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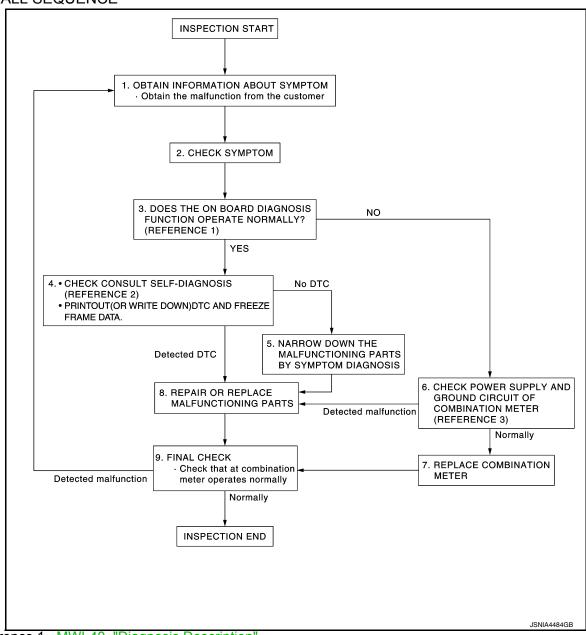
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work flow

OVERALL SEQUENCE



- Reference 1 MWI-40, "Diagnosis Description".
- Reference 2^{···}MWI-109, "DTC Index".
- Reference 3···MWI-55, "COMBINATION METER: Diagnosis Procedure".

DETAILED FLOW

${f 1}$. OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain as much information as possible about the conditions and environment under which the malfunction occurred.

>> GO TO 2.

2.CHECK SYMPTOM

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION > · Check the symptom based on the information obtained from the customer. Check that any other malfunctions are present. Α >> GO TO 3. 3.CHECK ON BOARD DIAGNOSIS OPERATION В Check that the on board diagnosis function operates. Refer to MWI-40, "Diagnosis Description". Does the on board diagnosis function operate normally? YFS >> GO TO 4. NO >> GO TO 6. f 4.CHECK CONSULT SELF-DIAGNOSIS RESULTS D Connect CONSULT and perform self-diagnosis. Refer to MWI-109, "DTC Index". 2. When DTC is detected, follow the instructions below: Е Record DTC and Freeze Frame Data. Are self-diagnosis results normal? YES >> GO TO 5. F NO >> GO TO 8. ${f 5}.$ NARROW DOWN THE MALFUNCTIONING PARTS BY SYMPTOM DIAGNOSIS Perform symptom diagnosis and narrow down the malfunctioning parts. >> GO TO 8. 6.CHECK COMBINATION METER POWER SUPPLY AND GROUND CIRCUITS Н Inspect combination meter power supply and ground circuits. Refer to MWI-55, "COMBINATION METER: Diagnosis Procedure". Is the inspection result normal? YES >> GO TO 7. NO >> GO TO 8. 7.REPLACE COMBINATION METER Replace combination meter. >> GO TO 9. 8.REPAIR OR REPLACE MALFUNCTIONING PARTS Repair or replace the malfunctioning parts. NOTE: If DTC is displayed, erase DTC after repair or replace malfunctioning parts. M >> GO TO 9. 9. FINAL CHECK MWI Check that the combination meter operates normally. Do they operate normally? YES >> INSPECTION END

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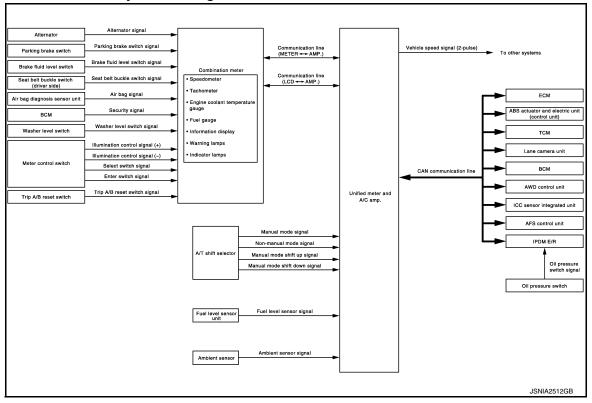
>> GO TO 1.

SYSTEM DESCRIPTION

METER SYSTEM METER SYSTEM

METER SYSTEM: System Diagram

INFOID:0000000010597173



METER SYSTEM: System Description

INFOID:0000000010597174

COMBINATION METER

- The combination meter retrieves the information required for controlling the operations of the meters, indicator lamps/warning lamps and information display from the communication signals from the unified meter and A/C amp. and the signals from various switches and sensors.
- The combination meter incorporates a trip computer that displays warnings and messages on the information display according to the information received from various units.
- The combination meter incorporates a buzzer function that sounds an audible alarm with the integrated buzzer device. Refer to WCS-5, "WARNING CHIME SYSTEM: System Description" for further details.
- The combination meter integrates the meter circuit check function and the segment check function that checks the information display operation.

UNIFIED METER AND A/C AMP.

- Receives information required by the combination meter from various units via CAN communication line and transmits it to the combination meter with communication line.
- The unified meter and A/C amp. incorporates a power saving control function that reduces the power consumption according to the vehicle status. Refer to <u>BCS-16</u>, "System <u>Description"</u> for details.
- The unified meter and A/C amp. incorporates a diagnosis function that allows the technician to perform diagnoses with CONSULT.

< SYSTEM DESCRIPTION >

Unit	Communication line	Input from combination meter	Output to combination meter
Unified meter and A/C amp.	Communication line (METER <-> AMP.)	Parking brake switch signal Washer level switch signal Meter day/night condition signal Illumination control switch signal Refuel status signal Low fuel warning lamp signal Odo data signal	Vehicle speed signal Turn indicator signal High beam request signal Position light request signal Engine speed signal Fuel level sensor signal Engine coolant temperature signal AT CHECK indicator signal Oil pressure switch signal Door switch signal Buzzer output signal AFS OFF indicator lamp signal TPMS malfunction warning lamp signal AWD warning lamp signal VDC OFF indicator lamp signal VDC warning lamp signal WDC warning lamp signal UDC warning lamp signal UDC warning lamp signal Brake warning lamp signal Malfunctioning indicator lamp signal Master warning signal ICC warning lamp signal ICC warning lamp signal IDP ON indicator lamp BSW warning lamp signal Front fog lights request signal
	Communication line (LCD <-> AMP.)	 Average fuel consumption reset signal Travel time reset signal Possible driving distance reset signal Average vehicle speed reset signal Select switch signal Enter switch signal Trip A/B reset switch signal Ambient air temperature display signal 	Shift position signal Manual mode indicator signal Manual mode shift refusal signal Meter display signal Door switch signal Fuel level sensor signal Parking brake switch signal Washer level switch signal Charge warning signal Instantaneous fuel consumption display signal Ambient air temperature display signal Average fuel consumption display signal Average vehicle speed display signal Possible driving distance display signal Engine speed signal Vehicle speed signal Low tire pressure warning lamp signal Fuel filler cap warning display signal

IPDM E/R

- IPDM E/R reads the ON/OFF signals of the oil pressure switch and transmits the oil pressure switch signal to the unified meter and A/C amp. via BCM with the CAN communication line.
- IPDM E/R is equipped with the diagnosis function. It can perform the operation check of oil pressure warning lamp with the auto active test and the diagnosis with CONSULT.

METER CONTROL FUNCTION LIST

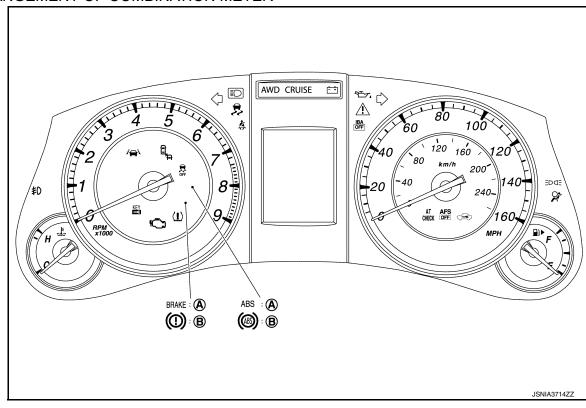
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				X: Applicable
System		Description	Signal source	Via unified meter and A/C amp.
	Speedometer	Receives vehicle speed signal and indicates vehicle speed.	ABS actuator and electric unit (control unit)	Х
Meter/gauge	Tachometer	Receives engine speed signal and indicates engine speed.	ECM	X
weten/gauge	Fuel gauge	Receives fuel level sensor signal and indicates fuel level.	Fuel level sensor unit	х
	Engine coolant tem- perature gauge	Receives engine coolant temperature signal and indicates coolant temperature.	ECM	х
Warning lamp/	Oil pressure warning lamp	Receives oil pressure warning lamp signal and illuminates warning lamp.	IPDM E/R	Х
indicator lamp	Master warning	Illuminates according to warning output on information display.	_	Х
	Door open warning	Receives door switch signals and displays warning.	BCM	Х
	Devising broke ve	Receives parking brake switch signal and vehicle	Parking brake switch	
	Parking brake re- lease warning	speed signal and displays warnings.	ABS actuator and electric unit (control unit)	Х
	Low fuel warning	Receives fuel gauge signal and displays warning if fuel level decreases to 14 ℓ (3-3/4 US gal, 3-1/8 Imp gal) or less.	Fuel level sensor unit	Х
	Low washer fluid warning	Receives washer level switch signal and displays warning.	Washer level switch	
	Low outside tempera- ture warning	Monitors ambient sensor signal and displays warning if ambient temperature decreases to 3°C (37°F) or less. (If enabled)	Ambient sensor	Х
	Low tire pressure warning	Receives low tire pressure warning lamp signal and displays warning.	BCM	Х
	Fuel filler cap warning	Receives fuel filler cap warning display signals and displays warning.	ECM	Х
	Instantaneous fuel	Calculates instantaneous fuel consumption based	ECM	Х
Information display	consumption	on received vehicle speed signals and fuel consumption monitor signal and displays it.	ABS actuator and electric unit (control unit)	Х
		Calculates average fuel consumption in a reset-	ECM	Х
	Average fuel consumption	to-reset interval based on received vehicle speed signals and fuel consumption monitor signal and displays it.	ABS actuator and electric unit (control unit)	Х
	Average vehicle speed	Calculates average vehicle speed in a reset-to-re- set interval based on received vehicle speed sig- nals and displays it.	ABS actuator and electric unit (control unit)	Х
	Travel time	Displays accumulated key switch ON time from reset to reset.	_	х
	Travel distance	Calculates accumulated travel distance in a reset- to-reset interval based on received vehicle speed signals and displays it.	ABS actuator and electric unit (control unit)	Х
		Calculates possible driving distance based on re-	ECM	Х
	Possible driving distance	ceived fuel consumption monitor signal, vehicle speed signals and fuel level sensor signal and displays it.	ABS actuator and electric unit (control unit)	Х
			Fuel level sensor unit	Х
	Ambient air temperature	Corrects ambient air temperature value based on received ambient sensor signals and displays it.	Ambient sensor	X

ARRANGEMENT OF COMBINATION METER



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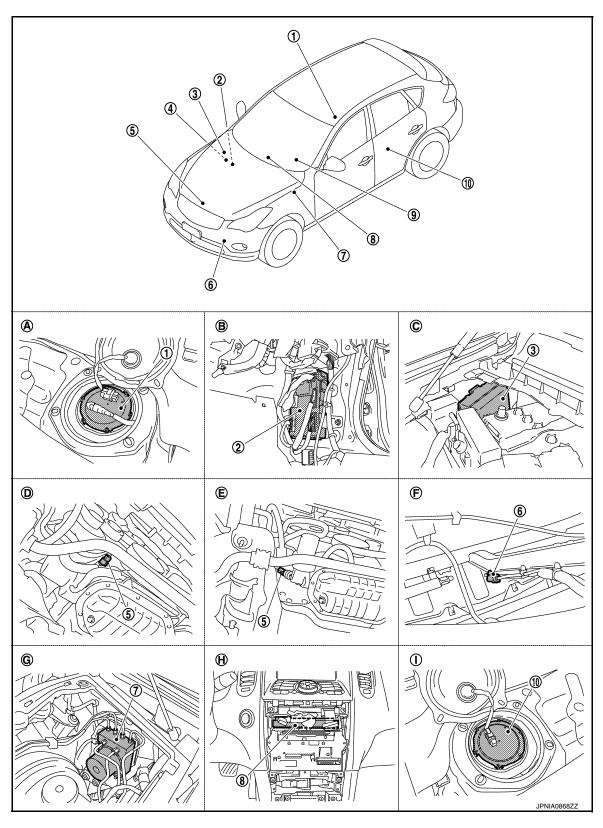
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METER SYSTEM: Component Parts Location



- Fuel level sensor unit and fuel pump 2. (main)
- 4. ECM Refer to EC-39, "Component Parts Location".
- BCM
- 5. Oil pressure switch
- 3. IPDM E/R
- 6. Ambient sensor

< SYSTEM DESCRIPTION >

7.	ABS actuator and electric unit (control unit)	8.	Unified meter and A/C amp.	9.	Combination meter	Α
10.	Fuel level sensor unit (sub)					
A.	Rear seat (inside right)	B.	Dash side finisher (passenger side)	C.	Hoodledge cover (RH)	
D.	2WD [oil pan (upper) RH side]	E.	AWD (oil filter bracket part)	F.	Condenser (front)	В
G.	Hoodledge cover (LH)	Н.	Behind cluster lid C	I.	Rear seat (inside left)	

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METER SYSTEM : Component Description

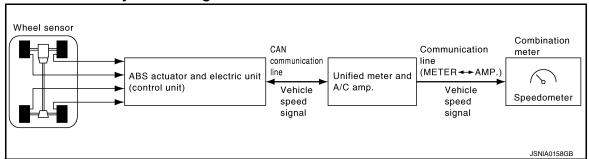
Unit		Description						
	Controls the following with the signals fro	m the unified meter and A/C amp, switches and sensors.						
	Speedometer	Tachometer						
Combination meter	Engine coolant temperature gauge	Fuel gauge						
	Warning lamps	 Indicator lamps 						
	Information display	Warning chime						
Unified meter and A/C amp.	cation line and transmits them to the un connects both of them. Transmits the fuel gauge signal from the the unified meter and A/C amp. and the	cessary information from various units via CAN communi- fied meter and A/C amp. with the communication line that fuel gauge unit with the communication line that connects combination meter. ector transmits them to TCM with CAN communication						
IPDM E/R		IPDM E/R reads the ON/OFF signals of the oil pressure switch and transmits the oil pressure switch signal to the unified meter and A/C amp. via BCM with CAN communication line.						
Fuel level sensor unit	Refer to MWI-58, "Description".							
Oil pressure switch	Refer to MWI-66, "Description".							
	Transmits the following signals to the unit	ied meter and A/C amp. with CAN communication line.						
ECM	Engine speed signal	Engine coolant temperature signal						
	Fuel consumption monitor signal	 Fuel filler cap warning display signal 						
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the	unified meter and A/C amp. with CAN communication line.						
ВСМ	nication line.	nits to the unified meter and A/C amp. with CAN commu-						
	Transmits the following signals to the unit							
A/T shift selector	Manual mode signal	Non-manual mode signal						
	Manual mode shift up signal	Manual mode shift down signal						
TCM		ode indicator signal and manual mode shift refusal signal						
Meter control switch	Refer to MWI-62, "Description".							
Trip A/B reset switch	Refer to MWI-64, "Description".							
Washer level switch	Transmits the washer level signal to the o	ombination meter.						
Brake fluid level switch	Transmits the brake fluid level switch sign	al to the combination meter.						
Parking brake switch	Refer to MWI-67, "Description".							

SPEEDOMETER

< SYSTEM DESCRIPTION >

SPEEDOMETER: System Diagram

INFOID:0000000010597177



SPEEDOMETER: System Description

- The ABS actuator and electric unit (control unit) converts the pulse signal provided by the wheel sensor to a
 vehicle speed signal and transmits it to the unified meter and A/C amp. with CAN communication line.
- The unified meter and A/C amp. receives the vehicle speed signal from the ABS actuator and electric unit (control unit) with CAN communication line and transmits it to the combination meter by means of communication line.
- The combination meter indicates the vehicle speed according to the vehicle speed signal received from the unified meter and A/C amp. by means of communication line.

SPEEDOMETER: Component Parts Location

INFOID:0000000010597179

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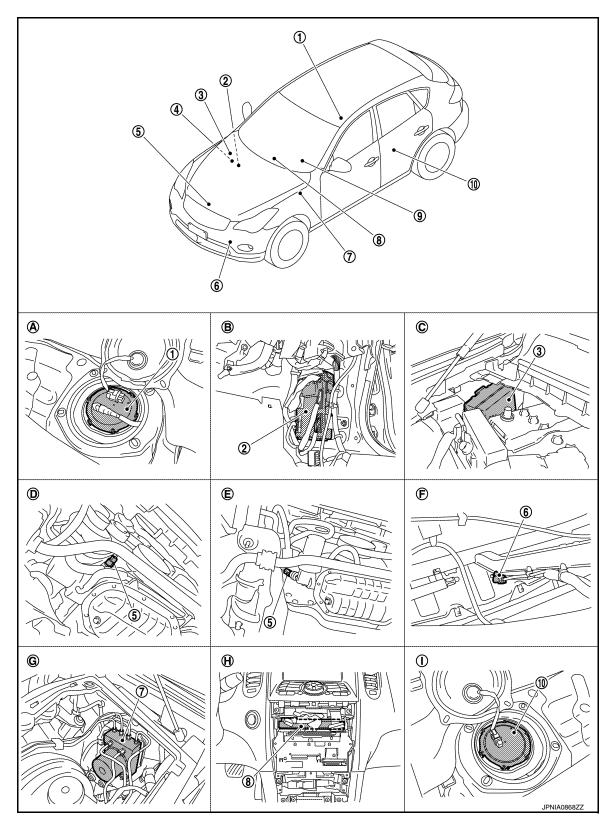
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- Fuel level sensor unit and fuel pump 2. (main)
- **ECM** Refer to EC-39, "Component Parts Location".
- **BCM**
- Oil pressure switch
- 6. Ambient sensor

3. IPDM E/R

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< SYSTEM DESCRIPTION >

7.	ABS actuator and electric unit (control unit)	8.	Unified meter and A/C amp.	9.	Combination meter
10.	Fuel level sensor unit (sub)				
A.	Rear seat (inside right)	B.	Dash side finisher (passenger side)	C.	Hoodledge cover (RH)
D.	2WD [oil pan (upper) RH side]	E.	AWD (oil filter bracket part)	F.	Condenser (front)
G.	Hoodledge cover (LH)	Н.	Behind cluster lid C	I.	Rear seat (inside left)

SPEEDOMETER: Component Description

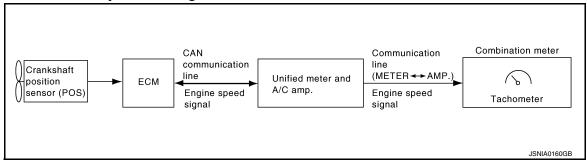
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Unit	Description
Combination meter	Indicates the vehicle speed according to the vehicle speed signal received from the unified meter and A/C amp. by means of communication line.
Unified meter and A/C amp.	Transmits the vehicle speed signal received from ABS actuator and electric unit (control unit) with CAN communication line to the combination meter by means of communication line.
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the unified meter and A/C amp. with CAN communication line.

TACHOMETER

TACHOMETER: System Diagram

INFOID:0000000010597181



TACHOMETER: System Description

- ECM converts the pulse signal provided by the crankshaft position sensor to an engine speed signal and transmits it to the unified meter and A/C amp. with CAN communication line.
- The unified meter and A/C amp. receives the engine speed signal from ECM with CAN communication line and transmits it to the combination meter by means of communication line.
- Combination meter converses engine speed signal to the angle signal, and commands to tachometer.

TACHOMETER: Component Parts Location

INFOID:0000000010597183

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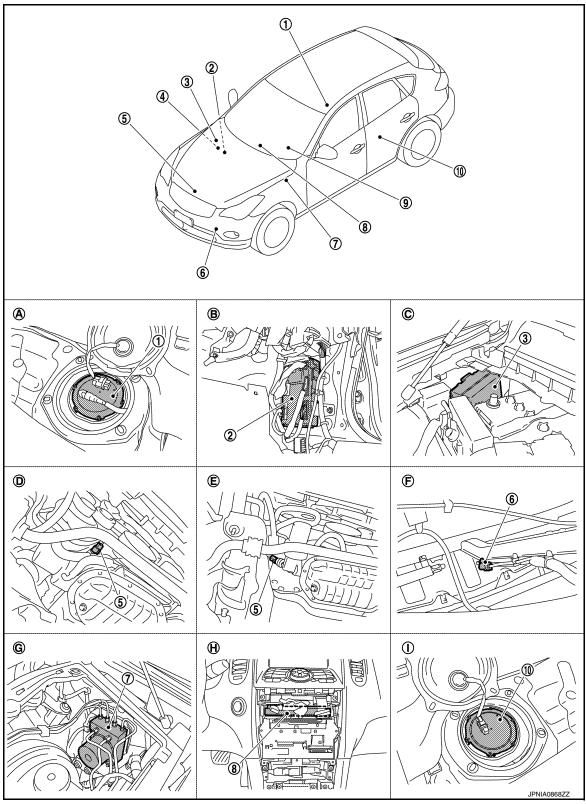
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- Fuel level sensor unit and fuel pump 2. (main)
- **ECM** Refer to EC-39, "Component Parts Location".
- **BCM**
- Oil pressure switch
- 3. IPDM E/R
- 6. Ambient sensor

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MWI-15 2015 QX50 **Revision: February 2015**

< SYSTEM DESCRIPTION >

7.	ABS actuator and electric unit (control unit)	8.	Unified meter and A/C amp.	9.	Combination meter
10.	Fuel level sensor unit (sub)				
A.	Rear seat (inside right)	B.	Dash side finisher (passenger side)	C.	Hoodledge cover (RH)
D.	2WD [oil pan (upper) RH side]	E.	AWD (oil filter bracket part)	F.	Condenser (front)
G.	Hoodledge cover (LH)	Н.	Behind cluster lid C	I.	Rear seat (inside left)

TACHOMETER: Component Description

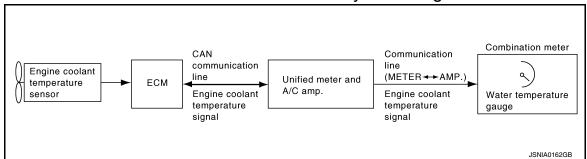
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Unit	Description
Combination meter	Indicates the engine speed according to the engine speed signal received from the unified meter and A/C amp. by means of communication line.
Unified meter and A/C amp.	Transmits the engine speed signal received from ECM with CAN communication line to the combination meter by means of communication line.
ECM	Transmits the engine speed signal to the unified meter and A/C amp. with CAN communication line.

