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PRECAUTION

PRECAUTIONS

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

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

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

Always observe the following items for preventing accidental activation.

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

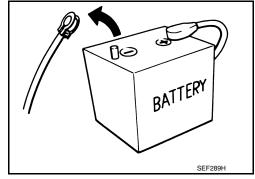
Precautions for Removing Battery Terminal

When disconnecting the battery terminal, pay attention to the following.

- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.
- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:

D4D engine : 20 minutes YS23DDT : 4 minutes
HRA2DDT : 12 minutes YS23DDTT : 4 minutes
K9K engine : 4 minutes ZD30DDTi : 60 seconds
M9R engine : 4 minutes ZD30DDTT : 60 seconds

R9M engine : 4 minutes V9X engine : 4 minutes YD25DDTi : 2 minutes



INFOID:0000000013005087

NOTE:

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

 After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.
 NOTE:

PRECAUTIONS

< PRECAUTION >

- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
- Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
- Driving for 30 minutes or more on a steep slope.
- 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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PREPARATION

< PREPARATION >

PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000012406846

Tool name		Description
Power tool	PBIC0191E	Loosening screws

COMPONENT PARTS

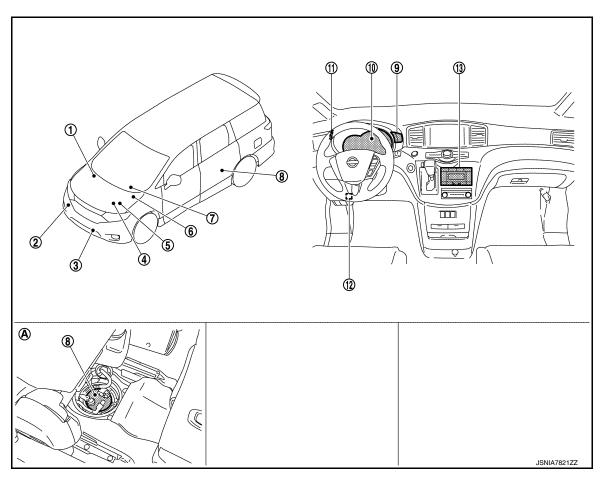
< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

COMPONENT PARTS METER SYSTEM

METER SYSTEM: Component Parts Location

INFOID:0000000012406847



A. Under the left second seat

No.	Component	Function	M
1.	ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the combination meter via CAN communication. Refer to BRC-9 , "Component Parts Location" for detailed installation location.	IVI
2.	Washer level switch	Transmits the washer level switch signal to the combination meter.	MV
3.	Ambient sensor	Transmits the ambient sensor signal to the IPDM E/R.	1010
4.	TCM	Transmits the shift position signal to the combination meter via CAN communication. Refer to TM-12 , "CVT CONTROL SYSTEM: Component Parts Location" for detailed installation location.	0
5.	ECM	Transmits the following signals to the combination meter via CAN communication. • Engine speed signal • Engine coolant temperature signal • Fuel consumption monitor signal • Fuel filler cap warning display signal • Oil pressure warning lamp signal • Engine status signal Refer to EC-17, "ENGINE CONTROL SYSTEM: Component Parts Location" for detailed installation location.	Р

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

No.	Component	Function
6.	IPDM E/R	Transmits the ambient sensor signal to the combination meter. Refer to PCS-4, "IPDM E/R: Component Parts Location" for detailed installation location.
7.	всм	Transmits the following signals to the combination meter via CAN communication. Door switch signal Door lock/unlock status signal Meter display signal Low tire pressure warning lamp signal Dimmer signal Starter relay status signal Refer to BCS-5, "BODY CONTROL SYSTEM: Component Parts Location" for detailed installation location.
8.	Fuel level sensor unit	Transmits the fuel level sensor signal to the combination meter.
9.	Meter control switch	Transmits the following signals to the combination meter. • Enter switch signal • Select switch signal • Trip reset switch signal
10.	Combination meter	Refer to MWI-8, "METER SYSTEM: Combination Meter".
11.	Illumination control switch	Transmits the following signals to the combination meter. • Illumination control switch signal (+) • Illumination control switch signal (-)
12.	Parking brake switch	Transmits the parking brake switch signal to the combination meter.
13.	A/C auto amp. (with auto A/C)	Transmits the A/C auto amp. connection recognition signal to the combination meter. Refer to HAC-9, "Component Parts Location" for detailed installation location.

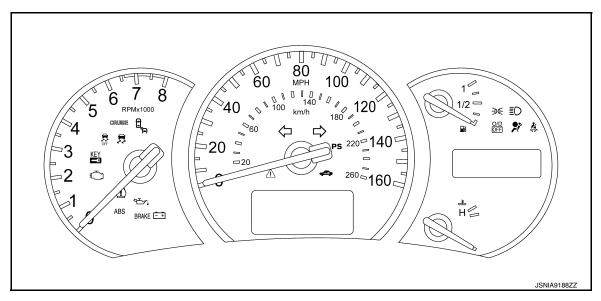
METER SYSTEM: Combination Meter

INFOID:0000000012406848

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
- Indicator lamps
- Warning lamps
- Meter illumination control
- · Meter effect function
- Information display

ARRANGEMENT OF COMBINATION METER

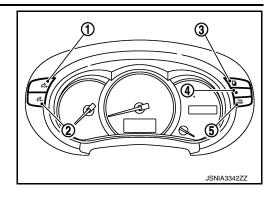


METER SYSTEM: Meter Control Switch and Illumination Control Switch

COMPONENT PARTS

< SYSTEM DESCRIPTION >

- The meter control switch is located on the cluster lid A RH.
- The illumination control switch is located on the cluster lid A LH.



	Switch name	Description
Illumination control switch	Illumination control switch (+) (1)	An illuminance level of the back light of the combination
	Illumination control switch (-) (2)	meter can be adjusted.
Meter control switch	Enter switch (3)	 The information display screen can be switched. The item indicated on the information display can be confirmed.
	Select switch (4)	When plural items are shown on the information display, a selected item can be changed to the other item.
	Trip reset switch (5)	 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.

- Transmits the following signals to the combination meter.
- Illumination control switch signal (+)
- Illumination control switch signal (-)
- Enter switch signal
- Select switch signal
- Trip reset switch signal

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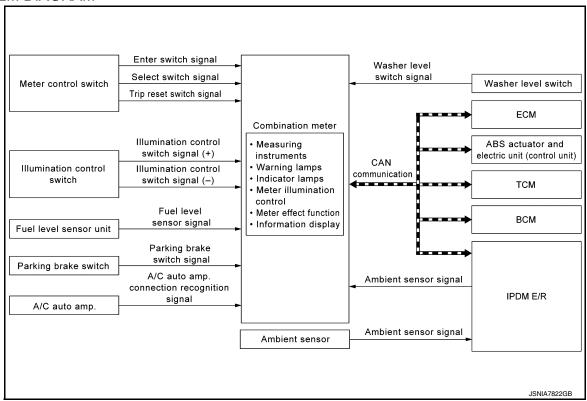
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METER SYSTEM METER SYSTEM

METER SYSTEM: System Description

INFOID:0000000012406850

SYSTEM DIAGRAM



COMBINATION METER INPUT SIGNAL (CAN COMMUNICATION SIGNAL)

Transmit unit	Signal name
ABS actuator and electric unit (control unit)	Vehicle speed signal
	Door switch signal
	Door lock/unlock status signal
BCM	Meter display signal
DCIVI	Low tire pressure warning lamp signal
	Dimmer signal
	Starter relay status signal
TCM	Shift position signal
	Engine speed signal
	Engine coolant temperature signal
ECM	Fuel consumption monitor signal
EGIVI	Fuel filler cap warning display signal
	Oil pressure warning lamp signal
	Engine status signal

DESCRIPTION

Combination Meter

The combination meter receives necessary signals from each unit, switch, and sensor to control the following functions.

< SYSTEM DESCRIPTION >

- Measuring instruments
- 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 device. Refer to WCS-5, "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
	Speedometer	Indicates vehicle speed.	MWI-16. "SPEEDOME- TER: System Description"
Measuring in-	Tachometer	Indicates engine speed.	MWI-16, "TA- CHOMETER: System Descrip- tion"
struments	Engine coolant temperature gauge	Indicates engine coolant temperature.	MWI-16, "EN- GINE COOLANT TEMPERATURE GAUGE: System Description"
	Fuel gauge	Indicates fuel level.	MWI-17. "FUEL GAUGE : System Description"
Warning lamp/ indicator lamp	Oil pressure warning lamp	The warning lamp turns ON or turns OFF, according to engine hydraulic pressure.	MWI-17. "OIL PRESSURE WARNING LAMP : System Descrip- tion"
	Master warning lamp	Turns ON/OFF in synchronization with a warning indicated on the information display.	MWI-18, "MAS- TER WARNING LAMP : System Description"
Meter illumi- nation control	Meter illumination control function	Controls the back light of combination meter.	MWI-18, "METER ILLUMINATION CONTROL: System Description"
Meter effect function	Engine-start effect function	Controls pointers of combination meter and meter illumination at engine start to produce illumination effects.	MWI-20, "METER EFFECT FUNC- TION: System
	Driver welcome function	Controls meter illumination to produce illumination effects when getting in the vehicle.	Description"

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< SYSTEM DESCRIPTION >

System				Description	Reference
	Odo/trip meter			Displays mileage.	
	Shift position indicator			Displays shift position.	
	Current fuel consumption		sumption	Displays current fuel consumption.	
		Average fuel consumption		Displays average fuel consumption.	
		Distance to empty		Displays distance to empty.	
	Trip computer	Average vehicle speed		Displays average vehicle speed.	
		Travel time		Displays travel time.	
		Travel distance		Displays mileage.	
		Ambient temper	ature	Displays ambient temperature.	
			Door open warning	Warns when a door is open.	
	Interrupt indication Alert Maint	Warning	Parking brake release warning	Warns if traveling when the parking brake is under operating condition.	MWI-22, "INFOR-MATION DIS-PLAY: System Description"
			Low fuel warn- ing	Warns when being low on fuel.	
			Low washer flu- id warning	Displayed/Hidden, depending on washer fluid level.	
Information display			Fuel filler cap warning	Receives fuel filler cap warning display signal and displays warning.	
			Low tire pres- sure warning	Receives low tire pressure warning lamp signal and displays warning.	
			NO KEY warn- ing	Receives meter display signal and displays warning.	
		Alert	Travel time	Causes an interrupt when exceeding randomly set time.	
			Low ambient temperature	Causes an interrupt when ambient temperature reaches below 3°C (37°F).	
		Maintenance —	Tire	Causes an interrupt when exceeding randomly set distance.	
			Oil filter	Causes an interrupt when exceeding randomly set distance.	
			Engine oil	Causes an interrupt when exceeding randomly set distance.	
			Other	Causes an interrupt when exceeding randomly set distance.	
		Meter illumination	on level	Indicates the brightness of the meter illumination in stages.	

< SYSTEM DESCRIPTION >

System		Description	Reference			
	Alout	Timer	Allows the user to set a display time for "Travel time".			
		Alert Maintenance Options	ICY	Allows the ON/OFF setting of the low ambient temperature (alert) function.	MWI-22, "INFOR- MATION DIS- PLAY: System Description"	
			Tire	Alerts when reaching mileage set in "SET-TING".		
Information display Setting			Filter	Alerts when reaching mileage set in "SET-TING".		
	Setting		Oil	Alerts when reaching mileage set in "SET-TING".		
			Other	Alerts when reaching mileage set in "SET-TING".	<u> </u>	
			Language	Allows the user to set language for information display.		
			Options	Unit	Allows unit settings.	
			Effects	Allows the ON/OFF setting of the engine- start effect function.		

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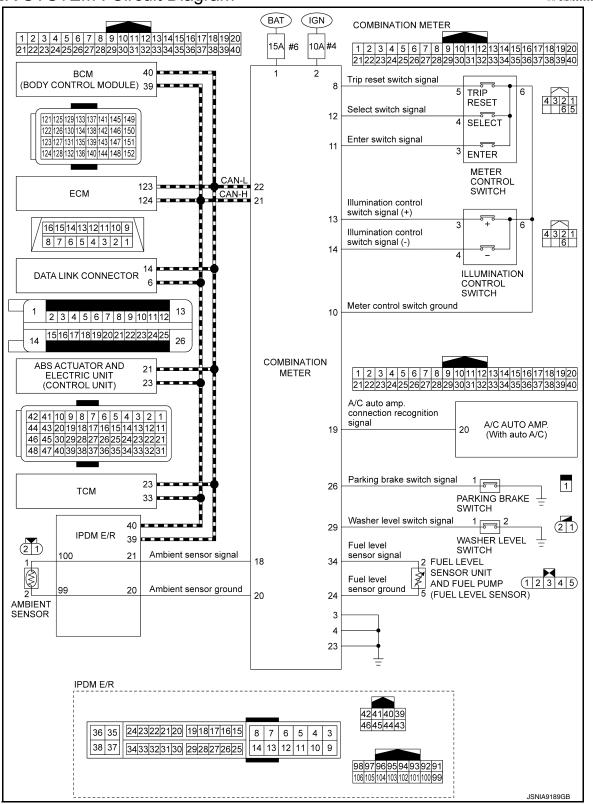
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METER SYSTEM : Circuit Diagram

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METER SYSTEM: Fail-Safe

INFOID:0000000013005220

FAIL-SAFE

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

< SYSTEM DESCRIPTION >

Function			Specifications	
Speedometer				
Tachometer			Reset to zero by suspending communication.	
Engine coolant ten	nperature gauge			
Illumination control	I		When suspending communication, changes to nighttime mode.	
	Odo/trip meter		An indicated value is maintained at communications blackout	
	Shift position indicate	or	The display turns OFF by suspending communication.	
		Door open warning	The display turns OFF by suspending communication.	
	Interrupt indication	Fuel filler cap warning		
Information dis-		Low tire pressure warning		
play		Current fuel consumption		
	Trip computer	Average fuel consumption	 When reception time of an abnormal signal is 2 seconds o less, the last received datum is used for calculation to indicate the result. When reception time of an abnormal signal is more than two seconds, the last calculation results are indicated. 	
		Distance to empty		
		Average vehicle speed		
		Travel distance		
Buzzer	1		The buzzer turns OFF by suspending communication.	
	ABS warning lamp		The lamp turns ON by suspending communication.	
	VDC warning lamp			
	Brake warning lamp			
	EPS warning lamp			
	Malfunction indicator lamp			
	Low tire pressure warning lamp		The lamp blinking caused by suspending communication.	
	High beam indicator lamp			
Warning lamp/in- dicator lamp	Turn signal indicator lamp			
	VDC OFF indicator lamp			
	O/D OFF indicator lamp			
	Position lamp indicator lamp		The lamp turns OFF by suspending communication.	
	CRUISE indicator lamp			
	Oil pressure warning lamp			
	BSW warning lamp			
	Key warning lamp			

SPEEDOMETER

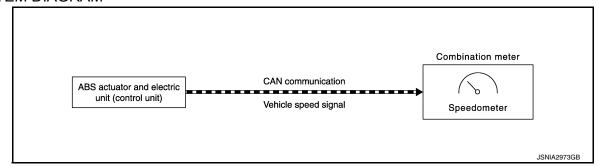
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SPEEDOMETER: System Description

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SYSTEM DIAGRAM



DESCRIPTION

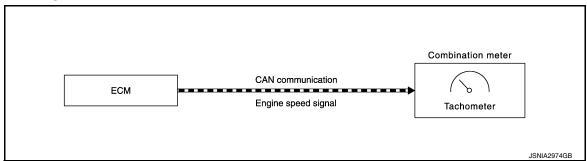
- The ABS actuator and electric unit (control unit) converts the rectangular wave signal provided by the wheel sensor to a vehicle speed signal and transmits it to the combination meter via CAN communication.
- The combination meter indicates the vehicle speed to the speedometer according to the vehicle speed signal received via CAN communication.

