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# HOW TO USE THIS MANUAL

## **APPLICATION NOTICE**

Information INFOID:000000009266559 B

Service information	Design of combination meter
TYPE A	JSNIA3946ZZ
TYPE B	JSNIA3947ZZ

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#### **PRECAUTIONS**

< PRECAUTION > [TYPE A]

# **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 SR and SB section of this Service Manual.

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, 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 the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### **WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution for Work

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

## **PREPARATION**

[TYPE A] < PREPARATION > **PREPARATION** Α **PREPARATION** Special Service Tool INFOID:0000000009601587 В The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here. Tool number Description C (Kent-Moore No.) Tool name Removing trim components D (J-46534) Trim Tool Set Е AWJIA0483ZZ **Commercial Service Tools** INFOID:0000000009266561 Tool name Description Power tool Loosening nuts, screws and bolts Н PIIB1407E J

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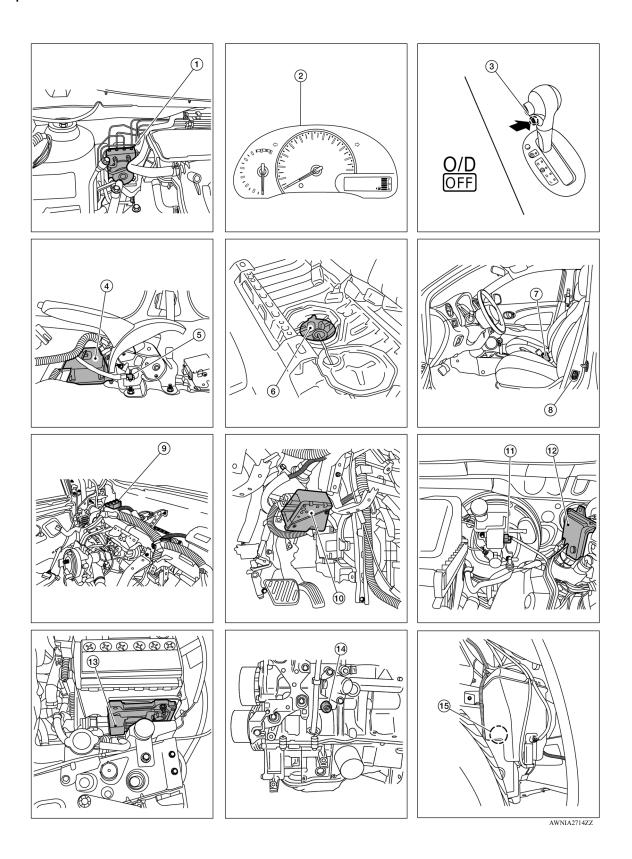
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# SYSTEM DESCRIPTION

## **COMPONENT PARTS**

**Component Parts Location** 

INFOID:0000000009266562



## **COMPONENT PARTS**

< SYSTEM DESCRIPTION > [TYPE A]

1.	ABS actuator and electric unit (control unit)	2.	Combination meter	3.	CVT shift selector (O/D OFF switch) (with CVT) A/T shift selector (O/D OFF switch) (with A/T)	Α
4.	Air bag diagnosis sensor unit (view with center console removed)	5.	Parking brake switch (view with center console removed)	6.	Seat belt buckle switch LH	В
7.	Fuel level sensor unit and fuel pump (view with rear seat and access cover removed)	8.	Front door switch LH	9.	BCM (view with instrument panel removed)	С
10.	EPS control unit (view with instrument lower panel removed)	11.	Brake fluid level switch (view with IPDM E/R removed)	12.	ECM (view with IPDM E/R removed)	D

15. Washer fluid level switch (if equipped)

14. Oil pressure sensor

## **Component Description**

13. TCM

Oil pressure sensor

Unit	Description
Combination meter	The combination meter controls the following items according to the signals received from each unit  Speedometer  Engine oil pressure gauge  Warning lamps  Information display  Oil pressure sensor signal  Tachometer  Fuel gauge  Indicator lamps  Warning chime
CVT shift selector (O/D OFF switch) (with CVT) A/T shift selector (O/D OFF switch) (with A/T)	Transmits the overdrive off switch signal to the combination meter.
Seat belt buckle switch (LH)	Transmits the seat belt buckle switch (LH) signal to the combination meter.
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the combination meter via CAN communication.
Air bag diagnosis sensor unit	Transmits the air bag signal and seat belt buckle switch (RH) signal to the combination meter.
EPS Control unit	Transmits the EPS signal to the combination meter via CAN communication.
TCM	Transmits the shift position signal to the combination meter via CAN communication.
ECM	Transmits the following signals to the combination meter via CAN communication.  • Engine speed signal  • Engine coolant temperature signal  • Fuel consumption monitor signal  • Oil pressure sensor signal
всм	Transmits the security signal to the combination meter.  Transmits the following signals to the combination meter via CAN communication.  Low tire pressure warning signal  Door open switch signal
Washer fluid level switch (if equipped)	Transmits the washer fluid level switch signal to the combination meter.
Fuel level sensor unit	Transmits the fuel level sensor signal to the combination meter.
Parking brake switch	Transmits the parking brake switch signal to the combination meter.
Brake fluid level switch	Transmits the brake fluid level switch signal to the combination meter.
TCM	Transmits the shift position signal to the combination meter via CAN communication.

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Transmits the oil pressure sensor signal to the ECM.

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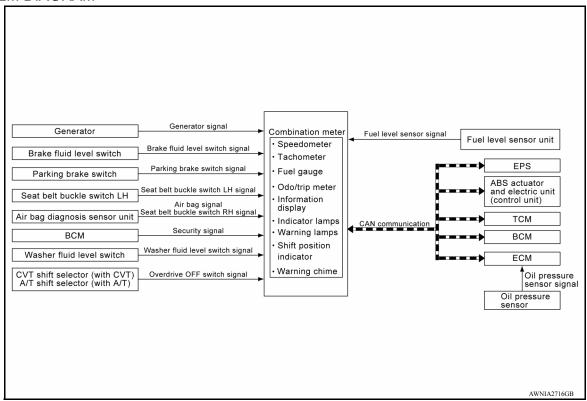
## **SYSTEM**

## METER SYSTEM

## METER SYSTEM: System Diagram

INFOID:0000000009266564

#### SYSTEM DIAGRAM



## METER SYSTEM: System Description

INFOID:0000000009266565

#### **COMBINATION METER**

#### Combination Meter

- The combination meter monitors signals from switches, sensors and modules to control the following functions:
- Speedometer/Tachometer
- Shift position indicator
- Warning lamps
- Indicator lamps
- Meter illumination control
- Information display
- The combination meter has an integrated buzzer that is activated when it receives a signal from the BCM via CAN communication. Refer to <u>WCS-7</u>, <u>"WARNING CHIME SYSTEM</u>: <u>System Description"</u> for further details.
- The combination meter includes a self diagnosis function.
- The combination meter can be diagnosed with CONSULT.

#### METER CONTROL FUNCTION LIST

System	Description	Reference
Speedometer	Indicates vehicle speed.	MWI-13
Tachometer	Indicates engine speed.	MWI-14
Shift position indicator (with CVT or A/T )	Display shift position.	<u>MWI-14</u>

## **SYSTEM**

## < SYSTEM DESCRIPTION >

## [TYPE A]

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System			Description	Reference
	Oil pressure wa	Dil pressure warning lamp  The warning lamp turns ON when it receives the oil pressure warning signal.		MWI-15
Warning lamp/ indicator lamp	Seat belt warni	ng lamp	The warning lamp turns ON when the LH seat belt is unfastened and the vehicle is moving, and turns OFF when the seat belt is fastened.	SRC-11
	High temperature warning lamp		The ECM monitors the engine coolant temperature sensor and sends a signal to the combination meter to turn on the high temperature warning lamp via CAN communication.	MWI-15
Meter illumi- nation control	Meter illuminati	on control function	Illumination control is enabled when the combination switch (lighting switch) is in the 1st or 2nd position changing from daytime mode to night-time mode.	MWI-16
	Meter illumination control switch		The operation of the illumination control switch changes the brightness of meter illumination.	
	Fuel gauge		Indicates fuel level.	
	Odo/trip meter		Displays mileage.	
Information display	Trip computer	Instant fuel consumption	Displays current fuel consumption.	<u>MWI-16</u>
		Average fuel consumption	Displays average fuel consumption.	
	Distance to empty		Displays distance to empty.	

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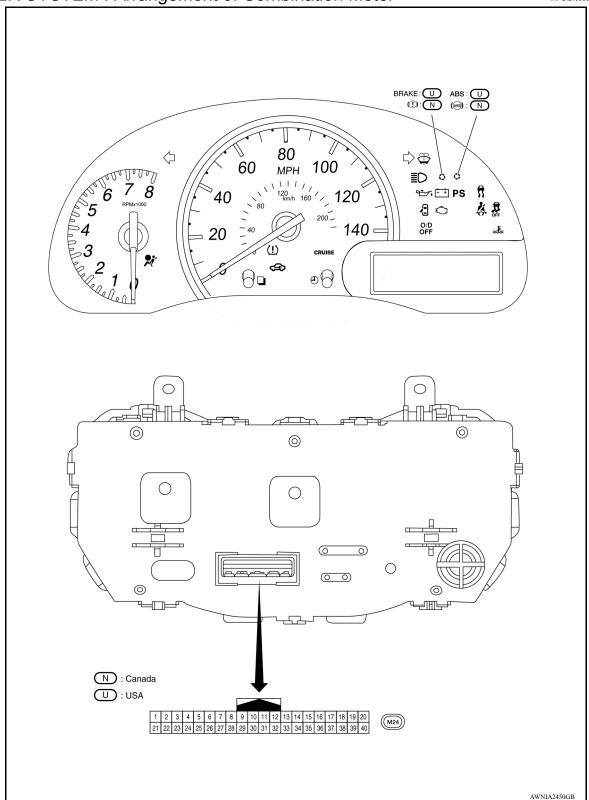
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[TYPE A]

METER SYSTEM : Arrangement of Combination Meter

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## METER SYSTEM: Fail-Safe

INFOID:0000000009266567

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

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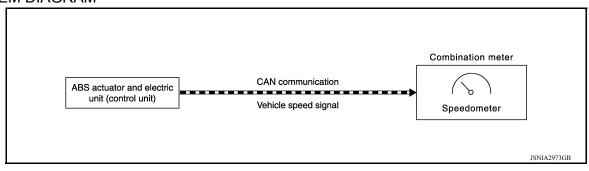
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Function			Specifications	
Speedometer				
Tachometer			Reset to zero by suspending communication.	
Meter Illuminatior	1		When suspending communication, changes to nighttime mode.	
		Instant fuel consumption	0 km/h is displayed.	
		Average fuel consumption	When reception time of an abnormal signal is 2 sec-	
Information display  Trip computer  Distance to empty  Odo/trip meter  Shift position indicator		Distance to empty	<ul> <li>onds or less, the last received datum is used for calculation to indicate the result.</li> <li>When reception time of an abnormal signal is more than 2 seconds, the last result calculated during normal condition is indicated.</li> </ul>	
			An indicated value is maintained at communications blackout.	
		licator	The indicator turns OFF by suspending communication.	
Buzzer			The buzzer turns off by suspending communication.	
	ABS warning lar	mp		
	EPS warning lar	mp	The lease turns ONI by oversending communication	
	Brake warning la	amp	The lamp turns ON by suspending communication.	
	Malfunction indi	cator lamp (MIL)		
Warning lamp/in-	High water temp	perature warning lamp		
dicator lamp	High beam indic	ator lamp		
	Turn signal indic	ator lamp	The least time OFF by eveneding communication	
	Door warning lamp		The lamp turns OFF by suspending communication.	
	Oil pressure war	rning lamp		
	O/D OFF indicate	tor lamp		

## SPEEDOMETER

# SPEEDOMETER: System Description

SYSTEM DIAGRAM



#### **DESCRIPTION**

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

**MWI-13** 

TACHOMETER

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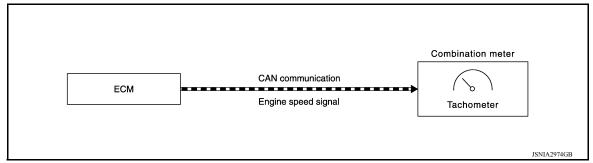
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[TYPE A]

## TACHOMETER: System Description

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#### SYSTEM DIAGRAM



#### **DESCRIPTION**

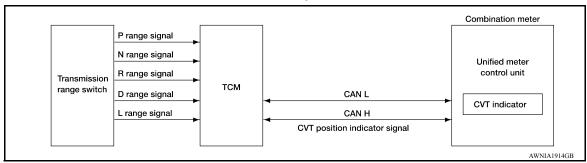
The crank position sensor sends a crankshaft position signal to the ECM. The ECM provides an engine speed signal to the combination meter via CAN communication lines. The tachometer indicates engine speed in revolutions per minute (rpm).

#### SHIFT POSITION INDICATOR

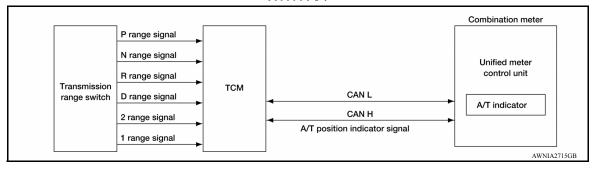
## SHIFT POSITION INDICATOR: System Diagram

INFOID:000000009266570





#### WITH A/T



## SHIFT POSITION INDICATOR: System Description

INFOID:0000000009266571

#### **DESCRIPTION**

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

## HIGH WATER TEMPERATURE WARNING LAMP

**ITYPE A1** 

## HIGH WATER TEMPERATURE WARNING LAMP: System Description

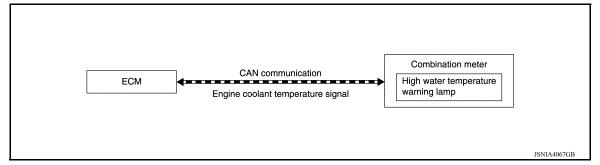
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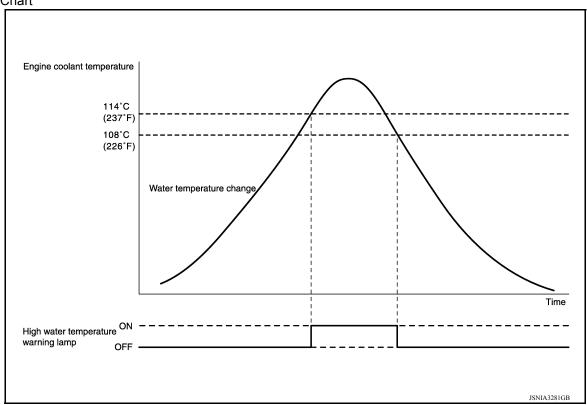
#### SYSTEM DIAGRAM



#### DESCRIPTION

The ECM monitors the engine coolant temperature from the engine coolant temperature sensor. When the coolant temperature is above the specified value, the ECM sends a CAN communication signal to the combination meter turning on the high temperature warning lamp.

**Timing Chart** 



## OIL PRESSURE WARNING LAMP

## OIL PRESSURE WARNING LAMP : System Diagram

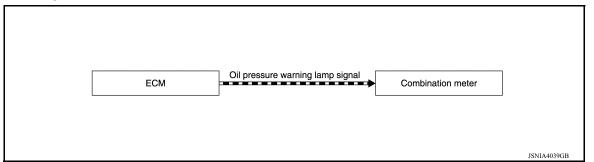
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#### SYSTEM DIAGRAM



[TYPE A]

## OIL PRESSURE WARNING LAMP: System Description

INFOID:0000000009266574

#### **DESCRIPTION**

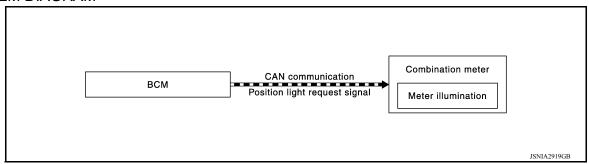
The combination meter turns the oil pressure warning lamp ON when receiving a signal from the ECM via CAN communication.

## METER ILLUMINATION

## METER ILLUMINATION: System Description

INFOID:0000000009266575

#### SYSTEM DIAGRAM



#### **DESCRIPTION**

Meter Illumination Control Function

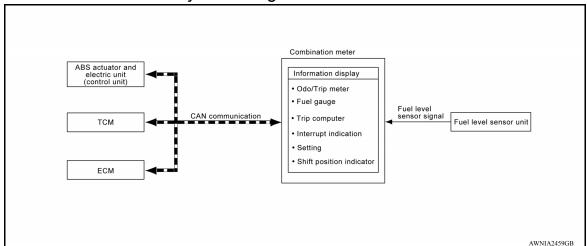
Meter illumination control is enabled when the meter receives a signal from the BCM that the combination switch is in the 1st or 2nd position, the meter switches from Daytime mode to Nighttime mode.

	Meter illumination	
Combination	1ST or 2ND position	Nighttime mode
switch (lighting switch)	Off	Daytime mode

## INFORMATION DISPLAY

## **INFORMATION DISPLAY: System Diagram**

INFOID:0000000009266576



## INFORMATION DISPLAY: System Description

INFOID:0000000009266577

#### **DESCRIPTION**

- The combination meter receives signals from switches, sensors and modules for operating the following functions on the information display.
- Odo/trip meter
- Fuel gauge

- Trip computer
- Interrupt indication
- Meter illumination level
- Setting
- Low fuel warning
- Loose fuel cap warning

#### **ODO/TRIP METER**

The combination meter calculates mileage using the vehicle speed signal from the ABS actuator and electric unit (control unit) and displays the mileage on the information display.

## **FUEL GAUGE**

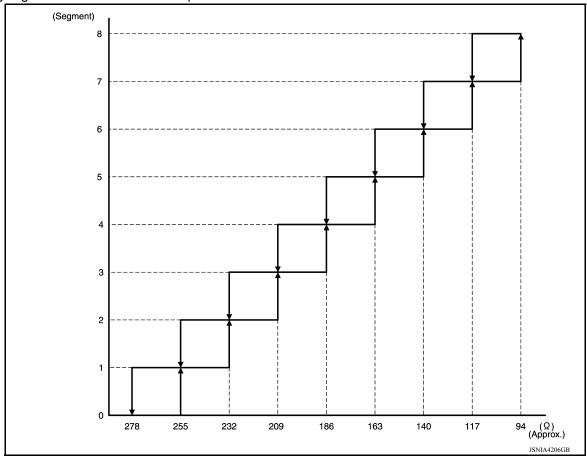
#### Control Outline

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

#### Refuel Control

The unit detects the driver is refueling the vehicle and accelerates the fuel gauge segment movement if the fuel level changes by 9  $\ell$  (2-3/8 US, 2 lmp gal) or more.