ENGINE COOLANT TEMPERATURE GAUGE

ENGINE COOLANT TEMPERATURE GAUGE: System Diagram

INFOID:0000000010597185



ENGINE COOLANT TEMPERATURE GAUGE: System Description

- ECM converses a signal from engine coolant temperature sensor to engine coolant temperature signal, and transmits to unified meter and A/C amp. with CAN communication line.
- Unified meter and A/C amp. transmits engine coolant temperature signal to combination meter with communication line.
- Combination meter converses engine coolant temperature signal to the angle signal, and commands to engine coolant temperature gauge.

ENGINE COOLANT TEMPERATURE GAUGE : Component Parts Location

INFOID:0000000010597187

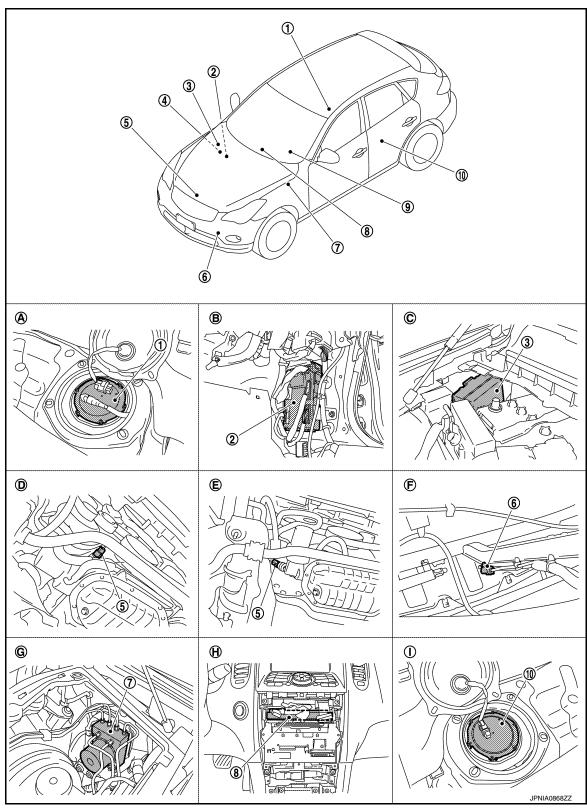
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- Fuel level sensor unit and fuel pump 2. (main)
- **ECM** Refer to EC-39, "Component Parts Location".
- BCM
- Oil pressure switch
- IPDM E/R
- Ambient sensor

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MWI-17 2015 QX50 **Revision: February 2015**

< SYSTEM DESCRIPTION >

7.	ABS actuator and electric unit (control unit)	8.	Unified meter and A/C amp.	9.	Combination meter
10.	Fuel level sensor unit (sub)				
A.	Rear seat (inside right)	В.	Dash side finisher (passenger side)	C.	Hoodledge cover (RH)
D.	2WD [oil pan (upper) RH side]	E.	AWD (oil filter bracket part)	F.	Condenser (front)
G.	Hoodledge cover (LH)	Н.	Behind cluster lid C	I.	Rear seat (inside left)

ENGINE COOLANT TEMPERATURE GAUGE: Component Description

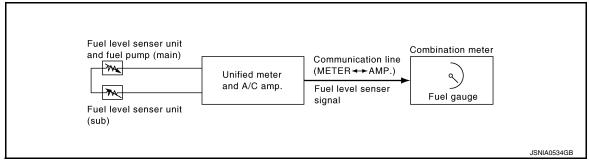
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Unit	Description				
Combination meter	Indicates the water temperature gauge according to the engine coolant temperature signal received from the unified meter and A/C amp. by means of communication line.				
Unified meter and A/C amp.	Transmits the engine coolant temperature signal received from ECM with CAN communication line to the combination meter by means of communication line.				
ECM	Transmits the engine coolant temperature signal to the unified meter and A/C amp. with CAN communication line.				

FUEL GAUGE

FUEL GAUGE : System Diagram

INFOID:0000000010597189



FUEL GAUGE: System Description

INFOID:0000000010597190

CONTROL OUTLINE

- The unified meter and A/C amp. reads the fuel level sensor signal from the fuel gauge unit and transmits it to the combination meter with the communication line.
- The combination meter indicates the fuel level on the fuel gauge according to the received fuel level sensor signal.

REFUEL CONTROL

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

- · Ignition switch is ON position
- · The vehicle is not moving
- The fuel level change by 15 ℓ (4 US gal, 3-3/10 Imp gal) or more

FUEL GAUGE: Component Parts Location

INFOID:0000000010597191

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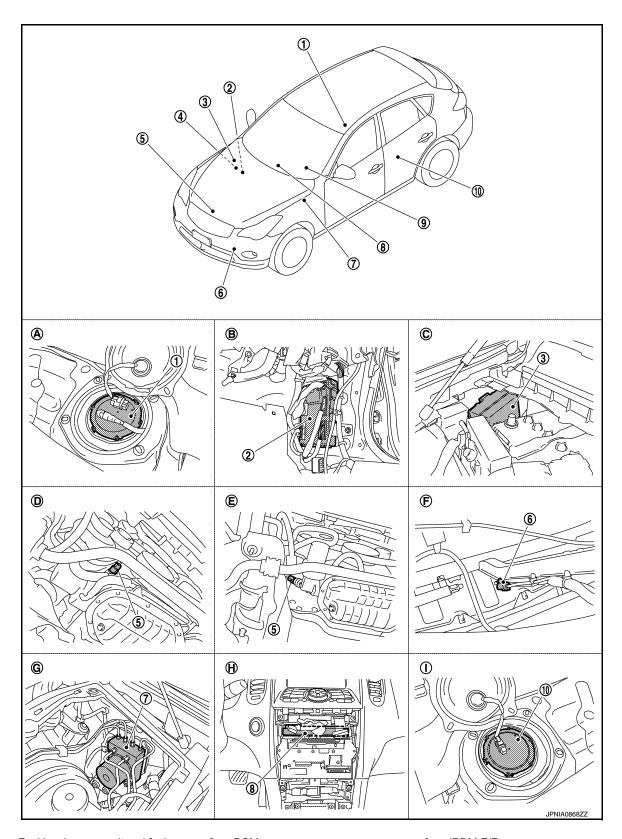
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- Fuel level sensor unit and fuel pump 2. (main)
- 4. ECM
 Refer to EC-39, "Component Parts
 Location".
- 2. BCM
- 5. Oil pressure switch
- 3. IPDM E/R
- 6. Ambient sensor

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< SYSTEM DESCRIPTION >

7.	ABS actuator and electric unit (control unit)	8.	Unified meter and A/C amp.	9.	Combination meter
10.	Fuel level sensor unit (sub)				
A.	Rear seat (inside right)	B.	Dash side finisher (passenger side)	C.	Hoodledge cover (RH)
D.	2WD [oil pan (upper) RH side]	E.	AWD (oil filter bracket part)	F.	Condenser (front)
G.	Hoodledge cover (LH)	Н.	Behind cluster lid C	I.	Rear seat (inside left)

FUEL GAUGE: Component Description

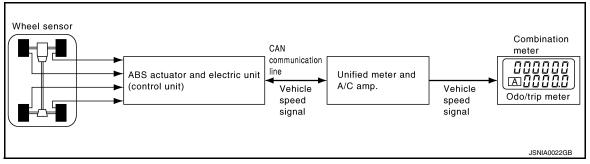
INFOID:0000000010597192

Unit	Description
Combination meter	Indicates the fuel gauge according to the fuel level sensor signal received from the unified meter and A/C amp. by means of communication line.
Unified meter and A/C amp.	Transmits the fuel level sensor signal from the fuel level sensor unit to the combination meter by means of communication line.
Fuel level sensor unit	Refer to MWI-58, "Description".

ODO/TRIP METER

ODO/TRIP METER: System Diagram

INFOID:0000000010597193



ODO/TRIP METER: System Description

- The unified meter and A/C amp. transmits the vehicle speed signal from ABS actuator and electric unit (control unit) to the combination meter.
- The combination meter calculates the vehicle distance according to the vehicle speed signal. The vehicle distance is displayed.

ODO/TRIP METER: Component Parts Location

INFOID:0000000010597195

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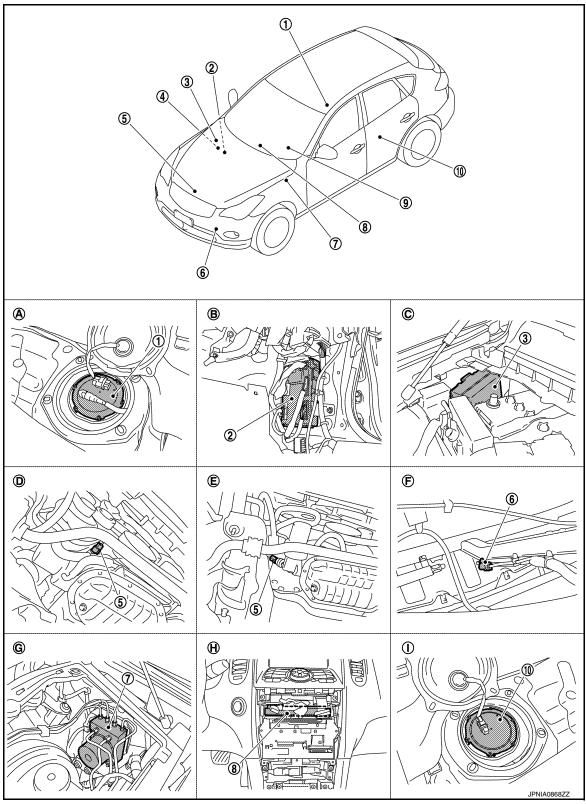
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- Fuel level sensor unit and fuel pump 2. (main)
- **ECM** Refer to EC-39, "Component Parts Location".
- **BCM**
- Oil pressure switch
- 3. IPDM E/R
- 6. Ambient sensor

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MWI-21 2015 QX50 **Revision: February 2015**

< SYSTEM DESCRIPTION >

7.	ABS actuator and electric unit (control unit)	8.	Unified meter and A/C amp.	9.	Combination meter
10.	Fuel level sensor unit (sub)				
A.	Rear seat (inside right)	B.	Dash side finisher (passenger side)	C.	Hoodledge cover (RH)
D.	2WD [oil pan (upper) RH side]	E.	AWD (oil filter bracket part)	F.	Condenser (front)
G.	Hoodledge cover (LH)	Н.	Behind cluster lid C	I.	Rear seat (inside left)

ODO/TRIP METER: Component Description

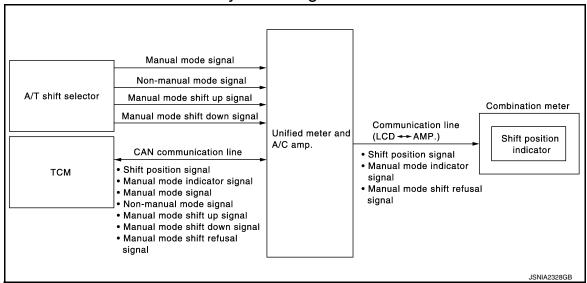
INFOID:0000000010597196

Unit	Description
Combination meter	The combination meter calculates the vehicle distance according to the vehicle speed signal. The vehicle distance is displayed.
Unified meter and A/C amp.	The unified meter and A/C amp. transmits the vehicle speed signal from ABS actuator and electric unit (control unit) to the combination meter.
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the unified meter and A/C amp. with CAN communication line.

SHIFT POSITION INDICATOR

SHIFT POSITION INDICATOR: System Diagram

INFOID:0000000010597197



SHIFT POSITION INDICATOR: System Description

INFOID:0000000010597198

Shift position is displayed in the information display LCD in the combination meter.

MANUAL MODE

- Unified meter and A/C amp. inputs manual mode signal and shift-up/down signal from A/T shift selector (manual mode switch), and transmits the signals to TCM with CAN communication line.
- TCM processes manual mode signal and shift-up/down signal, and transmits manual mode indicator signal and shift position signal to unified meter and A/C amp. with CAN communication line.
- Unified meter and A/C amp. transmits manual mode indicator signal and shift position signal to combination meter with the communication line.
- Combination meter indicates A/T gear position and manual mode indicator, when receiving manual mode indicator signal and shift position signal.
- TCM transmits a manual mode shift refusal signal to the unified meter and A/C amp. via CAN communication line when gear shifting cannot be performed in manual mode.
- The unified meter and A/C amp. transmits a manual mode shift refusal signal to the combination meter via communication line.
- The combination meter blinks the shift position indicator and sounds a buzzer when receiving a manual mode shift refusal signal.

< SYSTEM DESCRIPTION >

NON-MANUAL MODE

- Unified meter and A/C amp. inputs non-manual mode signal from A/T shift selector (manual mode switch), and transmits the signals to TCM with CAN communication line.
- TCM transmits shift position signal to unified meter and A/C amp. with CAN communication line.
- Unified meter and A/C amp. transmits shift position signal to combination meter with the communication line.
- Combination meter indicates A/T shift position when receiving shift position signal.

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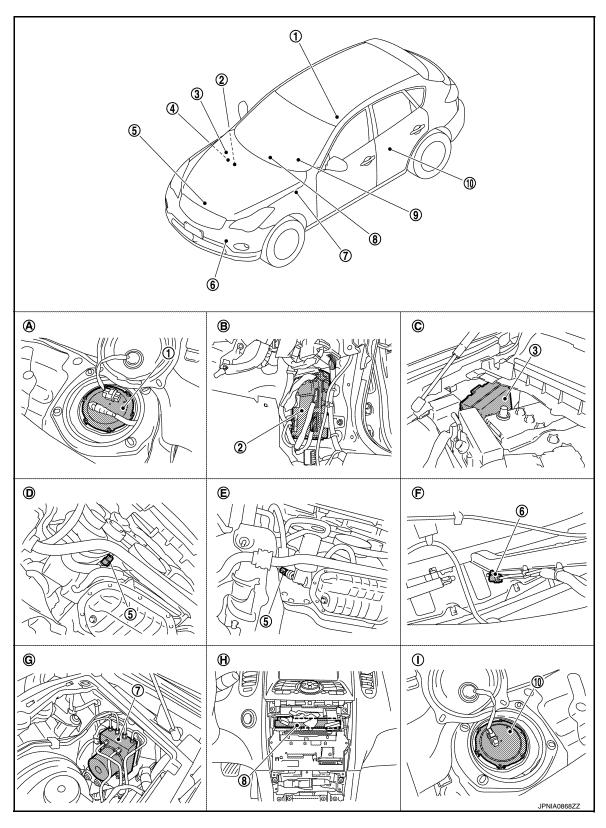
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SHIFT POSITION INDICATOR: Component Parts Location



- Fuel level sensor unit and fuel pump 2. (main)
- 4. ECM Refer to EC-39, "Component Parts Location".
- . BCM
- 5. Oil pressure switch
- 3. IPDM E/R
- 6. Ambient sensor

< SYSTEM DESCRIPTION >

TCM

7.	ABS actuator and electric unit (con-	8.	Unified meter and A/C amp.	9.	Combination meter
	trol unit)				
10	Fuel level sensor unit (sub)				

Α. Rear seat (inside right) B. Dash side finisher (passenger side) C. Hoodledge cover (RH) 2WD [oil pan (upper) RH side] AWD (oil filter bracket part) Condenser (front)

Hoodledge cover (LH) Behind cluster lid C Rear seat (inside left)

SHIFT POSITION INDICATOR: Component Description

Unit		Description			
Combination meter Displays the shift position on the information display with shift position signal and manual medicator signal received from unified meter and A/C amp.					
Unified meter and A/C amp.	 Transmits the signals from the A/T shift selector to TCM with CAN communication line. Transmits shift position signal and manual mode indicator signal received from TCM with CAI communication line to the combination meter by means of communication line. 				
	Transmits the following signals to the u	nified meter and A/C amp.			
A/T shift selector	Manual mode signal	 Non-manual mode signal 			
	Manual mode shift up signal	 Manual mode shift down signal 			

Transmits shift position signal, manual mode indicator signal and manual mode shift refusal signal

WARNING LAMPS/INDICATOR LAMPS

WARNING LAMPS/INDICATOR LAMPS: System Diagram

to the unified meter and A/C amp.

INFOID:0000000010597201 всм CAN Communication Combination meter communication (METER → AMP.) line Oil pressure Unified meter Oil pressure IPDM E/R switch and A/C amp. warning lamp Oil pressure Oil pressure Oil pressure switch signal switch signal switch signal

WARNING LAMPS/INDICATOR LAMPS: System Description

OIL PRESSURE WARNING LAMP

- IPDM E/R inputs oil pressure switch signal from oil pressure switch, and transmits the signal to unified meter and A/C amp. through BCM with CAN communication line.
- Unified meter and A/C amp. transmits oil pressure switch signal to combination meter with communication
- Let the combination meter turn oil pressure warning lamp ON with received oil pressure switch signal.

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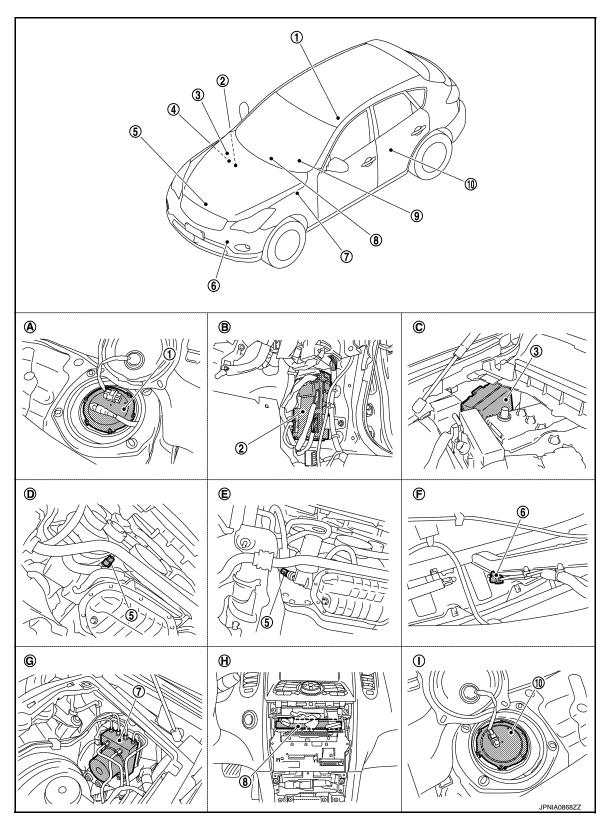
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MWI-25 Revision: February 2015 2015 QX50

WARNING LAMPS/INDICATOR LAMPS : Component Parts Location



- Fuel level sensor unit and fuel pump 2. (main)
- 4. ECM Refer to EC-39, "Component Parts Location".
- BCM
- 5. Oil pressure switch
- 3. IPDM E/R
- 6. Ambient sensor

< SYSTEM DESCRIPTION >

7.	ABS actuator and electric unit (con-	8.	Unif
	trol unit)		

- . Unified meter and A/C amp.
- 9. Combination meter

- 10. Fuel level sensor unit (sub)
- A. Rear seat (inside right)
- B. Dash side finisher (passenger side)

AWD (oil filter bracket part)

C. Hoodledge cover (RH)F. Condenser (front)

- D. 2WD [oil pan (upper) RH side]G. Hoodledge cover (LH)
- H. Behind cluster lid C
- I. Rear seat (inside left)

WARNING LAMPS/INDICATOR LAMPS: Component Description

INFOID:0000000010597204

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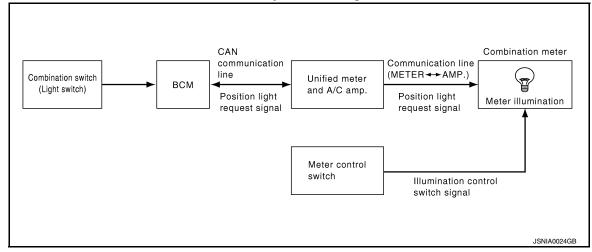
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Unit	Description
Combination meter	Turns the oil pressure warning lamp ON/OFF according to the oil pressure switch signal received from the unified meter and A/C amp. by means of communication line.
Unified meter and A/C amp.	Transmits the oil pressure switch signal received from the IPDM E/R with BCM to the combination meter by means of communication line.
IPDM E/R	IPDM E/R reads the ON/OFF signals from the oil pressure switch and transmits the oil pressure switch signal to the unified meter and A/C amp. via BCM with the CAN communication line.
Oil pressure switch	Refer to MWI-66, "Description".
ВСМ	Transmits the oil pressure switch signal received from IPDM E/R via CAN communication to the unified meter and A/C amp. via CAN communication line.