TACHOMETER

TACHOMETER: System Description

INFOID:0000000012406854

SYSTEM DIAGRAM



DESCRIPTION

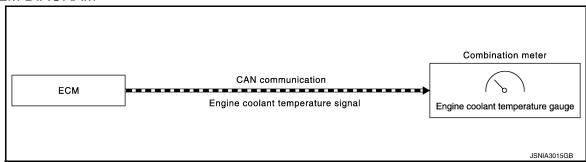
- ECM converts the pulse signal provided by the crankshaft position sensor to an engine speed signal and transmits it to the combination meter via CAN communication.
- The combination meter indicates the engine speed to the tachometer according to the engine speed signal received via CAN communication.

ENGINE COOLANT TEMPERATURE GAUGE

ENGINE COOLANT TEMPERATURE GAUGE: System Description

INFOID:0000000012406855

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.

< SYSTEM DESCRIPTION >

• 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:0000000012406856

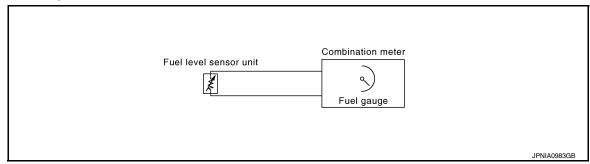
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SYSTEM DIAGRAM



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.

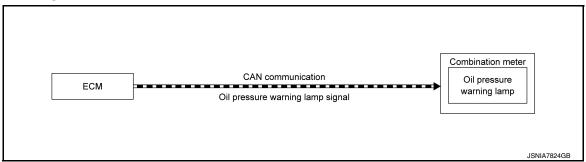
- · Ignition switch is ON position.
- The vehicle is not moving.
- The fuel level change by 15 ℓ (4 US gal, 3-1/4 Imp gal) or more.

OIL PRESSURE WARNING LAMP

OIL PRESSURE WARNING LAMP : System Description

INFOID:0000000012406857

SYSTEM DIAGRAM



DESCRIPTION

The combination meter turns the oil pressure warning lamp ON when receiving ECM to the oil pressure warning lamp signal via CAN communication. For details, refer to EC-26, "Engine Oil Pressure Sensor".

MASTER WARNING LAMP

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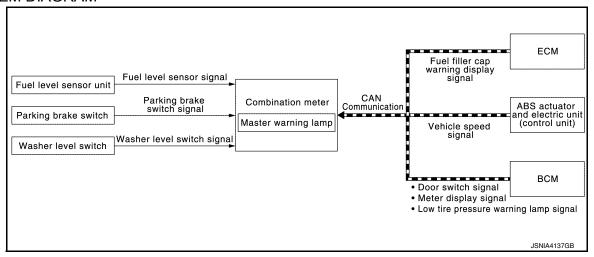
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MASTER WARNING LAMP: System Description

INFOID:0000000012406858

SYSTEM DIAGRAM



DESCRIPTION

When receiving a signal from each unit, switch, or sensor, the combination meter turns ON/OFF the master warning lamp in synchronization with the following warnings on the information display.

- · Door open warning
- Parking brake release warning
- Low fuel warning
- · Low washer fluid warning
- NO KEY warning
- · Low tire pressure warning
- Fuel filler cap warning

NOTE:

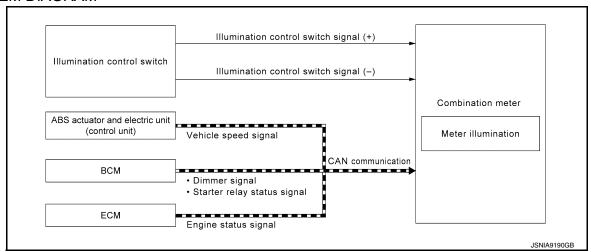
For details on warnings displayed on the information display, refer to <u>MWI-22, "INFORMATION DISPLAY : System Description"</u>.

METER ILLUMINATION CONTROL

METER ILLUMINATION CONTROL: System Description

INFOID:0000000012406859

SYSTEM DIAGRAM



DESCRIPTION

Meter Illumination On/off Control Function

- Combination meter turns ON meter illumination when the following condition is satisfied:
- Ignition switch ON
- Combination meter turns OFF meter illumination when any of the following condition is satisfied:

< SYSTEM DESCRIPTION >

- During a crank with vehicle speed less than 1 km/h (0.6 MPH)
- Ignition switch OFF or ACC
- The combination meter receives the following signals to control meter illumination.

Signal name	Signal path
Ignition signal	-
Engine status signal	ECM CAN Combination meter
Vehicle speed signal	ABS actuator and control unit (control unit) CAN Combination meter
Starter relay status signal	BCM CAN Combination meter

Meter Illumination Control Function

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

Condition			Meter illumination
	1ST or 2ND position	Outdoor: Bright*	Daytime mode
0 1: " " "		Outdoor: Dark*	Nighttime mode
Combination switch (lighting switch)	AUTO POSITION	Outdoor: Bright*	Daytime mode
(3 - 3)		Outdoor: Dark*	Nighttime mode
_	Off		Daytime mode

^{*:} For further information, refer to INL-18, "AUTO LIGHT ADJUSTMENT SYSTEM: System Description".

• 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

Signal Path

Signal name	Signal source
Ignition signal	_
Dimmer signal	BCM CAN Combination meter

METER EFFECT FUNCTION

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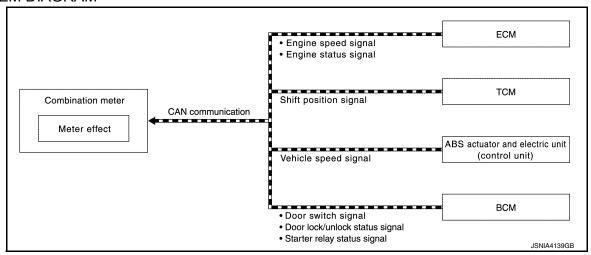
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METER EFFECT FUNCTION: System Description

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SYSTEM DIAGRAM



DESCRIPTION

Engine-start Effect Function

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

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

Meter and Illumination Operations During Engine-start Effect

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

Control item	Operation	
Speedometer	Sweeps the pointer.	
Tachometer	Sweeps the pointer.	
Engine coolant temperature gauge	Stops the pointer.	
Fuel gauge	Stops the pointer.	
Pointer	Turns on the illumination at the normal brightness level.	
Printed area of the dial	Turns on the illumination at the effect level.	
Illumination ring	Increases the brightness to the effect level in stages.	
Information display (Dot matrix display and segment display)	Turns on the illumination at the normal brightness level.	

NOTE:

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

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
Lingine state	500 rpm or more

< SYSTEM DESCRIPTION >

Operational condition		
Shift position	"P"	
Information display (SET-TING)	The setting of "EFFECT" is "ON"	

NOTE:

ENGINE-START EFFECT exits when any of the above operational conditions is cancelled during the enginestart 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	_	
Starter relay status signal	BCM CAN Combination meter	
Engine speed signal	CAN S O LIVE	
Engine status signal	ECM CAN Combination meter	
Vehicle speed signal	ABS actuator and electric unit (control unit) CAN Combination meter	
Shift position signal	TCM 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.

Driver Welcome Function

BCM transmits a meter ring illumination request signal to the illumination meter when all the following operational conditions are satisfied. When receiving the meter ring illumination request signal from BCM via CAM communication, the combination meter increases illumination brightness of the combination meter to the set brightness level in stages. After a certain period of time, the meter illumination gradually dims to be turned OFF.

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 receives the following signals to control meter ring illumination.

Signal name	Signal source
Ignition signal	_
Door switch signal (driver)	BCM CAN Combination meter
Door lock/unlock sta- tus signal	BCM CAN Combination meter

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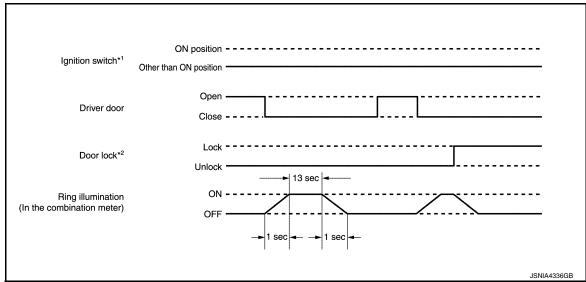
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Timing Chart



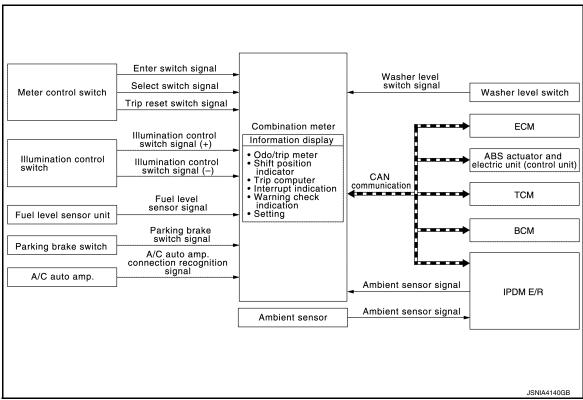
- *1: The driver welcome function is not performed when the driver's door is opened/closed for the first time after turning the ignition switch from ON to LOCK.
- *2: The operation of the following switches allows the door to be locked/unlocked.
- Door lock/unlock button of the Intelligent Key
- Door request switch
- Door key cylinder switch
- Door lock and unlock switch

INFORMATION DISPLAY

INFORMATION DISPLAY: System Description

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SYSTEM DIAGRAM

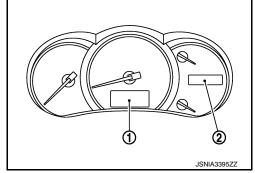


DESCRIPTION

 The combination meter receives signals necessary for controlling the operation of the information display from each unit, sensor and switch.

< SYSTEM DESCRIPTION >

- 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.
- Odo/trip meter
- Shift position indicator
- Trip computer
- Interrupt indication
- Warning check indication
- Setting
- The vehicle information display is comprised of dot matrix information display (1) and segment information display (2). Each display shows the items listed below.



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Display	Display item		
	Interrupt indica-	Warning	Door open warning
			Parking brake release warning
			Low fuel warning
			Low washer warning
			Fuel filler cap warning
			Low tire pressure warning
			NO KEY warning
	tion	Alort	Travel time
		Alert	ICY
			Tire
		Maintenance	Oil filter
		Maintenance	Engine oil
			Other
		Meter illumination level	
ot matrix information	Trip computer		Current fuel consumption
display			Average fuel consumption
			Average vehicle speed
			Travel time
			Travel distance
			Distance to empty
			Ambient temperature
		Alert	Timer
			ICY
		Maintenance	Tire
	Setting		Oil filter
			Engine oil
			Other
		Options	Language
			Unit
			Effect
Segment information display	Shift position inOdo/trip meter	ndicator	

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

SHIFT POSITION INDICATOR

The combination meter receives the shift position signal from TCM via CAN communication, and displays the shift position to the shift position indicator.

< SYSTEM DESCRIPTION >

Signal name	Signal Path
Shift position signal	TCM CAN Combination meter

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.

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

NOTE:

- Current fuel consumption on the information display is updated approximately every 0.1 seconds.
- Current fuel consumption on the information display shows 30 l/100km (0 mpg) when vehicle speed is 0 km/h (0 MPH).

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 Path
Ignition signal	_
Fuel consumption monitor signal	ECM CAN Combination meter
Vehicle speed signal	ABS actuator and electric unit (control unit) CAN 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 after battery installation, "——" is displayed for 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 Path
Ignition signal	_
Fuel level sensor signal	Fuel level sensor unit Combination meter
Fuel consumption monitor signal	ECM 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, "——" is displayed for 30 seconds because stored values are deleted
 after battery installation.
- The indicated values may not match each other when refueling with the ignition switch ON.

Average Vehicle Speed

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< SYSTEM DESCRIPTION >

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 Path
Ignition signal	_
Vehicle speed signal	ABS actuator and electric unit (control unit) CAN Combination meter

NOTE:

- Average vehicle speed on the information display is updated approximately every 30 seconds.
- Soon after a reset or when the ignition switch is turned ON after battery installation, "——" is displayed for 30 seconds.

Travel Time

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

Travel Distance

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

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 ———— IPDM E/R ———— Combination meter
A/C auto amp. recognition signal (with auto A/C)	A/C auto amp. ———— 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.

INTERRUPT INDICATION

- The combination meter displays an interrupt regarding a warning, alert, and maintenance on the information display, based on signals received from each unit and switch.
- When conditions are satisfied, the normal screen switches to a warning screen to display an interrupt.

Door Open Warning

When all the following operating conditions are satisfied, the combination meter displays a door open warning on the information display by an interrupt.

Operating condition		
Ignition switch	ON	
Door	Any door is open	

< SYSTEM DESCRIPTION >

• The combination meter judges showing/hiding of "door open warning", according to the signals below:

Signal name	Signal Path
Ignition signal	_
Door switch signal	Door switch BCM CAN Combination meter

Parking Brake Release Warning

• When all the following operating conditions are satisfied, the combination meter displays a parking brake release warning on the information display by an interrupt.

Operating condition		
Ignition switch	ON	
Parking brake	Applied	
Vehicle speed	7 km/h (4.3 MPH) or more	

 The combination meter judges showing/hiding of "parking brake release warning", according to the signals below:

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

Low Fuel Warning

• When all the following operating conditions are satisfied, the combination meter displays a low fuel warning on the information display by an interrupt.

Operating condition	
Ignition switch	ON
Fuel remaining quantity*	Approximately 11.4 ℓ (3 US gal, 2 - 1/2 Imp gal) or less (including fuel remained)

*: With the vehicle in a horizontal position

• The combination meter judges showing/hiding of "low fuel warning", according to the signals below:

Signal name	Signal Path
Ignition signal	_
Fuel level sensor signal	Fuel level sensor ———— Combination meter

Low washer fluid warning

 When all the following operating conditions are satisfied, the combination meter displays a low washer fluid warning on the information display by an interrupt.

Operating condition	
Ignition switch	ON
Washer level switch	Decrease in fluid level (washer level switch ON for 180 seconds or more)

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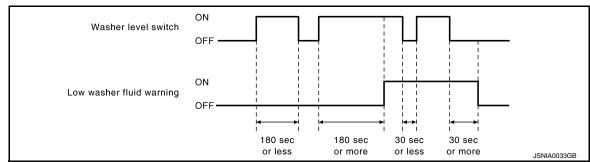
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• The combination meter judges showing/hiding of "low washer fluid warning", according to the signals below:

Signal name	Signal Path
Ignition signal	_
Washer level switch signal	Washer level switch ——— Combination meter

Fuel Filler Cap Warning

• The combination meter judges showing/hiding of "fuel filler cap warning", according to the signals below:

Signal name	Signal Path
Ignition signal	-
Fuel filler cap warning display signal	ECM CAN Combination meter

• For further information, refer to EC-55, "FUEL FILLER CAP WARNING SYSTEM: System Description".

Low Tire Pressure Warning

The combination meter judges showing/hiding of "low tire pressure warning", according to the signals below:

Signal name	Signal Path
Ignition signal	_
Low tire pressure warning lamp signal	BCM CAN Combination meter

For further information, refer to <u>WT-8, "System Description"</u>.

NO KEY Warning

• The combination meter judges showing/hiding of "NO KEY warning", according to the signals below:

Signal name	Signal Path
Ignition signal	_
Meter display signal	BCM CAN Combination meter

• For further information, refer to <u>DLK-47</u>, "WARNING FUNCTION: System Description".

Travel Time (Alert)

• When all the following operating conditions are satisfied, the combination meter displays a travel time on the information display by an interrupt.

Operating condition	
Ignition switch	Switch-ON time

• The combination meter judges showing/hiding of "travel time", according to the signal below:

< SYSTEM DESCRIPTION >

Signal name	Signal Path
Ignition signal	_

Low Ambient Temperature (Alert)

 When all the following operating conditions are satisfied, the combination meter displays a low ambient temperature on the information display by an interrupt.

