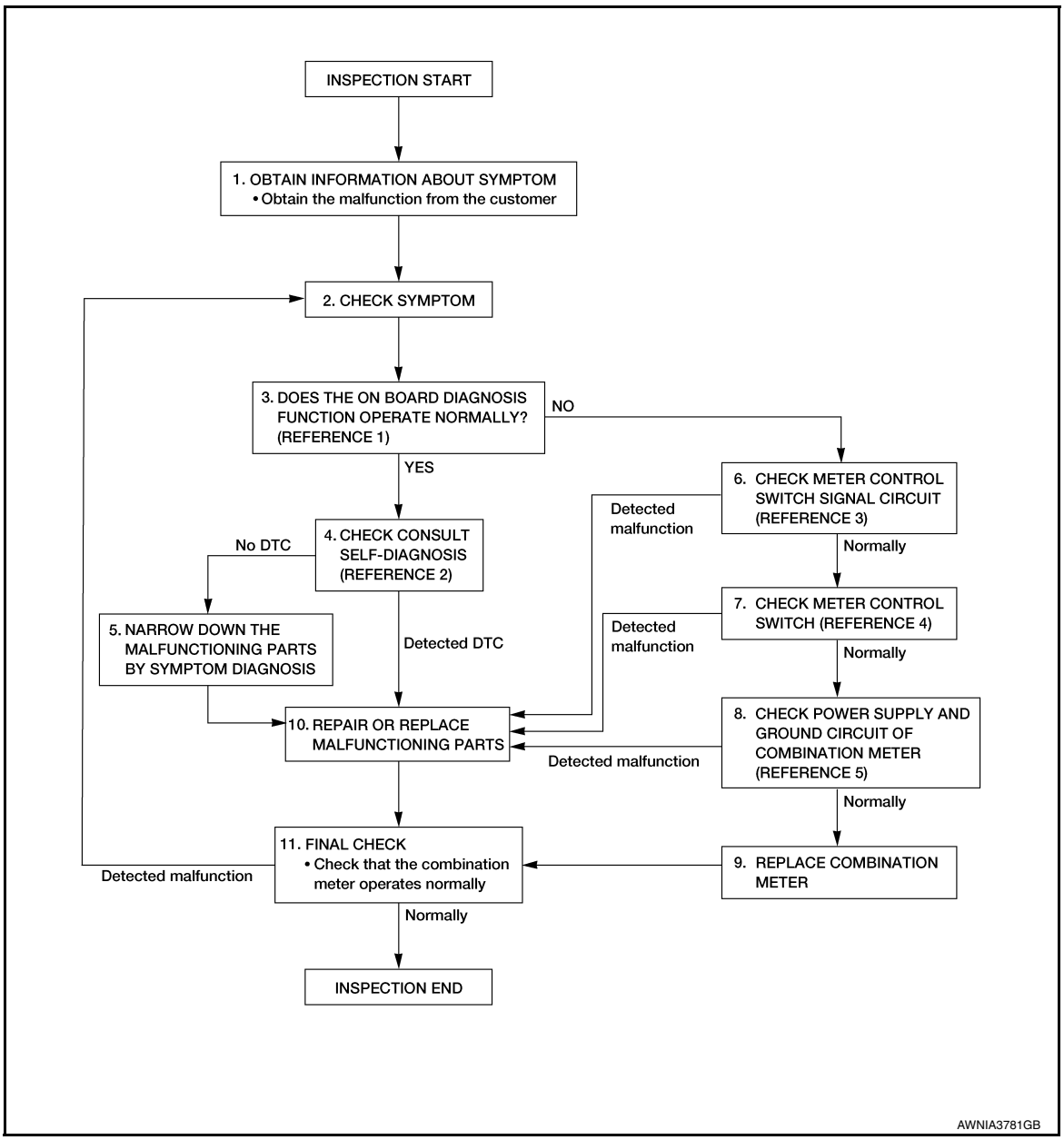
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work flow

INFOID:0000000012874416

OVERALL SEQUENCE



- Reference 1: MWI-18, "On Board Diagnosis Function".
- Reference 2: MWI-29, "DTC Index".
- Reference 3: MWI-55, "Diagnosis Procedure".
- Reference 4: MWI-56, "Component Inspection".
- Reference 5: MWI-53, "COMBINATION METER : Diagnosis Procedure".

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 ON BOARD DIAGNOSIS OPERATION

Check that the on board diagnosis function operates. Refer to MWI-18, "On Board Diagnosis Function".