METER ILLUMINATION CONTROL

METER ILLUMINATION CONTROL: System Diagram

INFOID:0000000010597205



METER ILLUMINATION CONTROL: System Description

INFOID:0000000010597206

SYSTEM DESCRIPTION

The combination meter controls the meter illumination by the illumination control switch signal from the meter control switch and the position light request signal transmitted by BCM with unified meter and A/C amp.

Daytime Mode

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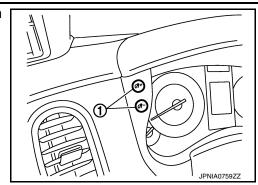
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Revision: February 2015 MWI-27 2015 QX50

< SYSTEM DESCRIPTION >

Meter illumination is adjusted to 5 steps by illumination control switch (1) in daytime mode.



Nighttime Mode

- Combination meter is transferred to nighttime mode with position light request signal from BCM with CAN communication line.
- Meter illumination is adjusted to 22 steps by illumination control switch in nighttime.

METER ILLUMINATION CONTROL: Component Parts Location

INFOID:0000000010597207

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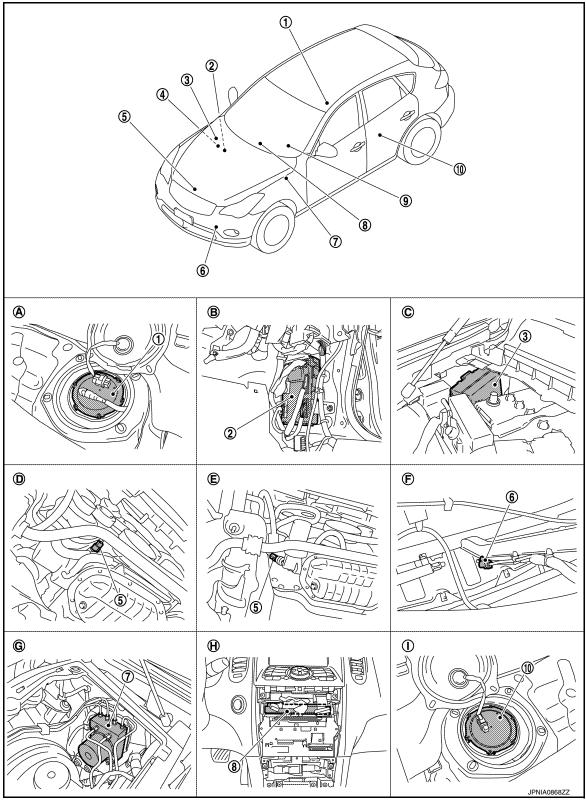
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- Fuel level sensor unit and fuel pump 2. (main)
- **ECM** Refer to EC-39, "Component Parts Location".
- **BCM**
- Oil pressure switch
- 3. IPDM E/R
- 6. Ambient sensor

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MWI-29 2015 QX50 **Revision: February 2015**

< SYSTEM DESCRIPTION >

7	7.	ABS actuator and electric unit (control unit)	8.	Unified meter and A/C amp.	9.	Combination meter
1	10.	Fuel level sensor unit (sub)				
A	٩.	Rear seat (inside right)	B.	Dash side finisher (passenger side)	C.	Hoodledge cover (RH)
	D.	2WD [oil pan (upper) RH side]	E.	AWD (oil filter bracket part)	F.	Condenser (front)
(Э.	Hoodledge cover (LH)	H.	Behind cluster lid C	I.	Rear seat (inside left)

METER ILLUMINATION CONTROL: Component Description

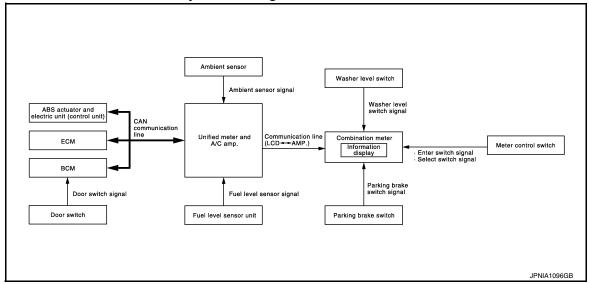
INFOID:0000000010597208

Unit	Description					
Combination meter	Controls the meter illumination with the illumination control switch signal from the meter control switch and the position light request signal from unified meter and A/C amp.					
Unified meter and A/C amp. Transmits the position light request signal received from BCM via CAN communication.						
Meter control switch	Transmits the following signals to the combination meter.					
weter control switch	Illumination control switch signal (+) Illumination control switch signal (-)					

INFORMATION DISPLAY

INFORMATION DISPLAY: System Diagram

INFOID:0000000010597209



INFORMATION DISPLAY: System Description

INFOID:0000000010597210

DESCRIPTION

- The combination meter retrieves the information required for controlling the operations of the information display from the communication signals from the unified meter and A/C amp., etc.
- The combination meter incorporates a trip computer that displays the warning / information according to the information received from various units.

PARKING BRAKE RELEASE WARNING

The combination meter indicates parking brake release warning judged with the vehicle speed signal received from the unified meter and A/C amp. by means of communication line and the parking brake switch signal from the parking brake switch.

Warning Operation Condition

Parking brake release warning is judged if all of the following conditions are fulfilled

- Vehicle speed is 7 km/h (4.3 MPH) or higher
- Parking brake switch ON

LOW FUEL WARNING

< SYSTEM DESCRIPTION >

The combination meter indicates low fuel warning judged with the fuel level sensor signal received from the unified meter and A/C amp.

Warning Operation Condition

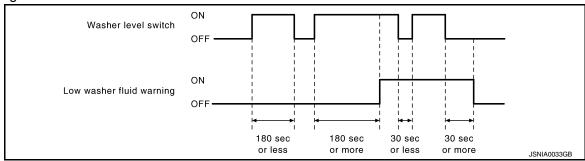
Fuel level: Approx. 14 ℓ (3-3/4 US gal, 3-1/8 Imp gal) or less

LOW WASHER FLUID WARNING

The combination meter indicates low washer fluid warning judged with the signal from the washer level switch.

Warning Operation Condition

• Indicates the warning when it is in washer level switch ON condition for 180 seconds or more. Release the warning when it is in washer level switch OFF condition for 30 seconds or more.



LOW TIRE PRESSURE WARNING

- The unified meter and A/C amp. receives remaining low tire pressure warning lamp signal from the BCM with CAN communication line.
- The unified meter and A/C amp. transmits remaining low tire pressure warning lamp signal to the combination meter with communication line.
- The combination meter indicates low tire pressure warning when receiving remaining low tire pressure warning lamp signal.
- The combination meter indicates low tire pressure warning judged with the low tire pressure warning lamp signal received from the unified meter and A/C amp.

For details, refer to WT-8, "TIRE PRESSURE MONITORING SYSTEM: System Description".

FUEL FILLER CAP WARNING

- The unified meter and A/C amp. receives remaining fuel filler cap warning display signal from the ECM with CAN communication line.
- The unified meter and A/C amp. transmits remaining fuel filler cap warning display signal to the combination meter with communication line.
- The combination meter indicates fuel filler cap warning when receiving remaining fuel filler cap warning display signal.
- The combination meter indicates fuel filler cap warning judged with the fuel filler cap warning display signal received from the unified meter and A/C amp.

For details, refer to EC-108, "System Description".

DOOR OPEN WARNING

The combination meter indicates door open warning judged with each door switch signal received from the unified meter and A/C amp. by means of communication line.

INSTANTANEOUS FUEL CONSUMPTION

- The unified meter and A/C amp. receives the fuel consumption monitor signal from ECM and the vehicle speed signal from the ABS actuator and electric unit (control unit) with CAN communication line.
- The unified meter and A/C amp. calculates the instantaneous fuel consumption according to the fuel consumption monitor signal and the vehicle speed signal received with CAN communication line, and transmits it to the combination meter.

AVERAGE FUEL CONSUMPTION

- The unified meter and A/C amp. receives the fuel consumption monitor signal from ECM and the vehicle speed signal from the ABS actuator and electric unit (control unit) with CAN communication line.
- The unified meter and A/C amp. calculates the average fuel consumption according to the fuel consumption monitor signal and the vehicle speed signal received with CAN communication line, and transmits it to the combination meter.
- The average fuel consumption displayed on the information display is uploaded at approximately 30-second intervals.

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< SYSTEM DESCRIPTION >

NOTE:

When turning ON the ignition switch after triggering a reset or removing/installing the battery, "——" is indicated until 30 seconds/500 m (0.31 miles) of driving.

AVERAGE VEHICLE SPEED

- The unified meter and A/C amp. receives the vehicle speed signal from the ABS actuator and electric unit (control unit) via CAN communication line.
- Measures the time during the ignition switch ON with the unified meter and A/C amp.
- The unified meter and A/C amp. calculates the average vehicle speed according to the above signals. These signals are transmitted to the combination meter with the communication line.
- The average vehicle speed displayed on the information display is uploaded at approximately 30-second intervals.

NOTE:

When turning ON the ignition switch after triggering a reset or removing/installing the battery, "——" is indicated until 30 seconds/500 m (0.31 miles) of driving.

TRAVEL TIME

Measures the time during the ignition switch ON with the unified meter and A/C amp, and transmits it to the combination meter by means of communication line.

TRAVEL DISTANCE

- The unified meter and A/C amp. transmits the vehicle speed signal from ABS actuator and electric unit (control unit) to the combination meter.
- The combination meter calculates the vehicle distance according to the vehicle speed signal. The vehicle distance is displayed.

POSSIBLE DRIVING DISTANCE

The unified meter and A/C amp. calculates possible driving distance according to the vehicle speed signal and fuel consumption monitor signal transmitted via CAN communication and the fuel level sensor signal transmitted from the fuel level sensor. These signals are transmitted to the combination meter with the communication line.

NOTE:

- When turning ON the ignition switch after removing/installing the battery, "——" is indicated until 30 seconds
- "----" is displayed for 30 seconds after the ignition switch is OFF → ON. It is displayed simultaneously until the vehicle drives approximately 500 m (0.31 mile).
- The indicated values may not match each other when filling the fuel with the ignition switch ON. Refer to MWI-133, "INFORMATION DISPLAY: Description".

AMBIENT AIR TEMPERATURE

- The unified meter and A/C amp. receives the ambient sensor signal from the ambient sensor.
- The unified meter and A/C amp. calculates the ambient temperature according to the ambient sensor signal, and transmits it to the combination meter.
- The indicated temperature does not increase if the vehicle speed is less than 20 km/h (12 MPH).

NOTE:

- The ambient sensor input value that is displayed on "Data Monitor" of CONSULT is the value before the correction. It may not match the indicated temperature on the information display.
- Ambient temperature may be indicated higher than an actual temperature, depending on heat in the engine, a road surface temperature, and so on.

SETTING

Setting item list

Ite	ms	Setting range	Setting unit	Description
ALERT	TIME TO REST	No setting - 6 hours	30 minutes, [60 minutes]*	Time to rest is displayed on the information display if the vehicle reached the set travel distance.
ALERI	ICY	ON/OFF	_	Low outside temp is displayed on the information display if the ambient temperature is 3°C (37°F) or less.

< SYSTEM DESCRIPTION >

Items		Setting range	Setting unit	Description
MAINTENANCE	ENGINE OIL	No setting - 18,500 miles, (No setting - 30,000 km)	250 miles (500 km), [500 miles (1000 km)]*	The engine oil replacement interval is displayed on the information display if the vehicle reached the set distance.
	OIL FILTER	No setting - 18,500 miles, (No setting - 30,000 km)	250 miles (500 km), [500 miles (1000 km)]*	The oil filter replacement interval is displayed on the information display if the vehicle reached the set distance.
	TIRE	No setting - 18,500 miles, (No setting - 30,000 km)	250 miles (500 km), [500 miles (1000 km)]*	The tire replacement interval is displayed on the information display if the vehicle reached the set distance.
	OTHER	No setting - 18,500 miles, (No setting - 30,000 km)	250 miles (500 km), [500 miles (1000 km)]*	The other replacement interval is displayed on the information display if the vehicle reached the set distance.
DISPLAY	LANGUAGE	ENGLISH/FRANCAIS	_	Changing the language setting can be performed.
	UNIT	US/METRIC	_	Changing the unit setting can be performed.

^{*:} Press and hold the switch (1 second or more).

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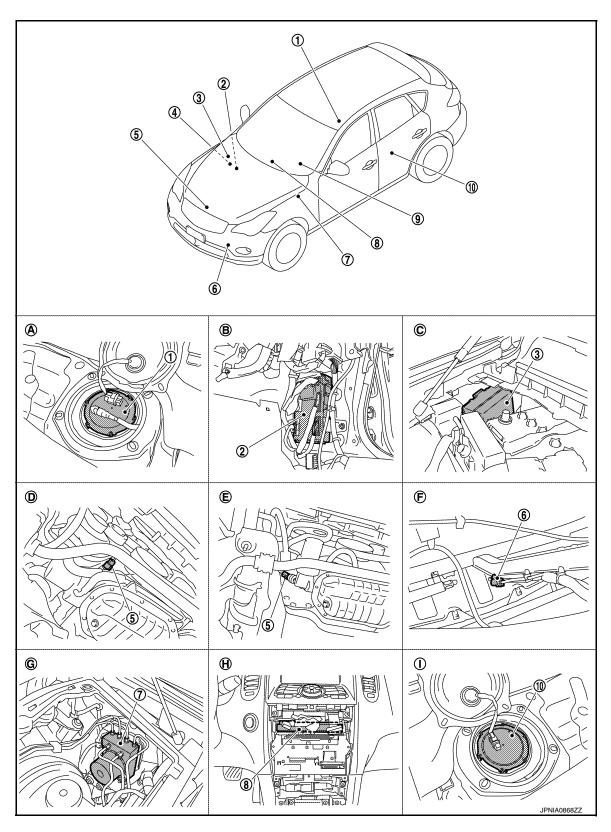
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INFORMATION DISPLAY: Component Parts Location



- Fuel level sensor unit and fuel pump 2. (main)
- 4. ECM
 Refer to EC-39, "Component Parts
 Location".
- BCM
- 5. Oil pressure switch
- 3. IPDM E/R
- 6. Ambient sensor

< SYSTEM DESCRIPTION >

7.	ABS actuator and electric unit (control unit)	8.	Unified meter and A/C amp.	9.	Combination meter	Α
10.	Fuel level sensor unit (sub)					
A.	Rear seat (inside right)	B.	Dash side finisher (passenger side)	C.	Hoodledge cover (RH)	
D.	2WD [oil pan (upper) RH side]	E.	AWD (oil filter bracket part)	F.	Condenser (front)	В
G.	Hoodledge cover (LH)	H.	Behind cluster lid C	I.	Rear seat (inside left)	

INFORMATION DISPLAY: Component Description

Unit	Description				
Combination meter	Controls the information display with the signals received from the unified meter and A/C amp. by means of communication and the signals from various switches and sensors.				
Unified meter and A/C amp.	Transmits signals received from various units to the combination meter by means of communication.				
Fuel level sensor unit	Refer to MWI-58, "Description".				
	Transmits the following signals to the unified meter and A/C amp. via CAN communication.				
ECM	Engine speed signal Fuel consumption monitor signal				
	Fuel filler cap warning display signal				
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the unified meter and A/C amp. via CAN communication.				
всм	Transmits signals provided by various units to the unified meter and A/C amp. via CAN communication.				
Meter control switch	Transmits the following signals to the combination meter.				
weter control switch	Enter switch signal Select switch signal				
Washer level switch	Transmits the washer level signal to the combination meter.				
Parking brake switch	Refer to MWI-67, "Description".				
Door switch	Transmits the door switch signals to BCM.				
Ambient sensor	Detects the ambient air temperature and transmits the ambient sensor signal to the unified meter and A/C amp.				

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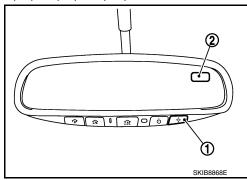
Revision: February 2015 MWI-35 2015 QX50

COMPASS

Description INFOID:000000010597213

DESCRIPTION

- This electronic compass is able to display 8 primary directions: N, NE, E, SE, S, SW, W, NW.
- The compass switch (1) is used to operate the compass.



Switch Operation

Press	Compass is turned ON/OFF
Press and hold (for 3- 9 sec.)	Compass display (2) turns to zone variation change mode
Press and hold (for more than 9 sec.)	Compass display turns to calibration mode

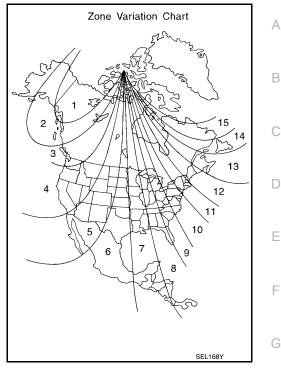
- All standard compasses determine direction relative to magnetic north; however, this electronic compass is designed to display direction relative to true north.
- The difference between magnetic north and true north varies from place to place across the surface of the
- This electronic compass must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

ZONE VARIATION SETTING PROCEDURE

COMPASS

< SYSTEM DESCRIPTION >

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



CALIBRATION PROCEDURE

NOTE:

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

NOTE:

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

NOTE:

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

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

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

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Revision: February 2015 MWI-37 2015 QX50

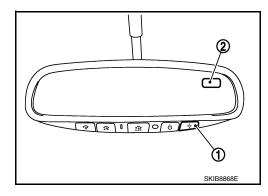
COMPASS

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:0000000010597214

1 : Compass switch2 : Compass display



Special Repair Requirement

INFOID:0000000010597215

1. PERFORM ZONE VARIATION SETTING

Perform the zone variation setting. Refer to MWI-36, "Description".

>> GO TO 2.

2.PERFORM CALIBRATION

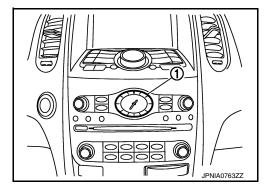
Perform the calibration. Refer to MWI-36, "Description".

>> Setting completion

CLOCK

Component Parts Location

1 : Clock



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DIAGNOSIS SYSTEM (METER)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (METER)

Diagnosis Description

INFOID:0000000010597217

SELF-DIAGNOSIS MODE

- Information display LCD segment operation can be checked in self-diagnosis mode.
- Meters/gauges can be checked in self-diagnosis mode.

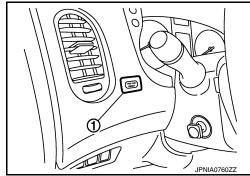
OPERATION PROCEDURE

1. Turn ignition switch ON, and switch the trip meter to "trip A" or "trip B".

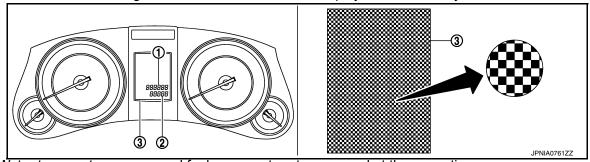
NOTE:

If the diagnosis function is activated with "trip A" displayed, the mileage on "trip A" is reset to "0000.0". (The same way for "trip B".)

- 2. Turn ignition switch OFF.
- 3. While pressing the trip A/B reset switch (1), turn ignition switch ON again.
- 4. Make sure that the trip meter displays "0000.0".
- Press the trip A/B reset switch at least 3 times. (Within 7 seconds after the ignition switch is turned ON.)



- 6. The unified meter control unit is turned to self-diagnosis mode.
 - Displays "888888" (1) and "8888.8" (2) in the information display LCD (3) for approximately 5 seconds and then blinks the segment dots of the information display LCD alternately.



• Water temperature gauge and fuel gauge return to zero, and at the same time.

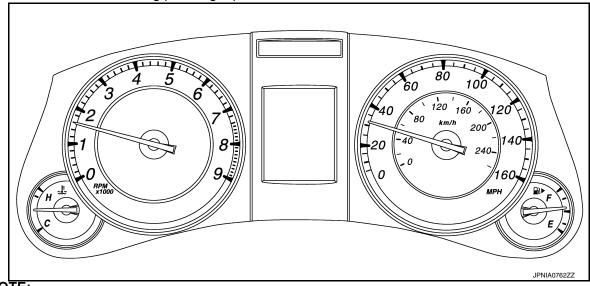
NOTE:

- Check combination meter power supply and ground circuit when self-diagnosis mode of combination meter does not start. Replace combination meter if normal.
- If any of the segments is not displayed, replace combination meter.

DIAGNOSIS SYSTEM (METER)

< SYSTEM DESCRIPTION >

7. Each meter activates during pressing trip A/B reset switch.



NOTE:

- If any of the meter and gages is not activated, replace combination meter.
- The figure is reference.

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< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (UNIFIED METER AND A/C AMP.)

CONSULT Function (METER/M&A)

INFOID:0000000010597218

CONSULT APPLICATION ITEMS

CONSULT can perform the following diagnosis modes with CAN communication with the unified meter and A/C amp.

System	Diagnosis mode	Description
	Self Diagnostic Result	Unified meter and A/C amp. checks the conditions and displays memorized error.
METER/M&A	Data Monitor	Displays unified meter and A/C amp. input/output data in real time.
	Ecu Identification	The unified meter and A/C amp. part number is displayed.

SELF DIAG RESULT

Refer to MWI-109, "DTC Index".