Lighting segment-resistance relationship



#### INTERRUPT INDICATION

The combination meter may interrupt the current information display with a warning, alert or maintenance reminder on the information display, based on signals received from each unit and switch.

#### Low Fuel Warning

The low fuel warning turns ON when the fuel level in the fuel tank reaches approximately 6.3  $\ell$  (1-5/8 US gal, 1-3/8 Imp gal).

#### LOOSE FUEL CAP WARNING

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

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< SYSTEM DESCRIPTION >

[TYPE A]

## DIAGNOSIS SYSTEM (COMBINATION METER)

## **Diagnosis Description**

INFOID:0000000009266578

#### ON BOARD DIAGNOSIS ITEM

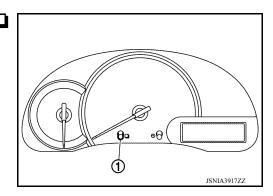
The information display, speedometer and tachometer can be checked in self-diagnosis mode.

#### NOTE:

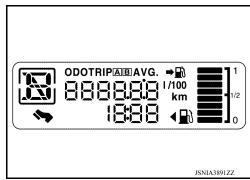
- Check combination meter power supply and ground circuits if self-diagnosis mode does not start. Refer to
   <u>MWI-94, "COMBINATION METER: Diagnosis Procedure"</u>. Replace combination meter if power supply and
   ground circuits are found to be normal and self-diagnosis mode does not start. Refer to <u>MWI-104, "Removal</u>
   and Installation".
- Combination meter self-diagnosis mode will function with the ignition switch in ON. Combination meter self-diagnosis mode will exit upon turning the ignition switch to OFF.

#### METHOD OF STARTING

- Turn the ignition switch OFF.
- 2. Turn the ignition switch ON while pressing and holding the switch (1) for 0.8 seconds or more.

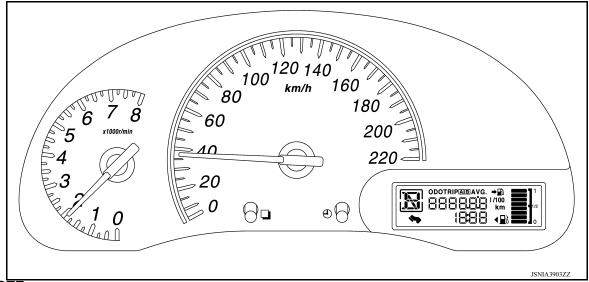


- 3. Press the  $\square$  switch at least 3 times. (Within 7 seconds after the ignition switch is turned ON.)
- 4. The combination meter is turned to self-diagnosis mode.
  - All segments of the information display are displayed.



[TYPE A] < SYSTEM DESCRIPTION >

Each meter activates by pressing the **u** switch.



#### NOTE:

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

## **CONSULT Function**

INFOID:0000000009266579

#### **APPLICATION ITEMS**

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

METER/M&A Diagnosis mode	Description
SELF DIAGNOSTIC RESULT	The combination meter self-diagnosis results.
DATA MONITOR	Displays combination meter input/output data in real time.
SPECIAL FUNCTION	Lighting history of the warning lamp and indicator lamp can be checked.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

## **SELF DIAG RESULT**

Refer to MWI-75, "DTC Index".

#### **DATA MONITOR**

Display Item List

X: Applicable

Display item [Unit]	MAIN SIGNALS	Description
SPEED METER [km/h] or [mph]	Х	Displays the value of vehicle speed signal.
SPEED OUTPUT [km/h] or [mph]	Х	Displays the value of vehicle speed signal, which is transmitted to each unit with CAN communication.
ODO OUTPUT [km/h or mph]		Displays odometer signal value transmitted to other units via CAN communication.
TACHO METER [rpm]	Х	Displays the value of engine speed signal, which is input from ECM.
FUEL METER [L]	Х	Displays the fuel level.
W TEMP METER [°C] or [°F]	Х	Displays the value of engine coolant temperature signal, which is input from ECM.
ABS W/L [ON/OFF]		Displays [ON/OFF] condition of ABS warning indicator

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## < SYSTEM DESCRIPTION >

[TYPE A]

Display item [Unit]	MAIN SIGNALS	Description
BRAKE W/L [ON/OFF]		Displays [ON/OFF] condition of brake warning indicator.
DOOR W/L [ON/OFF]		Displays [ON/OFF] condition of door warning indicator.
HI-BEAM IND [ON/OFF]		Displays [ON/OFF] condition of high beam indicator.
TURN IND [ON/OFF]		Displays [ON/OFF] condition of turn indicator.
LIGHT IND [ON/OFF]		Displays [ON/OFF] condition of light indicator.
OIL W/L [ON/OFF]		Displays [ON/OFF] condition of oil pressure warning indicator.
MIL [ON/OFF]		Displays [ON/OFF] condition of malfunction indicator.
CRUISE IND [Off]		Displays [ON/OFF] condition of CRUISE indicator.
O/D OFF IND [ON/OFF]		Displays [ON/OFF] condition of O/D OFF indicator.
FUEL W/L [ON/OFF]		Displays [ON/OFF] condition of low-fuel warning indicator.
O/D OFF SW [ON/OFF]		Displays [ON/OFF] condition of O/D OFF switch.
REAR DEF SW [ON/OFF]		Displays [ON/OFF] condition of rear window defogger switch.
BRAKE SW [ON/OFF]		Displays [ON/OFF] condition of brake switch.
EPS W/L [ON/OFF]		Displays [ON/OFF] condition of EPS indicator.
CHAGE W/L [Off]		Displays [ON/OFF] condition of charge warning indicator.
SHIFT IND		Displays shift selector position.
FUEL CAP W/L [Off]		Displays [ON/OFF] condition of loose fuel cap warning message.
AIR PRES W/L [ON/OFF]		Displays [ON/OFF] condition of tire pressure warning lamp.
PKB SW [ON/OFF]		Status of parking brake switch.
BUCKLE SW [ON/OFF]		Status of seat belt buckle switch (LH).
PASS BUCKLE SW [ON/OFF]		Status of passenger seat belt buckle switch (RH).
BRAKE OIL SW [ON/OFF]		Status of brake fluid level switch.
DISTANCE [km] or [Mi]		Displays distance to empty.
BUZZER [ON/OFF]	Х	Displays [ON/OFF] condition of buzzer.
SLIP IND [ON/OFF]		Displays [ON/OFF] condition of SLIP indicator lamp.
VDC/TCS IND [ON/OFF]		Displays [ON/OFF] condition of VDC OFF indicator lamp.

NOTE:

## < SYSTEM DESCRIPTION >

[TYPE A]

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Some items are not available according to vehicle specification.

#### SPECIAL FUNCTION

Special menu

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

#### W/L ON HISTORY

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

#### NOTE:

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

#### Display Item

Display item	Description
ABS W/L	Lighting history of ABS warning lamp.
VDC/TCS IND	Lighting history of VDC warning lamp.
SLIP IND	Lighting history of SLIP warning lamp.
BRAKE W/L	Lighting history of brake warning lamp.
OIL W/L	Lighting history of oil pressure warning lamp.
C-ENG W/L	Lighting history of malfunction indicator lamp (MIL).
AIR PRES W/L	Lighting history of tire pressure warning lamp.
EPS W/L	Lighting history of EPS warning lamp.
CHAGE W/L	Lighting history of charging warning lamp.
DOOR W/L	Lighting history of door warning lamp.
CRUISE W/L	Lighting history of cruise warning lamp.
O/D OFF IND	Lighting history of O/D OFF indicator lamp.
FUEL W/L	Lighting history of fuel warning lamp.
WASHER W/L	Lighting history of washer warning lamp.

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# **ECU DIAGNOSIS INFORMATION**

## **COMBINATION METER**

Reference Value

## VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Display content	Data monitor		
Worldon term	Display content	Condition	Reference value in normal operation	
SPEED METER [km/h or mph]	Speed meter operation	While driving	Vehicle speed matches speed meter	
SPEED OUTPUT [km/h or mph]	Vehicle speed	While driving	The speed output signal value matches speed meter via CAN communication.	
ODO OUTPUT [km/h or mph]	ODO meter operation	Driving	Distance driven	
TACHO METER [rpm]	Tacho meter operation	Engine running	The tacho meter is approx. value of engine speed via CAN communication.	
FUEL METER [L]	Fuel level	Ignition ON	Fuel level in fuel tank is approx.	
W TEMP METER [°C] or [°F]	Engine coolant temperature	Engine running	Input value of engine coolant temperature signal via CAN communication.	
ABS W/L	ABS warning	When ABS warning lamp is ON	On	
ADO WIL	lamp	When ABS warning lamp is OFF	Off	
BRAKE W/L	Brake warning	When Brake warning lamp is ON	On <sup>*</sup>	
DRAKE W/L	lamp	When Brake warning lamp is OFF	Off	
DOOD W//	Door open warning lamp	When Door warning lamp is ON	On	
DOOR W/L		When Door warning lamp is OFF	Off	
LUDEAMIND	HI-Beam indi- cator lamp	When High-beam indicator lamp is ON	On	
HI-BEAM IND		When High-beam indicator lamp is OFF	Off	
TURN IND	Turn signal in- dicator	When Turn signal indicator lamp is ON	On	
TORN IND		When Turn signal indicator lamp is OFF	Off	
LIGHT IND	Light indicator	When Tail lamp indicator lamp is ON	On	
LIGITI IND	Light indicator	When Tail lamp indicator lamp is OFF	Off	
OIL W/L	Oil pressure	When Oil pressure warning lamp is ON	On	
OIL W/L	warning light	When Oil pressure warning lamp is OFF	Off	
MIL	MIL warning	When Malfunction indicator lamp (MIL) is ON	On	
WIL	lamp	When Malfunction indicator lamp (MIL) is OFF	Off	
CRUISE IND	Cruise indicator	When cruise indicator lamp is ON.	On	
CRUISE IND	lamp	When cruise indicator lamp is OFF.	Off	
O/D OFF IND	O/D OFF indi-	When the O/D OFF indicator lamp is OFF.	Off	
	cator	When the O/D OFF indicator lamp is OFF.	On	
O/D OFF SW	O/D OFF	When the O/D OFF switch is pressed to OFF.	Off	
	switch	When the O/D OFF switch is pressed to ON.	On	

## **COMBINATION METER**

< ECU DIAGNOSIS INFORMATION >

[TYPE A]

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Monitor Item	Display content	Data monitor		
Worldor Rem	Display content	Condition	Reference value in normal operation	
REAR DEF SW	Rear defogger switch	When rear defogger switch is pressed to ON	On	
	SWILCIT	When rear defogger switch is pressed to Off	Off	
BRAKE SW	Brake switch	When brake pedal is applied	On	
BRAKE SW	Diake Switch	When brake pedal is released	Off	
FUEL W/L	Low fuel warn-	When low fuel warning is ON	On	
FOEL W/L	ing	When low fuel warning is OFF	Off	
EPS W/L	EPS warning	EPS warning lamp ON	On	
EPS W/L	lamp	EPS warning lamp OFF	Off	
CHAGE W/L	Charge warn- ing lamp	Engine running	Off	
SHIFT IND	Shift position indicator	The shift position indicator displayed.	[P, R, N, D, L] (CVT) [P, R, N, D, 2, 1] (A/T)	
FUEL CAP W/L	Loose fuel cap	When the fuel-filler cap is installed incorrectly.	On	
	warning	When the fuel-filler cap is installed correctly.	Off	
	Tire pressure warning lamp operation	When tire pressure warning lamp is ON	On	
AIR PRES W/L		When tire pressure warning lamp is OFF	Off	
PKB SW	Parking brake	When parking brake is active	On	
FRB SW	switch	When parking brake is inactive	Off	
BUCKLE SW	Seat belt buck-	When seat belt buckle is unfastened (LH).	On	
BOOKLE SW	le switch LH	When seat belt buckle is fastened (LH).	Off	
BRAKE OIL SW	Brake fluid level	When brake fluid level switch ON	On	
BIVARL OIL SW	switch	When brake fluid level switch OFF	Off	
PASS BUCKLE SW	Seat belt buck-	When passenger seat is occupied and seat belt buckle is unfastened (RH).	On	
PASS BUCKLE SW	le switch RH	When passenger seat is unoccupied and seat belt buckle is unfastened (RH).	Off	
DISTANCE	Distance to empty	While driving	[km/h or mph]	
BUZZER	Buzzer opera-	When Buzzer is ON	On	
DULLER	tion	When Buzzer is OFF	Off	
SLIP IND	Slip indicator	When SLIP indicator lamp is ON.	On	
	lamp	When SLIP indicator lamp is OFF.	Off	
VDC/TCS IND	VDC indicator	When VDC indicator lamp is ON.	On	
	lamp	When VDC indicator lamp is OFF	Off	

<sup>\*:</sup> 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.

Some items are not available according to vehicle specification.

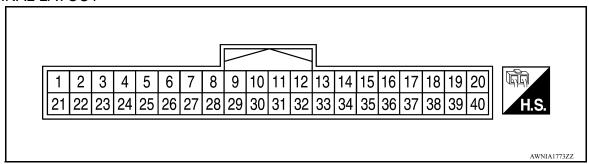
Revision: April 2013 MWI-23 2014 Versa Sedan

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## TERMINAL LAYOUT



#### PHYSICAL VALUES

Ter-			Condition		5.6	
mi- nal No.	Wire color	Item	Ignition switch	Operation or condition	Reference value (V) (Approx.)	
1	R	Battery power supply	OFF		Battery voltage	
- 0	LG	Stan Jama quitab	ON	Brake pedal pressed	Battery voltage	
2	LG	Stop lamp switch	ON	Brake pedal released	0	
3	GR	Ignition switch ON or START	ON	_	Battery voltage	
4	W	Fuel level sensor signal (+)	_	_	Refer to MWI-98, "Component Inspection".	
8	L	CAN-H	_	_	_	
10	Р	CAN-L	_	_	_	
11	V	Washer fluid level switch	ON	Washer fluid level low	0	
11	V	(Canada models)	ON	Washer fluid level normal	Battery voltage	
19	В	Illumination control output	_	_	_	
21	В					
22	В	Ground	_	_	0	
23	B/W					
26	GR	Fuel level sensor ground (-)	_	_	0	
28	Р	O/D OFF switch	ON	O/D OFF switch pressed	0	
	•	O/D OIT SWILCH	ON	O/D OFF switch released	Battery voltage	
31	G	Security	_	_	_	
32	V	Air bag	ON	_	0	
33	G	Seat belt buckle switch RH	ON	Fastened (OFF)	Battery voltage	
	)	Ocat boil baokie switch i ti	O.V	Unfastened (ON)	0	
34	V	Seat helt huckle switch LH	Seat belt buckle switch LH	ON	Fastened (OFF)	Battery voltage
	•	Cour son such a switch En	0.11	Unfastened (ON)	0	
35	Y	Generator	ON	Generator voltage low	0	
		Generalui		Generator voltage normal	Battery voltage	
36	LG	Brake fluid level switch	ON	Brake fluid level is normal	Battery voltage	
	-	2. and hald lovel owner	511	Brake fluid level low	0	
37	SB	Parking brake switch	ON	Parking brake pedal applied	0	
	0.0	. sg brane omicin		Parking brake pedal released	Battery voltage	

Fail-Safe

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

## **COMBINATION METER**

[TYPE A]

## < ECU DIAGNOSIS INFORMATION >

Function			Specifications	
Speedometer			5	
Tachometer			Reset to zero by suspending communication.	
Meter Illumination	ı		When suspending communication, changes to nighttime mode.	
		Instant fuel consumption	0 km/h is displayed.	
		Average fuel consumption	When reception time of an abnormal signal is 2 sec-	
Information display	Trip computer	Distance to empty	<ul> <li>onds or less, the last received datum is used for calculation to indicate the result.</li> <li>When reception time of an abnormal signal is more than 2 seconds, the last result calculated during normal condition is indicated.</li> </ul>	
	Odo/trip meter		An indicated value is maintained at communications blackout.	
	Shift position indicator		The indicator turns OFF by suspending communication	
Buzzer			The buzzer turns off by suspending communication.	
	ABS warning lamp			
	EPS warning lamp		The lamp turns ON by suspending communication.	
	Brake warning lamp		The lamp turns ON by suspending communication.	
	Malfunction indi	cator lamp (MIL)		
Warning lamp/in-	High water temp	perature warning lamp		
dicator lamp	High beam indic	cator lamp		
	Turn signal indic	cator lamp	The lamp turns OFF by suspending communication.	
	Door warning la	mp	The lamp turns Or i by suspending confindincation.	
	Oil pressure wa	rning lamp		
	O/D OFF indicator lamp			

**DTC Index** INFOID:0000000009266582

			_ K
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-39	L
CONTROL UNIT (CAN) [U1010]	When detecting error during the initial diagnosis of the CAN controller of combination meter.	<u>MWI-40</u>	_
VEHICLE SPEED [B2205]	The abnormal vehicle speed signal is input from the ABS actuator and electric unit (control unit) for 2 seconds or more.	<u>MWI-41</u>	M
ENGINE SPEED [B2267]	If ECM continuously transmits abnormal engine speed signals for 2 seconds or more.	MWI-42	MWI
WATER TEMP [B2268]	If ECM continuously transmits abnormal engine coolant temperature signals for 60 seconds or more.	MWI-43	

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## **BCM (BODY CONTROL MODULE)**

< ECU DIAGNOSIS INFORMATION >

[TYPE A]