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 6.

4.CHECK CONSULT SELF-DIAGNOSIS RESULTS

1. Perform “Self Diagnostic Result”. Refer to MWI-29, "DTC Index".
2. When DTC is detected, follow the instructions below:

- Record DTC and Freeze Frame Data.

Is the inspection result normal?

YES >> GO TO 5.
NO >> GO TO 10.

5.NARROW DOWN THE MALFUNCTIONING PARTS BY SYMPTOM DIAGNOSIS

Perform symptom diagnosis and narrow down the malfunctioning parts.

>> GO TO 10.

6.CHECK METER CONTROL SWITCH SIGNAL CIRCUIT

Check meter control switch signal circuit. Refer to MWI-55, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 7.
NO >> GO TO 10.

7.CHECK METER CONTROL SWITCH

Check meter control switch. Refer to MWI-56, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 8.
NO >> GO TO 10.

8.CHECK COMBINATION METER POWER SUPPLY AND GROUND CIRCUITS

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

Is the inspection result normal?

YES >> GO TO 9.
NO >> GO TO 10.

9.REPLACE COMBINATION METER

Replace combination meter.

>> GO TO 11.

10.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the malfunctioning parts.

NOTE:

If DTC is displayed, erase DTC after repairing or replacing malfunctioning parts.

>> GO TO 11.

11. FINAL CHECK

Check that the combination meter operates normally.

Is the inspection result normal?

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

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Description

INFOID:0000000012874417

Refer to LAN-12, "CAN COMMUNICATION SYSTEM : System Description".

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1000	CAN COMM CIRCUIT (CAN COMM CIRCUIT)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	When combination meter is not transmitting or receiving CAN communication signals.
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

CAN communication system

FAIL-SAFE

The combination meter activates the fail-safe control if CAN communication with each unit is malfunctioning. Refer to MWI-28, "Fail-safe".

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF-DIAGNOSIS

CONSULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Select “Self Diagnostic Result” mode of “METER/M&A”.
3. Check DTC.

Is DTC detected?

YES >> Refer to MWI-48, "Diagnosis Procedure".
NO >> Refer to GI-42, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000012874418

1.CHECK CAN COMMUNICATION SYSTEM

Check CAN communication system. Refer to LAN-21, "Trouble Diagnosis Flow Chart".

>> Inspection End.

U1010 CONTROL UNIT (CAN)

DTC Description

INFOID:0000000012874419

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1010	CONTROL UNIT (CAN) [CONTROL UNIT (CAN)]	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	-
		Threshold	-
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

Combination meter

FAIL-SAFE

The combination meter activates the fail-safe control if CAN communication with each unit is malfunctioning. Refer to MWI-28, "Fail-safe".

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF-DIAGNOSIS

CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “METER/M&A”.
3. Check DTC.

Is DTC detected?

YES >> Refer to MWI-49, "Diagnosis Procedure".
NO >> Refer to GI-42, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000012874420

1.REPLACE COMBINATION METER

Replace combination meter. Refer to MWI-72, "Removal and Installation".

>> Inspection End.

B2205 VEHICLE SPEED

DTC Description

INFOID:0000000012874421

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
B2205	VEHICLE SPEED CIRC [VEHICLE SPEED CIRC]	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	When an erroneous speed signal is received.
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

- Wheel speed sensor
- ABS actuator and electric unit (control unit)

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF-DIAGNOSIS

CONSULT

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “METER/M&A”.
3. Check DTC.

Is DTC detected?

YES >> Refer to MWI-50, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012874422

1.PERFORM SELF DIAGNOSTIC RESULT

CONSULT

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “ABS”.
3. Check DTC.

Is DTC detected?

YES >> Perform diagnosis procedure on the detected DTC. Refer to BRC-51, "DTC Index" (without ICC) or BRC-228, "DTC Index" (with ICC).
NO >> Inspection End.

B2267 ENGINE SPEED

DTC Description

INFOID:0000000012874423

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
B2267	ENGIE SPEED [ENGIE SPEED]	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	ECM continuously transmits abnormal engine speed signals.
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

- Crankshaft position sensor
- ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF-DIAGNOSIS

CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “METER/M&A”.
3. Check DTC.

Is DTC detected?

YES >> Refer to MWI-51, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012874424

1.PERFORM SELF DIAGNOSTIC RESULT

CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “ECM”.
3. Check DTC.