DATA MONITOR

NOTE:

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

Display Item List

X: Applicable

		A. Applicable
Display item [Unit]	MAIN SIGNALS	Description
SPEED METER [km/h] or [mph]	х	Value of vehicle speed signal received from ABS actuator and electric unit (control unit) with CAN communication line. NOTE: 655.35 is displayed when the malfunction signal is received.
SPEED OUTPUT [km/h] or [mph]	×	Vehicle speed signal value transmitted to other units with CAN communication line. NOTE: 655.35 is displayed when the malfunction signal is received.
ODO OUTPUT [km/h] or [mph]		Odometer signal value transmitted to other units with CAN communication line.
TACHO METER [rpm]	х	Value of the engine speed signal received from ECM with CAN communication line. NOTE: 8191.875 is displayed when the malfunction signal is received.
FUEL METER [L]	Х	Fuel level indicated on combination meter.
W TEMP METER [°C] or [°F]	х	Value of engine coolant temperature signal received from ECM with CAN communication line. NOTE: 215 is displayed when the malfunction signal is input.
FUEL CAP W/L [On/Off]		Status of fuel filler cap warning display detected from fuel filler cap warning display signal received from ECM via CAN communication.
ABS W/L [On/Off]		Status of ABS warning lamp judged from ABS warning lamp signal received from ABS actuator and electric unit (control unit) with CAN communication line.
VDC/TCS IND [On/Off]		Status of VDC OFF indicator lamp judged from VDC OFF indicator lamp signal received from ABS actuator and electric unit (control unit) with CAN communication line.
SLIP IND [On/Off]		Status of VDC warning lamp judged from VDC warning lamp signal received from ABS actuator and electric unit (control unit) with CAN communication line.

< SYSTEM DESCRIPTION >

Display item [Unit] MAIN SIGNALS		Description		
BRAKE W/L [On/Off]		Status of brake warning lamp judged from brake warning lamp signal received from ABS actuator and electric unit (control unit) with CAN communication line. NOTE: Displays "Off" if the brake warning lamp is illuminated when the valve check starts, the parking brake switch is turned ON or the brake fluid level switch is turned ON.		
DOOR W/L [On/Off]		Status of door warning judged from door switch signal received from BCM with CAN communication line.		
HI-BEAM IND [On/Off]		Status of high beam indicator lamp judged from high beam request signal received from BCM with CAN communication line.		
TURN IND [On/Off]		Status of turn indicator lamp judged from turn indicator signal received from BCM with CAN communication line.		
FR FOG IND [Off]		Status of front fog light indicator lamp detected from front fog light request signal is received from BCM via CAN communication.		
RR FOG IND [Off]		This item is displayed, but cannot be monitored.		
LIGHT IND [On/Off]		Status of tail lamp indicator lamp judged from position light request signal received from BCM with CAN communication line.		
OIL W/L [On/Off]		Status of oil pressure warning lamp judged from oil pressure switch signal received from IPDM E/R with CAN communication line.		
MIL [On/Off]		Status of malfunction indicator lamp judged from malfunctioning indicator lamp signal received from ECM with CAN communication line.		
GLOW IND [Off]		This item is displayed, but cannot be monitored.		
C-ENG2 W/L [Off]		This item is displayed, but cannot be monitored.		
CRUISE IND [On/Off]		Status of CRUISE indicator judged from ASCD status signal received from E with CAN communication line.		
SET IND [On/Off]		 Status of SET indicator judged from ASCD status signal received from ECM with CAN communication line. Status of SET indicator judged from meter display signal received from ICC sensor integrated unit with CAN communication line. 		
CRUISE W/L [On/Off]		Status of CRUISE warning lamp judged from ICC warning lamp signal received from ICC sensor integrated unit with CAN communication line.		
BA W/L [Off]		Status of IBA OFF indicator lamp judged from IBA OFF indicator lamp signal received ICC sensor integrated unit with CAN communication line.		
ATC/T-AMT W/L [On/Off]		Status of A/T check warning lamp judged from A/T check indicator signal received from TCM with CAN communication line.		
4WD W/L [On/Off]		Status of AWD warning lamp judged from AWD warning lamp signal received from AWD control unit with CAN communication line.		
4WD LOCK IND [Off]		This item is displayed, but cannot be monitored.		
FUEL W/L [On/Off]		Low-fuel warning status judged by the identified fuel level.		
WASHER W/L [On/Off]		Status of washer warning judged from washer level switch input to combination meter.		
AIR PRES W/L [On/Off]		Status of low tire pressure warning lamp judged from TPMS malfunction warning lamp signal received from BCM with CAN communication line.		
KEY G/Y W/L [On/Off]		Status of key warning lamp (G/Y) judged from key warning signal received from BCM with CAN communication line.		
AFS OFF IND [On/Off]		Status of AFS OFF indicator lamp judged from AFS OFF indicator lamp signal received from AFS control unit with CAN communication line.		
4WAS/RAS W/L [Off]		This item is displayed, but cannot be monitored.		

< SYSTEM DESCRIPTION >

Display item [Unit]	MAIN SIGNALS	Description
DDS W/L [Off]		This item is displayed, but cannot be monitored.
LANE W/L [On/Off]		Status of lane departure warning lamp judged from lane departure warning lamp signal received from lane camera unit with CAN communication line.
LDP IND [On/Off]		Status of LDP ON indicator lamp judged from LDP ON indicator lamp signal received from lane camera unit with CAN communication line.
DCA IND [On/Off]		Status of DCA switch indicator judged from meter display signal received from ICC sensor integrated unit with CAN communication line.
BSW W/L [On/Off]		Status of BSW warning lamp judged from BSW warning lamp signal received from BSW control module with CAN communication line.
LCD [B&P N, B&P I, ID NG, ROTAT, SFT P, INSRT, BATT, NO KY, OUTKY, LK WN]		Displays status of Intelligent Key system warning judged from meter display signal received from BCM with CAN communication line.
ACC TARGET [On/Off]		Status of vehicle ahead detection indicator judged from meter display signal received from ICC sensor integrated unit with CAN communication line.
ACC DISTANCE [Off, SHORT, MID, LONG]		Status of set distance indicator judged from meter display signal received from ICC sensor integrated unit with CAN communication line.
ACC OWN VHL [On/Off]		Status of own vehicle indicator judged from meter display signal received from ICC sensor integrated unit with CAN communication line.
ACC SET SPEED		Status of set vehicle speed indicator judged from meter display signal received from ICC sensor integrated unit with CAN communication line.
ACC UNIT [On/Off]		Status of display unit judged from meter display signal received from ICC sensor integrated unit with CAN communication line.
SHIFT IND [P, R, N, D, L, M1, M2, M3, M4, M5, M6, M7]		Status of shift position indicator judged from shift position signal and manual mode indicator signal received from TCM with CAN communication line.
O/D OFF SW [Off]		This item is displayed, but cannot be monitored.
AT S MODE SW [On/Off]		Status of snow mode switch.
AT P MODE SW [Off]		This item is displayed, but cannot be monitored.
M RANGE SW [On/Off]		Status of manual mode switch.
NM RANGE SW [On/Off]		Status of non-manual mode switch.
AT SFT UP SW [On/Off]		Status of manual mode shift up switch.
AT SFT DWN SW [On/Off]		Status of manual mode shift down switch.
ST SFT UP SW [Off]		This item is displayed, but cannot be monitored.
ST SFT DWN SW [Off]		This item is displayed, but cannot be monitored.
COMP F/B SIG [On/Off]		A/C compressor activation condition that ECM judges according to the water temperature and the acceleration degree.
4WD LOCK SW [Off]		This item is displayed, but cannot be monitored.
PKB SW [On/Off]		Status of parking brake switch.
BUCKLE SW [On/Off]		Status of seat belt buckle switch (driver side).

< SYSTEM DESCRIPTION >

Display item [Unit]	MAIN SIGNALS	Description	
BRAKE OIL SW [On/Off]		Status of brake fluid level switch.	
DISTANCE [km]		Value of possible driving distance calculated by unified meter and A/C amp.	
OUTSIDE TEMP [°C] or [°F]		Ambient air temperature value converted from ambient sensor signal received from ambient sensor. NOTE: This may not match with the temperature value indicated on the information display. (Because the information display value is a corrected value from the ambient sensor input value.)	
FUEL LOW SIG [On/Off]		Status of fuel level low warning signal to output to AV control unit with CAN communication line.	
BUZZER [On/Off]	х	Buzzer status (in the combination meter) is judged with the buzzer output signal received from each unit with CAN communication line and the warning output condition of the combination meter.	

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U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:000000010597219

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

CAN Communication Signal Chart. Refer to LAN-15, "How to Use CAN Communication Signal Chart".

DTC Logic

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000010597221

1.PERFORM SELF DIAGNOSTIC

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

Is "CAN COMM CIRCUIT" displayed?

YES >> Refer to LAN-16, "Trouble Diagnosis Flow Chart".

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

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

Description INFOID:000000010597222

Initial diagnosis of unified meter and A/C amp.

DTC Logic

DTC DETECTION LOGIC

DTC	Display contents of CON- SULT	Diagnostic item is detected when	Probable malfunction location
U1010	CONTROL UNIT (CAN)	If any malfunction is detected during initial diagnosis of unified meter and A/C amp. CAN controller	Unified meter and A/C amp.

Diagnosis Procedure

INFOID:0000000010597224

1. REPLACE UNIFIED METER AND A/C AMP.

When DTC "U1010" is detected, replace unified meter and A/C amp.

>> INSPECTION END

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B2201 COMMUNICATION ERROR 1

< DTC/CIRCUIT DIAGNOSIS >

B2201 COMMUNICATION ERROR 1

Description INFOID:000000010597225

The communication line (LCD <-> AMP.) is used to communicate signals between the combination meter and the unified meter and A/C amp. in order to control the information display.

DTC Logic

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when	Probable malfunction location
B2201	COMM ERROR 1	If a communication error is present in the communication line (LCD <-> AMP.) for 2 seconds or more	Communication line (LCD <-> AMP.) circuit

Diagnosis Procedure

INFOID:0000000010597227

1. CHECK CONNECTOR

Check combination meter, unified meter and A/C amp. and terminals (combination meter side, unified meter and A/C amp. side, and harness side) for looseness or bent.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair terminal or connector.

2.CHECK CONTINUITY COMMUNICATION CIRCUIT

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

Combination meter		Unified meter and A/C amp.		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M53	24	M66	14	Existed
IVIOS	25	IVIOO	34	Existed

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

Combina	tion meter		Continuity
Connector	Connector Terminal		Continuity
M53	24	Ground Not existe	Not existed
WISS	25		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK UNIFIED METER AND A/C AMP. OUTPUT VOLTAGE

- Connect unified meter and A/C amp. connector.
- 2. Turn ignition switch ON.
- 3. Check voltage between unified meter and A/C amp. harness connector and ground.

B2201 COMMUNICATION ERROR 1

< DTC/CIRCUIT DIAGNOSIS >

(Voltage (Approx.)		
Unified meter	(-)	(Approx.)	
Connector	Connector Terminal		
M66 14		Ground	12 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace unified meter and A/C amp.

4. CHECK COMBINATION METER OUTPUT VOLTAGE

- 1. Turn ignition switch OFF.
- 2. Disconnect unified meter and A/C amp. connector.
- 3. Connect combination meter connector.
- 4. Turn ignition switch ON.
- 5. Check voltage between combination meter harness connector and ground.

(Voltage (Approx.)				
Combina	Combination meter (-)				
Connector	Terminal	Ground			
M53	M53 25		5 V		

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace combination meter.

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B2202 COMMUNICATION ERROR 2

< DTC/CIRCUIT DIAGNOSIS >

B2202 COMMUNICATION ERROR 2

Description INFOID.000000010597228

The communication line (METER <-> AMP.) is used to communicate signals between the combination meter and the unified meter and A/C amp. in order to control the combination meter.

DTC Logic

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when	Probable malfunction location
B2202	COMM ERROR 2	If a communication error is present in the communication line (METER <-> AMP.) for 2 seconds or more	Communication line (METER <-> AMP.) circuit

Diagnosis Procedure

INFOID:0000000010597230

1. CHECK CONNECTOR

Check combination meter, unified meter and A/C amp. and terminals (combination meter side, unified meter and A/C amp. side, and harness side) for looseness or bent.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair terminal or connector.

2.check continuity communication circuit

- 1. Turn ignition switch OFF.
- Disconnect combination meter connector and unified meter and A/C amp. connector.
- Check continuity between combination meter harness connector and unified meter and A/C amp. harness connector.

Combination meter		Unified meter and A/C amp.		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M53	2	Mee	27	Existed
WIJJ	3	M66	7	Existed

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

Combina	tion meter	Ground	Continuity
Connector	Terminal		
M53	2		Not existed
IVIOS	3		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK UNIFIED METER AND A/C AMP. OUTPUT VOLTAGE

- Connect unified meter and A/C amp. connector.
- 2. Turn ignition switch ON.
- 3. Check voltage between unified meter and A/C amp. harness connector and ground.

B2202 COMMUNICATION ERROR 2

< DTC/CIRCUIT DIAGNOSIS >

(+)	- (-)	Voltage (Approx.)
Unified meter	and A/C amp.		
Connector Terminal		Ground	
M66	27	Oround	5 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace unified meter and A/C amp.

4. CHECK COMBINATION METER OUTPUT VOLTAGE

- 1. Turn ignition switch OFF.
- 2. Disconnect unified meter and A/C amp. connector.
- 3. Connect combination meter connector.
- 4. Turn ignition switch ON.
- 5. Check voltage between combination meter harness connector and ground.

	Terminals				
(+)	(-)	Voltage (Approx.)		
Combina	tion meter				
Connector	Connector Terminal				
M53	3	- Ground	5 V		

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace combination meter.

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B2205 VEHICLE SPEED

< DTC/CIRCUIT DIAGNOSIS >

B2205 VEHICLE SPEED

Description INFOID:000000010597231

Vehicle speed signal is transmitted from ABS actuator and electric unit (control unit) via CAN communication to unified meter and A/C amp.

DTC Logic

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000010597233

 $1. {\tt perform\ Self-Diagnosis\ Of\ ABS\ ACTUATOR\ AND\ ELECTRIC\ UNIT\ (CONTROL\ UNIT)}$

Perform "Self Diagnostic Result" of ABS actuator and electric unit (control unit), and repair or replace malfunctioning parts.

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

B2267 ENGINE SPEED

< DTC/CIRCUIT DIAGNOSIS >

B2267 ENGINE SPEED

Description INFOID:000000010597234

The engine speed signal is transmitted from ECM to the unified meter and A/C amp. with CAN communication.

DTC Logic

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000010597236

1.PERFORM SELF-DIAGNOSIS OF ECM

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

>> Refer to EC-146, "CONSULT Function".

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B2268 WATER TEMP

< DTC/CIRCUIT DIAGNOSIS >

B2268 WATER TEMP

Description INFOID:000000010597237

The engine coolant temperature signal is transmitted from ECM to the unified meter and A/C amp. via CAN communication.

DTC Logic

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000010597239

1. PERFORM SELF-DIAGNOSIS OF ECM

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

>> Refer to EC-146, "CONSULT Function".

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT COMBINATION METER

INFOID:0000000010597240

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COMBINATION METER: Diagnosis Procedure

1.CHECK FUSE

Check for blown fuses.

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

Is the inspection result normal?

YES >> GO TO 2.

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between combination meter harness connector and ground.

	Т				
(+)			(-)	Ignition switch position	Value (Approx.)
Combination meter	Terminal	Signal name	(-)		
M53	1	Battery power supply	Ground	OFF	Battery voltage
IVIOO	21	Ignition signal	Giouna	ON	Ballery Vollage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between combination meter and fuse.

3. CHECK GROUND CIRCUIT

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

Combina	tion meter		Continuity
Connector Terminal			Continuity
	5	Ground	
M53	15		Existed
	22		

Is the inspection result normal?

YES >> INSPECTION END

>> Repair harness or connector. NO

UNIFIED METER AND A/C AMP.

UNIFIED METER AND A/C AMP. : Diagnosis Procedure

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	6
Ignition switch ACC or ON	19
Ignition switch ON or START	3

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INFOID:0000000010597241

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 2.

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between unified meter and A/C amp. harness connector and ground.

	Term				
	(+)		()	Ignition switch position	Value (Approx.)
Unified meter and A/C amp.	Terminal	Signal name	(-)		
54		Battery power supply		OFF	
M67	41	ACC power supply	Ground	ACC	Battery voltage
	53	Ignition signal		ON	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between unified meter and A/C amp. and fuse.

3.CHECK GROUND CIRCUIT

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

Unified meter and A/C amp.			Continuity
Connector	Terminal	Ground	Continuity
M67	55	Giodila	Existed
IVIO7	71		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) : Diagnosis Procedure

1. CHECK FUSES AND FUSIBLE LINK

Check that the following IPDM E/R fuses or fusible links are not blown.

Signal name	Fuses and fusible link No.
	С
Battery power supply	50
	51

Is the fuse fusing?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector.
- Check voltage between IPDM E/R harness connector and the ground.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

(+)		(-)	Voltage (Approx.)
IPDI	IPDM E/R		
Connector	Terminal	Ground	
E4	1	Sibulia	Battery voltage

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

3. CHECK GROUND CIRCUIT

Check continuity between IPDM E/R harness connectors and the ground.

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
E5	12	Ground	Existed
E6	41		LAISIEU

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

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FUEL LEVEL SENSOR SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

FUEL LEVEL SENSOR SIGNAL CIRCUIT

Description INFOID:0000000010597243

The fuel level sensor unit and fuel pump (main) and the fuel level sensor unit (sub) detect the fuel level in the fuel tank and transmit the fuel gauge signal to the unified meter and A/C amp.

Component Function Check

INFOID:0000000010597244

${f 1}$.PERFORM SELF-DIAGNOSIS OF UNIFIED METER AND A/C AMP.

Perform "Self Diagnosis" of unified meter and A/C amp. with CONSULT.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to MWI-109, "DTC Index".

>> GO TO 2. NO

2.PERFORM COMPONENT FUNCTION CHECK (1)

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

Fuel level sensor un	it and fuel pump (main)	Fuel level sensor unit (sub)	
Connector	Terminals	Connector Terminals	
B22	5	B21	1

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

Resistance $(\Omega)^*$ (Approx.)	Fuel gauge indication position (Approx.)
Less than 6.0	Full
25.5	3/4
45.5	2/4
66.0	1/4
More than 80.0	Empty

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 4.

3.PERFORM COMPONENT FUNCTION CHECK (2)

Check the fuel level sensor unit and fuel pump (main) and/or fuel level sensor unit (sub). Refer to MWI-60, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END

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

f 4 .CHECK DATA MONITOR OF UNIFIED METER AND A/C AMP.

Select "FUEL METER" that is the data monitor item of "METER/M&A". Apply resistance according to the table below and check the monitor value.

FUEL LEVEL SENSOR SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Resistance (Ω) (Approx.)	Reference value of data monitor [L]
Less than 6.0	Approx. 72
25.5	Approx. 60
45.5	Approx. 42
66.0	Approx. 23
More than 80.0	Approx. 11

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-136, "Removal and Installation".

NO >> Refer to MWI-59, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK FUEL LEVEL SENSOR (SUB) CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect unified meter and A/C amp. connector and fuel level sensor unit (sub) connector.
- Check continuity between unified meter and A/C amp. harness connector and fuel level sensor unit (sub) harness connector.

Unified me	ter A/C amp.	Fuel level sensor unit (sub)		Continuity
Connector	Terminal	Connector	terminal	Continuity
M67	42	B21	1	Existed

4. Check continuity between unified meter and A/C amp. harness connector and ground.

Unified met	Unified meter A/C amp.		Continuity
Connector	Terminal	Ground	Continuity
M67	42		Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK FUEL LEVEL SENSOR (MAIN-SUB) CIRCUIT

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

Fuel level se	nsor unit (sub)	Fuel level sensor unit	unit and fuel pump (main) Continuity	
Connector	Terminal	Connector	terminal	Continuity
B21	2	B22	2	Existed

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

Fuel level sensor unit (sub)			Continuity
Connector	Terminal	Ground	Continuity
B21	2		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK FUEL LEVEL SENSOR (MAIN) CIRCUIT

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INFOID:0000000010597245

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FUEL LEVEL SENSOR SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Check continuity between fuel level sensor unit and fuel pump (main) harness connector and unified meter and A/C amp. harness connector.

Fuel level sensor unit and fuel pump (main)		Unified meter A/C amp.		Continuity	
Connector	Terminal	Connector terminal		Sommery	
B22	5	M67	58	Existed	

Is the inspection result normal?

YES >> Replace unified meter and A/C amp. Refer to MWI-137, "Removal and Installation".

NO >> Repair harness or connector.

Component Inspection

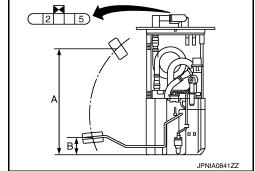
INFOID:0000000010597246

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

- 1. Remove the fuel level sensor unit and fuel pump (main). Refer to FL-6, "Removal and Installation".
- 2. Check the resistance between fuel level sensor unit and fuel pump (main).

Fuel level sensor unit and fuel pump (main) Terminal		Condition*	Resistance (Approx.)
2	5	Full (A)	2.5 Ω
	3	Empty (B)	81.5 Ω

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



Standard float position

Float position [mm (in)]*						
Full (A) Approx. 192 (7.56)						
Empty (B) Approx. 32 (1.26)						

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

Is the inspection result normal?

YES >> GO TO 2.

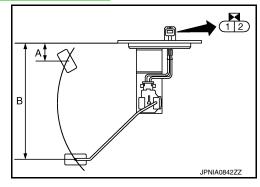
NO >> Replace fuel level sensor unit and fuel pump (main). Refer to FL-6, "Removal and Installation".

2.CHECK FUEL LEVEL SENSOR UNIT (SUB)

- Remove the fuel level sensor unit (sub). Refer to <u>FL-6, "Removal and Installation"</u>.
- 2. Inspect the resistance of fuel level sensor unit (sub).

