SECTION MWI
METER, WARNING LAMP & INDICATOR

CONTENTS

HOW TO USE THIS MANUAL

HOW TO USE THIS SECTION

Information

INFOID:0000000010821087

- In this manual, “Idling Stop System” is referred to as “Stop / Start System”.
- Both “VDC” and “ESP” are used in this manual. These indicate the same system.
- Both “hill start assist” and “Uphill start support” are used in this manual. These indicate the same system.
- Both “advanced hill decent control” and “downhill drive support” are used in this manual. These indicate the same system.
- Both “active trace control” and “dynamic cornering enhancement” are used in this manual. These indicate the same system.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010726630

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

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

WARNING:

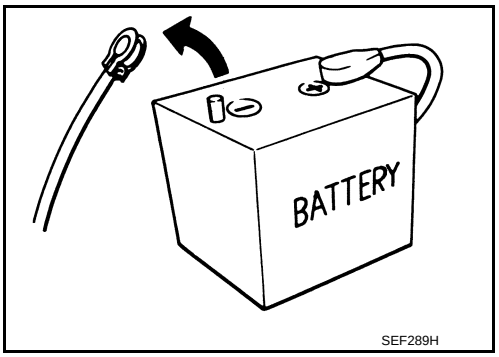
Always observe the following items for preventing accidental activation.

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

Precautions for Removing Battery Terminal

INFOID:0000000010726633

- With the adoption of Auto ACC function, ACC power is automatically supplied by operating the intelligent key or remote keyless entry or by opening/closing the driver side door. In addition, ACC power is supplied even after the ignition switch is turned to the OFF position, i.e. ACC power is supplied for a certain fixed time.
- When disconnecting the 12V battery terminal, turn off the ACC power before disconnecting the 12V battery terminal, observing “How to disconnect 12V battery terminal” described below.
  NOTE:
  Some ECUs operate for a certain fixed time even after ignition switch is turned OFF and ignition power supply is stopped. If the battery terminal is disconnected before ECU stops, accidental DTC detection or ECU data damage may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.



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HOW TO DISCONNECT 12V BATTERY TERMINAL

Disconnect 12V battery terminal according to Instruction 1 or Instruction 2 described below.
For vehicles parked by ignition switch OFF, refer to Instruction 2.

INSTRUCTION 1

1. Open the hood.

2. Turn key switch to the OFF position with the driver side door opened.
3. Get out of the vehicle and close the driver side door.
4. Wait at least 3 minutes. For vehicle with the engine listed below, remove the battery terminal after a lapse of the specified time.

D4D engine	: 20 minutes
HRA2DDT	: 12 minutes
K9K engine	: 4 minutes
M9R engine	: 4 minutes
R9M engine	: 4 minutes
V9X engine	: 4 minutes

CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.

5. Remove 12V battery terminal.
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

INSTRUCTION 2 (FOR VEHICLES PARKED BY IGNITION SWITCH OFF)

1. Unlock the door with intelligent key or remote keyless entry.
NOTE:
At this moment, ACC power is supplied.
2. Open the driver side door.
3. Open the hood.
4. Close the driver side door.
5. Wait at least 3 minutes.
CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.
6. Remove 12V battery terminal.
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

SYSTEM DESCRIPTION

COMPONENT PARTS

METER SYSTEM

METER SYSTEM : Component Parts Location

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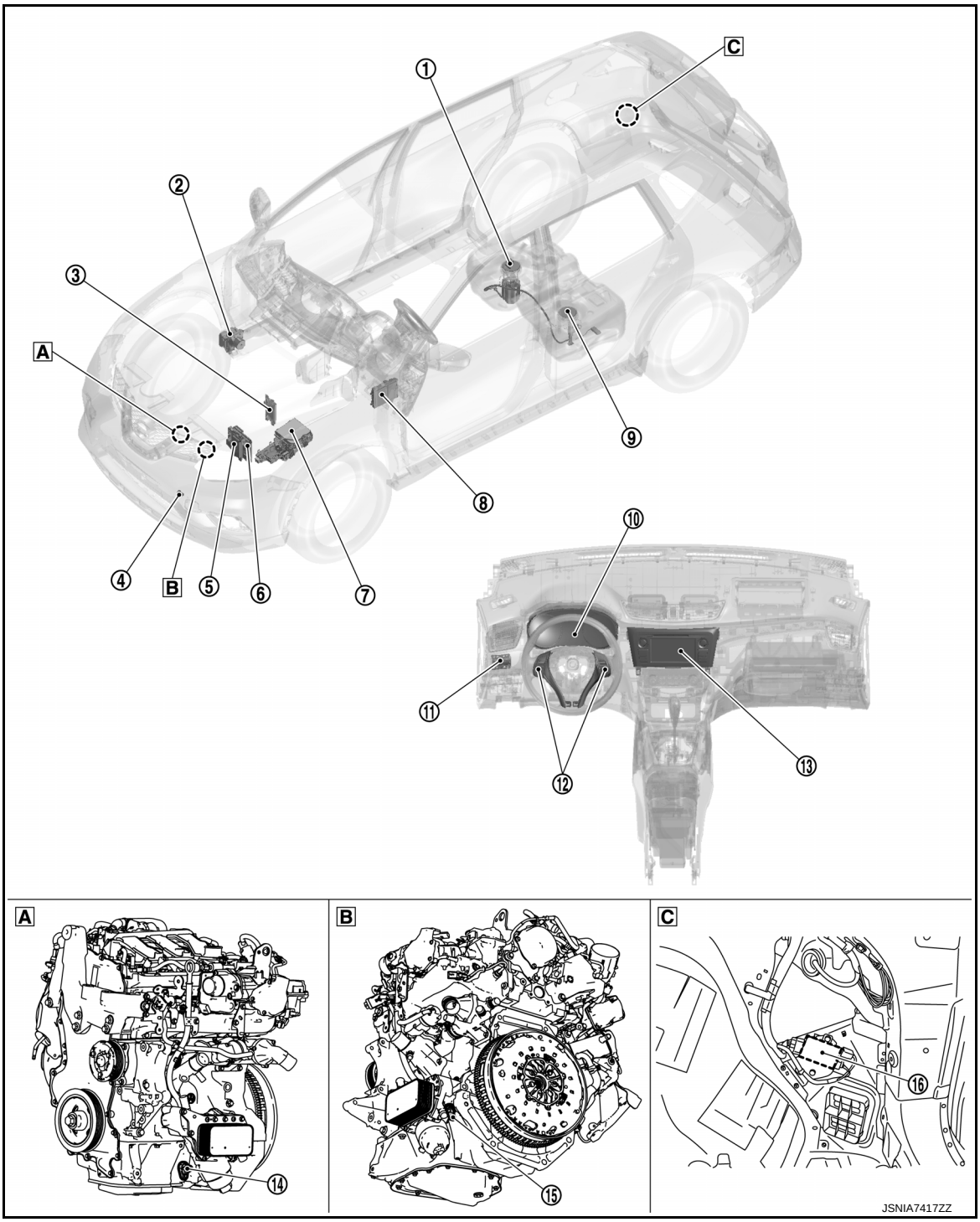
LHD MODELS



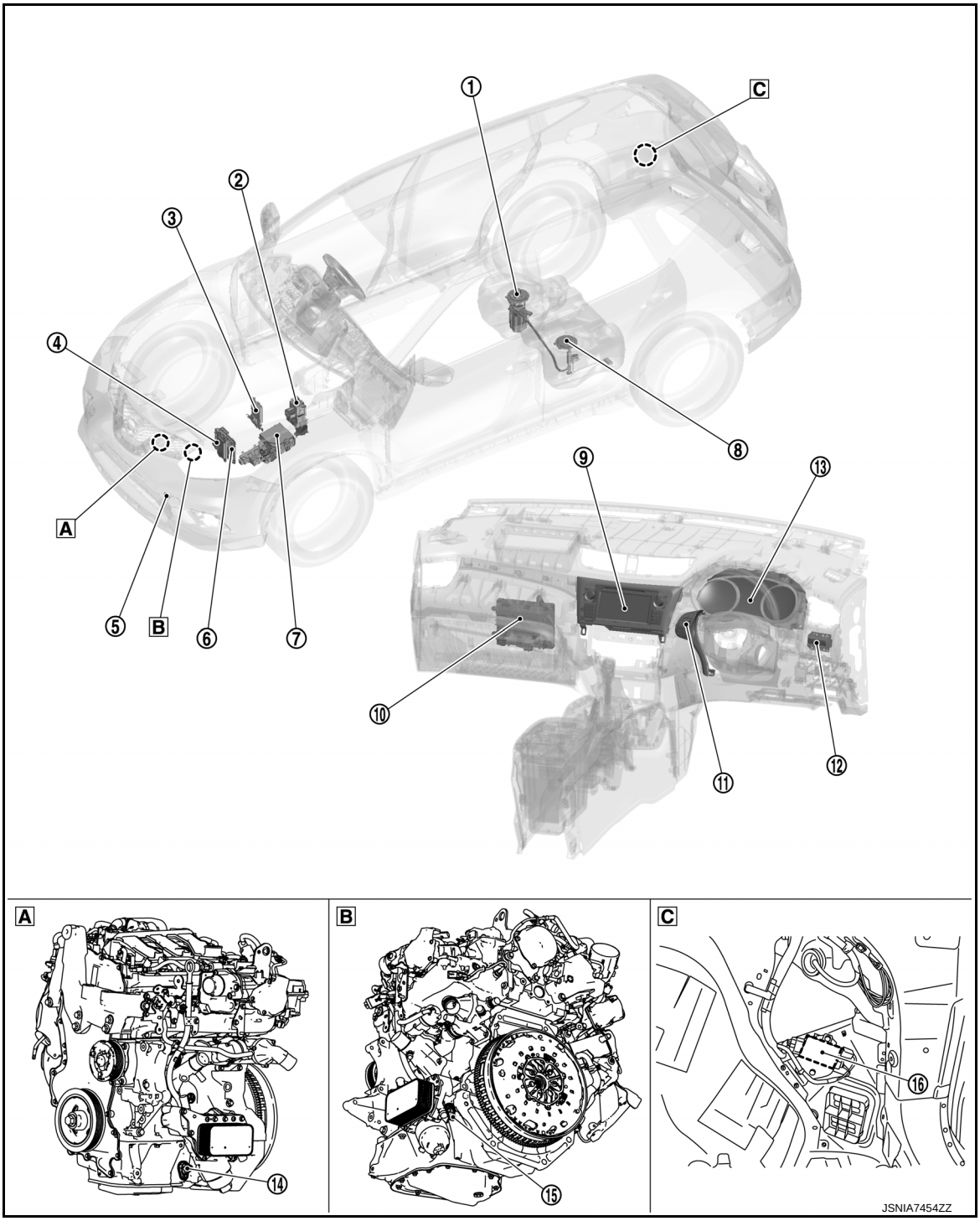
A Engine assembly (oil pan upper) (R9M engine models)

B Engine assembly (around the oil cooler) (R9M engine models)

C Behind luggage side finisher RH

No.	Component	Function
①	Fuel level sensor unit (main)	Transmits the fuel level sensor signal to the combination meter.
②	ABS actuator and electric unit (control unit)	• Transmits the each signal to the combination meter via CAN communication. Refer to MWI-15, "METER SYSTEM : System Description". • Refer to BRC-14, "Component Parts Location" for detailed installation location.
③	TCM (except R9M engine models)	• Transmits the each signal to the combination meter via CAN communication. Refer to MWI-15, "METER SYSTEM : System Description". • Refer to TM-235, "CVT CONTROL SYSTEM : Component Parts Location" for detailed installation location.
④	Ambient sensor	Transmits the ambient sensor signal to the combination meter.
⑤	TCM (R9M engine models)	• Transmits the each signal to the combination meter via CAN communication. Refer to MWI-15, "METER SYSTEM : System Description". • Refer to TM-466, "CVT CONTROL SYSTEM : Component Parts Location" for detailed installation location.
⑥	ECM	• Transmits the each signal to the combination meter via CAN communication. Refer to MWI-15, "METER SYSTEM : System Description". • Refer to EC-28, "ENGINE CONTROL SYSTEM : Component Parts Location" (MR20DD), EC-440, "Component Parts Location" (QR25DE), or EC-812, "Component Parts Location" (R9M) for detailed installation location.
⑦	IPDM E/R	• Transmits the oil pressure switch signal to the combination meter via CAN communication. Refer to MWI-15, "METER SYSTEM : System Description". • Refer to PCS-5, "Component Parts Location" for detailed installation location.
⑧	BCM	• Transmits the each signal to the combination meter via CAN communication. Refer to MWI-15, "METER SYSTEM : System Description". • Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
⑨	Fuel level sensor unit (sub)	Transmits the fuel level sensor signal to the combination meter.
⑩	Combination meter	Refer to MWI-13, "METER SYSTEM : Combination Meter".
⑪	Meter control switch	Transmits the meter control switch signal to the combination meter.
⑫	Steering switch	Transmits the steering switch signal to the combination meter.
⑬	NAVI control unit	Transmits the clock signal to the combination meter via AV communication.
⑭	Oil level sensor	Transmits the oil level sensor signal to the combination meter.
⑮	Engine oil pressure switch	Transmits the oil pressure switch signal to IPDM E/R.
⑯	Fuel pump control module (FPCM)	Transmits the fuel level sensor signal to the combination meter.

RHD MODELS



A Engine assembly (oil pan upper) (R9M engine models)

B Engine assembly (around the oil cooler) (R9M engine models)

C Behind luggage side finisher RH

No.	Component	Function
①	Fuel level sensor unit (main)	Transmits the fuel level sensor signal to the combination meter.
②	ABS actuator and electric unit (control unit)	• Transmits the each signal to the combination meter via CAN communication. Refer to MWI-15, "METER SYSTEM : System Description". • Refer to BRC-14, "Component Parts Location" for detailed installation location.

No.	Component	Function
③	TCM (except R9M engine models)*	—
④	TCM (R9M engine models)	• Transmits the each signal to the combination meter via CAN communication. Refer to MWI-15, "METER SYSTEM : System Description". • Refer to TM-466, "CVT CONTROL SYSTEM : Component Parts Location" for detailed installation location.
⑤	Ambient sensor	Transmits the ambient sensor signal to the combination meter.
⑥	ECM	• Transmits the each signal to the combination meter via CAN communication. Refer to MWI-15, "METER SYSTEM : System Description". • Refer to EC-28, "ENGINE CONTROL SYSTEM : Component Parts Location" (MR20DD), EC-440, "Component Parts Location" (QR25DE), or EC-812, "Component Parts Location" (R9M) for detailed installation location.
⑦	IPDM E/R	• Transmits the oil pressure switch signal to the combination meter via CAN communication. Refer to MWI-15, "METER SYSTEM : System Description". • Refer to PCS-5, "Component Parts Location" for detailed installation location.
⑧	Fuel level sensor unit (sub)	Transmits the fuel level sensor signal to the combination meter.
⑨	NAVI control unit	Transmits the clock signal to the combination meter via AV communication.
⑩	BCM	• Transmits the each signal to the combination meter via CAN communication. Refer to MWI-15, "METER SYSTEM : System Description". • Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
⑪	Steering switch	Transmits the steering switch signal to the combination meter.
⑫	Meter control switch	Transmits the meter control switch signal to the combination meter.
⑬	Combination meter	Refer to MWI-13, "METER SYSTEM : Combination Meter".
⑭	Oil level sensor	Transmits the oil level sensor signal to the combination meter.
⑮	Engine oil pressure switch	Transmits the oil pressure switch signal to IPDM E/R.
⑯	Fuel pump control module (FPCM)	Transmits the fuel level sensor signal to the combination meter.

*: Not applicable

METER SYSTEM : Design

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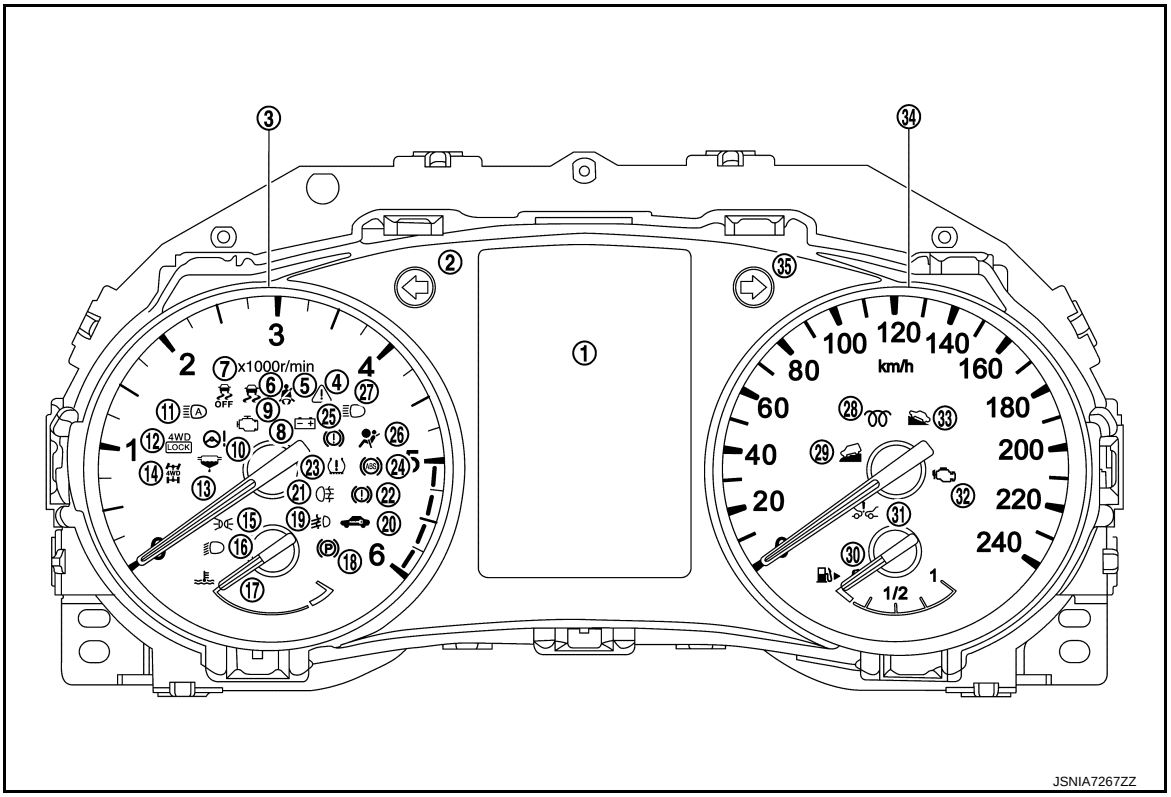
ARRANGEMENT OF COMBINATION METER



No.	Indicator lamp/Warning lamp	Color	Function
①	Information display	–	Refer to MWI-71, "INFORMATION DISPLAY : System Description".
②	Turn signal indicator lamp (LH)	Green	Refer to MWI-59, "WARNING LAMPS/INDICATOR LAMPS : Turn Signal Indicator Lamp".
③	Tachometer	–	Refer to MWI-22, "TACHOMETER : System Description".
④	Master warning lamp	Yellow/ Red	Refer to MWI-47, "WARNING LAMPS/INDICATOR LAMPS : Master Warning Lamp".
⑤	Seat belt warning lamp	Red	Refer to MWI-54, "WARNING LAMPS/INDICATOR LAMPS : Seat Belt Warning Lamp".
⑥	VDC (ESP) warning lamp	Yellow	Refer to MWI-61, "WARNING LAMPS/INDICATOR LAMPS : VDC (ESP) Warning Lamp".
⑦	VDC (ESP) OFF indicator lamp	Yellow	Refer to MWI-60, "WARNING LAMPS/INDICATOR LAMPS : VDC (ESP) OFF Indicator Lamp".
⑧	Charge warning lamp	Red	Refer to MWI-30, "WARNING LAMPS/INDICATOR LAMPS : Charge Warning Lamp".
⑨	Malfunction indicator lamp (MIL)	Yellow	Refer to MWI-50, "WARNING LAMPS/INDICATOR LAMPS : Malfunction Indicator Lamp (MIL)".
⑩	Electric power steering warning lamp	Yellow	Refer to MWI-35, "WARNING LAMPS/INDICATOR LAMPS : Electric Power Steering Warning Lamp".
⑪	High beam assist indicator lamp	Green	MWI-40, "WARNING LAMPS/INDICATOR LAMPS : High Beam Assist Indicator Lamp"
⑫	LOCK indicator lamp	Yellow	Refer to MWI-23, "WARNING LAMPS/INDICATOR LAMPS : 4WD Indicator Lamp and LOCK Indicator Lamp".
⑬	Water-in-fuel-filter warning lamp	Green	Refer to MWI-63, "WARNING LAMPS/INDICATOR LAMPS : Water-in-fuel-filter warning lamp".

No.	Indicator lamp/Warning lamp	Color	Function
⑭	4WD indicator lamp	Green	Refer to MWI-23, "WARNING LAMPS/INDICATOR LAMPS : 4WD Indicator Lamp and LOCK Indicator Lamp".
⑮	Position lamp indicator lamp	Green	Refer to MWI-52, "WARNING LAMPS/INDICATOR LAMPS : Position Lamp Indicator Lamp".
⑯	Dipped beam indicator lamp	Green	Refer to MWI-32, "WARNING LAMPS/INDICATOR LAMPS : Dipped Beam Indicator Lamp".
⑰	Engine coolant temperature gauge	–	Refer to MWI-22, "ENGINE COOLANT TEMPERATURE GAUGE : System Description".
⑱	Electric parking brake indicator lamp	Red	Refer to MWI-33, "WARNING LAMPS/INDICATOR LAMPS : Electric Parking Brake Indicator Lamp".
⑲	Front fog lamp indicator lamp	Green	Refer to MWI-38, "WARNING LAMPS/INDICATOR LAMPS : Front Fog Lamp Indicator Lamp"
⑳	Security indicator lamp	Red	Refer to MWI-55, "WARNING LAMPS/INDICATOR LAMPS : Security Indicator Lamp (Turn ON)" (Turn ON), or MWI-56, "WARNING LAMPS/INDICATOR LAMPS : Security Indicator Lamp (Blinks)" (Blinks).
㉑	Rear fog lamp indicator lamp	Yellow	Refer to MWI-53, "WARNING LAMPS/INDICATOR LAMPS : Rear Fog Lamp Indicator Lamp".
㉒	Brake warning lamp	Red	Refer to MWI-26, "WARNING LAMPS/INDICATOR LAMPS : Brake Warning Lamp (Red)".
㉓	Low tire pressure warning lamp	Yellow	Refer to MWI-45, "WARNING LAMPS/INDICATOR LAMPS : Low Tire Pressure Warning Lamp".
㉔	ABS warning lamp	Yellow	Refer to MWI-24, "WARNING LAMPS/INDICATOR LAMPS : ABS Warning Lamp".
㉕	Brake system warning lamp	Yellow	Refer to MWI-28, "WARNING LAMPS/INDICATOR LAMPS : Brake System Warning Lamp (Yellow)".
㉖	SRS air bag warning lamp	Red	Refer to MWI-57, "WARNING LAMPS/INDICATOR LAMPS : SRS Air Bag Warning Lamp" .
㉗	High beam indicator lamp	Blue	Refer to MWI-41, "WARNING LAMPS/INDICATOR LAMPS : High Beam Indicator Lamp".
㉘	Glow indicator lamp	Yellow	Refer to MWI-39, "WARNING LAMPS/INDICATOR LAMPS : Glow Indicator Lamp".
㉙	hill decent control (Downhill Drive Support) indicator lamp	Yellow	Refer to MWI-42, "WARNING LAMPS/INDICATOR LAMPS : hill descent control (Downhill Drive Support) Indicator lamp".
㉚	Fuel gauge	–	Refer to MWI-22, "FUEL GAUGE : System Description".
㉛	FEB warning lamp	Yellow	Refer to MWI-36, "WARNING LAMPS/INDICATOR LAMPS : FEB Warning Lamp".
㉜	Malfunction indicator lamp (MIL)	Red	Refer to MWI-50, "WARNING LAMPS/INDICATOR LAMPS : Malfunction Indicator Lamp (MIL)".
㉝	hill start assist (Uphill Start Support) indicator lamp	Green	Refer to MWI-44, "WARNING LAMPS/INDICATOR LAMPS : hill start assist (Uphill Start Support) Indicator lamp".
㉞	Speedometer	–	Refer to MWI-21, "SPEEDOMETER : System Description".
㉟	Turn signal lamp (RH)	Green	Refer to MWI-59, "WARNING LAMPS/INDICATOR LAMPS : Turn Signal Indicator Lamp".

METER SYSTEM : Combination Meter

INFOID:0000000010714979

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.

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

CLOCK SPECIFICATIONS

Operating voltage	(V)	11 - 16
Accuracy	(sec./day)	Approx. ± 6

NOTE:
The time is displayed on the information display. When a time lag of more than the above described accuracy occurs, the combination meter battery power supply voltage may be low. In this case, check 12 V battery for malfunction causing low power supply voltage. Models with the navigation system are free of time lag resulted from low power supply voltage because of the synchronization with GPS signals.

METER SYSTEM : Steering Switch

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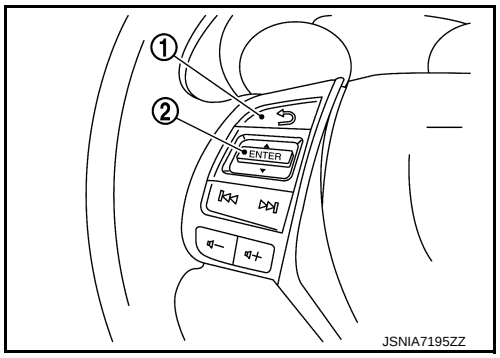
- The steering switch is located on the steering wheel.
- Transmits the steering switch signal to the combination meter.



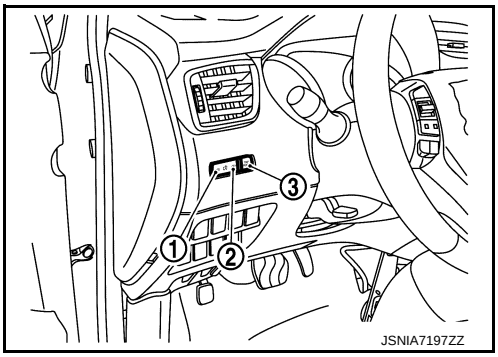
No.	Switch name	Operation	Description
①	Back switch	Press	• Switches the screen shown on the information display to the previous screen. • Switches the screen shown on the information display to the previous screen.

No.	Switch name	Operation	Description
②	ENTER switch	Press	Confirms each item displayed on the information display.
		Press and hold	• When pressed for 1 second or more with an average vehicle speed or fuel economy (average fuel consumption, ECO pedal guide) displayed on the information display, the displayed value (average vehicle speed or average fuel consumption) can be reset. • When pressed for 3 second or more with an average vehicle speed or fuel economy (average fuel consumption, ECO pedal guide) displayed on the information display, a new screen appears and average vehicle speed and average fuel consumption can be simultaneously reset.
		Push up	• Switches the screen shown on the information display to the previous screen. • Moves up the item selected on the information display. • Increases the set value displayed on the settings screen of the information display.
		Push down	• Switches the screen shown on the information display to the next screen. • Moves down the item selected on the information display. • Decreases the set value displayed on the settings screen of the information display.

METER SYSTEM : Meter Control Switch

INFOID:0000000010714981

- The meter control switch is located on the instrument finisher A.
- 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	Illumination control switch (+)		
③	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.

SYSTEM
METER SYSTEM
METER SYSTEM : System Description

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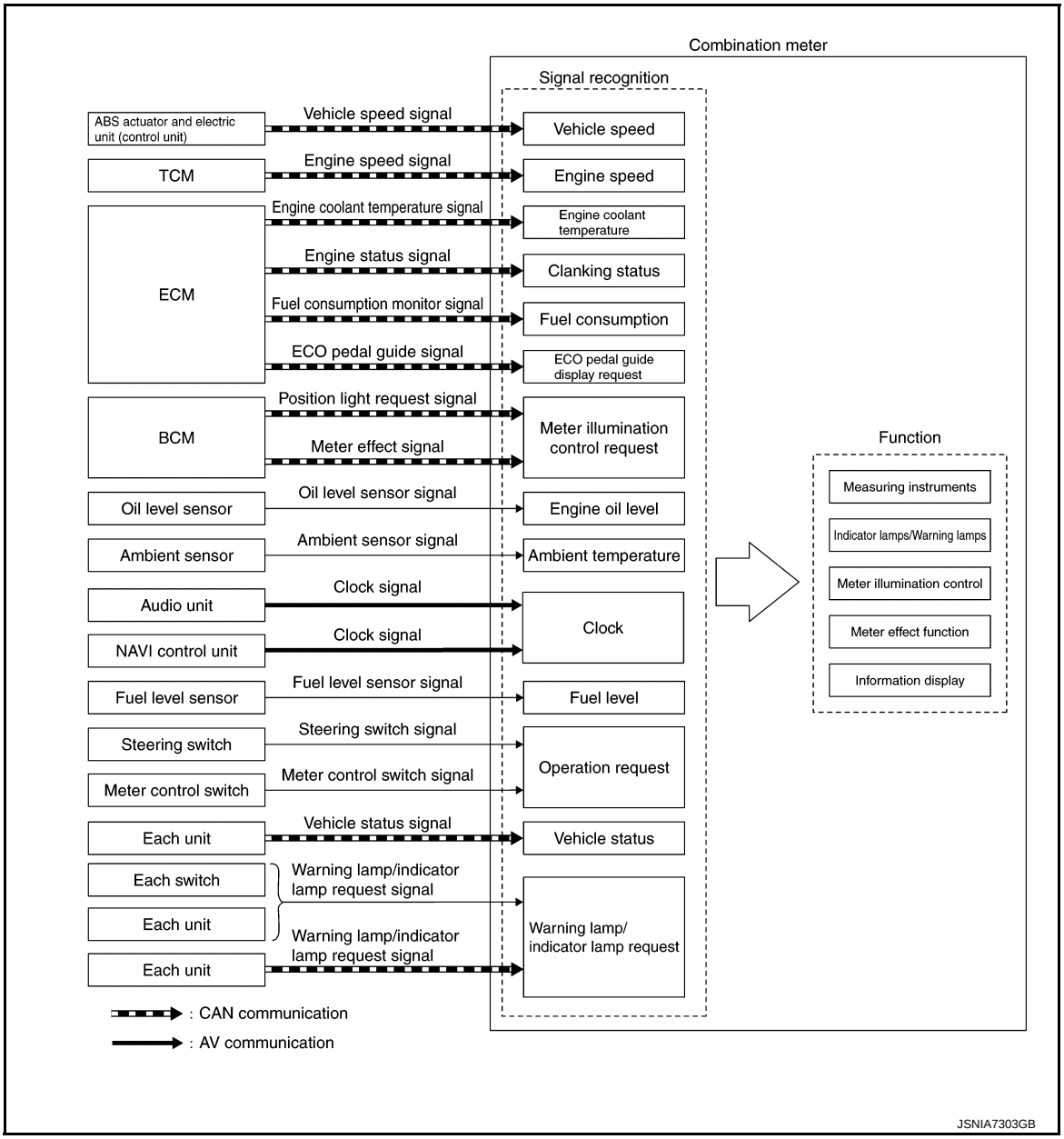
SYSTEM DIAGRAM



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
	hill start assist indicator lamp signal
	hill descent control indicator lamp signal

Transmit unit	Signal name
BCM	Position light request signal
	Door switch signal
	Front fog light request signal
	High beam request signal
	Key warning signal
	Low beam request signal
	Meter display signal
	Sleep wake up signal
	TPMS malfunction warning lamp signal
	Low tire pressure warning lamp signal
	Rear fog lamp status signal
	Meter effect signal
	Buzzer output signal
	High beam assist indicator lamp signal
	Daytime running light request signal
	Low tire pressure wheel location signal
TCM	Shift position signal
	Engine speed signal
	Manual mode shift refusal signal
ECM	ASCD status signal
	Battery warning request signal
	Engine coolant temperature signal
	Fuel consumption monitor signal
	Malfunctioning indicator lamp signal
	Engine oil pressure warning lamp signal
	Engine status signal
	Gear shift indicator signal
	Glow indicator lamp signal
	Speed limiter operation signal
	Stop/start indicator lamp signal
	Stop/start status signal
	Water in fuel filter warning lamp signal
	ECO mode indicator signal
	ECO pedal guide signal

Transmit unit	Signal name
Chassis control module	hill descent control display request signal
	hill start assist display request signal
	Active engine brake display request signal
	Active engine brake setting display request signal
	Active trace control display request signal
	Active trace control setting display request signal
	Active ride control display request signal
	Chassis control malfunction display request signal
	Curve display request signal
	hill descent control display signal
	hill start assist display signal
	Tire display request signal
	Meter display signal
IPDM E/R	Battery warning request signal
	Headlamp warning signal
	Starter relay status signal
4WD control unit	4WD warning lamp signal
	Mode lamp signal
Electric parking brake control module	Brake system warning lamp signal
	Electric parking brake indicator lamp signal
	Electric parking brake display request signal
	Master warning lamp signal
EPS control unit	Electric power steering warning lamp signal
Around view monitor control unit	Meter display signal
	Buzzer output signal
Sonar control unit	Parking sensor error signal
	Sonar indicator display signal
Lane camera unit	Meter display signal
	Buzzer output signal
Distance sensor unit	Meter display signal
	FEB warning lamp signal

DESCRIPTION

Combination Meter

- The combination meter receives necessary signals from each unit, switch, and sensor to control the following functions.
- Measuring instruments
- 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-7, "Combination Meter" 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-21, "SPEEDOMETER : System Description"
	Tachometer	Indicates engine speed.	MWI-22, "TACHOMETER : System Description"
	Engine coolant temperature gauge	Indicates engine coolant temperature.	MWI-22, "ENGINE COOLANT TEMPERATURE GAUGE : System Description"
	Fuel gauge	Indicates fuel level.	MWI-22, "FUEL GAUGE : System Description"
Warning lamp/indicator lamp		The warning lamp/indicator lamp turns ON or turns OFF, according to system malfunction or vehicle condition.	MWI-10, "METER SYSTEM : Design"
Meter illumination control	Buck light illumination control function	The operation of the illumination control switch allows the brightness adjustment of meter illumination.	MWI-68, "METER ILLUMINATION CONTROL : System Description"
Meter effect function	Engine-start effect function	Meter illumination at ignition switch ON from OFF to produce illumination effects.	MWI-69, "METER EFFECT FUNCTION : System Description"
	Driver welcome function	Controls meter illumination to produce illumination effects when getting in the vehicle.	
Information display		The Information display displays status, according to system malfunction or vehicle condition.	MWI-71, "INFORMATION DISPLAY : System Description"

METER SYSTEM : Circuit Diagram

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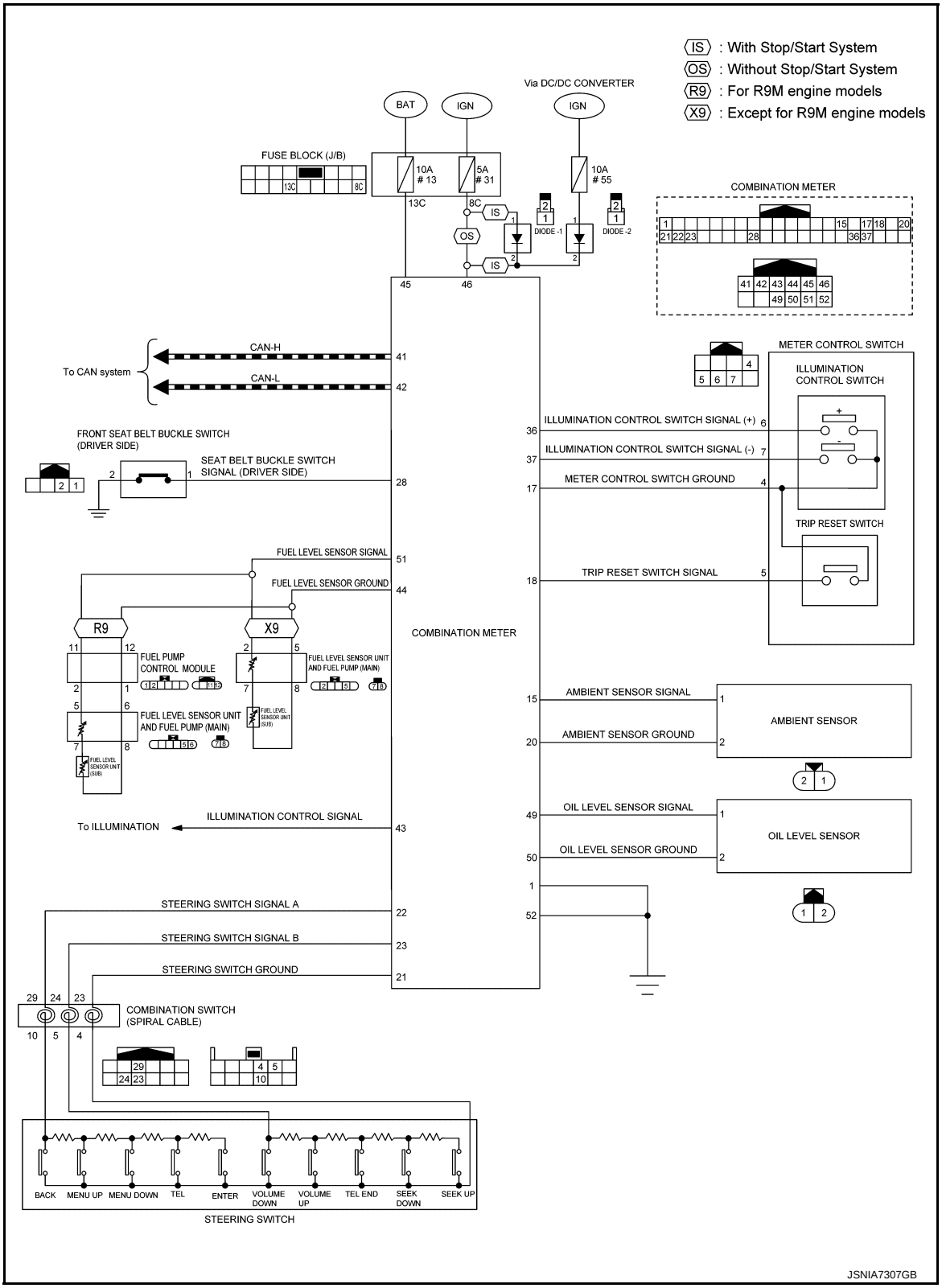


METER SYSTEM : Fail-Safe

INFOID:0000000010820192

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

Function			Specifications
Speedometer			Reset to zero by suspending communication.
Tachometer			
Engine coolant temperature gauge			• When reception time of an abnormal signal is 60 seconds or less, the last value received. • When reception time of an abnormal signal is more than 60 seconds, reset to zero.
Illumination control			When suspending communication, changes to nighttime mode.
Information display	Odo/trip meter		An indicated value is maintained at communications blackout.
	Shift position indicator		The display turns OFF by suspending communication.
	Chassis control display		The display turns no effect by suspending communication.
	4WD torque distribution display		The gauge displays 0% by suspending communication.
	Trip computer	Current fuel consumption	The last result calculated during normal condition is indicated.
		Average fuel consumption	
		Average vehicle speed	
		Distance to empty	
		ECO pedal guide	The indicator turns OFF by suspending communication.
	Warning/ Indicator	4WD warning	The display turns ON by suspending communication.
		Chassis control warning	
		Other than the above	The display turns OFF by suspending communication.
Buzzer			The buzzer turns OFF by suspending communication.

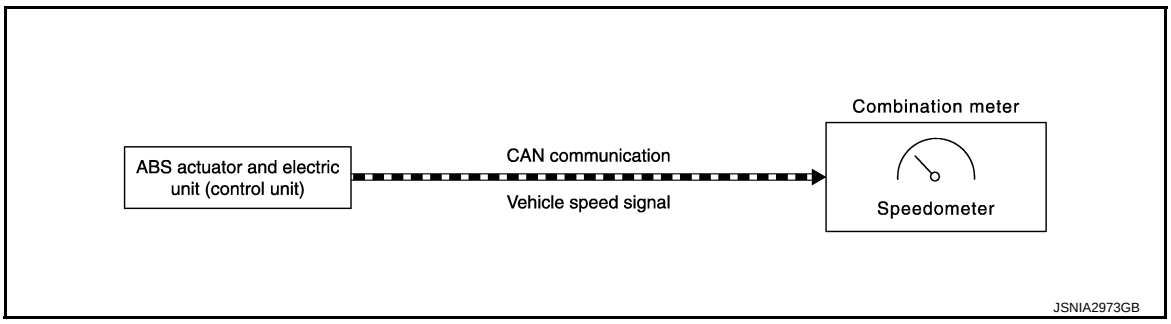
Function		Specifications
Warning lamp/indicator lamp	ABS warning lamp	The lamp turns ON by suspending communication.
	VDC warning lamp	
	Brake warning lamp	
	Electric power steering warning lamp	
	Malfunction indicator lamp (MIL) (yellow)	
	SRS air bag warning lamp	
	Brake system warning lamp	
	FEB warning lamp	
	Low tire pressure warning lamp	The lamp turns ON after flashing for 2 minutes.
	Electric parking brake indicator lamp	The lamp blinking caused by suspending communication.
	High beam indicator lamp	The lamp turns OFF by suspending communication.
	VDC OFF indicator lamp	
	Turn signal indicator lamp	
	Front fog lamp indicator lamp	
	Rear fog lamp indicator lamp	
	Position lamp indicator lamp	
	Charge warning lamp	
	ECO mode indicator lamp	
	4WD indicator lamp	
	LOCK indicator lamp	
	Dipped beam indicator lamp	
	hill descent control indicator lamp	
	Water-in-fuel-filter warning lamp	
	Glow indicator lamp	
	Malfunction indicator lamp (MIL) (red)	
	High beam assist indicator lamp	
	hill start assist indicator lamp	

SPEEDOMETER

SPEEDOMETER : System Description

INFOID:0000000010714985

SYSTEM DIAGRAM



DESCRIPTION

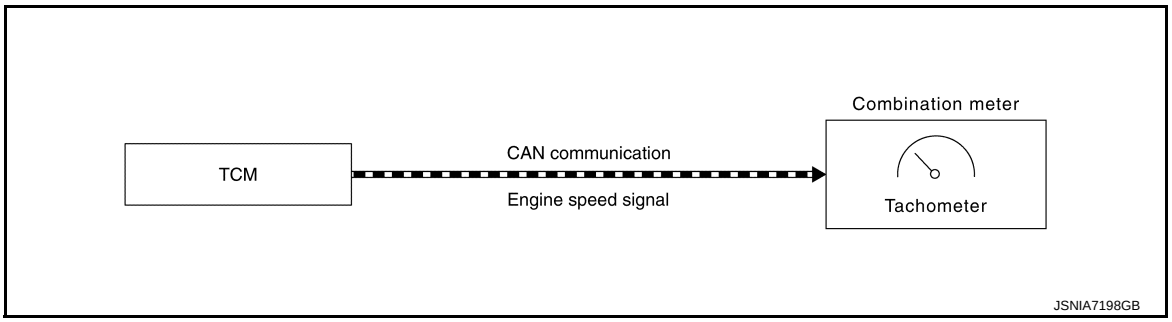
- The ABS actuator and electric unit (control unit) transmits a vehicle speed signal to the combination meter via CAN communication.
- The combination meter indicates a vehicle speed to the speedometer, based on the vehicle speed signal received from the ABS actuator and electric unit.

TACHOMETER

TACHOMETER : System Description

INFOID:0000000010714986

SYSTEM DIAGRAM



DESCRIPTION

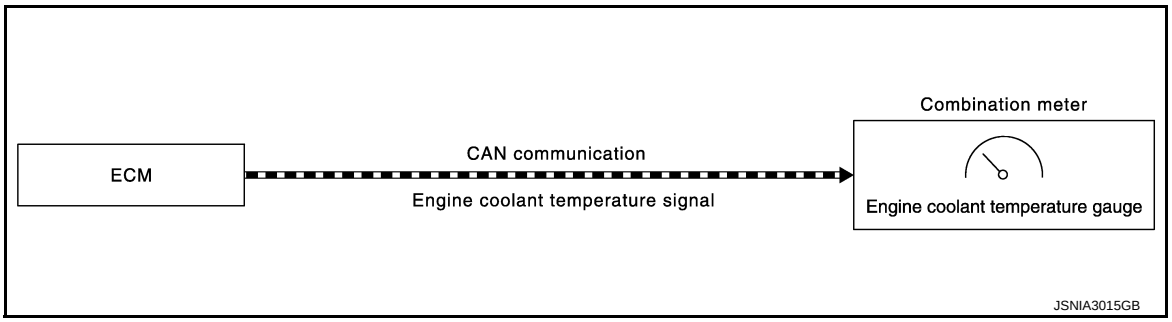
- ECM converts the pulse signal provided by the crankshaft position sensor to an engine speed signal and transmits it to the TCM via CAN communication.
- TCM transmits the engine speed signal received from ECM via CAN communication to the combination meter via CAN communication.
- The combination meter indicates the engine speed to the tachometer according to the engine speed signal received via CAN communication.

ENGINE COOLANT TEMPERATURE GAUGE

ENGINE COOLANT TEMPERATURE GAUGE : System Description

INFOID:0000000010714987

SYSTEM DIAGRAM



DESCRIPTION

- ECM reads the engine coolant temperature signal from the engine coolant temperature sensor and transmits the signal to the combination meter via CAN communication.
- The combination meter indicates the engine coolant temperature to the engine coolant temperature gauge according to the engine coolant temperature signal received via CAN communication.

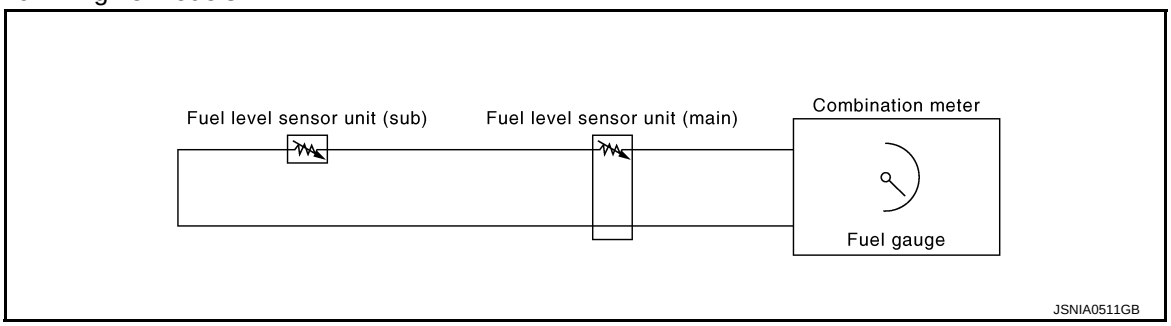
FUEL GAUGE

FUEL GAUGE : System Description

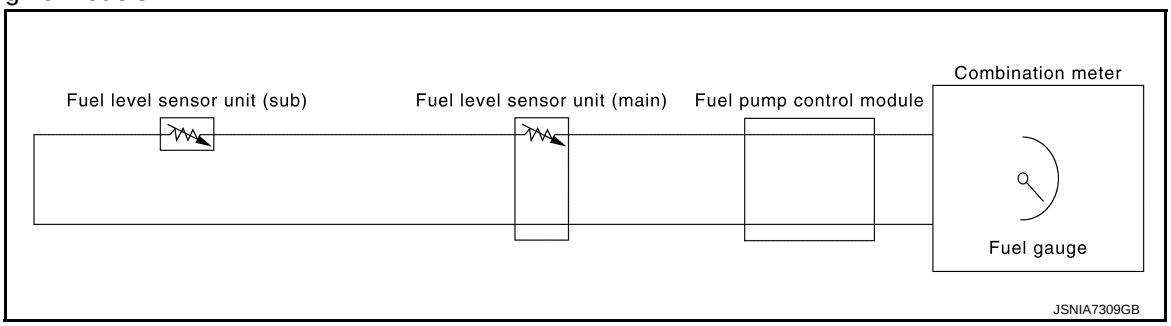
INFOID:0000000010714988

SYSTEM DIAGRAM

Except R9M Engine Models



R9M Engine Models



DESCRIPTION

Control Outline

The combination meter reads the fuel level sensor signal from the fuel level sensor unit and indicates the fuel level to the fuel gauge.