# **BCM (BODY CONTROL MODULE)**

List of ECU Reference

INFOID:0000000009266583

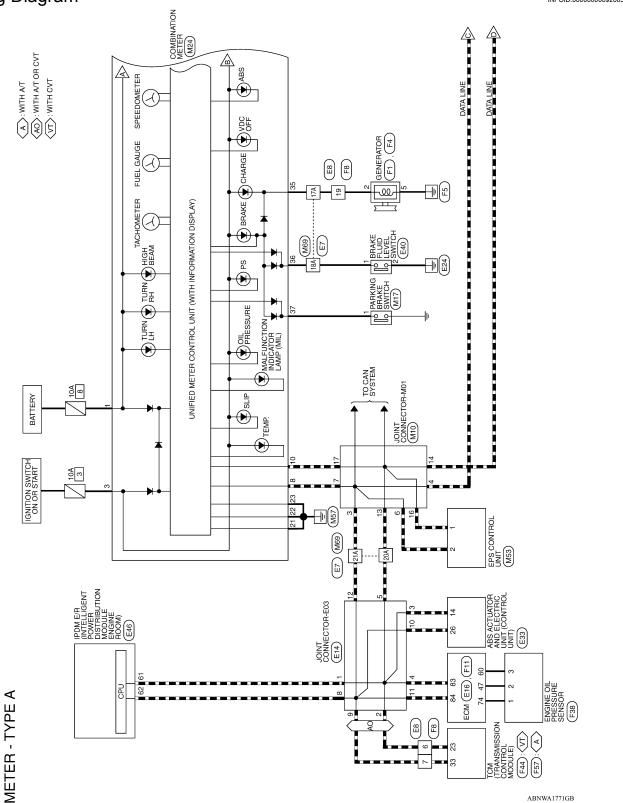
ECU	Reference	
	BCS-93, "Reference Value"	
	BCS-107, "Wiring Diagram"	
BCM	BCS-104, "Fail-safe"	
	BCS-104, "DTC Inspection Priority Chart"	
	BCS-105, "DTC Index"	

< WIRING DIAGRAM > [TYPE A]

# WIRING DIAGRAM

## **METER SYSTEM**

Wiring Diagram



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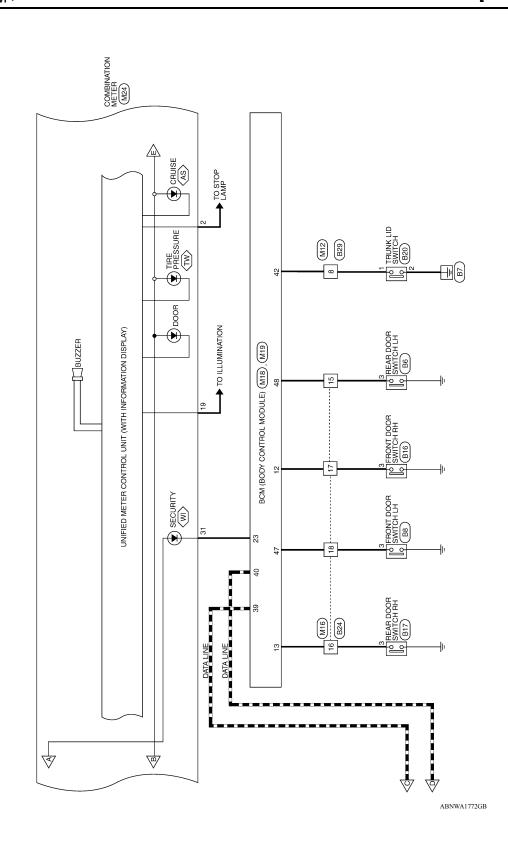
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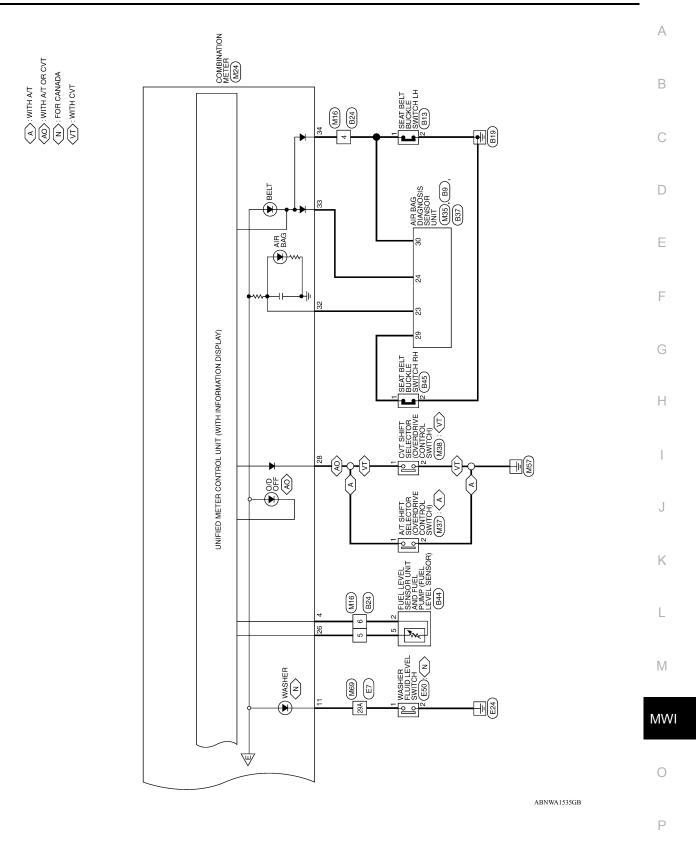
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**METER SYSTEM** 

BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)

Connector Name Connector Color

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Connector No.

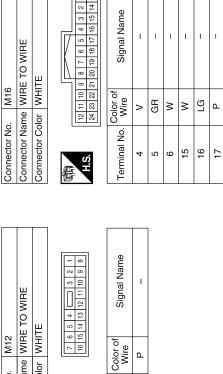
SB

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WHITE

# ⋖ METER CONNECTORS - TYPE

Connector No. M12	O1 Connector Name WIRE TO WIRE	Connector Color WHITE	[新]   7   6   5   4   13   14   14
M10	onnector Name JOINT CONNECTOR-M01	GRAY	10 9 8 7 6 5 4 3 2 1 1 2 11 11 11 12 11 11 11 12 11 11 1
Connector No. M10	Connector Name	Connector Color GRAY	嘶响 H.S.



Terminal No.

Signal Name

Color of Wire

**Terminal No.** 

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Signal Name

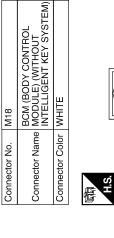


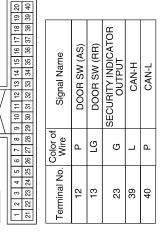
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13 4 Connector Name PARKING BRAKE SWITCH

Connector Color BLACK

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TR ROOM LAMP SW

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Signal Name

Color of Wire

Terminal No.

DOOR SW (RL) DOOR SW (DR)

Signal Name	ı	
Color of Wire	SB	
Terminal No.	1	

Signal Nam	_
Color of Wire	SB
rminal No.	1

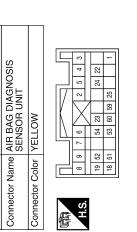
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Signal Name	ı	FUEL GND	ı	O/D OFF/SPORT SW	I	ı	SECURITY	A/BAG	AS BUCKLE SW	DR BUCKEL SW	CHG	BRAKE OIL SW	PKB	_	-	-
Color of Wire	1	GR	1	Ь	_	ı	g	>	5	>	>	ГG	SB	_	_	_
Terminal No.	25	26	27	28	59	30	31	32	33	34	35	36	37	38	39	40

Signal Name	CAN-H	ı	CAN-L	WASHER SW	ı	ı	ı	ı	I	ı	ı	ILL CONT OUTPUT	I	GND (POWER)	GND (CIRCUIT)	GND (ILL)	ı
Color of Wire	٦	1	۵	>	ı	ı	ı	ı	ı	1	ı	В	ı	В	В	B/W	1
Terminal No.	80	6	10	Ξ	12	13	14	15	16	17	18	19	20	21	22	23	24

				19 20 39 40					
	Connector Name COMBINATION METER (WITH TYPE A)	TE TE		29 10 11 12 13 14 15 16 17 18 12 29 30 31 32 33 34 35 36 37 38	Signal Name	BAT	BRAKE SW	NĐI	FUEL SIG
. M24	me (WI	lor WHITE		6 7 8 26 27 28 3	Color of Wire	œ	FG	GR	Μ
Connector No.	Connector Na	Connector Color	H.S.	1 2 3 4 5 21 22 23 24 25	Terminal No.	-	2	ε	4

H.S.   1   2   3   4   5   6   7   8   6   7   8   6   7   8   6   7   8   6   7   8   6   7   8   6   7   8   6   7   8   7	Connector Color WHITE	Connector Name A/T SHIFT SELECTOR	
	0 2 0	2 1 2 3	Connector No. M37 Connector Name A/T SHIFT SELECTOR Connector Color WHITE
Connector Name A/T SHIFT SELECTOR Connector Color WHITE	Connector Name A/T SHIFT SELECTOR		



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Signal Name	_	I	
Color of Wire	Ь	B/W	
Terminal No.	1	2	

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Signal Name	I	ı
Color of Wire	Ь	B/W
Terminal No.	1	2

Signal Name	AIRBAG W/L	SEATBELT REMINDER	
Color of Wire	^	ŋ	
Terminal No.	23	24	

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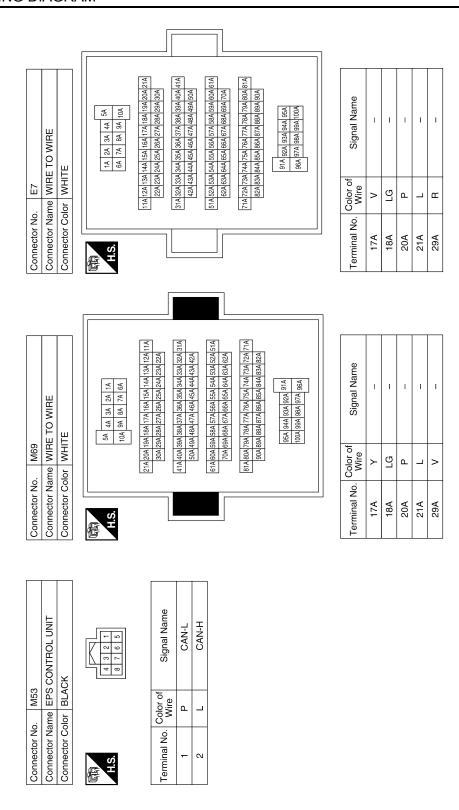
**MWI-31** 2014 Versa Sedan Revision: April 2013

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2 9 Connector No.

[TYPE A]



ABNIA4543GB

Connector No. E16 Connector Name ECM Connector Color BLACK	H.S.   81   85   89   93   97   101   105   109   101   105   109   101   105   109   101	Terminal No. Color of Signal Name	83 P CAN-L	84 L CAN-H									Connector No. E46		Connector Name   POWER DISTRIBUTION   MODULE ENGINE ROOM)	Connector Color WHITE	H.S. FIGURE 100 150 150 150 150 150 150 150 150 150	Terminal No. Color of Signal Name	61 P CAN-L	62 L CAN-H
Connector No. E14 Connector Name JOINT CONNECTOR-E03 Connector Color BLUE	H.S. (12   11   10   9   8   7   6   5   4   3   2   1	Terminal No. Color of Wire Signal Name	- С	2 В	٦ د	4 P	5 P	- R	- T 6	10 L –	11 L –	12 L –	Connector No. E40	<u>e</u>	SWIICH SWIICH		H.S.	Terminal No. Color of Signal Name	1 LG -	2 B
Connector No. E8 Connector Name WIRE TO WIRE Connector Color WHITE	H.S. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	Terminal No. Color of Signal Name	- Д		19 V –								Connector No.   E33		Connector Name   ELECTRIC UNIT (CONTROL   UNIT)	Connector Color BLACK	H.S. (38   37   36   34   33   32   31   30   29   28   27   28   25   28   25   28   25   28   25   28   25   28   25   28   28	Terminal No. Color of Signal Name	14 P CAN-L	B CAN-H

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_	Connector Name GENEHATOR Connector Color   BLACK	Connector Color –
Connector Color   BHOWN	(4 3 2) H.S.	H.S.
Terminal No. Color of Signal Name  Wire  1 R	Terminal No. Color of Signal Name  2 L/W –	Terminal No.   Color of   Signal Name   S   B/GR   -
Connector No. F8 Connector Name WIRE TO WIRE Connector Color WHITE	Connector No. F11  Connector Name ECM  Connector Color BROWN  S3 37 41 45 49 53 57 61 66 69 73 77  H.S. 83 42 46 50 54 58 62 67 71 75 79  58 99 47 47 51 55 99 67 71 75 79  58 90 40 44 48 52 56 60 64 68 72 76 80	Connector No. F38 Connector Name ENGINE OIL PRESSURE SENSOR Connector Color BLACK
Terminal No.       Color of Wire       Signal Name         6       P       -         7       L       -         19       L/W       -	Terminal No. Color of Signal Name  Wire ENGINE OIL  47 Y ENGINE OIL  60 L SENSOR GROUND  74 OF COLOR OF OTHER SENSOR	Terminal No. Color of Wire Signal Name  1 0 - 2 Y - 3 L -

**METER SYSTEM** 

ABNIA4569GB

Connector No. B6 Connector Name REAR DOOR SWITCH LH Connector Color WHITE	Terminal No. Color of Signal Name 3 V –	Connector No. B13 Connector Name SEAT BELT BUCKLE SWITCH LH Connector Color WHITE	Terminal No. Color of Signal Name 1 0 - 2 B	A B C D
				F
SSION JULE) 39 40 47 48 29 30 45 46 19 20 43 44 9 10 41 42	Signal Name CAN-L CAN-H	SISON	Signal Name LH SEAT BELT BUCKLE SWITCH (+)	G
F57  TCM (TRANSM CONTROL MOI (WITH A/T)  BLACK  22 23 24 55 6 7 8 2 2 2 4 5 6 7 8 8 2 2 3 4 5 6 7 8 8 2 2 3 4 5 6 7 8 8 2 2 3 4 5 6 7 8 8 3 7 8 7 8	Color of Wire P	r Name AIR BAG DIAGNOSIS SENSOR UNIT COlor YELLOW  12 13 30 50 49		Н
			Vo. Color of Wire O	I
Connector No.  Connector Name Connector Color H.S.	Terminal No.	Connector No. Connector Name Connector Color	Terminal No.	J
				K
SION LE) 40 47 48 30 45 46 46 41 42 41 41 42 41 41 42 41 41 41 41 41 41 41 41 41 41 41 41 41	am T	11 12	e E	L
SMISS IODU 38 38 39 8 9 9 8 9	Signal Name CAN-L CAN-H	Connector No. B8 Connector Name FRONT DOOR SWITCH LH Connector Color WHITE	Signal Name	M
	Color of Wire P	or WHITE	Color of Wire LG	MWI
nector Ne nector Ne sector	23 33 33	Connector No. B8 Connector Name FRONT Connector Color WHITE	Terminal No.	0
	Ter		ABNIA3810GB	O
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Connector No. B20 Connector Name TRUNK LID SWITCH Connector Color WHITE	Terminal No. Color of Signal Name  1 P	Connector No. B37 Connector Name ARBAG DIAGNOSIS SENSOR UNIT Connector Color YELLOW  SS 36 36 31 32 H.S.	Terminal No. Wire Signal Name Wire Olov of Signal Name	)			
Connector No. B17 Connector Color WHITE Conf. L.S.	Terminal No. Color of Signal Name	Connector No. B29  Connector Color WHITE  Connector Color WHITE      2   3     4   5   6   7   1   1   13   14   15   16   1   1   15   15   14   15   16   1   16   16   16   16   16	Terminal No. Color of Wire Signal Name 8 P –				
Connector No. B16 Connector Name FRONT DOOR SWITCH RH Connector Color WHITE	Color of Signal Name Wire L	Connector No. B24  Connector Name WIRE TO WIRE  Connector Color WHITE  M.S.  1 2 3 4 5 6 7 8 9 10 11 12  1 1 2 3 4 5 6 7 8 9 10 11 12  1 1 1 15 16 17 18 19 20 21 22 23 24	Color of Wire Signal Name O –	1 I	-		
Connector No. Connector Color	Terminal No. Co	Connector No. Connector Color Connector Color	Terminal No. W	9	15		18

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B45	Connector Name   SEAT BELT BUCKLE   SWITCH RH	WHITE
Connector No.	Connector Name	Connector Color WHITE



Signal Name	I	_
Color of Wire	0	В
Terminal No.	٦	2

Connector No.	B44
Connector Name	Connector Name FUEL LEVEL SENSOR UNIT AND FUEL PUMP
Connector Color GRAY	GRAY



Signal Name	I	ı	
Color of Wire	В	Ь	
Terminal No.	2	5	

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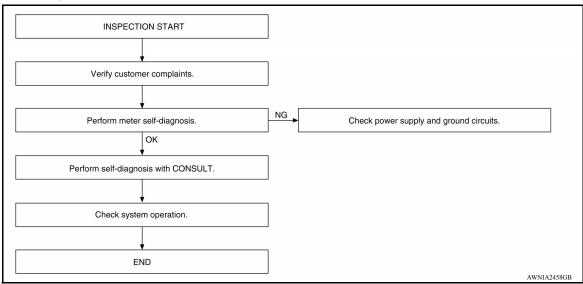
< BASIC INSPECTION > [TYPE A]

# **BASIC INSPECTION**

### DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

### **OVERALL SEQUENCE**



### **DETAILED FLOW**

# 1.CONFIRM SYMPTOM

Confirm symptom or customer complaint.

>> GO TO 2

# 2. SELF-DIAGNOSIS OF COMBINATION METER

Perform self-diagnosis of combination meter. Refer to MWI-18, "Diagnosis Description".

#### Is the inspection result normal?

YES >> GO TO 3

NO >> If self-diagnosis will not start, check power supply and ground circuit of combination meter. Refer to <a href="MWI-44">MWI-44</a>, "COMBINATION METER: Diagnosis Procedure". If power supply and ground circuits are OK, replace combination meter. Refer to <a href="MWI-53">MWI-53</a>, "Removal and Installation".

### 3. CHECK COMBINATION METER WITH CONSULT

Select "METER/M&A" on CONSULT and perform self-diagnosis of combination meter. Refer to <u>MWI-19</u>, "CONSULT Function".

#### Is the inspection result normal?

YES >> Check symptom. GO TO 4.

NO >> Refer to MWI-25, "DTC Index".

### 4. CHECK SYSTEM OPERATION

Check the combination meter to verify that the repair has been completed successfully.

#### Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 1

### **U1000 CAN COMM CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[TYPE A]

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# DTC/CIRCUIT DIAGNOSIS

# U1000 CAN COMM CIRCUIT

DTC Logic

### DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
U1000	CAN COMM CIRCUIT	When CAN communication signal is not continuously received for 2 seconds or more	CAN communication system mal- function

# Diagnosis Procedure

INFOID:0000000009266587

# 1. CHECK DTC DETECTION

(E)With CONSULT.