Fuel level ser	nsor unit (sub)	Condition*	Resistance	
Terminal		Condition	(Approx.)	
1	2	Full (A)	2.5 Ω	
		Empty (B)	42.5 Ω	

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



Standard float position

Float position [mm (in)] [*]					
Full (A) Approx. 35 (1.38)					
Empty (B) Approx. 203 (7.99)					

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

Is the inspection result normal?

< DTC	FUEL LEVEL SENSOR SIGNAL CIRCUIT (CIRCUIT DIAGNOSIS >	
YES	>> INSPECTION END	
NO	>> Replace fuel level sensor unit (sub). Refer to <u>FL-6, "Removal and Installation"</u> .	А
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METER CONTROL SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

METER CONTROL SWITCH SIGNAL CIRCUIT

Description INFOID:000000010597247

Transmits the following signals to the combination meter.

- $\mathcal{C}_{\mathfrak{I}}^{\mathfrak{F}+}$ (Illumination control) switch signal (+) $\mathcal{C}_{\mathfrak{I}}^{\mathfrak{F}-}$ (Illumination control) switch signal (-)
- **(select)** switch signal **(enter)** switch signal

Diagnosis Procedure

INFOID:0000000010597248

1. CHECK METER CONTROL SWITCH INPUT SIGNAL

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

Combination meter		eter		
Connector	Terminal		Condition	Voltage (Approx.)
Connector	(+) (-)			(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	36	16	When (select) switch is pressed	0 V
M53	00	.0	Other than the above	5 V
	37	16	When \Box (enter) switch is pressed	0 V
			Other than the above	5 V
	39	39 16	When 😚 (illumination control) switch is pressed	0 V
			Other than the above	5 V
	40	40 16	When 😚 (illumination control) switch is pressed	0 V
			Other than the above	5 V

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK METER CONTROL SWITCH SIGNAL CIRCUIT

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

Combina	ation meter	Meter control switch		Continuity
Connector	Connector Terminal		Terminal	Continuity
	16		2	
	36	36		
M53	37	M54	7	Existed
	39		3	
	40		1	

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

METER CONTROL SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Combinat	tion meter		Continuity	
Connector	Connector Terminal		Continuity	
	16		Not existed	
M53	36	Ground		
	37			
	39			
	40	1		

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

Component Inspection

1. CHECK METER CONTROL SWITCH UNIT

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

Combination meter		er	Operation and status	Continuity	
Connector	Terr	minal	Operation and status	Continuity	
	6	2	Press (select) switch	Existed	
		_	Other than the above	Not existed	
	7	2	Press (enter) switch	Existed	
M54			Other than the above	Not existed	
IVIO 4	3	2	Press 💏 (illumination control) switch	Existed	
			Other than the above	Not existed	
	1 2		Press 💏 (illumination control) switch	Existed	
		_	Other than the above	Not existed	

Is inspection result normal?

YES >> INSPECTION END

NO >> Replace meter control switch.

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TRIP A/B RESET SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

TRIP A/B RESET SWITCH SIGNAL CIRCUIT

Description INFOID:000000010597250

Transmits the trip A/B reset switch signals to the combination meter.

Diagnosis Procedure

INFOID:0000000010597251

1. CHECK TRIP A/B RESET SWITCH INPUT SIGNAL

- 1. Turn ignition switch ON.
- 2. Measure voltage between the combination meter harness connector terminals.

Cor	Combination meter) /- II
Connec-	Terr	minal	Condition	Voltage (Approx.)
tor	(+)	(-)		
M53	20	16	When trip A/B reset switch is pressed	0 V
IVIOO	38 16		Other than the above	5 V

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK TRIP A/B RESET SWITCH SIGNAL CIRCUIT

- Turn ignition switch OFF.
- Disconnect the combination meter and meter control switch connectors.
- Check continuity between combination meter harness connector and trip A/B reset switch harness connector.

Combina	tion meter	Trip A/B reset switch		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
M53	38	M56	1	Existed	
WIJJ	16	IVISO	2	LXISIGU	

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

Combination meter			Continuity
Connector	Terminal	Ground	Continuity
M53	38	Giodila	Not existed
IVIOS	16		Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

Component Inspection

INFOID:0000000010597252

1. CHECK TRIP A/B RESET SWITCH UNIT

- 1. Turn ignition switch OFF.
- 2. Disconnect the trip A/B reset switch connector.
- 3. Check continuity between the trip A/B reset switch connector terminals.

TRIP A/B RESET SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Trip A/B reset switch Terminal		Operation and status	Continuity	
1	2	Press trip A/B reset switch	Existed	
		Other than the above	Not existed	

Is inspection result normal?

YES >> INSPECTION END

NO >> Replace trip A/B reset switch.

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OIL PRESSURE SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

OIL PRESSURE SWITCH SIGNAL CIRCUIT

Description INFOID:000000010597253

Detects the engine oil pressure and transmits the oil pressure switch signal to IPDM E/R.

Component Function Check

INFOID:0000000010597254

1. CHECK UNIFIED METER AND A/C AMP. INPUT SIGNAL

Select the "Data Monitor" for the "METER/M&A" and check the "OIL W/L" monitor value.

"OIL W/L"

Ignition switch ON : On Engine running : Off

>> INSPECTION END

Diagnosis Procedure

INFOID:0000000010597255

1. CHECK OIL PRESSURE SWITCH CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect IPDM E/R connector and oil pressure switch connector.
- 3. Check continuity between IPDM E/R harness connector and oil pressure switch harness connector.

IPDI	M E/R	Oil pressure switch		Continuity
Connector	Terminal	Connector Terminal		Continuity
E7	75	F37	1	Existed

4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R			Continuity
Connector Terminal		Ground	Continuity
E7 75			Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

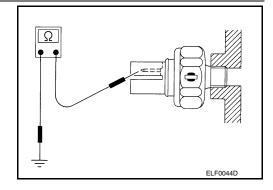
Component Inspection

INFOID:0000000010597256

1. CHECK OIL PRESSURE SWITCH UNIT

Check continuity between oil pressure switch and ground.

Condition	Continuity
Engine stopped	Existed
Engine running	Not existed



Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace oil pressure switch.

PARKING BRAKE SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

PARKING BRAKE SWITCH SIGNAL CIRCUIT

Description INFOID:0000000010597257

Transmits the parking brake switch signal to the combination meter.

Diagnosis Procedure

INFOID:0000000010597258

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1. CHECK COMBINATION METER INPUT SIGNAL

- Turn ignition switch ON.
- Check the voltage and waveform between combination meter harness connector and ground.

	Terminals				
(+) (-) Combination meter		(-)	Condition	Voltage and waveform	
			Condition	voltage and wavelorm	
Connector	Terminal				
			Parking brake applied	Approx. 0 V	
M53	27	Ground	Parking brake released	(V) 8 4 0 10 ms JSNIA0007GB	

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK PARKING BRAKE SWITCH SIGNAL CIRCUIT

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

Combina	Combination meter		Parking brake switch		
Connector	Terminal	Connector Terminal		Continuity	
M53	27	E107	1	Existed	

Check continuity between combination meter harness connector and ground.

Combination meter			Continuity
Connector Terminal		Ground	Continuity
M53 27			Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

Component Inspection

INFOID:0000000010597259

${f 1}$.CHECK PARKING BRAKE SWITCH

Check parking brake switch. Refer to BRC-121, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END

MWI-67 Revision: February 2015 2015 QX50 MWI

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PARKING BRAKE SWITCH SIGNAL CIRCUIT

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NO >> Replace parking brake switch.

WASHER LEVEL SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

WASHER LEVEL SWITCH SIGNAL CIRCUIT

Description INFOID:000000010597260

Transmits the washer level switch signal to the combination meter.

Diagnosis Procedure

INFOID:0000000010597261

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1. CHECK WASHER LEVEL SWITCH SIGNAL CIRCUIT

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

Combina	Combination meter		Washer level switch	
Connector	Terminal	Connector Terminal		Continuity
M53	31	E32	1	Existed

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

Combination meter			Continuity
Connector Terminal		Ground	Continuity
M53 31			Not existed

5. Check continuity between washer level switch harness connector and ground.

Washer level switch			Continuity
Connector Terminal		Ground	Continuity
E32 2			Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

Component Inspection

INFOID:0000000010597262

1. CHECK WASHER LEVEL SWITCH

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

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Terr	ninal	Condition	Continuity
1	2	Washer fluid level is low (washer level switch ON)	Existed
	2	Washer fluid level is normal (washer level switch OFF)	Not existed

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Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace washer level switch. Refer to <u>WW-115, "Removal and Installation"</u>.

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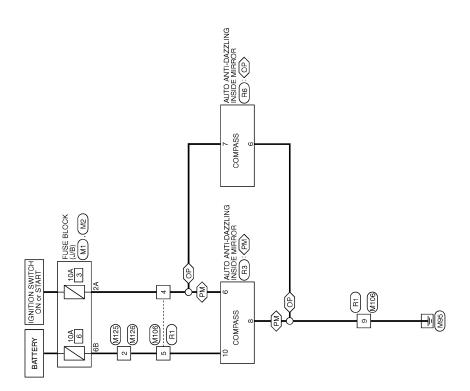
Revision: February 2015 MWI-69 2015 QX50

COMPASS

Wiring Diagram - COMPASS -

INFOID:0000000010597263





COMPASS

2014/03/21

Chirch () Chirch	Signal Name [Specification]	wire	- 13	7	15 SHELD -	M126 18 B	Connector Name WIRE TO WIRE	Commenter Time MOMMUL C	MOOMWITCO COMMISSION NO.	Т	Connector Type TH10FB-NH					Ferminal Color Of Signal Name [Specification]	+	W = Taerninal Color Of		9	9 B	otor No. R1 BAT	Connector Name WIRE TO WIRE		Connector Type INTIUNIVITED IN	Connector Name AUTO ANTI-DAZZLING INSIDE MIRROR	6 5 4 3 2 1 Connector Type JAA07FB	13 12 11 10 9	F 8	9 2	nal Color Of Signal Name [Specification]	+	D - Terminal C	Do hard and a second of the se	- [with automatic drive positioner]	- [Without automatic drive positioner] 7	W - [Without automatic drive positioner] 7 W - G G - - -
Connactor No MITR	OO IM	Connector Name WIRE TO WIRE	Connector Type NH10MW-CS10 2	á		1 2 3 4 5 6 Connector No.	7 8 9 10 11 12 13 19 20	14 15 16 17 18	Confinence	lal	No. Wire		3	4 W -		BR		- c	+	- 8		œ	Y – [Without NAVI]	SHELD	16 G = [Without NAVI]	9 60		Connector No. M125	Connector Name WIRE TO WIRE		Terminal		H.S.	3.2			4 10
COMPASS Connector No Mit	П	Connector Name FUSE BLOCK (J/B)	Connector Type NS06FW-M2	á	[F]	3A 2A 1A	8A 7A 6A 5A 4A			-	Wire	28 G	3A L	Н	5A V –	> 0	¥	8A L		Connector No. M2	Connector Name FLISE BLOCK (LVB)		Connector Type NS10FW-CS	4		H.S. (48)38 []	9B 8B 7B 6B 5B			Terminal Color Of Signal Name [Specification]	++	5 88 c	*	78 P	4	SB	- 88 86 B

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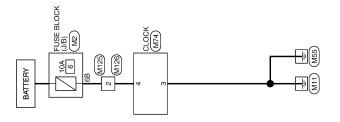
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CLOCK

Wiring Diagram - CLOCK -





SLOCK



CLOCK	숭				
Connector No.	r No.	M2	Connector No.	No.	M125
Connector Name	r Name	FUSE BLOCK (J/B)	Connector Name	Name	WIRE TO WIRE
Connector Type	r Type	NS10FW-CS	Connector Type	Type	M03FW-LC
是 H.S.		48 38 (78 68 68	健 H.S.		3 1
Terminal No.	Color Of Wire	Signal Name [Specification]	Terminal No.	Color Of Wire	Signal Name [Specification]
8	۵	-	-	*	1
48	g	-	2	>	
2B	BB	-	3	ď	-
99	٨	-			
78	Ь	-			
8B	ď	-	Connector No.	No.	M126
98	SB	-	Connector Name	Name	WIRE TO WIRE
			Connector Type	Type	M03MW-LC
Connector No.	r No.	M74	Ĺ		
Connector Name	r Name	CLOCK	修		
Connector Type	r Type	TH04FW-NH	H.S.		~
(F)				ı	23
		1234	Terminal No.	Color Of Wire	Signal Name [Specification]
			- (Α >	-
Terminal	Color Of	Signal Name [Specification]	v 69	α	
-	В	ILLUMINATION (-)			
2	ч	ILLUMINATION (+)			
3	В	GROUND			
4	>	BAT			

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< ECU DIAGNOSIS INFORMATION >

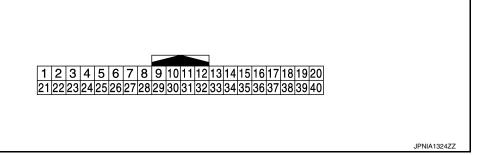
ECU DIAGNOSIS INFORMATION

COMBINATION METER

Reference Value

VALUES ON THE DIAGNOSIS TOOL Refer to MWI-90, "Reference Value".

TERMINAL LAYOUT

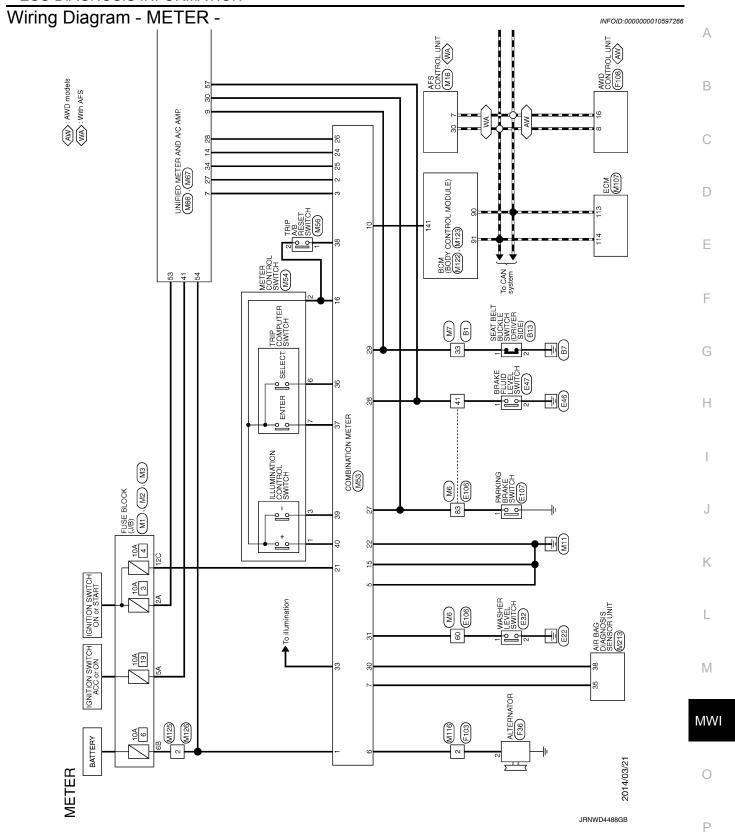


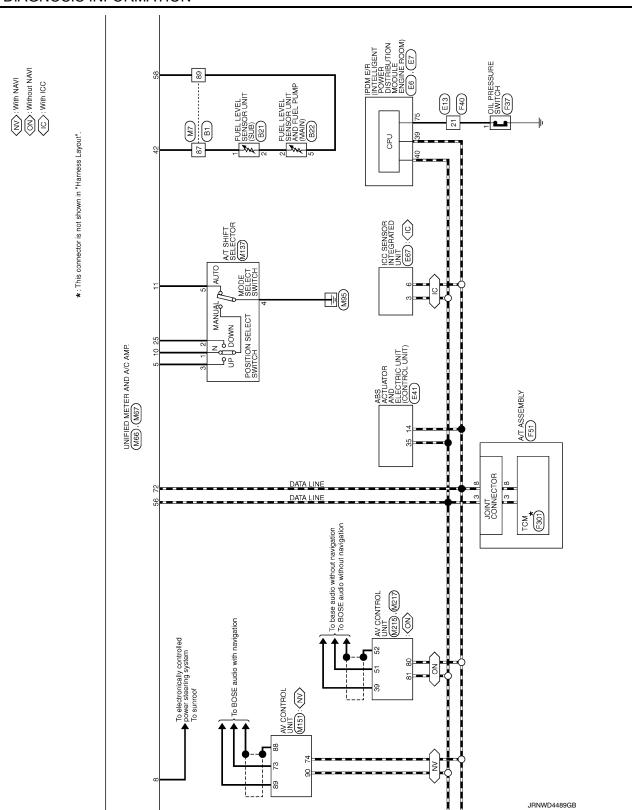
PHYSICAL VALUES

	nal No. color)	Description			Condition	Value
+	_	Signal name	Input/ Output		Condition	(Approx.)
1 (GR)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
2 (LG)	Ground	Communication signal (METER→ AMP.)	Output	Ignition switch ON	_	(V) 6 4 2 0 ■ 200 µs JSNIA0027GB
3 (GR)	Ground	Communication signal (AMP.→ METER)	Input	Ignition switch ON	_	(V) 6 4 2 0
5 (B)	Ground	Ground	_	Ignition switch ON	_	0 V
6	Ground	Alternator signal	Input	Ignition switch	Charge warning lamp ON	0 V
(P)	0.000			ON	Charge warning lamp OFF	Battery voltage
7	Ground	Air bag signal	Input	Ignition switch	Air bag warning lamp ON	4 V
(BR)				ON	Air bag warning lamp OFF	0 V
10	Ground	Security signal	Input	Ignition switch	Security warning lamp ON	0 V
(G)		.,		OFF	Security warning lamp OFF	12 V

	inal No. e color)	Description			Condition	Value	
+	_	Signal name	Input/ Output		Condition	(Approx.)	
15 (B)	Ground	Ground	_	Ignition switch ON	_	0 V	
16 (B)	Ground	Meter control switch ground	_	Ignition switch ON	_	0 V	
21 (BG)	Ground	Ignition signal	Input	Ignition switch ON	_	Battery voltage	
22 (B)	Ground	Ground	_	Ignition switch ON	_	0 V	
24 (BR)	Ground	Communication signal (LCD→ AMP.)	Output	Ignition switch ON	_	(V) 15 10 400 µs JSNIA0028GB	
25 (Y)	Ground	Communication signal (AMP.→ LCD)	Input	Ignition switch ON	_	(V) 6 4 2 0 200 µs JSNIA0027GB	
26 (R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	NOTE: The maximum voltage varies depending on the specification (destination unit).	
					Parking brake is applied	0 V	Ν
27 (V)	Ground	Parking brake switch signal	Input	Ignition switch ON	Parking brake is released	(V) 8 4 0 10 ms JSNIA0007GB	
28 (W)	Ground	Brake fluid level switch sig- nal	Input	Ignition switch ON	Brake fluid level is normal. The brake fluid level is lower than the low level	5 V 0 V	

	nal No. color)	Description			Condition	Value
+	_	Signal name	Input/ Output		Condition	(Approx.)
29	Ground	Seat belt buckle switch sig-	Input	Ignition switch	When driver seat belt is fastened	12 V
(SB)	Ground	nal (driver side)	при	ON	When driver seat belt is un- fastened	0 V
30	Ground	Seat belt buckle switch sig-	Input	Ignition switch	When getting in the passenger seatWhen passenger seat belt is fastened	12 V
(G)	Ciduid	nal (passenger side)	трас	ON	When getting in the passenger seat When passenger seat belt is unfastened	0 V
31	01	Market I and a Make Sanah	1	Ignition	Washer level switch ON	0 V
(L)	Ground	Washer level switch signal	Input	switch ON	Washer level switch OFF	5 V
33 (B)	Ground	Illumination control signal	Output	Ignition switch ON	Lighting switch ON, then operate the illumination control switch.	When brightness level is midway (V) 10 0 2 ms JSNIA0010GB
36	16	Select switch signal	Input	Ignition switch	When is pressed	0 V
(LG)	(B)	5	'	ON	Other than the above	5 V
37	16	Enter switch signal	Input	Ignition switch	When 🖬 is pressed	0 V
(SB)	(B)			ON	Other than the above	5 V
38	16	Trip A/B reset switch signal	Input	Ignition switch	When trip A/B reset switch is pressed	0 V
(L)	(B)			ON	Other than the above	5 V
39 (P)	16 (B)	Illumination control switch signal (–)	Input	Ignition switch	When 📆 switch is pressed	0 V
	, ,	• ()		ON	Other than the above	5 V
40 (BG)	16 (B)	Illumination control switch signal (+)	Input	Ignition switch	When 👸 + switch is pressed	0 V
	, ,	- ()		ON	Other than the above	5 V





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Revision: February 2015

JRNWD4490GB

Connector No. B13	Т	Connector Name SEAT BELT BUCKLE SWITCH (DRIVER SIDE)	Connector Type TH04FW-NH	1		<u>R</u>						Terminal Golor Of Signal Name [Specification] Terminal Golor Of No Wire	+	2 B		4	Connector No. B21 5	Connector Name FIFE EVEL SENSOR LINIT (SLIR)	(200)	Connector Type E02FGY-RS Connector No.	Onmector Name		Connector Type				E.E.		la D	No. Wire	7 Torminal		68	40	41	43	44	45	46	J	J		I	I
-					-	- O	-	-	- a	-	-		,	1	'	-	-	-	_	-	-	-		-		-	-	-	1	'				-										
47 SB	╀	╀	╀	90 P	91 F	62 SHIELD	63 R	Ħ	Ś	4	+	es SB	+	╀	H	75 W	Н	Н	78 P	Н	83 BG	85 ^	86 LG	87 Y	88 R	Н	\exists	\dashv	7	+	95 9	╀	W 86	Н										
B1		WIRE TO WIRE	TH80FW-CS16-TM4				7 C S S S S S S S S S S S S S S S S S S	V				Signal Name [Specification]			,				-					-		-		-									-	-	-				1 1 1	
METER Connector No.		Connector Name	Connector Type		The state of the s		Υ. (5)	1				Terminal Color Of No Wire	+	╁	es se	۷ /	٦ 8	>	12 SB	13 LG	\dashv	15 LG	16 R	17 W	18 SB	Н	Ħ	21 SHIELD	+	+	0 d	╀	Ġ	П	32 W	33 SB	34 L	35 P	36	ł	Н	Н	НН	++++