Refuel Control

The combination meter accelerates the fuel gauge if the all conditions listed below are met, or the ignition switch is ON from OFF.

- Ignition switch is ON position.
- The vehicle is not moving.
- The fuel level change by 5 ℓ (1-1/8 Imp gal) or more.

WARNING LAMPS/INDICATOR LAMPS

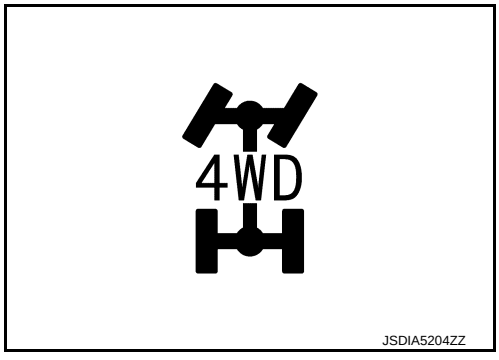
WARNING LAMPS/INDICATOR LAMPS : 4WD Indicator Lamp and LOCK Indicator Lamp

INFOID:0000000010784392

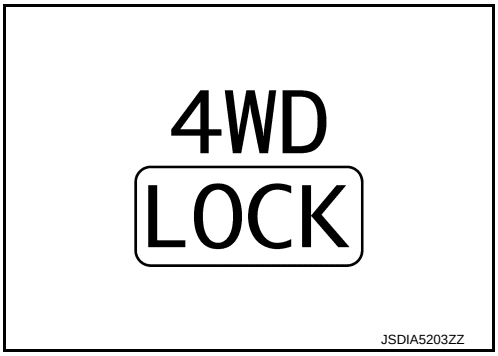
DESIGN/PURPOSE

4WD indicator lamp and LOCK indicator lamp inform the driver for 4WD mode.

- 4WD indicator lamp



- LOCK indicator lamp



BULB CHECK

The 4WD indicator lamp and LOCK indicator lamp turn ON and stay ON for several seconds after turning ON the ignition switch.

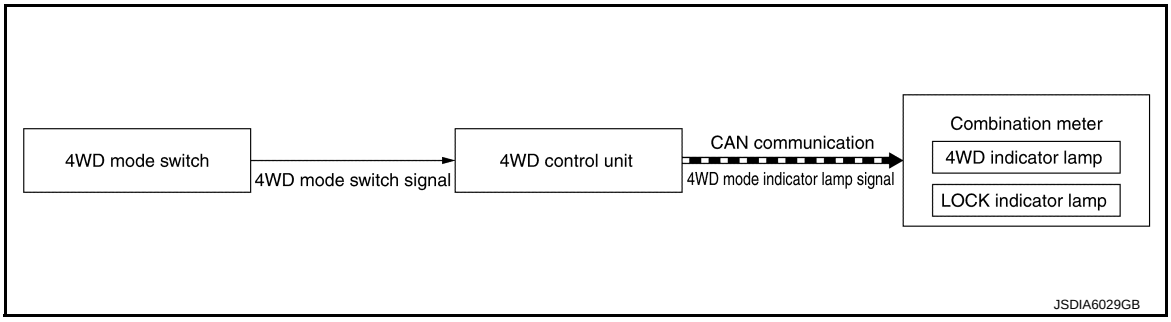
SYNCRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- 4WD control unit receives the 4WD mode switch signal from 4WD mode switch.
- 4WD control unit transmits the 4WD mode indicator lamp signal to the combination meter via CAN communication according to the received 4WD mode switch signal.
- Combination meter turns ON the LOCK indicator lamp and/or 4WD indicator lamp when receiving the 4WD mode indicator lamp signal.

LIGHTING AND SHUTOFF CONDITION

Condition		4WD indicator lamp	LOCK indicator lamp
Ignition switch: ON	2WD mode	OFF	OFF
	AUTO mode	ON	OFF
	LOCK mode	ON	ON
Ignition switch: Other than ON		OFF	OFF

WARNING LAMPS/INDICATOR LAMPS : ABS Warning Lamp

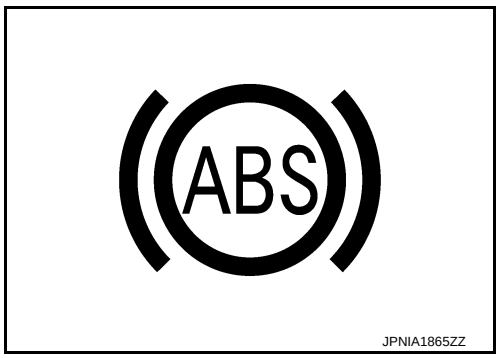
INFOID:0000000010728292

DESIGN/PURPOSE

The ABS warning lamp warns the driver of a malfunction in the ABS function or EBD function of ABS actuator and electric unit (control unit).

NOTE:

The ABS warning lamp may turn ON simultaneously with the brake warning lamp, VDC warning lamp. For details, refer to BRC-30, "System Description".



BULB CHECK

The ABS warning lamp turns ON and stays ON for 1 second after turning ON the ignition switch.

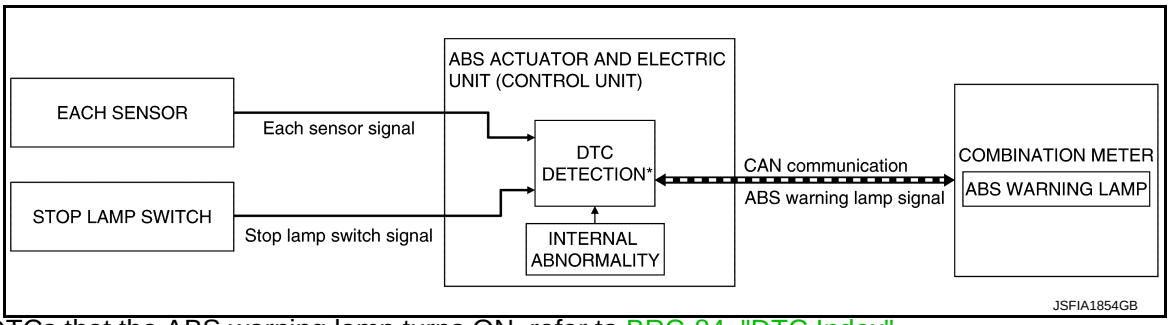
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



*: For DTCs that the ABS warning lamp turns ON, refer to BRC-84, "DTC Index".

SIGNAL PATH

- The ABS actuator and electric unit (control unit) transmits an ABS warning lamp signal to the combination meter via CAN communication when detecting a malfunction.
- The combination meter turns ON the ABS warning lamp when receiving an ABS warning lamp signal.
- For the relationship between warning lamp and DTC, refer to BRC-84, "DTC Index".

LIGHTING CONDITION

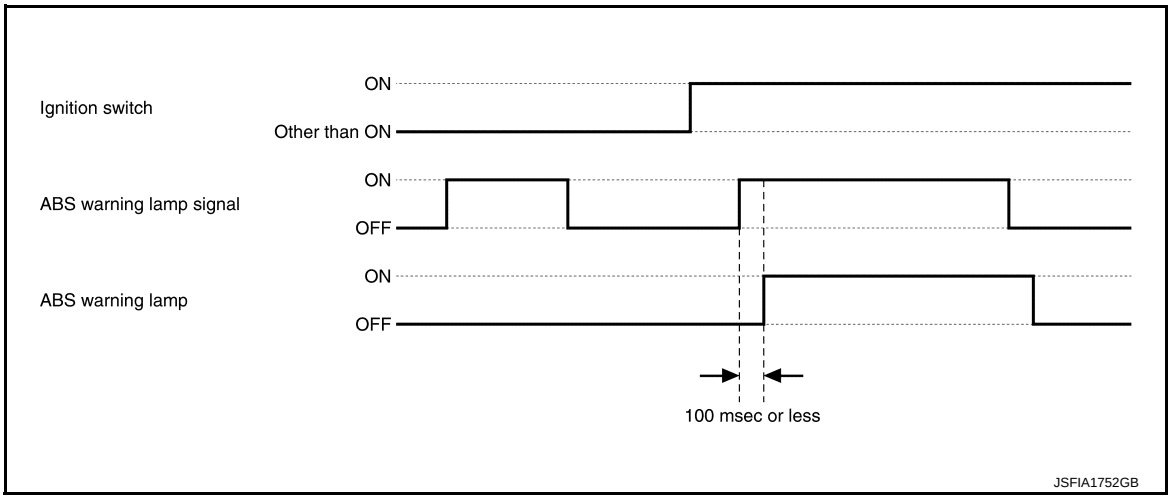
The warning lamp turns ON when:

- A malfunction is detected in the ABS function or EBD function of the ABS actuator and electric unit (control unit).
- For the relationship between warning lamp and DTC, refer to BRC-84, "DTC Index".

SHUTOFF CONDITION

- When the condition listed below is satisfied while the ignition switch ON:
- Erase DTC
- The ignition switch is in a position other than ON.

TIMING CHART



WARNING LAMPS/INDICATOR LAMPS : Brake Warning Lamp (Red)

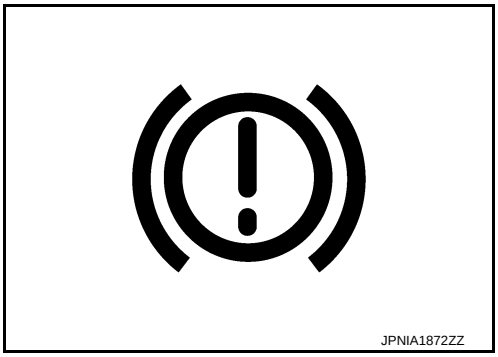
INFOID:0000000010728294

DESIGN/PURPOSE

- The brake warning lamp warns the driver of brake fluid shortages.
- The brake warning lamp warns the driver of a malfunction in the EBD function of ABS actuator and electric unit (control unit).

NOTE:

The brake warning lamp may turn ON simultaneously with the ABS warning lamp, VDC warning lamp. For details, refer to BRC-30, "System Description".



BULB CHECK

When the ignition switch is ON (engine stop).

SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

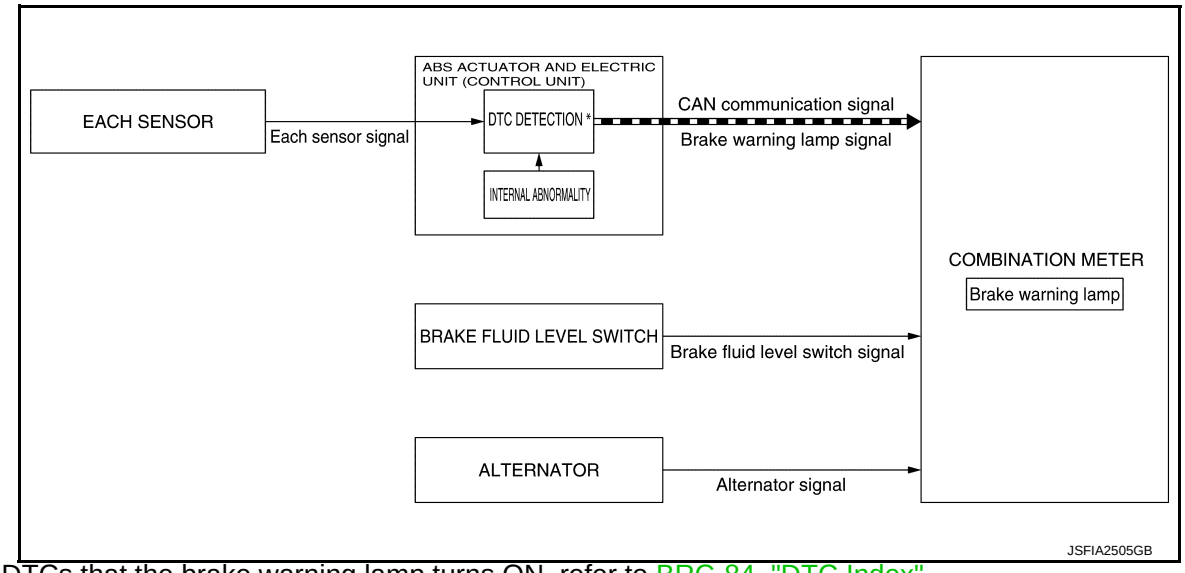
SYNCHRONIZATION WITH WARNING CHIME

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



*: For DTCs that the brake warning lamp turns ON, refer to BRC-84, "DTC Index".

SIGNAL PATH

When Brake Fluid Is Insufficient

The combination meter turns ON/OFF the brake warning lamp, according to the ON/OFF state of the brake fluid level switch.

When The EBD Function Is In Abnormal State

- The ABS actuator and electric unit (control unit) transmits a brake warning lamp signal to the combination meter via CAN communication when detecting a malfunction in the EBD function.
- The combination meter turns ON the brake warning lamp when receiving a brake warning lamp signal.
- For the relationship between warning lamp and DTC, refer to BRC-84, "DTC Index".

When The Brake Vacuum Sensor System Is In Abnormal State

- The ABS actuator and electric unit (control unit) transmits a brake warning lamp signal to the combination meter via CAN communication when detecting a malfunction in the brake vacuum sensor system.
- The combination meter turns ON the brake warning lamp when receiving a brake warning lamp signal.
- For the relationship between warning lamp and DTC, refer to BRC-84, "DTC Index".

LIGHTING CONDITION

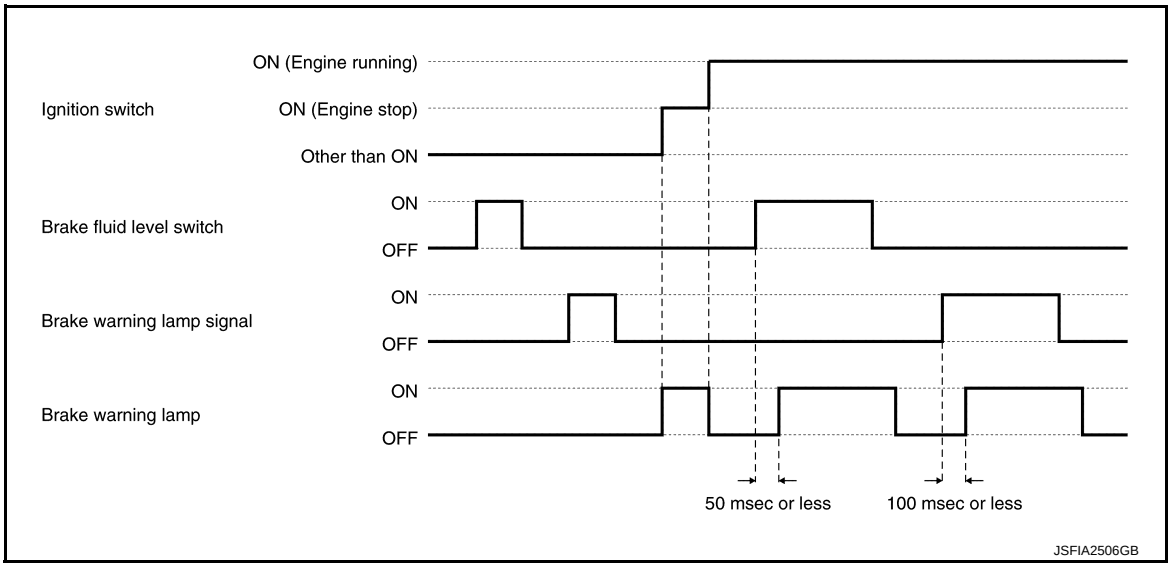
When any of the condition listed below is satisfied while the engine is running:

- Brake fluid level switch ON.
- A malfunction is detected in the EBD function of the ABS actuator and electric unit (control unit).
- A malfunction is detected in the brake vacuum sensor system.
- For the relationship between warning lamp and DTC, refer to BRC-84, "DTC Index".

SHUTOFF CONDITION

- When the condition listed below is satisfied while the ignition switch ON:
- Brake fluid level switch is OFF.
- When EBD function of the ABS actuator and electric unit (control unit) is normal.
- When brake vacuum sensor system is normal.
- Erase DTC
- The ignition switch is in a position other than ON (engine stop).

TIMING CHART

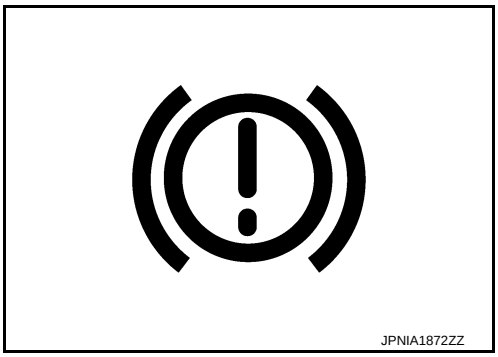


WARNING LAMPS/INDICATOR LAMPS : Brake System Warning Lamp (Yellow)

INFOID:0000000010728293

DESIGN/PURPOSE

The brake system warning lamp warns the driver of a malfunction in the electric parking brake system.



BULB CHECK

The brake system warning lamp ON and stays ON for 2 seconds after turning ON the ignition switch.

SYNCHRONIZATION WITH WARNING BUZZER

YES

For warning buzzer, refer to PB-13, "System Description".

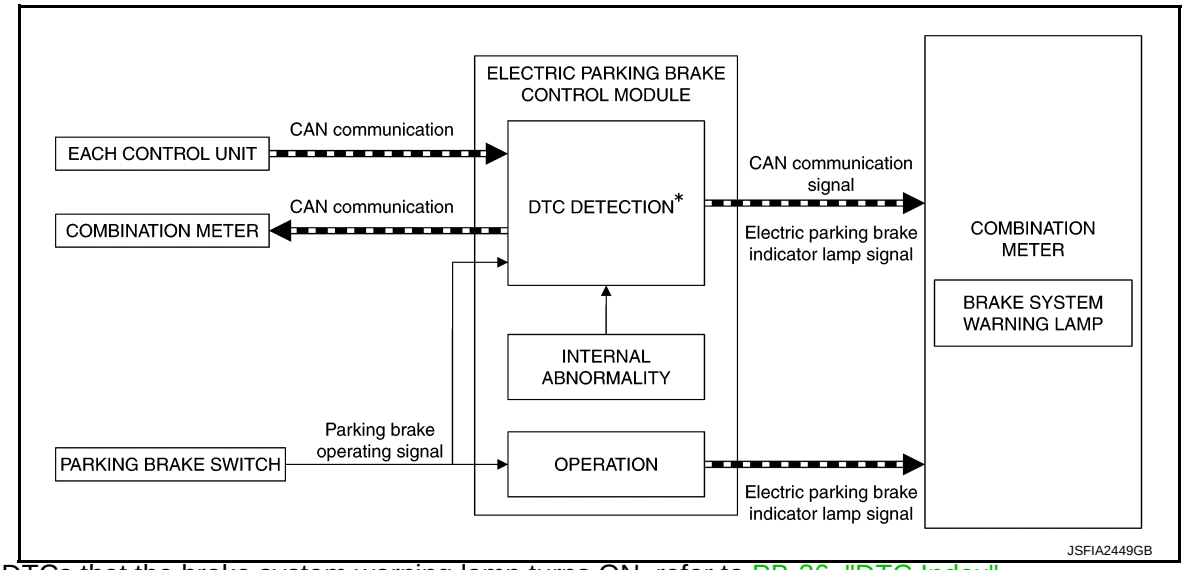
SYNCHRONIZATION WITH MASTER WARNING LAMP

Applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



*: For DTCs that the brake system warning lamp turns ON, refer to PB-36, "DTC Index".

SIGNAL PATH

- The electric parking brake control module transmits a brake system warning lamp signal to the combination meter via CAN communication.
- The combination meter turns ON the brake system warning lamp when receiving a brake system warning lamp signal.
- For the relationship between warning lamp and DTC, refer to PB-36, "DTC Index".

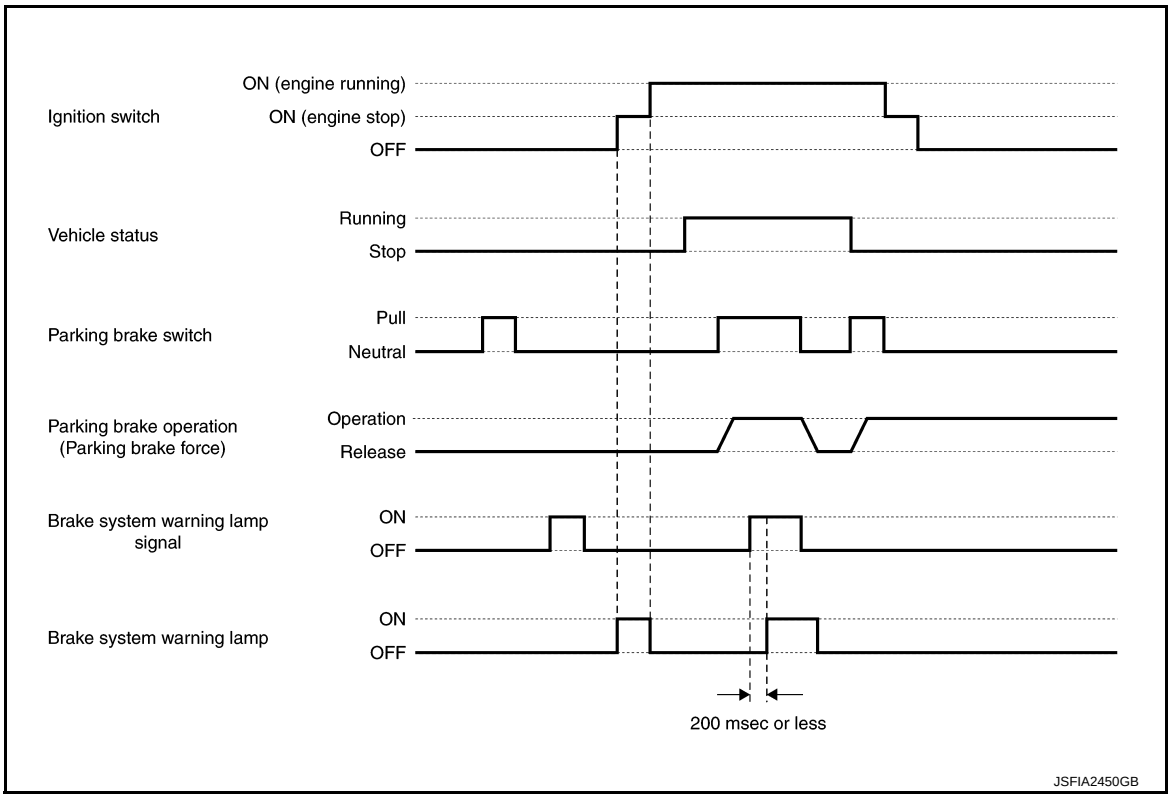
LIGHTING CONDITION

- When combination meter is not receiving signal from electric parking brake control module via CAN communication.
- When a malfunction is detected in parking brake switch.
- When a malfunction is detected in other control unit (malfunction of CAN communication or malfunction of signal).
- When a not operate the electric parking brake system (impossible of malfunction confirmation).
- When a malfunction is detected in electric parking brake system.
- For the relationship between warning lamp and DTC, refer to PB-36, "DTC Index".

SHUTOFF CONDITION

- When the condition listed below is satisfied while the ignition switch ON:
- Erase DTC
- Other control unit is normal

TIMING CHART

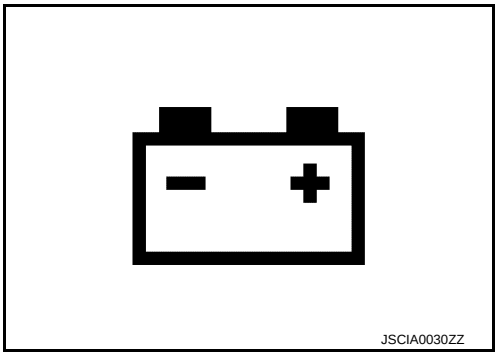


WARNING LAMPS/INDICATOR LAMPS : Charge Warning Lamp

INFOID:0000000010763258

DESIGN/PURPOSE

Charge warning lamp warns the driver for the unexpected power generation.



BULB CHECK

For 2 seconds after the ignition switch is turned ON.

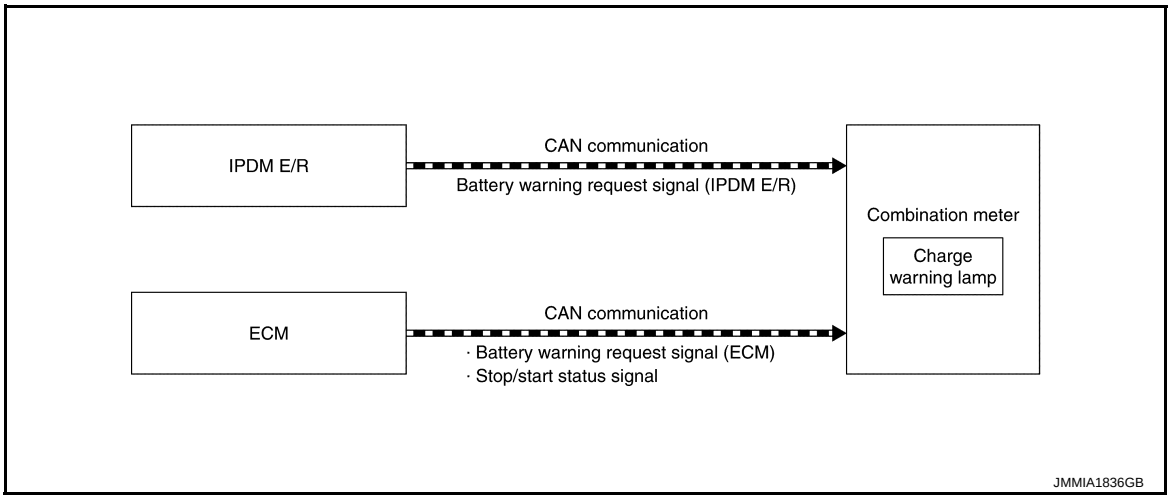
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- ECM transmits battery warning request signal (ECM) to combination meter via CAN communication when the operation of alternator is unexpected.
- IPDM E/R transmits battery warning request signal (IPDM E/R) to combination meter via CAN communication when excessive voltage is detected on battery positive terminal.
- Combination meter indicates charge warning lamp judged with battery warning request signal received from ECM or IPDM E/R.

LIGHTING CONDITION

When any of the following symptoms occur while alternator is operating:

- Communication between alternator and ECM is malfunctioning.
- Excessive voltage is produced.
- No voltage is produced.
- Excessive voltage is detected on battery positive terminal

SHUTOFF CONDITION

When any of the condition listed below is satisfied:

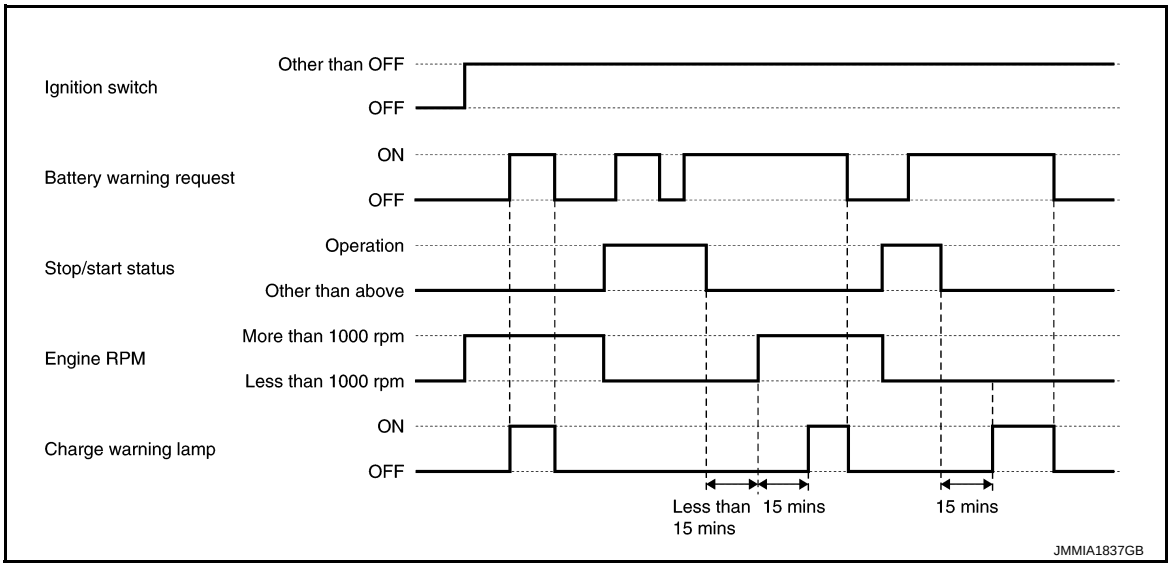
- Ignition switch is OFF.
- The power generation of alternator is normal.

NOTE:

Charge warning lamp forced shutoff control (For models with stop/start system)

- Combination meter receives stop/start status signal from ECM and judges an idling stop mode.
- Combination meter turns OFF charge warning lamp regardless of lighting/shutoff condition when vehicle is in idling stop mode.
- When an engine speed of 1,000 rpm or more is not detected after the lapse of 15 minutes after canceling an idling stop, charge warning lamp turns ON/OFF by lighting/shutoff condition.
- When an engine speed of 1,000 rpm or more is detected after canceling an idling stop, charge warning lamp forced shutoff control keep activates for 15 minutes and then charge warning lamp turns ON/OFF by lighting/shutoff condition.

TIMING CHART

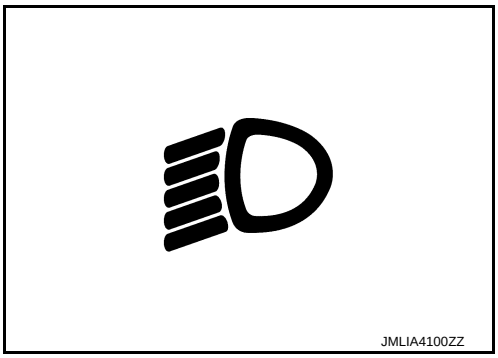


WARNING LAMPS/INDICATOR LAMPS : Dipped Beam Indicator Lamp

INFOID:0000000010782905

DESIGN/PURPOSE

Dipped beam indicator lamp informs the driver that headlamp (LO) is in ON status.



BULB CHECK

Not applicable

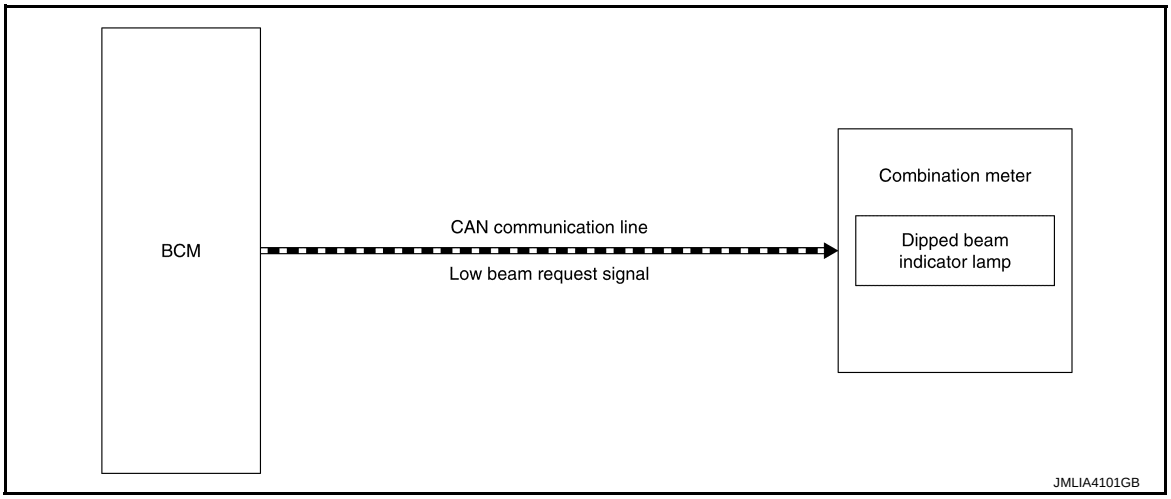
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- BCM transmits low beam request signal to combination meter via CAN communication when headlamp (LO) is in ON status.
- When combination meter receives low beam request signal, combination meter turns dipped beam indicator lamp ON.

LIGHTING CONDITION

When headlamp (LO) is turned ON.

SHUTOFF CONDITION

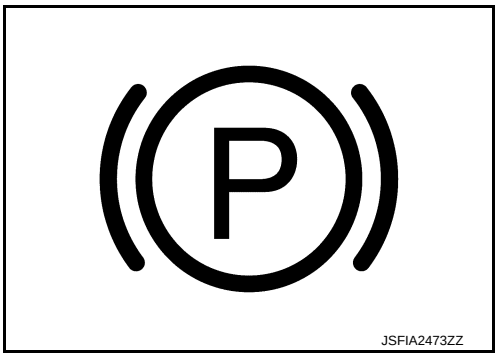
When headlamp (LO) is turned OFF.

WARNING LAMPS/INDICATOR LAMPS : Electric Parking Brake Indicator Lamp

INFOID:0000000010728296

DESIGN/PURPOSE

- The electric parking brake indicator lamp warns the driver that the parking brake is engaged.
- The electric parking brake indicator lamp warns the driver of a malfunction in the electric parking brake system.



BULB CHECK

The electric parking brake indicator lamp turns ON and stays ON for 2 seconds after turning On the ignition switch.

SYNCHRONIZATION WITH WARNING CHIME

Applicable

For warning chime, refer to PB-13, "System Description".

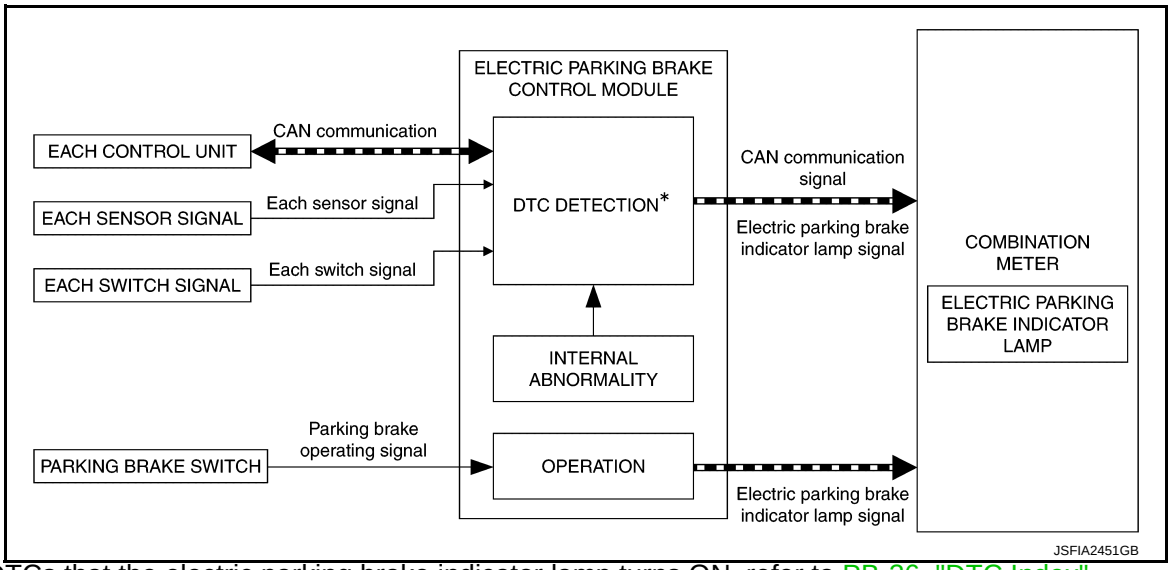
SYNCHRONIZATION WITH MASTER WARNING LAMP

Applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



*: For DTCs that the electric parking brake indicator lamp turns ON, refer to PB-36, "DTC Index".

SIGNAL PATH

When Operating The Parking Brake

- The electric parking brake control module receives a parking brake switch operation signal from the parking brake switch is pulling.
- The electric parking brake control module transmits a electric parking brake indicator lamp signal to the combination meter via CAN communication according to the received electric parking brake indicator lamp signal.
- The combination meter turns ON the electric parking brake indicator lamp when receiving a electric parking brake indicator lamp signal.

When The Electric Parking Brake System Is In Abnormal State (Blinking)

- The electric parking brake control module transmits a electric parking brake indicator lamp signal to the combination meter via CAN communication when detecting a malfunction (following condition) in the electric parking brake system.
- When a status cannot be judged between applied and released.
- When the parking brake switch is operated under the condition that the parking brake switch is malfunction.
- When the parking brake switch is operated under the condition that the parking brake actuator is malfunction.
- When the initial position adjustment of the parking brake actuator is incomplete.
- The combination meter blinking the electric parking brake indicator lamp when receiving a electric parking brake indicator lamp signal.
- For the relationship between indicator lamp and DTC, refer to PB-36, "DTC Index".

LIGHTING CONDITION

When any of the condition listed below is satisfied while the engine is running:

- Electric parking brake is engaged.
- When the parking brake switch is pulled while driving the vehicle, resulting in parking brake activation.
- While measuring braking force.
- For the relationship between warning lamp and DTC, refer to PB-36, "DTC Index".

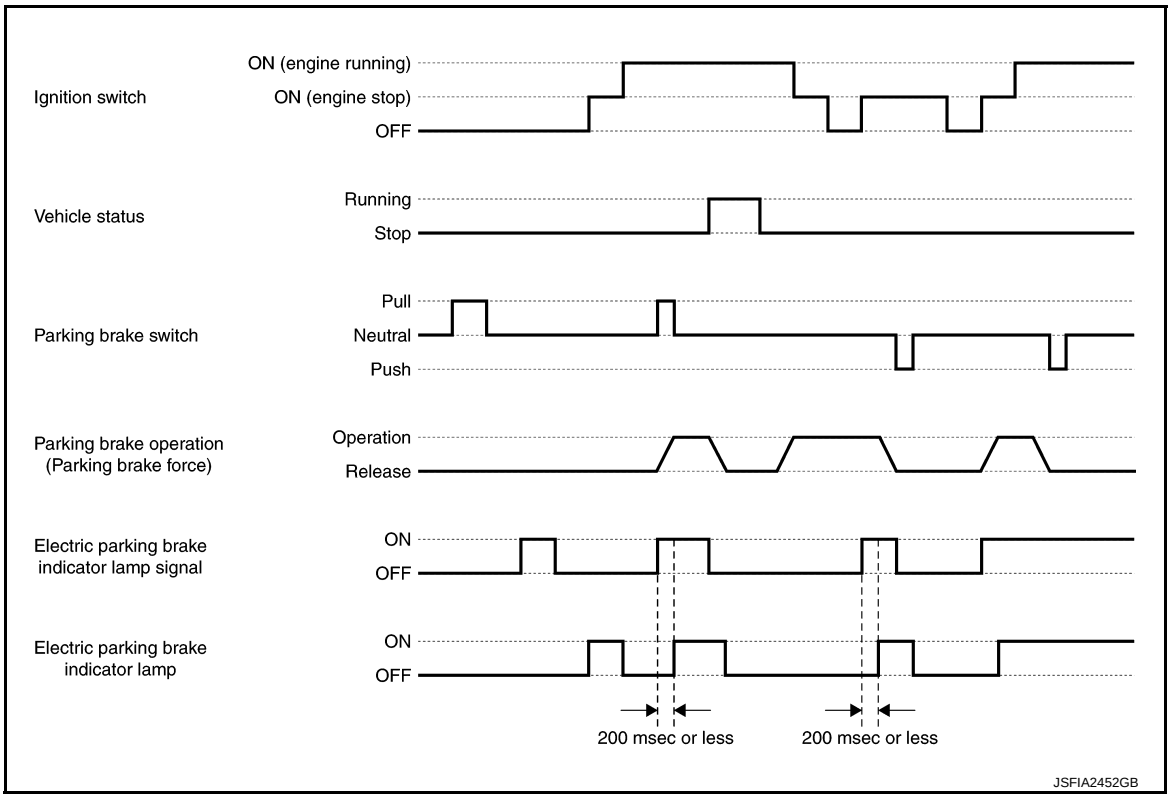
BLINKING CONDITION

- When any of the condition listed below is satisfied while the engine is running:
- The combination meter not receives a signal from electric parking brake control module via CAN communication.
- When the electric parking brake system is not activated. (Unable to judge malfunction)
- When the parking brake switch is operated under the condition that the parking brake switch is malfunction.
- When the parking brake switch is operated under the condition that the parking brake actuator is malfunction.
- When the initial position adjustment of the parking brake actuator is incomplete.
- When the parking brake is not automatically activated even when the ignition switch is turned OFF.
- For the relationship between warning lamp and DTC, refer to PB-36, "DTC Index".

SHUTOFF CONDITION

- When any of the condition listed below is satisfied while the ignition switch ON:
  - Erase DTC
  - Other control unit is normal.
- Parking brake is release status.
- Vehicle condition is sleep status.

TIMING CHART

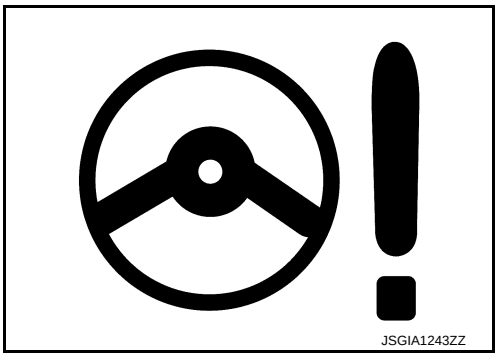


WARNING LAMPS/INDICATOR LAMPS : Electric Power Steering Warning Lamp

INFOID:0000000010691364

DESIGN/PURPOSE

It indicates that fail-safe mode is engaged and enters a manual steering state (Control turning force steering wheel becomes heavy).



BULB CHECK

Also turns ON when ignition switch is turned ON, for purpose of lamp check. Turns OFF after the engine starts, if system is normal.

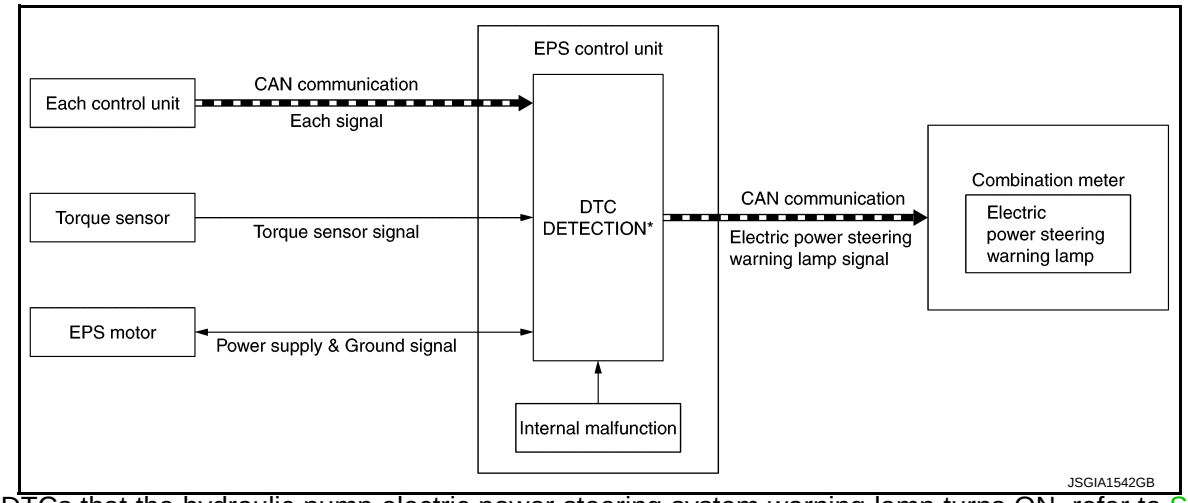
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-103, "Fail-Safe".

SYSTEM DIAGRAM



*: For DTCs that the hydraulic pump electric power steering system warning lamp turns ON, refer to STC-21, "DTC Index".

SIGNAL PATH

- If any malfunction occurs in the system and the system enters into a manual steering state according to fail-safe function, power steering control module transmits hydraulic pump electric power steering system warning lamp signal to combination meter.
- Combination meter turns ON the hydraulic pump electric power steering system warning lamp according to the hydraulic pump electric power steering system warning lamp signal.

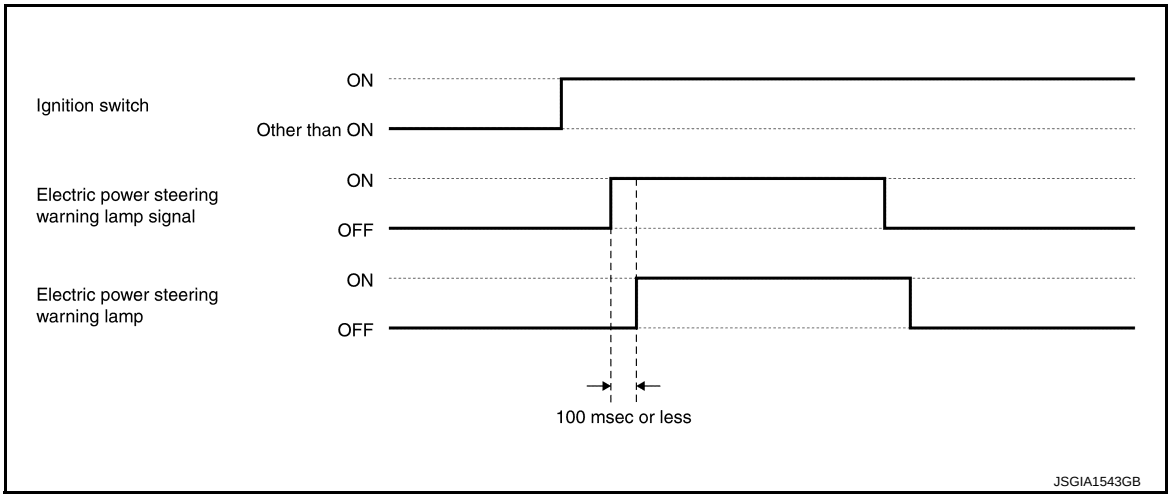
LIGHTING CONDITION

- Any malfunction occurs in the hydraulic pump electric power steering system and steering assist torque is not generated.
- For the relationship between warning lamp and DTC, refer to STC-21, "DTC Index".