- 1. Turn ignition switch OFF to ON.
- 2. Perform self diagnostic result.

### Is DTC U1000 detected?

YES >> Proceed to diagnosis procedure. Refer to <u>LAN-15</u>, "Trouble <u>Diagnosis Flow Chart"</u>.

NO >> Refer to GI-45, "Intermittent Incident".

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# **U1010 CONTROL UNIT (CAN)**

< DTC/CIRCUIT DIAGNOSIS >

[TYPE A]

# U1010 CONTROL UNIT (CAN)

Description INFOID:0000000009266588

Initial diagnosis of combination meter.

DTC Logic

### DTC DETECTION LOGIC

DTC	CONSULT	Description	Probable malfunction location
U1010	CONTROL UNIT (CAN)	Error detected during the initial diagnosis of the CAN controller of combination meter.	Combination meter

# Diagnosis Procedure

INFOID:0000000009266590

# 1. REPLACE COMBINATION METER

Replace combination meter. Refer to MWI-53, "Removal and Installation".

>> Inspection End.

### **DTC B2205 VEHICLE SPEED CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[TYPE A]

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## DTC B2205 VEHICLE SPEED CIRCUIT

Description INFOID:000000000266591

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

DTC Logic

DTC	CONSULT	Detection condition	Possible malfunction location
B2205	VEHICLE SPEED CIRC [B2205]	Malfunction is detected when an erroneous speed signal is received for 2 seconds or more.	Combination meter     ABS actuator and electric unit (control unit)

# Diagnosis Procedure

INFOID:0000000009266593

# 1. CHECK COMBINATION METER INPUT SIGNAL

- Start engine and select METER/M&A on CONSULT.
- 2. Using SPEED METER on DATA MONITOR, compare the DATA MONITOR value with the combination meter speedometer. Speedometer and DATA MONITOR indications should be close.

### Is the inspection result normal?

YES >> Perform ABS actuator and electric unit (control unit) self-diagnosis. Refer to <a href="https://example.com/BRC-32">BRC-32</a>, "CONSULT Function (ABS)".

NO >> Replace combination meter. Refer to MWI-53, "Removal and Installation".

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### **B2267 ENGINE SPEED**

< DTC/CIRCUIT DIAGNOSIS >

[TYPE A]

### **B2267 ENGINE SPEED**

Description INFOID:0000000009266594

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

DTC Logic

### DTC DETECTION LOGIC

DTC	CONSULT	Diagnostic item is detected when	Probable malfunction location
B2267	ENGINE SPEED	Malfunction is detected when an erroneous engine speed signal is recieved for 2 seconds or more.	Crankshaft position sensor (POS)     ECM

# Diagnosis Procedure

INFOID:0000000009266596

# 1. CHECK COMBINATION METER INPUT SIGNAL

- 1. Start engine and select METER/M&A on CONSULT.
- Using TACHO METER on DATA MONITOR, compare the value of DATA MONITOR with tachometer of combination meter. Tachometer and DATA MONITOR indications should be close.

### Is the inspection result normal?

- YES >> Perform ECM self-diagnosis. Refer to EC-61, "CONSULT Function".
- NO >> Replace combination meter. Refer to MWI-53, "Removal and Installation".

### **B2268 WATER TEMP**

### < DTC/CIRCUIT DIAGNOSIS >

[TYPE A]

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# **B2268 WATER TEMP**

Description INFOID:0000000009266597

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

DTC Logic

### DTC DETECTION LOGIC

DTC	CONSULT	Detection Condition	Possible 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:0000000009266599

1.PERFORM SELF-DIAGNOSIS OF ECM

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

>> Refer to EC-61, "CONSULT Function".

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### POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[TYPE A]

# POWER SUPPLY AND GROUND CIRCUIT COMBINATION METER

COMBINATION METER : Diagnosis Procedure

INFOID:0000000009266600

Regarding Wiring Diagram information, refer to MWI-77, "Wiring Diagram".

# 1.CHECK FUSE

Check for blown combination meter fuses.

Power source	Fuse No.
Battery	8
Ignition switch ON or START	3

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the fuse after repairing the affected circuit.

# 2. CHECK POWER SUPPLY CIRCUIT

Check voltage between combination meter harness connector and ground.

- 1. Turn ignition switch to OFF.
- 2. Disconnect combination meter connector.
- 3. Check voltage between combination meter harness connector M24 terminals 1, 3 and ground.

	Terminals		Voltage	
(+)		(–)		Ignition switch position
Combination meter			Ignition switch position	(Approx.)
Connector	Terminal	Ground -		
	4		ON	Pottory voltage
M24	<b>'</b>		OFF	Battery voltage
	3		ON	Battery voltage
			OFF	0

### 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. Check continuity between combination meter harness connector M24 terminals 21, 22, 23 and ground.

Combina	tion meter		Continuity
Connector	Terminal		Continuity
	21	Ground	
M24	22		Yes
	23		

### Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

BCM (BODY CONTROL MODULE)

### POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[TYPE A]

BCM (BODY CONTROL MODULE): Diagnosis Procedure

INFOID:0000000009505246

Regarding Wiring Diagram information, refer to BCS-107, "Wiring Diagram".

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# 1. CHECK FUSES AND FUSIBLE LINK

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

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Terminal No.	Signal name	Fuses and fusible link No.
57	Pattery power supply	12 (10A)
70	Battery power supply	G (40A)
11	Ignition switch ACC or ON	18 (10A)
38	Ignition switch ON or START	2 (10A)

### Is the fuse blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

Turn ignition switch OFF.

Disconnect BCM connectors.

3. Check voltage between BCM connector and ground.

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ВС	CM		Ignition switch position		
Connector	Terminal	Ground	OFF	ACC	ON
M20	57	Glound	Battery voltage	Battery voltage	Battery voltage
IVIZU	70				
M18	11		0 V	Battery voltage	Battery voltage
	38	_	0 V	0 V	Battery voltage

### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

## 3.CHECK GROUND CIRCUIT

Check continuity between BCM connector and ground.

В	CM	Ground	Continuity	
Connector	Terminal	Ground		
M20	67	_	Yes	

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

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[TYPE A]

# FUEL LEVEL SENSOR SIGNAL CIRCUIT

Description INFOID:000000009266603

The fuel level sensor unit and fuel pump detects the approximate fuel level in the fuel tank and transmits the fuel level signal to the combination meter.

### Component Function Check

INFOID:0000000009266604

# 1. COMBINATION METER INPUT SIGNAL

- Select METER/M&A on CONSULT.
- Using FUEL METER of DATA MONITOR, compare the DATA MONITOR value with the fuel gauge position.

Fuel gauge indication position	Reference value of data monitor [L]
1	Approx. 41.1
3/4	Approx. 30.8
1/2	Approx. 20.5
1/4	Approx. 10.2
0	Approx. 2.5

### Does monitor value match fuel gauge reading?

YES >> Inspection End.

NO >> Replace combination meter. Refer to MWI-53, "Removal and Installation".

### Diagnosis Procedure

INFOID:0000000009266605

Regarding Wiring Diagram information, refer to MWI-27, "Wiring Diagram".

# 1. CHECK HARNESS CONNECTOR

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

### Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace terminals or connectors.

# 2.CHECK FUEL LEVEL SENSOR UNIT CIRCUIT

- 1. Disconnect combination meter harness connector M24 and fuel level sensor unit and fuel pump harness connector B44.
- Check continuity between combination meter harness connector M24 terminal 4 and fuel level sensor unit and fuel pump harness connector B44 terminal 2.

Connector	Terminal	Connector	Terminal	Continuity
M24	4	B44	2	Yes

Check continuity between fuel level sensor unit and fuel pump harness connector B44 terminal 2 and ground.

Connector	Terminal	Ground	Continuity
B44	2	Oround	No

### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair harness or connector.

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### **FUEL LEVEL SENSOR SIGNAL CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

[TYPE A]

# 3. CHECK FUEL LEVEL SENSOR GROUND CIRCUIT

1. Check continuity between combination meter harness connector M24 terminal 26 and fuel level sensor unit and fuel pump harness connector B44 terminal 5.

Connector	Terminal	Connector	Terminal	Continuity
M24	26	B44	5	Yes

2. Check continuity between fuel level sensor unit and fuel pump harness connector B44 terminal 5 and ground.

Connector	Terminal	Ground	Continuity
B44	5	Oround	No

### Is the inspection result normal?

YES >> GO TO 4

NO >> Repair harness or connector.

### 4. CHECK INSTALLATION CONDITION

Check fuel level sensor unit installation, and verify the float arm does not interfere or bind with the internal components in the fuel tank.

### Is the inspection result normal?

YES >> Inspection End.

NO >> Install the fuel level sensor unit properly.

# Component Inspection

1. REMOVE FUEL LEVEL SENSOR UNIT

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

>> GO TO 2.

# 2. CHECK FUEL LEVEL SENSOR UNIT

Check the resistance between fuel level sensor unit and fuel pump.

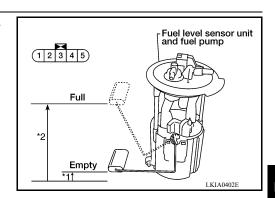
Term	Terminals		Resistance (Ω)	Height [mm (in)]
Fuel level sensor unit		Condition	(Approx.)	r leight [min (iii)]
2	5	Full <sup>*</sup> (2)	91	177 (6.97)
	5	Empty* (1)	283	15 (0.59)

<sup>\*:</sup> When float rod is in contact with stopper.

### Is inspection result OK?

YES >> Inspection End.

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



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### WASHER FLUID LEVEL SWITCH CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[TYPE A]

# WASHER FLUID LEVEL SWITCH CIRCUIT

Description INFOID:0000000009266607

Transmits the washer fluid level switch signal to the combination meter.

Diagnosis Procedure

INFOID:0000000009266608

Regarding Wiring Diagram information, refer to MWI-27, "Wiring Diagram".

# 1. CHECK WASHER FLUID LEVEL SWITCH SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect combination meter connector and washer fluid level switch connector.
- Check continuity between combination meter harness connector M24 terminal 11 and washer fluid level switch harness connector E50 terminal 1.

Connector	Terminal	Connector	Terminal	Continuity
M24	11	E50	1	Yes

4. Check continuity between combination meter harness connector M24 terminal 11 and ground.

Connector	Terminal	Ground	Continuity
M24	11	Giodila	No

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connector.

# 2.CHECK WASHER FLUID LEVEL SWITCH GROUND CIRCUIT

Check continuity between washer fluid level switch harness connector E50 terminal 2 and ground.

Connector	Terminal	Ground	Continuity
E50	2	Giodila	No

### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connector.

# Component Inspection

INFOID:0000000009266609

# 1. CHECK WASHER FLUID LEVEL SWITCH

Check continuity between washer fluid level switch terminals 1 and 2.

Terminal	Washer fluid level Continuity	
1 2	Low	Yes
1 - 2	High	No

### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace washer fluid level switch. Refer to <a href="https://www.exploses.org/www.axp

Revision: April 2013 M W 1-4 8 2014 Versa Sedan

THE FUEL GAUGE INDICATOR DOES NOT OPERATE [TYPE A] < SYMPTOM DIAGNOSIS > SYMPTOM DIAGNOSIS Α THE FUEL GAUGE INDICATOR DOES NOT OPERATE Description INFOID:0000000009266610 Fuel gauge will not indicate from a certain position. Diagnosis Procedure INFOID:0000000009266611 1. CHECK COMBINATION METER INPUT SIGNAL Select METER/M&A on CONSULT. D 2. Using "DATA MONITOR, compare the monitor value with the fuel gauge reading on the combination meter. Refer to MWI-46, "Component Function Check". Does monitor value match fuel gauge reading? Е YES >> GO TO 2. NO >> Replace combination meter. Refer to MWI-53, "Removal and Installation". 2.CHECK FUEL LEVEL SENSOR SIGNAL CIRCUIT F Check the fuel level sensor signal circuit. Refer to MWI-46, "Diagnosis Procedure". Is the inspection result normal? YES >> GO TO 3. NO >> Repair harness or connector.  ${f 3.}$ COMPONENT INSPECTION Н Perform a component inspection on the fuel level sensor unit. Refer to MWI-47, "Component Inspection". Is the inspection result normal? YES >> GO TO 4. NO >> Replace fuel level sensor unit. Refer to FL-5, "Removal and Installation". 4. CHECK FLOAT INTERFERENCE Check that the float arm does not interfere or bind with components in the fuel tank.

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-53, "Removal and Installation".

NO >> Repair or replace malfunctioning parts.

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### THE OIL PRESSURE WARNING LAMP DOES NOT TURN ON

< SYMPTOM DIAGNOSIS >

[TYPE A]

# THE OIL PRESSURE WARNING LAMP DOES NOT TURN ON

Description INFOID:000000009266612

The oil pressure warning lamp stays OFF when the ignition switch is turned ON.

# Diagnosis Procedure

INFOID:0000000009266613

# 1. CHECK COMBINATION METER OIL PRESSURE WARNING LIGHT

- Select METER/M&A on CONSULT.
- 2. Observe OIL W/L DATA MONITOR while operating the ignition switch.

Component	Condition	CONSULT
Oil pressure warning light	Ignition ON	ON
On pressure warning light	Ignition OFF	OFF

### Is the inspection result normal?

YES >> Inspection end.

NO >> Replace combination meter. Refer to <a href="MWI-53">MWI-53</a>. "Removal and Installation".

### THE OIL PRESSURE WARNING LAMP DOES NOT TURN OFF

< SYMPTOM DIAGNOSIS >

[TYPE A]

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# THE OIL PRESSURE WARNING LAMP DOES NOT TURN OFF

Description INFOID:0000000009266614

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

## Diagnosis Procedure

INFOID:0000000009266615

# 1. CHECK COMBINATION METER INPUT SIGNAL

- 1. Start the engine and select METER/M&A on CONSULT.
- Observe OIL W/L DATA MONITOR and the operation of the oil pressure warning lamp on the combination meter.

Component	Condition	CONSULT
Oil pressure warning light	Engine running	OFF

### Is the inspection result normal?

YES >> Perform ECM self-diagnosis. Refer to <u>EC-61, "CONSULT Function"</u>.

NO >> Replace combination meter. Refer to MWI-53, "Removal and Installation".

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

< SYMPTOM DIAGNOSIS > [TYPE A]

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

Description INFOID:000000009266616

- 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:0000000009266617

# 1. CHECK WASHER FLUID LEVEL SWITCH

Perform a unit check for the washer fluid level switch. Refer to <u>MWI-48</u>, "Component Inspection". <u>Is the inspection result normal?</u>

YES >> GO TO 2.

NO >> Replace washer fluid level switch. Refer to <a href="https://www.exploses.com/www-49"><u>WW-49</u></a>, "Exploded View".

2.CHECK WASHER FLUID LEVEL SWITCH SIGNAL CIRCUIT

Check the washer fluid level switch signal circuit. Refer to <u>MWI-48</u>, "<u>Diagnosis Procedure</u>". <u>Is the inspection result normal?</u>

YES >> Replace combination meter. Refer to MWI-53, "Removal and Installation".

NO >> Repair or replace harness or connector.

Revision: April 2013 MWI-52 2014 Versa Sedan

[TYPE A]

INFOID:0000000009266618

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# REMOVAL AND INSTALLATION

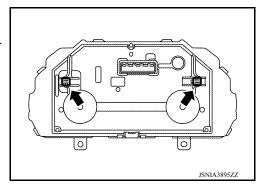
# **COMBINATION METER**

### Removal and Installation

### **REMOVAL**

- 1. Disconnect the negative battery terminal. Refer to PG-63, "Removal and Installation".
- 2. Remove cluster lid A. Refer to IP-19, "Removal and Installation".
- 3. Remove the combination meter screws.
- 4. Pull the combination meter straight out to disengage resin clips. **NOTE:**

The illustration shows the clip positions on the back of the combination meter.



5. Disconnect the harness connector from the combination meter and remove.

### **INSTALLATION**

Installation is in the reverse order of removal.

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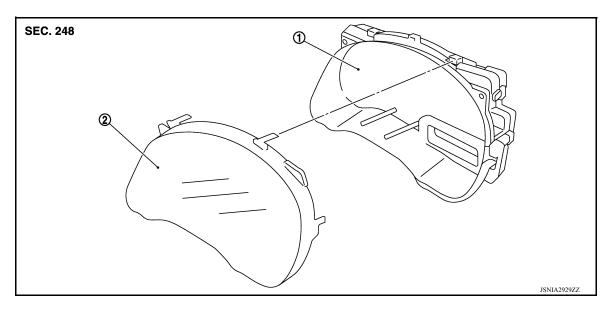
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# UNIT DISASSEMBLY AND ASSEMBLY

## **COMBINATION METER**

Exploded View



1. Unified meter control unit

Front cover

### Disassembly and Assembly

INFOID:0000000009266620

### DISASSEMBLY

- 1. Disengage the tabs to separate front cover using a suitable tool.
- Pull the front cover straight out to remove from the unified meter control unit.

#### **CAUTION:**

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

#### **ASSEMBLY**

Assembly is in the reverse order of disassembly.