Is DTC detected?

YES >> Perform diagnosis procedure on the detected DTC. Refer to EC-105, "DTC Index".
NO >> Inspection End.

B2268 WATER TEMP

DTC Description

INFOID:0000000012874425

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
B2268	WATER TEMP [WATER temperature]	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	ECM continuously transmits abnormal engine coolant temperature signals.
		Diagnosis delay time	60 seconds or more

POSSIBLE CAUSE

- Engine coolant temperature sensor
- ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF-DIAGNOSIS

CONSULT

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “METER/M&A”.
3. Check DTC.

Is DTC detected?

YES >> Refer to MWI-52, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012874426

1.PERFORM SELF DIAGNOSTIC RESULT

CONSULT

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “ECM”.
3. Check DTC.

Is DTC detected?

YES >> Perform diagnosis procedure on the detected DTC. Refer to EC-105, "DTC Index".
NO >> Inspection End.

POWER SUPPLY AND GROUND CIRCUIT
COMBINATION METER

COMBINATION METER : Diagnosis Procedure

INFOID:0000000012874427

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:0000000013434514

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 CONTROL SWITCH SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012874429

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

1.CHECK METER CONTROL SWITCH SIGNAL

1. Turn ignition switch ON.
2. Check voltage between the following terminals of the meter control switch harness connector M27.

Meter control switch			Condition	Voltage (Approx.)
Connector	Terminal (+)	Terminal (–)		
M27	7	4	When illumination control switch (–) is pressed	0 V
			Other than the above	5 V
	5		When trip reset switch is pressed	0 V
			Other than the above	5 V
	6		When illumination control switch (+) is pressed	0 V
			Other than the above	5 V

Is the inspection result normal?

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

2.CHECK METER CONTROL SWITCH CIRCUITS

1. Turn ignition switch OFF.
2. Disconnect combination meter harness connector M24 and meter control switch harness connector M27.
3. Check continuity between combination meter harness connector M24 and meter control switch harness connector M27.

Combination meter		Meter control switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	18	M27	5	Yes
	37		7	
	36		6	
	17		4	

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

Combination meter			Continuity
Connector	Terminal		
M24	18	Ground	No
	37		
	36		
	17		

Is the inspection result normal?

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

Component Inspection

INFOID:0000000012874430

1.CHECK METER CONTROL SWITCH

1. Turn ignition switch OFF.
2. Disconnect meter control switch harness connector.
3. Check meter control switch.

Meter control switch		Condition	Continuity
Terminal			
7	4	When illumination control switch (–) is pressed	Yes
		Other than the above	No
5		When trip reset switch is pressed	Yes
		Other than the above	No
6		When illumination control switch (+) is pressed	Yes
		Other than the above	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace meter control switch. Refer to MWI-73, "Removal and Installation".

FUEL LEVEL SENSOR SIGNAL CIRCUIT

Component Function Check

INFOID:0000000012874431

1.COMBINATION METER INPUT SIGNAL

CONSULT
1. Select “Data Monitor” mode of “METER/M&A”.
2. Select “FUEL METER”.
3. Compare the “FUEL METER” value and the fuel gauge reading of the combination meter. Fuel gauge and data monitor indications should be close.

Combination meter	Monitor item
Fuel gauge	FUEL METER [L] (Approx.)
Full	70.6
3/4	54.5
1/2	38.3
1/4	22.1
Empty	8.6

Does the data monitor value approximately match the fuel gauge indication?

YES >> Inspection End.
NO >> Replace combination meter. Refer to MWI-72, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000012874432

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

1.CHECK HARNESS CONNECTOR

1. Turn ignition switch OFF.
2. Check combination meter and fuel level sensor unit and fuel pump (fuel level sensor) terminals (meter-side and harness-side) for poor connection.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace terminals or connectors.

2.CHECK FUEL LEVEL SENSOR CIRCUIT

1. Disconnect combination meter harness connector M23 and fuel level sensor unit and fuel pump (fuel level sensor) harness connector B72.
2. Check continuity between combination meter harness connector M23 and fuel level sensor unit and fuel pump (fuel level sensor) harness connector B72.

Fuel level sensor unit and fuel pump (fuel level sensor)		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
B72	5	M23	48	Yes

3. Check continuity between fuel level sensor unit and fuel pump (fuel level sensor) harness connector B72 and ground.

Fuel level sensor unit and fuel pump (fuel level sensor)		Ground	Continuity
Connector	Terminal		
B72	5		No

Is the inspection result normal?