Operating condition		
Ignition switch	ON	
Ambient temperature	3 °C (37 °F) or less	
information display	"ON" is selected in "SETTING"	

• The combination meter judges showing/hiding of "low ambient temperature", according to the signals below:

Signal name	Signal Path
Ignition signal	_
Ambient sensor signal	Ambient sensor ———— IPDM E/R ———— Combination meter

Tire (Maintenance)

• When all the following operating conditions are satisfied, the combination meter displays a tire warning on the information display by an interrupt.

Operating condition			
Ignition switch ON			
Mileage	More than value set in "SETTING"		

• The combination meter judges showing/hiding of "tire warning", according to the signals below:

Signal name	Signal Path	
Ignition signal	_	
Vehicle speed signal	ABS actuator and electric unit (control unit) CAN Combination meter	

Oil Filter (Maintenance)

• When all the following operating conditions are satisfied, the combination meter displays a oil filter warning on the information display by an interrupt.

Operating condition			
Ignition switch ON			
Mileage	More than value set in "SETTING"		

• The combination meter judges showing/hiding of "oil filter warning", according to the signals below:

Signal name	Signal Path	
Ignition signal	_	
Vehicle speed signal	ABS actuator and electric unit (control unit) CAN Combination meter	

Engine Oil (Maintenance)

• When all the following operating conditions are satisfied, the combination meter displays a engine oil warning on the information display by an interrupt.

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Operating condition			
Ignition switch	ON		
Mileage	More than value set in "SETTING"		

• The combination meter judges showing/hiding of "engine oil warning", according to the signals below:

Signal name	Signal Path	
Ignition signal	_	
Vehicle speed signal	ABS actuator and electric unit (control unit) CAN Combination meter	

Other (Maintenance)

• When all the following operating conditions are satisfied, the combination meter displays a other warning on the information display by an interrupt.

Operating condition			
Ignition switch ON			
Mileage More than value set in "SETTING"			

• The combination meter judges showing/hiding of "other warning", according to the signals below:

Signal name	Signal Path	
Ignition signal	_	
Vehicle speed signal	ABS actuator and electric unit (control unit) CAN Combination meter	

Meter Illumination Level Indication

When receiving the following signals, the combination meter causes an interrupt on the information display to indicate an illumination level.

Signal name	Signal Path
Ignition signal	_
Illumination control switch signal (+)	
Illumination control switch signal (-)	Illumination control switch Combination meter

WARNING CHECK INDICATION

- 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.

SETTING

Warning indication timing and time can be set.

Alert

Setting values for travel time, and low ambient temperature can be adjusted to meet the user's needs.

	Setting item	Setting range	Setting unit
Alert	Timer	No setting, 0.5 h - 6 h	0.5 h
ICY	ON/OFF	_	

Maintenance

Setting values for engine oil, oil filter, tire, and other maintenance items can be adjusted to meet the user's needs.

< SYSTEM DESCRIPTION >

Setting item		Setting range
	Engine oil	No setting, 500 km - 30,000 km (No setting, 250 mile - 18,500 mile)
Maintenance	Oil filter	No setting, 500 km - 30,000 km (No setting, 250 mile - 18,500 mile)
Т	Tire	No setting, 500 km - 30,000 km (No setting, 250 mile - 18,500 mile)
	Other	No setting, 500 km - 30,000 km (No setting, 250 mile - 18,500 mile)

Options

Setting values for language, unit, and effect items can be adjusted to meet the user's needs.

Setting item			
Options	Language	ENGLISH	
		FRANCAISE	
	Unit	miles, MPG, °F	
	Offic	km, I/100 km, °C	
	Effect	ON/OFF	

Settings-reject Indication

- Regarding settings-reject indications, "SETTING CAN BE OPERATED WHEN STOPPED" is shown on the information display when indication conditions are satisfied.
- When reaching 5 km/h (3.1 MPH) after accelerating from a stopping condition, a settings-reject indication is displayed.
- When reaching less than 2 km/h (1.2 MPH) after decelerating from 5 km/h (3.1 MPH), a settings-reject indication is cancelled to allow settings.
- The combination meter judges a vehicle condition based on the following signals and displays a settingsreject indication on the information display.

Signal name	Signal Path
Ignition signal	_
Vehicle speed signal	ABS actuator and electric unit (control unit) CAN Combination meter

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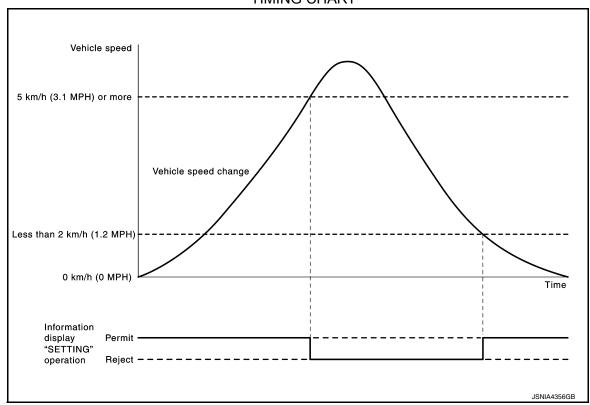
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TIMING CHART



COMPASS

System Description

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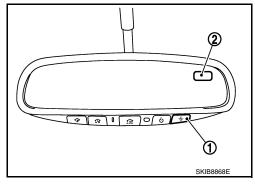
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DESCRIPTION

- This electronic compass is able to display 8 primary directions: N, NE, E, SE, S, SW, W, NW.
- The inside mirror switch is used to operate the compass.

1 : Compass switch2 : Compass display



Switch Operation

Press	Compass is turned ON/OFF
Press and hold (for 3- 9 sec.)	Compass display turns to zone variation change mode
Press and hold (for more than 9 sec.)	Compass display turns to calibration mode

- All standard compasses determine direction relative to magnetic north, however, this electronic compass is designed to display direction relative to true north.
- The difference between magnetic north and true north varies from place to place across the surface of the earth.
- This electronic compass must be "told" approximately where it is on the earth's surface so that the magnetic north reading can be properly converted into a true north display.
- To tell the electronic compass where it's at, the earth is separated into numbered "Zone Variances". The zone variance number in which the compass is to function must be entered into this electronic compass.
- Each zone is magnetically about 4.2° wide. Typically, anything under a 22.5° total zone change is not noticed on the electronic compass display. However, if a change over 22.5° occurs, a reading may be off by one or more primary directions.
- On long trips, the vehicle may leave its original zone and enter one or more new zones. Generally, you do
 not need to reset the compass zone if you travel between 3 or 4 zones, such as business travel or vacation.
 The typical driver will not notice any difference on the display within 3 or 4 zones. However, if the vehicle is
 "permanently" moved to a new location, it is recommended that the compass zone be reset.

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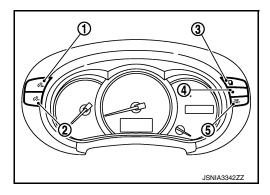
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OPERATION

Switch Name and Function

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	Switch name	Operation	Description
Illumination control switch	Illumination control switch (+) (1)	=	An illuminance level of the back light of the combination meter can be adjusted.
	Illumination control switch (-) (2)		
Meter control switch	Enter switch (3)		The information display screen can be switched. The item indicated on the information display can be confirmed.
	Select switch (4)		When plural items are shown on the information display, a selected item can be changed to the other item.
	Trip reset switch (5)		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)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (COMBINATION METER)

On Board Diagnosis Function

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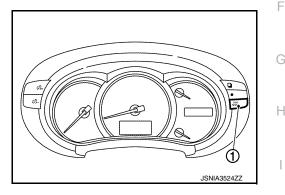
ON BOARD DIAGNOSIS ITEM

The combination meter allows the following diagnosis items with the on-board diagnosis function.

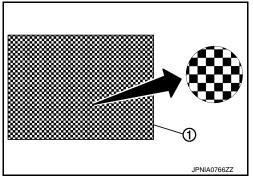
Diagnosis item		
Drive circuit check	SpeedometerTachometerEngine coolant temperature gaugeFuel gauge	
LCD (liquid crystal dis- play) check	Information display (dot matrix information display and segment information display)	

METHOD OF STARTING

- Turn ignition switch OFF.
- 2. While pressing the trip reset switch (1), turn ignition switch ON.



- 3. If the diagnosis function is activated with "trip A" displayed, the mileage on "trip A" is reset to "0000.0". (The same way for "trip B".)
- 4. Make sure that the trip meter displays "0000.0".
- 5. Press the trip reset switch at least 3 times. (Within 7 seconds after the ignition switch is turned ON.)
- 6. The combination meter is turned to self-diagnosis mode.
 - Speedometer, tachometer, engine coolant temperature gauge, and fuel gauge return to zero, simultaneously.
 - The dot matrix dots on the information display (dot matrix information display) (1) blink alternately.



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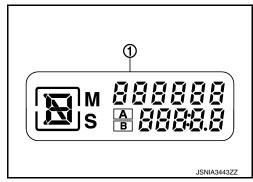
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DIAGNOSIS SYSTEM (COMBINATION METER)

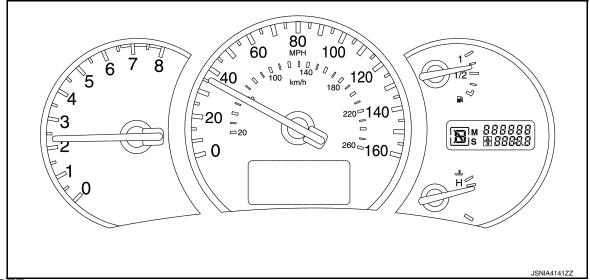
< SYSTEM DESCRIPTION >

 All segments of the information display (segment information display) (1) are displayed.



NOTE:

- Check the following items when the self-diagnosis mode of the combination meter does not start. Replace combination meter if the following items are normal.
- Combination meter power supply and ground circuit.
- Meter control switch signal circuit (trip reset switch signal circuit) and meter control switch.
- If any of the dots are not displayed, replace combination meter.
- 7. Each meter activates by pressing the trip reset switch.



NOTE:

- If any of the meters or gauges is not activated, replace combination meter.
- · The figure is reference.

CONSULT Function

INFOID:0000000012406865

CONSULT 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.	
	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-49, "DTC Index".

DATA MONITOR

NOTE:

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

Display Item List

< SYSTEM DESCRIPTION >

Display item [Unit]	MAIN SIGNALS	Description		
SPEED METER [km/h]	х	Value of vehicle speed signal received from ABS actuator and electric unit (contro unit) via CAN communication. NOTE: 655.35 is displayed when the malfunction signal is received.		
SPEED OUTPUT [km/h]	х	Vehicle speed signal value transmitted to other units via CAN communication. NOTE: 655.35 is displayed when the malfunction signal is received.		
ODO OUTPUT [km/h or mph]		Odometer signal value transmitted to other units via CAN communication.		
TACHO METER [rpm]	х	Value of the engine speed signal received from ECM via CAN communication. NOTE: 8191.875 is displayed when the malfunction signal is received.		
FUEL METER [L]	Х	Fuel level indicated on combination meter.		
W TEMP METER [°C]	Х	Value of engine coolant temperature signal is received from ECM via CAN communication. NOTE: 215 is displayed when the malfunction signal is input.		
ABS W/L [On/Off]		Status of ABS warning lamp detected from ABS warning lamp signal is received from ABS actuator and electric unit (control unit) via CAN communication.		
VDC/TCS IND [On/Off]		Status of VDC OFF indicator lamp detected from VDC OFF indicator lamp signal is received from ABS actuator and electric unit (control unit) via CAN communication.		
SLIP IND [On/Off]		Status of VDC warning lamp detected from VDC warning lamp signal received from ABS actuator and electric unit (control unit) via CAN communication.		
BRAKE W/L [On/Off]		Status of brake warning lamp detected from brake warning lamp signal is received from ABS actuator and electric unit (control unit) via CAN communication. NOTE: Displays "Off" if the brake warning lamp is illuminated when the valve check starts, the parking brake switch is turned ON or the brake fluid level switch is turned ON.		
DOOR W/L [On/Off]		Status of door open warning detected from door switch signal received from BCM via CAN communication.		
HI-BEAM IND [On/Off]		Status of high beam indicator lamp detected from high beam request signal is received from BCM via CAN communication.		
TURN IND [On/Off]		Status of turn indicator lamp detected from turn indicator signal is received from BCM via CAN communication.		
LIGHT IND [On/Off]		Status of position lamp indicator lamp detected from dimmer signal is received from BCM via CAN communication.		
OIL W/L [On/Off]		Status of oil pressure warning lamp detected from oil pressure warning lamp signal is received from ECM via CAN communication.		
MIL [On/Off]		Status of malfunction indicator lamp detected from malfunctioning indicator lamp signal is received from ECM via CAN communication.		
CRUISE IND [On/Off]		Status of CRUISE indicator detected from ASCD status signal is received from ECM via CAN communication.		
SET IND [Off]		This item is displayed, but cannot be monitored.		
CRUISE W/L [Off]		This item is displayed, but cannot be monitored.		
BA W/L [Off]		This item is displayed, but cannot be monitored.		
O/D OFF IND [On/Off]		Status of O/D OFF indicator detected from O/D OFF indicator signal is received from CVT shift selector.		

< SYSTEM DESCRIPTION >

Display item [Unit]	MAIN SIGNALS	Description
4WD W/L [Off]		This item is displayed, but cannot be monitored.
4WD LOCK IND [Off]		This item is displayed, but cannot be monitored.
FUEL W/L [On/Off]		Low fuel warning status detected by the identified fuel level.
WASHER W/L [On/Off]		Status of low washer fluid warning judged from washer level switch input to combination meter.
AIR PRES W/L [On/Off]		Status of low tire pressure warning lamp judged from TPMS malfunction warning lamp signal received from BCM with CAN communication line.
KEY G/Y W/L [On/Off]		Status of Intelligent Key system malfunction detected from Intelligent Key warning display signal is received from BCM via CAN communication.
EPS W/L [On/Off]		Status of EPS warning lamp judged from EPS warning lamp signal received from EPS control unit with CAN communication line.
AFS OFF IND [Off]		This item is displayed, but cannot be monitored.
ECO MODE IND [Off]		This item is displayed, but cannot be monitored.
LCD [B&P N, B&P I, ID NG, ROTAT, SFT P, INSRT, BATT, NO KY, OUTKY, LK WN, KY>PSW, Off]		Displays status of Intelligent Key system warning judged from meter display signal received from BCM with CAN communication line.
ACC TARGET [Off]		This item is displayed, but cannot be monitored.
ACC DISTANCE [Off]		This item is displayed, but cannot be monitored.
ACC OWN VHL [Off]		This item is displayed, but cannot be monitored.
ACC SET SPEED [Off]		This item is displayed, but cannot be monitored.
ACC UNIT [Off]		This item is displayed, but cannot be monitored.
SHIFT IND [P, R, N, D, L]		Status of shift position indicator judged from shift position signal received from TCM with CAN communication line.
BSW IND [Off]		This item is displayed, but cannot be monitored.
BSW W/L [On/Off]		Status of BSW warning lamp judged from BSW warning lamp signal received from camera control unit via CAN communication.
FUEL CAP W/L [On/Off]		Status of fuel filler cap warning detected from fuel filler cap warning display signal is received from ECM via CAN communication.
O/D OFF SW [On/Off]		Status of overdrive control switch.
M RANGE SW [Off]		This item is displayed, but cannot be monitored.
NM RANGE SW [Off]		This item is displayed, but cannot be monitored.
AT SFT UP SW [Off]		This item is displayed, but cannot be monitored.
AT SFT DWN SW [Off]		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 water temperature and the acceleration degree.