SHUTOFF CONDITION

- The ignition switch is in a position other than OFF.
- DTC is deleted.

TIMING CHART



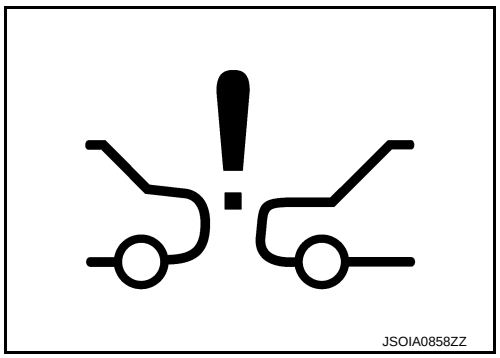
WARNING LAMPS/INDICATOR LAMPS : FEB Warning Lamp

INFOID:0000000010824367

DESIGN/PURPOSE

- The FEB warning lamp warns the driver that FEB system is OFF.

- The FEB warning lamp warns the driver of a malfunction in the FEB system.



BULB CHECK

The FEB warning lamp turns ON and stays ON for approximately one second after turning ON the ignition switch.

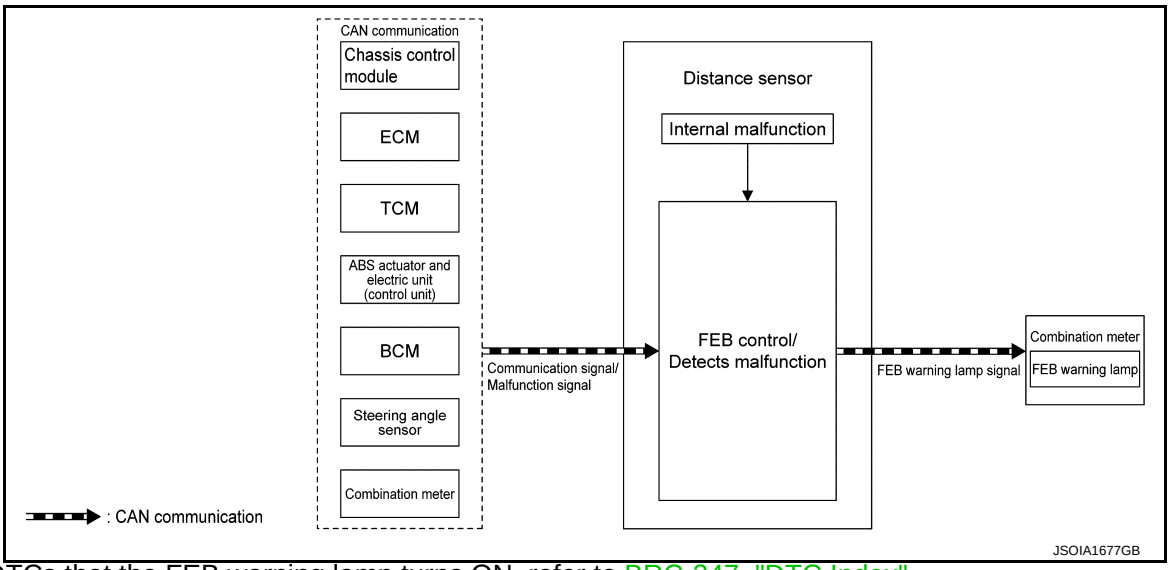
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-103, "Fail-Safe".

SYSTEM DIAGRAM



*: For DTCs that the FEB warning lamp turns ON, refer to BRC-247, "DTC Index".

SIGNAL PATH

- The distance sensor receives a system selection signal from the combination meter via CAN communication when FEB system ON is not selected.
- The distance sensor transmits an FEB warning lamp signal to the combination meter via CAN communication when detecting a malfunction or FEB system ON is not selected.
- The combination meter turns ON the FEB warning lamp when receiving an FEB warning lamp signal.
- For the relationship between warning lamp and DTC, refer to BRC-247, "DTC Index".

LIGHTING CONDITION

The warning lamp turns ON when:

- FEB system OFF.
- A malfunction is detected in the FEB system.
- For the relationship between warning lamp and DTC, refer to BRC-247, "DTC Index".

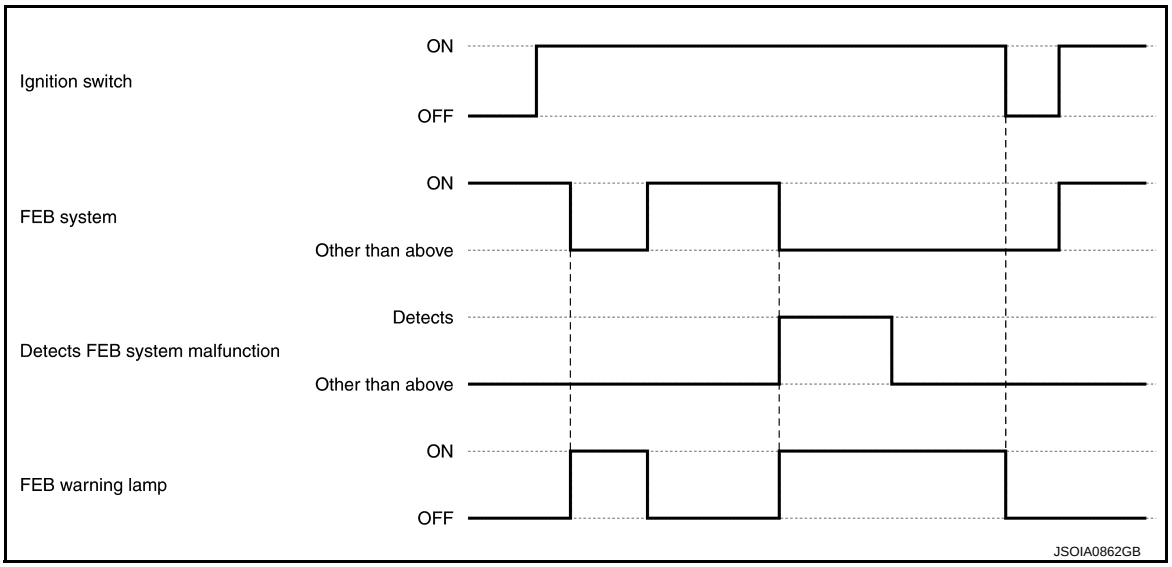
SHUTOFF CONDITION

The warning lamp turns OFF when:

- FEB system ON.
- DTC is deleted.

- The ignition switch is in a position other than ON.

TIMING CHART

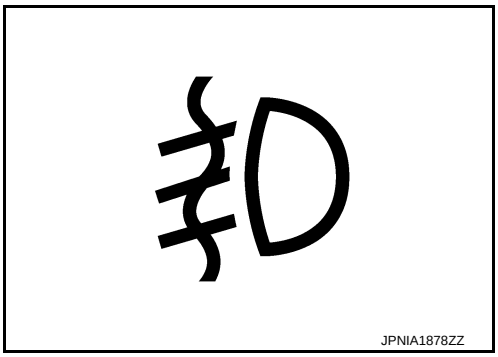


WARNING LAMPS/INDICATOR LAMPS : Front Fog Lamp Indicator Lamp

INFOID:0000000010782906

DESIGN/PURPOSE

Front fog lamp indicator lamp informs the driver that front fog lamp is in ON status.



BULB CHECK

Not applicable

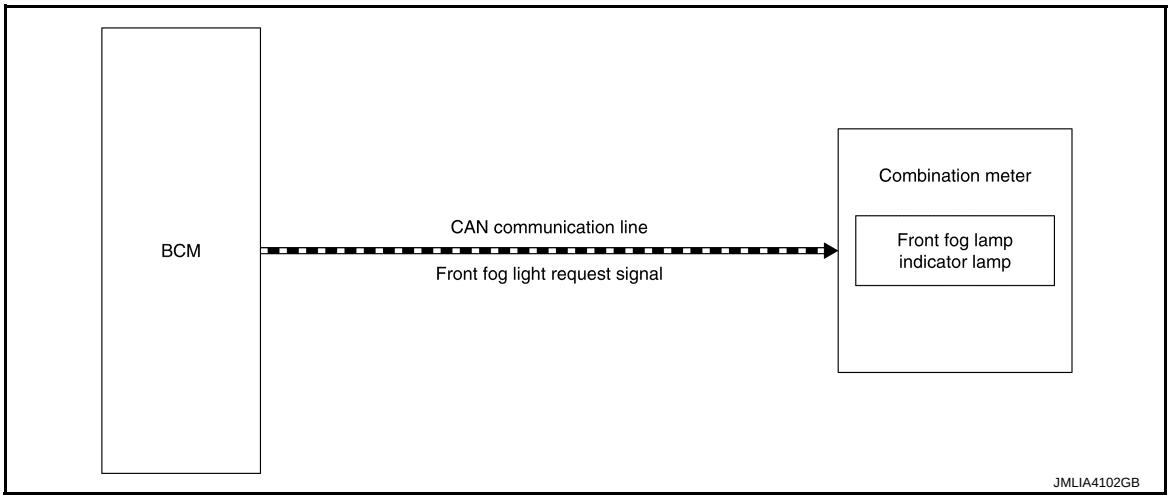
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- BCM transmits front fog light request signal to combination meter via CAN communication when front fog lamp is in ON status.
- When combination meter receives front fog light request signal, combination meter turns front fog lamp indicator lamp ON.

LIGHTING CONDITION

When front fog lamp is turned ON.

SHUTOFF CONDITION

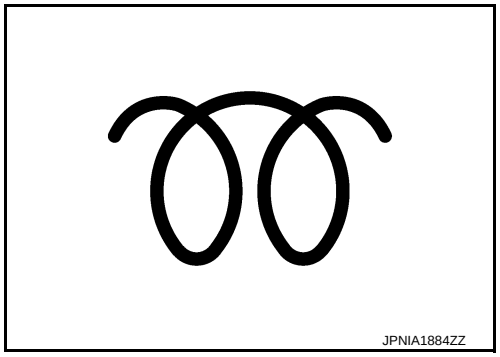
When front fog lamp is turned OFF.

WARNING LAMPS/INDICATOR LAMPS : Glow Indicator Lamp

INFOID:0000000010781001

DESIGN/PURPOSE

The glow indicator lamp turns ON in quick preheat mode and informs the driver that the glow plug is under preheating condition.



BULB CHECK

Not applicable

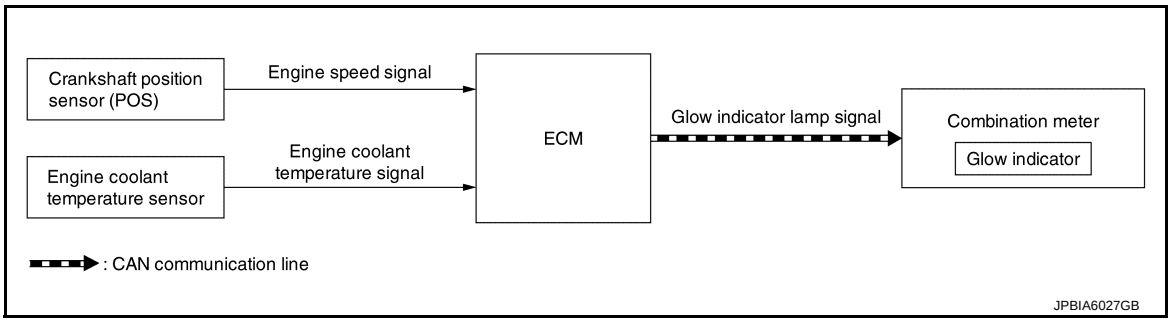
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For the operation for CAN communications blackout or abnormal signal reception, refer to MWI-103, "Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- ECM performs the glow control, according to an IGN ON signal, water temperature signal, and engine speed signal. ECM transmits a glow indicator lamp signal to the combination meter in quick preheat mode via CAN communication .
- The combination meter turns ON the glow indicator lamp, according to a glow indicator lamp signal received from ECM via CAN communication.

LIGHTING CONDITION

When any of the following conditions is satisfied:

- Ignition switch: ON
- Mode: Quick preheat mode

NOTE:

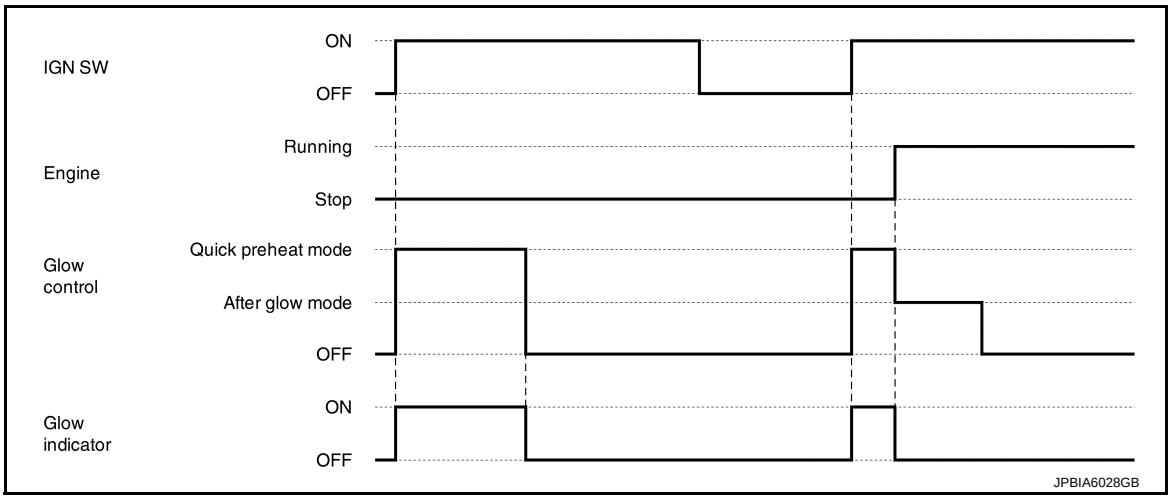
The glow indicator lamp does not turn ON in after glow mode.

SHUTOFF CONDITION

When any of the following conditions is satisfied:

- Ignition switch: OFF
- Quick preheat mode is complete.
- Engine start

TIMING CHART

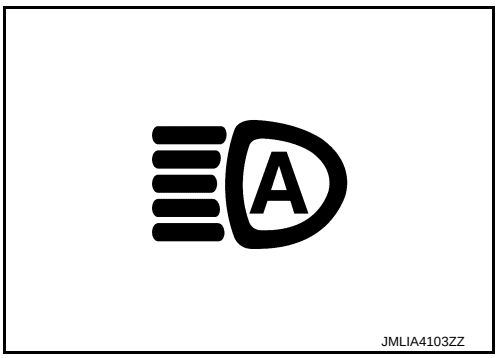


WARNING LAMPS/INDICATOR LAMPS : High Beam Assist Indicator Lamp

INFOID:0000000010782916

DESIGN/PURPOSE

High beam assist indicator lamp informs the driver that the high beam assist system is in operating status.



BULB CHECK

Not applicable

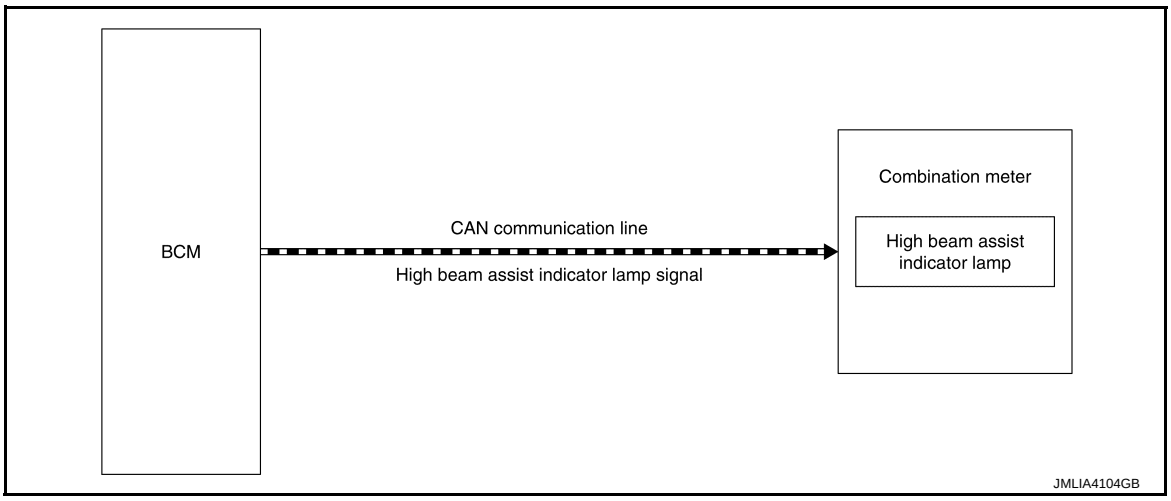
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- BCM transmits the high beam assist indicator lamp signal to the combination meter via CAN communication when the high beam assist system operation permission conditions are satisfied.
- When combination meter receives high beam assist indicator lamp signal, combination meter turns high beam assist indicator lamp ON.

LIGHTING CONDITION

High beam assist system operation permission conditions are satisfied.

{[Lighting switch HI with the lighting switch AUTO and ignition switch ON [Only when the illuminating judgment by auto light function is ON. For details, refer to EXL-24, "AUTO LIGHT SYSTEM : System Description" (LED headlamp) or EXL-228, "AUTO LIGHT SYSTEM : System Description" (halogen headlamp).]}

SHUTOFF CONDITION

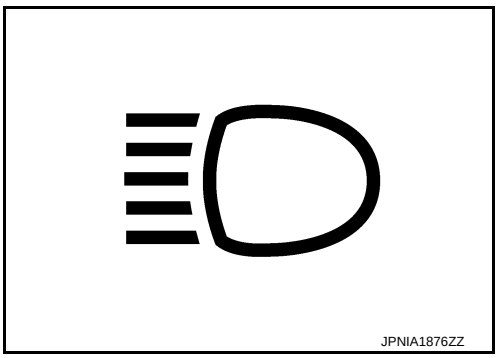
High beam assist system operation permission conditions are not satisfied.

WARNING LAMPS/INDICATOR LAMPS : High Beam Indicator Lamp

INFOID:0000000010782907

DESIGN/PURPOSE

High beam indicator lamp informs the driver that headlamp (HI) is in ON status.

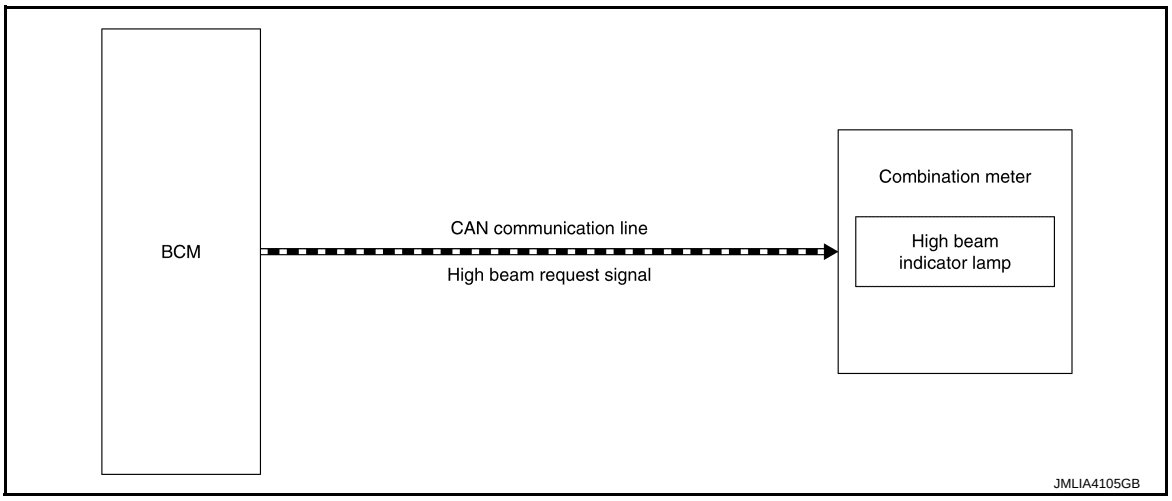


BULB CHECK
Not applicable

SYNCHRONIZATION WITH MASTER WARNING LAMP
Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL
For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH
- BCM transmits high beam request signal to combination meter via CAN communication when headlamp (HI) is in ON status.
- When combination meter receives high beam request signal, combination meter turns high beam indicator lamp ON.

LIGHTING CONDITION
When headlamp (HI) is turned ON.

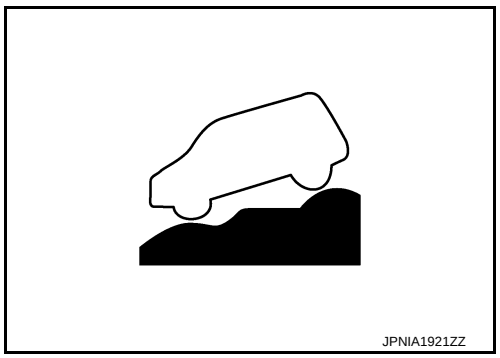
SHUTOFF CONDITION
When headlamp (HI) is turned OFF.

WARNING LAMPS/INDICATOR LAMPS : hill descent control (Downhill Drive Support) Indicator lamp

INFOID:0000000010728304

DESIGN/PURPOSE

The hill descent control indicator lamp warns the driver that advanced hill descent control function is operating or operational.



BULB CHECK

The hill descent control indicator lamp turns ON and stays ON for 1 second after turning ignition switch.

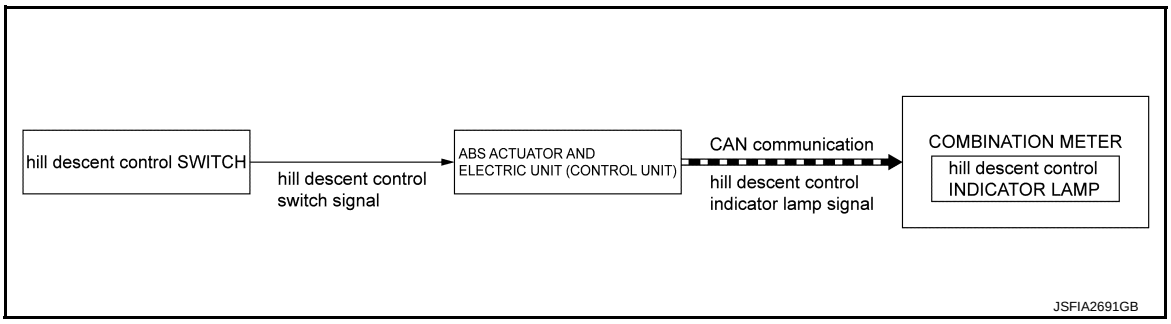
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

Advanced hill descent control Function Operating or Operational (Condition is Satisfied)

- The ABS actuator and electric unit (control unit) receives a hill descent control switch signal from hill descent control switch.
- The ABS actuator and electric unit (control unit) transmits a hill descent control indicator lamp signal to the combination meter via CAN communication according the received hill descent control switch signal.
- The combination meter turns ON the hill descent control indicator lamp when receiving a hill descent control indicator lamp signal.

Advanced hill descent control Function Operating or Operational (Condition is Not Satisfied)

- The ABS actuator and electric unit (control unit) receives a hill descent control switch signal from hill descent control switch.
- The ABS actuator and electric unit (control unit) transmits a hill descent control indicator lamp signal to the combination meter via CAN communication according the received hill descent control switch signal.
- The combination meter blinks the hill descent control indicator lamp when receiving a hill descent control indicator lamp signal.

LIGHTING CONDITION

When all of the condition listed below are satisfied:

- Ignition switch ON
- When advanced hill descent control function is under operating condition
- advanced hill descent control function operating or operational (condition is satisfied)

BLINKING CONDITION

advanced hill descent control function operating or operational (condition is not satisfied)

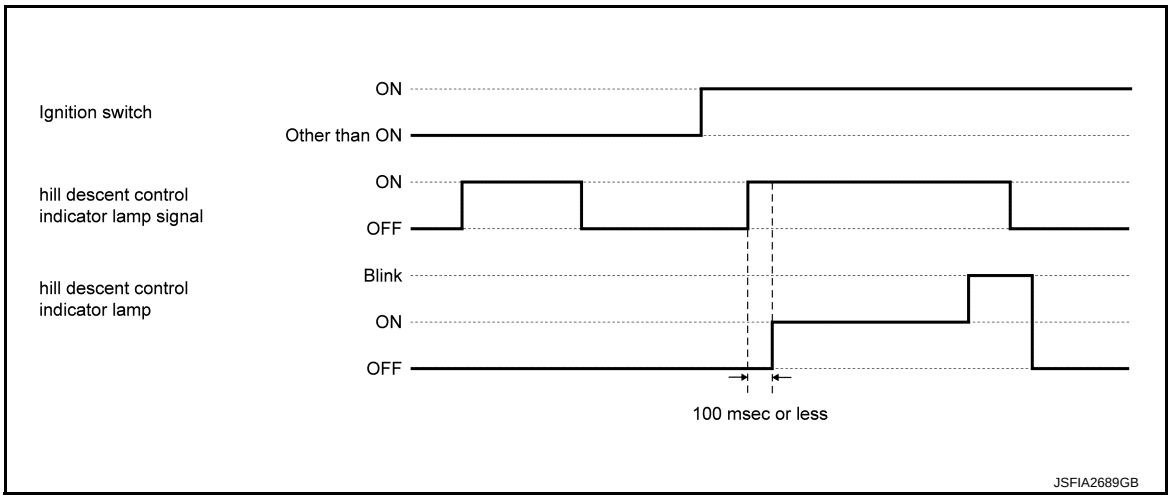
SHUTOFF CONDITION

- When the condition listed below are satisfied while the ignition switch ON:

- Advanced hill descent control function switch OFF (non-operational status)
- A malfunction is detected in the VDC function
- A malfunction is detected in the TCS function
- A malfunction is detected in the hill descent control function.

• Ignition switch OFF

TIMING CHART

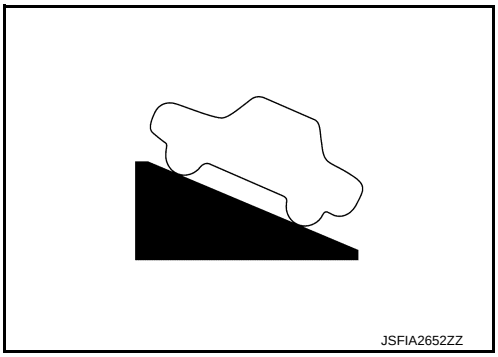


WARNING LAMPS/INDICATOR LAMPS : hill start assist (Uphill Start Support) Indicator lamp

INFOID:0000000011004411

DESIGN/PURPOSE

The hill start assist indicator lamp inform the driver that hill start assist function is operating or operational.



BULB CHECK

Not applicable

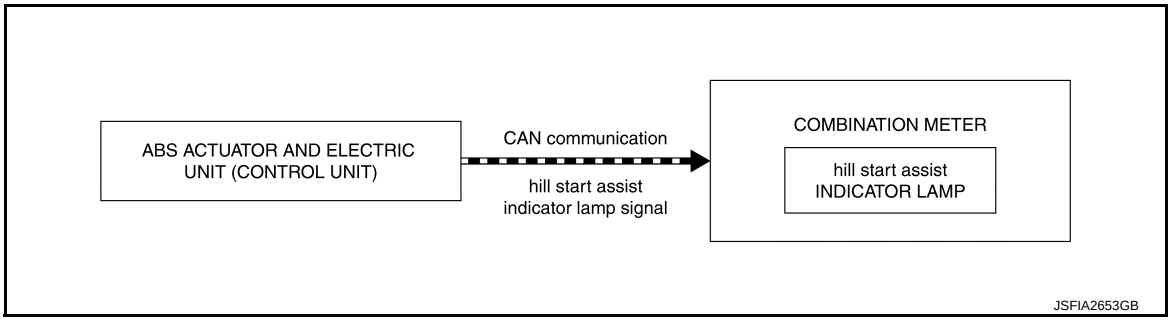
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

hill start assist Function Operating

- The ABS actuator and electric unit (control unit) transmits a hill start assist indicator lamp signal to the combination meter via CAN communication.
- The combination meter blinks the hill start assist indicator lamp when receiving a hill start assist indicator lamp signal.

hill start assist Function Operational (Condition is Satisfied)

- The ABS actuator and electric unit (control unit) transmits a hill start assist indicator lamp signal to the combination meter via CAN communication.
- The combination meter turns ON the hill start assist indicator lamp when receiving a hill start assist control indicator lamp signal.

LIGHTING CONDITION

When all of the condition listed below are satisfied:

- Ignition switch ON
- When hill start assist function is under operating condition
- hill start assist function operational (condition is satisfied)

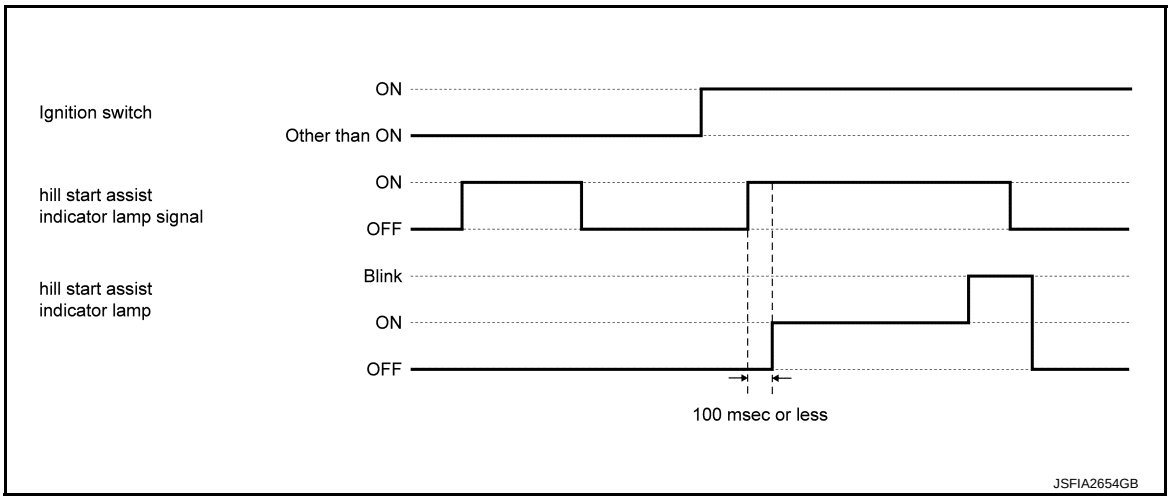
BLINKING CONDITION

hill start assist function operating

SHUTOFF CONDITION

- When the condition listed below are satisfied while the ignition switch ON:
- A malfunction is detected in the VDC function
- A malfunction is detected in the TCS function
- A malfunction is detected in the hill start assist function.
- Ignition switch OFF

TIMING CHART



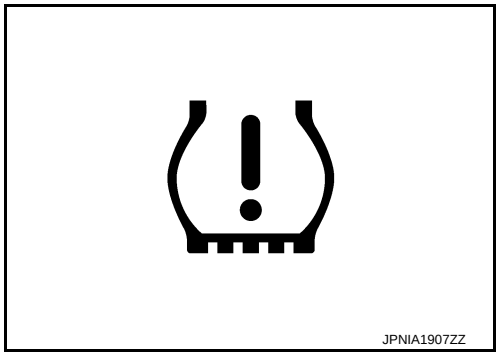
WARNING LAMPS/INDICATOR LAMPS : Low Tire Pressure Warning Lamp

INFOID:0000000010767345

DESIGN/PURPOSE

- When tire pressure is low, TPMS (Tire Pressure Monitoring System) turns low tire pressure warning lamp ON to warn the driver.
- When the TPMS detects the system malfunction, the system blinks (1 minute) ⇒ turns ON low tire pressure warning lamp.

Details for TPMS (Tire Pressure Monitoring System), Refer to WT-10, "System Description".



BULB CHECK

Turns ON for 1second, then turns OFF.

SYNCHRONIZATION WITH MASTER WARNING

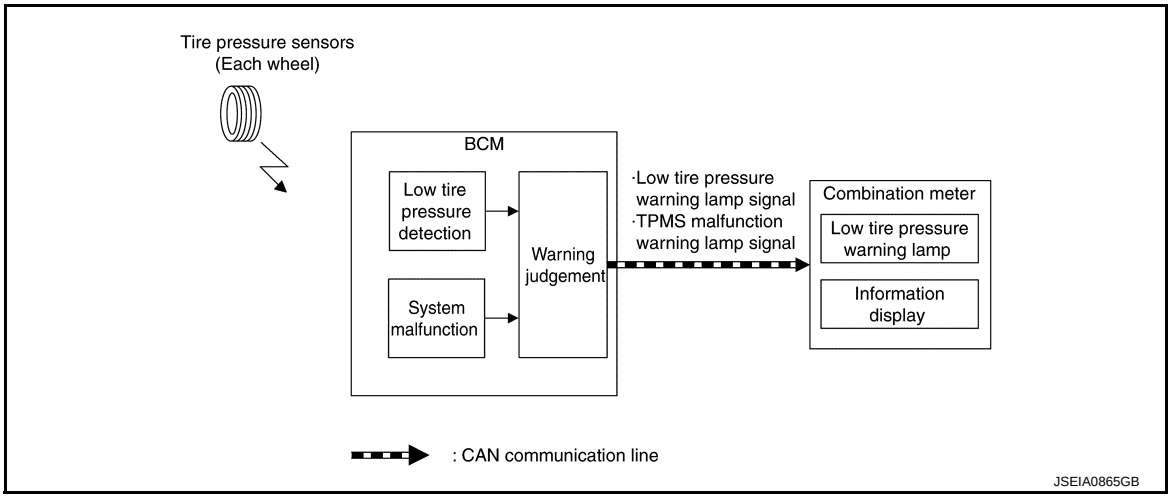
Applicable

For master warning, refer to MWI-47, "WARNING LAMPS/INDICATOR LAMPS : Master Warning Lamp".

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For the operation for CAN communication blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- BCM receives a signal transmitted from the tire pressure sensors/transmitters installed in each wheel.
- If BCM detects following condition, it sends the signal to the combination meter via CAN communication.
  - Tire pressure is low
  - System malfunction is detected
- Combination meter turns the low tire pressure warning lamp ON according to the signal. In addition, warning message will be displayed in the vehicle information display.

LIGHTING CONDITION

When any of the following conditions is satisfied:

- Tire pressure is low.
- System malfunction is detected.
- CAN communication line malfunction is detected.

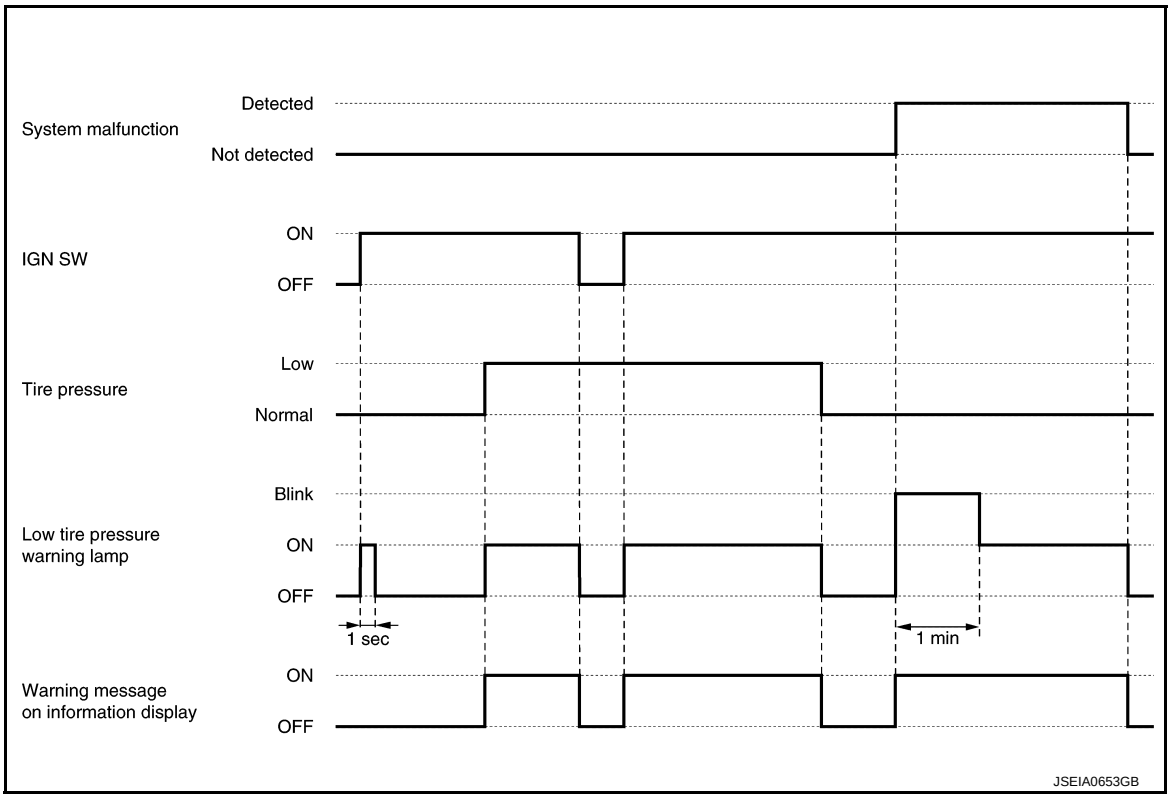
For DTC, refer to WT-21, "DTC Index".

SHUTOFF CONDITION

When any of the following conditions is satisfied:

- Ignition switch is not in ON position.
- All tire pressures are normal.
- System malfunction is not detected.

TIMING CHART

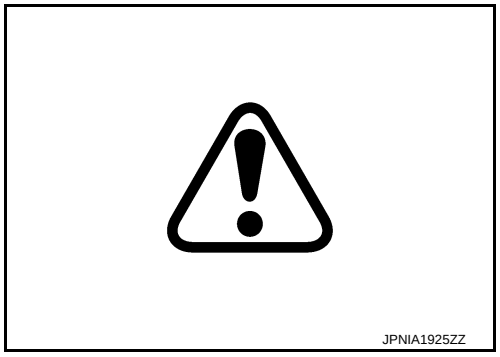


WARNING LAMPS/INDICATOR LAMPS : Master Warning Lamp

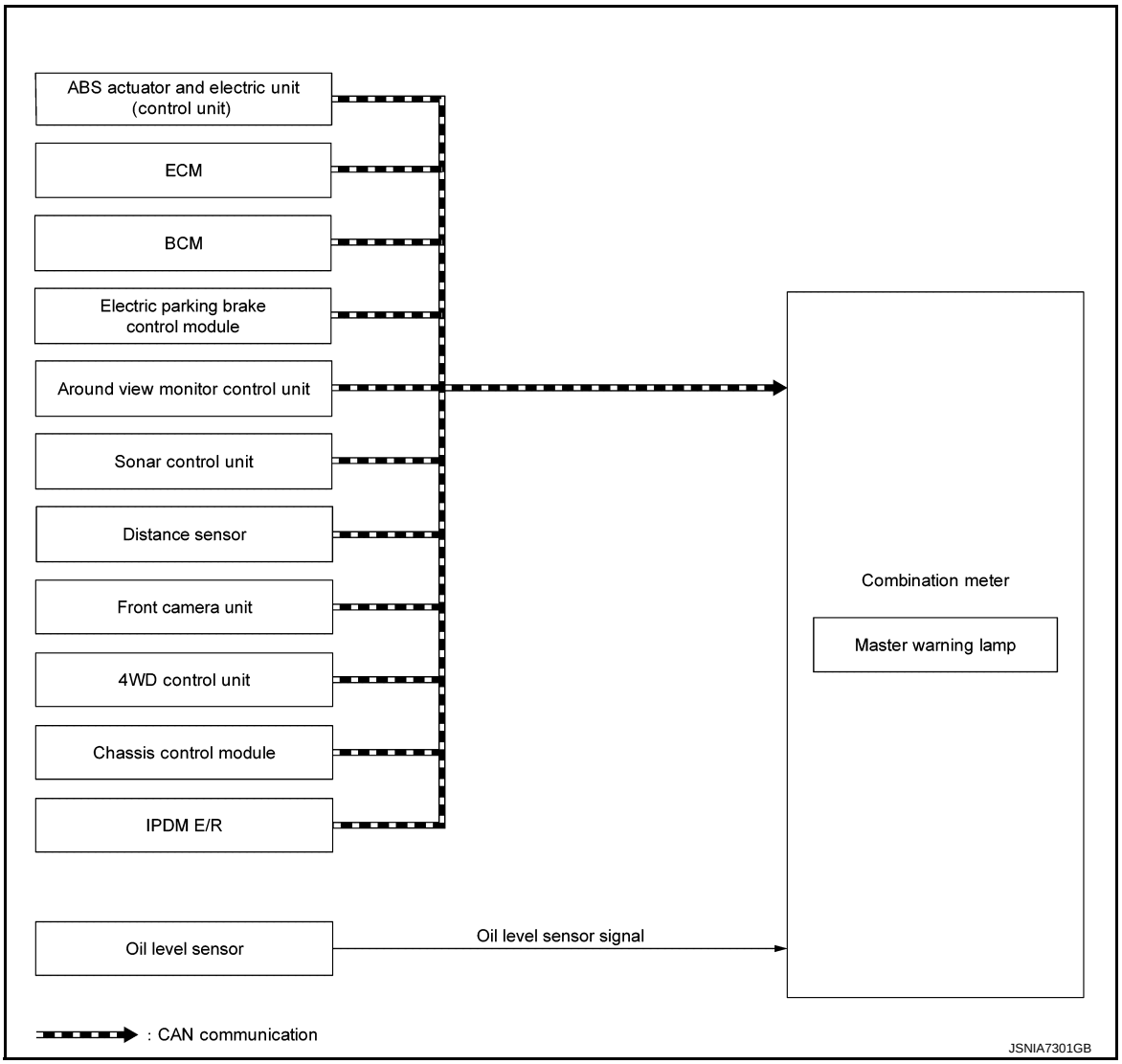
INFOID:0000000010714994

DESIGN/PURPOSE

The master warning lamp warns to driver when information display warning displayed.



SYSTEM DIAGRAM



DESCRIPTION

The master warning lamp (red) and master warning lamp (yellow) turn ON/OFF in coordination with warning on the information display.

X: Applicable

Information display warning item	Master warning lamp		Reference
	Red	Yellow	
Door open warning (While driving)	X		DLK-50, "INFORMATION DISPLAY (COMBINATION METER) : Door Open Warning" (TYPE1), DLK-359, "INFORMATION DISPLAY (COMBINATION METER) : Door Open Warning" (TYPE2), DLK-652, "INFORMATION DISPLAY (COMBINATION METER) : Door Open Warning" (TYPE3), or DLK-804, "INFORMATION DISPLAY (COMBINATION METER) : Door Open Warning" (TYPE4) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".
Door open warning (While not driving)		X	DLK-50, "INFORMATION DISPLAY (COMBINATION METER) : Door Open Warning" (TYPE1), DLK-359, "INFORMATION DISPLAY (COMBINATION METER) : Door Open Warning" (TYPE2), DLK-652, "INFORMATION DISPLAY (COMBINATION METER) : Door Open Warning" (TYPE3), or DLK-804, "INFORMATION DISPLAY (COMBINATION METER) : Door Open Warning" (TYPE4) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".
Engine oil pressure warning	X		EC-67, "INFORMATION DISPLAY (COMBINATION METER) : Engine Oil Pressure Warining" (MR20DD), EC-474, "INFORMATION DISPLAY (COMBINATION METER) : Engine Oil Pressure Warning" (QR25DE), or EC-865, "INFORMATION DISPLAY (COMBINATION METER) : Engine Oil Pressure Warning" (R9M)
Parking brake warning	X		PB-24, "INFORMATION DISPLAY (COMBINATION METER) : Parking Brake Warning"
Intelligent Key system malfunction		X	DLK-54, "INFORMATION DISPLAY (COMBINATION METER) : Intelligent Key System Malfunction" (TYPE1), or DLK-363, "INFORMATION DISPLAY (COMBINATION METER) : Intelligent Key System Malfunction" (TYPE2) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".
Key system malfunction		X	DLK-653, "INFORMATION DISPLAY (COMBINATION METER) : Key System Malfunction" (TYPE3), or DLK-805, "INFORMATION DISPLAY (COMBINATION METER) : Key System Malfunction" (TYPE4) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".
Key ID warning		X	DLK-56, "INFORMATION DISPLAY (COMBINATION METER) : Key ID Warning" (TYPE1), or DLK-365, "INFORMATION DISPLAY (COMBINATION METER) : Key ID Warning" (TYPE2) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".

Information display warning item	Master warning lamp		Reference
	Red	Yellow	
Take away warning		X	DLK-60, "INFORMATION DISPLAY (COMBINATION METER) : Take Away Warning (Information Display)" (TYPE1), or DLK-369, "INFORMATION DISPLAY (COMBINATION METER) : Take Away Warning (Information Display)" (TYPE2) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".
4WD warning		X	DLN-22, "INFORMATION DISPLAY (COMBINATION METER) : 4WD Warning" (TY21C), or DLN-126, "INFORMATION DISPLAY (COMBINATION METER) : 4WD Warning" (TY30A)
Headlamp warning	X	X	EXL-49, "INFORMATION DISPLAY (COMBINATION METER) : Headlamp Warning"
LDW system display (warning)		X	DAS-30, "LDW : Menu Displayed by Pressing Each Switch"
BSW system display (warning)		X	DAS-33, "BSW : Menu Displayed by Pressing Each Switch"
DAA system display (warning)		X	DAS-38, "DAA : Menu Displayed by Pressing Each Switch"
TSR system display (warning)		X	DAS-36, "TSR : Menu Displayed by Pressing Each Switch"
FEB system display (warning)		X	BRC-238, "Menu Displayed by Pressing Each Switch"
Parking sensor error		X	SN-17, "INFORMATION DISPLAY (COMBINATION METER) : Parking Sensor Error" (WITUOUT PARK ASSIST), or SN-128, "INFORMATION DISPLAY (COMBINATION METER) : Parking Sensor Error" (WITH PARK ASSIST)
Chassis control display (warning)		X	DAS-187, "INFORMATION DISPLAY (COMBINATION METER) : Chassis Control Display"
Oil level sensor warning		X	MWI-67, "WARNING/INDICATOR (ON INFORMATION DISPLAY) : Oil Level Warning"
Low tire pressure location indicator		X	WT-12, "INFORMATION DISPLAY (COMBINATION METER) : Low Tire Pressure Location Indicator"

WARNING LAMPS/INDICATOR LAMPS : Malfunction Indicator Lamp (MIL)

INFOID:0000000010781002

DESIGN/PURPOSE

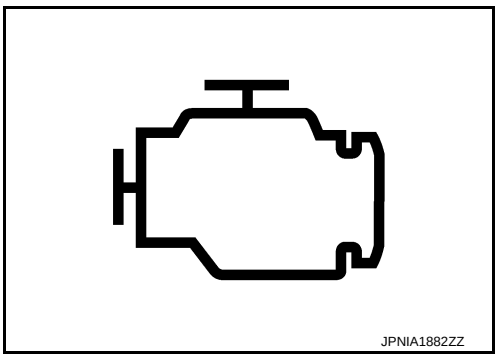
When a malfunction which increases exhaust gases is detected, ECM turns ON MIL and informs the driver of the necessity of inspection and repair.