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

3.CHECK FUEL LEVEL SENSOR UNIT (MAIN-SUB) CIRCUIT

1. Disconnect fuel level sensor unit (sub) harness connector B100.
2. Check continuity between fuel level sensor unit and fuel pump (fuel level sensor) harness connector B72 and fuel level sensor unit (sub) harness connector B100.

Fuel level sensor unit and fuel pump (fuel level sensor)		Fuel level sensor unit (sub)		Continuity
Connector	Terminal	Connector	Terminal	
B72	2	B100	8	Yes

3. Check continuity between fuel level sensor unit and fuel pump (fuel level sensor) harness connector B72 and ground.

Fuel level sensor unit and fuel pump (fuel level sensor)		Ground	Continuity
Connector	Terminal		
B72	2		No

Is the inspection result normal?

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

4.CHECK FUEL LEVEL SENSOR UNIT (SUB) CIRCUIT

1. Check continuity between combination meter harness connector M23 and fuel level sensor unit (sub) harness connector B100.

Fuel level sensor unit (sub)		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
B100	7	M23	54	Yes

2. Check continuity between fuel level sensor unit (sub) harness connector B100 and ground.

Fuel level sensor unit (sub)		Ground	Continuity
Connector	Terminal		
B100	7		No

Is the inspection result normal?

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

5.CHECK INSTALLATION CONDITION

Check fuel level sensor unit installation, and check whether the float arm interferes or binds with any of the internal components in the fuel tank.

Is the inspection result normal?

YES >> Inspection End.
NO >> Install the fuel level sensor unit properly. Refer to FL-5, "Removal and Installation".

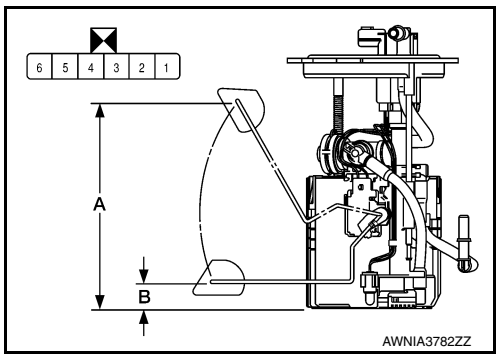
Component Inspection

INFOID:0000000012874433

1.CHECK FUEL LEVEL SENSOR UNIT AND FUEL PUMP (FUEL LEVEL SENSOR)

1. Remove the fuel level sensor unit and fuel pump (fuel level sensor). Refer to FL-5, "Removal and Installation".

2. Check the resistance between fuel level sensor unit and fuel pump (fuel level sensor) terminals.



Fuel level sensor unit and fuel pump (fuel level sensor) Terminals		Condition	Resistance (Ω) (Approx.)	Height [mm (in)]
2	5	Full* (A)	44	167 (6.6)
		Empty* (B)	137	19.8 (0.8)

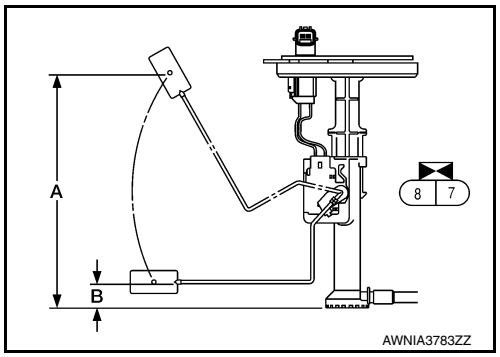
*: When float rod is in contact with stopper.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace fuel level sensor unit and fuel pump (fuel level sensor). Refer to FL-5, "Removal and Installation".

2. CHECK FUEL LEVEL SENSOR UNIT (SUB)

1. Remove the fuel level sensor unit (sub). Refer to FL-5, "Removal and Installation".
2. Check the resistance between fuel level sensor unit (sub) terminals.



Fuel level sensor unit (sub) Terminal		Condition	Resistance (Ω) (Approx.)	Height [mm (in)]
7	8	Full* (A)	7.0	187.9 (7.6)
		Empty* (B)	153	19.6 (0.8)

*: When float rod is in contact with stopper.

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace fuel level sensor unit (sub). Refer to FL-5, "Removal and Installation".