< SYSTEM DESCRIPTION >

Display item [Unit]	MAIN SIGNALS	Description	
PKB SW [On/Off]		Status of parking brake switch.	
BUCKLE SW [On/Off]		Status of seat belt buckle switch (driver side).	
BRAKE OIL SW [On/Off]		Status of brake fluid level switch.	
A/C AMP CONN [On/Off]		Status of A/C auto amp. connection recognition signal.	
ENTER SW [On/Off]		Status of (ENTER) switch.	
SELECT SW [On/Off]		Status of (SELECT) switch.	
ECO MODE SW [Off]		This item is displayed, but cannot be monitored.	
DISTANCE [km]		Value of distance to empty calculated by combination meter.	
OUTSIDE TEMP [°C or °F]		Ambient temperature value converted from ambient sensor signal received from ambient sensor. 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.)	
FUEL LOW SIG [On/Off]		Status of fuel level low warning signal to output to AV control unit via CAN communication.	
BUZZER [On/Off]	х	Buzzer status (in the combination meter) is detected from the buzzer output signal received from each unit via CAN communication and the warning output condition of the combination meter.	
TPMS PRESS L [On/Off]		Status of low tire pressure warning judged from low tire pressure warning lamp signal received from BCM with CAN communication line.	
4WD AUTO IND [Off]		This item is displayed, but cannot be monitored.	

NOTE:

Some items are not available according to vehicle specification.

Warning History

- Stores histories when warning/indicator lamp is turned on.
- "Warning History" indicates the "TIME" when the warning/indicator lamp is turned on.
- The "TIME" above is:
- 0: The condition that the warning/indicator lamp has been turned on 1 or more times after starting the engine and waiting for 30 seconds.
- 1 39: The number of times the engine was restarted after the 0 condition.
- NO Warning History: Stores NO (0) turning on history of warning/indicator lamp.

- · 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.			

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< SYSTEM DESCRIPTION >

Display item	Description
DOOR W/L	Lighting history of door open warning.
OIL W/L	Lighting history of oil pressure warning lamp.
C-ENG W/L	Lighting history of malfunction indicator lamp.
CRUISE IND	Lighting history of CRUISE indicator.
O/D OFF IND	Lighting history of O/D OFF indicator lamp.
FUEL W/L	Lighting history of low fuel level warning.
WASHER W/L	Lighting history of low washer fluid warning.
AIR PRES W/L	Lighting history of low tire pressure warning lamp.
KEY G/Y W/L	Lighting history of Intelligent Key system malfunction.
EPS W/L	Lighting history of EPS warning lamp.
BSW W/L	Lighting history of BSW warning lamp.

NOTE:

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

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

COMBINATION METER

Reference Value

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VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

Monitor Item		Condition	Value/Status
SPEED METER [km/h]	Ignition switch ON	While driving	Input value of vehicle speed signal (CAN communication signal) NOTE: 655.35 is displayed when the malfunction signal is received
SPEED OUTPUT [km/h]	Ignition switch ON	While driving	Output value of vehicle speed signal (CAN communication signal) NOTE: 655.35 is displayed when the malfunc tion signal is received
ODO OUTPUT [km/h or mph]	Ignition switch ON	_	Output value of odometer signal (CAN communication signal)
TACHO METER Ignition switch ON Engine running		Engine running	Input value of engine speed signal (CAN communication signal) NOTE: 8191.875 is displayed when the malfunction signal is received
FUEL METER [L]	Ignition switch ON	_	Input value of fuel level sensor signal
W TEMP METER [°C]	Ignition switch ON	_	Input value of engine coolant tempera ture signal (CAN communication signal) NOTE: 215 is displayed when the malfunction signal is input
A D Q NA//	Ignition switch ON	ABS warning lamp ON	On
ABS W/L		ABS warning lamp OFF	Off
VDO/TOO IND	Ignition switch	VDC OFF indicator lamp ON	On
VDC/TCS IND	ON	VDC OFF indicator lamp OFF	Off
	Ignition switch	VDC warning lamp ON	On
SLIP IND	ŎN	VDC warning lamp OFF	Off
	Ignition switch	Brake warning lamp ON	On
BRAKE W/L	ŎN	Brake warning lamp OFF	Off
DOOD W/I	Ignition switch	Door open warning ON	On
DOOR W/L	ŎN	Door open warning OFF	Off
HI-BEAM IND	Ignition switch	High-beam indicator lamp ON	On
	ON	High-beam indicator lamp OFF	Off
TUDNUND	Ignition switch	Turn signal indicator lamp ON	On
TURN IND	ON	Turn signal indicator lamp OFF	Off
LICHTIND	Ignition switch	Position lamp indicator lamp ON	On
LIGHT IND	ON	Position lamp indicator lamp OFF	Off

< ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Value/Status
OIL W/L	Ignition switch	Oil pressure warning lamp ON	On
OIL W/L	ON	Oil pressure warning lamp OFF	Off
	Ignition switch	Malfunction indicator lamp ON	On
MIL	ON	Malfunction indicator lamp OFF	Off
CDI HEE IND	Ignition switch	CRUISE indicator ON	On
CRUISE IND	ON	CRUISE indicator OFF	Off
SET IND	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
CRUISE W/L	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
BA W/L	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
O/D OFF IND	Ignition switch	O/D OFF indicator lamp ON	On
O/D OFF IND	ON	O/D OFF indicator lamp OFF	Off
4WD W/L	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
4WD LOCK IND	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
	Ignition switch ON	During low fuel warning indication	On
FUEL W/L		Other than the above	Off
WASHER W/L	Ignition switch	During low washer fluid warning indication	On
WASHER W/L	ON	Other than the above	Off
AIR PRES W/L	Ignition switch	Low tire pressure warning lamp ON	On
AIR FRES W/L	ON	Low tire pressure warning lamp OFF	Off
KEY G/Y W/L	Ignition switch	During Intelligent Key system malfunction indication	On
	ON	Other than the above	Off
EPS W/L	Ignition switch	EPS warning lamp ON	On
	ON	EPS warning lamp OFF	Off
AFS OFF IND	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
ECO MODE IND	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off

< ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Value/Status
	Ignition switch ON	During engine start information indication	B&P I
	Ignition switch ACC	During engine start information indication	B&P N
	Ignition switch LOCK	During key ID warning indication	ID NG
	Ignition switch LOCK	During steering lock information indication	ROTAT
	Ignition switch LOCK	During P position warning indication	SFT P
LCD	Ignition switch LOCK	During Intelligent Key insert information indication	INSRT
LCD	Ignition switch LOCK	During Intelligent Key low battery warning indication	BATT
	Ignition switch ON	During take away warning indication	NO KY
	Ignition switch LOCK	During key warning indication	OUTKY
	Ignition switch ON	During ACC warning indication	LK WN
	Ignition switch LOCK	During Key ID verification information indication	KY>PSW
	Ignition switch ON	Other than above	Off
ACC TARGET	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
ACC DISTANCE	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
ACC OWN VHL	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
ACC SET SPEED	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
ACC UNIT	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
		During the indication of "P" by shift position indicator	Р
		During the indication of "R" by shift position indicator	R
SHIFT IND	Ignition switch ON	During the indication of "N" by shift position indicator	N
		During the indication of "D" by shift position indicator	D
		During the indication of "L" by shift position indicator	L
BSW IND	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
BSW W/L	Ignition switch	BSW warning lamp ON	On
	ON	BSW warning lamp OFF	Off

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< ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Value/Status
FUEL CAP W/L	Ignition switch	During fuel filler cap warning display indication	On
	ON	Other than above	Off
O/D OFF SW	Ignition switch	Overdrive control switch ON	On
O/D OFF SW	ON	Overdrive control switch OFF	Off
M RANGE SW	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
NM RANGE SW	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
AT SFT UP SW	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
AT SFT DWN SW	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
COMP F/B SIG	Ignition switch	A/C compressor activation condition	On
	ON	A/C compressor deactivation condition	Off
PKB SW	Ignition switch	Parking brake switch ON	On
I ND OW	ON	Parking brake switch OFF	Off
DIICKI E SW	Ignition switch	Driver seat belt not fastened	On
BUCKLE SW	ON	Driver seat belt fastened	Off
BRAKE OIL SW	Ignition switch ON	Brake fluid level switch ON	On
BRAKE OIL 3W		Brake fluid level switch OFF	Off
A/C AMD CONN	Ignition switch ON	Other than the following	On
A/C AMP CONN		Receives ambient sensor power signal	Off
ENTER SW	Ignition switch ON	When \square switch (enter switch) is pressed	On
		Other than above	Off
OFLECT OW	Ignition switch	When switch (select switch) is pressed	On
SELECT SW	ON	Other than above	Off
ECO MODE SW	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
DISTANCE [km]	Ignition switch ON	_	Distance to empty calculated by combination meter
OUTSIDE TEMP [°C or °F]	Ignition switch ON	_	Input value of ambient sensor signal (CAN communication signal) NOTE: This may not match the indicated value on the information display.
FUEL LOW SIG	Ignition switch	During low fuel warning indication	On
I OLL LOW SIG	ON	Other than above	Off
RI 177EP	Ignition switch	Buzzer ON	On
BUZZER	ON	Buzzer OFF	Off

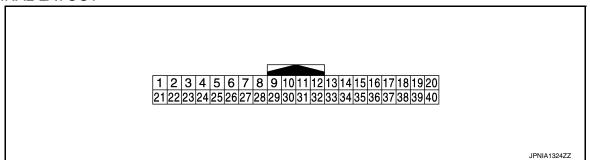
< ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Value/Status
TPMS PRESS L	Ignition switch	During low tire pressure warning indication	On
	ON	Other than above	Off
4WD AUTO IND	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off

NOTE:

Some items are not available according to vehicle specification.

TERMINAL LAYOUT



PHYSICAL VALUES

	nal No. e color)	Description		Condition		Value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
1 (O)*1 (P)*2	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage	
2 (Y) ^{*1} (G) ^{*2}	Ground	Ignition signal	Input	Ignition switch ON	_	Battery voltage	
3 (B)	Ground	Ground	_	Ignition switch ON	_	0 V	
4 (B)	Ground	Ground	_	Ignition switch ON	_	0 V	

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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value			
+	_	Signal name	Input/ Output		Condition	(Approx.)			
					Lighting switch 1ST position When meter illumination is maximum	(V) 15 10 5 0			
5 (B/P) ^{*1} (B) ^{*2}	Ground	Illumination control signal		Output	Output	Output	Output switch	Lighting switch 1ST position When meter illumination is step 11	(V) 15 10 5 0 2.5 ms JPNIA1686GB
					Lighting switch 1ST position When meter illumination is minimum	12 V			
8 (SB) ^{*1} (G) ^{*2}	10 (P)	Trip reset switch signal	Input	Ignition switch ON	When trip reset switch is pressed Other than the above	0 V			
10 (P)	Ground	Meter control switch ground	_	Ignition switch ON	-	0 V			
11 (G)	10 (P)	Enter switch signal	Input	Ignition switch ON	When switch (enter switch) is pressed	0 V			
12 (BR) ^{*1}	10 (P)	Select switch signal	Input	Ignition switch	Other than the above When switch (select switch) is pressed	5 V 0 V			
(R)*2	, ,			ON	Other than the above	5 V			
13 (Y) ^{*1} (W) ^{*2}	10 (P)	Illumination control switch signal (+)	Input	Ignition switch ON	When 🕳 + switch [illumination control switch (+)] is pressed	0 V			
					Other than the above	5 V			
14 (V) ^{*1} (G) ^{*2}	10 (P)	Illumination control switch signal (–)	Input	Ignition switch ON	When 📆 switch [illumination control switch (-)] is pressed	0 V			
					Other than the above	5 V			
15 (BR)	_	Air bag signal	Input	_	_				

< ECU DIAGNOSIS INFORMATION >

	nal No. e color)	Description			Condition	Value	А
+	_	Signal name	Input/ Output		Condition	(Approx.)	
16	Ground	Engine coolant tempera-	Output	Ignition switch	At idle [after warming up, approx. 20°C (68°F)]	(V) 15 10 5 0 250 ms JSNIA3528ZZ	B C D
(L)	Glound	ture signal	Output	ON	At idle [after warming up, approx. 80°C (176°F)]	(V) 15 10 5 0	E
18 (LG) ^{*1} (L) ^{*2}	Ground	Ambient sensor signal	Input	Ignition switch ON	_	(V) 3 2 1 0 -10 0 10 0 10 0 0 0 0 0 0 0 0	G H
19 (R)	Ground	A/C auto amp. connection recognition signal	Input	Ignition switch ON	_	5 V	I
20 (Y) ^{*1} (G) ^{*2}	Ground	Ambient sensor ground	_	Ignition switch ON	_	0 V	J
21 (L)	_	CAN-H		_	_	_	K
22 (P)	_	CAN-L	_	_	_	_	L
23 (B)	Ground	Ground	_	Ignition switch ON	_	0 V	M
24 (B)	Ground	Fuel level sensor ground	_	Ignition switch ON	_	0 V	MWI
25 (BR)*1 (W)*2	Ground	Alternator signal	Input	Ignition switch ON	Charge warning lamp ON Charge warning lamp OFF	12 V 0 V	
				Ignition	Parking brake applied.	0 V	0
26 (BR)	Ground	Parking brake switch signal	Input	switch ON	Parking brake released.	12 V	Р
27		Brake fluid level switch sig-		Ignition	Brake fluid level is normal	12 V	
(Y) ^{*1} (BE) ^{*2}	Ground	nal	Input	switch ON	Brake fluid level is less than LOW level	0 V	
28		One of the control of		Ignition	Security indicator lamp ON	0 V	
(V)	Ground	Security signal	Input	switch ON	Security indicator lamp OFF	12 V	

< ECU DIAGNOSIS INFORMATION >

	nal No. color)	Description			Condition	Value
+	_	Signal name	Input/ Output		Condition	(Approx.)
29	01	Markette de Makette	la a f	Ignition	Washer level switch ON	0 V
(G)	Ground	Washer level switch signal	Input	switch ON	Washer level switch OFF	5 V
31 (SB)	Ground	Vehicle speed signal (8-pulse)	Output	Ignition switch ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	NOTE: The maximum voltage varies depending on the specification (destination unit).
32	Ground	Overdrive control switch	Input	Ignition switch	When overdrive control switch is pressed	0 V
(P)		signal		ON	Other than the above	5 V
34 (O)	24 (B)	Fuel level sensor signal	Input	Ignition switch ON	_	MWI-83, "Component Inspection"
35 (P) ^{*1}	Ground	Seat belt buckle switch sig-	Input	Ignition switch	When driver seat belt is fastened	5 V
(BR)*2	Giouila	nal (driver side)	Input	ON	When driver seat belt is un- fastened	0 V
36 (BR)	_	Passenger seat belt warning signal	Input	_	_	_

Fail-Safe

FAIL-SAFE

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

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

^{*1:} With automatic drive positioner *2: Without automatic drive positioner

< ECU DIAGNOSIS INFORMATION >

	Function		Specifications
	Odo/trip meter		An indicated value is maintained at communications blackout.
	Shift position indicate	r	The display turns OFF by suspending communication.
		Door open warning	
	Interrupt indication	Fuel filler cap warning	The display turns OFF by suspending communication.
Information dis-		Low tire pressure warning	
play		Current fuel consumption	
	Trip computer	Average fuel consumption	 When reception time of an abnormal signal is 2 seconds or less, the last received datum is used for calculation to indi- cate the result.
	mp compate.	Distance to empty	When reception time of an abnormal signal is more than two
		Average vehicle speed	seconds, the last calculation results are indicated.
		Travel distance	
Buzzer			The buzzer turns OFF by suspending communication.
	ABS warning lamp		
	VDC warning lamp		
	Brake warning lamp		The lamp turns ON by suspending communication.
	EPS warning lamp		
	Malfunction indicator	lamp	
	Low tire pressure wa	rning lamp	The lamp blinking caused by suspending communication.
\\\\	High beam indicator l	amp	
Warning lamp/in- dicator lamp	Turn signal indicator	lamp	
•	VDC OFF indicator la	атр	
	O/D OFF indicator la	mp	
	Position lamp indicate	or lamp	The lamp turns OFF by suspending communication.
	CRUISE indicator lan	np	
	Oil pressure warning	lamp	
	BSW warning lamp		
	Key warning lamp		