When a malfunction which causes damage to the catalyst is detected, ECM immediately blinks MIL to alert the driver.

NOTE:

For R9M engine models

- ECM turns ON MIL (yellow) when an emission-related malfunction occurs or when a component part specified by European laws and regulations becomes inoperable three trips in a raw. (Yellow)
- ECM may turn ON MIL (red) when a malfunction occurs in the engine. (Red)



BULB CHECK

The bulb turns ON after turning ON the ignition switch (engine stop) and turns OFF after restarting the engine.

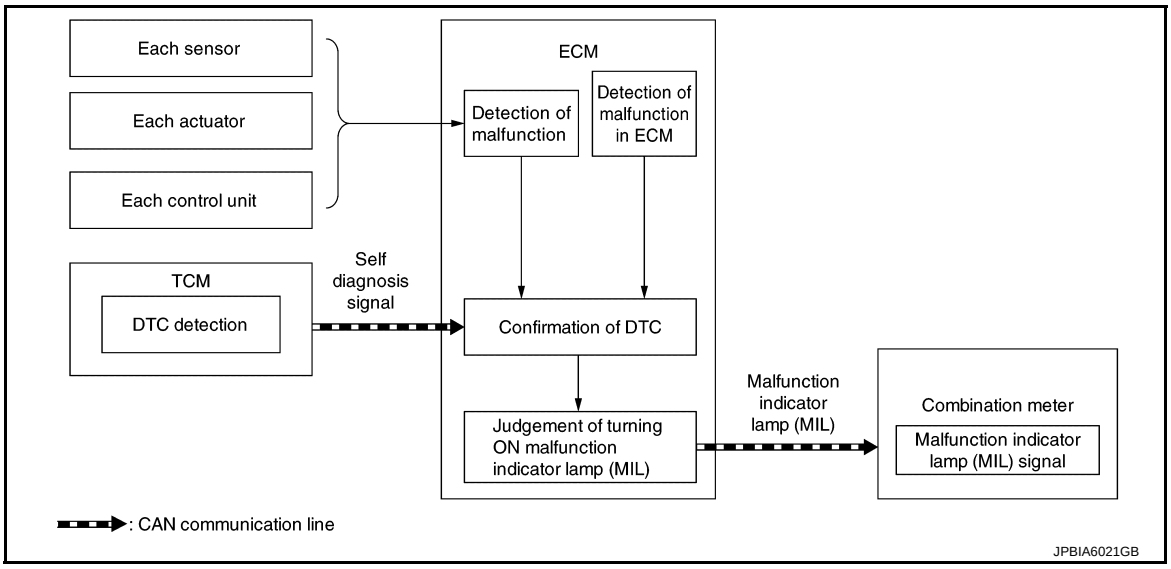
SYNCHRONIZATION WITH MASTER WARNING

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For the operation for CAN communication blackout in the combination meter, refer to MWI-103, "Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- When the lighting conditions of the malfunction indicator lamp (MIL) are satisfied, ECM transmits a malfunction indicator lamp (MIL) signal to the combination meter via CAN communication.
- The combination meter turns ON or blinks the malfunction indicator lamp (MIL), according to a signal received from ECM.

LIGHTING CONDITION

When all of the following conditions are satisfied:

- Ignition switch: ON
- DTC which influences on exhaust gasses is judged.

NOTE:

For R9M engine models

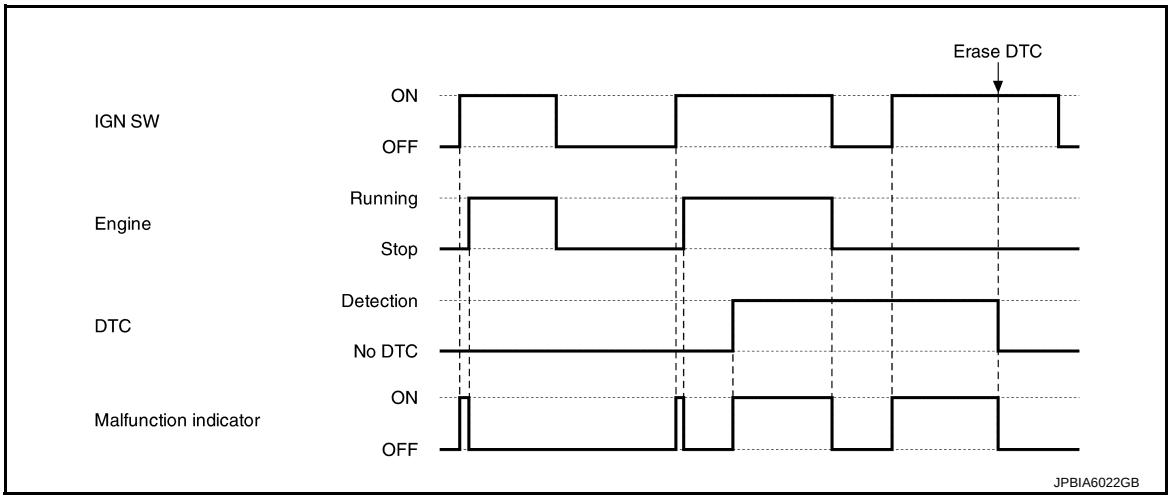
- For DTCs that the malfunction indicator lamp turns ON and the number of DTC diagnosis trips, refer to EC-908, "DTC Index" (Yellow/Red).

SHUTOFF CONDITION

When any of the following conditions is satisfied:

- Ignition switch: OFF
- Erase DTC

TIMING CHART

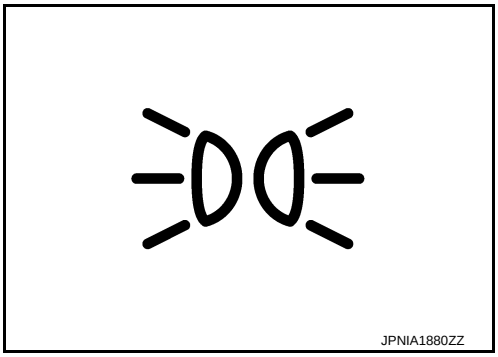


WARNING LAMPS/INDICATOR LAMPS : Position Lamp Indicator Lamp

INFOID:0000000010782908

DESIGN/PURPOSE

Position lamp indicator lamp informs the driver that parking lamp, license plate lamp and tail lamp are in ON status.



BULB CHECK

Not applicable

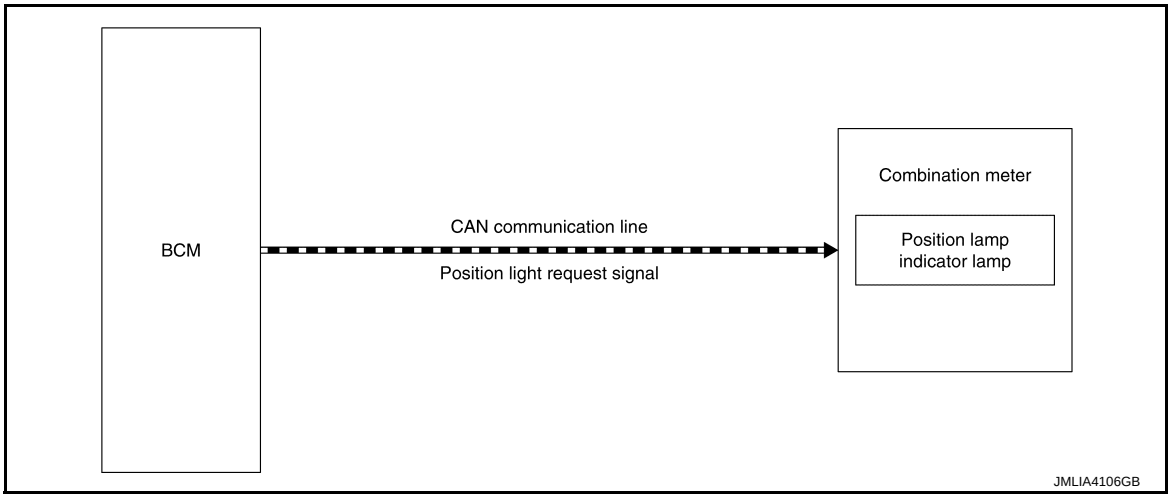
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- BCM transmits position light request signal to combination meter via CAN communication when parking lamp, license plate lamp and tail lamp are in ON status.
- When combination meter receives position light request signal, combination meter turns position lamp indicator lamp ON.

LIGHTING CONDITION

When parking lamp, license plate lamp and tail lamp are turned ON.

SHUTOFF CONDITION

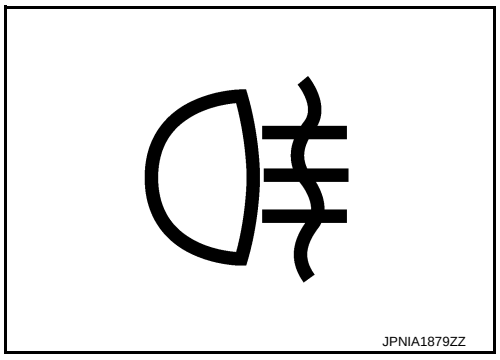
When parking lamp, license plate lamp and tail lamp are turned OFF.

WARNING LAMPS/INDICATOR LAMPS : Rear Fog Lamp Indicator Lamp

INFOID:0000000010782909

DESIGN/PURPOSE

Rear fog lamp indicator lamp informs the driver that rear fog lamp is in ON status.



BULB CHECK

Not applicable

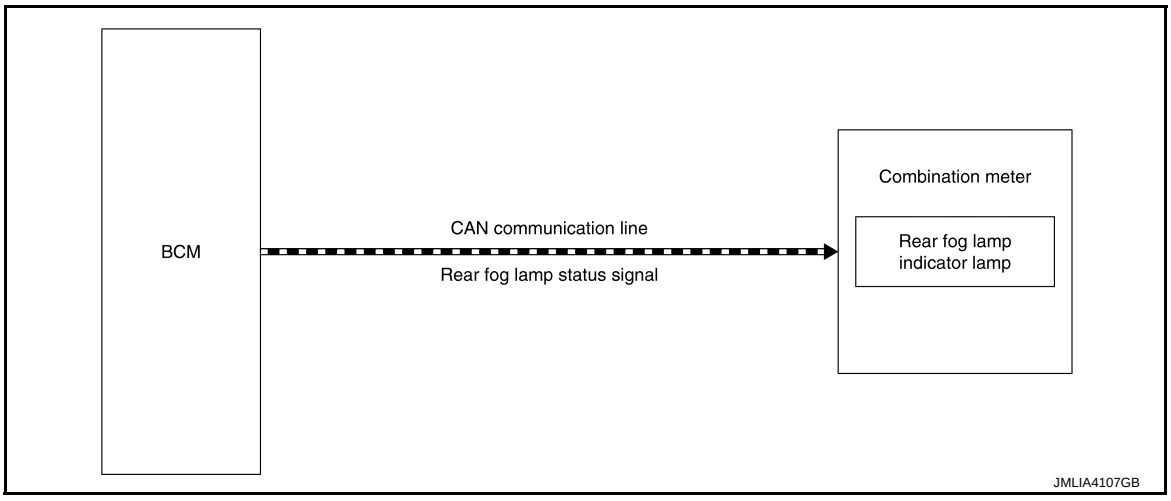
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- BCM transmits rear fog lamp status signal to combination meter via CAN communication when rear fog lamp is in ON status.
- When combination meter receives rear fog lamp status signal, combination meter turns rear fog lamp indicator lamp ON.

LIGHTING CONDITION

When rear fog lamp is turned ON.

SHUTOFF CONDITION

When rear fog lamp is turned OFF.

WARNING LAMPS/INDICATOR LAMPS : Seat Belt Warning Lamp

INFOID:0000000010743088

DESIGN/PURPOSE

Seat belt warning lamp warns the driver that driver seat belt is not fastened.

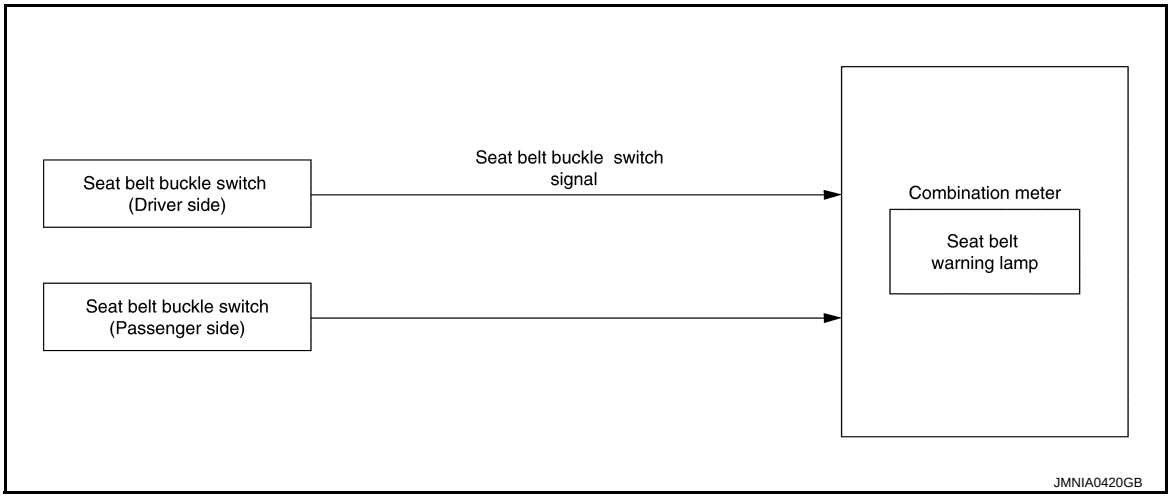
BULB CHECK

Not applicable.

SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable.

SYSTEM DIAGRAM



SIGNAL PATH

Combination meter turns seat belt warning lamp ON according to driver seat belt buckle switch signal.

LIGHTING CONDITION

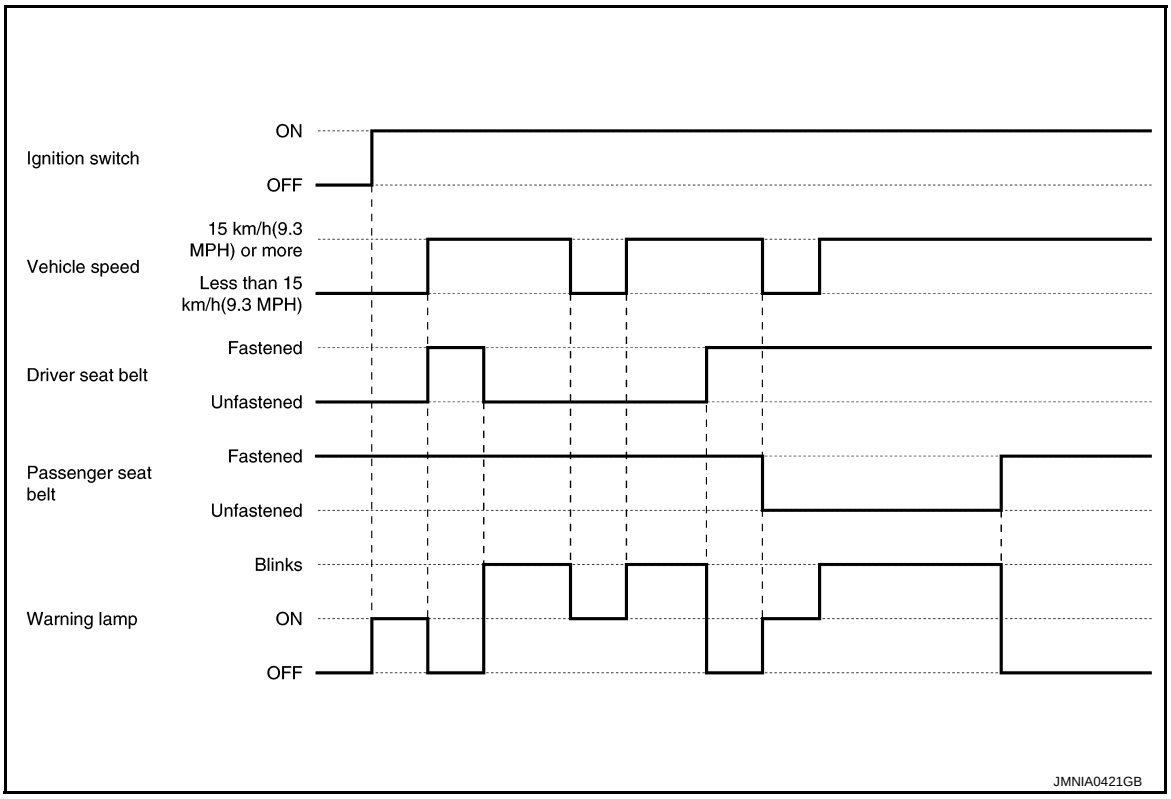
Combination meter turns seat belt warning lamp ON when all of the following conditions are satisfied.

- Ignition switch is ON.
- Driver seat belt is not fastened. (Driver seat belt buckle switch is ON.)
- Passenger seat belt is not fastened. (Passenger seat belt buckle switch is ON.)

SHUTOFF CONDITION

- Ignition switch is ON.
- Driver seat belt is not fastened. (Driver seat belt buckle switch is ON.)
- Passenger seat belt is not fastened. (Passenger seat belt buckle switch is ON.)
- Vehicle speed 15km/h (9.3 MPH) or more.

TIMING CHART

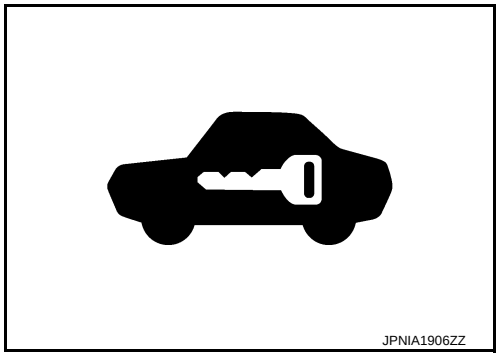


WARNING LAMPS/INDICATOR LAMPS : Security Indicator Lamp (Turn ON)

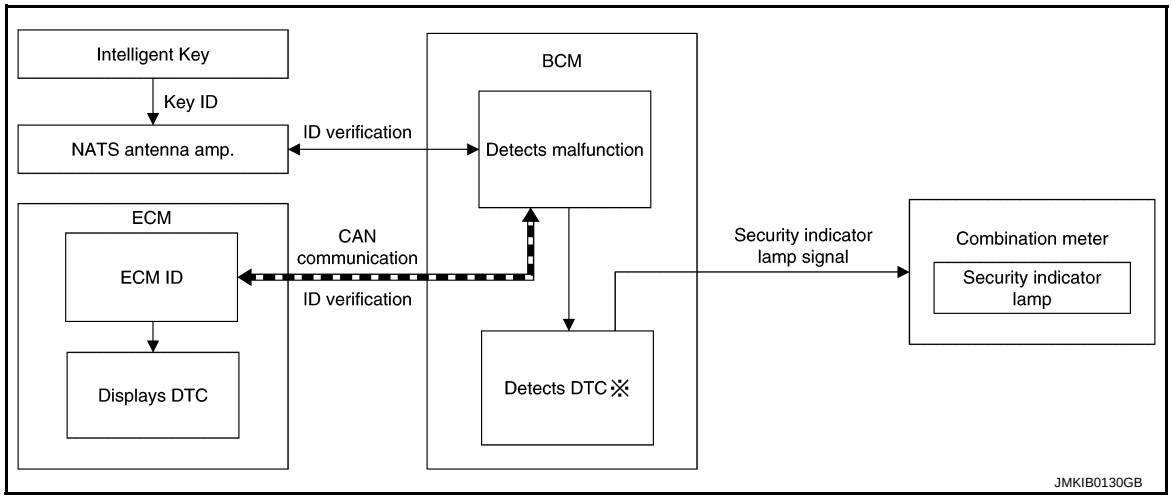
INFOID:0000000010743992

DESIGN/PURPOSE

The warning lamp warns the driver that INFINITI VEHICLE IMMOBILIZER SYSTEM is not normal.



SYSTEM DIAGRAM



*: For DTCs that allow security indicator lamp to turn ON when detected, refer to BCS-78, "DTC Index".

SIGNAL PATH

- BCM transmits security indicator lamp signal to combination meter when a malfunction of INFINITI VEHICLE IMMOBILIZER SYSTEM is detected.
- Combination meter turns security indicator lamp ON, according to security indicator lamp signal.

LIGHTING CONDITION

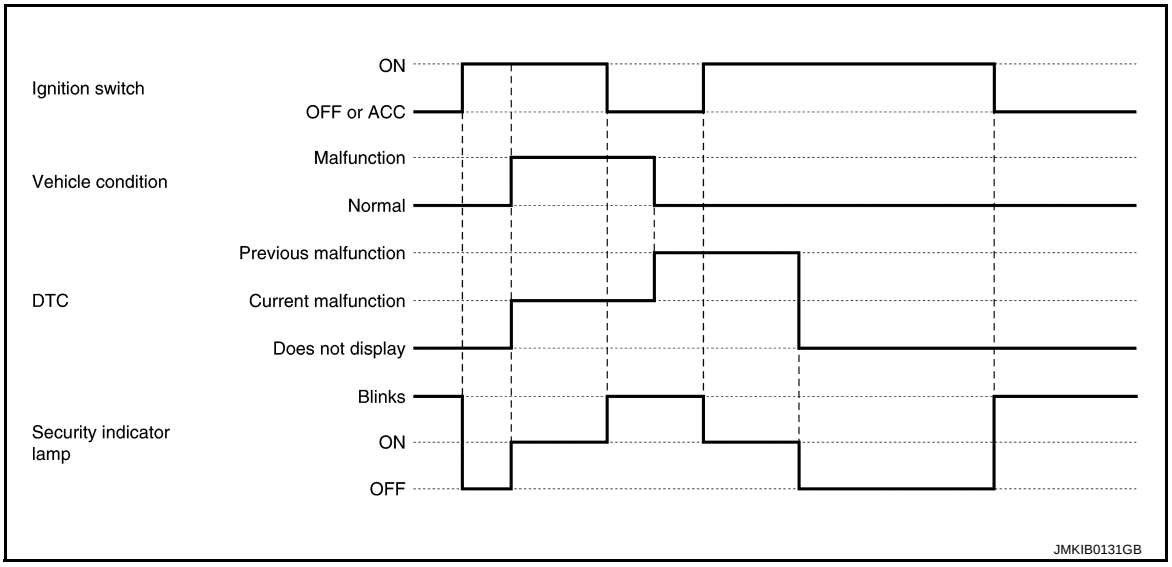
When all of the following conditions are satisfied.

- Ignition switch: ON position
- A malfunction of INFINITI VEHICLE IMMOBILIZER SYSTEM is detected

SHUTOFF CONDITION

Erase DTC

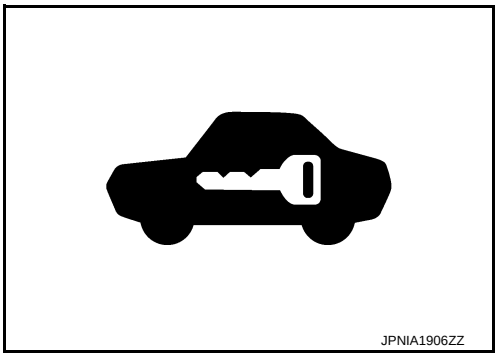
TIMING CHART



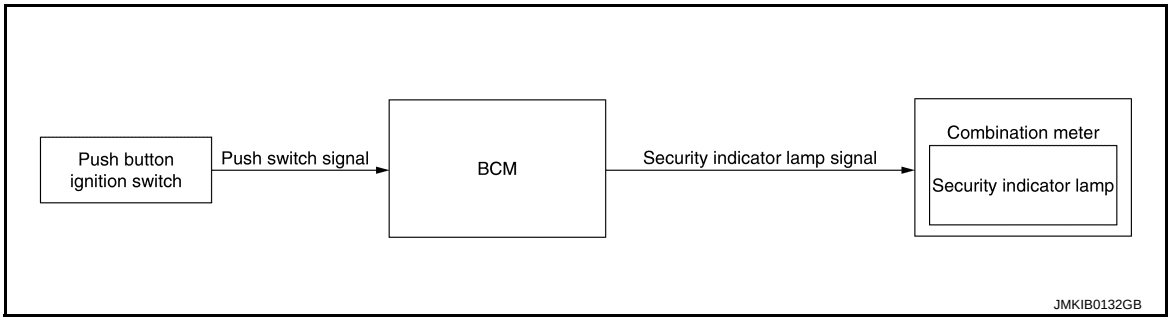
WARNING LAMPS/INDICATOR LAMPS : Security Indicator Lamp (Blinks) *INFOID:0000000010743993*

DESIGN/PURPOSE

The indicator lamp warns externally that the vehicle is equipped with INFINITI VEHICLE IMMOBILIZER SYSTEM.



SYSTEM DIAGRAM

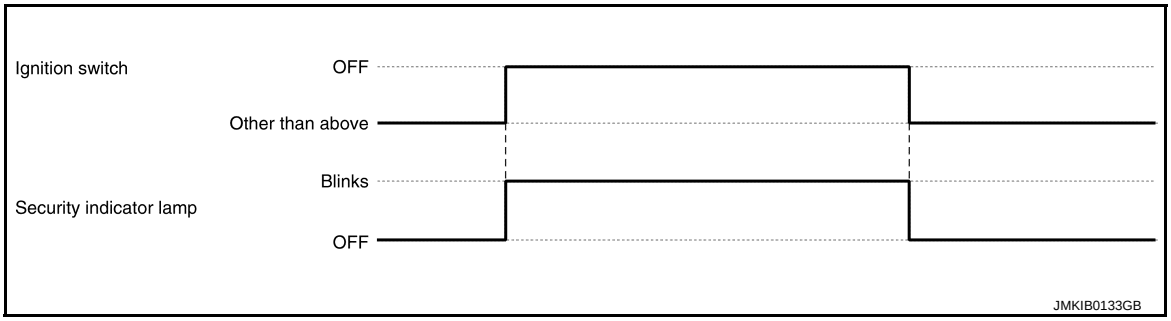


SIGNAL PATH
- BCM transmits security indicator lamp signal to combination meter when ignition switch is turned OFF
- Combination meter blinks security indicator lamp, according to security indicator lamp signal.

LIGHTING CONDITION
Ignition switch: OFF position

SHUTOFF CONDITION
Ignition switch: Except OFF position

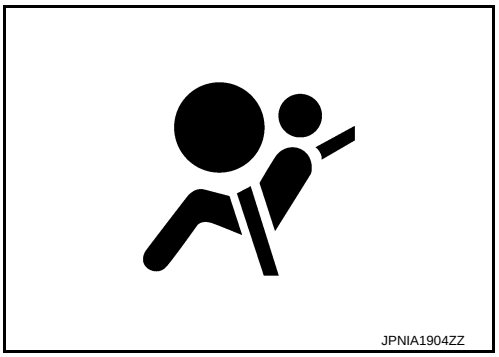
TIMING CHART



WARNING LAMPS/INDICATOR LAMPS : SRS Air Bag Warning Lamp

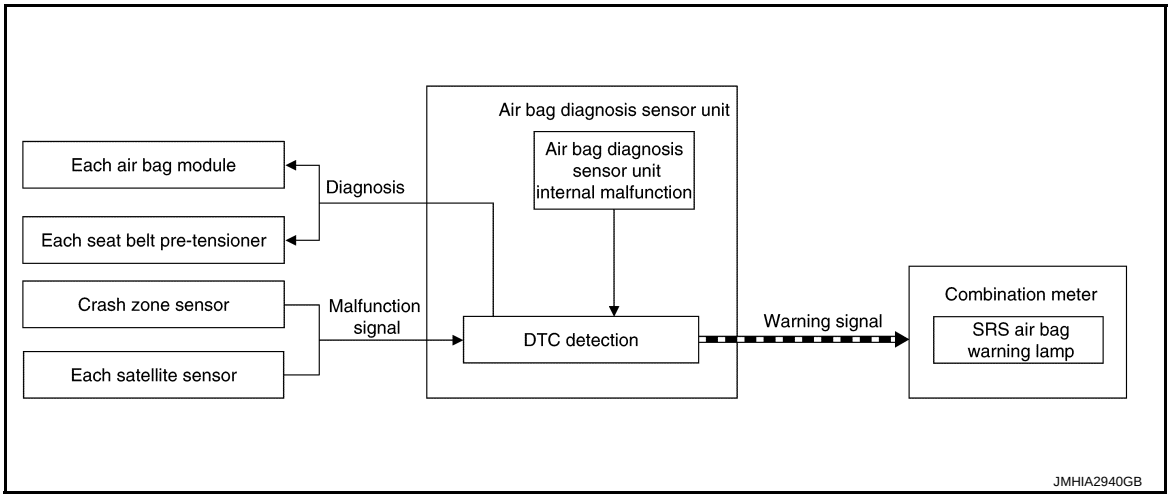
INFOID:0000000010688218

DESIGN/PURPOSE
The warning lamp warns the driver that SRS air bag system is not normal.



BULB CHECK
For seven seconds after the ignition switch is turned ON.

SYSTEM DIAGRAM



SIGNAL PATH
- When a malfunction is detected, air bag diagnosis sensor unit transmits the warning signal to combination meter.

• Combination meter turns SRS air bag warning lamp ON, according to the received signal.

LIGHTING CONDITION

When a malfunction of the following part or status is detected.

• Deployment of air bag
• Air bag diagnosis sensor unit
• Combination meter
• Circuit between air bag diagnosis sensor unit and combination meter
• Battery voltage not normal (approximately 9 V or less, or 16 V or more)
• Each air bag module main unit
• Each seat belt pre-tensioner main unit
• Crash zone sensor main unit
• Each satellite sensor
• Circuit between each air bag module and air bag diagnosis sensor unit
• Circuit between each seat belt pre-tensioner and air bag diagnosis sensor unit
• Circuit between crash zone sensor and air bag diagnosis sensor unit
• Circuit between each satellite sensor and air bag diagnosis sensor unit

NOTE:
For the relation between warning lamp and DTC, refer to SRC-18, "DTC Index".

SHUTOFF CONDITION

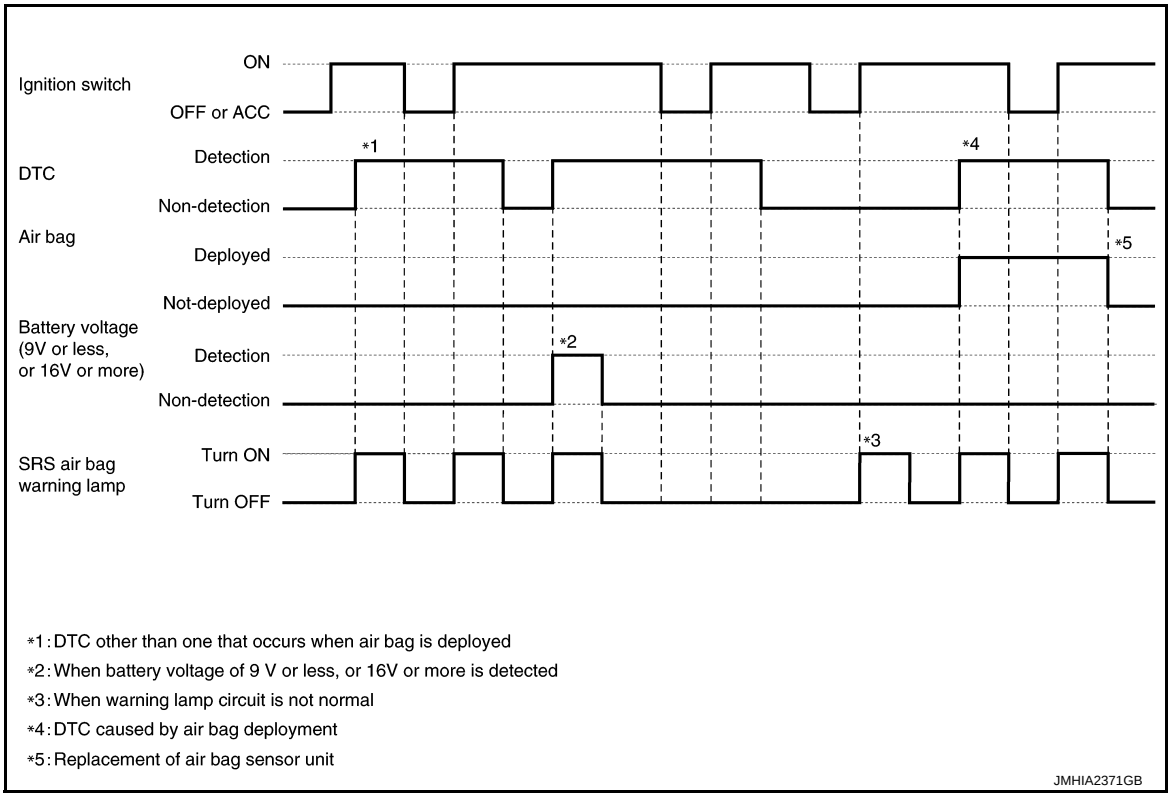
When Being Turned ON Due to Deployment of Air Bag
Replace air bag diagnosis sensor unit.

NOTE:
After air bag deployment, perform collision diagnosis including replacement of each air bag module, refer to SR-13, "FOR FRONTAL COLLISION : When SRS is activated in a collision" (For front collision), and SR-15, "FOR SIDE AND ROLLOVER COLLISION : When SRS is activated in a collision" (For side collision).

When Turned ON Due to a Malfunction of SRS Air Bag Warning Lamp Circuit
Repair SRS air bag warning lamp circuit system.

When Turned ON Due to a Malfunction of Air Bag Module or Air Bag Module Circuit
Repair the malfunctioning part. Erase self-diagnosis result memory.

TIMING CHART

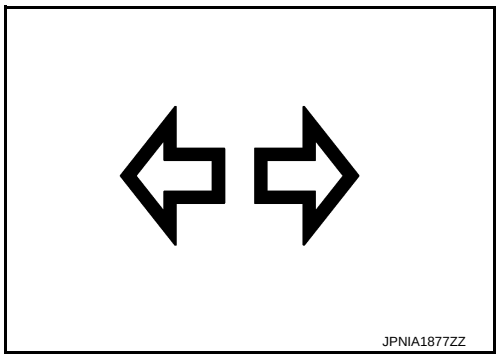


WARNING LAMPS/INDICATOR LAMPS : Turn Signal Indicator Lamp

INFOID:0000000010782910

DESIGN/PURPOSE

Turn signal indicator lamp informs the driver that turn signal lamp is in ON status.



BULB CHECK

Not applicable

SYNCHRONIZATION WITH WARNING CHIME

Synchronization is applied.

For warning chime, refer to EXL-36, "TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description" (LED headlamp) or EXL-236, "TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description" (halogen headlamp).

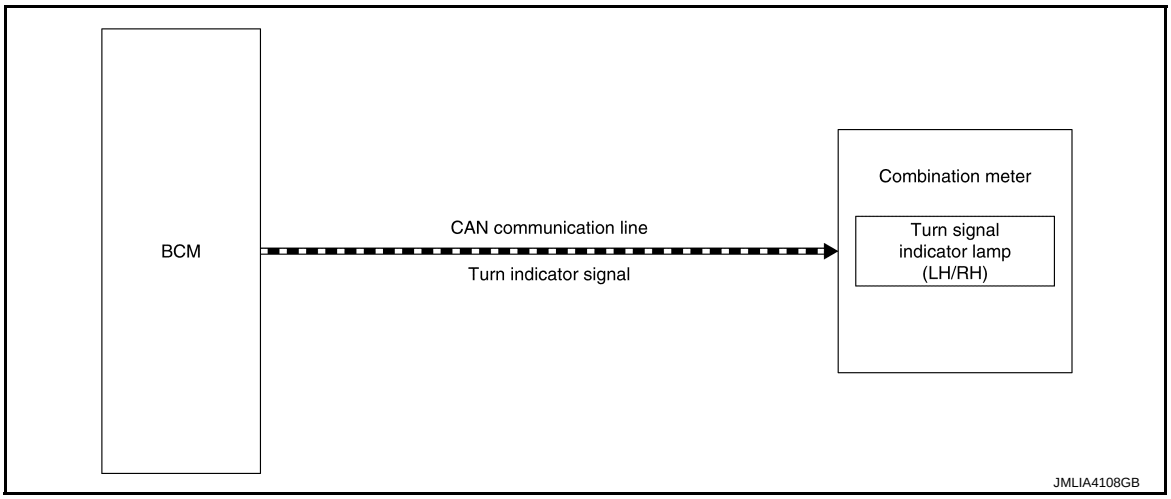
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- BCM transmits turn indicator signal to combination meter via CAN communication when turn signal lamp is in ON status.
- When combination meter receives turn indicator signal, combination meter turns turn signal indicator lamp ON.

LIGHTING CONDITION

Turn Signal Indicator Lamp (LH)
When turn signal lamp (LH) is turned ON.

Turn Signal Indicator Lamp (RH)
When turn signal lamp (RH) is turned ON.

SHUTOFF CONDITION

Turn Signal Indicator Lamp (LH)
When turn signal lamp (LH) is turned OFF.

Turn Signal Indicator Lamp (RH)
When turn signal lamp (RH) is turned OFF.

WARNING LAMPS/INDICATOR LAMPS : VDC (ESP) OFF Indicator Lamp

INFOID:0000000010728306

DESIGN/PURPOSE

The VDC OFF indicator lamp warns the driver that VDC function and TCS function are OFF.

BULB CHECK

The VDC OFF indicator lamp turns ON and stays ON for 1 second after turning ON the ignition switch.

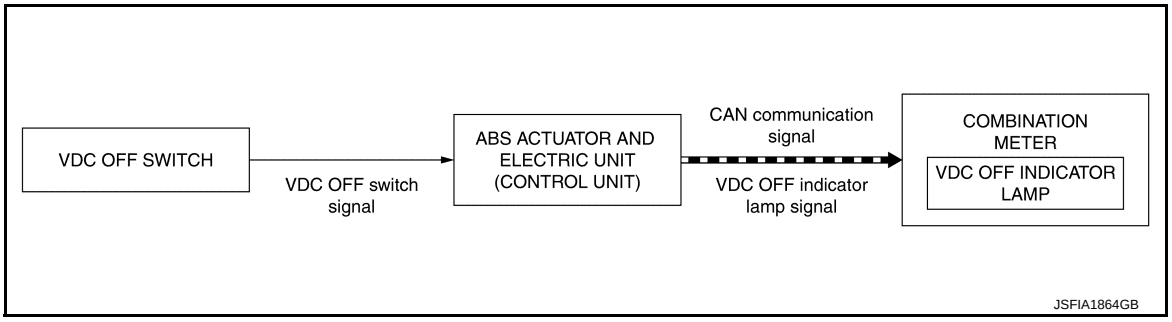
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- The ABS actuator and electric unit (control unit) receives a VDC OFF switch signal from the VDC OFF switch.
- The ABS actuator and electric unit (control unit) transmits a VDC OFF indicator lamp signal to the combination meter via CAN communication according to the received VDC OFF switch signal.
- The combination meter turns ON the VDC OFF indicator lamp when receiving a VDC OFF indicator lamp signal.

LIGHTING CONDITION

When all of the following conditions are satisfied:

- Ignition switch ON
- VDC OFF switch ON (VDC function and TCS function non-operational status)

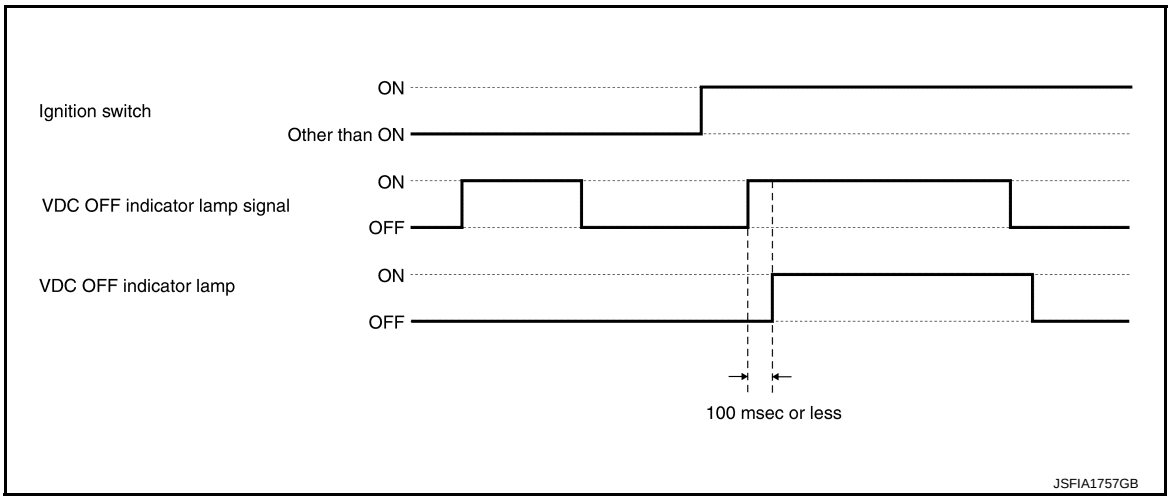
SHUTOFF CONDITION

When the condition listed below is satisfied while the ignition switch ON:

- Ignition switch other than ON
- VDC OFF switch OFF (VDC function and TCS function standby status)

- Ignition switch OFF

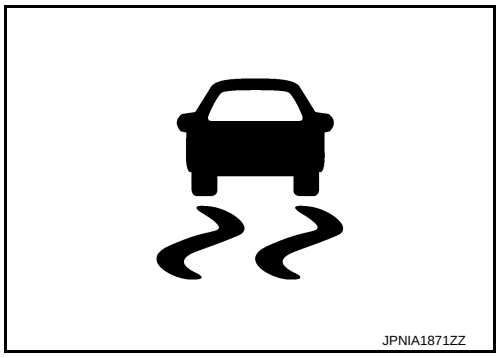
TIMING CHART



WARNING LAMPS/INDICATOR LAMPS : VDC (ESP) Warning Lamp

INFOID:0000000010728307

DESIGN/PURPOSE



- When VDC function, TCS function, or brake limited slip differential (BLSD) function is activated, the VDC warning lamp blinks to inform the driver of the activation of the function.
- When VDC function, TCS function, ABS function, EBD function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, hill start assist function or advanced hill decent control function of the ABS actuator and electric unit (control unit) has a malfunction, the VDC warning lamp turns ON to warn the driver of the malfunction.

  NOTE:

  The VDC warning lamp may turn ON when the brake warning lamp or ABS warning lamp turns ON. For details, refer to BRC-43, "Fail-Safe".

BULB CHECK

The VDC warning lamp turns ON and stays ON for 1 second after turning ON the ignition switch.

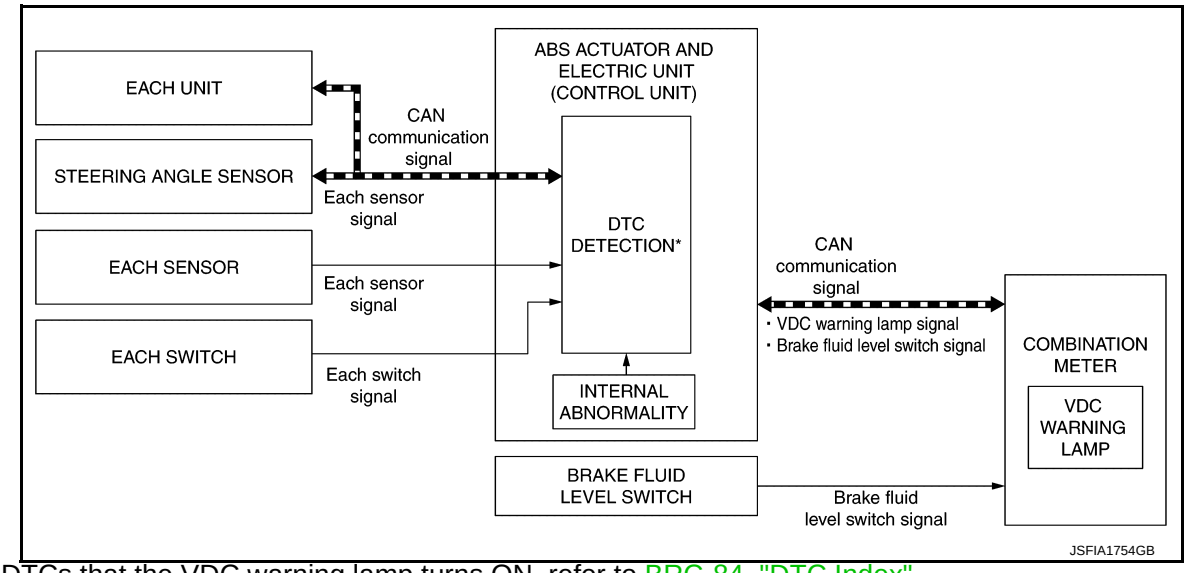
SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



*: For DTCs that the VDC warning lamp turns ON, refer to BRC-84, "DTC Index".

SIGNAL PATH

When Operating VDC Function, TCS Function, Brake Limited Slip Differential (BLSD) Function

- The ABS actuator and electric unit (control unit) transmits a VDC warning lamp signal to the combination meter via CAN communication when operating in the VDC function, TCS function, or brake limited slip differential (BLSD) function.
- The combination meter blinks the VDC warning lamp when receiving a VDC warning lamp signal.

When VDC Function, TCS Function, ABS Function, EBD Function, Brake Limited Slip Differential (BLSD) Function, Brake Assist Function, Brake Force Distribution Function, hill start assist Function, advanced hill decent control Function Are In Abnormal State

- The ABS actuator and electric unit (control unit) transmits a VDC warning lamp signal to the combination meter via CAN communication when detecting a malfunction in the VDC function, TCS function, brake limited slip differential (BLSD) function, brake assist function, hill start assist function or brake force distribution function
- The combination meter turns ON the VDC warning lamp when receiving a VDC warning lamp signal.
- For the relationship between warning lamp and DTC, refer to BRC-84, "DTC Index".

LIGHTING CONDITION

- A malfunction is detected in the VDC function, TCS function, ABS function, EBD function, brake limited slip differential (BLSD) function, brake assist function, brake force distribution function, hill start assist function or advanced hill decent control function of the ABS actuator and electric unit (control unit).
- For the relationship between warning lamp and DTC, refer to BRC-84, "DTC Index".