WASHER FLUID LEVEL SWITCH CIRCUIT

Diagnosis Procedure

INFOID:0000000012874434

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

1.CHECK WASHER FLUID LEVEL SWITCH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter harness connector M24 and washer fluid level switch harness connector E208.
3. Check continuity between combination meter harness connector M24 and washer fluid level switch harness connector E208.

Combination meter		Washer fluid level switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	24	E208	1	Yes

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

Combination meter		Ground	Continuity
Connector	Terminal		
M24	24		No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connector.

2.CHECK WASHER FLUID LEVEL SWITCH GROUND CIRCUIT

Check continuity between washer fluid level switch harness connector E208 and ground.

Washer fluid level switch		Ground	Continuity
Connector	Terminal		
E208	2		Yes

Is the inspection result normal?

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

Component Inspection

INFOID:0000000012874435

1.CHECK WASHER FLUID LEVEL SWITCH

1. Turn ignition switch OFF.
2. Disconnect washer fluid level switch connector.
3. Check washer fluid level switch.

Washer fluid level switch		Condition	Continuity
Terminal			
1	2	Washer fluid level switch ON	Yes
		Washer fluid level switch OFF	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace washer fluid level switch. Refer to WW-6, "Component Parts Location".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000012874436

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

1.CHECK STEERING SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter harness connector M24 and spiral cable harness connector M30.
3. Check continuity between combination meter harness connector M24 and spiral cable harness connector M30.

Combination meter		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M24	21	M30	11	Yes
	22		9	
	23		8	

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

Combination meter		Ground	Continuity
Connector	Terminal		
M24	21		No
	22		
	23		

Is the inspection result normal?

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

Component Inspection

INFOID:0000000012874437

1.CHECK STEERING SWITCH RESISTANCE

Check resistance between the following steering switch terminals:

Steering switches			Condition	Resistance (Ω) (Approx.)
Terminal		Signal name		
17	19	Display	Depress ▷ switch.	2023
		Back	Depress ◁ switch.	723
16		Enter	Depress OK switch.	2023
		Menu Up	Depress △ switch.	121
		Menu Down	Depress ▽ switch.	321

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace steering wheel switch. Refer to AV-63, "Removal and Installation".

2.CHECK SPIRAL CABLE

Check continuity between the following spiral cable terminals:

Spiral cable		Continuity
Terminal		
16	9	Yes
17	8	
19	11	

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

SYMPTOM DIAGNOSIS

THE FUEL GAUGE INDICATOR DOES NOT OPERATE

Description

INFOID:0000000012874438

Fuel gauge will not indicate from a certain position.

Diagnosis Procedure

INFOID:0000000012874439

1.PERFORM COMBINATION METER SELF-DIAGNOSIS MODE

Perform the self-diagnosis mode of combination meter, and then check that the fuel gauge operates normally. Refer to MWI-18, "On Board Diagnosis Function".

Is the inspection result normal?

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

2.CHECK COMBINATION METER INPUT SIGNAL

Perform component function check. Refer to MWI-57, "Component Function Check".

Does data monitor value match fuel gauge reading?

YES >> GO TO 3.
NO >> Replace combination meter. Refer to MWI-72, "Removal and Installation".

3.CHECK FUEL LEVEL SENSOR UNIT CIRCUITS

Check the fuel level sensor circuits. Refer to MWI-57, "Diagnosis Procedure".

Is the inspection result normal?

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

4.CHECK FUEL LEVEL SENSOR UNIT

Check the fuel level sensor unit. Refer to MWI-58, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace fuel level sensor unit. Refer to FL-5, "Removal and Installation".

5.CHECK FLOAT INTERFERENCE

Check that the float arm does not interfere with or bind to other components in the fuel tank.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".
NO >> Repair or replace malfunctioning parts.

THE METER CONTROL SWITCH IS INOPERATIVE

Description

INFOID:0000000012874440

The meter control switches are inoperative when pressed.

Diagnosis Procedure

INFOID:0000000012874441

1.CHECK METER CONTROL SWITCH

Check the meter control switch. Refer to MWI-56, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace meter control switch. Refer to MWI-73, "Removal and Installation".

2.CHECK METER CONTROL SWITCH SIGNAL

Check the meter control switch signal. Refer to MWI-55, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-72, "Removal and Installation".
NO >> Repair or replace harness or connector.

THE OIL PRESSURE WARNING CONTINUES DISPLAYING, OR DOES NOT DISPLAY

Description

INFOID:0000000012874442

- The low oil pressure warning message stays on when oil pressure is normal.
- The low oil pressure warning message stays off when oil pressure is low.