DTC Index

Display contents of CONSULT	Diagnostic item is detected when	Refer to
CAN COMM CIRCUIT [U1000]	When combination meter is not transmitting or receiving CAN communication signal for 2 seconds or more.	MWI-72, "Diagnosis Procedure"
CONTROL UNIT (CAN) [U1010]	When detecting error during the initial diagnosis of the CAN controller of combination meter.	MWI-73, "Diagnosis Procedure"
VEHICLE SPEED [B2205]	The abnormal vehicle speed signal is input from the ABS actuator and electric unit (control unit) for 2 seconds or more.	MWI-74. "Diagnosis Procedure"
ENGINE SPEED [B2267]	If ECM continuously transmits abnormal engine speed signals for 2 seconds or more.	MWI-75. "Diagnosis Procedure"
WATER TEMP [B2268]	If ECM continuously transmits abnormal engine coolant temperature signals for 60 seconds or more.	MWI-76. "Diagnosis Procedure"

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IPDM E/R

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IPDM E/R

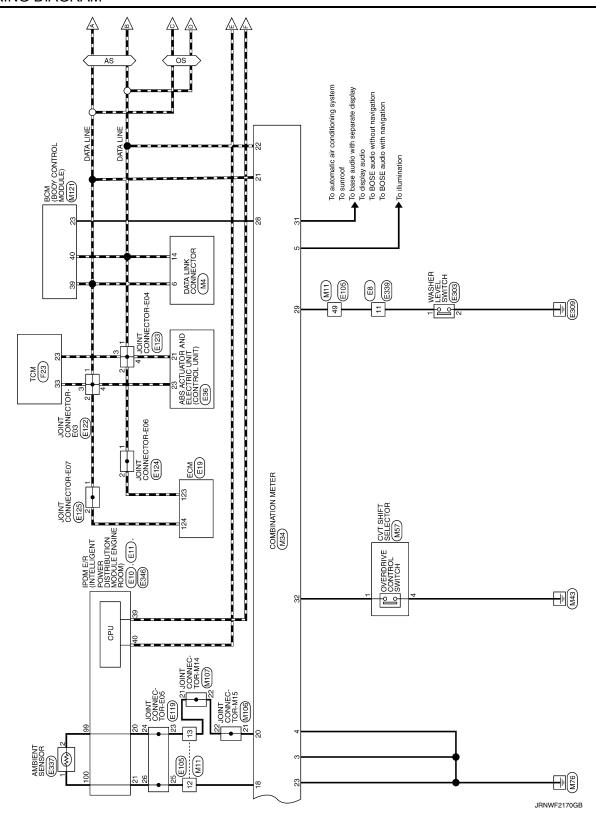
List of ECU Reference

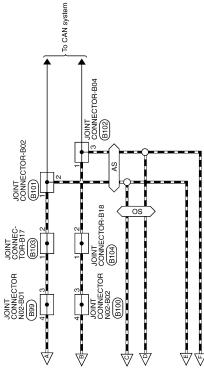
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ECU	Reference
	PCS-15. "Reference Value"
IPDM E/R	PCS-22, "Fail-safe"
	PCS-23, "DTC Index"

WIRING DIAGRAM Α **METER SYSTEM** Wiring Diagram INFOID:0000000012406870 В A/C AUTO AMP. (M50): <AA> C 19: (AA) JOINT CONNECTOR-B03 (B94) 2 JOINT CONNECTOR-B09 (B93) *: This connector is not shown in "Harness Layout". \(\lambda\rangle\) : With auto A/C \(\lambda\rangle\). With manual A/C \(\rangle\) : With automatic drive positioner \(\omegan\rangle\). Without automatic drive positioner \(\lambda\rangle\). With automatic slide door \(\omegan\rangle\). Without automatic slide door D B11 B11 Е A/C AMP. M49): <ma> FRONT SEAT (DRIVER SIDE) F JOINT CONNECTOR-B14 (8109) G Н COMBINATION METER (M34) JOINT CONNECTOR-B15 B98 J K ENTER ALTERNATOR (E308), (F60) L SELECT M FUSE BLOCK (J/B) (M7), (M8) MWI IGNITION SWITCH ON or START 40 4 JOINT CONNEC-TOR-M14 (M107) M11 E105 0 BATTERY 2015/09/04 Р METER

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Connector	No.	811	78	97		Terminal	0	Signal Name (Specification)	Connector No. 890
Connector Name	Name	WIRE TO WIRE	79	+		No.	Wire	7	Connector Name WIRE TO WIRE
Connector Type	Type	TH80MW-CS19	8 8	Se BR		7	S 8		Connector Type NS06FW-CS
			82	+		m	91		1
Œ		[80	2		4	80		
1			88	>		2	>		-
2			88	9 6		9	97		2
			90	\dashv		7	BR		6 5 4 3
			91	1 10		∞	>		
			92	2 L					
Terminal	Color Of					Connector No.	or No.	689	Terminal Color Of
No.		Signal Name [Specification]	Conn	Connector No.	B40	0	Constant Manage	adum Ot adum	
10	GR		Conn	Connector Name	FUEL LEVEL SENSOR UNIT AND FUEL PUMP		o Marine	WINE O WINE	1 B
12	g					Connect	Connector Type	NS16FW-CS	2 Y .
13	۵		Conn	Connector Type	E05FGY-RS	q			+
15	_	r	ą			逐			+
29	æ		多	_) 			+
90	≥		7	Š			•	4 6 5	91 9
31	Ь			3	1 2 2 1 2			16 15 14 13 12 11 10 9 8	
37	SHIELD				(t 5 1 1 1 1 1 1 1 1 1				
38	ď								Connector No. B93
39	80								Connector Name IOINT CONNECTOR-809
40	>					Terminal	_	Signal Name (Specification)	П
51	>		Term	lal	Of Signal Name [Specification]	No.	Wire	organization (observation)	Connector Type TK04FW-J
52	8		No.	o. Wire		1	>	-	4
53	g		1	_		2	GR		
54	Ь		2	Н		8	SB		
55	٦		3	: GR		4	BR		
57	λ		4	R		2	۸		
28	٦		2	8		9	10		
59	GR					7	В		
09	Υ					6	1		
61	٨		Conn	Connector No.	B43	11	1		Terminal Color Of Signal Name (Specification)
62	BR		,	Connector Name	HAIRE TO WIRE	12	Ь		No. Wire
63	_					13	_		1 8 .
64	≯		Conn.	Connector Type	NS08MW-CS	14	97		2 B .
65	Я		4			15	FIG		
99	SHIELD		B	_		16	GR		
-67	a		_	ě					
89	*		•	1	1 2				
69	SHIELD								
70	W/R				0				
7.1	B/R								
72	BR								
74	_								
75	85								
77	>								

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Connector No. 8103 Connector Name JOHT CONNECTOR-817 Connector Type TROAFW-J	Terminal Color Of Signal Name Specification No. Wire 1 1 1 1 1 1 1 1 1	Terminal Cobr Of Signal Name [Specification] No We No	
Солинског No. 8101 Солинског Name (JOHT CONNECTOR 802 Солинског Туре (TXO47W-)	Terminal Color Of Signa Name Specification No. Wire Signa Name Specification No. Wire Signa Name Specification Signa Name Si	Terminal Color Of Signal Name (Specification) No Wire 2	
Солиестот No. В99 Солиестот Name (ОПТ СОИМЕСТОВ NO.2-80.1 Солиестот Туре (ТКО45W-)	Terminal Color Of Signal Name Specification No. Wire Signal Name Specification No.	Terminal Cotor Of Signal Name (Specification) 2	
METER Connector No. 894 Connector Nume (JOINT CONNECTOR 893) Connector Type (TXO4FW.)	Terminal Color Of Signa Name Specification No. Wire Signa Name Specification No. Wire S. G	Terminal Coles Cof No. Wire	

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	8	H	11 L	1 2 3 - 4 5 6 7 8 9 10 1112 13 1415 15 Connector No	Connector Name	Signal Name [Specification]		18 18 28 27 28 27 28 28 28 2				ler		2) >	- 88	10 P		. 13 6	. 15 L	۵ د	+	20 W	\dashv	22 SB	+	╁	72	5	Н	34 0	\dashv	_	+	Signal Name [Specification] 38 GR	88	88
Connector No. E6	Connector Name WIRE TO WIRE	Connector Type TK16MGY-1V	曆	4 5 6 7		Signal Name [Specification] Terminal Color Of Signal P	Н		A > >	Ť	H	. 7 6	+	W 00	+	┝	- 13 SB	-	15 W	4		Connector No. E8	Connector Name WIRE TO WIRE	Т	1	1 2		12	6 7		Signal Name [Specification]	_ 		ial Color Of		
Connector No. B530	Connector Name WIRE TO WIRE	Connector Type NS16MW-CS	Œ	123	9	Terminal Color Of Signal N	Н	2 R/G	3 K/W	$^{+}$	H	7 16	+	13 V	12 V	┝	15 P	16 L/P		Connector No Decor		.	Connector Type NS06MW-CS	•	A THIS	<u> </u>	3	IJ			al Color Of			+	+	++
Connector No. B109	Connector Name JOINT CONNECTOR-814	Connector Type TK04FW-J		H.S. 0 3210		Terminal Color Of Signal Name [Specification] No. Wire	Н	+	3 16		Connector No. B523	Connector Name SEAT BELT BUCKLE SWITCH (DRIVER SIDE)	Т	1				50 51			Terminal Color Of	No. Wire Signal Name [Specification]		7 ·												

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Signal Name [Specification]	Spiral result [Specification]											•										,		,													•									
Color Of	Wire	SHIELD	3	8	ď	91	×	S.	>	BR	>	0	м	١,	- 85	>	BR	9	>	۵	٦	9	٥	. 88	>	1	BR	Ø	ω .	0 :	× 5	3HIELD		W/L	W/R	W	٨	В	ч	1	GR	>	SB	>	5	0
Terminal	No.		2	9	4	9	7	00	6	10	11	12	13	14	31	32	37	38	39	40	41	42	43	46	47	49	51	52	23	54	55	30	62	63	64	99	- 67	69	7.1	7.2	73	74	75	2/2	77	78
FR LH WHEEL SENSOE SIGNAL	FR LH WHEEL SENSOR POWER SUPPLY	G SENSOR GND	RR RH WHEEL SENSOR POWER SUPPLY	RR RH WHEEL SENSOE SIGNAL	GROUND	MOTOR BATTERY	STOP LAMP SWITCH SIGNAL	G SENSOR SIGNAL (+)	NSI	CAN-L	VDC OFF SWITCH SIGNAL	CAN-H	G SENSOR SIGNAL (+)	GROOND		E37	BRAKE ELLID LEVEL SIMITCH		YV02FGY		<	€	[-	<u></u>)		Signal Name [Specification]					5105		WIRE TO WIRE	TH70MW-CS10-M3			TI	##: ### ###	- 1 - 144 144	8 8					
91	_	80	>	а	8	v	SB	>	GR	۵	æ	7	0	•			Г	╗									Color Of	Wire	>	B/W			T		Г											
œ	6	10	11	12	13	14	16	19	50	21	22	23	25	97		Connector No.	Connector Name		Connector Type	ģ	厚	Š					Terminal	No.	п.	2		Connector No		Connector Name	Connector Type	9	F	Ě	Ż							
O ACCELERATO	144 G SENSOR GROUND	145 L POWER SUPPLY FOR ECM	۵	147 B ECM GROUND	۸ .	149 B ECM GROUND	150 W ACCELERATOR PEDAL POSITION SENSOR 1	151 B SENSOR GROUND	152 B ECM GROUND			Connector No. E27	Connector Name PARKING BRAKE SWITCH	Connector Time Dotte A	7				=]				l erminal Color UT Signal Name [Specification]	t			Connector No. E36	Connector Name Aas Actuator and ELECTRIC UNIT (CONTROL UNIT)	7	Connector Type AEZ22FB-AJZ4-LH	£		25 23 22 21 20 19 16	12 11 10 9 8 7 6 5 4 3 2 1				Terminal Color Of Signal Name (Specification)	No. Wire Signal walle [Specification]	1 R VALVE BATTERY	>	L RR LH	9	8 :	6 W FRRH WHEEL SENSOR SIGNAL	7 V BRAKE FLUID LEVEL SWITCH SIGNAL
E11		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	TH08FW-NH			<u>K</u>	00 00 10 00	60 04 14 24	46 45 44 43			of Simal Name (Specification)	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2										613	ECM	RH24FB-RZ8-L-LH			121 125 138 141 145 149	134	140 144 148	╫				EVAP CONTROL SYSTEM PRESSURE SENSOR	CAN COMMUNICATION LINE (CAN-L)	CAN COMMUNICATION LINE (CAN-H)	SENSOR POWER SUPPLY	FUEL TANK TEMPERATURE SENSOR	IGNITION SWITCH	ASCD STEERING SWITCH	SENSOR GROUND	STOP LAMP SWITCH	BRAKE PEDAL POSITION SWITCH	EVAP CANISTER VENT CONTROL VALVE	SENSOR POWER SUPPLY
Connector No.		Connector Name	Connector Type		_		ý.					inal Color Of	1	\	- 8	╀	Н			0			Connector No.	Connector Name	Connector Type		_	ě	3				Terminal Color Of	. Wire	1 1.6	3 P	1 F	9 M	۸	3 BR		+	4	4	4	142 GR
Čoun		ů O	Conn		I	-	Ī					Terminal	No.	S S	41	42	43	44	45	46		Ļ	5	Coun	Conn	4	ß	7	1				Term	No.	121	123	124	125	128	133	134	135	139	140	14	1.0

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Connector No. [E123 Connector No. E125	Connector Name JOINT CONNECTOR-E04 Connector Name JOINT CONNECTOR-E07	Connector Type TK04FW-J Connector Type TK04FW-J	E	£	0 4 3 2 1 0		Terminal Color Of Signal Name [Specification] Terminal Color Of Signal Name [Specification] No. Wire	р	2 P	3 P 4 L .	4 P		Т	Τ	Connector Name JOINT CONNECTOR-ED6 Connector Type Z02FBR	1		•						Teacher of Signal Name [Specification]	Wire Signal Name (Specification) 1	Р 2	2 P .	4 P -										
Connector No. [E119 [C	Connector Name JOINT CONNECTOR-E05	Connector Type BJ30FW Connector Type		1110987654321	22 21 20 19 18 17 16 15 14 13 12		Terminal Color Of Signal Name [Specification] Tr	+	3 GR ·	4 GR .	\dashv	+	20 58					29 Y	+	+	33 BR -		I	E122	Connector Name JOINT CONNECTOR-E03	Connector Type TK04FW-J			[]	0 4 3 2 1 0					-e	No. Wire		
METER SO R P SO R SO R SO R SO R SO R SO R S	. 51	83 R		T	Connector Name JOINT CONNECTOR-E08	Connector Type BJ30FW	S	22 21 20 19 18 17 16 15 14 13 12	33 32 31 30 29 28 27 26 25 24 23	<u> </u>		_	No. Wire		2 2 2	· · 9	- · · · ·	۰ ۸	- × 6	10 Y	+	+	~		* >	^		· · · · · · · · · · · · · · · · · · ·	+	+	24 SB .	4	26 BR -	4	28 R -	+	30 B/Y	