JRNWD4601GB

30 SB BLS 31 R VOC OFF SW 45 B BUS-H Connector Name BRAKE FLUD LEVEL SWITCH Connector Name BRAKE FLUD LEVEL SWITCH Connector Name SWITCH Connector Name	Terminal Color Of Signal Name (Specification) 1
Connector No. E22 Connector Name WASHER LEVEL SWITCH Connector Type Z027EB1 ##\$	Terminal Color Of Signal Name Specification
	15 S S B S S S S S S S S S S S S S S S S
11-00 Page 12-14 11-14 12-14	Signal Name (Specification) Sign
METER Commetter Name Commetter Name Commetter Type M.S. H.S.	Terminal Color National Colorada National Nation

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	Connector No. F36	Connector Name ALTERNATOR	Π	Connector Type HS03FB	ľ				(435)					B B		2 G L	3 v S	4 P C			Connector No. F37	TO THE STATE OF TH		Connector Type E01FGY-RS-AR		45	⊠					Terminal Color Of	No. Wire Signal Name [Specification]	\ -																
	- [Without ICC]	- [Wrth ICC]	T	_	-	-	1		,	1			1	1		1	-	_	_		-	1	-			E107	PARKING BRAKE SWITCH		TB01FW		(₫	-]			99	orginal Ivalitie Lopecification	-											
	79 L	+	+	81 R	82 SB	83 BG	┞	╀	4	╀	ł	t	7	+	+	┨	94 LG	95 BG	96 P	97 R	98 SHIELD	7 66	100 P			Connector No. E	Connector Name P.	П	Connector Type Ti	\ \(\)	季	S II	1				lal C	No. Wire	1 BG											
ا]	T	l T	⊥ T				L	L	L	I	l	1 	I	T	Д Т	l T]					L				°		i T	<u>്</u>	<u> </u>	Ť	Ţ	• T	Γ	Γ	Γ	Ľ						Γ		Π		П	П		
	-	-	ı	-	-	-			1						-	1	-	_	-	-	-	-	-	-	-	-	1	1	1	-			,		1	1	1	-	_	-	- [With ICC]	- [Without ICC]	- [Wrth ICC]	- [Without ICC]	- [With ICC]	- [Without ICC]	- [Without ICC]	- [Wrth ICC]	- [Without ICC]	and the second
	>	ŋ	۵	\	>	٨	9	g	>	╀	+	٠ ،	+	2	+	┨	BG	٨	9	BR	W	_	Ь	٦	BB	BR	M	υ	g	+	+	a C	. ~	SHELD	t	27	*	В	٨	В	BR	_	g	*	٨	٨	Ь	2	BR	ŀ
	22	23	24	25	26	27	28	E7	33	2	2	5	8	36	37	8	39	41	45	43	45	49	20	21	54	57	29	9	9	62	2 3	49	9	67	88	69	70	7.1	72	73	74	74	75	75	9/	9/	77	77	78	
Ī	Connector No. E76	Connector Name AMBIENT SENSOR	Т	Connector Type RS02FB				(<u></u>		- 5				onnector No. E106	TOWNER TO MADE		Connector Type TH80FW-CS16-TM4			T	20 21 20 21 20 21 21 21 21 21 21 21 21 21 21 21 21 21		2 C C C C C C C C C C C C C C C C C C C			erminal Color Of Signal Name [Specification]	t	- M	- 8	4 GR	5 GR –	X	9 BR -	10 BG -	1 SB -	12 BG -	╀	- T	19	- A 91	17 SB -	18 v =	20 BG -	

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Connector No. F108 Connector Name AND CONTFOL UNIT Connector Type THIGTW ANI 1 2 3 7 8 9 10 11 13 15 16	Terminal Coder Of Signal Name Spacification Connector Name Signal Name Spacification Spacification
Connector No. F103 Connector Name WIRE TO WIRE Connector Type ITCASEW HS10 Connector Type ITCASEW HS10	Terminal Color Of Signal Mane Specification Color Of C
43 R 44 R 45 N 46 SHED	Connector Nume
METER Connector No. Connector Name WITE TO WITE Connector Type SAAJUTE PASS SHZS LIS. ENGINEERS SHZS	New New
METER Connector No. Connector Typ	7 or 1 or

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MEIER								
10 - GROUND	Connector No. M3	17	SB	-	П	1.1	В	- [With ICC]
	Commonton Nome	18	>			78	٦	- [With ICC]
		20	BG	1	_ _	78	œ	- [Without ICC]
Connector No. M1	Connector Type NS12FW-CS	21	H		Γ	62	*	- [Without ICC]
Г		22	*		Γ	79	>	- [With ICC]
Connector Name FUSE BLUCK (J/B)	₫	23	۵	1		80	SB	1
Connector Type NS06FW-M2		24	┞		Г	200	SS.	1
]	52	>		Г	82	88	
[70 77 JOHN 1971	56	>		Г	83	>	1
Į,		27	9		T	48	9	1
34 JA 14		28	H			82	_	
		31	_	1		98	а	1
MT AUDIO A	Terminal Color Of	32	g	1	Γ	87	*	1
	No. Wire Signal Name [Specification]	33	a	1	Γ	88	ä	1
	100 L	8	H	1	Γ	Н	SHELD	1
Terminal Color Of State of Sta		32	œ	1	_ _	16	>	ı
No. Wire Signal Name [Specification]	12C BG -	36	SHIELD	1	_ _	92	\	1
1A Y	6C R	37	>	-	Г	93	BR	
2A G -	7C B -	38	BG	-		94	Ь	
3A L –	9C BG -	39	BR	-	П	98	GR	=
4A R		4	>	1	Γ	96	^	1
H		42	┞		Γ	97	_	1
- × × 9	Connector No. M6	843	┝		T	86	SHELD	1
7A R	Г	45	H		Γ	66	>	
- A8	Connector Name WIRE TO WIRE	49	H	1		100	SB	1
	Connector Type TH80MW-CS16-TM4	20	۵	1	T	1		
	1	5	╀	1	Γ			
Connector No. M2		\$	Ͱ		Γ	Connector No.	No.	7
(0/1) 300 in Loi in	9 12 30 30 30 30 30 30 30 30 30 30 30 30 30	57	J	1	Γ	2	Г	Town CT John
Connector Name FUSE BLUCK (J/B)		29	*	-	Γ	connector		INE LO WINE
Connector Type NS10FW-CS		99	_	-	Ī	Connector Type	Г	TH80MW-CS16-TM4
ľ		19	ŋ	1	Γ		 -	
		62	H	1	Ι			
		63	G	1	Γ	主		
4838	Terminal Color Of	9	┞		Γ	S :		
G G G G G G	No. Wire Signal Name [Specification]	92	┞		, [5
	- M	99	œ	1	Γ			0 S
	2 R -	67	SHIELD	1				
	3 B -	99	Υ	-	П			
lal C	4 SHIELD -	69	GR	-	П	lar	Color Of	Simul Nama [Specification]
No. Wire olgran varie Lopecincation	- ·	70	Н	-	П	No.	Wire	Signal Name Copecincation
38 P	> 8	7	27	1	_ _		SB	- [With automatic drive positioner]
	9 BR	72	>	1	_ _	6	*	- [Without automatic drive positioner]
5B BG -	- L	73	H	-		2	ŋ	
- × 89		74	BR	- [With ICC]	Π	9	BG	
78 P -	12 BG -	74	_	- [Without ICC]	Γ	7	*	1
8B R -		75	5	-	П	8	В	-
- BS B6	14 R -	76	GR	- [Without ICC]	_	11	>	1
	15 P	9/	*	- [With ICC]	Г	12	SB	-
	16 V –	7.7	۵	- [Without ICC]	П	13	FC	1

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	Connector No. M54	MATTER CONTROL CHICAGO	Connector Name METER CONTROL SWITCH	Connector Type TH12MW=NH	1	€	李	•	123456	1				Terminal Color Of Simulation IS	No. Wire Signal Name [Specification]	- BB	2 B			- B	BT 9	7 88 -			Connector No. M56	HOLINA TERM A / D DESET SMITCH		Connector Type TK02MW					1 2				la la	No. Wire		2 B –												
	36 R SML-2 (-)	38 B SML-1(-)	L AMDS-L		ייי	Connector No M53		Connector Name COMBINATION METER	T	Connector Lype IH40FW-NH					- 2	[7] [7] [7] [7] [7] [7] [7] [7] [7] [7]			Ferminal Color Of		1 GR BATTERY POWER SUPPLY	2 LG COMMUNICATION SIGNAL (METER->AMP.)	3 GR COMMUNICATION SIGNAL (AMP>METER)	5 B GROUND	AL.		10 G SECURITY SIGNAL	П	METER CONTROL SWITCH GROUND	B ILL GND	R ILL	BG	9	BR	ŏ ≻	R VEHICLE SPEED SIGNAL (8-PULSE)	V PARKING BRAKE SWITCH SIGNAL	*	SB	30 G SEAT BELT BUCKLE SWITCH SIGNAL (PASSENGER SIDE)	31 L WASHER LEVEL SWITCH SIGNAL	33 B ILLUMINATION CONTROL SIGNAL	36 LG SELECT SWITCH SIGNAL	37 SB ENTER SWITCH SIGNAL	38 L TRIP A/B RESET SWITCH SIGNAL	39 P ILLUMINATION CONTROL SWITCH SIGNAL (-)	1 BB					
	FG	- B	- × ×	- × 88	H	- BG		5 >		- HA		- g	F	- M 86	99 R			Connector No. M16		Connector Name AFS CUN I RUL UNI	Connector Type TH40FW-NH				S. T. 181 181 181 181 181 181 181 181 181 18	El 01 20 20 20 20 20 20 20 20 20 20 20 20 20	3			la D			PT			۵	8		11 R SMR-1 (-)	13 B SMR-2 (-)	15 G SML-1 (+)	17 W SML-2 (+)	19 SB AMDS-R	24 V PSV-L	25 B GROUND	27 BR PSG-L	28 BG HS-R	98		0.	*	-
METER	14 Y = -		г	Г	Т	Т	т	20 BH SHIELD	т		+	27 B –	Н		30 SHIELD -	31 F	32 P	S	H	35 P	36 L	37 P		39 Y	40 SB -	Н	45 GR -	46 LG -	47 SB -	+	49 R -	- T 09	- d	┪	+	- L	7	S	99	╗	68 LG -	П	- M 02	3 6	H	H	H	H	1	╀	83 BG	┨

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METER										
Connector No.). M66	46	BG SUNI	SUNLOAD SENSOR SIGNAL	109	ŋ	PNP SIGNAL	46	BG	-
Connector Name	UNIFIED METER AND A/C AMP.	47	G EXHAUST CAS / O	EXHAUST GAS / OUTSIDE ODOR DETECTING SENSOR SIGNAL ICANITION DOWING CLIDDLY	110	œ >	ENGINE SPEED OUTPUT SIGNAL			
Connector Type	pe TH40FW-NH	24	ļ	BATTERY POWER SUPPLY	113		CAN COMMUNICATION LINE	Connector No.		M122
ľ		22	В	GROUND	114	1	CAN COMMUNICATION LINE	Connector Name		DOM (DODY CONTROL MODILE)
C		26	T	CAN-H	117	>	DATA LINK CONNECTOR	Collinector	П	BOM (BODT CONTROL MODOLE)
ł	[22	4	BRAKE FLUID LEVEL SWITCH SIGNAL	121	2	EVAP CANISTER VENT CONTROL VALVE	Connector Type	П	TH40FB-NH
2	5 7 8 9 10 14	28	4	FUEL LEVEL SENSOR GROUND	122	۵	STOP LAMP SWITCH	4		
	23 25 27 28 39 34	29	GR INTA	INTAKE SENSOR GROUND	123	m	ECM GROUND	ほ		
		09	4	IN-VEHICLE SENSOR GROUND	124	8	ECM GROUND	ŧ	,	
		61		AMBIENT SENSOR GROUND	125	œ	POWER SUPPLY FOR ECM	Ź		9190 8887 T 8182 8181 8182 81 T 8 184 187 187 187 187 187 187 187 187 187 187
		62		SUNLOAD SENSOR GROUND	126	BR	ASCD/ICC BRAKE SWITCH		_	10161618181
Terminal Color Of	color Of Signal Name [Specification]	63	w 5		127	a .	ECM GROUND		ŋ	
+	MANNIN MODE CHIEF IN STORY	68	20 -	ECV SIGNAL	07		ECMI GROUND			
,	C MANOAL MODE SHIFT OF SIGNAL	60	+	A C LAN SIGNAL					30	
` (COMMUNICATIO	0/ ;;	+	OF MULIOR POWER SUPPLY		ſ		E Le	Mero of	Signal Name [Specification]
100	+	- 6		GROUND	Connector IN	T	01	2	0 0	
D (SEAT BELLI BUCKLE SWITCH SIGNAL (DRIVER SIDE)	7/		CAN-L	Connector Name	_	WIRE TO WIRE	4/	2 8	PASSENGER DOOR ANI
2 ;	MANO					Т	0.000	0	ž :	PASSENGER DOOR ANIT
	+		١		Connector Type	٦	I K30MW-NS10	٥	<u> </u>	DRIVER DOOR ANI -
4	BR COMMUNICATION SIGNAL (LCD=>AMP.)	Connector No.	M107		þ			-	2	DRIVER DOOR ANT+
50	L ION ON/OFF SIGNAL	Connector Name	FCM				[78	>	ROOM ANT1-
23					\			79	BR	ROOM ANT1+
25	V MANUAL MODE SHIFT DOWN SIGNAL	Connector Type	pe RH24FGY-RZ8-R-LH-Z	-R-LH-Z	2	-	928 38 31 32 33	80	GR	NATS ANT AMP.
27	LG COMMUNICATION SIGNAL (METER->AMP.)					9	7 8 9 10 21/22/22/22/25/27/29/29 33/40/41/42/44/44/48	18	۸	NATS ANT AMP.
28	R VEHICLE SPEED SIGNAL (8-PULSE)	E	Ų.			J		82	В	IGN RELAY (F/B) CONT
30	V PARKING BRAKE SWITCH SIGNAL		128	124 112 108 104 100				83	Υ	KEYLESS ENTRY RECEIVER COMM
34	Y COMMUNICATION SIGNAL (AMP>LCD)	2	121	133				87	BR	COMBI SW INPUT 5
38	P BLOWER MOTOR CONTROL SIGNAL		138	123	Terminal Co	Color Of	Cinnel Manne [Connitionation]	88	^	COMBI SW INPUT 3
			125	121 117 113 109 106 101 97	No.	Wire	Signal Ivalile Especification	90	Ь	CAN-L
			ļ		2	Ь	1	16	7	CAN-H
Connector No.	o. M67				3	- 7		92	57	KEY SLOT ILL CONT
2	INITIES METER AND A CO AMP	Terminal	Color Of	[4	В	-	93	>	ONI NO
Collifector IV		No.	Wire	al Ivaine Lopecincation	2	В	-	94	٨	PUDDLE LAMP CONT
Connector Type	pe TH32FW-NH	97	R ACCELERATO	ACCELERATOR PEDAL POSITION SENSOR 1	6	2	-	92	BG	ACC RELAY CONT
1		98	P ACCELERATOR F	ACCELERATOR PEDAL POSITION SENSOR 2 [Without ICC]	10	В	-	96	GR	A/T SHIFT SELECTOR POWER SUPPLY
To the second		98	Y ACCELERATOR I	ACCELERATOR PEDAL POSITION SENSOR 2 [With ICC]	19	BG	_	66	В	SHIFT P
1		66	G SENSOR	SENSOR POWER SUPPLY [With ICC]	20	٨	_	100	G	PASSENGER DOOR REQUEST SW
S.	24 SA 152 SA 152 SA 155	66	L SENSOR P	SENSOR POWER SUPPLY [Without ICC]	28	В	_	101	SB	DRIVER DOOR REQUEST SW
	Ę	100	W	SENSOR GROUND	29	LG	-	102	BG	BLOWER FAN MOTOR RELAY CONT
	00	101	SB ASCD,	ASCD/ICC STEERING SWITCH	31	W	-	103	LG	KEYLESS ENTRY RECEIVER POWER SUPPLY
		102	LG EVAP CONT	EVAP CONTROL SYSTEM PRESS SENSOR	33	В	-	107	LG	COMBI SW INPUT 1
		103	G SENSOR P	SENSOR POWER SUPPLY [Without ICC]	34	В	-	108	В	COMBI SW INPUT 4
la l	ilor Of	103	L SENSOR	SENSOR POWER SUPPLY [With ICC]	35	٦	-	109	Υ	COMBI SW INPUT 2
No.	Wire Signal Ivanie Especification	104	BR SENS	SENSOR GROUND [With ICC]	36	Ь	_	110	G	HAZARD SW
41	V ACC POWER SUPPLY	104	GR SENSO	SENSOR GROUND [Without ICC]	37	>				
42	Y FUEL LEVEL SENSOR SIGNAL	105	L REFRIC	REFRIGERANT PRESS SENSOR	38	ŋ	TI.			
43	4	901	4	FUEL TANK TEMPERATURE SENSOR	43	<u>.</u>	1			
4	IN-VEHICL	107	BG SEN	SENSOR POWER SUPPLY	+	-				
45	P AMBIENT SENSOR SIGNAL	108	_	SENSOR GROUND	45	æ				

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IGNITION SIGNAL	REVERSE SIGNAL VEHICLE SPEED SIGNAL (8-PLILSE)	Ц	MICROPHONE SIGNAL	3 AV COMM (H) AV COMM (H)	M213	AIR BAG DIAGNOSIS SENSOR UNIT	NH28FY-EX			X	31 32 34 35 38 38 38 41 41 42 44 45 46 47 50			Signal Name [Specification]	INFLATOR, AS2+	INFLATOR AS2-	INFLATOR AS1-	INFLATOR AS1+	, FM	INFLATOR DR1-8DR2-	INFLATOR_DR1+			SIDE, SENS, LH2-	SE	LD GND			Idis		A 20 OUTSOUT TRUE TAIL				
80	81 BG	ģ	88 SHIELD 89 G	91 SB 92 SB	Connector No.	Connector Name	Connector Type	€		2 2			or of o		Z3 Y	24 Y	25 Y	+	78 A	Z9 Y	30 ⊀	+	7	24 G	$^{+}$	39 SHIELD	41 SB	+	+	45 P	+	200	┨		
Connector No. M137	Connector Name A/T SHIFT SELECTOR	Connector Type TH12FW-NH	IN G	7 8 9 10	nal Color Of Signal Name [Specification]	Ī		8 4	,	7 R	900	Н	- B		Connector No. M151	Commenter Name	Т	Connector Type TH32FW-NH	₫		S. 67 67 67 68 74 75 74 75 76	87 88 87	0		Terminal Color Of	No. Wire Signal Name Lispecritication.]	>	5	R COMPOSI	SHIELD	72 R MICKOPHONE VCC	۵ م	. TC	76 LG AV COMM (L)	***
Connector No. M125	Connector Name WIRE TO WIRE	Connector Type M03FW-LC	医	3 2	lar O	No. Wire	Н	r		Т	Connector Name WIRE TO WIRE	Connector Type M03MW-LC	q.	MATI	- T		[5]		Terminal Color Of	No. Wire Signal Name [Specification]	1 W -	+	3 R												
M123	BCM (BODY CONTROL MODULE)	TH40FG-NH		25 (25 (25 (25 (25 (25 (25 (25 (25 (25 (Signal Name [Specification]	OPLICAL SENSOR	STOP LAMP SW 1	DR DOOR UNLOCK SENSOR	KEY SLOT SW	IGN F/B	PASSENGER DOOR SW POWER WINDOW SW COMM	PUSH-BUTTON IGNITION SWILL POWER	LOCK IND	RECEIVER/SENSOR GND RECEIVER/SENSOR BOWER SUPPLY	TIRE PRESSURE RECEIVER COMM	SHIFT N/P	SECURITY IND LAMP CONT	COMBI SW OUTPUT 5	COMBLSW OUTPULL	COMBI SW OUTPUT 3	COMBI SW OUTPUT 4	DRIVER DOOR SW	REAR WINDOW DEFOGGER RELAY CONT												
- 1 -	9				lor Of	Wire	88	- BS	BR	≥ 5	3 8	*	GR CR	2 ×	Ļ	GR	ŋ	BG	0 ا	L	SB	PC	G												
MEIER Connector No.	Connector Name	Connector Type	(E)	I	-	No.	Н	119	121	123	132	133	134	+	139	140	_	142	144	145	146	150	151												