Diagnosis Procedure

INFOID:0000000012874443

1.CHECK COMBINATION METER INPUT

CONSULT

1. Start the engine.
2. Select “Data Monitor” mode of “METER/M&A”.
3. Select “OIL W/L”.
4. Check that the function operates normally according to the following conditions:

Monitor item	Condition	CONSULT
OIL W/L	Engine running	Off

Is the inspection result normal?

YES >> Perform “Self Diagnostic Result” of “ECM”. Refer to EC-70, "CONSULT Function".

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

THE PARKING BRAKE RELEASE WARNING CONTINUES DISPLAYING, OR DOES NOT DISPLAY

Description

INFOID:0000000012874444

- The parking brake warning is displayed during vehicle travel, even though the parking brake is released.
- The parking brake warning is not displayed, even while driving the vehicle with the parking brake applied.

Diagnosis Procedure

INFOID:0000000012874445

1.CHECK PARKING BRAKE WARNING LAMP OPERATION

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

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

Is the inspection result normal?

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

2.CHECK PARKING BRAKE SWITCH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. 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 combination meter. Refer to MWI-72, "Removal and Installation".
NO >> Replace parking brake switch. Refer to PB-10, "Removal and Installation".

THE LOW WASHER FLUID WARNING CONTINUES DISPLAYING, OR DOES NOT DISPLAY

Description

INFOID:0000000012874446

- The warning is still displayed even after washer fluid is added.
- The warning is not displayed even though the washer tank is empty.

Diagnosis Procedure

INFOID:0000000012874447

1.CHECK WASHER FLUID LEVEL SWITCH SIGNAL CIRCUIT

Check the washer fluid level switch signal circuit. Refer to MWI-60, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connector.

2.CHECK WASHER FLUID LEVEL SWITCH UNIT

Check the washer fluid level switch. Refer to MWI-60, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-72, "Removal and Installation".
NO >> Replace washer fluid level switch. Refer to WW-55, "Removal and Installation".

THE DOOR OPEN WARNING CONTINUES DISPLAYING, OR DOES NOT DISPLAY

Description

INFOID:0000000012874448

- The door open warning is displayed even though all of the doors are closed.
- The door open warning is not displayed even though a door is ajar.

Diagnosis Procedure

INFOID:0000000012874449

1.CHECK BCM INPUT SIGNAL

Check the BCM input signal. Refer to DLK-202, "Component_Function_Check".

Is the inspection result normal?

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

2.CHECK COMBINATION METER INPUT SIGNAL

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

Monitor item	Condition	Status
DOOR W/L	Door open	On
	Door closed	Off

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-72, "Removal and Installation".
NO >> Replace BCM. Refer to BCS-79, "Removal and Installation".

3.CHECK DOOR SWITCH SIGNAL CIRCUIT

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

Is the inspection result normal?

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

4.CHECK DOOR SWITCH

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

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-72, "Removal and Installation".
NO >> Replace applicable door switch. Refer to DLK-332, "Removal and Installation".

THE LIFTGATE OPEN WARNING CONTINUES DISPLAYING, OR DOES NOT DISPLAY

Description

INFOID:0000000012874450

- The liftgate open warning is displayed continuously even though the back door is closed.
- The liftgate open warning is not displayed even though the back door is open.

Diagnosis Procedure

INFOID:0000000012874451

1.CHECK BCM INPUT SIGNAL

Check the BCM input signal. Refer to DLK-204, "Component Function Check".

Is the inspection result normal?

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

2.CHECK COMBINATION METER INPUT SIGNAL

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

Monitor item	Condition	Status
DOOR W/L	Back door open	On
	Back door closed	Off

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-72, "Removal and Installation".
NO >> Replace BCM. Refer to BCS-79, "Removal and Installation".

3.CHECK BACK DOOR SWITCH SIGNAL CIRCUIT

Check the back door switch signal circuit. Refer to DLK-204, "Diagnosis Procedure (With Automatic Back Door)" or DLK-205, "Diagnosis Procedure (Without Automatic Back Door)".

Is the inspection result normal?

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

4.CHECK BACK DOOR SWITCH

Check the back door switch. Refer to DLK-206, "Component Inspection (With Automatic Back Door)" or DLK-207, "Component Inspection (Without Automatic Back Door)".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-72, "Removal and Installation".
NO >> Replace back door switch. Refer to DLK-326, "DOOR LOCK : Removal and Installation".