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Τ	Terminal Color Of	Connector No. F23		Connector No.	E60
		Γ			
Connector Name ALTERNATOR	t	Connector Name TCM		Connector Name	ALTERNATOR
Connector Type E-LA6	2 0 .	Connector Type RH40FB-RZ8-L-RH		Connector Type	HS03FB
Q	3 Р	á		q	
				图	
HS.	- × ×	33 34 35 37 38 39 40 47 48	30 45 46	H.S.	
-	╀		2		(543)
]	10 GR -	2 4567	41 42)
	Н				
	12 G .				-
Terminal Color Of Signal Name [Specification]		Terminal Color Of Signal Name [Specification]	cation]	Terminal Color Of	Signal Name [Specification]
2 B	Consector No E346	GB GB	I	t	
	Τ	4 G/O D RANGE SW	T	+	
	Connector Name PPDM E/IL (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	1/4		$^{+}$	
Commonton Min.	Constitution Towns of the same	7/2		1	
T	٦	P/B			
Connector Name AMBIENT SENSOR	4	1 BRIVE FIRST CONTROL SW		Connector No	6672
Connector Type Decores		N/W	DE CENICOD	OH ION	1753
1	7	. 3	L JELGOON	Connector Name	WIRE TO WIRE
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	103 102 101 100 99	1	ESENSOR	connection type	INTOFICE-IV
		2	SENSOR	q]	
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		88	SOR	Ę	
)	Terminal Color Of	26 L/O SENSOR POWER	25	Ź	7 6 5 4 6 3 2 1
		R/Y LINE	DID VALVE		16 15 14 13 12 11 10 9 8
	91	-			
	+	34 IG/R DITPLIT SPEED SENSOR	NCOR		
No Wire Signal Name [Specification]	. 3	1/61	dO2N		
NO.		+	NOCK!		-
^	94 0	Α/.	VALVE	le l	Signal Name [Specification]
2 Y .		38 V/R TORQUE CONVERTER CLUTCH!	SOLENOID VALVE	No. Wire	
	100 V	┥	ENOID VALVE	1	
	4	B/R	NOID VALVE	2 W	
Connector No. E339	102 G .	41 B GROUND		3 G/R	
Tours Of Tours	103 BR -	42 B GROUND		4 P/B	
		<u> </u>	UPPLY	2	
Connector Type NS12FRR-CS		9	YIddi	9/1 9/1	
1		} >	A Iddi	+	
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12 11 10 9 8 7 6				t	
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Connector No. M4	Connector No.	. No.	M8	13	>	- [With automatic drive positioner]	Connector No.	M12	_
Connector Name DATA LINK CONNECTOR	Connector Name	Name	ELISE BLOCK (1/B)	14	-		Connector Name	WIRETOWIRE	
		9	(25 DECCE (3/2)	15	Ь				-
Connector Type BD16FW	Connector Type	-Type	NS12FW-CS	31	æ		Connector Type	NS08FW-CS	
	ſ			32	91		ľ		ı
				37	BR	- [With automatic drive positioner]	E		
	(37	Μ	- [Without automatic drive positioner]	į		
	Ż.			38	æ		Ċ Y	3 0 2 1	
2 7 2 2 2 2			120 110 110 9C 8C 7C 8C	39	38	- [Without automatic drive positioner]		8 7 6 5 4	
, o c +				39	>	- [With automatic drive positioner]			
				07	٥				
				41	-				
Tourist Colones		30		:	, (Transland Colored	30-	г
Signal Name [Specification]	et IIIIa	Color	Signal Name [Specification]	7 5	9 3			Signal Name [Specification]	
+	NO.	a c		5	+		$^{+}$	2	Т
+	100	2	•	45	4				_
4 GR .	110	>		46	>		2		_
5 GR -	12C	٨		47	œ		3	BR - [Without automatic drive positioner]	
- 1 9	39	GR		49	9		3	P - [With automatic drive positioner]	
7 R	2/	æ		51	U		4		Г
9	8C	g	,	52	>		5		Г
H	96	>		2	60		9		Т
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	Connector No.	.No.	M11	26	SHIELD				
	Connector Name	Name	WIRE TO WIRE	61	ď				ı
Connector No. M7				9	*		Connector No.	M34	_
(0/11/A)O (8 35) (3	Connector Type	- Type	TH70FW-CS10-M3	63	8		Constor Mano	COMMUNICATION METER	
	ľ			64	Α				
Connector Type NS10FW-CS				99	*		Connector Type	TH40FW-NH	
	•		HER. H	49	BR				1
1	1.0			69	Ь		€		
			## ## ## ##	7.1	œ		E.		
Z 48 38			ala Ba	F	-		v:		
				7/	-			1 2 3 4 5 8 10 11 12 13 14 15 16 18 19 20	_
96 96 98 96			0	73	91			32 28	_
				74	>				
	Terminal	Color Of	Signal Name (Specification)	75	>				
	No.	Wire		26	>				ı
le l	1	SHIELD		77	Ь		Terminal Color Of	r Of	
Wire	2	Μ		78	BR		No. W	Wire Spean varie [Spean caron]	
3B v	3	8		80	٨		1	O BATTERY POWER SUPPLY [With automatic drive positione	[Ja
48 W	4	æ		81	Α		1	P BATTERY POWER SUPPLY [Without automatic drive positione	Ti.
58 BR .	9	9	,	82	7		2	G IGNITION SIGNAL [Without automatic drive positioner	75
. 0 89	7	œ		83	œ		2	/ IGNITION SIGNAL [With automatic drive positioner	÷
88 R/L	80	g					e	B GROUND	Г
⊦	6						4	B GROUND	г
	10	œ					2	B ILLUMINATION CONTROL SIGNAL Without automatic drive positions	Į,
	11	>					2	B/P ILLUMINATION CONTROL SIGNAL With sutomatic drive positione	T T
	12	_	- [Without automatic drive positioner]				00	G TRIP RESET SWITCH SIGNAL [Without automatic drive positioner	-
	12	93	- [With automatic drive positioner]				80	SB TRIP RESET SWITCH SIGNAL [With automatic drive positioner	F
	13	U	- [Without automatic drive positioner]				╀	T	Т
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MEIEK	_									
11	П	ENTER SWITCH SIGNAL	S	BR	LAN SIGNAL	24	BE	VEHICLE SPEED SIGNAL	Connector No.	MSS
12	BR	SELECT SWITCH SIGNAL [With automatic drive positioner]	7	œ	REAR WINDOW DEFOGGER F/B SIGNAL	27	BE	REAR WINDOW DEFOGGER ON SIGNAL	Connector Name	HITHMINIATION CONTROL SWITCH
12	R	SELECT SWITCH SIGNAL [Without automatic drive positioner]	8	Ь	ILLUMINATION POWER SUPPLY	28	GR	ILLUMINATION GROUND	allie con idealine	
13	W	ILLUNWAATION CONTROL SWITCH SIGNAL [4] [Anthour automatic drive positioner]	6	GR	ACC POWER SUPPLY	30	ч	REAR BLOWER MOTOR CONTROL SIGNAL	Connector Type	TH08MW-NH
13	٨	ILLUMBACTION CONTROL SMITTON SIGNAL (+) [With automatic drive positioner!]	10	۸	FRONT BLOWER MOTOR CONTROL SIGNAL	32	9	COMM (A/C AUTO AMP.:->RR A/C CONT)	[
14	9	ILLUMINATION CONTROL SWITCH SIGNAL (-) [Without automatic drive positioner)]	12	38	BLOWER FAN ON SIGNAL	33	>	COMM (RR A/C CONT>A/C AUTO AMP.)	Œ	
14	>	ILLUMINATION CONTECT. SWITCH SIGNAL (-) Parth automatic drive positioner)	13	U	A/C ON SIGNAL	36	œ	EXH GAS/OUTSIDE ODOR DETECTING SENSOR SIGNAL		
15	BR	AIR BAG SIGNAL	17	ŋ	ENGINE COOLANT TEMPERATURE SIGNAL	37	38	INTAKE SENSOR SIGNAL	ģ.	, c
16	_	ENGINE COOLANT TEMPERATURE SIGNAL	21	8	GROUND	38	RB	REAR IN-VEHICLE SENSOR SIGNAL		- 2 0
18	_	AMBIENT SENSOR SIGNAL [Without automatic drive positioner]	23	۵	GROUND	39	_	AMBIENT SENSOR SIGNAL		9
18	97	AMBIENT SENSOR SIGNAL [With automatic drive positioner]	27	38	REAR WINDOW DEFOGGER ON SIGNAL	40	ŋ	SENSOR GROUND		
19	æ	A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL	28	g	ILLUMINATION GROUND					
20	T	AMBIENT SENSOR GROUND (Without automatic drive positioner)	30	œ	REAR BLOWER MOTOR CONTROL SIGNAL				Terminal Color Of	
20	×	AMBIENT SENSOR GROUND [With automatic drive positioner]	32	U	COMM (A/C AUTO AMP>RR A/C CONT)	Connector No.		MS4	No. Wire	signal Name [specification]
21	_	CAN-H	33	>	COMM (RR A/C CONT>A/C AUTO AMP.)			TOTAL	1 P	- [Without automatic drive positioner]
22	۵	CAN·L	37	38	INTAKE SENSOR SIGNAL	Connector Name		TELEK CONTROL SWITCH	1 R/L	- [With automatic drive positioner]
23	00	GROUND	40	g	SENSOR GROUND	Connector Type		TH08MW-NH	2 B	- [Without automatic drive positioner]
24	8	FUEL LEVEL SENSOR GROUND							2 B/R	- [With automatic drive positioner]
25	ag B	ALTERNATOR SIGNAL [With automatic drive positioner]				E			3	- [Without automatic drive positioner]
25	T	ALTERNATOR SIGNAL [Without automatic drive positioner]	Connector No.	r No.	MSO	ALAIL.			3	- [With automatic drive positioner]
26	T	PARKING BRAKE SWITCH SIGNAL				Š.		[- -	4	- [Without automatic drive positioner]
2.2	; u	SPACE LIMIT BY SOME SENSE TO SERVE THE PROPERTY OF THE PROPERT	Connector Name	r Name	A/C AUTO AMP.			4 3 2 1	. 4	- DWith automatic drive positioned
2 2	Ť	DDAYE CLIED 19061 SWITCH GGMA (Mich authorophic delug mariticona)	Connector Type	Tyrne	TH40 DW-NH			6 5	9	[and a second and
à	1	Commenced and a commenced country and a commenced coun		346					>	
87	> ,	SECURI IT SIGNAL	ą							
29	5	WASHER LEVEL SWITCH SIGNAL	手			- 1-	Ì			
31	SB	VEHICLE SPEED SIGNAL (8-PULSE)				le L	Color Of	Signal Name [Specification]	Connector No.	M57
32	۵	OVERDRIVE CONTROL SWITCH SIGNAL		_	1 2 4 5 7 8 9 10 12 13 15 17 18 19 20	No.	Wire		Connector Name	CVT SHIFT SELECTOR
34	0	FUEL LEVEL SENSOR SIGNAL			21 23 24 27 28 30 32 33 36 37 38 38 40	1	۵.	 [Without automatic drive positioner] 		
32	┪	SEAT BELT BUCKLE SWITCH SIGNAL, LIPTINER SIBER (Without automatic office positioned)				1	ž	 [With automatic drive positioner] 	Connector Type	TH12FW-NH
35	╗	SEAT BELT BLICKLE SWITCH SKOMM, [DMVDR SIDE] [With authornatic chine positioner]				2	B/R	 [With automatic drive positioner] 	þ	
36	BR	PASSENGER SEAT BELT WARNING SIGNAL				2	GR	 [Without automatic drive positioner] 	B	
			Terminal	Color Of	Signal Name (Specification)	3	9		2	/
			No.	Wire	Transaction and a second	4	BR	 [With automatic drive positioner] 	113	4
Connector No.		M49	1	а	BATTERY POWER SUPPLY	4	ж	 [Without automatic drive positioner] 		0
Connector Name		A/C ANAB	2	9	IGNITION POWER SUPPLY	2	9	 [Without automatic drive positioner] 		
		desim:	4	SB	DOOR MOTOR POWER SUPPLY	2	SB	 [With automatic drive positioner] 		
Connector Type		TH40FW-NH	2	BR	LAN SIGNAL	9	Ь			
			7	æ	REAR WINDOW DEFOGGER F/B SIGNAL				Terminal Color O	Sirvel Name (Specification)
ß			8	Ь	ILLUMINATION POWER SUPPLY				No. Wire	officer verne (observer)
ŧ			6	GR	ACC POWER SUPPLY				1 P	
2	ک	1 2 4 6 7 8 9 10 12 3	10	Μ	FRONT BLOWER MOTOR CONTROL SIGNAL				4 B	
	188	21 23 27 28 39 32 33 37 40	12	8E	BLOWER FAN ON SIGNAL				M 9	
	1		13	9	A/C ON SIGNAL				7 B	
			15	GR	IONIZER ON/OFF CONTROL SIGNAL				8 BE	
			17	9	ENGINE COOLANT TEMPERATURE SIGNAL				6	
Terminal Color Of	Color Of	Signal Namo (Specification)	18	۸	SUNLOAD SENSOR SIGNAL					
No.	Wire	olgial Mallie [Speciments]	19	Ь	FRONT IN-VEHICLE SENSOR SIGNAL					
1	Ь	BATTERY POWER SUPPLY	70	В	A/C AUTO AMP, CONNECTION RECOGNITION SIGNAL					
2	9	IGNITION POWER SUPPLY	21	8	GROUND					
4	SB	DOOR MOTOR POWER SUPPLY	23	8	GROUND					

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Connector No	MAEO	Connector No	or No	5523	11	/4/		33	93		-
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Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT	Connecto	Connector Name	WIRE TO WIRE	78	≃ ≥		25	¥ >		
Connector Type	NH28FY-EX	Connector Type	or Type	TH80FW-CS19	80	H		27	>		_
		4		ı	81	_		28	>		_
		哥		ζ.	82	≥		53	SB	•	_
	8976 2543	HS.	,.		8 83	> =		30	# %		_
	10 50 154 20		1		8	╀		35	8		_
				6 C	90	H	- [With automatic drive positioner]	33	38	•	_
) }	95	> 9	- [Without automatic drive positioner]				
Terminal Color Of	Signal Name [Specification]	Terminal	0	Signal Name [Specification]	95	H		Connector No.	tor No.	M107	_
Wire	20	S	Wire					Connect	Connector Name	JOINT CONNECTOR-M14	
8	NOI	or c			Jones	Connection No	NA OC	Jones	Connector Type	A POSTO	,
5 9	DR1(+)	13	3 M			CEO NO.	MILOS		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SSOCW	_
>	DR1 (-) DR2 (-)	15	~	,	Connec	Connector Name	JOINT CONNECTOR:M15	Œ			
>	DR 2 (+)	59	W		Connec	Connector Type	BJ30FW	ŧ		1110987654321	
>	AS1 (+)	30	Ь		ą			ŻĘ.	7	22 21 20 19 18 17 16 15 14 13 12	
91 8	AS1 (+)	31	BE COLOR		季	_	1 0 0 0 1111			33 32 31 30 29 28 27 26 25 24 23	
5 >	45.2 (4)	î e	8	- fWithout around view monitori	H.S.	જ	2000				
	ECZS (+)	8 8	>	- [With around view monitor]		ı	17 16 15 14 13 12				
>	ECZS (-)	39	8	- [With around view monitor]			33 32 31 30 29 28 27 26 25 24 23	Terminal	al Color Of	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	$\overline{}$
GR	GROUND	39	W	- [Without around view monitor]			9	No.	Wire	olgiga marrie [obecureation]	_
ч	AIRBAG W/L	40	R					2	æ	•	_
91	SEATBELT W/L	51	9] (Terminal	nal Color Of	f Signal Name [Specification]	m •	ac (,	_
2	COLOR IELEIALE	25	١		ġ,	+		* (٠ (_
≥ a	SIDE SENS RHZ+	55	35 a		1 6	20 0		۰ م	0		_
0 3	SIDE SENS MAZ-	i i	-		7 6	۰		•			_
8 8	SIDE SENS LHZ+	57	<u> </u>		v 4	+		0 0	۵ م		$\overline{}$
*	DEPLOYMENT INFORMATION OUTPUT	28	_		2	-	,	10	۵		_
٦	CAN-H	29	9E	,	9	-		11	0		_
Ь	CAN-L	09	9		œ	GR		12	٠	•	_
		61	91		6	>		13	٠		_
		62	SB		10	>		14	>		_
		63	9E		11	>		15	8		_
		64	В		12	œ		16	В		_
		9	9		14	œ		17	8		_
		99	SHIELD	,	15	œ		50	>		_
		67	8		17	>		21	g	 [Without automatic drive positioner] 	_
		89	≥		18	>		21	>	- [With automatic drive positioner]	٠,
		69	SHIELD		19	>		22	g	 [Without automatic drive positioner] 	_
		2	8		50	+		22	> 1	- [With automatic drive positioner]	_
		7.1	>		21	5	 [Without automatic drive positioner] 	23	>		_
		72	9 8		21	+	· [With automatic drive positioner]	25	9 9	,	_
		74	æ,		22	+	- [Without automatic drive positioner]	56	9 :		$\overline{}$
		75	9	•	77	>	 [With automatic drive positioner] 	/7	>		_