### **CAUTION:**

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

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# HOW TO USE THIS MANUAL

# **APPLICATION NOTICE**

Information INFOID:000000009266495

Service information	Design of combination meter
TYPE A	JSNIA3946ZZ
TYPE B	JSNIA3947ZZ

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### **PRECAUTIONS**

< PRECAUTION > [TYPE B]

# **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 SR and SB section of this Service Manual.

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, 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 the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### **WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution for Work

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

### **PREPARATION**

[TYPE B] < PREPARATION > **PREPARATION** Α **PREPARATION** Special Service Tool INFOID:0000000009601589 В The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here. Tool number Description C (Kent-Moore No.) Tool name Removing trim components D (J-46534) Trim Tool Set Е AWJIA0483ZZ **Commercial Service Tools** INFOID:0000000009266497 Tool name Description Power tool Loosening nuts, screws and bolts Н PIIB1407E J M

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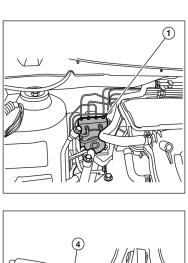
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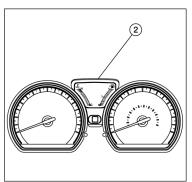
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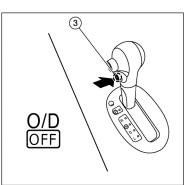
# **COMPONENT PARTS**

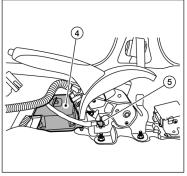
**Component Parts Location** 

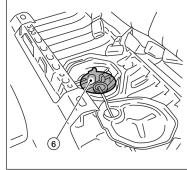
INFOID:0000000009266498

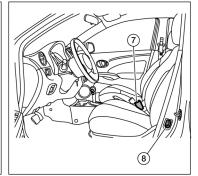


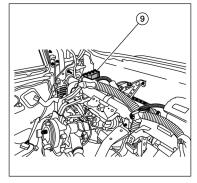


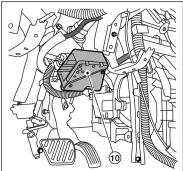


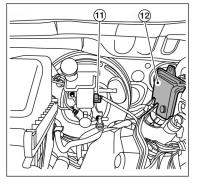


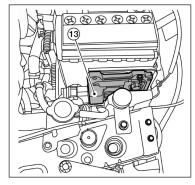


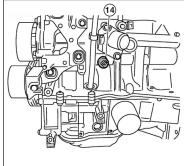


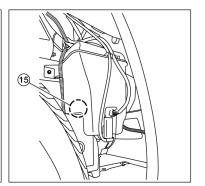












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### **COMPONENT PARTS**

[TYPE B] < SYSTEM DESCRIPTION >

1.	ABS actuator and electric unit (control unit)	2.	Combination meter	3.	CVT shift selector (O/D OFF switch)	Α
4.	Air bag diagnosis sensor unit (view with center console removed)	5.	Parking brake switch (view with center console removed)	6.	Fuel level sensor unit and fuel pump (view with rear seat and access cover removed)	В
7.	Seat belt buckle switch LH	8.	Front door switch LH	9.	BCM (view with instrument panel removed)	
10.	EPS control unit (view with instrument lower panel removed)	11.	Brake fluid level switch (view with IPDM E/R removed)	12.	ECM (view with IPDM E/R removed)	С
13.	TCM	14.	Oil pressure sensor	15.	Washer fluid level switch (if equipped)	$\Box$

# **Component Description**

INFOID:0000000009266499

(view with front fascia removed)

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Unit	Description		
Combination meter	The combination meter controls the following items according to the signals received from each unit.  Speedometer  Engine coolant temperature gauge  Warning lamps  Information display  Tachometer  Fuel gauge  Indicator lamps  Warning chime  Illumination control		
CVT shift selector switch	Transmits the overdrive off switch signal to the combination meter.		
Seat belt buckle switch (LH)	Transmits the seat belt buckle switch (LH) signal to the combination meter.		
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the combination meter via CAN communication.		
Air bag diagnosis sensor unit	Transmits the air bag signal and seat belt buckle switch (RH) signal to the combination meter.		
EPS Control unit	Transmits the EPS signal to the combination meter via CAN communication.		
TCM	Transmits the shift position signal to the combination meter via CAN communication.		
ECM	Transmits the following signals to the combination meter via CAN communication.  • Engine speed signal  • Engine coolant temperature signal  • Fuel consumption monitor signal  • Oil pressure sensor signal		
BCM	Transmits the security signal to the combination meter. Transmits the following signals to the combination meter via CAN communication.  • Low tire pressure warning signal  • Door open switch signal		
Washer fluid level switch (if equipped)	Transmits the washer fluid level switch signal to the combination meter.	N	
Fuel level sensor unit and fuel pump	Transmits the fuel level sensor signal to the combination meter.		
Parking brake switch	Transmits the parking brake switch signal to the combination meter.		
Brake fluid level switch	Transmits the brake fluid level switch signal to the combination meter.		
Oil pressure sensor	Transmits the oil pressure sensor signal to the ECM.		

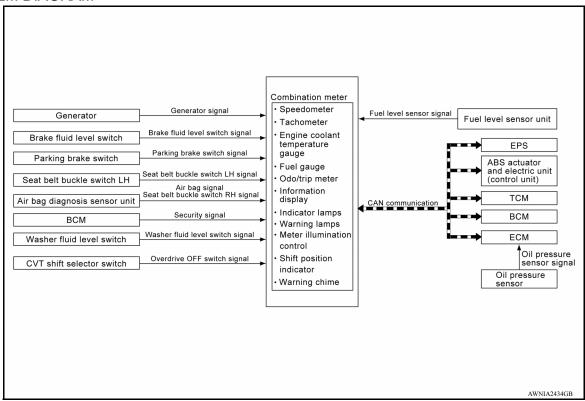
### **SYSTEM**

### METER SYSTEM

## METER SYSTEM: System Diagram

INFOID:0000000009266500

#### SYSTEM DIAGRAM



# METER SYSTEM: System Description

INFOID:0000000009266501

### **COMBINATION METER**

#### Combination Meter

- The combination meter monitors signals from switches, sensors and modules to control the following functions:
- Speedometer/Tachometer
- Shift position indicator
- Warning lamps
- Indicator lamps
- Meter illumination control
- Information display
- The combination meter has an integrated buzzer that is activated when it receives a signal from the BCM via CAN communication. Refer to <u>WCS-7</u>, <u>"WARNING CHIME SYSTEM</u>: <u>System Description"</u> for further details.
- The combination meter includes a self diagnosis function.
- The combination meter can be diagnosed with CONSULT.

#### METER CONTROL FUNCTION LIST

System			Description	Reference	
Speedometer			Indicates vehicle speed.	MWI-63. "SPEEDOME- TER: System Description"	
Tachometer			Indicates engine speed.	MWI-64, "TA- CHOMETER: System Descrip- tion"	
Shift position in	dicator (CVT mo	dels)	Display shift position.	MWI-64, "SHIFT POSITION INDI- CATOR: System Description"	
Warning lamp/	Oil pressure wa	arning lamp	The warning lamp turns ON when it receives the oil pressure warning signal.	MWI-64, "OIL PRESSURE WARNING LAMP : System Descrip- tion"	
indicator lamp  Seat belt warning lamp			The warning lamp turns ON when the LH seat belt is unfastened and the vehicle is moving, and turns OFF when the seat belt is fastened.	SRC-12. "SEAT BELT WARNING LAMP SYSTEM: System Descrip- tion"	
Meter illumi-	Meter illuminati	ion control function	Illumination control is enabled when the combination switch (lighting switch) is in the 1st or 2nd position changing from daytime mode to nighttime mode.	MWI-65, "METER ILLUMINATION CONTROL : Sys-	
nation control  Meter illumination control switch			The operation of the illumination control switch changes the brightness of meter illumination.	tem Description"	
	Engine coolant	temperature gauge	Indicates engine coolant temperature.		
Fuel gauge			Indicates fuel level.	MANUSE WALLOD	
Information	Odo/trip meter		Displays mileage.	MWI-65, "INFOR- MATION DIS-	
display	Instant fuel consumption		Displays current fuel consumption.	PLAY : System	
	Trip computer	Average fuel consumption	Displays average fuel consumption.	Description"	
		Distance to empty	Displays distance to empty.		

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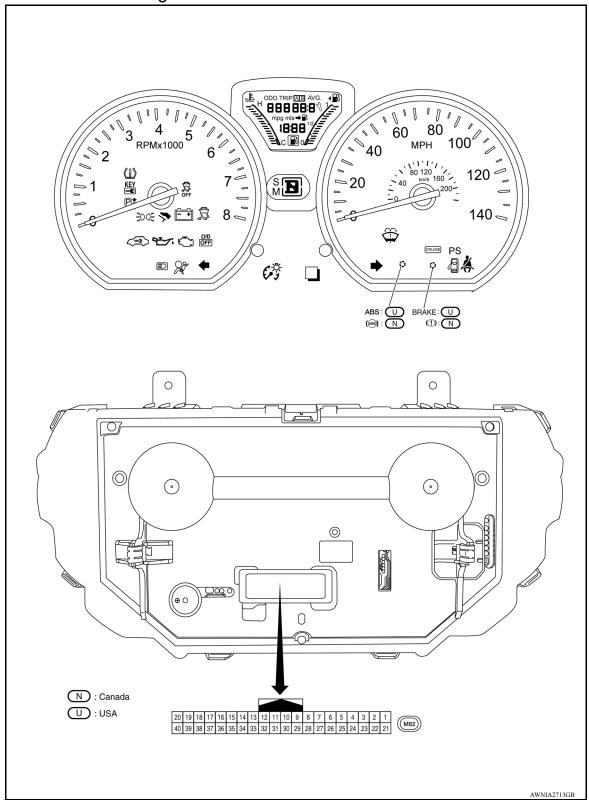
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[TYPE B]

**METER SYSTEM: Arrangement of Combination Meter** 

NFOID:00000000009266502



### METER SYSTEM: Fail-Safe

INFOID:0000000009266503

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

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Function			Specifications	
Speedometer			Depart to your by augmenting communication	
Tachometer			Reset to zero by suspending communication.	
Illumination control			When suspending communication, changes to nighttime mode.	
Shift position indicator			When suspending communication, not indicate.	
		Current fuel consumption	When reception time of an abnormal signal is 2 seconds or less, the last received datum is used for calculation to indi-	
Information display	Trip com- puter	Average fuel consumption	<ul> <li>cate the result.</li> <li>When reception time of an abnormal signal is more than two seconds, the last result calculated during normal condition is</li> </ul>	
mormation diopidy		Distance to empty	indicated.	
	Engine coolant temperature gauge		Reset to zero by suspending communication.	
	Odo/trip meter		An indicated value is maintained at communications blackout	
Buzzer			The buzzer turns OFF by suspending communication.	
	ABS warning lamp			
	Malfunction indicator lamp (MIL)		The lamp turns ON by suspending communication.	
	EPS warning lamp			
	Brake warning lamp			
	High beam indicator lamp			
	Turn signal indicator lamp			
Warning lamp/indicator lamp	Door warning lamp			
	Light indicator lamp			
	Oil pressur	e warning lamp	The lamp turns OFF by suspending communication.	
	Key warning lamp			
	O/D OFF ir	ndicator lamp		
	Shift P warning lamp			
	Engine start operation indicator lamp		1	

# **SPEEDOMETER**

# SPEEDOMETER: System Diagram

INFOID:0000000009266504 Combination meter CAN communication ABS actuator and electric unit (control unit) Vehicle speed signal Speedometer Wheel sensor signals AWNIA2379GB

# SPEEDOMETER: System Description

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

**TACHOMETER** 

**MWI-63** Revision: April 2013 2014 Versa Sedan

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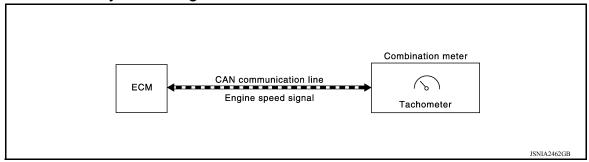
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[TYPE B]

# TACHOMETER: System Diagram





### **TACHOMETER: System Description**

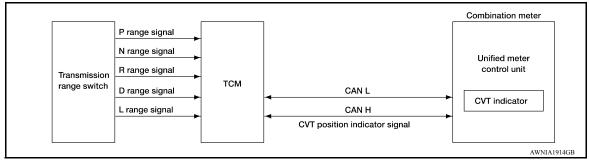
INFOID:0000000009266507

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

### SHIFT POSITION INDICATOR

# SHIFT POSITION INDICATOR: System Diagram

INFOID:0000000009266508



# SHIFT POSITION INDICATOR: System Description

INFOID:0000000009266509

### **DESCRIPTION**

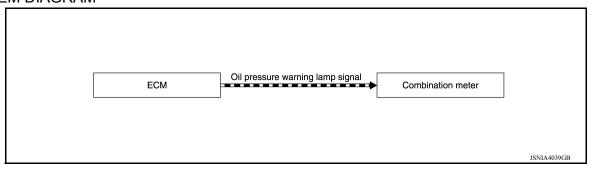
The combination meter receives the shift position signal from TCM via CAN communication, and displays the position of the shift indicator.

### OIL PRESSURE WARNING LAMP

# OIL PRESSURE WARNING LAMP: System Diagram

INFOID:0000000009266510

### SYSTEM DIAGRAM



# OIL PRESSURE WARNING LAMP: System Description

INFOID:0000000009266511

### DESCRIPTION

The combination meter turns the oil pressure warning lamp ON when receiving a signal from the ECM via CAN communication.

### METER ILLUMINATION CONTROL

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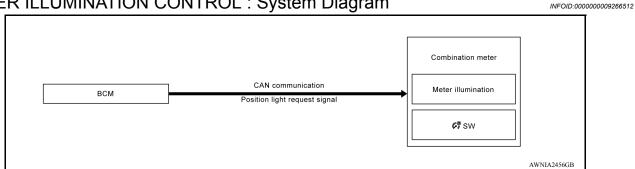
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# METER ILLUMINATION CONTROL: System Diagram



# METER ILLUMINATION CONTROL: System Description

INFOID:0000000009266513

### DESCRIPTION

Meter Illumination Control Function

• Meter illumination control is enabled when the meter receives a signal from the BCM that the combination switch is in the 1st or 2nd position and the meter switches from Daytime mode to Nighttime mode.

	Meter illumination	
Combination switch	1ST or 2ND position	Nighttime mode
(lighting switch)	Off	Daytime mode

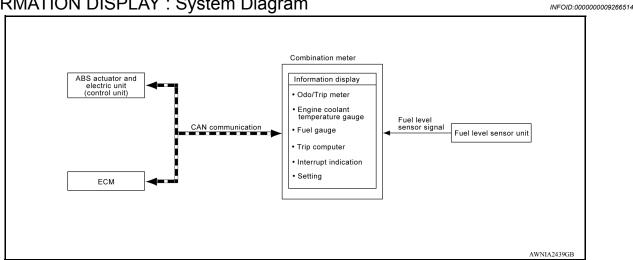
#### Meter Illumination Control Switch

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

Meter illumination	The number of adjustable steps	
Daytime	12 step	
Nighttime	12 step	

### **INFORMATION DISPLAY**

INFORMATION DISPLAY: System Diagram



# INFORMATION DISPLAY: System Description

INFOID:0000000009266515

#### DESCRIPTION

- The combination meter receives signals from switches, sensors and modules for operating the following functions on the information display.
- Odo/trip meter

### < SYSTEM DESCRIPTION >

- Engine coolant temperature gauge
- Fuel gauge
- Trip computer
- Interrupt indication
- Meter illumination level
- Setting
- Low fuel warning
- Loose fuel cap warning

### **ODO/TRIP METER**

The combination meter calculates mileage using the vehicle speed signal from the ABS actuator and electric unit (control unit) and displays the mileage on the information display.

### ENGINE COOLANT TEMPERATURE GAUGE

The engine coolant temperature gauge indicates the engine coolant temperature.

The ECM provides an engine coolant temperature signal to the combination meter via CAN communication.

#### **FUEL GAUGE**

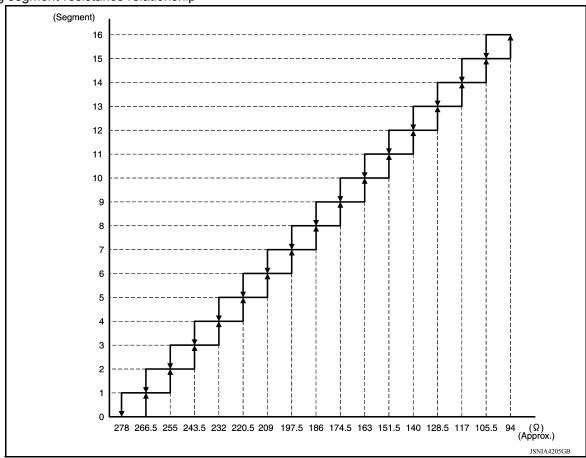
#### **Control Outline**

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

#### Refuel Control

The unit detects the driver is refueling the vehicle and accelerates the fuel gauge segment movement if the fuel level changes by 9  $\ell$  (2-3/8 US, 2 Imp gal) or more.

Lighting segment-resistance relationship



#### INTERRUPT INDICATION

#### Low Fuel Warning

The low fuel warning turns ON when the fuel level in the fuel tank reaches approximately 7  $\ell$  (1-7/8 US gal, 1-1/2 Imp gal).

### **SYSTEM**

< SYSTEM DESCRIPTION > [TYPE B]

### LOOSE FUEL CAP WARNING

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

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[TYPE B]

# DIAGNOSIS SYSTEM (COMBINATION METER)

### **Diagnosis Description**

INFOID:0000000009266516

### COMBINATION METER SELF-DIAGNOSIS MODE

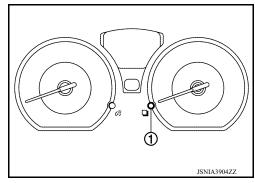
The information display, speedometer and tachometer can be checked in self-diagnosis mode.

# STARTING COMBINATION METER SELF-DIAGNOSIS MODE **NOTE**:

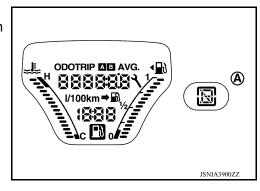
- Check combination meter power supply and ground circuits if self-diagnosis mode does not start. Refer to
   <u>MWI-94, "COMBINATION METER: Diagnosis Procedure"</u>. Replace combination meter if power supply and
   ground circuits are found to be normal and self-diagnosis mode does not start. Refer to <u>MWI-104, "Removal</u>
   and Installation".
- Combination meter self-diagnosis mode will function with the ignition switch in ON. Combination meter selfdiagnosis mode will exit upon turning the ignition switch to OFF.

### How to Initiate Self-Diagnosis Mode

- 1. Turn ignition switch ON, press the odo/trip meter switch (1) to "trip A" or "trip B".
- 2. Turn ignition switch to OFF.
- 3. Continue holding the odo/trip meter switch (1) and turn the ignition switch ON.
- 4. Verify the trip meter displays "0000.0".
- Press the meter control switch at least 3 times. (Within 7 seconds after the ignition switch is turned ON).

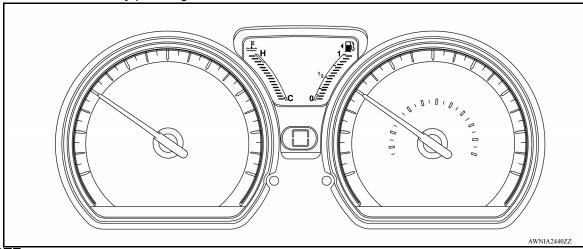


- 6. The combination meter self-diagnosis mode is activated.
  - Verify all segments of the information display and shift position indicator (A) for CVT models are displayed.