THE STEERING SWITCHES ARE INOPERATIVE

Description

INFOID:0000000012874452

One or more of the steering switches to control the information display are inoperative.

Diagnosis Procedure

INFOID:0000000012874453

1.CHECK STEERING SWITCH CIRCUIT

Check steering switch circuit. Refer to MWI-61, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connector.

2.CHECK STEERING SWITCH RESISTANCE

Check steering switch resistance. Refer to MWI-61, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace steering switch. Refer to AV-63, "Removal and Installation".

3.CHECK SPIRAL CABLE

Check spiral cable for continuity. Refer to MWI-61, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-72, "Removal and Installation".
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

THE AMBIENT TEMPERATURE DISPLAY IS INCORRECT

Description

INFOID:0000000012874454

- The displayed outside air temperature is higher than the actual temperature.
- The displayed outside air temperature is lower than the actual temperature.
- Outside air temperature is not indicated.

Diagnosis Procedure

INFOID:0000000012874455

1.CHECK AMBIENT SENSOR SIGNAL CIRCUIT

Check the ambient sensor signal circuit. Refer to HAC-50, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connector.

2.CHECK AMBIENT SENSOR

Check the ambient sensor. Refer to HAC-52, "Component Inspection".

Is the inspection result normal?

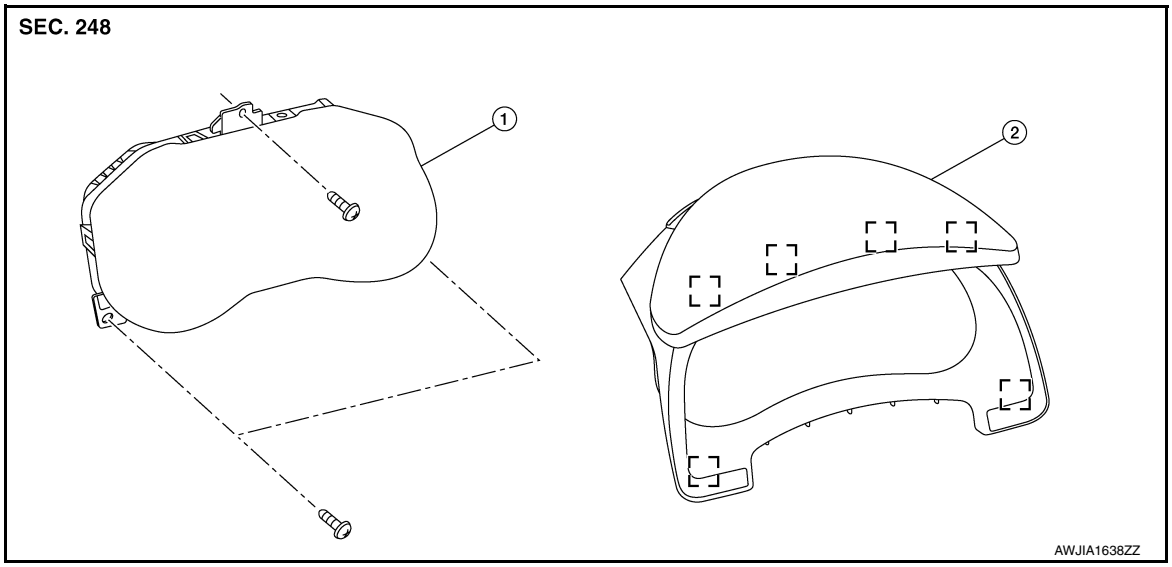
YES >> Replace combination meter. Refer to MWI-72, "Removal and Installation".
NO >> Replace ambient sensor. Refer to HAC-93, "Removal and Installation".

REMOVAL AND INSTALLATION

COMBINATION METER

Exploded View

INFOID:0000000012874456



1. Combination meter
2. Cluster lid A
:Metal clip

Removal and Installation

INFOID:0000000012874457

REMOVAL

CAUTION:

Never install a combination meter from an Advanced Driver Assistance System (ADAS) equipped Murano vehicle into a non-ADAS equipped vehicle, or vice versa. If this occurs, the Forward Emergency Braking (FEB) warning lamp will illuminate and will stay on. The combination meter will need to be replaced.

1. Remove cluster lid A. Refer to IP-21, "Removal and Installation".
2. Remove combination meter screws.
3. Remove combination meter then disconnect harness connector.

INSTALLATION

Installation is in the reverse order of removal.