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COMBI SW OUTPUT 1	DETENT SW	RECEIVER COMM	CAN-H	CAN-L
Я	9	3E	٦	Ь
36	37	38	39	40

29 P	
30 P	
31 P	
32 P	
33 P	
Connector No.	M121
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH
H.S.	

Terminal	Color Of	Signal Name [Specification]
No.	Wire	
1	Μ	REAR WINDOW DEF RELAY CONT
2	ď	COMBI SW INPUT 5
3	9	COMBI SW INPUT 4
4	38	COMBI SW INPUT 3
S	ŋ	COMBI SW INPUT 2
9	Λ	COMBI SW INPUT 1
7	8	KEY CYL UNLOCK SW
80	GR	PW SW COMM [With automatic slide door]
80	*	KEY CYL LOCK SW [Without automatic slide door]
6	SB	STOP LAMP SW 1
12	GR	DOOR LK & UNLK SW LOCK
13	BR	DOOR LK & UNLK SW UNLOCK
14	1	OPTICAL SENS
15	Μ	REAR WINDOW DEF SW
16	٨	DIMMER
17	0	SENS PWR SPLY
18	œ	RECEIV/SENS GND
2.1	GR	NATS ANT AMP.
23	Μ	SECURITY IND CONT
25	Ь	NATS ANT AMP.
27	0	A/CON
28	BR	BLOWER FAN ON
29	d	HAZARD SW
30	1	BK DOOR OPNR SW
31	9	DR DOOR UNLK SENS
32	æ	COMBI SW OUTPUT 5
33	Μ	COMBI SW OUTPUT 4
34	Ь	COMBI SW OUTPUT 3
35	GR	COMBI SW OUTPUT 2

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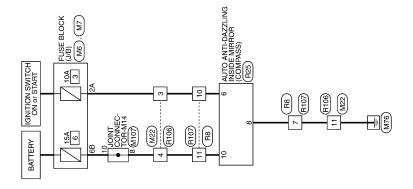
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COMPASS

Wiring Diagram



COMPASS

2015/09/04

Wilder R	[10] 8 6 [10] Sipal Name [Specification]	5 6 7 8 13 14 15 16	Signal Name [Specification] Distanty Unit without auto recirculation] Rear Distanty Unit without auto recirculation
752 AUTO ANTI-DAZZIAG INGOE MEROR TH.10FB.NNI		1006 WIRE TO W	- [For Rear
9 P 10 V 11 BR 21 BR Connector Name Connector Type	H.S. Color Of	ector ector	No. Wire No. Wire 1
Comman 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Termir No. 10	Co co co	Termin No. 1 1 2 2 2 3 3 3 3 3 3 3 3 9 5 10 10 10 10 10 10 10 10 10 10 10 10 10
	- [Without automatic drive positioner] - [Without automatic drive positioner] - [With automatic drive positioner] - [With automatic drive positioner]	RE TO WIRE TIPEWANH TO THE TO THE TO THE	9 8 Specifica anual A/C anual A/C
00440>>>> 800	- 0 > 0 > 2 9 > 4 4 4		Color Of Wire G G G BR/R BR/R V V V V R R/L
7 8 8 9 10 11 12 13 14 14 15 16	21 21 22 22 22 23 25 26 26 27 27 29 30 31	Connector No. Connector Type Connector Type	Terminal No. 1. 2. 2. 3. 3. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.
Connector No. M22 Connector Name WIRE TO WIRE Connector Type H145PW-NH R 7 6 5 4 3 2 1 16 15 14 13 12 11 10 9	Terminal Color Of Signal Name Specification Name Name Specification Name Name	2 2 3 3 4 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	
55 We FUSE BLOCK (VR) CSORFWANZ SA TABABABABA BA TABABABABABABABABABABABABABABABABABAB	Color Of Signal Name (Specification) Wire Wire G C	W7 NSTORW.CS (UP) NST	Signal Name [specification] Wire Signal Name [specification]
COMPASS Connector No. Connector Name Connector Type	No. Wire No. Wire No. Wire No. Wire No. Wire No. No.	Connector No. Connector Name Connector Type H.S.	No. Wire No. Wire No. Wire No. Wire Se BR Se BR Se BR Se BR Se Se Se Se Se Se Se Se

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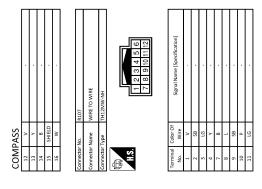
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW (METER SYSTEM)

Work flow INFOID:0000000012406872 В

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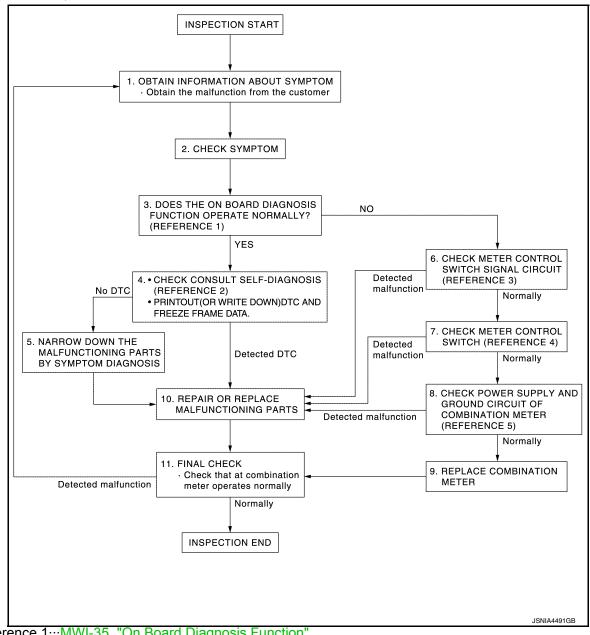
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OVERALL SEQUENCE



- Reference 1...MWI-35, "On Board Diagnosis Function".
- Reference 2···MWI-49. "DTC Index".
- Reference 3···MWI-78, "Diagnosis Procedure".
- Reference 4···MWI-78, "Component Inspection"
- Reference 5...MWI-77, "COMBINATION METER: Diagnosis Procedure".

DETAILED FLOW

${f 1}$. 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.

DIAGNOSIS AND REPAIR WORKFLOW (METER SYSTEM)

< BASIC INSPECTION >

$\overline{2}$.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-35, "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-49, "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-78, "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-78, "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 <u>MWI-77</u>, "COMBINATION METER: <u>Diagnosis Procedure</u>".

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.

DIAGNOSIS AND REPAIR WORKFLOW (METER S	SYSTEM)
11. FINAL CHECK	A
Check that the combination meter operates normally. Do they operate normally? YES >> INSPECTION END NO >> GO TO 1.	В
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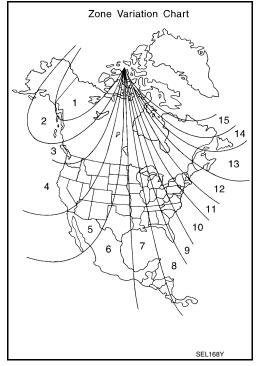
ZONE VARIATION SETTING (COMPASS)

< BASIC INSPECTION >

ZONE VARIATION SETTING (COMPASS)

Work Procedure

- 1. Press and hold the compass switch for 3 9 seconds.
- 2. The current zone setting appears on the compass display.
- 3. Find the current geographical location number in the zone variation chart.
- 4. Select the new zone number. (Press the compass switch until the new zone number appears on the compass display.)
- 5. After select the new zone number, the compass display will automatically shows a direction within a few seconds.
- 6. Perform the following calibration procedure for more accurate indications.



CALIBRATION (COMPASS)

< BASIC INSPECTION >

CALIBRATION (COMPASS)

Work Procedure

NOTE:

The compass calibrates itself under normal driving conditions. However, occasional circumstances may cause the compass to operate inaccurately. Example: Driving from rural (wide open) areas to crowded city areas, or if an aftermarket (i.e., non original equipment) antenna with a magnetic base is attached to the vehicle. Calibrate the mirror compass if the display shows only one direction or a limited number of directions.

NOTE:

- If "magnetic hats" are used in the dealership for vehicle identification, remove the hat from the vehicle before performing the following steps. Do not put the hat back on the vehicle after the procedure is completed.
- Drive the vehicle to an open level area; away from large metallic objects, structures, and overhead power lines.
- Turn off "non-essential" electrical accessories (rear window defrost, heater/air conditioning, wipers) and close the doors.
- 1. Verify the correct compass zone setting for the geographical location. Refer to MWI-70, "Work Procedure".
- 2. Press and hold the compass switch for more than 9 seconds.
- 3. "C" is displayed on the compass display when calibration starts.
- Drive slowly [less than 8 km/h (5 MPH)] in a circle until the "C / CAL" is replaced with primary headings (N, NE, E, SE, S, SW, W, or NW).

NOTE:

This will require driving at least 2 complete 360 degree circles, 3 complete circles may be required.

5. The compass calibration procedure is now complete. The compass should operate normally.

NOTE:

If at any time the compass continually displays the incorrect direction or the reading is erratic or locked, repeat the calibration procedure.

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U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:000000012406875

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-32, "CAN COMMUNICATION SYSTEM: CAN Communication Signal Chart".

DTC Logic

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when	Probable malfunction location
U1000	CAN COMM CIRCUIT	When combination meter is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system

Diagnosis Procedure

INFOID:0000000012406877

1.PERFORM SELF DIAGNOSTIC

- 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 LAN-17, "Trouble Diagnosis Flow Chart".

NO >> Refer to GI-41, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

Description INFOID:000000012406878

Initial diagnosis of combination meter.

DTC Logic (INFOID:0000000012406879

DTC DETECTION LOGIC

DTC	Display contents of CON- SULT	Diagnostic item is detected when	Probable malfunction location
U1010	CONTROL UNIT (CAN)	When detecting error during the initial diagnosis of the CAN controller of combination meter.	Combination meter

Diagnosis Procedure

INFOID:0000000012406880

1. REPLACE COMBINATION METER

When DTC "U1010" is detected, replace combination meter.

>> INSPECTION END

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B2205 VEHICLE SPEED

< DTC/CIRCUIT DIAGNOSIS >

B2205 VEHICLE SPEED

Description INFOID:000000012406881

Vehicle speed signal is transmitted from ABS actuator and electric unit (control unit) via CAN communication to combination meter.

DTC Logic

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when	Probable malfunction location
B2205	VEHICLE SPEED	An abnormal vehicle speed signal is input from ABS actuator and electric unit (control unit) for 2 seconds or more	Wheel sensor ABS actuator and electric unit (control unit)

Diagnosis Procedure

INFOID:0000000012406883

 $1. {\tt PERFORM\ SELF-DIAGNOSIS\ OF\ ABS\ ACTUATOR\ AND\ ELECTRIC\ UNIT\ (CONTROL\ UNIT)}$

Perform "Self Diagnostic Result" of "ABS", and repair or replace malfunctioning parts.

>> Refer to BRC-30, "CONSULT Function".

B2267 ENGINE SPEED

< DTC/CIRCUIT DIAGNOSIS >

B2267 ENGINE SPEED

Description INFOID:000000012406884

The engine speed signal is transmitted from ECM to the combination meter via CAN communication.

DTC Logic

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when	Probable malfunction location
B2267	ENGINE SPEED	ECM continuously transmits abnormal engine speed signals for 2 seconds or more	Crankshaft position sensor (POS) ECM

Diagnosis Procedure

INFOID:0000000012406886

1. PERFORM SELF-DIAGNOSIS OF ECM

Perform "Self Diagnostic Result" of "ENGINE", and repair or replace malfunctioning parts.

>> Refer to EC-103, "DTC Index".

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B2268 WATER TEMP

< DTC/CIRCUIT DIAGNOSIS >

B2268 WATER TEMP

Description INFOID:000000012406887

The engine coolant temperature signal is transmitted from ECM to the combination meter via CAN communication.

DTC Logic

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when	Probable malfunction location
B2268	WATER TEMP	ECM continuously transmits abnormal engine coolant temperature signals for 60 seconds or more	Engine coolant temperature sensor ECM

Diagnosis Procedure

INFOID:0000000012406889

1. PERFORM SELF-DIAGNOSIS OF ECM

Perform "Self Diagnosis Result" of "ENGINE", and repair or replace malfunctioning parts.

>> Refer to EC-103, "DTC Index".

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT COMBINATION METER

COMBINATION METER : Diagnosis Procedure

INFOID:0000000012406890

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	6
Ignition switch ON or START	4

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Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between combination meter harness connector and ground.

	Terminals			
(+)	(-)	Ignition switch po-	Voltage (Approx.)
Combina	tion meter	Ground OFF	sition	
Connector	Terminal			
M34	1		OFF	Battery voltage
10134	2		ON	Ballery Vollage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between combination meter and fuse.

3. CHECK GROUND CIRCUIT

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

Combina	tion meter		Continuity
Connector	Terminal		Continuity
	3	Ground	
M34	4		Existed
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Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

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METER CONTROL SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

METER CONTROL SWITCH SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012406891

1. CHECK COMBINATION METER INPUT SIGNAL

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

Combination meter					
Connector	Terminals		Condition	Voltage (Approx.)	
Connector	(+)	(-)		()	
	11	44		When enter switch is pressed	0 V
			Other than the above	5 V	
M34		12 10	When select switch is pressed	0 V	
10134			Other than the above	5 V	
	8		When trip reset switch is pressed	0 V	
			Other than the above	5 V	

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK METER CONTROL SWITCH SIGNAL CIRCUIT

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

Terminals						
Combina	Combination meter Meter control switch					
Connector	Connector Terminal Connector Terminal					
	8		5			
M34	10	M54	6	Existed		
IVI34	11	W154 	3	Existed		
	12		4			

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

Combina	tion meter		Continuity
Connector	Terminal		Continuity
	8	Ground	
M34	10	Ground	Not existed
IVIO 4	11		NOI EXISIEU
	12		

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

Component Inspection

INFOID:0000000012406892

1. CHECK METER CONTROL SWITCH

1. Turn ignition switch OFF.

METER CONTROL SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

- 2. Disconnect meter control switch connector.
- 3. Check meter control switch.

Terminals		Condition	Continuity	
Meter control switch		Conducti	Continuity	
3		When enter switch is pressed	Existed	
3	6	Other than the above	Not existed	
4		When select switch is pressed	Existed	
7		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-98, "Removal and Installation".

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ILLUMINATION CONTROL SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

ILLUMINATION CONTROL SWITCH SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012406893

1. CHECK COMBINATION METER INPUT SIGNAL

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

Combination meter						
Connector	Terminals		Condition	Voltage (Approx.)		
Connector	(+)	(-)		(, pp. 6/4)		
	13	12	12		When illumination control switch (+) is pressed	0 V
M34		10	Other than the above	5 V		
IVI34	14	10	When illumination control switch (–) is pressed	0 V		
	14		Other than the above	5 V		

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

$2.\mathsf{CHECK}$ ILLUMINATION CONTROL SWITCH SIGNAL CIRCUIT

- Turn ignition switch OFF.
- Disconnect combination meter connector and illumination control switch connector.
- Check continuity between combination meter harness connector and illumination control switch harness connector.

Terminals				
Combination meter Meter control switch				
Connector	Terminal	Connector	Terminal	
	10		6	
M34	13	M55	3	Existed
	14		4	

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

Combination meter			Continuity
Connector	Terminal		Continuity
	10	Ground	
M34	13		Not existed
	14		

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

Component Inspection

INFOID:0000000012406894

1. CHECK ILLUMINATION CONTROL SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect illumination control switch connector.
- Check meter control switch.

ILLUMINATION CONTROL SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

\/=0	LUCDECTION	
YES	>> INSPECTION	END

NO >> Replace illumination control switch. Refer to MWI-98, "Removal and Installation".