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MAT 15 15 15 15 15 15 15 1	METER	_				
No CONTROL UNIT No No No No No No No N	Connector No.	۱	M215	Terminal	Color Of	Signal Name [Specification]
11/24/W-14H	Connector Na	ame	AV CONTROL UNIT	No.	Wire	
11/12/2014/14/14/14/14/14/14/14/14/14/14/14/14/1		١		76	FG	AV COMM (L)
10 10 10 10 10 10 10 10	Connector Type	ed,	TH24FW-NH	77	SB	AV COMM (H)
10 10 10 10 10 10 10 10				78	FIG	AV COMM (L)
18 18 18 18 18 18 18 18	追			79	SB	AV COMM (H)
26 27 38 38 44 42 43 44 45 46 47 42 44 45 46 47 42 44 45 46 47 42 44 45 46 47 42 44 45 46 47 42 44 45 46 47 42 44 45 46 47 42 44 45 46 47 42 44 45 46 47 42 44 45 46 47 42 44 45 46 47 42 44 45 46 47 42 44 45 46 47 42 44 45 46 47 42 44 45 45 47 42 44 45 45 47 42 44 45 45 45 47 42 44 45 45 45 47 42 44 45 45 45 47 42 44 45 45 45 45 45 45				80	Д	CAN-L
10 10 10 10 10 10 10 10	S		12 20 21 17 17 25 85	81	7	CAN-H
			7	82	8	SW GND
Signal Name [Specification] Signal Name Specification] Signal Name Specification Signal Name Specification Specificati				98	SHELD	SHIELD
Signal Name Secrification Sec. P Sec. Sec. P Sec.				87	_	TEL VOICE SIGNAL (+)
Signal Name Secretification 92 R				88	а	TEL VOICE SIGNAL (-)
Sugar Land Sugar Land	_	lor Of		92	œ	VEHICLE SPEED SIGNAL (8-PULSE)
SIRPAN, CRID 99 99 99 99 99 99 99	_	Wire	Signal Name [Specification]	93	>	PARKING BRAKE SIGNAL
COMM (CONT) SIGNAL	H	BG	SIGNAL VCC	94	BG	REVERSE SIGNAL
PER AREA (STORIAL)	H	9	SIGNAL GND	98	g	IGNITION SIGNAL
D D D D D D D D D D D D D D D D D D D	38	œ	웊	96	\	DISK EJECT SIGNAL
D D D D D D D D D D D D D D D D D D D	H	BR	COMM (DISP->CONT)			
D D D D D D D D D D D D D D D D D D D	40	В	RGB AREA (YS) SIGNAL			
M217 AV CO TH32F	Н	HELD	RGB_SYNC_GND			
M217 AV COO	L	٨	RGB SYNC			
M217 AV CO	43	5	RGB (R:RED) SIGNAL			
M217 AV CO TH32F	4	_	RGB (G:GREEN) SIGNAL			
M217 AV CO TH32F	45	Ь	RGB (B:BLUE) SIGNAL			
COMPOSITE MACE NUCETIER OF NU	46	>	COMPOSITE IMAGE SIGNAL GND			
NUMERTER OF BREETER NO		SB	COMPOSITE IMAGE SIGNAL			
MONTH OF THE OF	48	≻	INVERTER VCC			
CCOMM (CORTY) D		BB	INVERTER GND			
COMMICONTSOL SHELD D COMPOLL UNIT NAC CONTROL UNIT THREEW-481	20	9	dΛ			
MET 7 MIN 19 MIN	51	>	COMM (CONT->DISP)			
SHELD COMPOUT SHELD ACCONTROL UNIT INSTRA HELD ACCOMPOUT SHELD	Н	HELD				
M217 M217 M217 M217 M217 M217 M217 M217	Н	HELD				
MR277 AV CONTROL UNIT TH32FW-181 INTRIPINENTED	П	HELD				
M217 AV CONTROL UNIT TH32FW-NH TH77FT798081822						
AV CONTROL UNIT	Connector No.	١	M217			
TH32FW-NH	Connector Nar	ame	AV CONTROL UNIT			
1.8.	Connector Type	ed,	TH32FW-NH			
767777877 787777877 78778788888188	q					
	幸					
Ŧ	S.					
			F			

JRNWD4609GB

Fail-Safe

INFOID:0000000010597267

FAIL-SAFE

Combination meter performs fail-safe operation when unified meter and A/C amp. communication is malfunction.

Solution for communication error between the unified meter and A/C amp. and combination meter.

< ECU DIAGNOSIS INFORMATION >

	Function	Specifications	
Speedometer			
Tachometer		Reset to zero by suspending communication.	
Fuel gauge			
Water temperature gauge			
Illumination control		When suspending communication, change to nighttime mode.	
Information display		The display turns off by suspending communication.	
Buzzer		The buzzer turns off by suspending communication.	
	ABS warning lamp		
	VDC warning lamp		
	Brake warning lamp	The lamp turns on by suspending communication.	
	CRUISE warning lamp	The lamp taris on by suspending communication.	
Warning lamp/indicator lamp	IBA OFF indicator lamp		
	Malfunction indicator lamp		
	High beam indicator	The lamp turns off by suspending communication.	
	Turn signal indicator lamp		
	Tail lamp indicator lamp		
	Oil pressure warning lamp		
	A/T CHECK warning lamp		
	AWD warning lamp		
	Low tire pressure warning lamp		
	Key warning lamp		
	VDC OFF indicator lamp		
	BSW warning lamp		
	AFS OFF indicator lamp		
	Lane departure warning lamp		
	LDP ON indicator lamp		
	Master warning lamp		

DTC Index

Refer to MWI-109, "DTC Index".

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< ECU DIAGNOSIS INFORMATION >

UNIFIED METER AND A/C AMP.

Reference Value

VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

CONSULT MONITOR ITEM

Monitor Item		Condition	Value/Status
SPEED METER [km/h] or [mph]	Ignition switch ON	While driving	Equivalent to speedometer reading NOTE: 655.35 is displayed when the malfunction signal is received
SPEED OUTPUT [km/h] or [mph]	Ignition switch ON	While driving	Equivalent to speedometer reading NOTE: 655.35 is displayed when the malfunction signal is received
ODO OUTPUT [km/h] or [mph]	Ignition switch ON	_	Equivalent to odometer reading in combination meter
TACHO METER [rpm]	Ignition switch ON	While driving	Equivalent to tachometer reading NOTE: 8191.875 is displayed when the malfunction signal is received
FUEL METER [L]	Ignition switch ON	_	Values according to fuel level
W TEMP METER [°C] or [°F]	Ignition switch ON	_	Values according to engine coolant temperature NOTE: 215 is displayed when the malfunction signal is input
FUEL CAP W/L	Ignition switch	Fuel filler cap warning display ON	On
TOLL CAP W/L	ON	Fuel filler cap warning display OFF	Off
ABS W/L	Ignition switch	ABS warning lamp ON	On
ADO W/L	ON	ABS warning lamp OFF	Off
VDC/TCS IND	Ignition switch	VDC OFF indicator lamp ON	On
VDO/100 IND	ON	VDC OFF indicator lamp OFF	Off
SLIP IND	Ignition switch	VDC warning lamp ON	On
OLII IIND	ON	VDC warning lamp OFF	Off
BRAKE W/L	Ignition switch	Brake warning lamp ON	On
DIVINE WIL	ON	Brake warning lamp OFF	Off
DOOR W/L	Ignition switch	Door warning displayed	On
DOOK W/E	ON	Door warning not displayed	Off
HI-BEAM IND	Ignition switch	Hi-beam indicator lamp ON	On
THE BEAWNING	ON	Hi-beam indicator lamp OFF	Off
TURN IND	Ignition switch	Turn indicator lamp ON	On
TORIVIND	ON	Turn indicator lamp OFF	Off
FR FOG IND	Ignition switch	Front fog light indicator lamp ON	On
	ON	Front fog light indicator lamp OFF	Off
RR FOG IND	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off

Monitor Item		Condition	Value/Status	Λ
LIGHT IND	Ignition switch	Tail lamp indicator lamp ON	On	_ A
LIGHT IND	ON	Tail lamp indicator lamp OFF	Off	
OIL W/L	Ignition switch	Oil pressure warning lamp ON	On	В
OIL W/L	ON	Oil pressure warning lamp OFF	Off	
A411	Ignition switch	Malfunction warning lamp ON	On	
MIL	ON	Malfunction warning lamp OFF	Off	С
GLOW IND	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off	D
C-ENG2 W/L	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off	E
	Ignition switch	CRUISE indicator displayed	On	
CRUISE IND	ŎN	CRUISE indicator not displayed	Off	
	Ignition switch	SET indicator lamp ON	On	F
SET IND	ON	SET indicator lamp OFF	Off	_
	Ignition switch	CRUISE warning lamp ON	On	G
CRUISE W/L	ŎN	CRUISE warning lamp OFF	Off	_ 0
24.14/	Ignition switch	IBA OFF indicator lamp ON	On	_
BA W/L	ŎN	IBA OFF indicator lamp ON	Off	Н
NTO (T. AAAT NA//)	Ignition switch	A/T check warning lamp ON	On	_
ATC/T-AMT W/L	ŎN	A/T check warning lamp OFF	Off	_
11A/D 1A//	Ignition switch	AWD warning lamp ON	On	_
IWD W/L	ŎN	AWD warning lamp OFF	Off	_
4WD LOCK IND	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off	J
	Ignition switch	Low-fuel warning lamp displayed	On	K
FUEL W/L	ON	Low-fuel warning lamp not displayed	Off	
MACHED M/I	Ignition switch	Washer warning displayed	On	
WASHER W/L	ŎN	Washer warning not displayed	Off	<u> </u>
ND DDE0 14/4	Ignition switch	Low tire pressure warning lamp ON	On	_
AIR PRES W/L	ŎN	Low tire pressure warning lamp OFF	Off	M
(E)(O D()A(!)	Ignition switch	Key warning lamp ON	On	
KEY G/Y W/L	ŎN	Key warning lamp OFF	Off	
4 F.O. O.F.F. IN ID.	Ignition switch	AFS OFF indicator lamp ON	On	MW
AFS OFF IND	ON	AFS OFF indicator lamp OFF	Off	
4WAS/RAS W/L	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off	0
DDS W/L	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off	<u>-</u> Р
ANIT W//	Ignition switch	Lane departure warning lamp ON	On	_
_ANE W/L	ON	Lane departure warning lamp OFF	Off	_
L DD IND	Ignition switch	LDP ON indicator lamp ON	On	
LDP IND	ON	LDP ON indicator lamp OFF	Off	

Monitor Item		Condition	Value/Status
DCA IND	Ignition switch	DCA switch indicator displayed	On
DOA IND	ON	DCA switch indicator not displayed	Off
BSW W/L	Ignition switch	BSW warning lamp ON	On
DSVV VV/L	ON	BSW warning lamp OFF	Off
	Ignition switch ON	Engine start information display	B&P I
	Ignition switch ACC	Engine start information display	B&P N
	Ignition switch LOCK	Key ID warning display	ID NG
	Ignition switch LOCK	Steering lock information display	ROTAT
LCD	Ignition switch LOCK	P position warning display	SFT P
LCD	Ignition switch LOCK	Intelligent Key insert information display	INSRT
	Ignition switch LOCK	Intelligent Key low battery warning display	BATT
	Ignition switch ON	Take away warning display	NO KY
	Ignition switch LOCK	Key warning display	OUTKY
	Ignition switch ON	ACC warning display	LK WN
	Ignition switch	Vehicle ahead detection indicator displayed	On
ACC TARGET	ON	Vehicle ahead detection indicator not displayed	Off
		When following distance set to "LONG"	LONG
ACC DISTANCE	Ignition switch ON	When following distance set to "MIDDLE"	MID
		When following distance set to "SHORT"	SHORT
		Set distance indicator not displayed	Off
ACC OWN VHL	Ignition switch	Own vehicle indicator displayed	On
	ON	Own vehicle indicator not displayed	Off
ACC SET SPEED	Ignition switch	Set vehicle speed indicator not displayed	Off
	ON	Set vehicle speed indicator displayed	Indicates the set vehicle speed
ACC UNIT	Ignition switch	Set vehicle speed indicator unit display ON	On
7.00 OIVII	ON	Set vehicle speed indicator unit display OFF	Off

< ECU DIAGNOSIS INFORMATION >

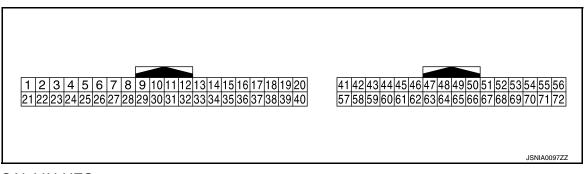
Monitor Item		Condition	Value/Status	
		Shift position indicator P display	Р	Α
		Shift position indicator R display	R	
		Shift position indicator N display	N	В
		Shift position indicator D display	D	
		Shift position indicator DS display	L	
	Ignition switch	Shift position indicator M1 display	M1	C
SHIFT IND	ŎN	Shift position indicator M2 display	M2	
		Shift position indicator M3 display	M3	Г
		Shift position indicator M4 display	M4	
		Shift position indicator M5 display	M5	
		Shift position indicator M6 display	M6	Е
		Shift position indicator M7 display	M7	
O/D OFF SW	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off	F
	Ignition switch	Snow mode switch ON	On	
AT S MODE SW	ON	Snow mode switch OFF	Off	G
AT P MODE SW	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off	Н
A DANIOE CW	Ignition switch	Selector lever manual mode position	On	
M RANGE SW	ŎN	Other than the above	Off	
NIM DANIOE OW	Ignition switch	Selector lever manual mode position	Off	- 1
NM RANGE SW	ŎN	Other than the above	On	
AT OFT UD OW	Ignition switch	Selector lever + position	On	J
AT SFT UP SW	ON	Other than the above	Off	
AT OFT DIAM OW	Ignition switch	Selector lever – position	On	L
AT SFT DWN SW	ŎN	Other than the above	Off	K
ST SFT UP SW	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off	L
ST SFT DWN SW	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off	N
COMP F/B SIG	Ignition switch	A/C compressor activation condition	On	
COMP 17B SIG	ON	A/C compressor deactivation condition	Off	M۱
4WD LOCK SW	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off	IVI
OKB 6/M	Ignition switch	Parking brake switch ON	On	C
PKB SW	ON	Parking brake switch OFF	Off	
DUCKLE CW	Ignition switch	Driver seat belt not fastened	On	F
BUCKLE SW	ŎN	Driver seat belt fastened	Off	
DDAKE OU OU!	Ignition switch	Brake fluid level switch ON	On	
BRAKE OIL SW	ON	Brake fluid level switch OFF	Off	
DISTANCE [km]	Ignition switch ON	_	Possible driving distance calculated by unified meter and A/C amp.	

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< ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Value/Status
OUTSIDE TEMP [°C] or [°F]	Ignition switch ON	_	Equivalent to ambient temperature NOTE: This may not match the indicated value on the information display.
FUEL LOW SIG	Ignition switch	Low-fuel warning signal output	On
ON		Low-fuel warning signal not output	Off
BUZZER	Ignition switch	Buzzer ON	On
DUZZER	ON	Buzzer OFF	Off

TERMINAL LAYOUT

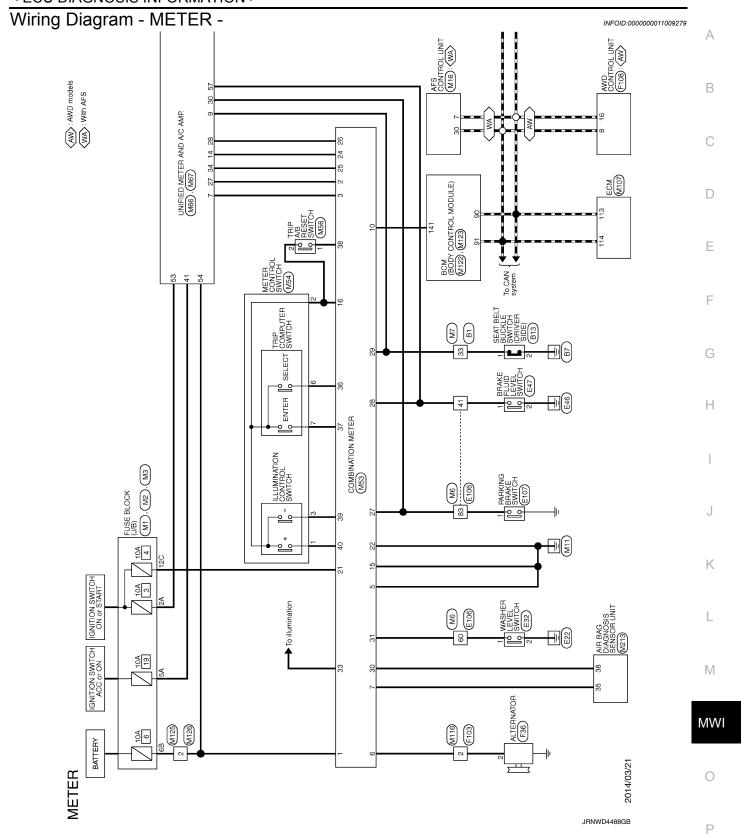


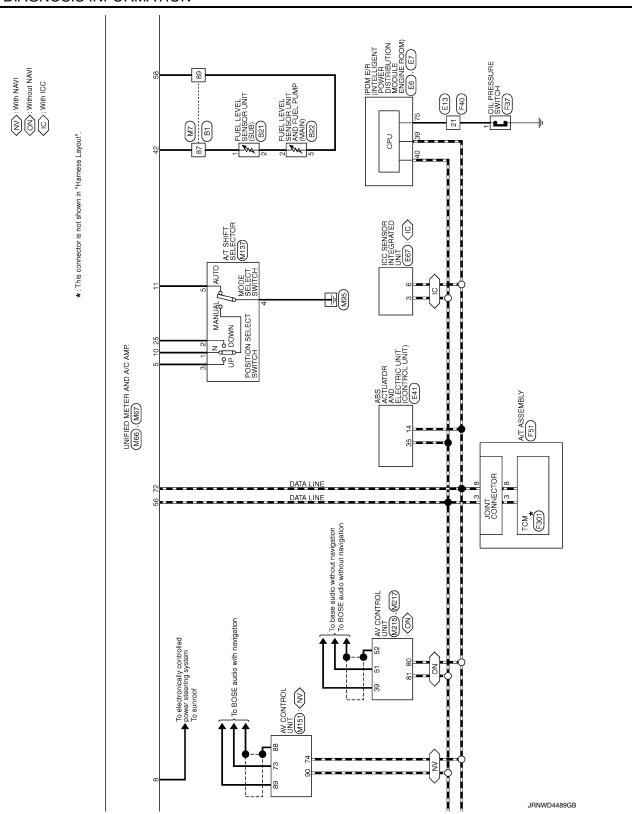
PHYSICAL VALUES

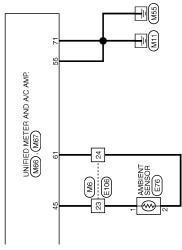
	nal No. color)	Description			Condition	Value
+	_	Signal name	Input/ Output		Condition	(Approx.)
5	0	Manual mode shift up sig-	1	Ignition	Selector lever UP operation	0 V
(L)	Ground	nal	Input	switch ON	Other than the above	12 V
7 (GR)	Ground	Communication signal (AMP. → METER)	Output	Ignition switch ON	_	(V) 6 4 2 0 + 1 ms SKIA3362E
8 (L)	Ground	Vehicle speed signal (2-pulse)	Output	Ignition switch ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	NOTE: The maximum voltage varies depending on the specification (destination unit).
9		Seat belt buckle switch sig-		Ignition	When seat belt is fastened	12 V
(SB)	Ground	nal (driver side)	Input	switch ON	When seat belt is not fastened	0 V
10	0	Mara al mada di cal	1	Ignition	Selector lever DS position	0 V
(W)	Ground	Manual mode signal	Input	switch ON	Other than the above	12 V

	nal No. e color)	Description			Condition	Value	А
+	_	Signal name	Input/ Output		Condition	(Approx.)	
11 (G)	Ground	Non-manual mode signal	Input	Ignition switch ON	Selector lever DS position Other than the above	12 V 0 V	В
14 (BR)	Ground	Communication signal (LCD → AMP.)	Input	Ignition switch ON	_	(V) 15 10 5 0 ■ 400 µs JSNIA0028GB	C D
25	Ground	Manual mode shift down	Input	Ignition switch	Selector lever down operation	0 V	
(V)	Ground	signal	Прис	ON	Other than the above	12 V	F
27 (LG)	Ground	Communication signal (METER → AMP.)	Input	Ignition switch ON	_	(V) 6 4 2	G
						+ 1ms	11
						NOTE: The maximum voltage varies depending on the specification (destination unit).	I
28 (R)	Ground	Vehicle speed signal (8-pulse)	Output	Ignition switch ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	0	J K
					Parking brake is applied	JSNIA0012GB	L
30 (V)	Ground	Parking brake switch signal	Input	Ignition switch ON	Parking brake is released	(V) 8 4 0 10 ms	MW
34 (Y)	Ground	Communication signal (AMP. → LCD)	Output	Ignition switch ON	-	JSNIA0007GB (V) 6 4 2 0 JSNIA0027GB	O P
41 (V)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage	

	nal No. color)	Description			Condition	Value
+	_	Signal name	Input/ Output		Condition	(Approx.)
42 (Y)	Ground	Fuel level sensor signal	Input	Ignition switch ON		(V) 4 3 2 1 0 E 1/4 1/2 3/4 F JSNIA0013GB
45 (P)	Ground	Ambient sensor signal	Input	_	_	(V) 4 3 2 1 0
53 (G)	Ground	Ignition power supply	Input	Ignition switch ON	_	Battery voltage
54 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
55 (B)	Ground	Ground	_	Ignition switch ON	_	0 V
56 (L)	Ground	CAN-H	_	_	_	_
57	0	Brake fluid level switch sig-	1	Ignition	Brake fluid level is normal.	5 V
(W)	Ground	nal	Input	switch ON	The brake fluid level is low- er than the low level	0 V
58 (BR)	Ground	Fuel level sensor ground	_	Ignition switch ON	_	0 V
61 (BR)	Ground	Ambient sensor ground	_	Ignition switch ON	_	0 V
71 (B)	Ground	Ground	-	Ignition switch ON	_	0 V
72 (P)	Ground	CAN-L		_	_	_