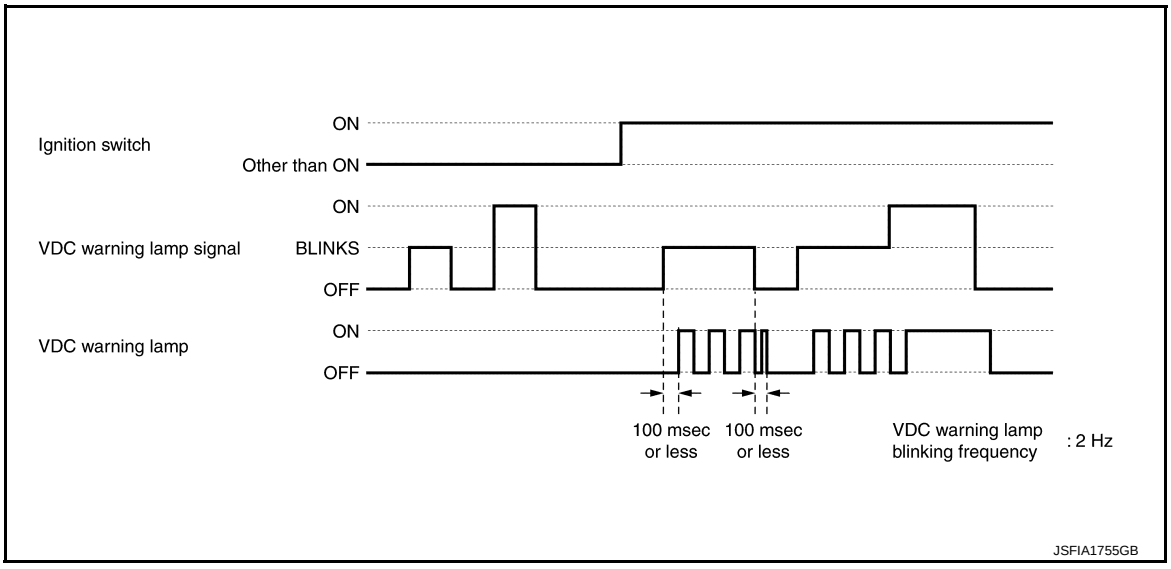
BLINKING CONDITION

When VDC function, TCS function, or brake limited slip differential (BLSD) function is under operating conditions.

SHUTOFF CONDITION

- When the condition listed below is satisfied while the ignition switch ON:
- Erase DTC
- When VDC function, TCS function, or brake limited slip differential (BLSD) function is not under operating conditions.
- The ignition switch is in a position other than ON.

TIMING CHART



WARNING LAMPS/INDICATOR LAMPS : Water-in-fuel-filter warning lamp

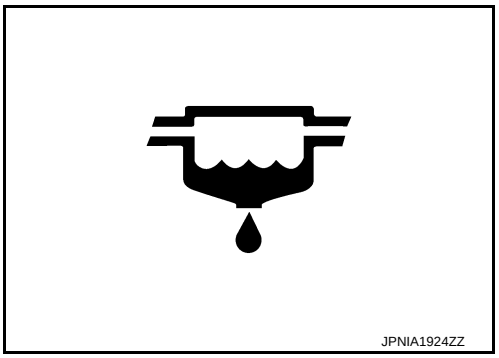
INFOID:0000000010775881

DESIGN/PURPOSE

When water is accumulated in the fuel filter, the water-in-fuel-filter warning lamp turns ON to warn the driver that water must be drained.

NOTE:

For the method of draining water from fuel filter, refer to FL-38, "Draining Water from Fuel Filter".



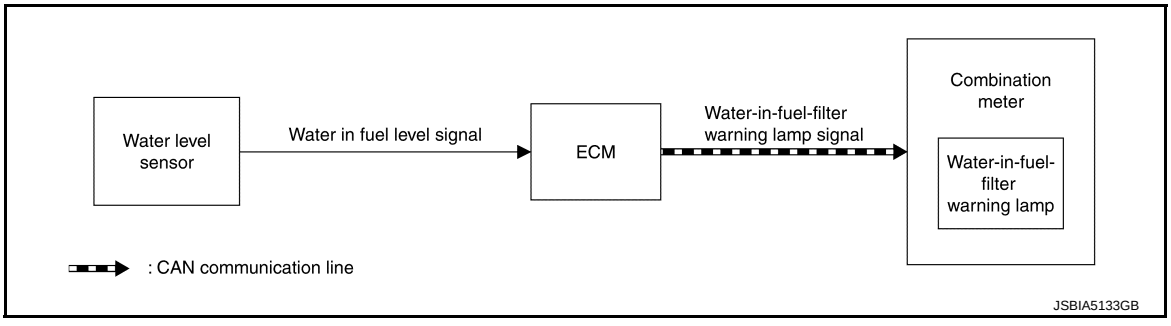
BULB CHECK

Not required.

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For the operation for CAN communications blackout or abnormal signal reception, refer to MWI-19, "METER SYSTEM : Fail-Safe".

SYSTEM DIAGRAM



SIGNAL PATH

- ECM reads a signal transmitted from the water level sensor and transmits the signal to the combination meter via CAN communication.
- The combination meter turns ON the water-in-fuel-filter warning lamp, according to a water-in-fuel-filter warning lamp signal received from ECM via CAN communication.

LIGHTING CONDITION

When all of the following conditions are satisfied:
- Ignition switch ON
- Fuel filter water level is the approximately 50 ml (1.8 Imp fl oz) or more. (Water-in-fuel-filter warning lamp signal: ON)

SHUTOFF CONDITION

When any of the following condition is satisfied:
- Ignition switch OFF
- Fuel filter water level is less than the approximately 50 ml (1.8 Imp fl oz). (Water-in-fuel-filter warning lamp signal: OFF)

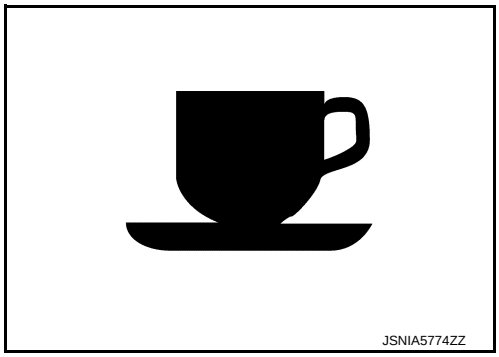
WARNING/INDICATOR (ON INFORMATION DISPLAY)

WARNING/INDICATOR (ON INFORMATION DISPLAY) : Alert

INFOID:0000000010714989

DESIGN/PURPOSE

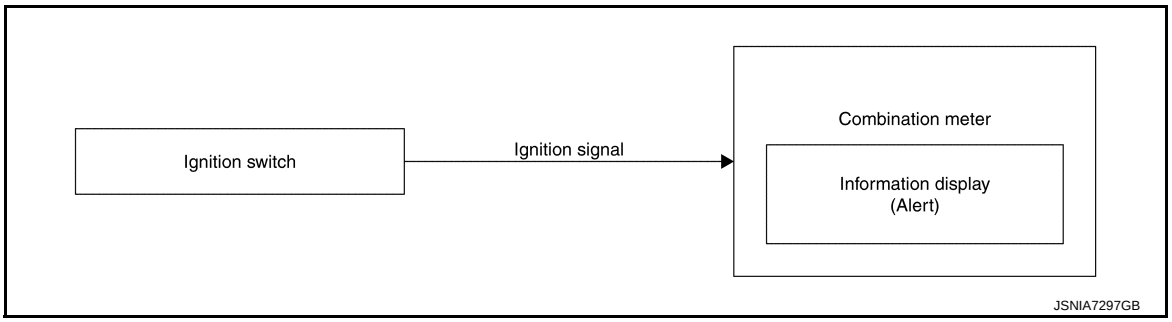
To warn the driver when driving the vehicle more than set value time.

Symbol	Massage
 JSNIA5774ZZ	Time for a driver break?

SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

SYSTEM DIAGRAM



SIGNAL PATH

Combination meter will operate the timer after turned ignition switch ON.

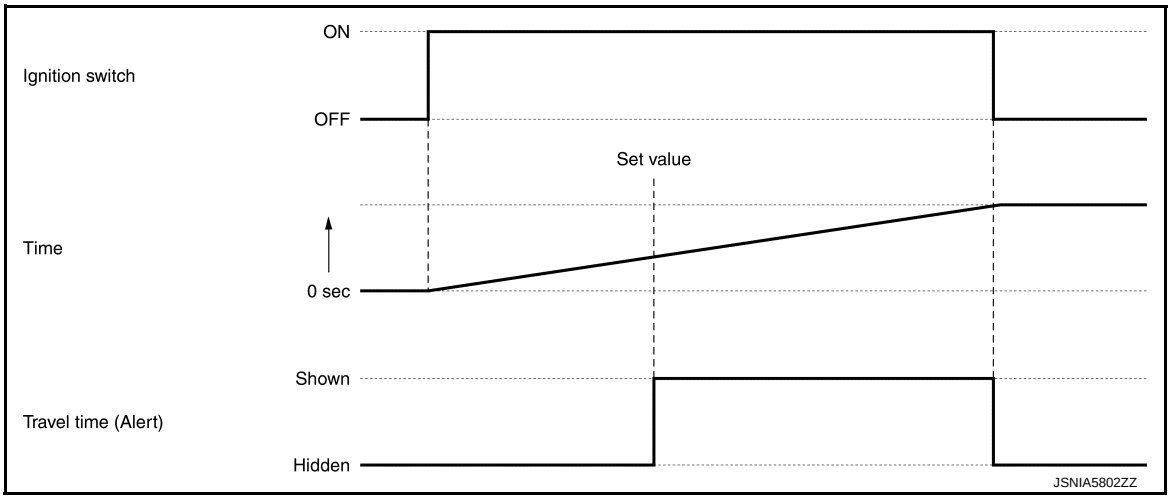
WARNING/INDICATOR OPERATING CONDITION

When all of the following conditions are satisfied:
- Ignition switch ON
- When time exceeds a set value

WARNING/INDICATOR CANCEL CONDITION

- Ignition switch OFF
- Press the back switch or press the enter switch downward

TIMING CHART

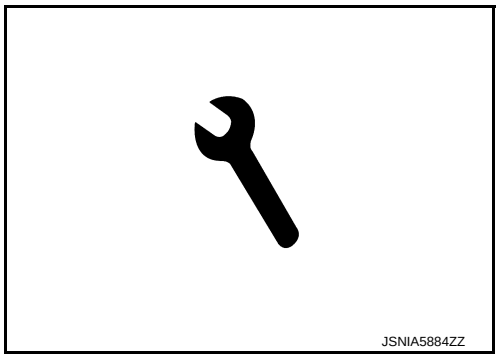
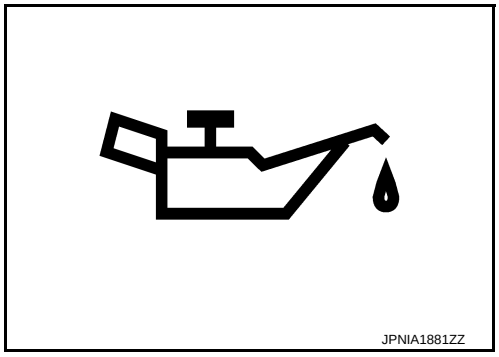


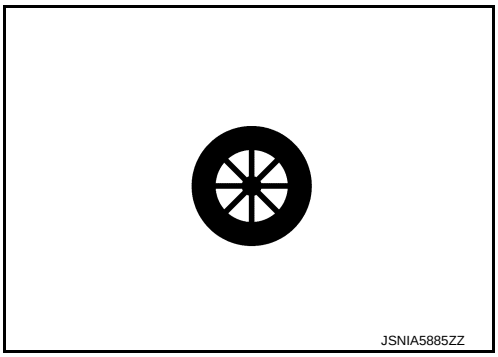
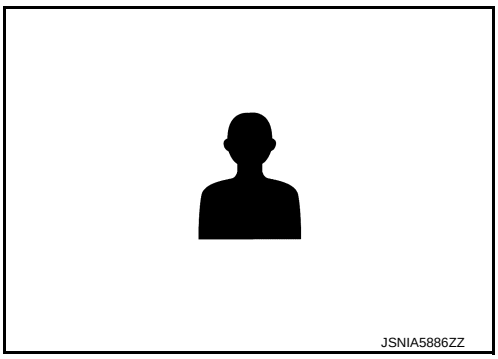
WARNING/INDICATOR (ON INFORMATION DISPLAY) : Maintenance

INFOID:0000000010714990

DESIGN/PURPOSE

The combination meter alerts the driver maintenance items (engine oil, oil filter, tires or other) when mileage exceeds a set value.

Symbol	Message
 JSNIA5884ZZ	Oil and Filler*1
 JPNIA1881ZZ	Filler*2

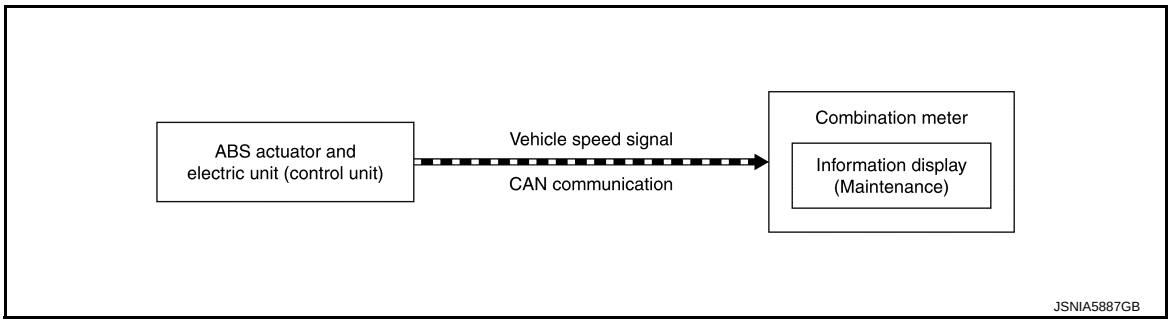
Symbol	Message
	Tire
	Other

*1: Gasoline engine models
*2: Diesel engine models

SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

SYSTEM DIAGRAM



SIGNAL PATH

Combination meter will show the interrupt maintenance items according to vehicle speed signal via CAN communication.
For information on setting maintenance items, refer to MWI-71, "INFORMATION DISPLAY : System Description".

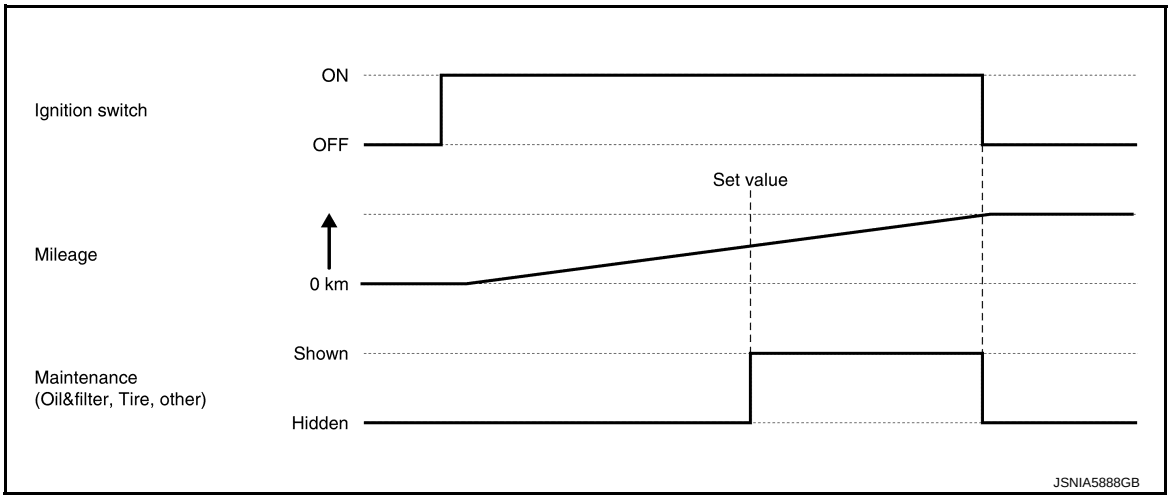
WARNING/INDICATOR OPERATING CONDITION

When all of the following conditions are satisfied:
- Ignition switch ON
- When mileage exceeds a set value

WARNING/INDICATOR CANCEL CONDITION

Press the ENTER switch

TIMING CHART



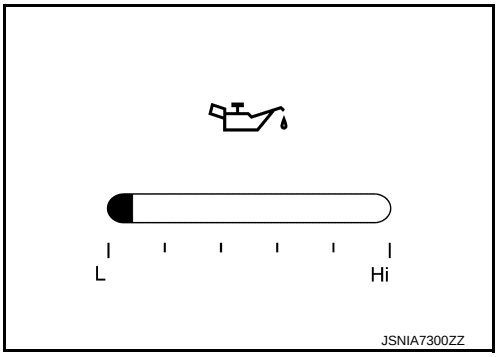
WARNING/INDICATOR (ON INFORMATION DISPLAY) : Oil Level Warning

INFOID:0000000010789960

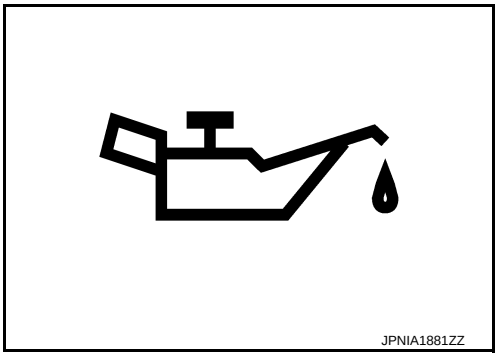
DESIGN/PURPOSE

The oil level indicator judges and displays engine oil level. When engine oil level is insufficient, the oil level indicator shows an engine oil level low warning to the driver. When oil level sensor is in abnormal conditions, an oil level sensor warning is displayed.

Oil Level Low Warning

Symbol	Message
	Engine Oil Oil Level Low

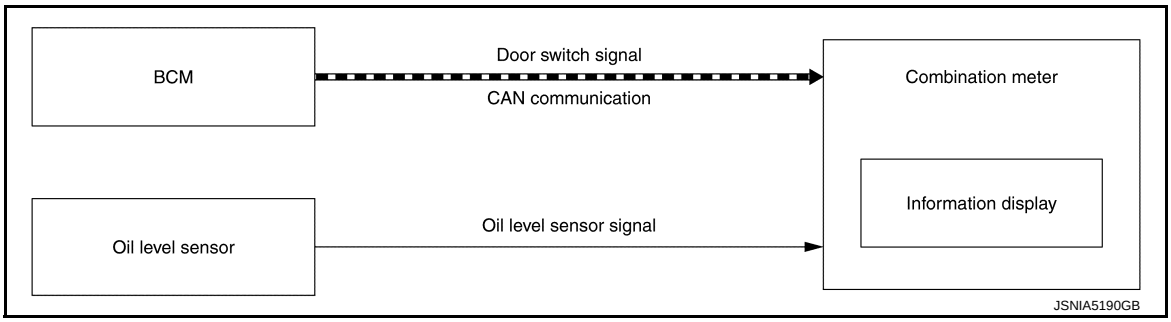
Oil Level Sensor Warning

Symbol	Message
	Engine Oil Sensor Error Visit Dealer

SYNCHRONIZATION WITH MASTER WARNING LAMP

Refer to MWI-47, "WARNING LAMPS/INDICATOR LAMPS : Master Warning Lamp".

SYSTEM DIAGRAM



SIGNAL PATH

- BCM transmits a door switch signal to the combination meter via CAN communication.
- Oil level sensor transmits an oil level sensor signal to the combination meter.
- Combination meter displays engine oil level to the information display.
- Check engine oil level when the following condition is satisfied:

- A lapse of approximately 5 minutes after turning OFF the ignition switch
- Door switch (driver side): ON (Driver's door is open)

WARNING/INDICATOR OPERATING CONDITION

Oil level low warning and oil level sensor warning are displayed under the following conditions:

Oil Level Low Warning

- Ignition switch: ON
- When engine oil level is low (After engine oil level check)

Oil Level Sensor Warning

- Ignition switch: ON
- Oil level sensor abnormality

WARNING/INDICATOR CANCEL CONDITION

Oil level low warning and oil level sensor warning are cancelled under the following conditions:

Oil Level Low Warning

Press the enter switch downward

Oil Level Sensor Warning

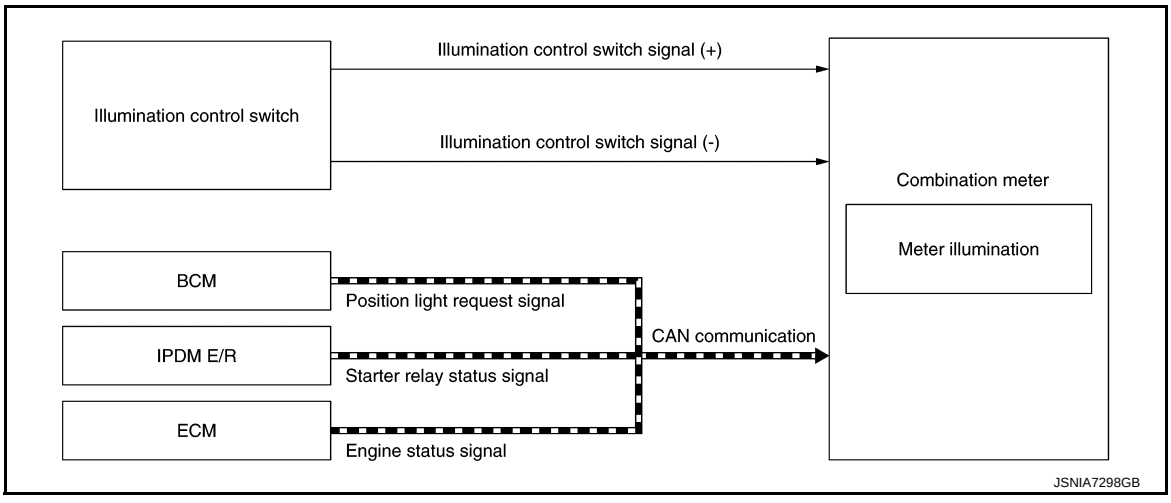
Press the enter switch downward

METER ILLUMINATION CONTROL

METER ILLUMINATION CONTROL : System Description

INFOID:0000000010714991

SYSTEM DIAGRAM



DESCRIPTION

Back Light Illumination Control Function

The operation of the illumination control switch allows the brightness adjustment of meter illumination.

Meter illumination	The number of adjustable steps
Daytime	22 step
Nighttime	22 step

Meter Illumination Control Function

- Combination meter controls meter illumination, based on the position light request signal.
- The combination meter switches mode between Daytime mode and Nighttime mode, according to the following conditions.

Condition			Meter illumination
Combination switch (lighting switch)	1ST or 2ND position		Nighttime mode
	AUTO POSITION	Outdoor: Bright*	Daytime mode
		Outdoor: Dark*	Nighttime mode
	Off		Daytime mode

*: For further information, refer to INL-18, "ILLUMINATION CONTROL SYSTEM : System Description".

Signal Path

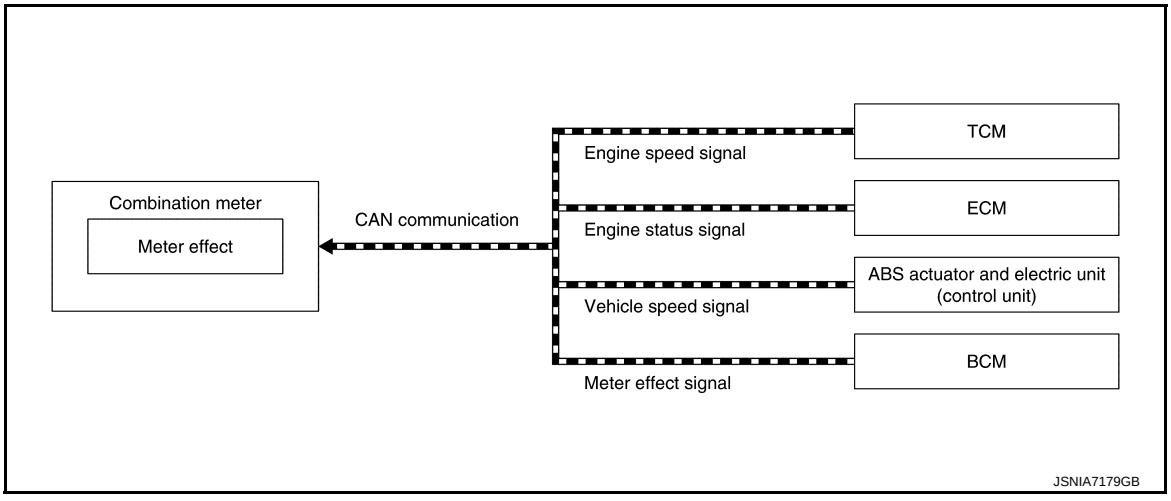
Signal name	Signal path
Ignition signal	—
Position light request signal	BCM —CAN→ Combination meter
Starter relay status signal	IPDM E/R —CAN→ Combination meter
Engine status signal	ECM —CAN→ Combination meter

METER EFFECT FUNCTION

METER EFFECT FUNCTION : System Description

INFOID:0000000010714992

SYSTEM DIAGRAM



DESCRIPTION

Driver Welcome Function

Operational condition	
Ignition switch	LOCK position
Driver side door	Open → Close*

*: Close the driver side door with the intelligent key left inside the vehicle.

Signal Path
The combination meter judges “driver welcome”, according to the following signals and activates the driver welcome function.

Signal name	Signal source
Ignition signal	—
Meter effect signal	BCM —CAN→ Combination meter

NOTE:

The driver welcome function ends if any one of the above conditions is lost during the activation of this function.

Engine-start Effect Function
When recognizing an engine start, the combination meter controls the following items for producing the effect.
- Speedometer
- Tachometer
- Information display
- 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*1	Sweeps the pointer.
Tachometer*1	Sweeps the pointer.
Dial illumination	Increases the brightness to the effect level in stages.
Pointers	Turns on the illumination at the effect level.
Information display*2	Display the animation.

NOTE:
- *1: When the dial effect is deactivated on the settings screen of the information display, the speedometer and tachometer do not sweep.
- *2: When the display effect is deactivated on the settings screen of the vehicle information display, animation is not shown.

Engine Start Judgement
The combination meter judges “engine-start” and activates the engine-start effect only once when the following operational conditions are all satisfied.

Operational condition	
Ignition switch	ON position
Vehicle speed	Less than 1 km/h (0.6 MPH)
Engine state	Other than the time of cranking the engine
Engine speed	500 rpm or more

NOTE:

The engine-start effect exits when any of the above operational conditions is cancelled during the engine-start effect.

Signal Path
The combination meter judges “engine-start”, according to the following signals and activates the engine-start effect function.

Signal name	Signal source
Ignition signal	—
Engine speed signal	TCM —CAN→ Combination meter
Engine status signal	ECM —CAN→ Combination meter
Vehicle speed signal	ABS actuator and electric unit (control unit) —CAN→ Combination meter

NOTE:

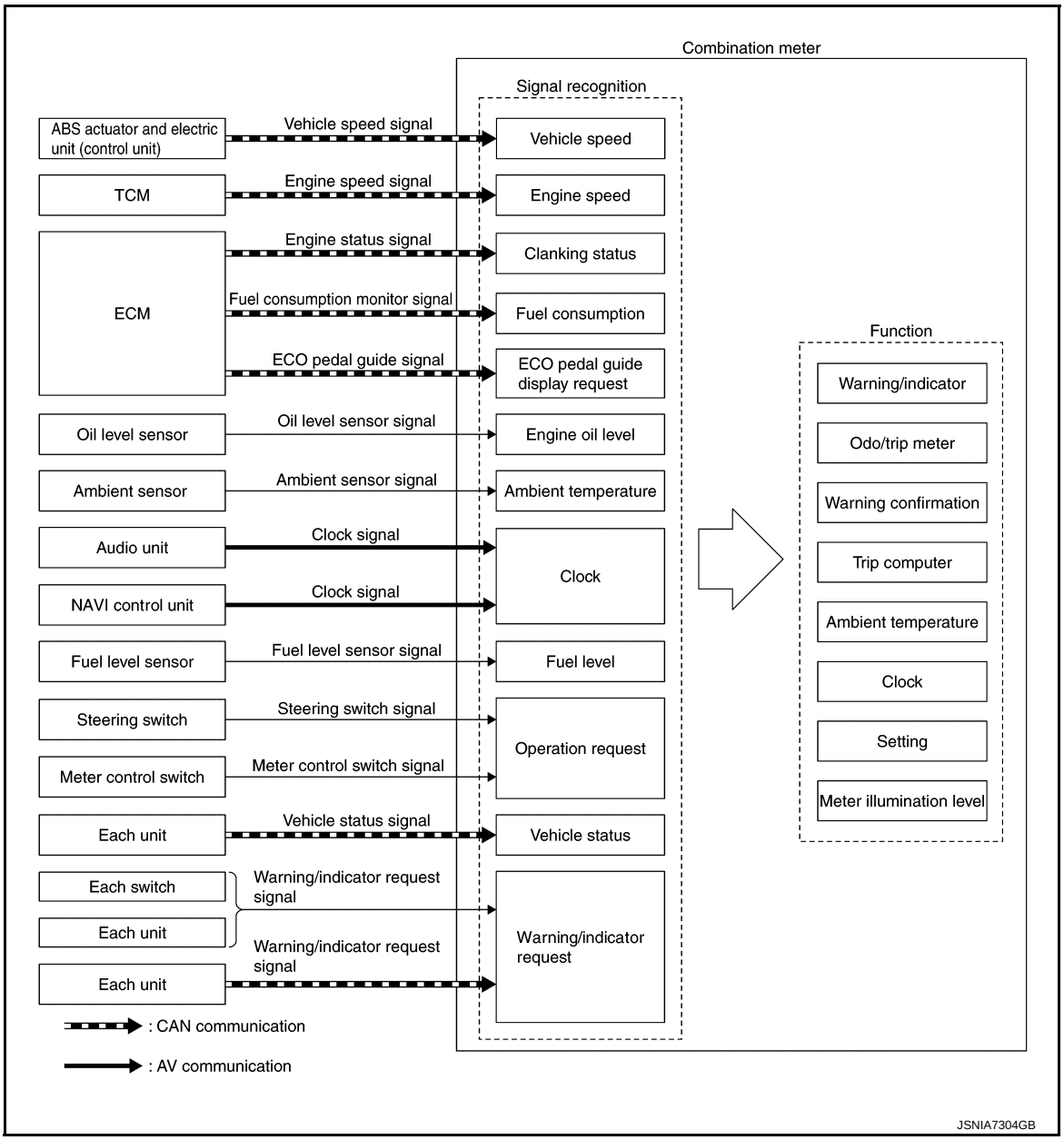
The engine-start effect function ends if any one of the above conditions is lost during the activation of this function.

INFORMATION DISPLAY

INFORMATION DISPLAY : System Description

INFOID:0000000010714993

SYSTEM DIAGRAM



DESCRIPTION

- The combination meter receives signals necessary for controlling the operation of the information display from each unit, sensor and switch.
- The combination meter incorporates a trip computer that displays the warning/information according to the information received from each unit, sensor and switch.
- The combination meter shows the following functions on the information display.
- Warning/Indicator
- Odo/trip meter
- Warning confirmation
- Setting
- Trip computer
- Ambient temperature
- Meter illumination level
- Clock
- The items that displayed to information display can be selected by the steering switch and meter control switch. Refer to MWI-82, "Switch Name and Function" for further details.

WARNING/INDICATOR LIST

WARNING

Warning	Reference
Parking brake warning	PB-24, "INFORMATION DISPLAY (COMBINATION METER) : Parking Brake Warning"
Engine oil pressure warning	• EC-67, "INFORMATION DISPLAY (COMBINATION METER) : Engine Oil Pressure Warining" (MR20DD) • EC-474, "INFORMATION DISPLAY (COMBINATION METER) : Engine Oil Pressure Warning" (QR25DE) • EC-865, "INFORMATION DISPLAY (COMBINATION METER) : Engine Oil Pressure Warning" (R9M)
4WD warning	• DLN-22, "INFORMATION DISPLAY (COMBINATION METER) : 4WD Warning" (TY21C) • DLN-126, "INFORMATION DISPLAY (COMBINATION METER) : 4WD Warning" (TY30A)
Headlamp warning	EXL-49, "INFORMATION DISPLAY (COMBINATION METER) : Headlamp Warning"
Light reminder warning	• EXL-51, "INFORMATION DISPLAY (COMBINATION METER) : Light Reminder Warning (Information Display)" (LED HEADLAMP) • EXL-250, "INFORMATION DISPLAY (COMBINATION METER) : Light Reminder Warning (Information Display)" (HALOGEN HEADLAMP)
Rear seat belt warning	SBC-8, "INFORMATION DISPLAY (COMBINATION METER) : Rear Seat Belt Warning"
Chassis control display	DAS-187, "INFORMATION DISPLAY (COMBINATION METER) : Chassis Control Display"
Low fuel warning	• FL-6, "WARNING/INDICATOR (ON INFORMATION DISPLAY) : Low fuel warning" (GASOLINE ENGINE MODEL) • FL-32, "WARNING/INDICATOR (ON INFORMATION DISPLAY) : Low fuel warning" (DIESEL ENGINE MODEL)
Shipping mode information	BCS-20, "SHIPPING MODE CONTROL SYSTEM : System Description"
Door open warning	• DLK-50, "INFORMATION DISPLAY (COMBINATION METER) : Door Open Warning" (TYPE1) • DLK-359, "INFORMATION DISPLAY (COMBINATION METER) : Door Open Warning" (TYPE2) • DLK-652, "INFORMATION DISPLAY (COMBINATION METER) : Door Open Warning" (TYPE3) • DLK-804, "INFORMATION DISPLAY (COMBINATION METER) : Door Open Warning" (TYPE4) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".

Warning	Reference
Engine start information	• DLK-51, "INFORMATION DISPLAY (COMBINATION METER) : Engine Start Information" (TYPE1) • DLK-360, "INFORMATION DISPLAY (COMBINATION METER) : Engine Start Information" (TYPE2) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".
Intelligent Key low battery warning	• DLK-53, "INFORMATION DISPLAY (COMBINATION METER) : Intelligent Key Low Battery Warning" (TYPE1) • DLK-362, "INFORMATION DISPLAY (COMBINATION METER) : Intelligent Key Low Battery Warning" (TYPE2) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".
Intelligent Key system malfunction	• DLK-54, "INFORMATION DISPLAY (COMBINATION METER) : Intelligent Key System Malfunction" (TYPE1) • DLK-363, "INFORMATION DISPLAY (COMBINATION METER) : Intelligent Key System Malfunction" (TYPE2) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".
Key ID verification information	• DLK-55, "INFORMATION DISPLAY (COMBINATION METER) : Key ID Verification Information" (TYPE1) • DLK-364, "INFORMATION DISPLAY (COMBINATION METER) : Key ID Verification Information" (TYPE2) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".
Key ID warning	• DLK-56, "INFORMATION DISPLAY (COMBINATION METER) : Key ID Warning" (TYPE1) • DLK-365, "INFORMATION DISPLAY (COMBINATION METER) : Key ID Warning" (TYPE2) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".
P position warning	• DLK-57, "INFORMATION DISPLAY (COMBINATION METER) : P Position Warning (Information Display)" (TYPE1) • DLK-366, "INFORMATION DISPLAY (COMBINATION METER) : P Position Warning (Information Display)" (TYPE2) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".
Steering lock information	• DLK-59, "INFORMATION DISPLAY (COMBINATION METER) : Steering Lock Information" (TYPE1) • DLK-368, "INFORMATION DISPLAY (COMBINATION METER) : Steering Lock Information" (TYPE2) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".
Take away warning	• DLK-60, "INFORMATION DISPLAY (COMBINATION METER) : Take Away Warning (Information Display)" (TYPE1) • DLK-369, "INFORMATION DISPLAY (COMBINATION METER) : Take Away Warning (Information Display)" (TYPE2) **NOTE:** To identify vehicle type, refer to DLK-22, "Information".
Key system malfunction	DLK-653, "INFORMATION DISPLAY (COMBINATION METER) : Key System Malfunction"

Warning	Reference
Parking sensor error	• SN-17, "INFORMATION DISPLAY (COMBINATION METER) : Parking Sensor Error" (WITHOUT PARK ASSIST) • SN-128, "INFORMATION DISPLAY (COMBINATION METER) : Parking Sensor Error" (WITH PARK ASSIST)
Stop/Start system warning	EC-864, "INFORMATION DISPLAY (COMBINATION METER) : Indicator/Information"

INDICATOR

Indicator	Reference
Chassis control display	BRC-67, "INFORMATION DISPLAY (COMBINATION METER) : Chassis Control Display" (BRAKE CONTROL SYSTEM), and DAS-187, "INFORMATION DISPLAY (COMBINATION METER) : Chassis Control Display" (DRIVER ASSISTANCE SYSTEM)
ASCD indicator	• EC-474, "INFORMATION DISPLAY (COMBINATION METER) : ASCD Indicator" (QR25DE) • EC-864, "INFORMATION DISPLAY (COMBINATION METER) : Indicator/Information" (R9M)
4WD torque distribution indicator	• DLN-23, "INFORMATION DISPLAY (COMBINATION METER) : 4WD Torque Distribution Indicator" (TY21C) • DLN-127, "INFORMATION DISPLAY (COMBINATION METER) : 4WD Torque Distribution Indicator" (TY30A)
ECO mode indicator	DMS-8, "INFORMATION DISPLAY (COMBINATION METER) : ECO Mode Indicator"
Shift position indicator	• TM-268, "INFORMATION DISPLAY (COMBINATION METER) : Shift Position Indicator" (RE0F10D) • TM-505, "INFORMATION DISPLAY (COMBINATION METER) : Shift Position Indicator" (RE0F10G)
Gear shift indicator	EC-864, "INFORMATION DISPLAY (COMBINATION METER) : Indicator/Information"
Low tire pressure location Indicator	WT-12, "INFORMATION DISPLAY (COMBINATION METER) : Low Tire Pressure Location Indicator"
Tire pressure display	WT-13, "INFORMATION DISPLAY (COMBINATION METER) : Tire Pressure Display"
LDW system display	DAS-30, "LDW : Menu Displayed by Pressing Each Switch"
BSW system display	DAS-33, "BSW : Menu Displayed by Pressing Each Switch"
DAA system display	DAS-38, "DAA : Menu Displayed by Pressing Each Switch"
TSR system display	DAS-36, "TSR : Menu Displayed by Pressing Each Switch"
Audio indicator	• AV-17, "AUDIO SYSTEM : System Description" (BASE AUDIO) • AV-78, "System Description" (WITH NAVIGATION)
Navigation indicator	AV-78, "System Description"
Hands-free phone indicator	• AV-17, "AUDIO SYSTEM : System Description" (BASE AUDIO) • AV-78, "System Description" (WITH NAVIGATION)
Sonar indicator	• SN-13, "SONAR SYSTEM : System Description" (WITHOUT PARK ASSIST) • SN-124, "SONAR SYSTEM : System Description" (WITH PARK ASSIST)
Alert	MWI-64, "WARNING/INDICATOR (ON INFORMATION DISPLAY) : Alert"
Maintenance	MWI-65, "WARNING/INDICATOR (ON INFORMATION DISPLAY) : Maintenance"

Indicator	Reference
Stop/Start switch status	EC-864, "INFORMATION DISPLAY (COMBINATION METER) : Indicator/Information"
Stop/Start system indicator	EC-864, "INFORMATION DISPLAY (COMBINATION METER) : Indicator/Information"

ODO/TRIP METER

The combination meter calculates mileage, based on the following signals and displays the mileage on the information display.

Signal name	Signal path
Ignition signal	—
Vehicle speed signal	ABS actuator and electric unit (control unit) —CAN→ Combination meter

WARNING CONFIRMATION

- The combination meter can cause an interrupt on the information display to indicate a warning, based on signals received from each unit and switch.
- The indicated warning can be checked with “WARNING” during the satisfaction of an interrupt indication condition for each warning.

SETTINGS

The condition of following items can be set.

- Driver assistance
- Clock
- Meter settings
- Vehicle settings
- Maintenance
- Alarm
- Tire Pressures
- Unit
- Language
- Factory Reset

TRIP COMPUTER

Current Fuel Consumption

The combination meter calculates current fuel consumption based on the following signals, and the calculated value is displayed on the information display.
Current fuel consumption can be compared with average fuel consumption.

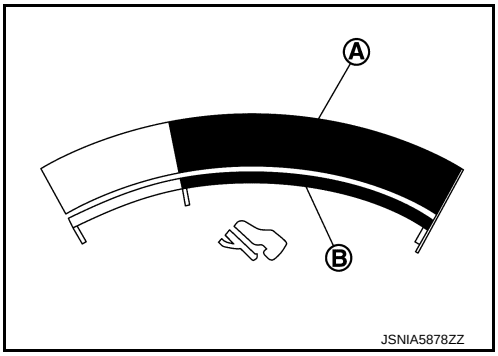
Signal name	Signal source
Ignition signal	—
Fuel consumption monitor signal	ECM —CAN→ Combination meter
Vehicle speed signal	ABS actuator and electric unit (control unit) —CAN→ Combination meter
Steering switch signal	Steering switch ⟶ Combination meter

NOTE:

- Current fuel consumption on the information display is updated approximately every 0.1 seconds.
- Current fuel consumption on the information display shows 0 l/100km (0 mpg) when vehicle speed is 0 km/h (0 MPH).

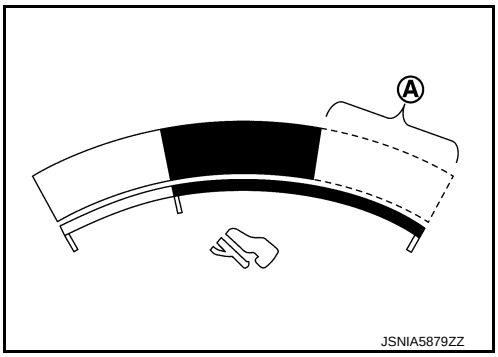
ECO Pedal Guide

The ECO pedal guide consists of Gauge 1 Ⓐ (displays accelerator pedal angle) and Gauge 2 Ⓑ (displays the guideline of ECO driving).



GAUGE1

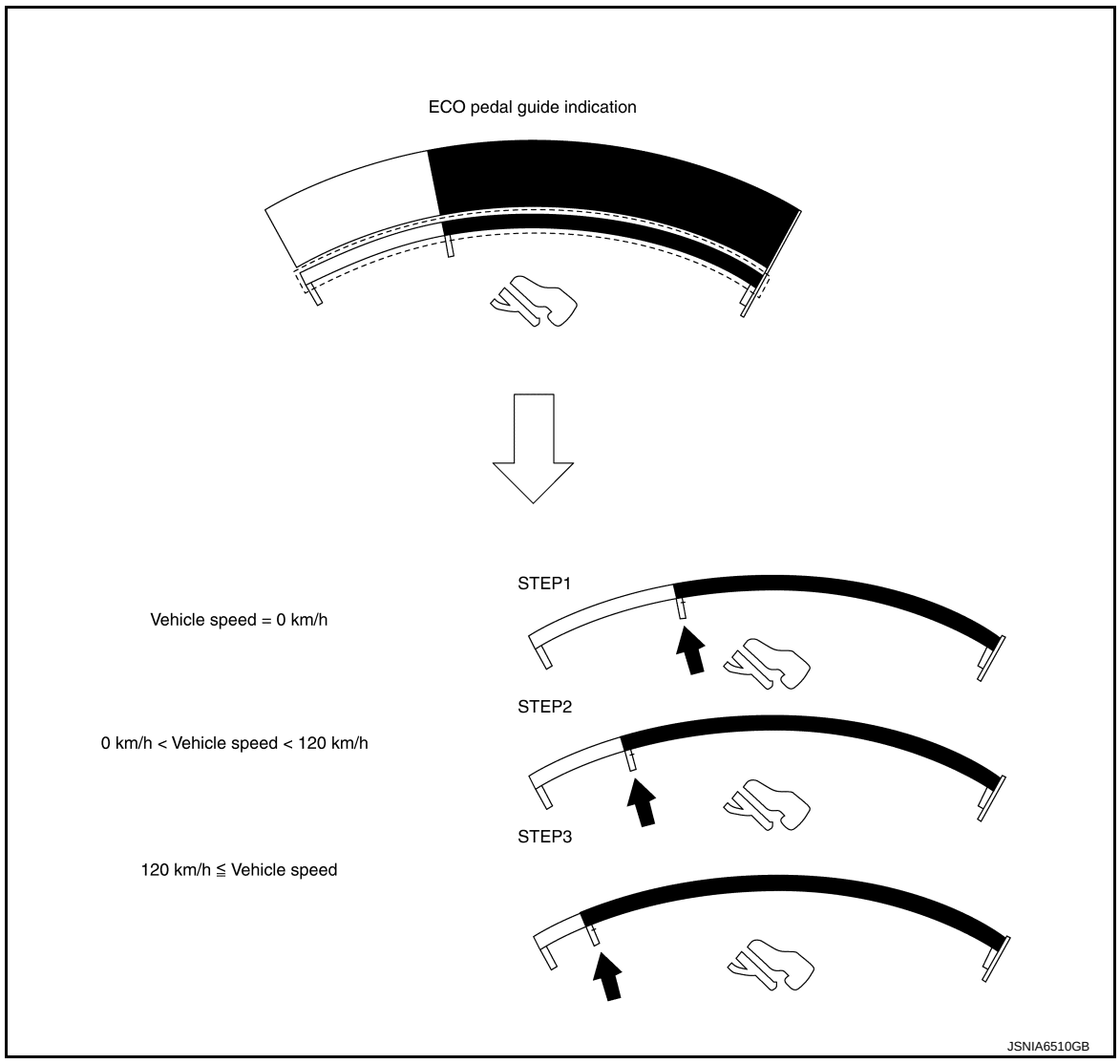
- ECM corrects the accelerator pedal angle to the maximum angle for ECO driving, according to vehicle speeds.
  The maximum accelerator pedal angle increases/decreases as the vehicle speed increases/decrease.
  The maximum accelerator angle corrected by ECM is the limitation of ECO driving. The ECO driving is possible only when the number of unlit segments Ⓐ of the indicator bar is equal to or less than that of Gauge 2.
  The less the number of unlit segments Ⓐ of the indicator bar, the more the degree of ECO driving is. And the more the number of unlit segments, the less the degree of ECO driving is.



ECM judges the number of lighting segments according to the accelerator pedal angle and vehicle speed and transmits a CAN communication signal to the combination meter via CAN communication.
The combination meter indicates the number of segments necessary for the ECO pedal guide, according to an ECO pedal guide signal.
NOTE:
The combination meter corrects the number of lighting segments according to a vehicle speed signal.

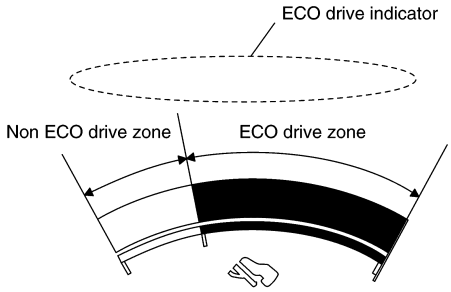
GAUGE2

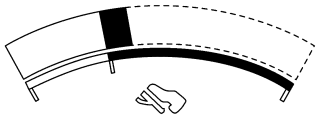
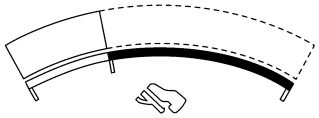
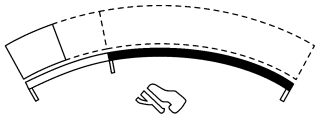
- The combination meter turns ON/OFF the Gauge 2 (guide line for ECO driving) according to a vehicle speed signal.