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FUEL LEVEL SENSOR SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

FUEL LEVEL SENSOR SIGNAL CIRCUIT

Description INFOID:0000000012406895

The fuel level sensor unit and fuel pump (fuel level sensor) detect the fuel level in the fuel tank and transmit the fuel gauge signal to the combination meter.

Component Function Check

INFOID:0000000012406896

1.PERFORM COMPONENT FUNCTION CHECK (1)

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

Fuel level sensor unit and fuel pump (fuel level sensor)				
Connector Terminals				
B40	2 5			

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

Resistance $(\Omega)^*$ (Approx.)	Fuel gauge indication position (Approx.)
Less than 94	Full
140	3/4
186	1/2
232	1/4
More than 278	Empty

^{*:} Reference resistance values used when the combination meter judges the indication position of the fuel gauge.

Is the inspection result normal?

YES >> GO TO 2.

NO

NO >> Refer to MWI-82, "Diagnosis Procedure".

2.PERFORM COMPONENT FUNCTION CHECK (2)

Check the fuel level sensor unit and fuel pump (fuel level sensor). Refer to MWI-83, "Component Inspection". Is the inspection result normal?

YES >> INSPECTION END

>> Replace the fuel level sensor unit and fuel pump (fuel level sensor). Refer to <u>FL-6</u>, "<u>Removal and Installation</u>".

Diagnosis Procedure

INFOID:0000000012406897

$1.\mathsf{check}$ fuel level sensor unit and fuel pump (fuel level sensor) circuit

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

Combination meter		Fuel level sensor unit and fuel pump (fuel level sensor)		Continuity
Connector	Terminal	Connector	Terminal	
M34	34	B40	2	Existed

FUEL LEVEL SENSOR SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

Combination meter			Continuity	
Connector Terminal		Ground	Continuity	
M34	34		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 (FUEL LEVEL SENSOR) GROUND CIRCUIT

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

Fuel level sensor unit and fuel pump (fuel level sensor)		Combination meter		Continuity
Connector	Terminal	Connector Terminal		
B40	5	M34	24	Existed

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

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

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-96, "Removal and Installation".

NO >> Repair harness or connector.

Component Inspection

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

Remove the fuel level sensor unit and fuel pump (fuel level sensor). Refer to <u>FL-6, "Removal and Installation"</u>.

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

Term	Terminals				
Fuel level sensor unit and fuel pump (fuel level sensor)		Condition	Resistance (Ω) (Approx.)	Height [mm (in)]	
2	5	Full [*] (A)	51	133.0 (5.24)	
	3	Empty* (B)	283	15.7 (0.618)	

^{*:} When float rod is contact with stopper.

Is inspection result OK?

YES >> INSPECTION END

NO >> Replace fuel level sensor unit and fuel pump (fuel level sensor). Refer to <u>FL-6, "Removal and Installation"</u>.

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WASHER LEVEL SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

WASHER LEVEL SWITCH SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012406899

1. CHECK WASHER LEVEL SWITCH SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect combination meter connector and washer level switch connector.
- Check continuity between combination meter harness connector and washer level switch harness connector.

Combina	Combination meter		Washer level switch		
Connector	Terminal	Connector	Terminal		
M34	29	E303	1	Existed	

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

Terminals			
Combination meter			Continuity
Connector	Terminal	Ground	
M34	29		Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK WASHER LEVEL SWITCH GROUND CIRCUIT

Check continuity between washer level switch connector and ground.

Terminals				
	Washer level switch			Continuity
	Connector	Terminal	Ground	
	E303	2		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

Component Inspection

INFOID:0000000012406900

1. CHECK WASHER LEVEL SWITCH

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

Terminals Washer level switch		Condition	Continuity
		Condition	
1 2	Washer level switch ON	Existed	
	2	Washer level switch OFF	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace washer level switch. Refer to <u>WW-73, "Removal and Installation"</u>.

A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000012406901

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1. CHECK A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL

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

Terminals			
(+)		(-)	Voltage
Combination meter			(Approx.)
Connector	Terminal	Ground	
M34	19		5 V

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL CIRCUIT

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

Combination meter		A/C auto amp.		Continuity	
Connector	Terminal	Connector	terminal	Continuity	
M34	19	M50	20	Existed	

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

Combination meter			Continuity
Connector	Terminal	Ground	Continuity
M34	19		Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

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THE FUEL GAUGE INDICATOR DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

THE FUEL GAUGE INDICATOR DOES NOT OPERATE

Description INFOID:000000012406902

Fuel gauge will not indicate from a certain position.

Diagnosis Procedure

INFOID:0000000012406903

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-35, "On Board Diagnosis Function".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the combination meter.

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-82, "Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".

NO >> Repair or replace malfunctioning parts.

THE METER CONTROL SWITCH IS INOPERATIVE

< SYMPTOM DIAGNOSIS > THE METER CONTROL SWITCH IS INOPERATIVE Α Description INFOID:0000000012406904 If any of the following malfunctions is found for the meter control switch operation. В · All switches are inoperative The specified switch cannot be operated Diagnosis Procedure INFOID:0000000012406905 1. CHECK METER CONTROL SWITCH SIGNAL CIRCUIT Check the meter control switch signal circuit. Refer to MWI-78, "Diagnosis Procedure". D Is the inspection result normal? YFS >> GO TO 2. Е NO >> Repair harness or connector. 2.CHECK METER CONTROL SWITCH Perform a unit check for the meter control switch. Refer to MWI-78, "Component Inspection". F Is the inspection result normal? YES >> Replace combination meter. Refer to MWI-96, "Removal and Installation". >> Replace meter control switch. Refer to MWI-98, "Removal and Installation". NG Н K M

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THE ILLUMINATION CONTROL SWITCH IS INOPERATIVE

< SYMPTOM DIAGNOSIS >

THE ILLUMINATION CONTROL SWITCH IS INOPERATIVE

Description INFOID:000000012406906

If any of the following malfunctions is found for the illumination control switch operation.

- · All switches are inoperative
- · The specified switch cannot be operated

Diagnosis Procedure

INFOID:0000000012406907

1. CHECK ILLUMINATION CONTROL SWITCH SIGNAL CIRCUIT

Check the illumination control switch signal circuit. Refer to MWI-78, "Diagnosis Procedure". Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK ILLUMINATION CONTROL SWITCH

Perform a unit check for the illumination control switch. Refer to <u>MWI-78</u>, "Component Inspection". <u>Is the inspection result normal?</u>

YES >> Replace combination meter. Refer to MWI-96, "Removal and Installation".

NG >> Replace illumination control switch. Refer to MWI-98, "Removal and Installation".

THE OIL PRESSURE WARNING LAMP DOES NOT TURN ON

< SYMPTOM DIAGNOSIS > THE OIL PRESSURE WARNING LAMP DOES NOT TURN ON Α Description INFOID:0000000012406908 The oil pressure warning lamp stays off when the ignition switch is turned ON. В Diagnosis Procedure INFOID:0000000012406909 1. CHECK COMBINATION METER INPUT SIGNAL 1. Start the engine. Select "Data Monitor" in "METER/M&A" to check that the oil pressure warning lamp state is consistent D with the "OIL W/L" monitor value. Is the inspection result normal? YES >> INSPECTION END Е >> Replace combination meter. Refer to MWI-96, "Removal and Installation". NO F Н K L M

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THE OIL PRESSURE WARNING LAMP DOES NOT TURN OFF

< SYMPTOM DIAGNOSIS >

THE OIL PRESSURE WARNING LAMP DOES NOT TURN OFF

Description INFOID:000000012406910

The oil pressure warning lamp remains illuminated while the engine is running (normal oil pressure).

Diagnosis Procedure

INFOID:0000000012406911

1. CHECK COMBINATION METER INPUT SIGNAL

- 1. Start the engine.
- 2. Select "Data Monitor" in "METER/M&A" to check that the oil pressure warning lamp state is consistent with the "OIL W/L" monitor value.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace combination meter. Refer to MWI-96, "Removal and Installation".

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

< SYMPTOM DIAGNOSIS >

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

Description INFOID:0000000012406912

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

Diagnosis Procedure

1. CHECK PARKING BRAKE WARNING LAMP OPERATION

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

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

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-96, "Removal and Installation".

NO >> GO TO 2.

2.check parking brake switch signal circuit

- Turn ignition switch OFF.
- 2. Check the parking brake switch signal circuit. Refer to WCS-46. "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK PARKING BRAKE SWITCH UNIT

Perform a unit check for the parking brake switch. Refer to WCS-46, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-96, "Removal and Installation".

NO >> Replace parking brake switch. Refer to PB-7, "Exploded View".

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INFOID:0000000012406913

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Revision: October 2015 MWI-91 2016 Quest

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

< SYMPTOM DIAGNOSIS >

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

Description INFOID:000000012406914

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

Diagnosis Procedure

INFOID:0000000012406915

1. CHECK WASHER LEVEL SWITCH SIGNAL CIRCUIT

Check the washer level switch signal circuit. Refer to MWI-84, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK WASHER LEVEL SWITCH UNIT

Perform a unit check for the washer level switch. Refer to <u>MWI-84, "Component Inspection"</u>. Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-96, "Removal and Installation".

NO >> Replace washer level switch. Refer to WW-73, "Removal and Installation".

THE DOOR OPEN WARNING CONTINUES DISPLAYING, OR DOES NOT DIS-

< SYMPTOM DIAGNOSIS >

THE DOOR OPEN WARNING CONTINUES DISPLAYING, OR DOES NOT DISPLAY Description INFOID:0000000012406916 В • 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:0000000012406917 1. CHECK BCM INPUT/OUTPUT SIGNAL D Connect CONSULT and check the BCM input signals. Refer to DLK-247, "Component Function Check". Is the inspection result normal? YES >> GO TO 2. Е NO >> GO TO 3. 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? Н YES >> Replace combination meter. Refer to MWI-96, "Removal and Installation". NO >> Replace BCM. Refer to BCS-99, "Removal and Installation". 3.CHECK DOOR SWITCH SIGNAL CIRCUIT Check the door switch signal circuit. Refer to DLK-247, "Diagnosis Procedure". Is the inspection result normal? YES >> GO TO 4. NO >> Repair harness or connector. 4.CHECK DOOR SWITCH Perform a unit check for the door switch. Refer to DLK-248, "Component Inspection". Is the inspection result normal? YES >> Replace combination meter. Refer to MWI-96, "Removal and Installation". NO >> Replace applicable door switch. Refer to DLK-485, "Removal and Installation". M

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THE AMBIENT TEMPERATURE DISPLAY IS INCORRECT

< SYMPTOM DIAGNOSIS >

THE AMBIENT TEMPERATURE DISPLAY IS INCORRECT

Description INFOID:000000012406918

- 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:0000000012406919

NOTE:

Check that the symptom is not applicable to the normal operating condition before starting diagnosis. Refer to MWI-95, "INFORMATION DISPLAY: Description".

1. CHECK AMBIENT SENSOR SIGNAL CIRCUIT

Check the ambient sensor signal circuit. Refer to HAC-97, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK AMBIENT SENSOR

Perform the part check for the ambient sensor. Refer to HAC-98, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-96, "Removal and Installation".

NO >> Replace ambient sensor. Refer to HAC-148, "Removal and Installation".

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

NORMAL OPERATING CONDITION COMPASS

INFOID:0000000012406920

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COMPASS : Description

COMPASS

- The electronic compass is highly protected from changes in most magnetic fields. However, some large changes in magnetic fields can affect it. Some examples are (but not limited to): high tension power lines, large steel buildings, subways, steel bridges, automatic car washes, large piles of scrap metal, etc. While this does not happen very often, it is possible.
- During normal operation, the compass mirror will continuously update the compass calibration to adjust for gradual changes in the vehicle's magnetic "remnant" field. If the vehicle is subjected to high magnetic influences, the compass may appear to indicate false headings, become locked, or appear that it is unable to be calibrated. If this occurs, perform the calibration procedure.
- If at any time the compass continually displays an incorrect direction or the reading is erratic or locked, verify the correct zone variance.

Symptom Chart

Symptom	Cause	Solution / Reference	F
The compass display reads "C".			
Compass shows the wrong direction.			G
Compass does not change direction appears "Locked".	Compass is not calibrated. Incorrect zone variance setting.	Perform Calibration. Refer to MWI-71.	
Compass does not show all the directions, one or more is missing.	Large change in magnetic field (Steel bridges, subways, concentrations of metal, carwashes, etc.) Compass was calibrated incorrectly or in the presence of a strong magnetic field.	"Work Procedure".	Н
The compass was calibrated but it "loses" calibration.			ı
On long trips the compass shows the wrong direction.		Perform zone variation setting if correct reading is desired in that location. Refer to MWI-70, "Work Procedure".	

INFORMATION DISPLAY

INFORMATION DISPLAY: Description

INFOID:0000000012406921

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-22. "INFORMATION DISPLAY: System Description" for details on the correction process.

DISTANCE TO EMPTY

The calculated distance to empty may differ from the actual distance to empty if the refueling amount is approximately 15 ℓ (4 US gal, 3-1/4 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.

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REMOVAL AND INSTALLATION

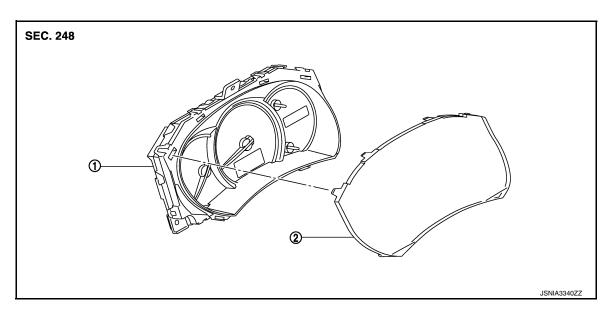
COMBINATION METER

Exploded View

REMOVAL

Refer to IP-12, "Exploded View".

DISASSEMBLY



1. Unified meter control unit

2. Front cover

Removal and Installation

INFOID:0000000012406923

REMOVAL

- Remove the cluster lid A. Refer to <u>IP-14, "Removal and Installation"</u>.
- 2. Remove screws and connector, and then remove combination meter.

INSTALLATION

Install in the reverse order of removal.

Disassembly and Assembly

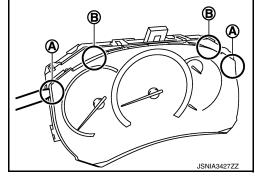
INFOID:0000000012406924

DISASSEMBLY

- 1. Disengage the pawls (4 on the lower part) of the combination meter.
- Insert the removal tool into the clearance (in the order of A, B) between the front cover and the meter control unit. Remove 4 pawls on the lower side of the front cover by turning the tool while increasing the clearance.

CAUTION:

Wrap the removal tools with protective tape to prevent scratches.



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

COMBINATION METER

< REMOVAL AND INSTALLATION >

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

ASSEMBLY

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

CAUTION:

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

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METER CONTROL SWITCH

< REMOVAL AND INSTALLATION >

METER CONTROL SWITCH

Exploded View

REMOVAL

Refer to IP-12, "Exploded View".

Removal and Installation

INFOID:0000000012406926

REMOVAL

- 1. Remove cluster lid A. Refer to IP-14, "Removal and Installation".
- 2. Disengage the tabs and remove meter control switch.

INSTALLATION

Install in the reverse order of removal.

ILLUMINATION CONTROL SWITCH

< REMOVAL AND INSTALLATION > **ILLUMINATION CONTROL SWITCH** Α **Exploded View** INFOID:0000000012406927 **REMOVAL** В Refer to IP-12, "Exploded View". Removal and Installation INFOID:0000000012406928 **REMOVAL** 1. Remove cluster lid A. Refer to IP-14, "Removal and Installation". D 2. Disengage the tabs and remove illumination control switch. **INSTALLATION** Е Install in the reverse order of removal. F Н J K L M

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COMPASS

< REMOVAL AND INSTALLATION >

COMPASS

Exploded View

Refer to MIR-32, "Exploded View" (with ADP), or MIR-53, "Exploded View" (without ADP).

Removal and Installation

INFOID:0000000012406930

Refer to MIR-32, "Removal and Installation" (with ADP), or MIR-53, "Removal and Installation" (without ADP).