< SYSTEM DESCRIPTION > [TYPE B]

Each meter activates by pressing the meter control switch.



### NOTE:

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

### **CONSULT Function**

INFOID:0000000009266517

### APPLICATION ITEMS

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

METER/M&A Diagnosis mode Description	
SELF DIAGNOSTIC RESULT The combination meter self-diagnosis results.	
DATA MONITOR	Displays combination meter input/output data in real time.
SPECIAL FUNCTION	Lighting history of the warning lamp and indicator lamp can be checked.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

### **SELF DIAG RESULT**

Refer to MWI-75, "DTC Index".

### **DATA MONITOR**

Display Item List

		X: Applicable
Display item [Unit]	MAIN SIGNALS	Description
SPEED METER [km/h] or [mph]	Х	Displays the value of vehicle speed signal.
SPEED OUTPUT [km/h] or [mph]	Х	Displays the value of vehicle speed signal, which is transmitted to each unit with CAN communication.
ODO OUTPUT [km/h or mph]		Displays odometer signal value transmitted to other units via CAN communication.
TACHO METER [rpm]	Х	Displays the value of engine speed signal, which is input from ECM.
FUEL METER [L]	Х	Displays the fuel level.
W TEMP METER [°C] or [°F]	Х	Displays the value of engine coolant temperature signal, which is input from ECM.
ABS W/L [ON/OFF]		Displays [ON/OFF] condition of ABS warning indicator
BRAKE W/L [ON/OFF]		Displays [ON/OFF] condition of brake warning indicator.

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Display item [Unit]	MAIN SIGNALS	Description	
DOOR W/L [ON/OFF]		Displays [ON/OFF] condition of door warning indicator.	
HI-BEAM IND [ON/OFF]		Displays [ON/OFF] condition of high beam indicator.	
TURN IND [ON/OFF]		Displays [ON/OFF] condition of turn indicator.	
LIGHT IND [ON/OFF]		Displays [ON/OFF] condition of light indicator.	
OIL W/L [ON/OFF]		Displays [ON/OFF] condition of oil pressure warning indicator.	
MIL [ON/OFF]		Displays [ON/OFF] condition of malfunction indicator.	
CRUISE IND [Off]		Displays [ON/OFF] condition of CRUISE indicator.	
O/D OFF IND [ON/OFF]		Displays [ON/OFF] condition of O/D OFF indicator.	
FUEL W/L [ON/OFF]		Displays [ON/OFF] condition of low-fuel warning indicator.	
KEY G/Y W/L [ON/OFF]		Displays [ON/OFF] condition of key warning lamp.	
O/D OFF SW [ON/OFF]		Displays [ON/OFF] condition of O/D OFF switch.	
REAR DEF SW [ON/OFF]		Displays [ON/OFF] condition of rear window defogger switch.	
BRAKE SW [ON/OFF]		Displays [ON/OFF] condition of brake switch.	
EPS W/L [ON/OFF]		Displays [ON/OFF] condition of EPS indicator.	
CHAGE W/L [Off]		Displays [ON/OFF] condition of charge warning indicator.	
LCD		Displays the value of Intelligent Key system message indication.	
SHIFT IND [P, R, N, D, L]		Displays shift selector position.	
FUEL CAP W/L [Off]		Displays [ON/OFF] condition of loose fuel cap warning message.	
AIR PRES W/L [ON/OFF]		Displays [ON/OFF] condition of tire pressure warning lamp.	
PKB SW [ON/OFF]		Status of parking brake switch.	
BUCKLE SW [ON/OFF]		Status of seat belt buckle switch (LH).	
PASS BUCKLE SW [ON/OFF]		Status of passenger seat belt buckle switch (RH).	
BRAKE OIL SW [ON/OFF]		Status of brake fluid level switch.	
DISTANCE [km] or [Mi]		Displays distance to empty.	
BUZZER [ON/OFF]	Х	Displays [ON/OFF] condition of buzzer.	

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Display item [Unit]	MAIN SIGNALS	Description	
SLIP IND [ON/OFF]		Displays [ON/OFF] condition of SLIP indicator lamp.	
VDC/TCS IND [ON/OFF]		Displays [ON/OFF] condition of VDC OFF indicator lamp.	

#### NOTE:

Some items are not available according to vehicle specification.

#### SPECIAL FUNCTION

#### Special menu

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

### W/L ON HISTORY

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

#### NOTE:

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

### Display Item

Display item	Description		
ABS W/L	Lighting history of ABS warning lamp.		
VDC/TCS IND	Lighting history of VDC warning lamp.		
SLIP IND	Lighting history of SLIP warning lamp.		
BRAKE W/L	Lighting history of brake warning lamp.		
OIL W/L	Lighting history of oil pressure warning lamp.		
C-ENG W/L	Lighting history of malfunction indicator lamp (MIL).		
AIR PRES W/L	Lighting history of tire pressure warning lamp.		
EPS W/L	Lighting history of EPS warning lamp.		
CHAGE W/L	Lighting history of charging warning lamp.		
DOOR W/L	Lighting history of door warning lamp.		
CRUISE W/L	Lighting history of cruise warning lamp.		
O/D OFF IND	Lighting history of O/D OFF indicator lamp.		
FUEL W/L	Lighting history of fuel warning lamp.		
WASHER W/L	Lighting history of washer warning lamp.		

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# **ECU DIAGNOSIS INFORMATION**

# **COMBINATION METER**

Reference Value

### VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Display content	Data monitor	
		Condition	Reference value in normal operation
SPEED METER [km/h or mph]	Speed meter operation	While driving	Vehicle speed matches speed meter
SPEED OUTPUT [km/h or mph]	Vehicle speed	While driving	The speed output signal value via CAN communication is approx. value of vehicle speed.
ODO OUTPUT [km/h or mph]	ODO meter operation	Driving	Distance driven
TACHO METER [rpm]	Tacho meter operation	Engine running	The tacho meter is approx. value of engine speed via CAN communication.
FUEL METER [L]	Fuel level	Ignition ON	Fuel level is approx. value of fuel gauge.
W TEMP METER [°C] or [°F]	Engine coolant temperature	Engine running	Input value of engine coolant temperature signal via CAN communication.
ABS W/L	ABS warning	When ABS warning lamp is ON	On
ABO WE	lamp	When ABS warning lamp is OFF	Off
BRAKE W/L	Brake warning	When Brake warning lamp is ON	On <sup>*</sup>
DIVILL WIL	lamp	When Brake warning lamp is OFF	Off
DOOR W/L	Door open	When Door warning lamp is ON	On
DOOK W/L	warning lamp	When Door warning lamp is OFF	Off
HI-BEAM IND	HI-Beam indi-	When High-beam indicator lamp is ON	On
TH-BEAW HAD	cator lamp	When High-beam indicator lamp is OFF	Off
TURN IND	Turn signal in-	When Turn signal indicator lamp is ON	On
	dicator	When Turn signal indicator lamp is OFF	Off
LIGHT IND	Light indicator	When Tail lamp indicator lamp is ON	On
		When Tail lamp indicator lamp is OFF	Off
OIL W/L	Oil pressure	When Oil pressure warning lamp is ON	On
	warning light	When Oil pressure warning lamp is OFF	Off
MIL	MIL warning	When Malfunction indicator lamp (MIL) is ON	On
	lamp	When Malfunction indicator lamp (MIL) is OFF	Off
CRUISE IND	Cruise indicator	When cruise indicator lamp is ON.	ON
CRUISE IND	lamp	When cruise indicator lamp is OFF.	Off
O/D OFF IND	O/D OFF indi-	When O/D OFF indicator lamp is OFF.	Off
	cator	When O/D OFF indicator lamp is ON.	On
O/D OFF SW	O/D OFF	When O/D OFF switch is pressed to OFF.	Off
	switch	When O/D OFF switch is pressed to ON.	On
REAR DEF SW	Rear defogger switch	When rear defogger switch is pressed to ON	On
	SWILOIT	When rear defogger is pressed to Off	Off

#### **COMBINATION METER**

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Monitor Item Display		Data monitor				
Worldor item	Display content	Condition	Reference value in normal operation			
BRAKE SW	Brake switch	When brake pedal is applied	On			
DRAKE SW	Diake Switch	When brake pedal is released	Off			
FUEL W/L	Low fuel warn-	When low fuel warning is ON	On			
FOEL W/L	ing	When low fuel warning is Off	Off			
KEY G/Y W/L	Key warning	When key warning lamp is ON	On			
KLI G/I W/L	lamp	When key warning lamp is OFF	Off			
EPS W/L	EPS warning	EPS warning lamp ON	On			
LF3 W/L	lamp	EPS warning lamp OFF	Off			
CHAGE W/L	Charge warn- ing lamp	Engine running	Off			
LCD	_	Display the value of Intelligent Key system message indication.	_			
SHIFT IND	Shift position indicator	The position of the shift position selector.	[P, R, N, D, L]			
FUEL CAP W/L	Loose fuel cap	When the fuel-filler cap is installed incorrectly.	On			
	warning	When the fuel-filler cap is installed correctly.	Off			
	Tire pressure	When tire pressure warning lamp is ON	ON			
AIR PRES W/L	warning lamp operation	When tire pressure warning lamp is OFF	Off			
PKB SW	Parking brake	When parking brake is active	On			
T NB OW	switch	When parking brake is inactive	Off			
BUCKLE SW	Seat belt buck-	When seat belt buckle is unfastened (LH).	On			
BOOKEE OVV	le switch LH	When seat belt buckle is fastened (LH).	Off			
BRAKE OIL SW	Brake fluid level	When brake fluid level switch ON	On			
BIVITE OIL OV	switch	When brake fluid level switch OFF	Off			
PASS BUCKLE SW	Seat belt buck-	When passenger seat is occupied and seat belt buckle is unfastened (RH).	On			
TAGG BOOKEE GW	le switch RH	When passenger seat is unoccupied and seat belt buckle is unfastened (RH).	Off			
DISTANCE	Distance to empty	While driving	[km/h or mph]			
BUZZER	Buzzer opera-	When Buzzer is ON	On			
DUZZER	tion	When Buzzer is OFF	Off			
SLIP IND	Slip indicator	When SLIP indicator lamp is ON.	On			
	lamp	When SLIP indicator lamp is ON.	Off			
VDC/TCS IND	VDC indicator	When VDC indicator lamp is ON.	ON			
	lamp	When VDC indicator lamp is Off	OFF			

<sup>\*:</sup> 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.

NOTE:

Some items are not available according to vehicle specification.

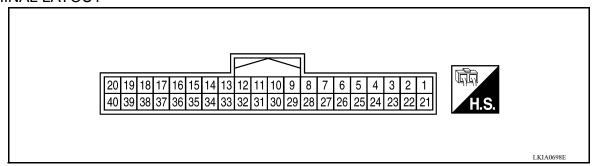
Revision: April 2013 MWI-73 2014 Versa Sedan

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## TERMINAL LAYOUT



#### PHYSICAL VALUES

Ter-			Condition		Defended at AA	
mi- nal No.	Wire color	Item	Ignition switch	Operation or condition	Reference value (V) (Approx.)	
1	L	CAN-H	_	_	_	
2	Р	CAN-L	_	_	_	
4	Р	8P/R	_	_	_	
6	W	Fuel level sensor signal (+)	_	_	Refer to MWI-98, "Component Inspection".	
7	V	Air bag	_	_	_	
	_	0/0 055	ON	O/D OFF switch pressed	0	
8	Р	O/D OFF switch	ON	O/D OFF switch released	Battery voltage	
	\ /	Cook holk hardele arritale III	ON	Unfastened (ON)	0	
9	V	Seat belt buckle switch LH	ON	Fastened (OFF)	Battery voltage	
40	OD	Dedice Ded en Yel	ON.	Parking brake is inactive	0	
10	SB	Parking Brake switch	ON	Parking brake is active	Battery voltage	
		Dual of Calle at a Mah	ON	Brake fluid level low	0	
11	LG	Brake fluid level switch	ON	Brake fluid level normal	Battery voltage	
13	В	Illumination control switch (-)	_	_	_	
15	R	Ignition switch ON or ACC	_	_	Battery voltage	
17	V	Washer fluid level switch	ON	Washer fluid level low	0	
17	V	(Canada models)	ON	Washer fluid level normal	Battery voltage	
18	G	Security	_	_	_	
21	B/W					
22	В	Ground	_	_	0	
23	В					
24	GR	Fuel level sensor ground (-)	ON	_	0	
25	B/W	VDC ground	ON	_	0	
27	R	Battery power supply	OFF	_	Battery voltage	
28	GR	Ignition switch ON or START	ON	_	Battery voltage	
29	G	Seat belt buckle switch RH	ON	Unfastened (ON)	0	
29	G	Seat beit buckle Switch Kh	ON	Fastened (OFF)	Battery voltage	
30	LG	Stan Jama quitch	ON	Brake pedal depressed	Battery voltage	
30	LG	Stop lamp switch	ON	Brake pedal released	0	
38	Y	Congretor	ON	Generator voltage low	0	
38	Ť	Generator	ON	Generator voltage normal	Battery voltage	

#### **COMBINATION METER**

#### < ECU DIAGNOSIS INFORMATION >

[TYPE B]

Α

Fail-Safe

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

	Function		Specifications		
Speedometer			Reset to zero by suspending communication.		
Tachometer			Reset to zero by suspending communication.		
Illumination control			When suspending communication, changes to nighttime mode.		
Shift position indicator  Current fuel consump-			When suspending communication, not indicate.		
	Current fuel consumption		When reception time of an abnormal signal is 2 seconds or less, the last received datum is used for calculation to indi-		
Information display	Trip com- puter	Average fuel consumption	<ul> <li>cate the result.</li> <li>When reception time of an abnormal signal is more than two seconds, the last result calculated during normal condition is</li> </ul>		
	Distance to empty		indicated.		
	Engine coo	lant temperature gauge	Reset to zero by suspending communication.		
	Odo/trip me	eter	An indicated value is maintained at communications blackout.		
Buzzer			The buzzer turns OFF by suspending communication.		
	ABS warning lamp				
	Malfunction indicator lamp (MIL)		The lamp turns ON by suspending communication.		
	EPS warning lamp				
	Brake warr	ning lamp			
	High beam	indicator lamp			
	Turn signal	indicator lamp			
Warning lamp/indicator lamp	Door warni	ng lamp			
	Light indica	ator lamp			
	Oil pressure warning lamp		The lamp turns OFF by suspending communication.		
	Key warnin	g lamp			
	O/D OFF ir	ndicator lamp			
	Shift P war	ning lamp			
	Engine star	rt operation indicator 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-89, "Diagno- sis Procedure"
CONTROL UNIT (CAN) [U1010]	When detecting error during the initial diagnosis of the CAN controller of combination meter.	MWI-90, "Diagno- sis 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-91. "Diagnosis Proced ure"
ENGINE SPEED [B2267]	If ECM continuously transmits abnormal engine speed signals for 2 seconds or more.	MWI-92, "Diagno- sis Procedure"
WATER TEMP [B2268]	If ECM continuously transmits abnormal engine coolant temperature signals for 60 seconds or more.	MWI-93, "Diagno- sis Procedure"

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## **BCM (BODY CONTROL MODULE)**

< ECU DIAGNOSIS INFORMATION >

[TYPE B]

## **BCM (BODY CONTROL MODULE)**

## List of ECU Reference

INFOID:0000000009266521

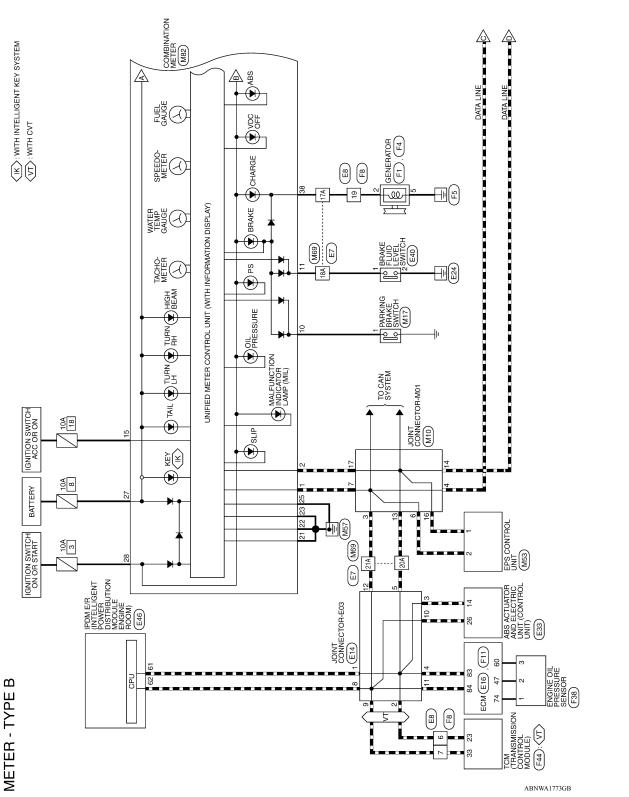
ECU	Reference			
BCM (with Intelligent Key)  BCM (without Intelligent Key)	BCS-28, "Reference Value"			
	BCS-50, "Wiring Diagram"			
	BCS-45, "Fail-safe"			
	BCS-47, "DTC Inspection Priority Chart"			
	BCS-48, "DTC Index"			
	BCS-93, "Reference Value"			
	BCS-107, "Wiring Diagram"			
	BCS-104, "Fail-safe"			
	BCS-104, "DTC Inspection Priority Chart"			
	BCS-105, "DTC Index"			

< WIRING DIAGRAM > [TYPE B]