ECO DRIVE INDICATOR

- The combination meter displays level of ECO drive in conjunction with ECO pedal guide.



Drive zone	ECO pedal guide	ECO drive indicator
ECO drive zone		Turn ON in green
Boundary between ECO drive zone and non ECO drive zone		Shrink and blink in green
Non ECO drive zone		No display

JSNIA5881GB

Signal name	Signal path
Ignition signal	—
ECO pedal guide signal	ECM —CAN→ Combination meter

Average Fuel Consumption

The combination meter calculates average fuel consumption based on the following signals, and the calculated value is displayed on the information display.

Signal name	Signal source
Ignition signal	—
Fuel consumption monitor signal	ECM —CAN→ Combination meter
Vehicle speed signal	ABS actuator and electric unit (control unit) —CAN→ Combination meter
Steering switch signal	Steering switch → Combination meter

NOTE:

- Average fuel consumption on the information display is updated approximately every 30 seconds.

- Soon after a reset or when the ignition switch is turned ON right after battery removal and installation, "–––" is displayed until after a travel of 30 seconds and approximately 500 m (0.31 mile).

Average Vehicle Speed

The combination meter calculates average vehicle speed based on the following signals, and the calculated value is displayed on the information display.

Signal name	Signal source
Ignition signal	—
Vehicle speed signal	ABS actuator and electric unit (control unit) CAN Combination meter
Steering switch signal	Steering switch Combination meter

NOTE:
- Average fuel consumption on the information display is updated approximately every 30 seconds.
- Soon after a reset or when the ignition switch is turned ON right after battery removal and installation, "–––" is displayed until after a travel of 30 seconds and approximately 500 m (0.31 mile).

Distance to Empty

The combination meter calculates distance to empty based on the following signals, and the calculated value is displayed on the information display.

Signal name	Signal source
Ignition signal	—
Fuel level sensor signal	Fuel level sensor unit Combination meter
Fuel consumption monitor signal	ECM CAN Combination meter
Shift position signal	TCM CAN Combination meter
Vehicle speed signal	ABS actuator and electric unit (control unit) CAN Combination meter

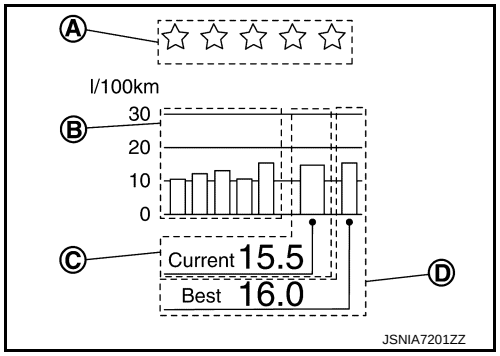
NOTE:
- Distance to empty on the information display is updated approximately every 30 seconds.
- When the ignition switch is turned ON right after battery removal and installation, "–––" is displayed until after a travel of 30 seconds.
- The indicated values may not match each other when refueling with the ignition switch ON.

Travel Time

The combination meter measures and displays travel time (ignition switch ON time).

ECO Drive Report

- The ECO drive report is a function which displays Ⓐ ECO evaluation, Ⓑ the last five data of average fuel consumption, Ⓒ present fuel economy (present value), and Ⓓ the best fuel economy (highest value) on the information display by calculating and recording average fuel consumption.



- The combination meter calculates the average fuel consumption according to the signal below, detects the status of ECO mode , and displays "ECO drive report" on the information display when the ignition switch is turned ON→OFF.

NOTE:

ECO evaluation is displayed only when travelling ten minutes or more in ECO mode.

Signal name	Signal path
Ignition signal	—
Fuel consumption monitor signal	ECM → CAN → Combination meter
Vehicle speed signal	ABS actuator and electric unit (control unit) → CAN → Combination meter
ECO mode indicator signal	ECM → CAN → Combination meter

Stop/Start System Information

- Stop/Start system information displays the time elapsed and the amount of CO_2 reduced during idling stop.
- Two types of mode can be displayed in stop/start system information as follows:
  - Accumulated idling stop time and CO_2 reduction amount which are unable to be reset.
  - Accumulated idling stop time and amount of CO_2 reduced during the time until the user resets them arbitrarily.
- The combination meter calculates the time elapsed and amount of CO_2 reduced during idling stop according to the signals listed below and displays “Idling Stop Information” on the information display.

Signal name	Signal path
Ignition signal	—
Stop/start status signal	ECM → CAN → Combination meter
Stop/start permit signal	ECM → CAN → Combination meter
Engine speed signal	TCM → CAN → Combination meter

AMBIENT TEMPERATURE

The combination meter calculates ambient temperature based on the following signals, and the calculated value is displayed on the information display.

Signal name	Signal path
Ignition signal	—
Ambient sensor signal	Ambient sensor → Combination meter
Vehicle speed signal	ABS actuator and electric unit (control unit) → CAN → Combination meter

NOTE:

- The indicated temperature is corrected based on an ignition signal, ambient temperature detected by the ambient sensor, and vehicle speed signal. The indicated temperature is not raised under vehicle speed less than 20 km/h (12 MPH).
- The ambient sensor input value that is displayed on “Data Monitor” of CONSULT is the value before the correction. It may not match the indicated temperature on the information display.
- Depending on engine heat or heat on the road surfaces, an ambient temperature may be indicated higher than actual one.

METER ILLUMINATION LEVEL

The combination meter displays the illuminance level of the back light on the information display by turning the illumination control switch.

Refer to MWI-68, "METER ILLUMINATION CONTROL : System Description".

CLOCK

The combination meter displays “Clock” on the information display according to the following signals.

Signal name	Signal path	
Ignition signal	—	
Clock signal	Without navigation	Audio unit →(COMM) Combination meter
	With navigation	NAVI control unit →(COMM) Combination meter

NOTE:
- For models without navigation system, the combination meter calculates time and displays it on the information display.
- The settings screen of the information display allows the selection of time indication between 12-hour and 24-hour formats.

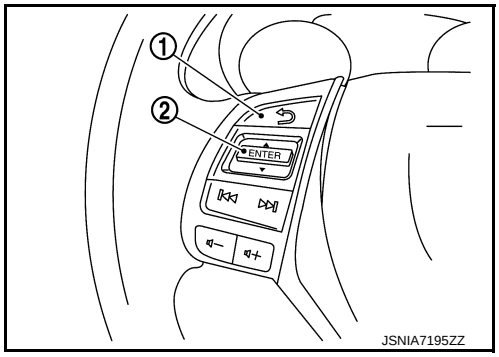
OPERATION

Switch Name and Function

INFOID:0000000010714995

STEERING SWITCH

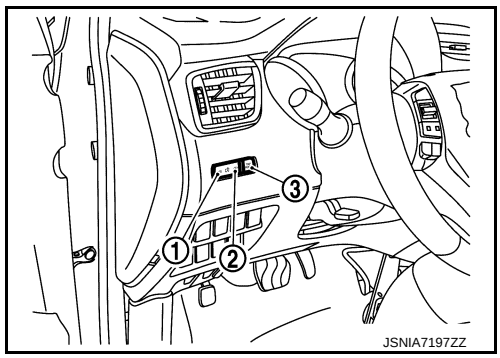
- The steering switch is located on the steering wheel.
- Transmits the steering switch signal to the combination meter.



No.	Switch name	Operation	Description
①	Back switch	Press	• Switches the screen shown on the information display to the previous screen. • Switches the screen shown on the information display to the previous screen.
②	ENTER switch	Press	Confirms each item displayed on the information display.
		Press and hold	• When pressed for 1 second or more with an average vehicle speed or fuel economy (average fuel consumption, ECO pedal guide) displayed on the information display, the displayed value (average vehicle speed or average fuel consumption) can be reset. • When pressed for 3 second or more with an average vehicle speed or fuel economy (average fuel consumption, ECO pedal guide) displayed on the information display, a new screen appears and average vehicle speed and average fuel consumption can be simultaneously reset.
		Push up	• Switches the screen shown on the information display to the previous screen. • Moves up the item selected on the information display. • Increases the set value displayed on the settings screen of the information display.
		Push down	• Switches the screen shown on the information display to the next screen. • Moves down the item selected on the information display. • Decreases the set value displayed on the settings screen of the information display.

METER CONTROL SWITCH

- The illumination control switch is located on the instrument finisher A.
- 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	Illumination control switch (+)		
③	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.

DIAGNOSIS SYSTEM (COMBINATION METER)

On Board Diagnosis Function

INFOID:0000000010714996

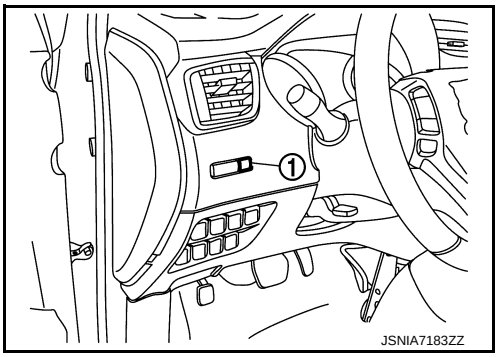
COMBINATION METER SELF-DIAGNOSIS MODE

The following meter functions can be checked during Combination Meter Self-Diagnosis Mode:
- Pointer sweep of speedometer, tachometer and gauges.
- Illumination of LCD color patterns for meter displays.
- Illumination of all lamps/LEDs that are controlled by the combination meter.
- Error code

STARTING COMBINATION METER SELF-DIAGNOSIS MODE

How to Initiate Self-Diagnosis Mode

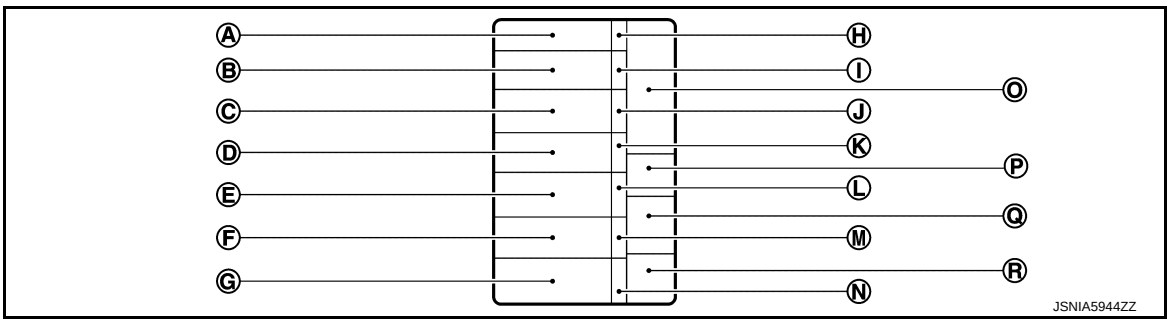
1. Turn ignition switch OFF.
2. While pressing the trip reset switch ①, turn ignition switch ON.
3. Keep the trip reset switch for 1 seconds or more.
4. Press the trip reset switch at least 3 times. (Within 7 seconds after the ignition switch is turned ON.)
5. “Work instruction code” is indicated in the top portion of information display and self-diagnosis is started.
   NOTE:
   When on-board diagnosis does not start, check the following items and replace combination meter if the check results are normal.
   - Combination meter power supply and ground circuits. Refer to MWI-129, "COMBINATION METER : Diagnosis Procedure".
   - Meter control switch signal circuits. Refer to MWI-134, "Component Function Check".



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 cancelled.

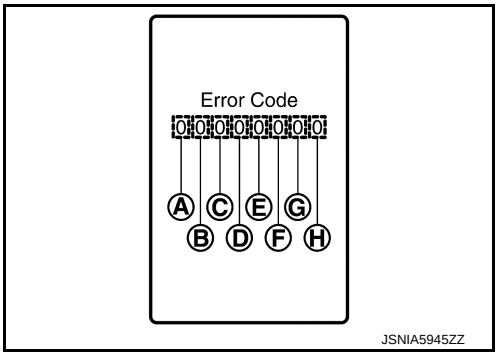
Test order	Test item	Description
1	Work instruction code	This item is displayed, but not used.
2	Software code	
3	EEPROM code	
4	Hardware code	
5	P.C.B code	
6	Circuit check	The pointer of the following items moves from 0 to MAX twice. • Speedometer • Tachometer • Engine coolant temperature gauge • Fuel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

*1: Color Check



Ⓐ Blue	Ⓑ Red	Ⓒ Pink
Ⓓ Green	Ⓔ Light blue	Ⓕ Yellow
Ⓖ White	Ⓗ White	Ⓘ Black
Ⓙ Light blue	Ⓚ Black	Ⓛ Pink
Ⓜ Black	Ⓝ Blue	Ⓞ Black
Ⓟ Dark blue	Ⓠ White	Ⓡ Blue

*2: Error Code



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 BRC-84, "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 TCM.	Perform “Self Diagnostic Result” of “TCM.” Refer to TM-288, "DTC Index" (RE0F10D), or TM-529, "DTC Index" (RE0F10G)
Ⓒ	Fuel gauge	0	Normal	—
		1	Fuel gauge circuit is short.	Refer to MWI-136, "EXCEPT FOR R9M : Component Function Check".
		2	Fuel gauge circuit is open.	

Item		Code	Description	Action to take/Reference
Ⓓ	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 EC-109, "DTC Index" (MR20DD), EC-517, "DTC Index" (QR25DE), or EC-908, "DTC Index" (R9M)
Ⓔ	Meter control switch	0	Normal	—
		1	When judging that the display back switch signal circuit is short-circuited for 5 minutes or more.	Refer to MWI-134, "Component Function Check".
		2	When judging that the display next switch signal circuit is short-circuited for 5 minutes or more.	
		3	When judging that the display next switch, and display back switch signal circuit are short-circuited 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 the trip reset switch for 1 seconds 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

INFOID:0000000010714997

APPLICATION ITEMS

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

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

SELF DIAG RESULT

Refer to MWI-105, "DTC Index".

Freeze frame data (FFD)

When DTC is detected, the following vehicle condition is recorded and it is displayed on the CONSULT screen.

Item name	Display item
ODO/TRIP METER	Records an odometer value when DTC is detected. • Current odometer value is shown when the displayed DTC means a present malfunction. • Odometer value of the time of returning to normal is shown when the displayed DTC means a past malfunction.

WORK SUPPORT

Work support item	Description
Turn signal buzzer diagnosis	A possible malfunction can be narrowed down by following displayed instructions.
Outside air temperature diagnosis	
Fuel meter diagnosis (Analog pointer)*1	
Warning/Indicator lamp diagnosis	

*1: Although a segment type fuel gauge can display work items, it is not used.

DATA MONITOR

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

Display Item List

X: Applicable

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

Display item [Unit]	MAIN SIGNALS	Description
FR FOG IND [On/Off]		Status of front fog lamp indicator lamp detected from front fog light request signal is received from BCM via CAN communication.
RR FOG IND [On/Off]		Status of rear fog lamp indicator lamp detected from rear fog lamp status signal is received from BCM via CAN communication.
LIGHT IND [On/Off]		Status of position lamp indicator lamp detected from position light request signal is received from BCM via CAN communication.
OIL W/L [On/Off]		Status of engine oil pressure warning detected from engine oil pressure warning lamp signal is received from ECM via CAN communication.
MIL [On/Off]		Status of malfunction indicator lamp (yellow) detected from malfunctioning indicator signal is received from ECM via CAN communication.
GLOW IND [On/Off]		Status of glow indicator lamp detected from glow indicator lamp signal is received from ECM via CAN communication.
C-ENG2 W/L [On/Off]		Status of malfunction indicator lamp (red) detected from malfunctioning indicator signal is received from ECM via CAN communication.
BA W/L [Off]		**NOTE:** This item is displayed, but cannot be monitored.
4WD W/L [On/Off]		Status of 4WD warning detected from 4WD warning signal is received from 4WD control unit via CAN communication.
4WD LOCK IND [On/Off]		Status of LOCK indicator lamp detected from LOCK indicator lamp signal is received from 4WD control unit via CAN communication.
FUEL W/L [On/Off]		Low fuel warning lamp status detected by the identified fuel level.
WASHER W/L [Off]		**NOTE:** This item is displayed, but cannot be monitored.
KEY G/Y W/L [On/Off]		Status of Intelligent key system malfunction detected from meter display signal is received from BCM via CAN communication.
EPS W/L [On/Off]		Status of electric power steering warning lamp detected from electric power steering warning lamp signal is received from EPS control unit via CAN communication.
DDS W/L [On/Off]		Status of hill descent control indicator lamp detected from hill descent control indicator lamp signal is received from chassis control module via CAN communication.
CHAGE W/L [On/Off]		Status of charge warning lamp detected from charge warning lamp signal is received from ECM via CAN communication.
4WD AUTO IND [On/Off]		Status of 4WD indicator lamp detected from 4WD indicator lamp signal is received from 4WD control unit via CAN communication.
TRAILER IND [Off]		**NOTE:** This item is displayed, but cannot be monitored.
FILTER W/L [On/Off]		Status of water-in-fuel-filter warning lamp detected from water-in-fuel-filter warning lamp signal is received from ECM via CAN communication.
LCD [B&P, C&P, ID NG, ROTAT, SFT P, NO KY,KY>PSW, IGN AUTO OFF, 3 min before IGN OFF, Off]		Status of engine start operation indicator lamp, shift P warning lamp and KEY warning lamp, detected from engine start operation indicator lamp signal, shift P warning lamp signal and key warning lamp signal are received from BCM via CAN communication.
SHIFT IND [P, R, N, D, M1, M2, M3, M4, M5, M6, M7]		Status of shift position indicator judged from shift position signal received from TCM with CAN communication line.
O/D OFF SW [Off]		**NOTE:** This item is displayed, but cannot be monitored.
M RANGE SW [On/Off]		Status of manual mode switch.
NM RANGE SW [On/Off]		Status of non-manual mode switch.

Display item [Unit]	MAIN SIGNALS	Description
AT SFT UP SW [On/Off]		Status of manual mode shift up switch.
AT SFT DWN SW [On/Off]		Status of manual mode shift down switch.
ST SFT UP SW [Off]		**NOTE:** This item is displayed, but cannot be monitored.
ST SFT DWN SW [Off]		**NOTE:** This item is displayed, but cannot be monitored.
COMP F/B SIG [On/Off]		A/C compressor activation condition that ECM judges according to the engine coolant temperature and the acceleration degree.
PKB SW [Off]		**NOTE:** This item is displayed, but cannot be monitored.
BUCKLE SW [On/Off]		Status of front seat belt buckle switch (driver side).
BRAKE OIL SW [On/Off]		Status of brake fluid level switch.
ECO MODE SW [On/Off]		Status of ECO mode switch.
CHG CONCT DET [Off]		**NOTE:** This item is displayed, but cannot be monitored.
DISTANCE [km] or [Mi]		Value of distance to empty calculated by combination meter.
OUTSIDE TEMP [°C or °F]		Ambient temperature value converted from ambient sensor signal received from ambient sensor. **NOTE:** This may not match with the temperature value indicated on the information display. (Because the information display value is a corrected value from the ambient sensor input value.)
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.
ENG OIL TMP [Off]		**NOTE:** This item is displayed, but cannot be monitored.
TRQ DSTRBT [%]		**NOTE:** This item is displayed, but cannot be monitored.
AMT P SFT [Off]		**NOTE:** This item is displayed, but cannot be monitored.
AMT SYS CHCK [Off]		**NOTE:** This item is displayed, but cannot be monitored.
AMT SFT POSI [Off]		**NOTE:** This item is displayed, but cannot be monitored.
AMT OIL TMP H [Off]		**NOTE:** This item is displayed, but cannot be monitored.
AMT CHCK [Off]		**NOTE:** This item is displayed, but cannot be monitored.
AMT CL TMP H [Off]		**NOTE:** This item is displayed, but cannot be monitored.
AMT MALF [Off]		**NOTE:** This item is displayed, but cannot be monitored.
TPMS FLT TIRE [On/Off]		Status of flat tire detected from tire pressure data signal is received from BCM via CAN communication.
TPMS PRESS L [On/Off]		Status of tire pressure low from tire pressure data signal is received from BCM via CAN communication

Display item [Unit]	MAIN SIGNALS	Description
ASCD SPD BLNK [On/Off]		Blinking status of ASCD or speed limiter set vehicle speed that is judged by the ASCD status signal received from ECM via CAN communication.
ASCD STATUS [Off, ASCD, CRUISE, SL ON, SL SET]		Display status of ASCD and speed limiter status display judged by the ASCD status signal received from ECM via CAN communication.
ASCD REQ SPD [km/h/Off]		ASCD set vehicle speed value judged by the ASCD status signal received from ECM via CAN communication.
E/O CHG TMNG RST [On/Off]		Resetting of a remaining distance to the engine oil change time.
ECO DRIVE NAVI [LEVEL 0 - 30]		Status of ECO pedal guide detected from ECO pedal guide signal received from ECM via CAN communication.
BATTRY CIRCUIT STATUS [NORMAL/OPEN]		Status of fuse for shipping mode from shipping mode status signal received from BCM via CAN communication.
STRG SW INPUT [SW1-SW10, NO INPUT]		Status of steering switch.
ITS SONAR SET OUTPUT [NO SW ST, LDW OFF, LDW ON, BSW OFF, BSW ON, P MV OFF, P MV ON, SONAR OFF, SONAR ON, P SEN OFF, P SEN ON, P SEN FRONT, P BUZ HIGH, P BUZ MED, P BUZ LOW, P RNG FAR, P RNG MED, P RNG NEAR]		Status of Driving Aids and Parking Aids set on the information display of the combination meter.
SONAR DET STATUS [On/Off]		Activation status of sonar system received from sonar control unit via CAN communication.
SONAR WARN [Off/DEACT/ERROR]		Status of parking sensor error detected from parking sensor error signal is received from sonar control unit via CAN communication.
SONAR DET DSP RC [LEVEL1/LEVEL2/LEVEL3/LEVEL4]		Status of center sensor rear detection obstacle from sonar control unit via CAN communication.
SONAR DET DSP AREA RC [On/Off]		Activation status of center sensor rear judged from a sonar indicator signal received from the sonar control unit via CAN communication.
SONAR DET DSP RL [LEVEL1/LEVEL2/LEVEL3/LEVEL4]		Status of corner sensor rear LH detection obstacle from sonar control unit via CAN communication.
SONAR DET DSP AREA RL [On/Off]		Activation status of corner sensor rear LH judged from a sonar indicator signal received from the sonar control unit via CAN communication.
SONAR DET DSP RR [LEVEL1/LEVEL2/LEVEL3/LEVEL4]		Status of corner sensor rear RH detection obstacle from sonar control unit via CAN communication.
SONAR DET DSP AREA RR [On/Off]		Activation status of corner sensor rear RH judged from a sonar indicator signal received from the sonar control unit via CAN communication.
SONAR DET DSP FC [LEVEL1/LEVEL2/LEVEL3/LEVEL4]		Status of center sensor front detection obstacle from sonar control unit via CAN communication.
SONAR DET DSP AREA FC [On/Off]		Activation status of center sensor front judged from a sonar indicator signal received from the sonar control unit via CAN communication.
SONAR DET DSP FL [LEVEL1/LEVEL2/LEVEL3/LEVEL4]		Status of corner sensor front LH detection obstacle from sonar control unit via CAN communication.
SONAR DET DSP AREA FL [On/Off]		Activation status of corner sensor front LH judged from a sonar indicator signal received from the sonar control unit via CAN communication.
SONAR DET DSP FR [LEVEL1/LEVEL2/LEVEL3/LEVEL4]		Status of corner sensor front RH detection obstacle from sonar control unit via CAN communication.
SONAR DET DSP AREA FR [On/Off]		Activation status of corner sensor front RH judged from a sonar indicator signal received from the sonar control unit via CAN communication.
SONAR DIST DSP [Off/stop/30cm/40cm/50cm/60cm]		Sonar of information display of sonar sensor detection distance from sonar control unit via CAN communication.

Display item [Unit]	MAIN SIGNALS	Description
FCW IND [Off]		**NOTE:** This item is displayed, but cannot be monitored.
LDW IND [On/Off]		Status of LDW system display detected from meter display signal is received from front camera unit via CAN communication.
TIRE PRESS FR [kPa, kg/cm2 or Psi]		The data of front RH tire pressure from BCM via CAN communication.
TIRE PRESS FL [kPa, kg/cm2 or Psi]		The data of front LH tire pressure from BCM via CAN communication.
TIRE PRESS RR [kPa, kg/cm2 or Psi]		The data of rear RH tire pressure from BCM via CAN communication.
TIRE PRESS RL [kPa, kg/cm2 or Psi]		The data of rear LH tire pressure from BCM via CAN communication.
BSW IND [On/Off]		Status of BSW system display detected from meter display signal is received from around view monitor control unit via CAN communication.
DIPPED BEAM IND [On/Off]		Status of dipped beam indicator lamp judged from low beam request signal received from BCM via CAN communication.
HI-BEAM ASST IND [Off]		**NOTE:** This item is displayed, but cannot be monitored.
CHASSIS CONTROL WARN [On/Off]		Status of chassis control display (warning) from chassis control malfunction signal is received from chassis control module via CAN communication.
LCD [Off]		**NOTE:** This item is displayed, but cannot be monitored.

WARNING HISTORY

- Stores histories when warning/indicator lamp is turned on.
- “WARNING HISTORY” indicates the “TIME” when the warning/ indicator lamp is turned on.
- The “TIME” above is:

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

NOTE:

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

Display Item

Display item	Description
ABS W/L	Lighting history of ABS warning lamp.
VDC/TCS IND	Lighting history of VDC OFF indicator lamp.
SLIP IND	Lighting history of VDC warning lamp.
BRAKE W/L	Lighting history of brake warning lamp.
DOOR W/L	Lighting history of door warning.
OIL W/L	Lighting history of engine oil pressure warning.
C-ENG W/L	Lighting history of malfunction indicator lamp (MIL) (yellow).
C-ENG2 W/L	Lighting history of malfunction indicator lamp (MIL) (red).
4WD W/L	Lighting history of 4WD warning.
FUEL W/L	Lighting history of low fuel warning.
AIR PRES W/L	Lighting history of low tire pressure warning lamp.
KEY G/Y W/L	Lighting history of Intelligent key system malfunction.
EPS W/L	Lighting history of electric power steering warning lamp.

Display item	Description
DDS W/L	Lighting history of hill descent control indicator lamp.
CHAGE W/L	Lighting history of charge warning.
FILTER W/L	Lighting history of water-in-fuel-filter warning lamp.

NOTE:

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

ECU DIAGNOSIS INFORMATION

COMBINATION METER

Reference Value

INFOID:0000000010714998

VALUES ON THE DIAGNOSIS TOOL

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

Monitor Item	Condition		Value/Status
SPEED METER [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
		Brake warning lamp OFF	Off
DOOR W/L	Ignition switch ON	During door open warning indication	On
		Except during door open warning indication	Off
TRUNK/GLAS-H	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
HI-BEAM IND	Ignition switch ON	High beam indicator lamp ON	On
		High beam indicator lamp OFF	Off
TURN IND	Ignition switch ON	Turn signal indicator lamp ON	On
		Turn signal indicator lamp OFF	Off
FR FOG IND	Ignition switch ON	Front fog lamp indicator lamp ON	On
		Front fog lamp indicator lamp OFF	Off
RR FOG IND	Ignition switch ON	Rear fog lamp indicator lamp ON	On
		Rear fog lamp indicator lamp OFF	Off
LIGHT IND	Ignition switch ON	Position lamp indicator lamp ON	On
		Position lamp indicator lamp OFF	Off

Monitor Item	Condition		Value/Status
OIL W/L	Ignition switch ON	During engine oil pressure warning indication	On
		Except during engine oil pressure warning indication	Off
MIL	Ignition switch ON	Malfunction indicator lamp (yellow) ON	On
		Malfunction indicator lamp (yellow) OFF	Off
GLOW IND	Ignition switch ON	Glow indicator lamp ON	On
		Glow indicator lamp OFF	Off
C-ENG2 W/L	Ignition switch ON	Malfunction indicator lamp (red) ON	On
		Malfunction indicator lamp (red) OFF	Off
BA W/L	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
4WD W/L	Ignition switch ON	During 4WD warning indication	On
		Except during 4WD warning indication	Off
4WD LOCK IND	Ignition switch ON	4WD LOCK indicator lamp ON	On
		4WD LOCK indicator lamp OFF	Off
FUEL W/L	Ignition switch ON	During low fuel warning indication	On
		Except during low fuel warning indication	Off
WASHER W/L	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
KEY G/Y W/L	Ignition switch ON	During Intelligent Key system malfunction indication	On
		Except during Intelligent Key system malfunction indication	Off
EPS W/L	Ignition switch ON	Electric power steering warning lamp ON	On
		Electric power steering warning lamp OFF	Off
DDS W/L	Ignition switch ON	hill descent control indicator lamp ON	On
		hill descent control indicator lamp OFF	Off
CHAGE W/L	Ignition switch ON	Charge warning lamp ON	On
		Charge warning lamp OFF	Off
4WD AUTO IND	Ignition switch ON	4WD indicator lamp ON	On
		4WD indicator lamp OFF	Off
TRAILER IND	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
FILTER W/L	Ignition switch ON	Water-in-fuel-filter warning lamp ON	On
		Water-in-fuel-filter warning lamp OFF	Off

Monitor Item	Condition		Value/Status
LCD	Ignition switch ON	During engine start information indication (Except M/T models)	B&P
	Ignition switch ON	During engine start information indication (M/T models)	C&P
	Ignition switch LOCK	During key ID warning indication	ID NG
	Ignition switch LOCK	During steering lock information indication	ROTAT
	Ignition switch LOCK	During P position warning indication	SFT P
	Ignition switch ON	During take away warning indication	NO KY
	Ignition switch LOCK	During key ID verification information indication	KY>PSW
	Ignition switch ON	During ignition battery saver system information (after operation) indication	IGN AUTO OFF
	Ignition switch ON	During ignition battery saver system information (three minutes before operation) indication	3 min before IGN OFF
	Ignition switch ON	Other than the above	Off
SHIFT IND	Ignition switch ON	Position of shift selector	[P, R, N, D, M1, M2, M3, M4, M5, M6, M7]
O/D OFF SW	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
M RANGE SW	Ignition switch ON	Shift selector in manual mode position	On
		Other than the above	Off
NM RANGE SW	Ignition switch ON	Shift selector in manual mode position	Off
		Other than the above	On
AT SFT UP SW	Ignition switch ON	Shift selector operated in the up position	On
		Other than the above	Off
AT SFT DWN SW	Ignition switch ON	Shift selector operated in the down position	On
		Other than the above	Off
ST SFT UP SW	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
ST SFT DWN SW	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
COMP F/B SIG	Ignition switch ON	A/C compressor activation condition	On
		Other than the above	Off
PKB SW	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	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
ECO MODE SW	Ignition switch ON	ECO mode switch ON	On
		ECO mode switch OFF	Off

Monitor Item	Condition		Value/Status
CHG CONCT DET	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
DISTANCE [mile] 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
BUZZER	Ignition switch ON	Buzzer ON	On
		Buzzer OFF	Off
ENG OIL TMP	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
TRQ DSTRBT	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
AMT P SFT	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
AMT SYS CHCK	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
AMT SFT POSI	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
AMT OIL TMP H	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
AMT CHCK	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
AMT CL TMP H	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
AMT MALF	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
TPMS FLT TIRE	Ignition switch ON	Flat tire	On
		Other than above	Off
TPMS PRESS L	Ignition switch ON	Tire pressure is low	On
		Tire pressure is normal	Off
ASCD SPD BLNK	Ignition switch ON	Set vehicle speed indicator blinking	On
		Set vehicle speed indicator not blinking	Off
ASCD STATUS	Ignition switch ON	ASCD and speed limiter system OFF	Off
		ASCD system ON	ASCD
		ASCD set vehicle speed	CRUISE
		Speed limiter system ON	SL ON
		Speed limiter set vehicle speed	SL SET
ASCD REQ SPD	Ignition switch ON	While driving	Same value as ASCD or speed limiter set vehicle speed

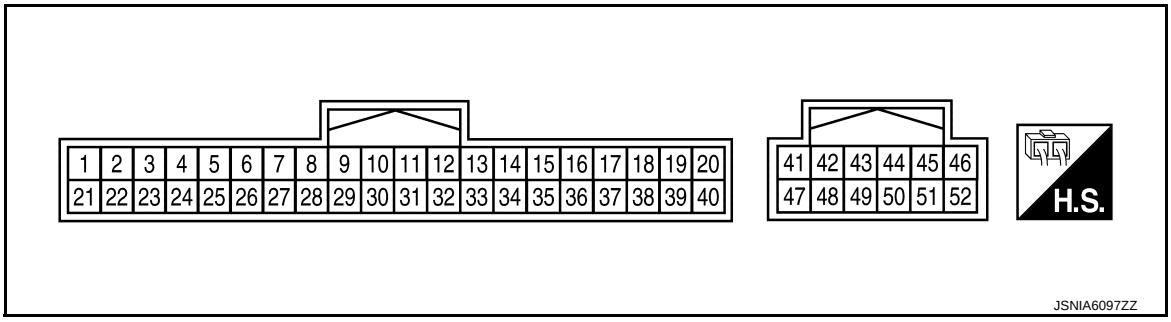
Monitor Item	Condition		Value/Status
E/O CHG TMNG RST	Ignition switch ON	Resetting of a remaining distance to the engine oil change time.	On
		Other than above	Off
ECO DRIVE NAVI	Ignition switch ON	—	ECO pedal guide status LEVEL0 - LEVEL30
BATTERY CIRCUIT STATUS	—	Shipping mode ON	On
		Other than shipping mode	Off
STRG SW INPUT	Ignition switch ON	BACK switch is pressed	SW1
		MENU UP switch is pressed	SW2
		MENU DOWN switch is pressed	SW3
		TEL switch is pressed	SW4
		ENTER switch is pressed	SW5
		VOL DOWN switch is pressed	SW6
		VOL UP switch is pressed	SW7
		TEL END switch is pressed	SW8
		SEEK UP switch is pressed	SW9
		SEEK DOWN switch is pressed	SW10
		Other than above	NOT INPUT

Monitor Item	Condition		Value/Status
ITS SONAR SET OUTPUT	Ignition switch ON	LDW status in combination meter selection ON	LDW On
		LDW status in combination meter selection OFF	LDW Off
		BSW status in combination meter selection ON	BSW On
		BSW status in combination meter selection OFF	BSW Off
		MOD status in combination meter selection ON	P MV ON
		MOD status in combination meter selection OFF	P MV OFF
		Display status in combination meter selection ON	SONAR ON
		Display status in combination meter selection OFF	SONAR OFF
		Front sensor status in combination meter selection ON	P SEN ON
		Rear sensor status in combination meter selection ON	P SEN FRONT
		Volume status in combination meter selection High	P BUZ HIGH
		Volume status in combination meter selection Med.	P BUZ MED
		Volume status in combination meter selection Low	P BUZ LOW
		Range status in combination meter selection Far	P RNG FAR
		Range status in combination meter selection Mid.	P RNG MED
		Range status in combination meter selection Near	P RNG NEAR
		Other than above	NO SW ST
SONAR DET STATUS	Ignition switch ON	Sonar control unit detected the obstacle	On
		Sonar control unit not detected the obstacle	Off
SONAR WARN	Ignition switch ON	Sonar sensor error ON	On
		Sonar sensor error OFF	Off
SONAR DET DSP RC	Ignition switch ON	Level of distance from center sensor rear to obstacle level1	LEVEL1
		Level of distance from center sensor rear to obstacle level2	LEVEL2
		Level of distance from center sensor rear to obstacle level3	LEVEL3
		Level of distance from center sensor rear to obstacle level4	LEVEL4
SONAR DET DSP AREA RC	Ignition switch ON	Obstacle is within the warning area of center sensor rear	On
		Other than above	Off

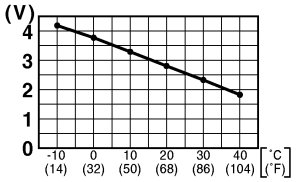
Monitor Item	Condition		Value/Status
SONAR DET DSP RL	Ignition switch ON	Level of distance from corner sensor rear LH to obstacle level1	LEVEL1
		Level of distance from corner sensor rear LH to obstacle level2	LEVEL2
		Level of distance from corner sensor rear LH to obstacle level3	LEVEL3
		Level of distance from corner sensor rear LH to obstacle level4	LEVEL4
SONAR DET DSP AREA RL	Ignition switch ON	Obstacle is within the warning area of corner sensor rear LH	On
		Other than above	Off
SONAR DET DSP RR	Ignition switch ON	Level of distance from corner sensor rear RH to obstacle level1	LEVEL1
		Level of distance from corner sensor rear RH to obstacle level2	LEVEL2
		Level of distance from corner sensor rear RH to obstacle level3	LEVEL3
		Level of distance from corner sensor rear RH to obstacle level4	LEVEL4
SONARDET DSP AREA RR	Ignition switch ON	Obstacle is within the warning area of corner sensor rear RH	On
		Other than above	Off
SONARDET DSP FC	Ignition switch ON	Level of distance from center sensor front to obstacle level1	LEVEL1
		Level of distance from center sensor front to obstacle level2	LEVEL2
		Level of distance from center sensor front to obstacle level3	LEVEL3
		Level of distance from center sensor front to obstacle level4	LEVEL4
SONARDET DSP AREA FC	Ignition switch ON	Obstacle is within the warning area of center sensor front	On
		Other than above	Off
SONAR DET DSP FL	Ignition switch ON	Level of distance from corner sensor front LH to obstacle level1	LEVEL1
		Level of distance from corner sensor front LH to obstacle level2	LEVEL2
		Level of distance from corner sensor front LH to obstacle level3	LEVEL3
		Level of distance from corner sensor front LH to obstacle level4	LEVEL4
SONAR DET DSP AREA FL	Ignition switch ON	Obstacle is within the warning area of corner sensor front LH	On
		Other than above	Off
SONAR DET DSP FR	Ignition switch ON	Level of distance from corner sensor front RH to obstacle level1	LEVEL1
		Level of distance from corner sensor front RH to obstacle level2	LEVEL2
		Level of distance from corner sensor front RH to obstacle level3	LEVEL3
		Level of distance from corner sensor front RH to obstacle level4	LEVEL4

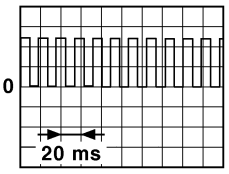
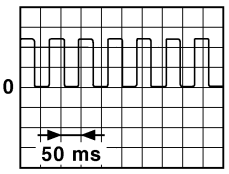
Monitor Item	Condition		Value/Status
SONAR DET DSP AREA FR	Ignition switch ON	Obstacle is within the warning area of corner sensor front RH	On
		Other than above	Off
SONAR DIST DSP	Ignition switch ON	Distance from obstacle to corner sensor is less than 30 cm	STOP
		Distance from obstacle to corner sensor is 30 cm or more and less than 40 cm	30
		Distance from obstacle to corner sensor is 40 cm or more and less than 50 cm	40
		Distance from obstacle to corner sensor is 50 cm or more and less than 60 cm	50
		Distance from obstacle to corner sensor is 60 cm or more and less than 70 cm	60
		Distance from obstacle to corner sensor is more than 70 cm	Off
FCW IND	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
LDW IND	Ignition switch ON	LDW system display ON	On
		LDW system display OFF	Off
TIRE PRESS FR	Ignition switch ON	—	0 - 63.75
TIRE PRESS FL	Ignition switch ON	—	0 - 63.75
TIRE PRESS RR	Ignition switch ON	—	0 - 63.75
TIRE PRESS RL	Ignition switch ON	—	0 - 63.75
BSW IND	Ignition switch ON	BSW system display ON	On
		BSW system display OFF	Off
DIPPED BEAM IND	Ignition switch ON	Dipped beam indicator lamp ON	On
		Dipped beam indicator lamp OFF	Off
HI-BEAM ASST IND	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off
CHASSIS CONTROL WARN	Ignition switch ON	Chassis control display (warning) indication	On
		Other than above	Off
LCD	Ignition switch ON	**NOTE:** This item is displayed, but cannot be monitored.	Off

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	—	—	0 V
7 (BG)	Ground	Security signal	Input	Ignition switch ON	Security indicator ON	0 V
					Security indicator OFF	12 V
9 (GR)	Ground	ECO mode switch signal	Input	Ignition switch ON	ECO mode switch is pressed	0 V
					Other than the above	10.0 V
15 (L)	20 (Y)	Ambient sensor signal	Input	Ignition switch ON	Changes depending to ambient temperature.	 JSNIA0014GB
17 (BG)	Ground	Meter control switch ground	—	—	—	0 V
18 (SB)	17 (BG)	Trip reset switch signal	Input	Ignition switch ON	Trip reset switch is pressed	0 V
					Other than the above	5.0 V
20 (Y)	Ground	Ambient sensor ground	—	Ignition switch ON	—	0 V
21 (L)	Ground	Steering switch ground	—	Ignition switch ON	—	0 V
22 (Y)	21 (L)	Steering switch signal A	Input	Ignition switch ON	Keep pressing BACK switch	0 V
					Keep pressing MENU UP switch	0.5 V
					Keep pressing MENU DOWN switch	1.2 V
					Keep pressing TEL switch	2.1 V
					Keep pressing ENTER switch	3.3 V
23 (GR)	21 (L)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOLUME DOWN switch	0 V
					Keep pressing VOLUME UP switch	0.5 V
					Keep pressing TEL END switch	1.2 V
					Keep pressing SEEK DOWN switch	2.1 V
					Keep pressing SEEK UP switch	3.3 V
25 (V)	Ground	Brake fluid level switch signal	Input	Ignition switch ON	Brake fluid level low	0 V
					Brake fluid level normal	12 V
28 (Y)	Ground	Seat belt buckle switch signal (driver seat)	Input	Ignition switch ON	Fastened	12 V
					Unfastened	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
30 (LG)	Ground	Manual mode signal	Input	Ignition switch ON	Selector lever manual mode position	0 V
					Other than the above	12 V
31 (SB)	Ground	Non-manual mode signal	Input	Ignition switch ON	Selector lever manual mode position	12 V
					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	12 V
33 (BR)	Ground	Manual mode shift down signal	Input	Ignition switch ON	Selector lever DOWN operation	0 V
					Other than the above	12 V
36 (GR)	17 (BG)	Illumination control switch signal (+)	Input	Ignition switch ON	Illumination control switch (+) is pressed	0 V
					Other than the above	4.8 V
37 (V)	17 (BG)	Illumination control switch signal (–)	Input	Ignition switch ON	Illumination switch control (-) is pressed	0 V
					Other than the above	4.8 V
38 (G)	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).  JSNIA0012GB
39 (W)	Ground	Vehicle speed signal (2-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).  JSNIA0015GB
41 (L)	Ground	CAN-H	—	—	—	—
42 (P)	Ground	CAN-L	—	—	—	—
43 (W)	Ground	Illumination control signal	Output	Ignition switch ON	Lighting switch 1ST position	12 V
					Lighting switch OFF position	0 V
44 (LA/B)	Ground	Fuel level sensor ground	—	Ignition switch ON	—	0 V

Terminal No. (Wire color)		Description		Condition			Value (Approx.)
+	–	Signal name	Input/ Output				
45 (LA/G)	Ground	Battery power supply	Input	Ignition switch OFF	—		Battery voltage
46 (V)*1 (LA/BR)*2	Ground	Ignition signal	Input	Ignition switch ON	—		12 V
47 (SB)	Ground	AV communication signal (H)	—	—	—		—
48 (LG)	Ground	AV communication signal (L)	—	—	—		—
49 (Y)	50 (BG)	Oil level sensor signal	Input	Ignition switch ON	—		MWI-126, "Component Inspection"
50 (BG)	Ground	Oil level sensor ground	—	Ignition switch ON	—		0 V
51 (LA/L)	44 (LA/B)	Fuel level sensor signal	Input	Ignition switch ON	Fuel gauge indication position	Full	Less than 93 Ω
						3/4	140 Ω
						1/2	186 Ω
						1/4	—*3
						1/8	255 Ω
						Empty	More than 278 Ω
52 (B)	Ground	Ground	—	—	—		0 V

*1: With stop/start system
*2: Without stop/start system
*3: The inspection of 1/4 is not required.

Fail-Safe

INFOID:0000000010714999

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

Function	Specifications
Speedometer	Reset to zero by suspending communication.
Tachometer	
Engine coolant temperature gauge	• When reception time of an abnormal signal is 60 seconds or less, the last value received. • When reception time of an abnormal signal is more than 60 seconds, reset to zero.
Illumination control	When suspending communication, changes to nighttime mode.