METER CONTROL SWITCH

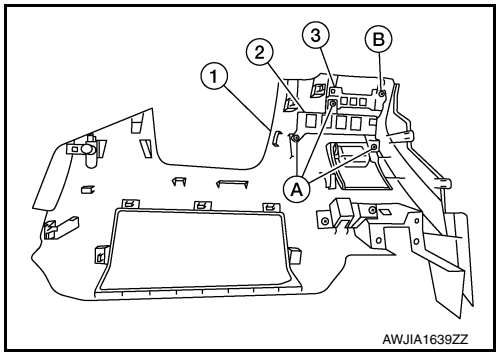
Removal and Installation

INFOID:0000000012874458

REMOVAL

NOTE:
The illumination control switch and trip reset switch are serviced as an assembly.

1. Remove instrument lower panel LH (1). Refer to IP-24, "Removal and Installation".
2. Remove warning buzzer. Refer to DAS-173, "Removal and Installation".
3. Remove screws (A) then remove middle switch carrier (2).
4. Remove screw (B) then disconnect harness connector and remove meter control switch (3).



INSTALLATION

Installation is in the reverse order of removal.

TRIP RESET SWITCH

Removal and Installation

INFOID:0000000012874459

The trip reset switch is serviced as part of the meter control switch. Refer to MWI-73, "Removal and Installation".

ILLUMINATION CONTROL SWITCH

Removal and Installation

INFOID:0000000012874460

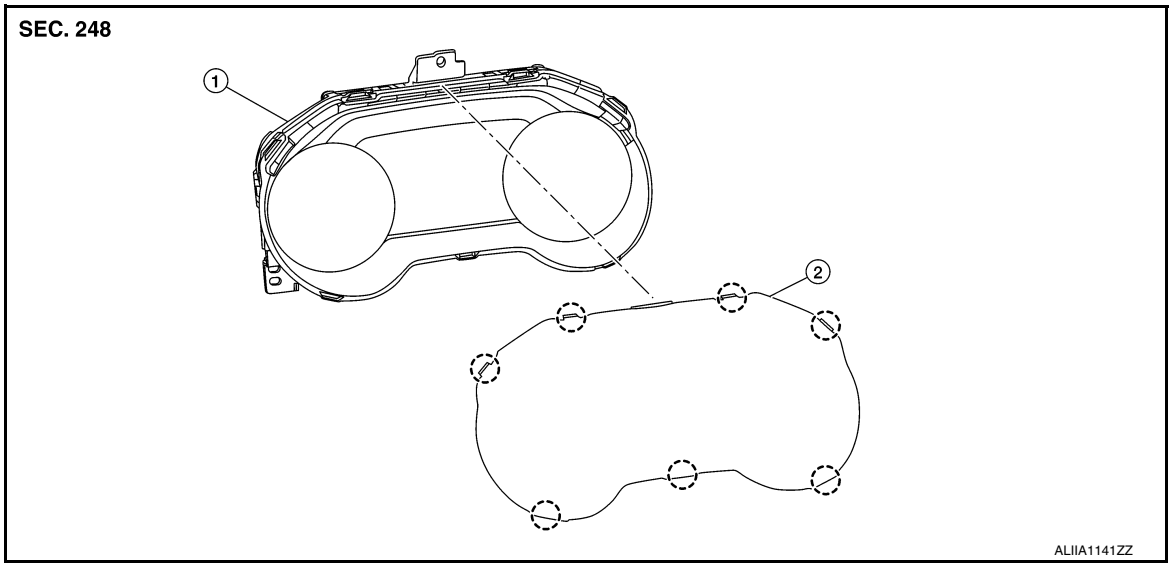
The illumination control switch is serviced as part of the meter control switch. Refer to MWI-73, "Removal and Installation".

UNIT DISASSEMBLY AND ASSEMBLY

COMBINATION METER

Exploded View

INFOID:0000000012874461



1 Combination meter 2 Front cover ◌ Pawl

Disassembly and Assembly

INFOID:0000000012874462

CAUTION:

- **Do not touch the inside of front cover, pointer, the display and the printed area of the dial during the work.**
- **Keep away from magnetic sources.**
- **Do not damage the combination meter lens.**

DISASSEMBLY

1. Remove the combination meter. Refer to MWI-72, "Removal and Installation".
2. Release the pawls using a suitable tool and remove the front cover.

ASSEMBLY

Assembly is in the reverse order of disassembly.