## WIRING DIAGRAM

## **METER SYSTEM**

Wiring Diagram



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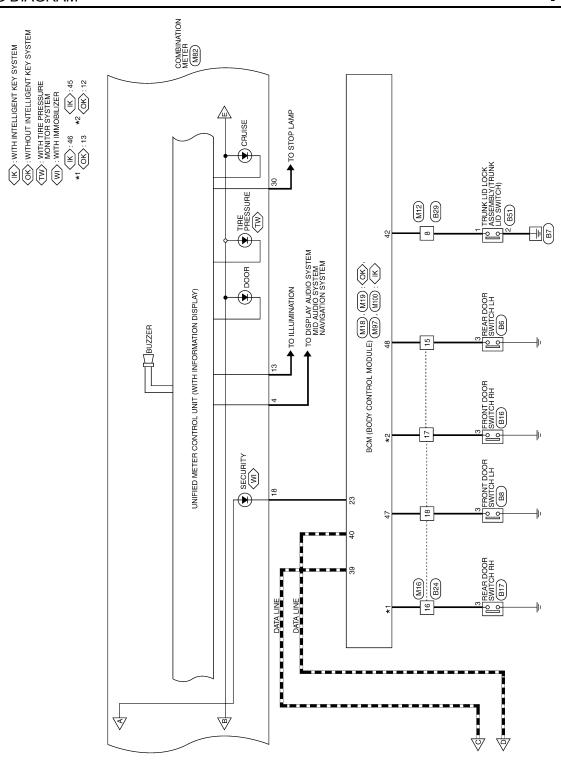
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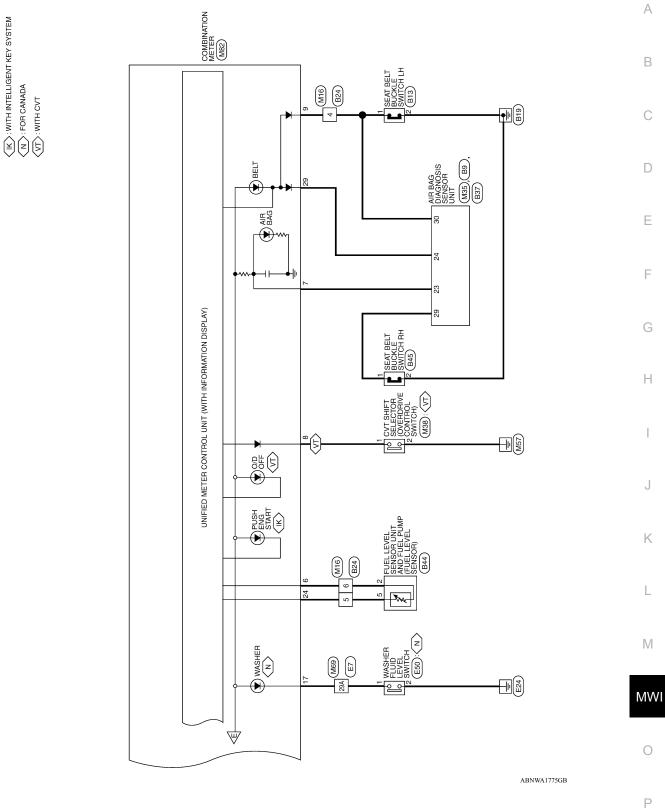
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**MWI-79** Revision: April 2013 2014 Versa Sedan

[TYPE B]

Connector Name | WIRE TO WIRE Connector Color WHITE

Connector No. | M16

# METER CONNECTORS - TYPE B

				( )
Connector No.	MIO	_ ر	onnector No.	MTZ
Connector Name	onnector Name JOINT CONNECTOR-M01	O	Connector Name	WIRE TO WIRE
Connector Color GF	GRAY	U	Sonnector Color	WHITE



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9	16		
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Color of
Terminal No.

Signal Name	I	1	I	1	1	1	1	ı
Color of Wire	٦	٦	٦	٦	۵	Д	Ь	۵
Terminal No.	3	4	9	2	13	14	91	17
Te								



15 16 17

18

Signal Name

Color of Wire

Terminal No.

Signal Name

Color of Wire ℩

Terminal No.

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4 2

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Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color WHITE	WHITE

**METER SYSTEM** 







	_EM)			16 17 18 19 20 36 37 38 39 40				OB		
BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)		ПЕ		10     11     12     13     14     15       30     31     32     33     34     35	Signal Name	DOOR SW (AS)	DOOR SW (RR)	SECURITY INDICATOR OUTPUT	CAN-H	CAN-L
ne MO	Z	or WHITE	L	6 7 8 9 26 27 28 29	Color of Wire	۵	ГG	ű	_	_
Connector Name		Connector Color	是 H.S.	1 2 3 4 5 21 22 23 24 25 2	Terminal No.	12	13	23	39	40

Connector Name PARKING BRAKE SWITCH	or BLACK	<u> </u>
Connector Nar	Connector Color	

M17

Connector No.



Signal Name	1	
Color of Wire	SB	
Terminal No.	-	

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< WIRING DIAGRAM > [TYPE B]

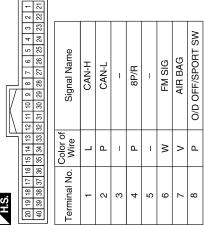
	А
Signal Name CAN-H CAN-H	В
M53 EPS CONTRO BLACK  I're  Sig	С
No. No. No. Octoor of No. Octo	D
Connector No. M53 Connector Name EPS CONTROL UNIT Connector Color of BLACK  Terminal No. Color of Signal Nam  1 P CAN-L 2 L CAN-H	Е
	F
Connector No.   M38	G
MAHTE WHITE Or of G G G G G G G G G G G G G G G G G G G	Н
No. Color of Wire P P P P P P P P P P P P P P P P P P P	1
Connector No. M38 Connector Name CVT SH Connector Color WHTE  1	J
	K
M35     SENSOR UNIT     YELLOW     1	L
Connector Name AIR BAG DIAGNOSIS SENSOR UNIT Connector Color YELLOW  23 V AIRBAG WAR  Connector No. M69 Connector No. M6	M
10   10   10   10   10   10   10   10	MWI
Connector Name AIR BA/Sen/Sen/Sen/Sen/Sen/Sen/Sen/Sen/Sen/Sen	0
ABNIA4545GB	
	Р

Revision: April 2013 MWI-81 2014 Versa Sedan

Signal Name	VDC GND	_	BAT	NSI	AS BELT	BRAKE SW	I	I	-	_	ı	-	_	SHO	ı	_
Color of Wire	B/W	-	Œ	GR	Ö	re	ı	1	1	ı	1	1	ı	<b>&gt;</b>	ı	1
Terminal No.	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Signal Name	BELT	PKB SW	BRAKE OIL SW	1	OUTSIDE ILL OUTPUT	1	ACC SW	1	WASHER SW	SECURITY	-	I	GND (ILL)	GND (POWER)	GND (CIRCUIT)	FM GND
Color of Wire	>	SB	LG	1	В	ı	ш	_	^	g	_	1	B/W	В	В	GR
Terminal No.	6	10	1	12	13	14	15	16	17	18	19	20	21	22	23	24



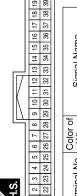


Connector No.	M100
Connector Name	Connector Name MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color BLACK	BLACK

Ö	Connector No.	M100
Co	Connector Name	BCM (BODY C MODULE) (WI INTELLIGENT
Ö	Connector Color BLACK	BLACK

Sonnector Name MODULE) (WITH INTELLIGENT KEY	BLACK	41 42 43 44 45 46 47 48 49       50 51 52 53 54 55
Connector Name	Connector Color BLACK	H.S.

Connector No.	M97
Connector Name	Connector Name MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color BLACK	BLACK



	20	9				
	6	39				
	8	38 39		<u> </u>		
	17	37		잍		
	16	36 37	ഉ	Ϋ́		
	15	સ્ટ	a	듬	I	_
	4	34 35	<u>Z</u>	<u>Z</u> Ē	ż	CAN-L
	10 11 12 13 14 15 16	83	Signal Name	SECURITY INDICATOR OUTPUT	CAN-H	S
-117	12	88	Sig	[듄0		
- IV	Ξ	3	"	⊃		
- 11	9	8		Щ		
$\parallel \parallel \setminus$	6	8		0)		
5	8	78	ه <u>ح</u>			
	7	27	Color of Wire	മ	_	Д
	9	26	0			
	S	22	o.			
	4	24	Z			
7.5	6	83	l a	23	39	40
H.S.	2	21 22 23 24 25 26 27 28 29 30 31 32 33	Ferminal No.	``	``	1
A	-	2	<u>.</u>			

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DOOR SW (DR)

SB ×

46 47 48

DOOR SW (RR) DOOR SW (AS)

TRUNK/GLASS HATCH SW

₾ ┙

Signal Name

Color of Wire

Terminal No. 42 45

Connector No.   E8   Connector Name   WIRE TO WIRE	Connector No.   E16   Connector Name   ECM   Connector Color   BLACK   E18   E18   E18   E19   E19	A B C D
		F
Signal Name	Signal Name	G
Color of Wire P LG V	Color of Wire P	Н
ON V V V V V V V V V V V V V V V V V V V		I
Terminal No. 17A 18A 20A 21A 29A	Terminal No. 10 11 11 12	J
A   5A   A   10A   10A		K
	Connector No. E14  Connector Name JOINT CONNECTOR-E03  Connector Color   BLUE	L
E7  WHITE  TA 2A 3A 44  CA 7A 8A 94  SA 2A 2A 2B 2B 2B 2B 7A  SA 3A 3A 3B 3B 3B 3A 3A  SA 2A 3A 4A 45 A 46 A 47 A  SA 3A 3A 3A 3B 8B 8B 8A 7A  SA 3A 3A 3B 8B	NT CONNE	M
0. E7 ame WIRE T olor WHITE 22a2aq 31A32a33aq 62A63aq 62A63aq 62A63aq 62A63aq 62A63aq	0. E14 ame JOINT olor BLUE  Color of Wire P P P	N 4\ A / I
Connector No.   E7	Connector Name Connector Color  H.S.  Terminal No. Col  2 2 3 3	MWI
		0
	ABNIA3812GB	Р

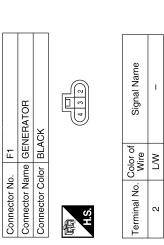
Revision: April 2013 MWI-83 2014 Versa Sedan

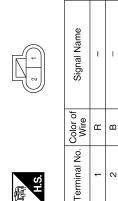
#### **METER SYSTEM**

< WIRING DIAGRAM >

E46	Connector Name POWER DISTRIBUTION MODILI E ENGINE BOOM	HITE	76 75 74 73 72 71 70 69 68 67 66 65	of Signal Name	CAN-L	CAN-H
	me P(	or 🛚 🔻	63 62 61	Color	۵	_
Connector No.	Connector Na	Connector Color WHITE	(日本) (日本) (日本) (日本) (日本) (日本) (日本) (日本)	Terminal No. Wire	61	62
	Connector Name BRAKE FLUID LEVEL SWITCH			Signal Name	1	ı
. E40	me BRAKE F SWITCH	lor BLACK		Color of Wire	LG	В
Connector No.	Connector Na	Connector Color BLACK	任.S.	Terminal No. Wire	1	2
			[8] <sup>1</sup>			
	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL	CK	27 36 38 34 33 32 31 30 29 28 27 36 38 34 31 31 30 32 38 37 38 37 31 31 31 31 32 31 31 31 31 31 31 31 31 31 31 31 31 31	Signal Name	CAN-L	CAN-H
. E33	ABS me ELE	lor BLA	38 37 36 3 13 24 23 13 12 11	Color of Wire	Ь	_
Connector No.	Connector Name ELECTRIC UNIT	Connector Color BLACK	H.S.	Terminal No. Wire	14	26

Connector No.	o. F4	
Connector Name   GENERATOR	ame GEI	NERATOR
Connector Color	olor –	
用.S.		
Terminal No. Wire	Color of Wire	Signal Name
5	B/GR	1





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Connector No. E50
Connector Name WASHER FLUID LEVEL
SWITCH

Connector Color BROWN

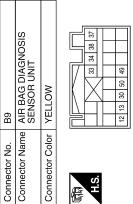
Connector No. F38 Connector Name ENGINE OIL PRESSURE SENSOR Connector Color BLACK H.S	Terminal No. Color of Signal Name  1 0	Connector No. B8 Connector Name FRONT DOOR SWITCH LH Connector Color WHITE	Terminal No. Color of Wire 3 LG –	A B C D
				F
ame ECM    Solid   F11	Signal Name ENGINE OIL PRESSURE SENSOR SENSOR GROUND SENSOR GROUND	I SWITCH LH	Signal Name	G
P F11  P ECM  P BROWN  37 41 45 49 55 57  38 42 45 51 55 58  38 44 75 15 55 68  40 44 48 52 56 60		E E E E E E E E E E E E E E E E E E E		Н
Connector No.   F11  Connector Name   ECM  Connector Color   BROWN  H.S.	No. Wire Wire Color of Color o	Connector No. B6 Connector Name REAR DOOR SWITCH LH Connector Color WHITE	No. Color of Wire	I
Connector No. Connector Col	Terminal No. 47 60 74	Connector No. Connector Colnector Co	Terminal No.	J
				K
O WIRE    0   0   0   0   0   0   0   0   0	Signal Name	F44  TCM (TRANSMISSION CONTROL MODULE) (WITH CVT)  BLACK	Signal Name CAN-L CAN-H	L
NHITE TO WHE TO	Color of Wire P	TCM (TRAN) CONTROL M WHH CVT) BLACK    Si   Si   Si   Si   Si   Si   Si   S	or of life	IVI
or No.	No. Wiii		No. Color of Wire	MWI
Connector No. F8 Connector Name WIRE TO WIRE Connector Color WHITE    12   11   10   9   8   7   6   14   16   18   18   18   18   18   18   18	Terminal No. 6 7 7 19	Connector No. Connector Name Connector Color	Terminal No. 23 33	0
			ABNIA4547GB	
				Р

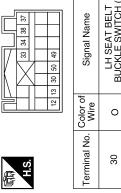
	Connector No. B16	B16
T BUCKLE	Connector Name	Connector Name FRONT DOOR SWITCH RH
F,	Connector Color WHITE	WHITE

				_
Connector Name   FRONT DOOR SWITCH RH	믵	1 2 3 4	Signal Name	_
me FRC	lor WH		Color of Wire	_
Connector Na	Connector Color WHITE	朝 H.S.	Terminal No.	8









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Signal Name	1	1	
Color of Wire	0	В	
erminal No.	1	2	

Color of Sig	0	В	
Terminal No.	-	2	

Signal Name	LH SEAT BELT BUCKLE SWITCH (+)	
Color of Wire	0	
Terminal No. Wire	30	

Connector No	B29
7	WIDE TO WIDE
COILLECTOI NAILLE	אחוא טו שחוא
Connector Color WHITE	WHITE
原 用.S.	1 2 3

Signal Name

Terminal No. Wire

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				Ξ	23	
				10	22 23	
			_	6	21	
	ш			8	18 19 20 21	
	Ħ			7	19	
	>		N	9	8	
	2		Ш	2	17	
	IRE TO WIRE	/HITE	S	4	15 16 17	
4	별	Ŧ		m	5	П

Connector No.	B24	_
Connector Name	WIRE	<u>ښ</u>
Connector Color	×	WHITE
	2 3	4
13.1	14 15	16

Signal Name	ı	ı	ı	I	_	1	_
Color of Wire	0	Ь	Œ	>	В	٦	ГG
Terminal No.	4	5	9	15	16	17	18





Connector Name REAR DOOR SWITCH RH

B17

Connector No.

Connector Color WHITE



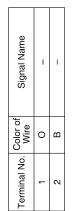
Signal	'
Color of Wire	æ
Terminal No.	3

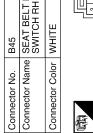
Name

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[TYPE B] < WIRING DIAGRAM >

Connector No.	B45
Connector Name	Sonnector Name SEAT BELT BUCKLE SWITCH RH
Connector Color WHITE	WHITE







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Signal Name	1	_
Color of Wire	н	Ь
Terminal No.	2	5



B44

Connector No.

B37

Connector No.



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ISC			32			29
NZ.		117	31			48
AGNI		W.	abla	7		47
<u>ا</u> ۵	_	IN.	$\nearrow$	\	56	
AG	NC	Ш	36	Г		
SNS		Z	35			
AF	ΛE					
Connector Name   AIR BAG DIAGNOSIS   SENSOR UNIT	Connector Color YELLOW	管	SH			

	Г		10
			11
32			29
31			48
$\geq$	7		47
$\nearrow$	\	56	
36	Г		
32			
		36	36



Signal Name	RH SEAT BELT BUCKLE SWITCH (+)	
Color of Wire	0	
erminal No.	29	

B51	Connector Name TRUNK LID LOCK ASSEMBLY	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

 Connector Name TRUNK LID LO ASSEMBLY	v WHITE	1 2 3
Connector Nam	Connector Color WHITE	(国) H.S.

2 3	Signal Na	1	I
	Color of Wire	Ь	В
H.S.	Terminal No.	1	2

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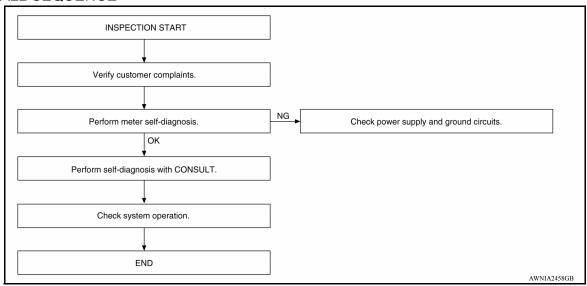
< BASIC INSPECTION > [TYPE B]

## **BASIC INSPECTION**

#### DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

#### **OVERALL SEQUENCE**



#### **DETAILED FLOW**

## 1.CONFIRM SYMPTOM

Confirm symptom or customer complaint.

>> GO TO 2

## 2. SELF-DIAGNOSIS OF COMBINATION METER

Perform self-diagnosis of combination meter. Refer to MWI-68, "Diagnosis Description".

#### Is the inspection result normal?

YES >> GO TO 3

NO >> If self-diagnosis will not start, check power supply and ground circuit of combination meter. Refer to <a href="MWI-94">MWI-94</a>, "COMBINATION METER: Diagnosis Procedure". If power supply and ground circuits are OK, replace combination meter. Refer to <a href="MWI-104">MWI-104</a>, "Removal and Installation".

#### 3. CHECK COMBINATION METER WITH CONSULT

Select "METER/M&A" on CONSULT and perform self-diagnosis of combination meter. Refer to <u>MWI-69</u>, "CONSULT Function".

#### Is the inspection result normal?

YES >> Check symptom. GO TO 4.

NO >> Refer to MWI-75, "DTC Index".

#### 4. CHECK SYSTEM OPERATION

Check the combination meter to verify that the repair has been completed successfully.

#### Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 1

#### **U1000 CAN COMM CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[TYPE B]

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## DTC/CIRCUIT DIAGNOSIS

## U1000 CAN COMM CIRCUIT

DTC Logic

#### DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
U1000	CAN COMM CIRCUIT	When CAN communication signal is not continuously received for 2 seconds or more	CAN communication system mal- function

#### Diagnosis Procedure

INFOID:0000000009266525

## 1. CHECK DTC DETECTION

(E)With CONSULT.

- 1. Turn ignition switch OFF to ON.
- 2. Perform self diagnostic result.

#### Is DTC U1000 detected?

YES >> Proceed to diagnosis procedure. Refer to <u>LAN-15</u>, "Trouble <u>Diagnosis Flow Chart"</u>.

NO >> Refer to GI-45, "Intermittent Incident".

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## **U1010 CONTROL UNIT (CAN)**

< DTC/CIRCUIT DIAGNOSIS >

[TYPE B]

## U1010 CONTROL UNIT (CAN)

Description INFOID:000000009266526

Initial diagnosis of combination meter.

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT	Description	Probable malfunction location
U1010	CONTROL UNIT (CAN)	Error detected during the initial diagnosis of the CAN controller of combination meter.	Combination meter

## Diagnosis Procedure

INFOID:0000000009266528

## 1. REPLACE COMBINATION METER

Replace combination meter. Refer to MWI-104, "Removal and Installation".

>> Inspection End.

#### **DTC B2205 VEHICLE SPEED CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[TYPE B]

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## DTC B2205 VEHICLE SPEED CIRCUIT

Description INFOID:0000000009266529

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

DTC Logic

DTC	CONSULT	Detection condition	Possible malfunction location
B2205	VEHICLE SPEED CIRC [B2205]	Malfunction is detected when an erroneous speed signal is received for 2 seconds or more.	Combination meter     ABS actuator and electric unit (control unit)

#### Diagnosis Procedure

INFOID:0000000009266531

## 1. CHECK COMBINATION METER INPUT SIGNAL

- Start engine and select METER/M&A on CONSULT.
- 2. Using SPEED METER on DATA MONITOR, compare the DATA MONITOR value with the combination meter speedometer. Speedometer and DATA MONITOR indications should be close.

#### Is the inspection result normal?

YES >> Perform ABS actuator and electric unit (control unit) self-diagnosis. Refer to <a href="https://example.com/BRC-32">BRC-32</a>, "CONSULT Function (ABS)".

NO >> Replace combination meter. Refer to MWI-104, "Removal and Installation".

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#### **B2267 ENGINE SPEED**

< DTC/CIRCUIT DIAGNOSIS >

[TYPE B]

#### **B2267 ENGINE SPEED**

Description INFOID:000000009266532

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

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT	Diagnostic item is detected when	Probable malfunction location
B2267	ENGINE SPEED	Malfunction is detected when an erroneous engine speed signal is recieved for 2 seconds or more.	Crankshaft position sensor (POS)     ECM

## Diagnosis Procedure

INFOID:0000000009266534

## 1. CHECK COMBINATION METER INPUT SIGNAL

- 1. Start engine and select METER/M&A on CONSULT.
- Using TACHO METER on DATA MONITOR, compare the value of DATA MONITOR with tachometer of combination meter. Tachometer and DATA MONITOR indications should be close.

#### Is the inspection result normal?

- YES >> Perform ECM self-diagnosis. Refer to EC-61, "CONSULT Function".
- NO >> Replace combination meter. Refer to MWI-104, "Removal and Installation".

#### **B2268 WATER TEMP**

#### < DTC/CIRCUIT DIAGNOSIS >

[TYPE B]

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## **B2268 WATER TEMP**

Description INFOID:0000000009266535

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

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT	Detection Condition	Possible malfunction location
B2268	WATER TEMP	ECM continuously transmits abnormal engine coolant temperature signals for 60 seconds or more	• Engine cogiant temperatilite sensor

## Diagnosis Procedure

INFOID:0000000009266537

1.PERFORM SELF-DIAGNOSIS OF ECM

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

>> Refer to EC-61, "CONSULT Function".

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#### POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[TYPE B]

# POWER SUPPLY AND GROUND CIRCUIT COMBINATION METER

COMBINATION METER : Diagnosis Procedure

INFOID:0000000009266538

Regarding Wiring Diagram information, refer to MWI-77, "Wiring Diagram".

## 1. CHECK FUSE

Check for blown combination meter fuses.

Power source	Fuse No.
Battery	8
Ignition switch ON or START	3
Ignition switch ACC or ON	18

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the fuse after repairing the affected circuit.

## 2.power supply circuit check

- 1. Disconnect combination meter connector.
- 2. Check voltage between combination meter harness connector M82, terminals 27, 28, 15 and ground.

	Terminals			Ignition switch position		
	(+)		OFF	ACC	ON	START
Connector	Connector Terminal					
	27		Battery voltage	Battery voltage	Battery voltage	Battery voltage
M82	28	Ground	0V	0V	Battery voltage	Battery voltage
	15		0V	Battery voltage	Battery voltage	0V

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness for open between combination meter and fuse.

## 3. GROUND CIRCUIT CHECK

- 1. Turn ignition switch OFF.
- 2. Disconnect combination meter connector.
- 3. Check continuity between combination meter harness connector M82, terminals 21, 22, 23 and ground.

	Termin			
	(+)	( )	Continuity	
Connector	Terminal	(-)		
	21	Ground		
M82	22		Yes	
	23			

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Check ground harness.

## BCM (BODY CONTROL SYSTEM) (WITH INTELLIGENT KEY SYSTEM)

#### POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[TYPE B]

# BCM (BODY CONTROL SYSTEM) (WITH INTELLIGENT KEY SYSTEM) : Diagnosis Procedure

Regarding Wiring Diagram information, refer to BCS-50, "Wiring Diagram".

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#### 1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
57	Pattony power cupply	12 (10A)
70	Battery power supply	G (40A)

#### Is the fuse blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2.

## 2.CHECK POWER SUPPLY CIRCUIT

- Disconnect BCM connector M99.
- Check voltage between BCM connector M99 and ground.

ВС	CM	Ground	Voltage	
Connector	Terminal	Giodila		
M99	57		Pottony voltage	
Mea	70	_	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3.CHECK GROUND CIRCUIT

Check continuity between BCM connector M99 and ground.

В	CM	Ground	Continuity	
Connector	Terminal			
M99	67	_	Yes	

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

## BCM (BODY CONTROL SYSTEM) (WITHOUT INTELLIGENT KEY SYSTEM)

# BCM (BODY CONTROL SYSTEM) (WITHOUT INTELLIGENT KEY SYSTEM) : Diagnosis Procedure

Regarding Wiring Diagram information, refer to BCS-107, "Wiring Diagram".

## 1. CHECK FUSES AND FUSIBLE LINK

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

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#### POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[TYPE B]

Terminal No.	Signal name	Fuses and fusible link No.	
57	Pattery power supply	12 (10A)	
70	Battery power supply	G (40A)	
11	Ignition switch ACC or ON	18 (10A)	
38	Ignition switch ON or START	2 (10A)	

#### Is the fuse blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2.

## 2. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connectors.
- 3. Check voltage between BCM connector and ground.

ВС	ВСМ		Ignition switch position		
Connector	Terminal	Ground -	OFF	ACC	ON
M20	57		Battery voltage	Battery voltage	Battery voltage
IVIZU	70				
M18	11	_	0 V	Battery voltage	Battery voltage
IVI IO	38		0 V	0 V	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

## 3. CHECK GROUND CIRCUIT

Check continuity between BCM connector and ground.

ВСМ		Ground	Continuity
Connector	Terminal	Ground	Continuity
M20	67	_	Yes

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

#### **FUEL LEVEL SENSOR SIGNAL CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

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## FUEL LEVEL SENSOR SIGNAL CIRCUIT

Description INFOID:000000009266541

The fuel level sensor unit and fuel pump detects the approximate fuel level in the fuel tank and transmits the fuel level signal to the combination meter.

## Component Function Check

#### INFOID:0000000009266542

## ${f 1}$ . COMBINATION METER INPUT SIGNAL

- Select METER/M&A on CONSULT.
- Using FUEL METER of DATA MONITOR, compare the DATA MONITOR value with the fuel gauge position.

Fuel gauge indication position	Reference value of data monitor [L]
1	Approx. 41.1
3/4	Approx. 30.8
1/2	Approx. 20.5
1/4	Approx. 10.2
0	Approx. 2.5

#### Does monitor value match fuel gauge reading?

YES >> Inspection End.

NO >> Replace combination meter. Refer to MWI-104, "Removal and Installation".

#### Diagnosis Procedure

INFOID:0000000009266543

Regarding Wiring Diagram information, refer to MWI-77, "Wiring Diagram".

## 1. CHECK HARNESS CONNECTOR

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

#### Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace terminals or connectors.

## 2.check fuel level sensor unit circuit

Disconnect combination meter harness connector M82 and fuel level sensor unit and fuel pump harness connector B44.

Check continuity between combination meter harness connector M82 terminal 6 and fuel level sensor unit and fuel pump harness connector B44 terminal 2.

Connector	Terminal	Connector	Terminal	Continuity
M82	6	B44	2	Yes

Check continuity between fuel level sensor unit and fuel pump harness connector B44 terminal 2 and ground.

Connector	Terminal	Ground	Continuity
B44	2	Ground	No

#### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair harness or connector.

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#### **FUEL LEVEL SENSOR SIGNAL CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

**ITYPE B1** 

## $\overline{3}$ .check fuel level sensor ground circuit

Check continuity between combination meter harness connector M82 terminal 24 and fuel level sensor unit and fuel pump harness connector B44 terminal 5.

Connector	Terminal	Connector	Terminal	Continuity
M82	24	B44	5	Yes

Check continuity between fuel level sensor unit and fuel pump harness connector B44 terminal 5 and ground.

Connector	Terminal	Ground	Continuity
B44	5	Oround	No

#### Is the inspection result normal?

YES >> GO TO 4

NO >> Repair harness or connector.

#### 4. CHECK INSTALLATION CONDITION

Check fuel level sensor unit installation, and verify the float arm does not interfere or bind with the internal components in the fuel tank.

#### Is the inspection result normal?

YES >> Inspection End.

>> Install the fuel level sensor unit properly. NO

## Component Inspection

INFOID:0000000009266544

## ${f 1}$ . REMOVE FUEL LEVEL SENSOR UNIT

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

>> GO TO 2.

## 2.CHECK FUEL LEVEL SENSOR UNIT

Check the resistance between fuel level sensor unit and fuel pump.

Term	ninals	Condition	Resistance (Ω)	Height [mm (in)]
Fuel level sensor unit		Condition	(Approx.)	r reight [min (m)]
2	5	Full <sup>*</sup> (2)	91	177 (6.97)
	3	Empty* (1)	283	15 (0.59)

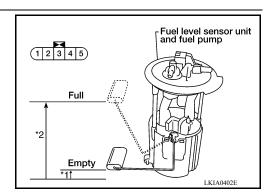
<sup>\*:</sup> When float rod is in contact with stopper.

#### Is inspection result OK?

YES >> Inspection End.

NO

>> Replace fuel level sensor unit and fuel pump. Refer to FL-5, "Removal and Installation".



#### WASHER FLUID LEVEL SWITCH CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[TYPE B]

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WASHER	FI UID	I FVFI	SWITCH	CIRCUIT

Description INFOID:000000009266545

Transmits the washer fluid level switch signal to the combination meter.

Diagnosis Procedure INFOID:0000000009266546

Regarding Wiring Diagram information, refer to MWI-77, "Wiring Diagram".

## 1. CHECK WASHER FLUID LEVEL SWITCH SIGNAL CIRCUIT

- Turn ignition switch OFF.
- Disconnect combination meter connector M82 and washer fluid level switch connector E50.
- Check continuity between combination meter harness connector M82 terminal 17 and washer fluid level switch harness connector E50 terminal 1.

Connector	Terminal	Connector	Terminal	Continuity
M82	17	E50	1	Yes

Check continuity between combination meter harness connector M82 terminal 17 and ground.

Connector	Terminal	Ground	Continuity
M82	17	Ground	No

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connector.

## 2.CHECK WASHER FLUID LEVEL SWITCH GROUND CIRCUIT

Check continuity between washer fluid level switch harness connector E50 terminal 2 and ground.

Connector	Terminal	Ground	Continuity
E50	2	Oround	No

#### Is the inspection result normal?

YES >> Inspection End.

>> Repair or replace harness or connector.

#### Component Inspection

1. CHECK WASHER FLUID LEVEL SWITCH

Check continuity between washer fluid level switch terminals 1 and 2.

Terminal	Washer fluid level	Continuity
1 - 2	Low	Yes
1 - 2	High	No

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace washer fluid level switch. Refer to WW-49, "Exploded View". MWI

INFOID:0000000009266547

#### THE FUEL GAUGE INDICATOR DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[TYPE B]

## SYMPTOM DIAGNOSIS

#### THE FUEL GAUGE INDICATOR DOES NOT OPERATE

Description INFOID:0000000009266548

Fuel gauge will not indicate from a certain position.

#### Diagnosis Procedure

INFOID:0000000009266549

## 1. CHECK COMBINATION METER INPUT SIGNAL

- 1. Select METER/M&A on CONSULT.
- 2. Using "DATA MONITOR, compare the monitor value with the fuel gauge reading on the combination meter. Refer to MWI-97, "Component Function Check".

#### Does monitor value match fuel gauge reading?

YES >> GO TO 2.

NO >> Replace combination meter. Refer to <u>MWI-104</u>, "Removal and Installation".

#### 2.CHECK FUEL LEVEL SENSOR SIGNAL CIRCUIT

Check the fuel level sensor signal circuit. Refer to MWI-97, "Diagnosis Procedure".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3. COMPONENT INSPECTION

Perform a component inspection on the fuel level sensor unit. Refer to MWI-98, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 4.

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

#### 4. CHECK FLOAT INTERFERENCE

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

#### Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-104, "Removal and Installation".

NO >> Repair or replace malfunctioning parts.

#### THE OIL PRESSURE WARNING LAMP DOES NOT TURN ON

< SYMPTOM DIAGNOSIS > [TYPE B]

## THE OIL PRESSURE WARNING LAMP DOES NOT TURN ON

Description INFOID:000000009266550

The oil pressure warning lamp stays of when the ignition switch is turned ON.

## Diagnosis Procedure

INFOID:000000009266551

1. CHECK COMBINATION METER OIL PRESSURE WARNING LIGHT

- 1. Select METER/M&A on CONSULT.
- 2. Observe OIL W/L DATA MONITOR while operating the ignition switch.

Component	Condition	CONSULT
Oil pressure warning light	Ignition ON	ON
	Ignition OFF	OFF

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace combination meter. Refer to MWI-104, "Removal and Installation".

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#### THE OIL PRESSURE WARNING LAMP DOES NOT TURN OFF

< SYMPTOM DIAGNOSIS >

[TYPE B]

## THE OIL PRESSURE WARNING LAMP DOES NOT TURN OFF

Description INFOID:000000009266552

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

#### Diagnosis Procedure

INFOID:0000000009266553

## 1. CHECK COMBINATION METER INPUT SIGNAL

- Start the engine and select METER/M&A on CONSULT.
- Observe OIL W/L DATA MONITOR and the operation of the oil pressure warning lamp on the combination meter.

Component	Condition	CONSULT
Oil pressure warning light	Engine running	OFF

#### Is the inspection result normal?

YES >> Perform ECM self-diagnosis. Refer to EC-61, "CONSULT Function".

NO >> Replace combination meter. Refer to MWI-104, "Removal and Installation".

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

< SYMPTOM DIAGNOSIS > [TYPE B]

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

Description INFOID:0000000009266554

- 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

## 1. CHECK WASHER FLUID LEVEL SWITCH

Perform a unit check for the washer fluid level switch. Refer to <a href="MWI-99">MWI-99</a>, "Component Inspection". Is the inspection result normal?

YES >> GO TO 2

NO >> Replace washer fluid level switch. Refer to <a href="https://www.exploses.org/www.axp

## 2.CHECK WASHER FLUID LEVEL SWITCH SIGNAL CIRCUIT

Check the washer fluid level switch signal circuit. Refer to <u>MWI-99, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-104, "Removal and Installation".

NO >> Repair or replace harness or connector.

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## REMOVAL AND INSTALLATION

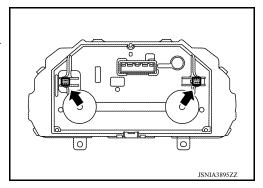
## **COMBINATION METER**

#### Removal and Installation

#### **REMOVAL**

- 1. Disconnect the negative battery terminal. Refer to PG-63, "Removal and Installation".
- 2. Remove cluster lid A. Refer to IP-19, "Removal and Installation".
- 3. Remove the combination meter screws.
- Pull the combination meter straight out to disengage resin clips.
   NOTE:

The illustration shows the clip positions on the back of the combination meter.



5. Disconnect the harness connector from the combination meter and remove.

#### **INSTALLATION**

Installation is in the reverse order of removal.

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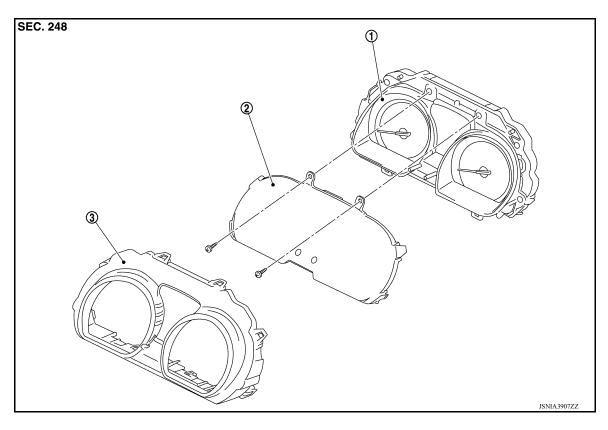
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## UNIT DISASSEMBLY AND ASSEMBLY

## **COMBINATION METER**

**Exploded View** 



Unified meter control unit

Front cover

Finisher

## Disassembly and Assembly

#### DISASSEMBLY

- 1. Disengage the pawls of the finisher using a suitable tool and remove the finisher.
- Remove the screws of the front cover.
- 3. Disengage the pawls of the front cover using a suitable tool.
- 4. Pull the front cover straight out to remove from the unified meter control unit.

#### **CAUTION:**

Revision: April 2013

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

#### **ASSEMBLY**

Assembly is in the reverse order of disassembly.

#### **CAUTION:**

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

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**MWI-105**