Function			Specifications
Information display	Odo/trip meter		An indicated value is maintained at communications blackout.
	Shift position indicator		The display turns OFF by suspending communication.
	Chassis control display		The display turns no effect by suspending communication.
	4WD torque distribution display		The gauge displays 0% by suspending communication.
	Trip computer	Current fuel consumption	The last result calculated during normal condition is indicated.
		Average fuel consumption	
		Average vehicle speed	
		Distance to empty	
		ECO pedal guide	The indicator turns OFF by suspending communication.
	Warning/ Indicator	4WD warning	The display turns ON by suspending communication.
		Chassis control warning	
		Other than the above	The display turns OFF by suspending communication.
Buzzer			The buzzer turns OFF by suspending communication.
Warning lamp/indicator lamp	ABS warning lamp		The lamp turns ON by suspending communication.
	VDC warning lamp		
	Brake warning lamp		
	Electric power steering warning lamp		
	Malfunction indicator lamp (MIL) (yellow)		
	SRS air bag warning lamp		
	Brake system warning lamp		
	FEB warning lamp		
	Low tire pressure warning lamp		The lamp turns ON after flashing for 2 minutes.
	Electric parking brake indicator lamp		The lamp blinking caused by suspending communication.
	High beam indicator lamp		The lamp turns OFF by suspending communication.
	VDC OFF indicator lamp		
	Turn signal indicator lamp		
	Front fog lamp indicator lamp		
	Rear fog lamp indicator lamp		
	Position lamp indicator lamp		
	Charge warning lamp		
	ECO mode indicator lamp		
	4WD indicator lamp		
	LOCK indicator lamp		
	Dipped beam indicator lamp		
	hill descent control indicator lamp		
	Water-in-fuel-filter warning lamp		
	Glow indicator lamp		
	Malfunction indicator lamp (MIL) (red)		
	High beam assist indicator lamp		
	hill start assist indicator lamp		

DTC Inspection Priority Chart

INFOID:0000000010715000

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

Priority	Detected items (DTC)
1	• U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
2	• B2205: VEHICLE SPEED • B2267: ENGINE SPEED • B2268: WATER TEMP • B2321: OIL LEV SEN OPEN • B2322: OIL LEV SEN SHORT • B2323: ILLUMINATION OUTPUT CIRCUIT

DTC Index

INFOID:0000000010715001

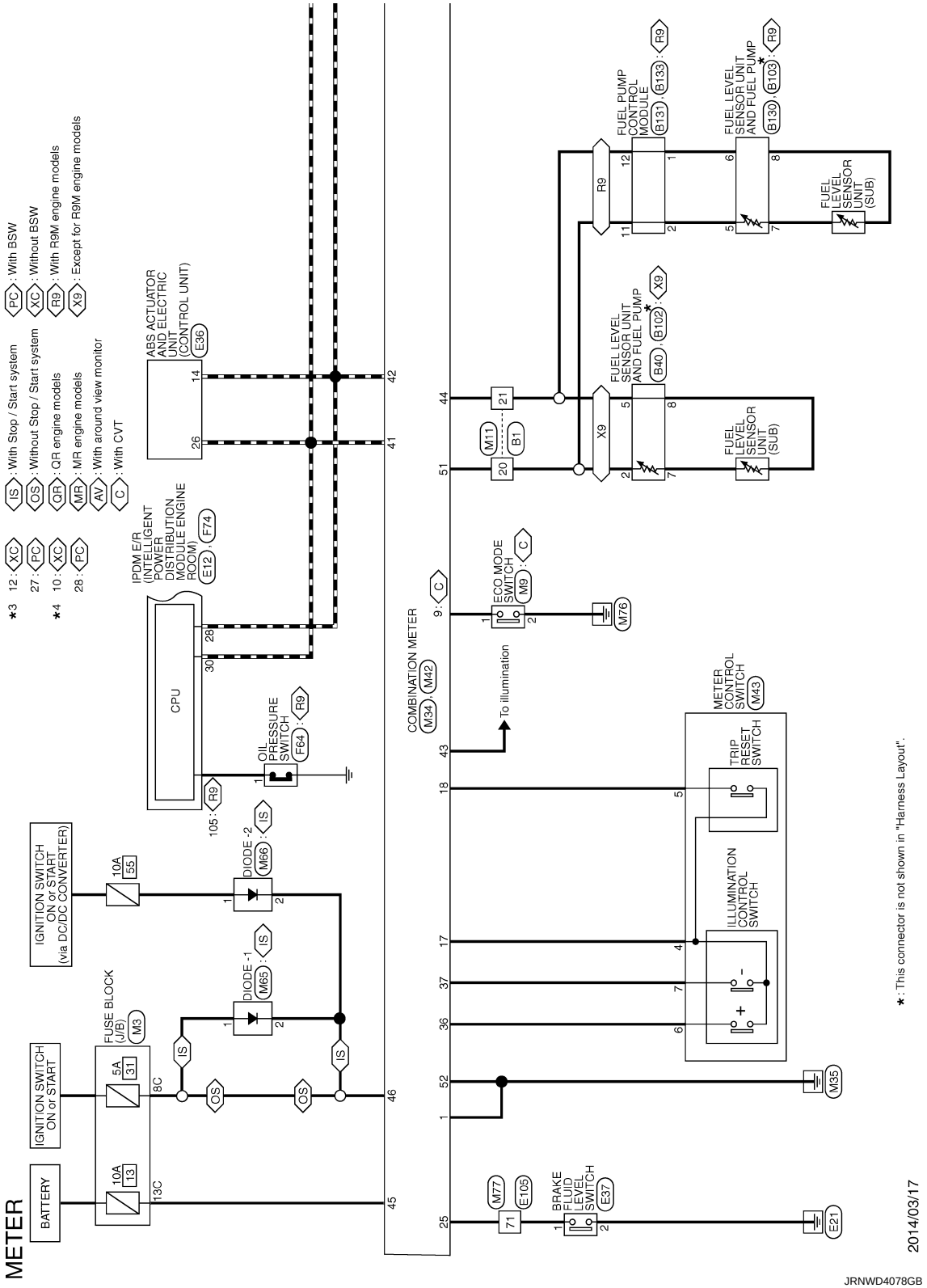
DTC	CONSULT display	Refer to
U1000	CAN COMM CIRCUIT	MWI-121, "DTC Description"
U1010	CONTROL UNIT (CAN)	MWI-122, "DTC Description"
B2205	VEHICLE SPEED	MWI-123, "DTC Description"
B2267	ENGINE SPEED	MWI-124, "DTC Description"
B2268	WATER TEMP	MWI-125, "DTC Description"
B2321	OIL LEV SEN OPEN	MWI-126, "DTC Description"
B2322	OIL LEV SEN SHORT	MWI-126, "DTC Description"
B2323	ILLUMINATION OUTPUT CIRCUIT	MWI-128, "DTC Description"

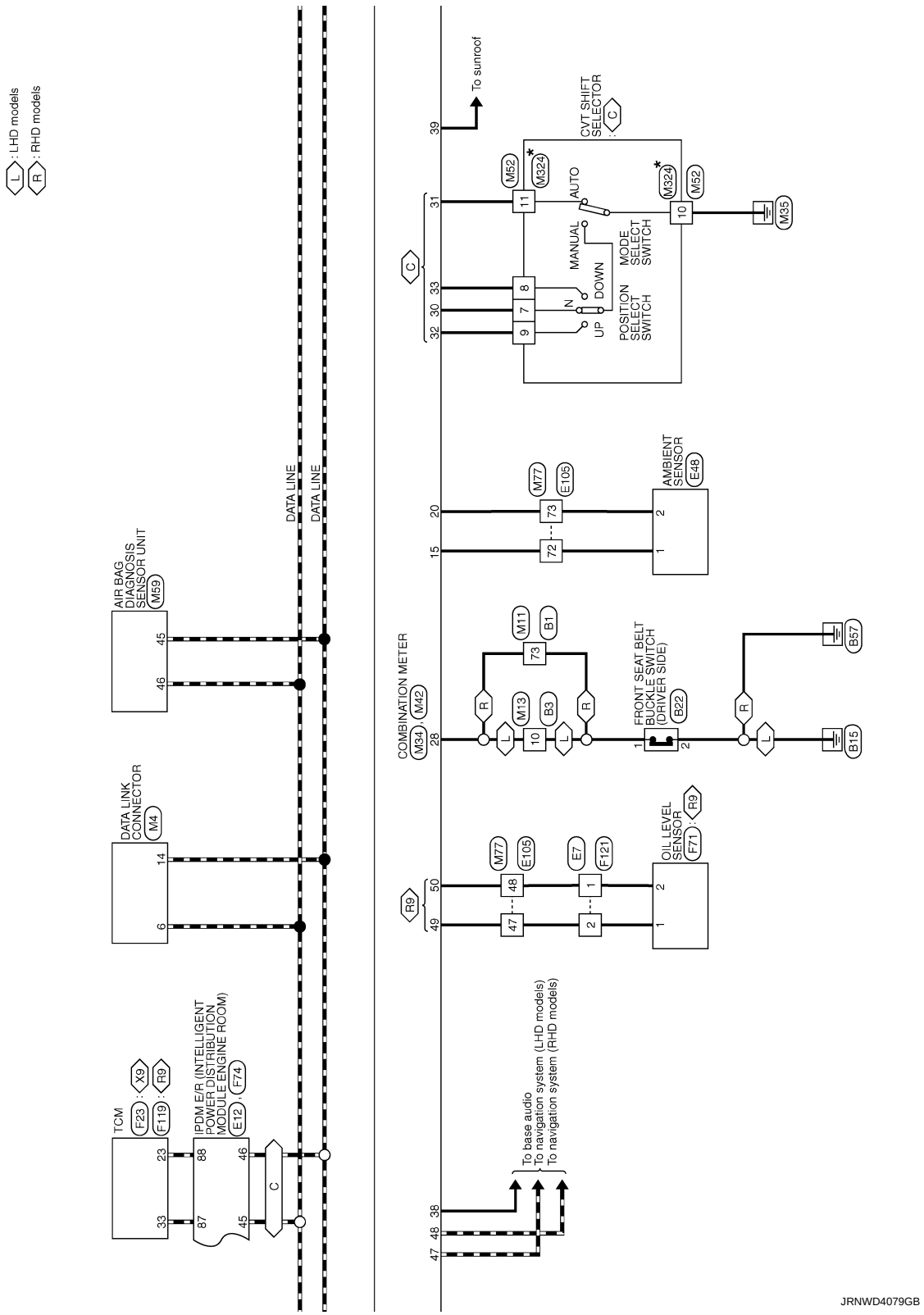
WIRING DIAGRAM

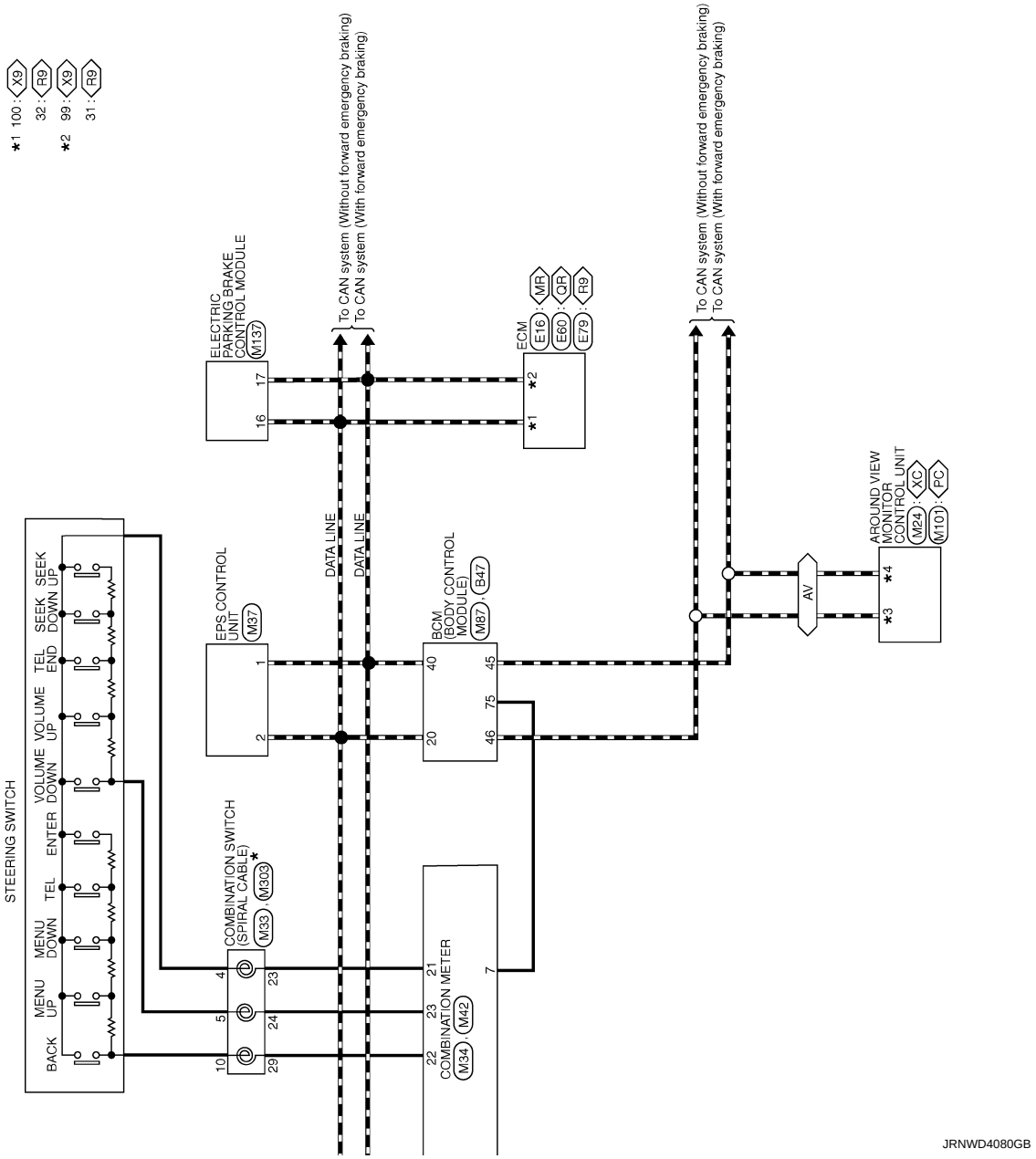
METER SYSTEM

Wiring Diagram

INFOID:0000000010715002

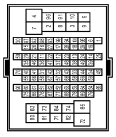



L : LHD models
R : RHD models
AIR BAG DIAGNOSIS SENSOR UNIT M59
DATA LINK CONNECTOR M4
TCM
F23 : X9
F119 : R9
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E12 : F74
DATA LINE
DATA LINE
To sunroof
CVT SHIFT SELECTOR C
AUTO
MANUAL
MODE SELECT SWITCH
POSITION SELECT SWITCH
UP
DOWN
N
AMBIENT SENSOR E48
COMBINATION METER M34 : M42
FRONT SEAT BELT BUCKLE SWITCH (DRIVER SIDE) B22
OIL LEVEL SENSOR F71 : R9
To base audio
To navigation system (LHD models)
To navigation system (RHD models)
JRNWD4079GB


*1 100 : X9
32 : R9
*2 99 : X9
31 : R9
ELECTRIC PARKING BRAKE CONTROL MODULE (M137)
To CAN system (Without forward emergency braking)
To CAN system (With forward emergency braking)
ECM
E16 : MR
E60 : QR
E79 : R9
EPS CONTROL UNIT (M37)
DATA LINE
DATA LINE
BCM (BODY CONTROL MODULE) (M87) (B47)
AV
AROUND VIEW MONITOR CONTROL UNIT (M24) (M101)
XC
PC
STEERING SWITCH
BACK
MENU UP
MENU DOWN
TEL
ENTER
VOLUME DOWN
VOLUME UP
TEL END
SEEK DOWN
SEEK UP
COMBINATION SWITCH (SPIRAL CABLE)* (M33) (M303)
COMBINATION METER (M34) (M42)
JRNWD4080GB

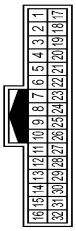
METER

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	LA/Y	-
6	V	-
7	LA/V	-
20	L	- [With diesel engine]
20	LA/L	- [With gasoline engine]
21	B	- [With diesel engine]
21	LA/B	- [With gasoline engine]
24	G	-
25	BR	-
73	LA/Y	-
74	R	-
75	R	-
84	L	-
85	L	-
92	LA/R	-
93	LA/L	-
95	LA/BR	-
97	L	-
98	Y	-
99	LA/P	-
100	GR	- [With diesel engine]
100	LA/GR	- [With gasoline engine]

Connector No.	B3
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH

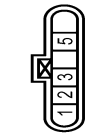


Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	-
2	V	-
3	LA/R	-
4	V	-
5	GR	-
6	Y	-
7	LG	-
8	BG	-
9	W	-
10	LA/Y	-
11	BR	-
12	Y	-
13	W	-
14	V	-
15	L	-
16	BR	-
17	Y	-
18	LA/L	- [Without PSM]
18	SB	- [With PSM]
20	LG	-
21	G	-
22	V	-
23	BR	-
24	P	-
25	L	-
26	G	-
29	SHIELD	-
30	W	-
31	B	-
32	R	-

Connector No.	B22
Connector Name	FRONT SEAT BELT BUCKLE SWITCH (DRIVER SIDE)
Connector Type	TH04FW-NH

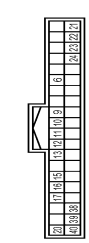
Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/Y	-
2	B	-

Connector No.	B40
Connector Name	FUEL LEVEL SENSOR UNIT AND FUEL PUMP
Connector Type	E06FGY-RS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/GR	-
2	LA/L	-
3	LA/B	-
5	LA/B	-

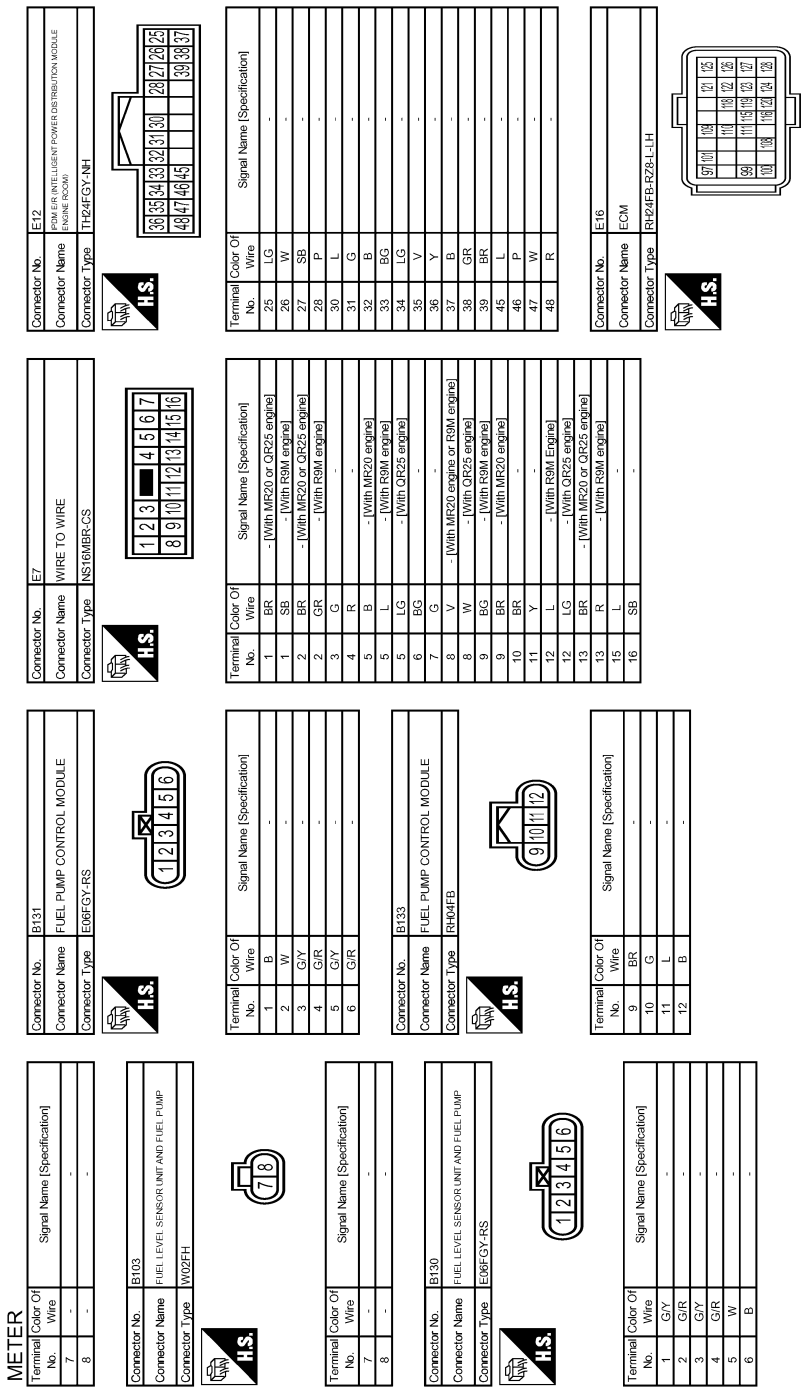
Connector No.	B47
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
6	R	BACK DOOR OPENER REQUEST SW
9	G	HANDS FREE SENSOR
10	W	REAR RH DOOR SW
11	LG	BACK DOOR SW
12	R	REAR LH DOOR SW
13	SB	PASSENGER DOOR SW
15	LA/G	REAR WIPER AUTO STOP
16	Y	BACK DOOR OPENER SW
17	SB	DRIVER DOOR SW
20	L	CAN-H
21	BR	BUMPER ANTENNA(-)
22	Y	REAR ANTENNA(-)
23	L	REAR ANTENNA(+)
24	G	BUMPER ANTENNA(+)
38	V	SIREN
39	LA/W	HIGH-MOUNTED STOP LAMP
40	P	CAN-L

Connector No.	B102
Connector Name	FUEL LEVEL SENSOR UNIT AND FUEL PUMP
Connector Type	W02FH

JRNWD4081GB



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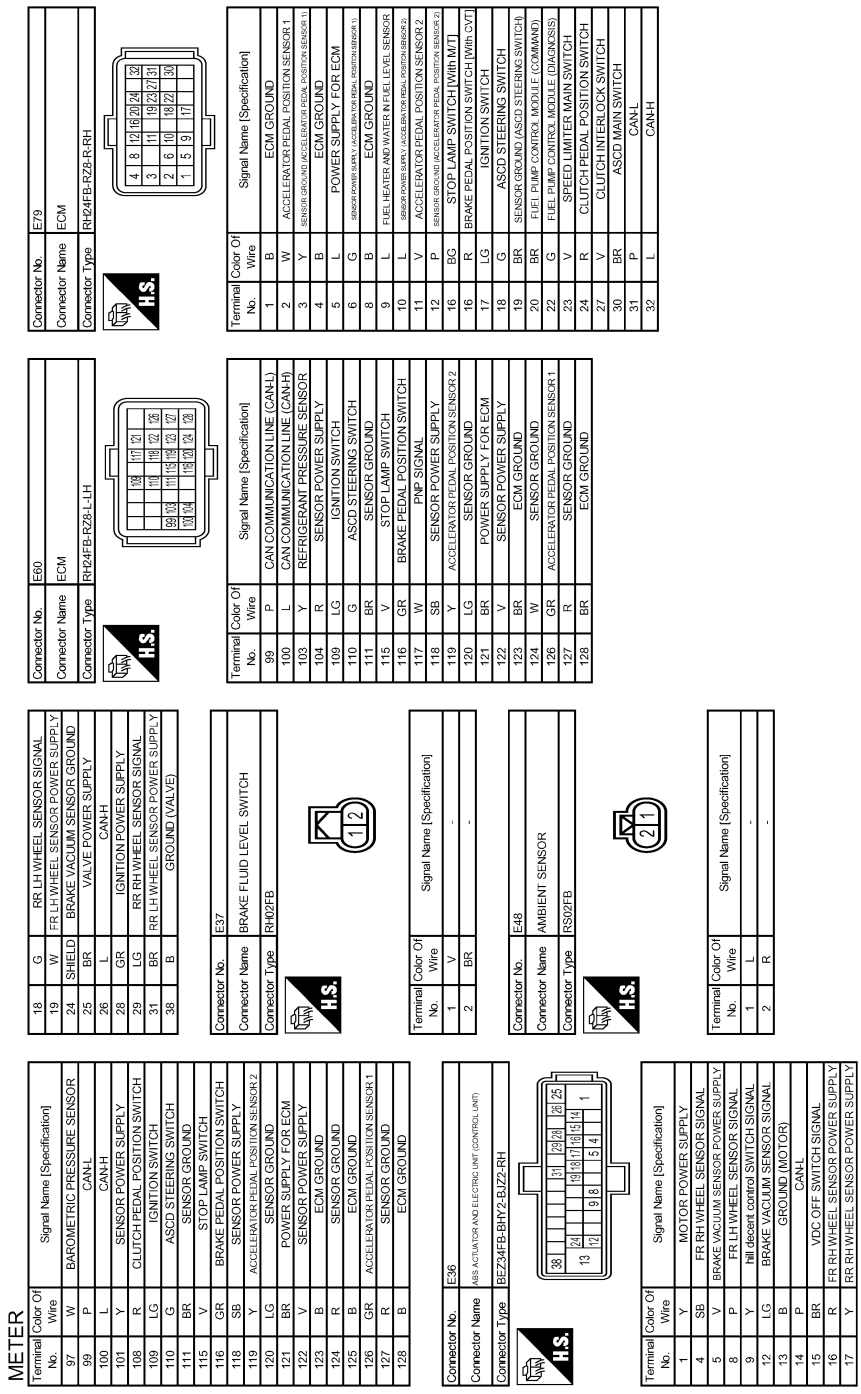

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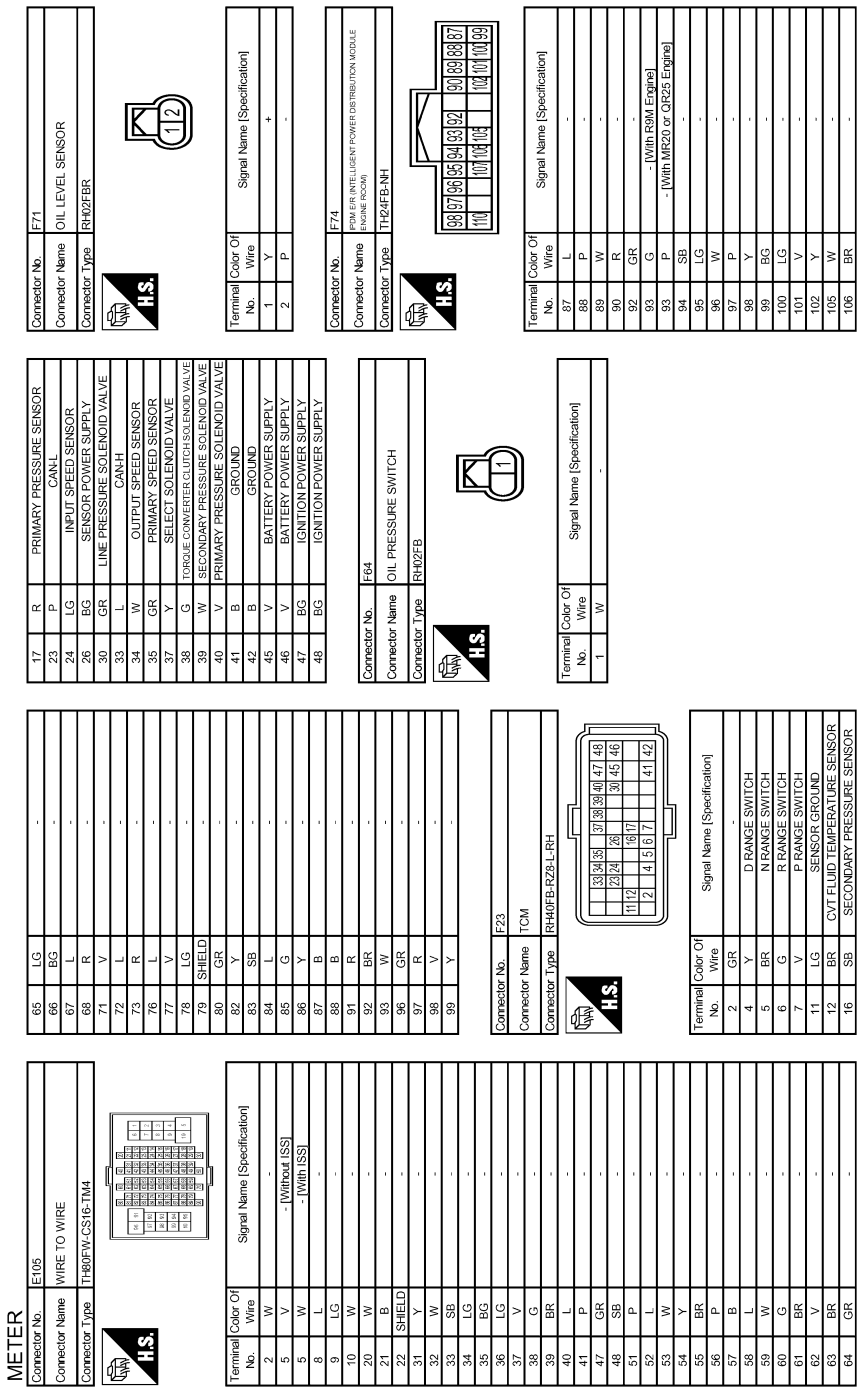

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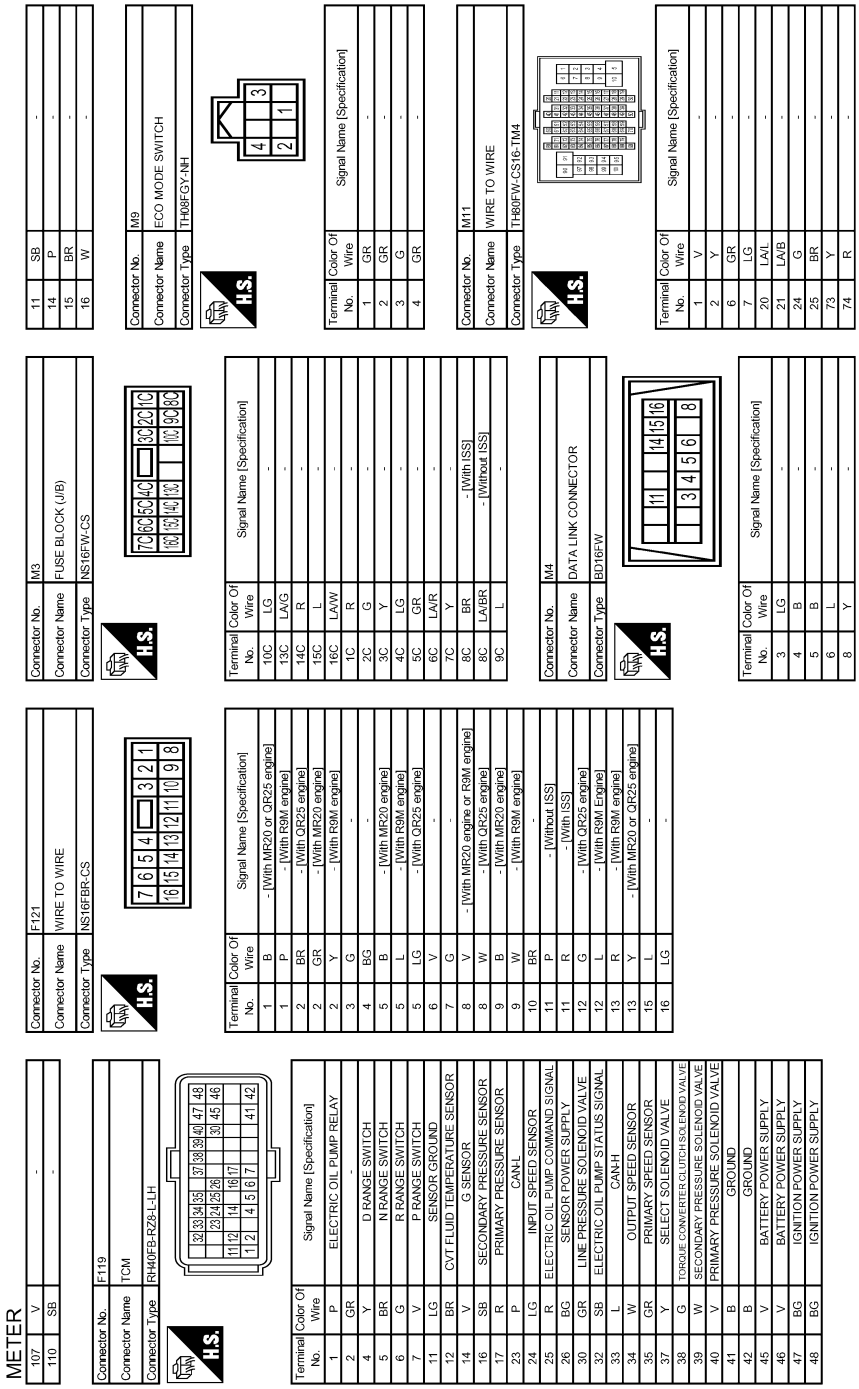

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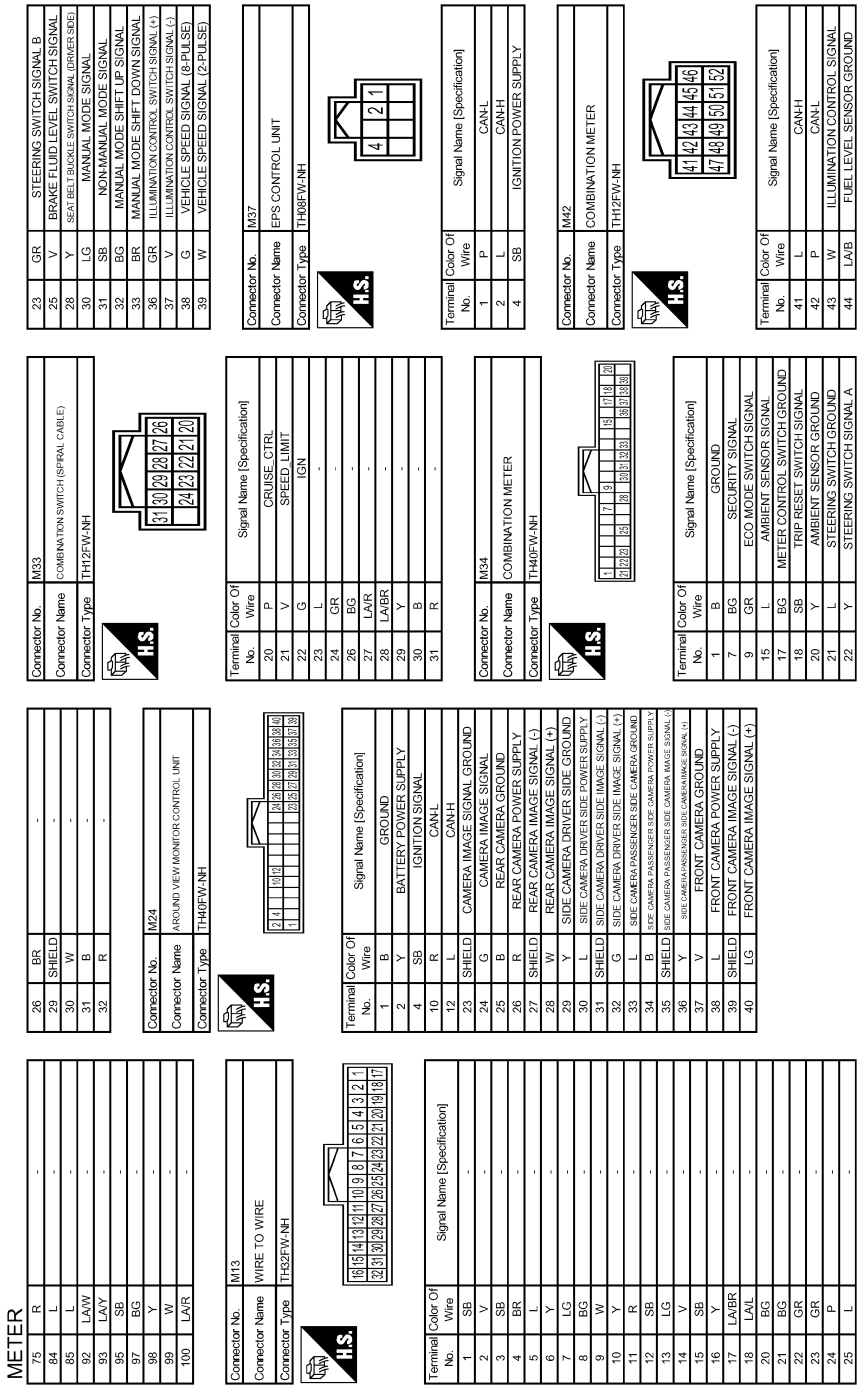

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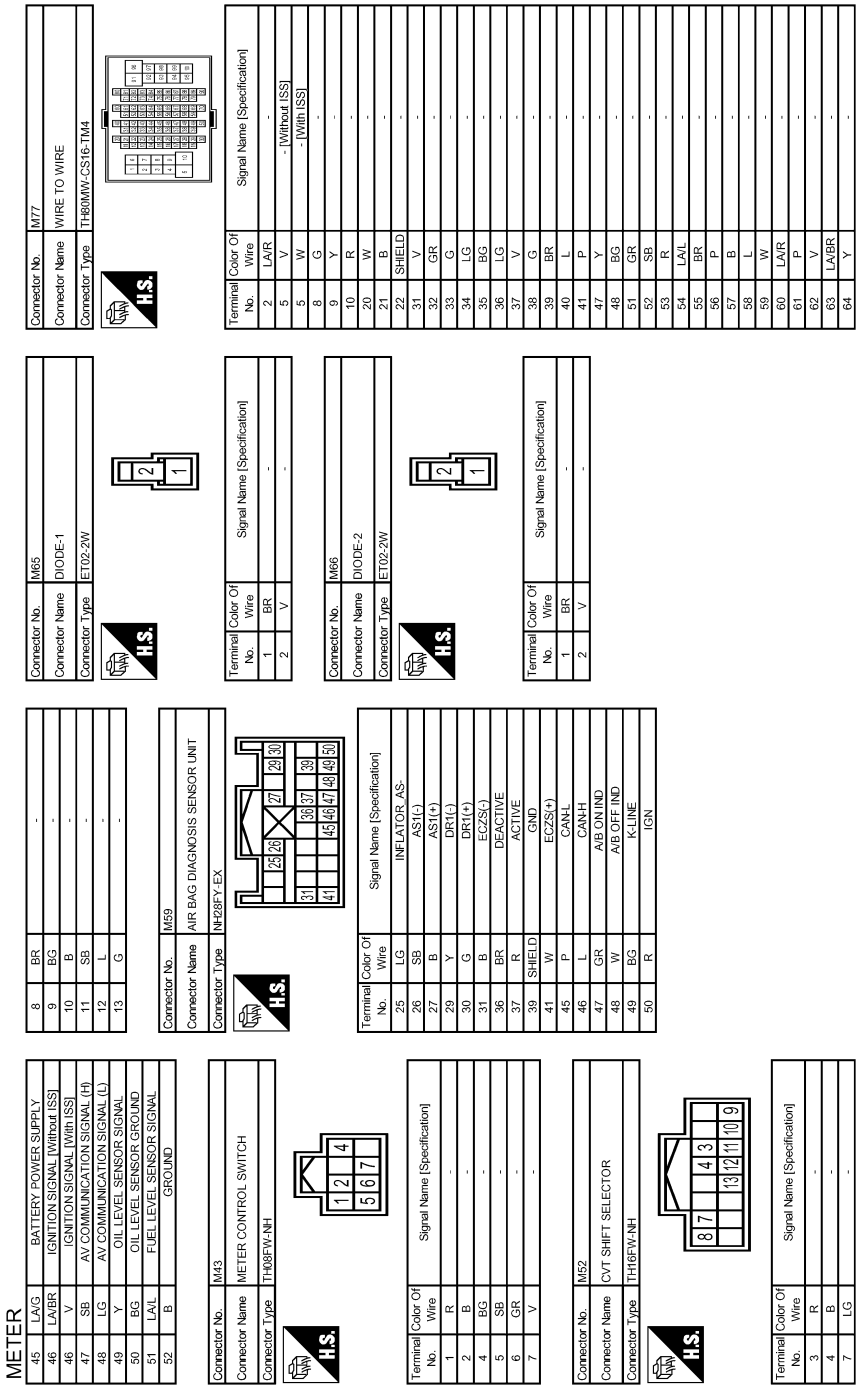

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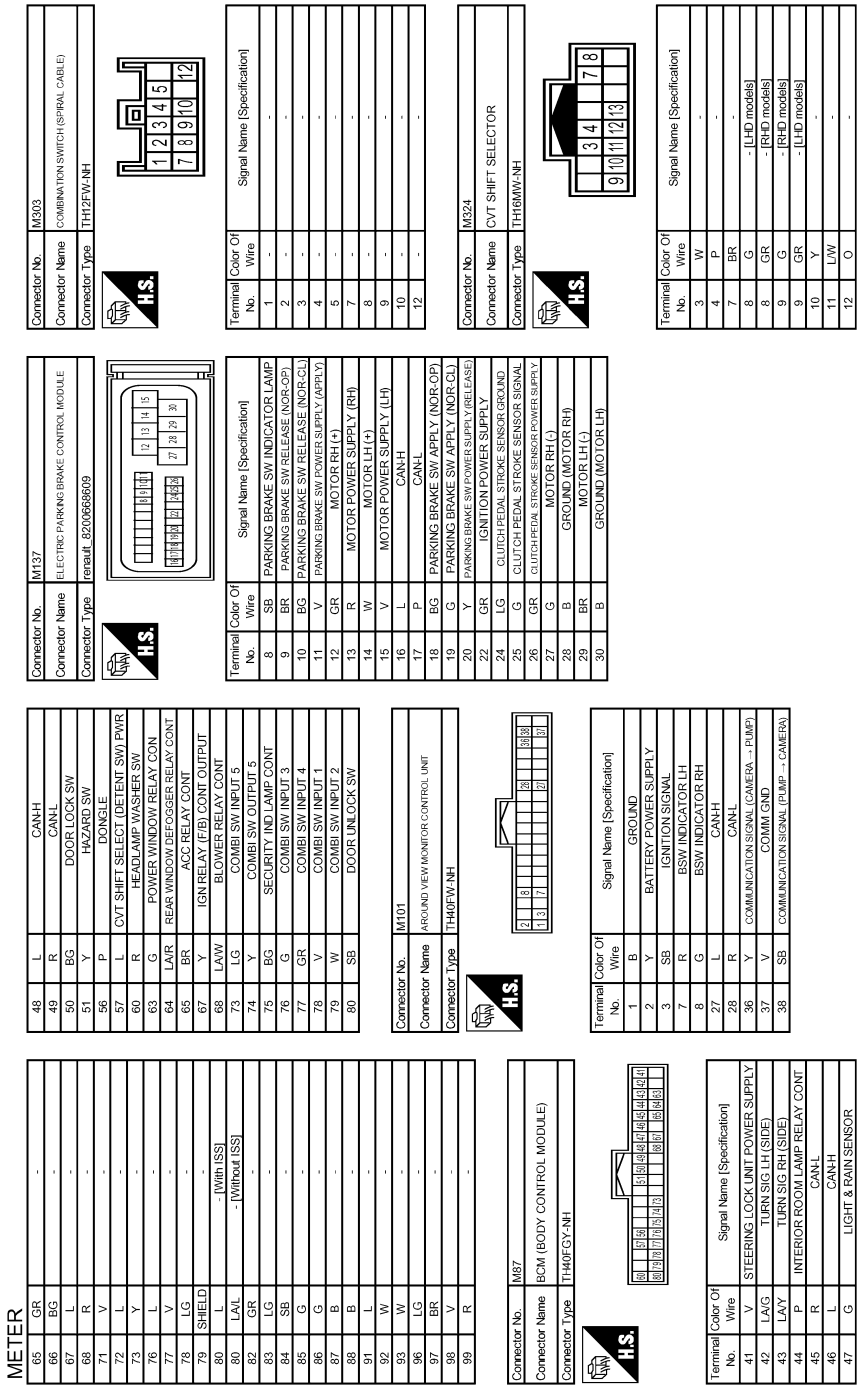

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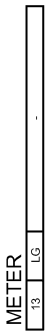

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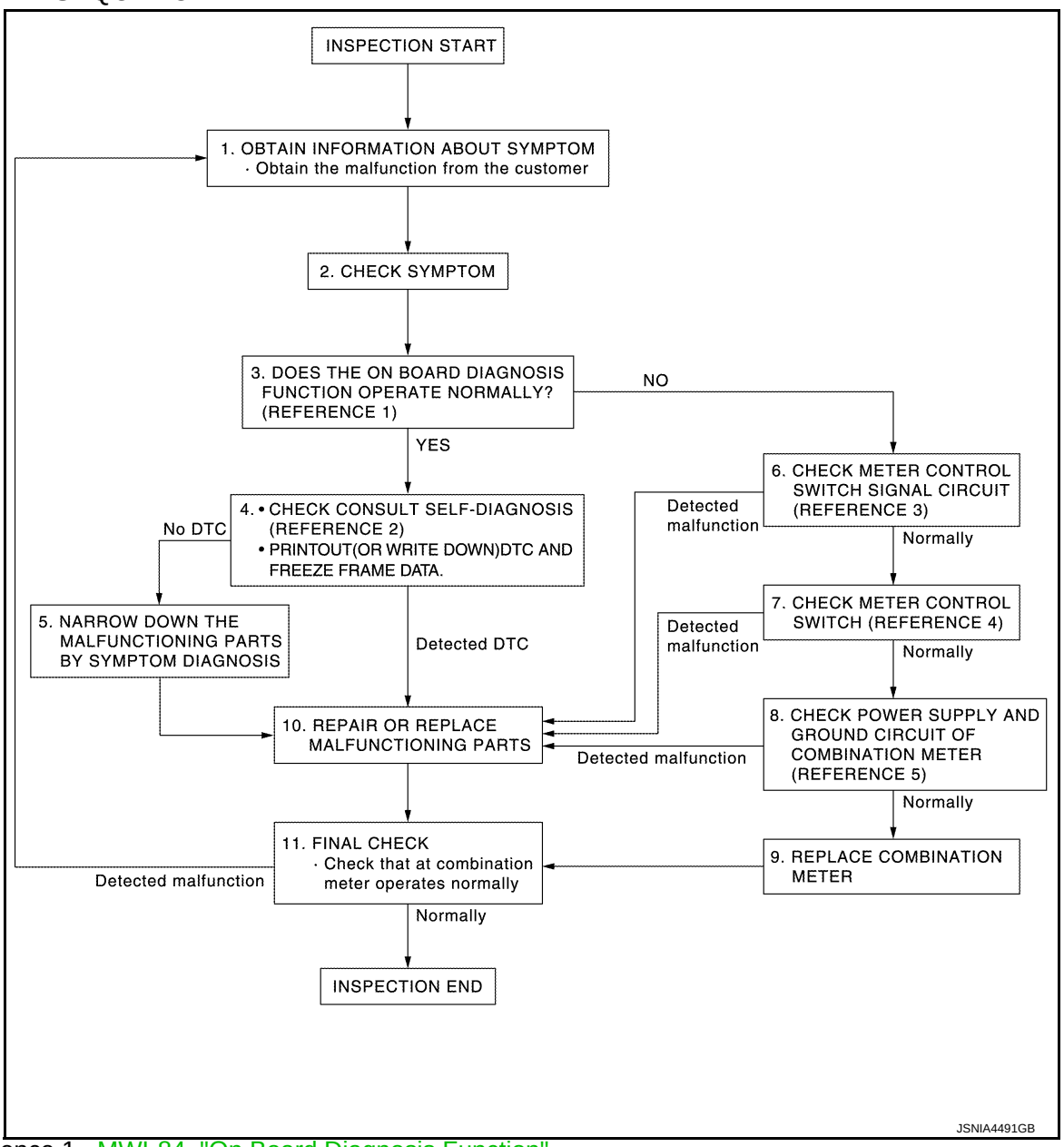
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work flow

INFOID:0000000010715003

OVERALL SEQUENCE



- Reference 1···MWI-84, "On Board Diagnosis Function".
- Reference 2···MWI-105, "DTC Index".
- Reference 3···MWI-134, "Diagnosis Procedure".
- Reference 4···MWI-135, "Component Inspection".
- Reference 5···MWI-129, "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 that 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-84, "On Board Diagnosis Function".

Does the on board diagnosis function operate normally?

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

4.CHECK CONSULT SELF-DIAGNOSIS RESULTS

1. Connect CONSULT and perform self-diagnosis. Refer to MWI-105, "DTC Index".
2. When DTC is detected, follow the instructions below:

- Record DTC and Freeze Frame Data.

Are self-diagnosis results normal?

YES >> GO TO 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-134, "Diagnosis Procedure".

Is inspection result OK?

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

7.CHECK METER CONTROL SWITCH

Check meter control switch. Refer to MWI-135, "Component Inspection".

Is inspection result OK?

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-129, "COMBINATION METER : Diagnosis Procedure".

Is inspection result OK?

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 repair or replace malfunctioning parts.

>> GO TO 11.

11. FINAL CHECK

Check that the combination meter operates normally.

Do they operate normally?

YES >> INSPECTION END
NO >> GO TO 1.

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Description

INFOID:0000000010715004

CAN (Controller Area Network) is a serial communication system for real time application. It is an on-vehicle multiplex communication system with high data communication speed and excellent error detectability. Many electronic control units are equipped onto vehicles, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with two communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-41, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1000	CAN COMM CIRCUIT (CAN communication circuit)	When combination meter is not transmitting or receiving CAN communication signal for 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-103, "Fail-Safe".

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to MWI-121, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010715005

1.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to MWI-121, "DTC Description".

Is DTC U1000 detected again?

YES >> Perform the trouble diagnosis for CAN communication system. Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> INSPECTION END

U1010 CONTROL UNIT (CAN)

DTC Description

INFOID:0000000010715006

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	When detecting error during the initial diagnosis of the CAN controller of combination meter.

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-103, "Fail-Safe".

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is “CONTROL UNIT (CAN)” displayed?

YES >> Refer to MWI-122, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010715007

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Erase the self-diagnostic results.
3. Perform DTC confirmation procedure. Refer to MWI-122, "DTC Description".

Is DTC detected?

YES >> Replace combination meter. Refer to MWI-151, "Removal and Installation".
NO >> INSPECTION END

B2205 VEHICLE SPEED

DTC Description

INFOID:0000000010715008

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
B2205	VEHICLE SPEED (Vehicle speed)	An abnormal vehicle speed signal is input from ABS actuator and electric unit (control unit) for 2 seconds or more

POSSIBLE CAUSE

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

FAIL-SAFE

Reset to zero by suspending communication.

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is “VEHICLE SPEED” displayed?

YES >> Refer to MWI-123, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010715009

1.PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

Perform “Self Diagnostic Result” of “ABS.”

Is DTC detected?

YES >> Perform diagnosis procedure on the detected DTC. Refer to BRC-84, "DTC Index".
NO >> INSPECTION END

B2267 ENGINE SPEED

DTC Description

INFOID:0000000010715010

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
B2267	ENGINE SPEED (Engine speed)	TCM continuously transmits abnormal engine speed signals for 2 seconds or more

POSSIBLE CAUSE

- Crankshaft position sensor (POS)
- ECM
- TCM

FAIL-SAFE

Reset to zero by suspending communication.

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine and wait for 2 seconds or more.
2. Check “Self Diagnostic Result” of “METER/M&A.”

Is “ENGINE SPEED” displayed?

YES >> Refer to MWI-124, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010715011

1.PERFORM SELF-DIAGNOSIS OF ECM

Perform “Self Diagnostic Result” of “ECM.”

Is DTC detected?

YES >> Perform diagnosis procedure on the detected DTC. Refer to EC-109, "DTC Index" (MR20DD), EC-517, "DTC Index" (QR25DE), or EC-908, "DTC Index" (R9M).
NO >> INSPECTION END

B2268 WATER TEMP

DTC Description

INFOID:0000000010715012

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
B2268	WATER TEMP (Water temperature)	ECM continuously transmits abnormal engine coolant temperature signals for 60 seconds or more

POSSIBLE CAUSE

- Engine coolant temperature sensor
- ECM

FAIL-SAFE

- When reception time of an abnormal signal is 60 seconds or less, the last value received.
- When reception time of an abnormal signal is more than 60 seconds, reset to zero.

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait for 60 seconds or more.
2. Check “Self Diagnostic Result” of “METER/M&A.”

Is “WATER TEMP” displayed?

YES >> Refer to MWI-125, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010715013

1.PERFORM SELF-DIAGNOSIS OF ECM

Perform “Self Diagnostic Result” of “ECM.”

Is DTC detected?

YES >> Perform diagnosis procedure on the detected DTC. Refer to EC-109, "DTC Index" (MR20DD), EC-517, "DTC Index" (QR25DE), or EC-908, "DTC Index" (R9M).
NO >> INSPECTION END

B2321, B2322 OIL LEVEL SENSOR

DTC Description

INFOID:0000000010784658

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis content)	Detection condition
B2321	OIL LEV SEN OPEN (Oil level sensor open)	Oil level sensor signal circuit is open. (Resistance value of oil level sensor exceeds 20 Ω)
B2322	OIL LEV SEN SHORT (Oil level sensor short)	Oil level sensor signal circuit is shorted. (Resistance value of oil level sensor is less than 3 Ω)

POSSIBLE CAUSE

- Oil level sensor
- Oil level sensor signal circuit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch OFF.
2. Wait for 5 minutes or more, then open the driver door.

Is “OIL LEV SEN OPEN” or “OIL LEV SEN SHORT” displayed?

YES >> Refer to MWI-126, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010784659

1.CHECK OIL LEVEL SENSOR SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter connector and oil level sensor connector.
3. Check for continuity between combination meter harness connector and oil level sensor harness connector.

Terminals				Continuity
Combination meter		Oil level sensor		
Connector	Terminal	Connector	Terminal	
M42	49	F71	1	Existed
	50		2	

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

Combination meter		Ground	Continuity
Connector	Terminal		
M42	49		Not existed
	50		

Is the inspection result normal?

YES >> Refer to MWI-126, "Component Inspection".
NO >> Repair harnesses or connectors.

Component Inspection

INFOID:0000000010784660

1.CHECK OIL LEVEL SENSOR

1. Turn ignition switch OFF.
2. Disconnect oil level sensor connector.

3. Check continuity between the following terminals of the oil level sensor.

Terminals		Resistance value (Ω)
Oil level sensor		
+	–	
1	2	3 - 20

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace oil level sensor. Refer to EM-330, "Exploded View".

B2323 ILLUMINATION CONTROL SIGNAL

DTC Description

INFOID:0000000010715014

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
B2323	ILLUMINATION OUTPUT CIRCUIT (Illumination output circuit)	Illumination control signal shorted to ground

POSSIBLE CAUSE

- Illumination control signal circuit
- Combination meter

FAIL-SAFE

Output stop in illumination control signal

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and turn the combination switch (lighting switch) to 1ST position.
2. Check “Self Diagnostic Result” of “METER/M&A.”

Is “ILLUMINATION OUTPUT CIRCUIT” displayed?

YES >> Refer to MWI-125, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010715015

1.CHECK ILLUMINATION CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect harness connector of the combination meter vehicle side and all the connectors connected to illumination control signal circuit.
3. Check harness continuity between combination meter harness connector and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M42	43		Not existed

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-151, "Removal and Installation".
NO >> Repair harness or connector.

POWER SUPPLY AND GROUND CIRCUIT
COMBINATION METER

COMBINATION METER : Diagnosis Procedure

INFOID:0000000010715016

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	13
Ignition switch ON or START	31, 55*

*: With stop/start system

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between combination meter harness connector and ground.

Terminals			Ignition switch position	Voltage (Approx.)
(+)		(–)		
Combination meter		Ground		
Connector	Terminal			
M42	45		OFF	Battery voltage
	46		ON	12 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between combination meter and fuse.

3.CHECK GROUND CIRCUIT

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

Combination meter		Ground	Continuity
Connector	Terminal		
M34	1		Existed
M42	52		

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair harness or connector.

STEERING SWITCH SIGNAL A CIRCUIT

Component Function Check

INFOID:0000000010715017

1.CHECK COMBINATION METER INPUT SIGNAL

Select the “Data Monitor” for the “METER/M&A” and check the “STRG SW INPUT” monitor value.

Condition	Value
BACK switch is pressed	SW1
MENU UP switch is pressed	SW2
MENU DOWN switch is pressed	SW3
TEL switch is pressed	SW4
ENTER switch is pressed	SW5
VOL DOWN switch is pressed	SW6
VOL UP switch is pressed	SW7
TEL END switch is pressed	SW8
SEEK DOWN switch is pressed	SW9
SEEK UP switch is pressed	SW10
Other than above	NO INPUT

Is the inspection result normal?

YES >> INSPECTION END
NO >> Refer to MWI-130, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000010715018

1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

1. Disconnect combination meter harness connector and spiral cable harness connector.
2. Check continuity between combination meter harness connector and spiral cable harness connector.

Combination meter		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M34	22	M33	29	Existed

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

Combination meter		Ground	Continuity
Connector	Terminal		
M34	22		Not existed

Is the inspection result normal?

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

2.CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT

1. Check continuity between combination meter harness connector and spiral cable harness connector.

Combination meter		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M34	21	M33	23	Existed

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

Combination meter		Ground	Continuity
Connector	Terminal		
M34	21		Not existed

Is the inspection result normal?

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

3.CHECK SPIRAL CABLE

1. Disconnect steering switch connector.
2. Check continuity between spiral cable harness connectors.

Spiral cable				Continuity
Connector	Terminal	Connector	Terminal	
M33	29	M303	10	Existed
	23		4	

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace spiral cable. Refer to SR-23, "Removal and Installation".

4.CHECK STEERING SWITCH

Check steering switch. Refer to MWI-131, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

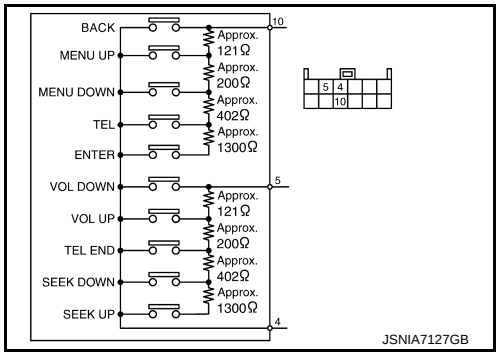
Component Inspection

INFOID:0000000010715019

1.CHECK STEERING SWITCH

1. Remove steering switch. Refer to MWI-154, "Removal and Installation".
2. Measure the resistance between the steering switch connector.

Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
10	4	ENTER switch is pressed	1982 – 2064
		TEL switch is pressed	708 – 738
		MENU DOWN switch is pressed	314 – 328
		MENU UP switch is pressed	118 – 124
		BACK switch is pressed	0
5		SEEK UP switch is pressed	1982 – 2064
		SEEK DOWN switch is pressed	708 – 738
		TEL END switch is pressed	314 – 328
		VOL UP switch is pressed	118 – 124
		VOL DOWN switch is pressed	0



Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to MWI-154, "Removal and Installation".

STEERING SWITCH SIGNAL B CIRCUIT

Component Function Check

INFOID:0000000010715020

1.CHECK COMBINATION METER INPUT SIGNAL

Select the “Data Monitor” for the “METER/M&A” and check the “STRG SW INPUT” monitor value.

Condition	Value
BACK switch is pressed	SW1
MENU UP switch is pressed	SW2
MENU DOWN switch is pressed	SW3
TEL switch is pressed	SW4
ENTER switch is pressed	SW5
VOL DOWN switch is pressed	SW6
VOL UP switch is pressed	SW7
TEL END switch is pressed	SW8
SEEK DOWN switch is pressed	SW9
SEEK UP switch is pressed	SW10
Other than above	NO INPUT

Is the inspection result normal?

YES >> INSPECTION END
NO >> Refer to MWI-130, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000010715021

1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

1. Disconnect combination meter harness connector and spiral cable harness connector.
2. Check continuity between combination meter harness connector and spiral cable harness connector.

Combination meter		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M34	23	M33	24	Existed

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

Combination meter		Ground	Continuity
Connector	Terminal		
M34	23		Not existed

Is the inspection result normal?

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

2.CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT

1. Check continuity between combination meter harness connector and spiral cable harness connector.

Combination meter		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M34	21	M33	23	Existed

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

Combination meter		Ground	Continuity
Connector	Terminal		
M34	21		Not existed

Is the inspection result normal?

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

3.CHECK SPIRAL CABLE

1. Disconnect steering switch connector.
2. Check continuity between spiral cable harness connectors.

Spiral cable				Continuity
Connector	Terminal	Connector	Terminal	
M33	24	M303	5	Existed
	23		4	

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace spiral cable. Refer to SR-23, "Removal and Installation".

4.CHECK STEERING SWITCH

Check steering switch. Refer to MWI-133, "Component Inspection".

Is the inspection result normal?

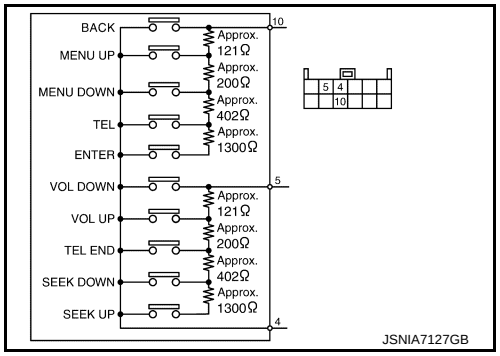
YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

Component Inspection

INFOID:0000000010715022

1.CHECK STEERING SWITCH

1. Remove steering switch. Refer to MWI-154, "Removal and Installation".
2. Measure the resistance between the steering switch connector.



Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
10	4	ENTER switch is pressed	1982 – 2064
		TEL switch is pressed	708 – 738
		MENU DOWN switch is pressed	314 – 328
		MENU UP switch is pressed	118 – 124
		BACK switch is pressed	0
5		SEEK UP switch is pressed	1982 – 2064
		SEEK DOWN switch is pressed	708 – 738
		TEL END switch is pressed	314 – 328
		VOL UP switch is pressed	118 – 124
		VOL DOWN switch is pressed	0

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to MWI-154, "Removal and Installation".

METER CONTROL SWITCH SIGNAL CIRCUIT

Component Function Check

INFOID:0000000010715023

1.CHECK COMBINATION METER INPUT SIGNAL

1. Turn ignition switch ON.
2. Measure voltage between the following terminals of the combination meter.

Combination meter			Condition	Voltage (Approx.)
Connector	Terminals			
	(+)	(–)		
M34	36	17	When illumination control switch (+) is pressed	0 V
			Other than the above	4.8 V
	37		When illumination control switch (–) is pressed	0 V
			Other than the above	4.8 V
	18		When trip reset switch is pressed	0 V
			Other than the above	5 V

Is the inspection result normal?

YES >> INSPECTION END
NO >> Refer to MWI-134, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000010715024

1.CHECK METER CONTROL SWITCH SIGNAL CIRCUIT

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

Terminals				Continuity
Combination meter		Meter control switch		
Connector	Terminal	Connector	Terminal	
M34	17	M43	4	Existed
	18		5	
	36		6	
	37		7	

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

Combination meter			Continuity
Connector	Terminal		
M34	17	Ground	Not existed
	18		
	36		
	37		

Is the inspection result normal?

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

2.CHECK METER CONTROL SWITCH

Check meter control switch. Refer to MWI-135, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-151, "Removal and Installation".
NO >> Replace meter control switch. Refer to MWI-155, "Removal and Installation".

Component Inspection

INFOID:0000000010715025

1. CHECK METER CONTROL SWITCH

1. Turn ignition switch OFF.
2. Disconnect meter control switch connector.
3. Check continuity between the following terminals of the meter control switch.

Terminals		Condition	Continuity
Meter control switch			
6	4	When illumination control switch (+) is pressed	Existed
		Other than the above	Not existed
7		When illumination control switch (–) is pressed	Existed
		Other than the above	Not existed
5		When trip reset switch is pressed	Existed
		Other than the above	Not existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace meter control switch. Refer to MWI-155, "Removal and Installation".

FUEL LEVEL SENSOR SIGNAL CIRCUIT
EXCEPT FOR R9M

EXCEPT FOR R9M : Component Function Check

INFOID:0000000010715026

1.PERFORM COMPONENT FUNCTION CHECK (1)

1. Turn ignition switch OFF.
2. Disconnect fuel level sensor unit and fuel pump connector.
3. Connect variable resistor between harness connector terminals located on the vehicle side of the fuel level sensor unit.

Fuel level sensor unit		
Connector	Terminals	
B40	2	5

4. Set variable resistor according to the resistance value shown in the following table and turn ignition switch ON.

Resistance (Ω)[*1] (Approx.)	Fuel gauge indication position
Less than 93	Full
140	3/4
186	1/2
—[*2]	1/4
255	1/8
More than 278	Empty

*1: Reference resistance values used when the combination meter judges the indication position of the fuel gauge.
*2: The inspection of 1/4 is not required.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to MWI-136, "EXCEPT FOR R9M : Diagnosis Procedure".

2.PERFORM COMPONENT FUNCTION CHECK (2)

Check the fuel level sensor unit and fuel pump, and fuel level sensor unit (sub). Refer to MWI-137, "EXCEPT FOR R9M : Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace malfunctioning parts.

EXCEPT FOR R9M : Diagnosis Procedure

INFOID:0000000010715027

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

1. Turn ignition switch OFF.
2. Disconnect combination meter harness connector and fuel level sensor unit and fuel pump (main) harness connector.
3. Check continuity between combination meter harness connector and fuel level sensor unit and fuel pump (main) harness connector.

Combination meter		Fuel level sensor unit and fuel pump (main)		Continuity
Connector	Terminal	Connector	Terminal	
M42	51	B40	2	Existed

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

Combination meter		Ground	Continuity
Connector	Terminal		
M42	51		Not existed

Is the inspection result normal?

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

2.CHECK FUEL LEVEL SENSOR UNIT AND FUEL PUMP (MAIN) GROUND CIRCUIT

1. Check continuity between fuel level sensor unit and fuel pump (main) harness connector and combination meter harness connector.

Fuel level sensor unit and fuel pump (main)		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
B40	5	M42	44	Existed

2. Check continuity between fuel level sensor unit and fuel pump (main) harness connector and ground.

Fuel level sensor unit and fuel pump (main)		Ground	Continuity
Connector	Terminal		
B40	5		Not existed

Is the inspection result normal?

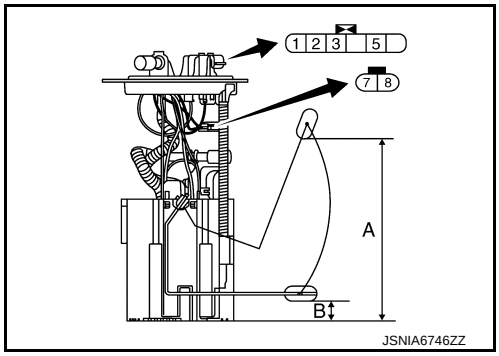
YES >> Replace combination meter. Refer to MWI-151, "Removal and Installation".
NO >> Repair harness or connector.

EXCEPT FOR R9M : Component Inspection

INFOID:0000000010715028

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

1. Remove the fuel level sensor unit and fuel pump (main). Refer to FL-40, "Removal and Installation".
2. Check the resistance between fuel level sensor unit and fuel pump (main).



Terminals		Condition	Resistance (Ω) (Approx.)	Height [mm (in)]
Fuel level sensor unit and fuel pump (main)				
2	7	Full* (A)	45	186.1 (7.33)
		Empty* (B)	141	20.5 (0.807)
5	8	—	0	—

*: When float rod is contact with stopper.

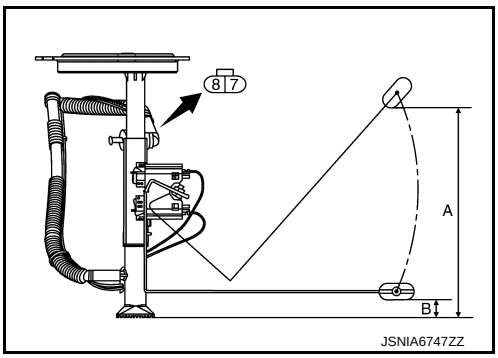
Is inspection result OK?

YES >> GO TO 2.
NO >> Replace fuel level sensor unit and fuel pump. Refer to FL-40, "Removal and Installation".

2.CHECK FUEL LEVEL SENSOR UNIT (SUB)

1. Remove the fuel level sensor unit (sub). Refer to FL-40, "Removal and Installation".

2. Check the resistance between fuel level sensor unit (sub).



Terminals		Condition	Resistance (Ω) (Approx.)	Height [mm (in)]
Fuel level sensor unit (sub)				
7	8	Full* (A)	6	204.9 (8.07)
		Empty* (B)	141	16.8 (0.661)

*: When float rod is contact with stopper.

Is inspection result OK?

YES >> INSPECTION END
NO >> Replace fuel level sensor unit (sub). Refer to FL-40, "Removal and Installation".

R9M

R9M : Component Function Check

INFOID:0000000010785100

1.PERFORM COMPONENT FUNCTION CHECK (1)

1. Turn ignition switch OFF.
2. Disconnect fuel level sensor unit and fuel pump connector.
3. Connect variable resistor between harness connector terminals located on the vehicle side of the fuel level sensor unit.

Fuel level sensor unit		
Connector	Terminals	
B130	5	6

4. Set variable resistor according to the resistance value shown in the following table and turn ignition switch ON.

Resistance (Ω)*1 (Approx.)	Fuel gauge indication position
Less than 93	Full
140	3/4
186	1/2
—*2	1/4
255	1/8
More than 278	Empty

*1: Reference resistance values used when the combination meter judges the indication position of the fuel gauge.
*2: The inspection of 1/4 is not required.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to MWI-139, "R9M : Diagnosis Procedure".

2.PERFORM COMPONENT FUNCTION CHECK (2)

Check the fuel level sensor unit and fuel pump, and fuel level sensor unit (sub). Refer to MWI-140, "R9M : Component Inspection [Fuel Level Sensor Unit (Main and Sub)]".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace malfunctioning parts.

R9M : Diagnosis Procedure

INFOID:0000000010785101

1.CHECK FUEL LEVEL SENSOR SIGNAL CIRCUIT (1)

1. Turn ignition switch OFF.
2. Disconnect combination meter harness connector and fuel pump control module harness connector.
3. Check continuity between combination meter harness connector and fuel fuel pump control module harness connector.

Combination meter		Fuel pump control module		Continuity
Connector	Terminal	Connector	Terminal	
M42	51	B133	11	Existed

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

Combination meter		Ground	Continuity
Connector	Terminal		
M42	51		Not existed

Is the inspection result normal?

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

2.CHECK FUEL LEVEL SENSOR GROUND CIRCUIT (1)

1. Check continuity between combination meter harness connector and fuel fuel pump control module harness connector.

Combination meter		Fuel pump control module		Continuity
Connector	Terminal	Connector	Terminal	
M42	44	B133	12	Existed

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

Combination meter		Ground	Continuity
Connector	Terminal		
M42	44		Not existed

Is the inspection result normal?

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

3.CHECK FUEL LEVEL SENSOR SIGNAL CIRCUIT (2)

1. Disconnect fuel level sensor unit and fuel pump harness connector.
2. Check continuity between fuel pump control module harness connector and fuel level sensor unit and fuel pump harness connector.

Fuel pump control module		Fuel level sensor unit and fuel pump		Continuity
Connector	Terminal	Connector	Terminal	
B131	2	B130	5	Existed

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

Fuel pump control module		Ground	Continuity
Connector	Terminal		
B131	2		Not existed

Is the inspection result normal?

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

4.CHECK FUEL LEVEL SENSOR GROUND CIRCUIT (2)

1. Check continuity between fuel pump control module harness connector and fuel level sensor unit and fuel pump harness connector.

Fuel pump control module		Fuel level sensor unit and fuel pump		Continuity
Connector	Terminal	Connector	Terminal	
B131	1	B130	6	Existed

2. Check continuity between fuel pump control module harness connector and ground.

Fuel pump control module		Ground	Continuity
Connector	Terminal		
B131	1		Not existed

Is the inspection result normal?

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

5.CHECK FUEL PUMP CONTROL MODULE

Check fuel pump control module. Refer to MWI-141, "R9M : Component Inspection (Fuel Pump Control Module)".

Is the inspection result normal?

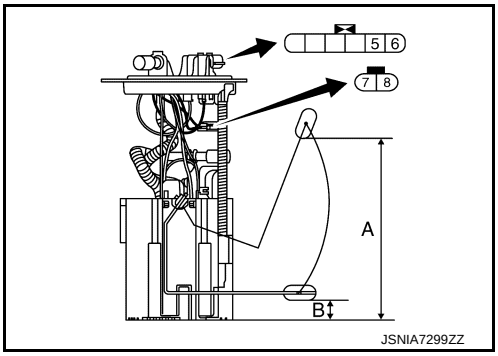
YES >> Replace combination meter. Refer to MWI-151, "Removal and Installation".
NO >> Replace fuel pump control module. Refer to EC-1231, "Removal and Installation".

R9M : Component Inspection [Fuel Level Sensor Unit (Main and Sub)]

INFOID:0000000010785102

1.CHECK FUEL LEVEL SENSOR UNIT AND FUEL PUMP

1. Remove the fuel level sensor unit and fuel pump. Refer to FL-40, "Removal and Installation".
2. Check the resistance between fuel level sensor unit and fuel pump.



Terminals		Condition	Resistance (Ω) (Approx.)	Height [mm (in)]
Fuel level sensor unit and fuel pump				
5	7	Full* (A)	45	186.1 (7.33)
		Empty* (B)	141	20.5 (0.807)
6	8	—	0	—

*: When float rod is contact with stopper.

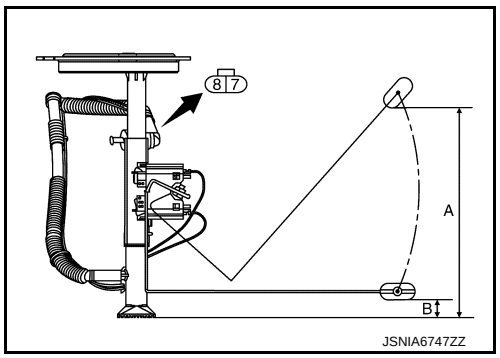
Is inspection result OK?

YES >> GO TO 2.
NO >> Replace fuel level sensor unit and fuel pump. Refer to FL-40, "Removal and Installation".

2.CHECK FUEL LEVEL SENSOR UNIT (SUB)

1. Remove the fuel level sensor unit (sub). Refer to FL-40, "Removal and Installation".

2. Check the resistance between fuel level sensor unit (sub).



Terminals		Condition	Resistance (Ω) (Approx.)	Height [mm (in)]
Fuel level sensor unit (sub)				
7	8	Full* (A)	6	204.9 (8.07)
		Empty* (B)	141	16.8 (0.661)

*: When float rod is contact with stopper.

Is inspection result OK?

YES >> INSPECTION END
NO >> Replace fuel level sensor unit (sub). Refer to FL-40, "Removal and Installation".

R9M : Component Inspection (Fuel Pump Control Module)

INFOID:0000000011051668

1. CHECK FUEL PUMP CONTROL MODULE

1. Remove the fuel pump control module. Refer to EC-1231, "Removal and Installation".
2. Check the continuity between fuel pump control module.

Fuel pump control module		Continuity
Terminal		
11	2	Existed
12	1	

Is inspection result OK?

YES >> INSPECTION END
NO >> Replace fuel pump control module. Refer to EC-1231, "Removal and Installation".

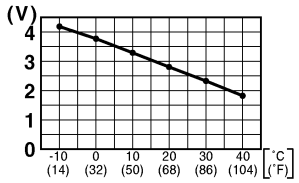
AMBIENT SENSOR SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000010715029

1.CHECK AMBIENT SENSOR SIGNAL

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

+		–		Voltage
Combination meter				
Connector	Terminal	Connector	Terminal	
M34	15	M34	20	

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Is the inspection result normal?

YES >> GO TO 7.
NO >> GO TO 2.

2.CHECK AMBIENT SENSOR POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect ambient sensor connector.
3. Turn ignition switch ON.
4. Check voltage between ambient sensor harness connector and ground.

+		–	Voltage (Approx.)
Ambient sensor			
Connector	Terminal		
E48	1	Ground	5 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 5.

3.CHECK AMBIENT SENSOR GROUND CIRCUIT FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect combination meter connector.
3. Check continuity between ambient sensor harness connector and A/C auto amp harness connector.

Ambient sensor		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
E48	2	M34	20	Existed

Is the inspection result normal?

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

4.CHECK AMBIENT SENSOR

Check ambient sensor. Refer to MWI-143, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter Refer to MWI-151, "Removal and Installation".
NO >> Replace ambient sensor. Refer to MWI-156, "Removal and Installation".

5.CHECK AMBIENT SENSOR POWER SUPPLY CIRCUIT FOR OPEN

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

Ambient sensor		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
E48	1	M34	15	Existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair harness or connector.

6.CHECK AMBIENT SENSOR POWER SUPPLY CIRCUIT FOR SHORT

Check continuity between ambient sensor harness connector and ground.

Ambient sensor		—	Continuity
Connector	Terminal		
E48	1	Ground	Not existed

Is the inspection result normal?

YES >> Replace combination meter Refer to MWI-151, "Removal and Installation".
NO >> Repair harness or connector.

7.CHECK INTERMITTENT INCIDENT

Check intermittent incident. Refer to GI-44, "Intermittent Incident".

Is the inspection result normal?

YES >> Replace combination meter Refer to MWI-151, "Removal and Installation".
NO >> Repair or replace malfunctioning parts.

Component Inspection

INFOID:0000000010715030

1.CHECK AMBIENT SENSOR

1. Remove ambient sensor. Refer to MWI-156, "Removal and Installation".
2. Check resistance between ambient sensor terminals. Refer to applicable table for the normal value.

Terminal		Condition	Resistance: kΩ
		Temperature: °C (°F)	
1	2	–20 (–4)	16.50
		–10 (14)	9.92
		0 (32)	6.19
		10 (50)	3.99
		20 (68)	2.65
		25 (77)	2.19
		30 (86)	1.81
		40 (104)	1.27

Is the inspection result normal?

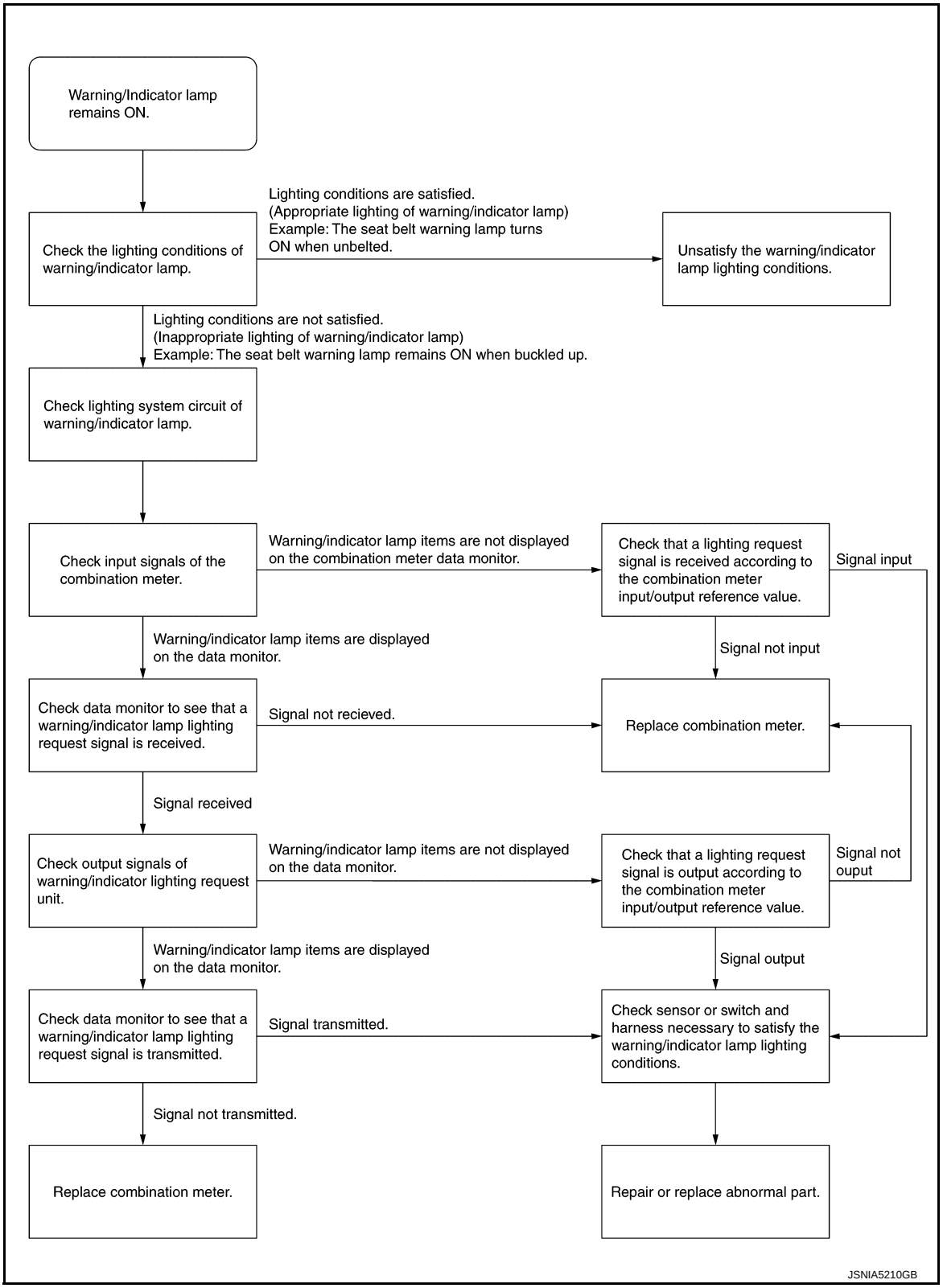
YES >> INSPECTION END
NO >> Replace ambient sensor. Refer to MWI-156, "Removal and Installation".

SYMPTOM DIAGNOSIS

WARNING/INDICATOR LAMP REMAINS ON

Work Flow

INFOID:0000000010715031



THE FUEL GAUGE INDICATOR DOES NOT OPERATE

Description

INFOID:0000000010715032

Fuel gauge will not indicate from a certain position.

Diagnosis Procedure

INFOID:0000000010715033

1.CONDUCTING THE 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-84, "On Board Diagnosis Function".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace the combination meter. Refer to MWI-151, "Removal and Installation".

2.CHECK FLOAT INTERFERENCE

Check that the float arm interferes with or binds to other components in the fuel tank.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace malfunctioning part.

3.CHECK FUEL LEVEL SENSOR SIGNAL CIRCUIT

Check the fuel level sensor signal circuit. Refer to MWI-136, "EXCEPT FOR R9M : Component Function Check" (except for R9M), or MWI-138, "R9M : Component Function Check" (R9M).

Is the inspection result normal?

YES >> Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace malfunctioning parts.

THE STEERING SWITCHES ARE INOPERATIVE

Description

INFOID:0000000010715034

If any of the following malfunctions is found for the steering switch operation.
- All switches are inoperative
- The specified switch cannot be operated

Diagnosis Procedure

INFOID:0000000010715035

1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

Check the steering switch signal A circuit. Refer to MWI-130, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning parts.

2.CHECK STEERING SWITCH SIGNAL B CIRCUIT

Check the steering switch signal B circuit. Refer to MWI-132, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-151, "Removal and Installation".
NO >> Repair or replace malfunctioning parts.

THE METER CONTROL SWITCH IS INOPERATIVE

Description

INFOID:0000000010715036

If any of the following malfunctions is found for the meter control switch operation.
- All switches are inoperative
- The specified switch cannot be operated

Diagnosis Procedure

INFOID:0000000010715037

1.CHECK METER CONTROL SWITCH SIGNAL CIRCUIT

Check the meter control switch signal circuit. Refer to MWI-134, "Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK METER CONTROL SWITCH

Perform a unit check for the meter control switch. Refer to MWI-135, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-151, "Removal and Installation".
NG >> Replace meter control switch. Refer to MWI-155, "Removal and Installation".

THE DOOR OPEN WARNING CONTINUES DISPLAYING, OR DOES NOT DISPLAY

Description

INFOID:0000000010715038

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

Diagnosis Procedure

INFOID:0000000010715039

1.CHECK DOOR SWITCH CIRCUIT

Connect CONSULT and check the BCM input signals. Refer to DLK-186, "Component Function Check" (TYPE1), DLK-495, "Component Function Check" (TYPE2), DLK-695, "Component Function Check" (TYPE3), or DLK-842, "Component Function Check" (TYPE4).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning parts.

2.CHECK COMBINATION METER INPUT SIGNAL

Select the “Data Monitor” for the “METER/M&A” and check the “DOOR W/L” monitor value.

“DOOR W/L”	
Door open	: On
Door closed	: Off

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-151, "Removal and Installation".
NO >> Replace BCM. Refer to BCS-121, "Removal and Installation".

THE AMBIENT TEMPERATURE DISPLAY IS INCORRECT

Description

INFOID:0000000010715040

- The displayed ambient air temperature is higher than the actual temperature.
- The displayed ambient air temperature is lower than the actual temperature.

Diagnosis Procedure

INFOID:0000000010715041

NOTE:
Check that the symptom is not applicable to the normal operating condition before starting diagnosis. Refer to MWI-150, "INFORMATION DISPLAY : Description".

1.CHECK AMBIENT SENSOR SIGNAL CIRCUIT

Check the ambient sensor signal circuit. Refer to MWI-142, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning parts.

2.CHECK COMBINATION METER INPUT SIGNAL

Select the “Data Monitor” for the “METER/M&A” and check the “OUTSIDE TEMP” monitor value.

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-151, "Removal and Installation".
NO >> Replace ambient sensor. Refer to MWI-156, "Removal and Installation".

NORMAL OPERATING CONDITION
INFORMATION DISPLAY

INFORMATION DISPLAY : Description

INFOID:0000000010715042

DISTANCE TO EMPTY

The calculated distance to empty may differ from the actual distance to empty if the refueling amount is approximately 5 ℓ (1-1/8 Imp gal) or less. This is because the refuel control (moves the fuel gauge needle quicker than normal judging that the driver is refueling the vehicle) is not performing.

AMBIENT TEMPERATURE

The displayed ambient temperature on the information display may differ from the actual temperature because it is a corrected value calculated from the ambient sensor signal by the combination meter. Refer to MWI-71, "INFORMATION DISPLAY : System Description" for details on the correction process.

REMOVAL AND INSTALLATION

COMBINATION METER

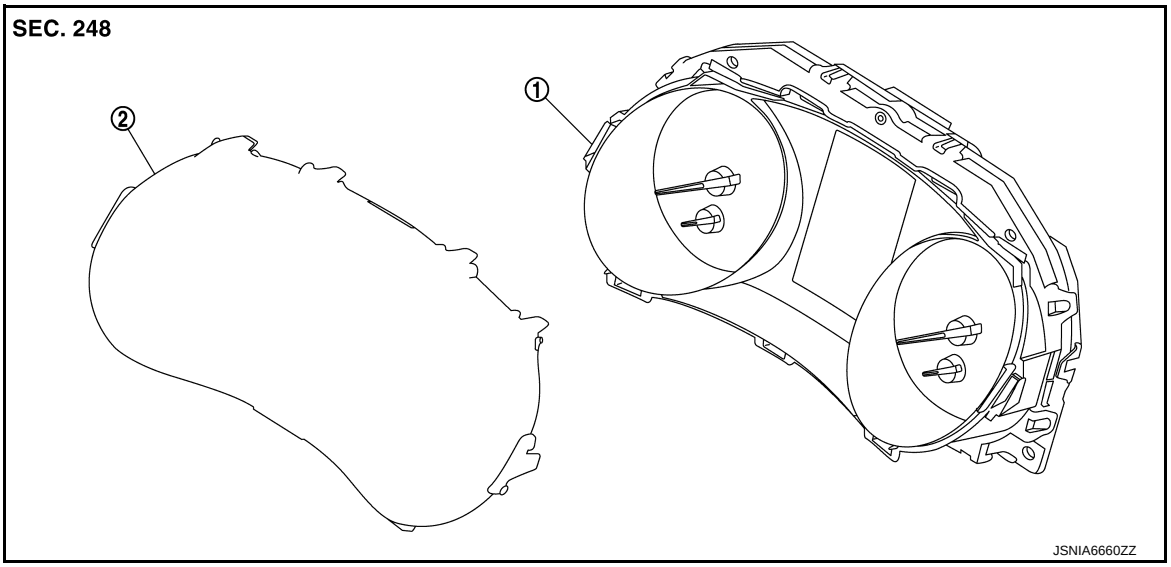
Exploded View

INFOID:0000000010715043

REMOVAL

Refer to IP-13, "Exploded View" (LHD models), or IP-40, "Exploded View" (RHD models).

DISASSEMBLY



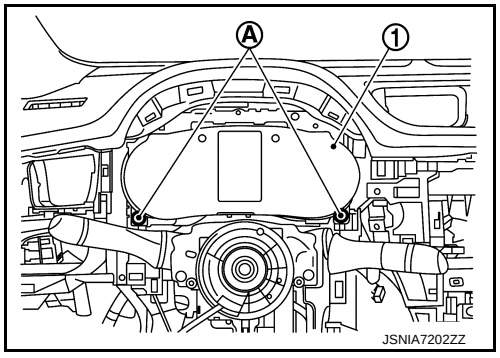
① Unified meter control unit ② Front cover

Removal and Installation

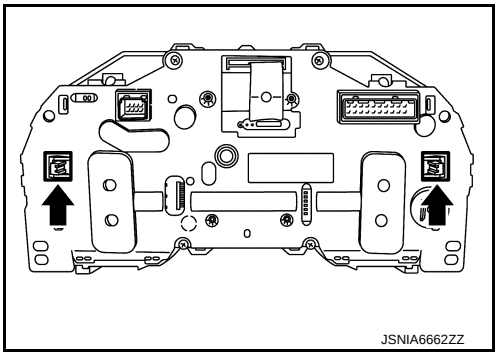
INFOID:0000000010715044

REMOVAL

1. Disconnect the battery cable from the negative terminal..
2. Remove cluster lid A. Refer to IP-14, "Removal and Installation" (LHD models) or IP-41, "Removal and Installation" (RHD models).
3. Remove the mounting screws Ⓐ of the combination meter ①.



4. Pull out the combination meter straight to desengage resin clips. (The figure shows the clip positions on the back of the combination meter.)
CAUTION:
Never damage the front cover.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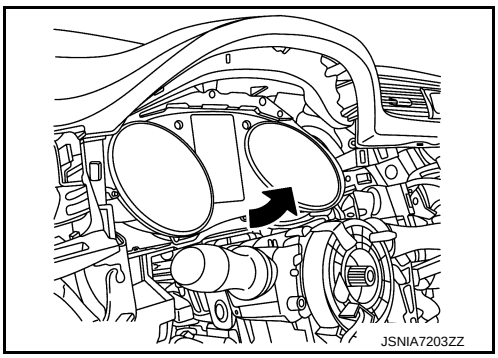
5. Turn combination meter in the direction shown by arrow and disconnect the connector to remove combination meter from vehicle.
CAUTION:
Never damage the front cover.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INSTALLATION
Installation is in the reverse order of removal.

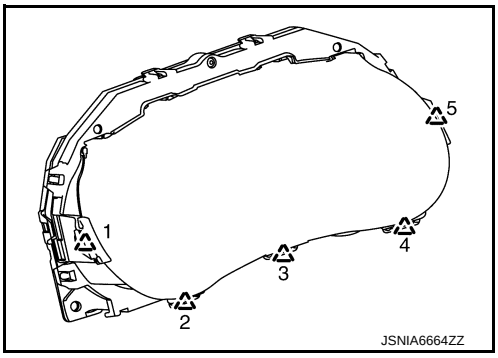
Disassembly and Assembly

INFOID:0000000010715045

DISASSEMBLY

1. Unlatch the pawls on the side (2 pawls) and the bottom (3 pawls) of combination meter to allow the front cover to become slightly released.

△ : Pawl



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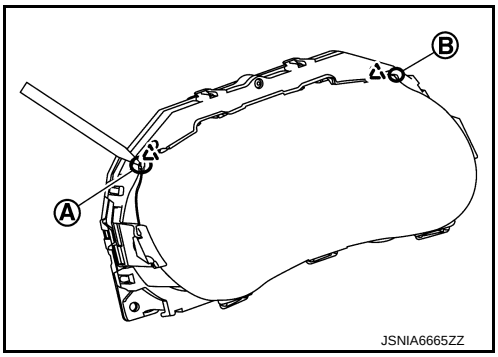
2. Insert removal tool into the clearance (Ⓐ and Ⓑ) between front cover and meter control unit assembly and unlatch pawls by turning the tool in the way of widening the clearance.
CAUTION:
Wrap the removal tools with protective tape to prevent scratches.

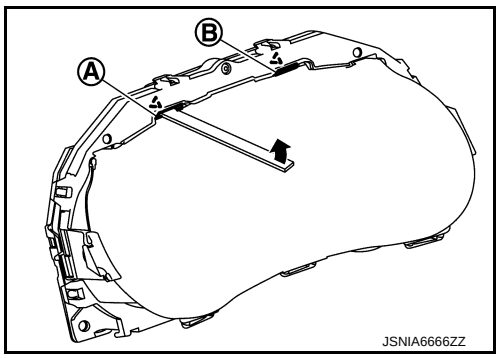


JSNIA6665ZZ

3. Insert removal tool into Ⓐ and Ⓑ to unlatch the pawls.

: Pawl

CAUTION:
- **Wrap the removal tools with protective tape to prevent scratches.**
- **Never damage the front cover.**



4. Pull the front cover straight to remove it from the unified meter control unit.

CAUTION:
- **Never damage the front cover.**
- **Never touch the inside of front cover, pointer, the display and the printed area of the dial during the work.**
- **Keep away from magnetic sources.**

ASSEMBLY

Install the front cover straight to the unified meter control unit and engage all the pawl.

CAUTION:
- **Never damage the front cover.**
- **Never touch the inside of front cover, pointer, the display and the printed area of the dial during the work.**
- **Keep away from magnetic sources.**

STEERING SWITCH

Removal and Installation

INFOID:0000000010715046

REMOVAL

Refer to ST-12, "Removal and Installation".

NOTE:

Always remove steering switch together with steering wheel.

INSTALLATION

Installation is in the reverse order of removal.

METER CONTROL SWITCH

Exploded View

INFOID:0000000010715047

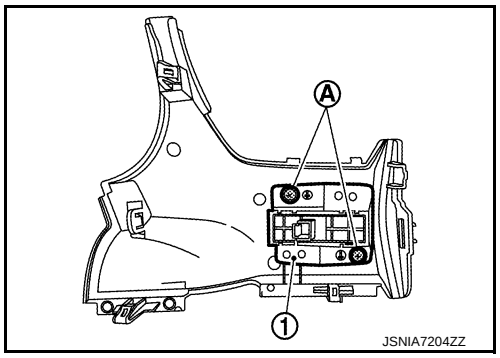
Refer to IP-13, "Exploded View" (LHD models), or IP-40, "Exploded View" (RHD models).

Removal and Installation

INFOID:0000000010715048

REMOVAL

1. Remove instrument lower panel LH ①. Refer to IP-14, "Removal and Installation" (LHD models), or IP-41, "Removal and Installation" (RHD models).
2. Remove the meter control switch mounting screws Ⓐ, and remove the meter control switch ①.



INSTALLATION

Install in the reverse order of removal.

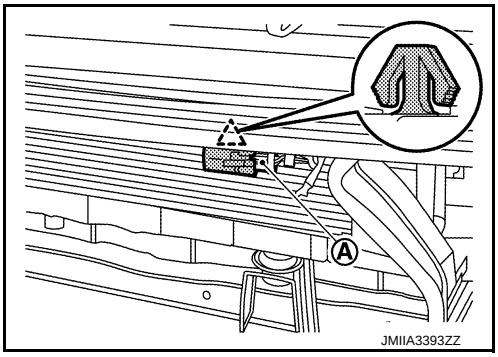
AMBIENT SENSOR

Removal and Installation

INFOID:0000000010715049

REMOVAL

1. Remove front bumper fascia assembly. Refer to EXT-15, "Removal and Installation".
2. Disconnect harness connector Ⓐ.



: Pawl

3. Disengage fixing pawl, and then remove ambient sensor.

INSTALLATION

Install in the reverse order of removal.