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METER							
Connector No.	B1	47	SB	-	Connector No. B13	Connector No. B22	
Connector Name	WIRE TO WIRE	48	BG c	-	Connector Name SEAT BELT BUCKLE SWITCH (DRIVER SIDE)	Connector Name FUEL LEVEL	FUEL LEVEL SENSOR UNIT AND FUEL PUMP DIAIN)
Connector Type	TH80FW-CS16-TM4	20	╚		Connector Type TH04FW-NH	Connector Type E05FGY-RS	-RS
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		99	*				
		67	۸	-			
lal	Of Simal Name [Snecification]	68	SB	-	lal	lal	Signal Name [Specification]
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5	-	73	SB	-	2 B -	2 W	-
e SB	-	74	_	-		3 B	-
>	1	75	۸			4 R	
1		9/	BR		Connector No. B21	5 B	
۱۱ ۷	-	7.7	۳	-	Connector Name File LEVEL SENSOR LIMIT (SLIB)		
12 SB	-	78	Ь	-			
ΓC	-	79	GR	-	Connector Type E02FGY-RS	Connector No. E6	
GR	-	83	BG	-		Davascotor Nome IPDM E/R ()	IPOM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE
97		82	>	-			
œ		86	ΓC			Connector Type TH08FW-NH	HN-/
Μ	-	87	Υ	-	2	_	
SB	-	88	ч	-		12	E
LG	-	88	8	-)		<u>,</u>
BR	-	90	BG	-		H.S.	44 40 30
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Connector No. E22 Connector Name WASHER LEVEL SWITCH Connector Type ZUZFBIR H.S.	Terminal Color Of Signal Name Specification
88 0 M M A A B S B S A A B S A B S A B A B A B A	198 8 6 7 7 8 8 8 9 7 9 9 9 9 9 9 9 9 9 9 9 9 9
METER Connector No. Connector Name popula Connector Type TH20PW-CS12-M4 M.S. Egistical Bill (EFETT) Egistical Bill (EFETT) Egistical Bill (EFETT)	Terminal Color Of Signal Name Specification 48

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Connector No. F36	1	Connector Name ALTERNATOR	Connector Type HS03FB		Œ			((4 3 2))				Terminal Color Of	No. Wire Signal Name [Specification]	2 G L	3 × S	4 P C			Connector No. F37	Connector Name Oil DDESCHIDE SMITCH		Connector Type E01FGY-RS-AR			×	S				Tominal Color Of	No Wine Signal Name [Specification]	t																
- [Without ICC]	- [With IGG]		1		1	1		1			1	1			-	-	-	_	-	_	-			E107	PARKING BRAKE SWITCH		TB01FW		(₫	_]			3	Signal Name [Specification]	1											
1 62	79	80 SB	H	82 SB	H	┞	┞	98	87 v	89 GR	S	t	H	93 V	94 LG	95 BG	96 P	97 R	98 SHIELD	99 T	100 P			Connector No. E	Connector Name P	- 1	Connector Type T			Ĕ	2				Terminal Color Of	No. Wire	1 BG											
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-	- 5		_	>	- M	- 5	- BG	- M		- ~	- 5	SHIELD -	- ^	BR	BG -	M	5	BR -		7	P -	1	BG -	BR -	M	- p1	- 5	S8	- N	22. (5 0	- UIIIN	- \	TG	M			- 8	BR - [With ICC]		G - [With ICC]		W - [With ICC]	Y - [Without ICC]	P - [Without ICC]		BR – [Without ICC]	L - [With ICC]
22	╀	╀	H	H	H	┞	31	┝	H	34	H	T	Т	Н	Н	41		43 E	Н	49	20	51	54 E	Н	Н	1 09	+	+	+	64 66	+	t	t	┝	H	H	H	73	74 E	╀	╀	L	H	. 9/	17	Н	Н	78
E76		AMBIENT SENSOR	RS02FB				T.	(2 <u>11</u>)	∥		<u> </u>	3	Signal Name [Specification]		-			E106	WIRE TO WIRE		TH80FW-CS16-TM4				91 92 14 14 14 14 14 14 14 14 14 14 14 14 14		•	1		Signal Name [Specification]															-			
METER Connector No.		Connector Name	Connector Type		7		Š	1				al Color Of	Wire	- 5	А			Connector No.	Connector Name		Connector Type		•		ą	İ				No Wire	t	3	-	æ	GR	>	BR	┝	H	╀	╁	α	L	۸	SB	Н	BG	_
Connector No.		Connec	Connec		Œ	手	\					Termin	No.	-	2			Connec	Connec		Connec		E		3					No No	<u> </u>	,		4	S	œ	6	9	=	-	2	7	15	16	17	20	20	21

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Connector No. F108 Connector Name AND CONTROL UNIT Connector Type THIEFP 181 1 2 3 7 8 9 10 11 13 15 16	Terminal Color Of Signal Name Specification Color Of Signal Name Specification Specification	
Connector No. F103 Connector Lype Trister NSTE TO WIFE Connector Type Trister NSTE Connector Type Trister NSTE Connector Type Trister NSTE Connector Type Trister NSTE Connector Type Trister Trister NSTE Connector NSTE	Terminal Color Of Signal Mame Specification	
43 R 45 R 46 O 46 SHEID 68 LG 69 U/V 51 W 51 W 52 L/G	Connector Nume	
METER Connector Name WIRE TO WRE Connector Type SAASIFE HESS SLC2 Connector Type SAASIFE HESS SLC2 Connector Type SAASIFE HESS SLC2 Connector Type SAASIFE HESS SLC2 Connector Type SAASIFE HESS SLC2 Connector Type SASIFE HESS	Terminal Color Of No. Wires Signal Nama [Specification] 1 L/V 1 2 SHELD - 3 L/B - 6 BR - 7 G - 8 W - 9 W - 11 R - 12 L/G - 13 L/B - 10 G - 11 R - 12 C - 13 L/G - 14 L/G - 20 C - 21 C - 22 G - 23 V - 24 L/G - 25 V - 26 V - 27 G - 28 V - 39 W - 30 V - 30 V - 31 V - 32 V - 33 V - 34 O - 41 B - <td></td>	

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Connector Name Ciscotto Cis	Fig. Converted No. Conve
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Connector Name First BLOCK (J. B) Connector Name Connecto	Connector Name Discreption Discreption
Connector Name Ciscotto Cis	Corrector Name Color (J.P.) Convector Name Color (J.P.) Convector Name Color (J.P.) Convector Name Color (J.P.) Convector Name Color (J.P.) Color (J.
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Commetter Name FISSE BLACK (J/E) Commetter	Signal Name Specification Signal Name Si
Connector Name FLISE BLC Connector Name FL	Signal Name Specification Signal Name
Commetted	Connector
NSOMEW-M2 Signal Name [Specification]	MI Signal Marre Sepecification
M I NSOFTWAY	MI FIUSE BLC
	Commercial Com

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	Т	Connector Name METER CONTROL SWITCH	Connector Type TH12MW-NH	1	1	主方		123456	0 + 0						Signal Name [Specification]		00	ng.	2 B -	- L		£ 0		- 57 9	7 SB -			O	T	Connector Name TRIP A/B RESET SWITCH		Connector Type TK02MW		4		<u> </u>		7				Color Of	No. Wire Signal Name [Specification]	-	+														
-	36 R SML-2(=)	m -			Coppector No M53	l	Connector Name COMBINATION METER	Т	Connector Type TH40FW-NH		QI		ţ	7	1 2 3 5 6 7 10	20 00 00	28 30 31 35 39				Torminal Color Of			┪		3 GR COMMUNICATION SIGNAL (AMP>METER)	r	0 0	$^{+}$	Æ	10 G SECURITY SIGNAL	15 B GROUND	B METER CO	19 B ILL GND		21 BG IGNITION SIGNAL	٥	ONOOND 9 77	ž	>	26 R VEHICLE SPEED SIGNAL (8-PULSE)	27 V PARKING BRAKE SWITCH SIGNAL	28 W BRAKE FLUID LEVEL SWITCH SIGNAL	a	-	30 G SEAT BELT BUCKLE SWITCH SIGNAL (PASSENGER SIDE)	_	33 B ILLUMINATION CONTROL SIGNAL	36 LG SELECT SWITCH SIGNAL	37 SB ENTER SWITCH SIGNAL	Т	,	39 P ILLUMINATION CONTROL SWITCH SIGNAL (=)	BG					
ŀ	- 97 97	2 × ×	- M 88	╀	- BG	╀	╀	>	93 BR -	- v +6		5	- × 99			_	ł			Connector No. M16	Γ	Connector Name AFS CONTROL UNIT	Ť	Connector Type IH40FW-NH					12 4 6 7 8 9 11 13	32				Terminal Color Of		M IGN		2 FG 2	- :		7 P CAN-L	8 B HSG-R			٤ (+	5	W	19 SB AMDS-R	24 V PSV-L			2/ BK PSG-L	BG	29 BG PS-L	Ͱ			
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ŀ	- BG = -			Connector No. M122	Connector Name BCM (BODY CONTROL MODULE)	┪	Connector Type TH40FB-NH		4			91 90 88 87 83 82 81 80 79 78 77 76 75 74	11(f1(6f1(8)1(0)) 1 (cg1(6g1(0))1(1)) 99 96 96 94 93 92				la C	No. Wire	74 SB PASSENGER DOOR ANT-	75 GR PASSENGER DOOR ANT+	76 V DRIVER DOOR ANT-	77 LG DRIVER DOOR ANT+	78 Y ROOM ANT1-	79 BR ROOM ANT1+	89	*	82 R IGN RELAY (F/B) CONT	83 Y KEYLESS ENTRY RECEIVER COMM	87 BR COMBI SW INPUT 5	88 V COMBI SW INPUT 3	90 P CAN-L	91 L CAN-H	92 LG KEY SLOT ILL CONT	>	<u>-</u>	95 BG ACC RELAY CONT	96 GR A/T SHIFT SELECTOR POWER SUPPLY	99 R SHIFT P	100 G PASSENGER DOOR REQUEST SW	101 SB DRIVER DOOR REQUEST SW	102 BG BLOWER FAN MOTOR RELAY CONT	103 LG KEYLESS ENTRY RECEIVER POWER SUPPLY	107 LG COMBI SW INPUT 1	108 R COMBI SW INPUT 4	109 Y COMBI SW INPUT 2	9				
	PNP SIGNAL	ENGINE SPEED OUTPUT SIGNAL	SENSOR GROUND	CAN COMMUNICATION LINE	CAN COMMUNICATION LINE	DATA LINK CONNECTOR	EVAP CANISTER VENT CONTROL VALVE	STOP LAMP SWITCH	ECM GROUND	ECM GROUND	DOWED SIDDI VEGO FOM	ASCUACC BRAKE SWITCH	CHICAGO MOL	COM GROUND	EUM GROUND			M116	DOWN OF DOWN	WINE TO WINE	TK36MW-NS10				1 2 3 4 5 (日の1814日6日日 日本日本日本日本日本日本日本日本日本日本日本日本日本日本日本日本日本日	6 7 8 9 10 21222222323233 399414244444]		Cinnel Nome Consideration	olgial Maine Lopeonication	-	-	1	-	1	-	-		-	,	-		-		,			-	
	109 G	110 R	112 V	2	114	+	121 LG	122 P	123 B	124 B	125 D	Ŧ	╀	120 P	4			Connector No.	N	Confine Continuante	Connector Type		Œ	事	S					Terminal Color Of	No. Wire	2 P	3 L	4 R	2 2	9 8	10 R	19 BG	Y 02	82 B	29 LG	31 W	33 B	34 B	35 L	36 P	37 Y	38	H	
	BG SUNLOAD SENSOR SIGNAL	EXHAUST C	G IGNITION POWER SUPPLY		B GROUND	+	W BRAKE FLUID LEVEL SWITCH SIGNAL	BR FUEL LEVEL SENSOR GROUND	GR INTAKE SENSOR GROUND	L IN-VEHICLE SENSOR GROUND	DD AMBIENT SENSOD SDOLIND		ļ	T CON CICHAR		+	R EACH DOOR MOTOR POWER SUPPLY	B GROUND	P CAN-L			No. M107	Г	Name ECM	Tvne RH24FGY-R78-R-I H-7	1		128 124 112 108 104 100	127 123 107 108 99	126 122 114 110 106 102 98	125 121 117 113 109 116 101 97			Color Of Signal Name [Specification]	1	R ACCELERATOR PEDAL POSITION SENSOR 1	P ACCELERATOR PEDAL POSITION SENSOR 2 [Wthout IOC]	Y ACCELERATOR PEDAL POSITION SENSOR 2 [With ICC]	G SENSOR POWER SUPPLY [With ICC]	L SENSOR POWER SUPPLY [Without ICC]	W SENSOR GROUND	SB ASCD/ICC STEERING SWITCH	LG EVAP CONTROL SYSTEM PRESS SENSOR	G SENSOR POWER SUPPLY [Without ICC]	L SENSOR POWER SUPPLY [With ICC]	BR SENSOR GROUND [With ICC]	GR SENSOR GROUND [Without ICC]	L REFRIGERANT PRESS SENSOR	W FUEL TANK TEMPERATURE SENSOR	1
ŀ	46	47	23	4	22	26	22	28	29	09	61	62	3 6	20 20	2	69	70	7.1	72			Connector No.		Connector Name	Connector Type		Œ	手						la l	Vo	97	98	98	66	66	100	101	102	103	103	104	104	105	106	
ſ	Connector No. M66	Sonnector Name UNIFIED METER AND A/C AMP.	Ť	Connector Type TH40FW-NH			K		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00 00 00 00 00 00 00 00			300	Mo Wire Signal Name [Specification]	1	+	GR COMMUNICATION SIGNAL (AMP>METER)	L VEHICLE SPEED SIGNAL (2-PULSE)	SB SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)	W MANUAL MODE SIGNAL	G NON-MANUAL MODE SIGNAL	BR COMMUNICATION SIGNAL (LCD->AMP.)	L ION ON/OFF SIGNAL	Y AT SNOW SWITCH SIGNAL	V MANUAL MODE SHIFT DOWN SIGNAL	1.G COMMUNICATION SIGNAL (METER->AMP.)	t	V PARKING BRAKE SWITCH SIGNAL	Y COMMUNICATION SIGNAL (AMP>LCD)	P BLOWER MOTOR CONTROL SIGNAL			Sonnector No. M67	Connector Name UNIFIED METER AND A/C AMP.	7	Connector Type TH32FW-NH			<u> </u>		00 00 to 00 10 to 00 to	2/12/12/12/12/12/12/12/12/12/12/12/12/12			Color Of	Wire Signal Name [Specification]	V ACC POWER SUPPLY	Y FUEL LEVEL SENSOR SIGNAL	R INTAKE SENSOR SIGNAL	

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IGNITION SIGNAL	REVERSE SIGNAL	VEHICLE SPEED SIGNAL (8-PULSE)	MICROPHONE SIGNAL	SHIELD	COMM (DISP->CON I)	AV COMM (H)	AV COMM (H)			SENSOB UNIT					X 28 29 30	35 38 39	45 46 47 50			Signal Name [Specification]	INFLATOR AS2+	INFLATOR AS2-	INFLATOR AS1-	INFLATOR AS1+	GND	INFLATOR_DR2+	INFLATOR DRI-8DRZ-	FOZS-	SIDE SENS BH2-	SIDE_SENS_LH2-	A/B_W/L	SEATBELT_W/L	GND	ECZS+	SIDE_SENS_RH2+	SIDE_SENS_LH2+	CAN_LO	CAN_HI	A/B_CUTOFF_TELLTALE	IGN		
ITINDI	H	R VEHICLE SPEE		9	COMMIC	S'B		-	lo. M213	AIR BAG DIAGNOSIS SENSOR UNIT	Т	ype NH28FY-EX			23 24 25 26	31 32 34 3	41 42 44 4		-	Color Of Signal Nam		\ INFL	Y INFLA	Y INFLA	В	Y INFLA	Y INFLAID	- >	BB SIDE		BR A		۵	SB	Y SIDE:	R SIDE	о) 1	R A/B_CUT(2		
80	5	85	Ħ	7	8 6	2	95		Connector No.	Connector Name		Connector Type	ą	手	\ \ \ \					Terminal C	t	24	25	26	27	58	62	31 30	33	34	35	38	┪	4	42	44	45	46	47	20		
M137	Т	Т	1	[Ė	1 2 3 4 5	7 8 9 10 11		of Simal Name [Specification]		-	'	'				-				M151	ı	e AV CONTROL UNIT	TH32FW-NH			7	88	79 80 81 82 83 87 88 89 90 91 92			Of Signal Name [Specification]		4	ŏ	COMPOSI	SHIELD SHIELD	MICROPHONE VCC	CAMERA POWER SUPPLY			CI WAY COMMAND
Connector No.	Connector Name	Connector Type	Solination lype	修	S II				lar C	No. Wire	1	2		+ 4	+	8 8	9 B	H	11 R		Connector No.		Connector Name	Connector Type	4	修	ě	2) ler	No. Wire	>	67 G	68 R	71 SHIELD	72 R	73 R	74 P	75 LG	91
Gonnector No. M125	ē.	Т			\ \frac{1}{2}		3 2		lar C			+	- E		Connector No. M126	l	Connector Name Wirks TO WIRE	Connector Type M03MW-LC	4		- S		2 3			Terminal Color Of Signal Name [Specification]	+	w >	. 0.													
M123	BCM (BODY CONTROL MODULE)	THAOEGANIA	7						Signal Name [Specification]	,			STOP LAMP SW 2	DR DOOR UNLOCK SENSOR	IGN F/B	PASSENGER DOOR SW	POWER WINDOW SW COMM	PUSH-BUTTON IGNITION SWILL POWER	LOCK IND	RECEIVER/SENSOR GND	TIRE PRESSURE RECEIVER COMM	SHIFT N/P	SECURITY IND LAMP CONT	COMBI SW OUTPUT 5	COMBI SW OUTPUT 1	COMBI SW OUTPUT 2	COMBI SW UNIPUL 3	DRIVER DOOR SW														
- 1	Connector Name	Ocupantor Tuna	.1						Terminal Color Of	Wire	۵	gg.	۵ ا	9 8	<u> </u>	2	BB	٨	GR	BG	ı.	g g	g	BG	۵	<u>ح</u> .	J,	9 2	ď													

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Fail-Safe

INFOID:0000000010597271

FAIL-SAFE

The unified meter and A/C amp. activates the fail-safe control if CAN communication with each unit is malfunctioning.

UNIFIED METER AND A/C AMP.

< ECU DIAGNOSIS INFORMATION >

	Function	Specifications		
Speedometer				
Tachometer		Recet to zero by evenending communication		
Fuel gauge		Reset to zero by suspending communication.		
Water temperature gauge				
Illumination control		When suspending communication, change to nighttime mode.		
Information display		The display turns off by suspending communication.		
Buzzer		The buzzer turns off by suspending communication.		
	ABS warning lamp			
	VDC warning lamp			
	Brake warning lamp			
	CRUISE warning lamp	The lamp turns on by suspending communication.		
	IBA OFF indicator lamp	The lamp turns on by suspending communication.		
	AWD warning lamp			
	Low tire pressure warning lamp			
	Master warning lamp			
	AFS OFF indicator lamp	The lamp blinking caused by communication malfunction		
Warning lamp/indicator	High beam indicator			
lamp	Turn signal indicator lamp			
	Tail lamp indicator lamp			
	Oil pressure warning lamp			
	VDC OFF indicator lamp			
	BSW warning lamp	The lamp turns off by suspending communication.		
	Malfunction indicator lamp			
	A/T CHECK warning lamp			
	Key warning lamp			
	Lane departure warning lamp			
	LDP ON indicator lamp			

DTC Index

Display contents of CON- SULT	Time	Diagnostic item is detected when	Refer to
CAN COMM CIRCUIT [U1000]	CRNT, 1 - 39	When unified meter and A/C amp. is not transmitting or receiving CAN communication signal for 2 seconds or more.	MWI-46
CONTROL UNIT (CAN) [U1010]	CRNT, 1 - 39	When detecting error during the initial diagnosis of CAN controller of unified meter and A/C amp.	MWI-47
COMM ERROR 1 [B2201]	CRNT, 1 - 39	If a communication error is present in the communication line between unified meter and A/C amp. and combination meter for 2 seconds or more.	MWI-48
COMM ERROR 2 [B2202]	CRNT, 1 - 39	If a communication error is present in the communication line between unified meter and A/C amp. and combination meter for 2 seconds or more.	MWI-50
VEHICLE SPEED [B2205]	CRNT, 1 - 39	The abnormal vehicle speed signal is input from ABS actuator and electric unit (control unit) for 2 seconds or more.	MWI-52

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UNIFIED METER AND A/C AMP.

< ECU DIAGNOSIS INFORMATION >

Display contents of CON- SULT	Time	Diagnostic item is detected when	Refer to
ENGINE SPEED [B2267]	CRNT, 1 - 39	If ECM continuously transmits abnormal engine speed signals for 2 seconds or more.	<u>MWI-53</u>
WATER TEMP [B2268]	CRNT, 1 - 39	If ECM continuously transmits abnormal engine coolant temperature signals for 60 seconds or more.	<u>MWI-54</u>

< ECU DIAGNOSIS INFORMATION >

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Reference Value

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VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

Monitor Item	(Condition	Value/Status
RAD FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 – 100 %
		A/C switch OFF	Off
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On
TAIL OOLD DEO	Lighting switch OFF		Off
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On
HI I O DEO	Lighting switch OFF		Off
HL LO REQ	Lighting switch 2ND HI or AUTO	(Light is illuminated)	On
UL ULDEO	Lighting switch OFF		Off
HL HI REQ	Lighting switch HI		On
		Front fog lamp switch OFF	Off
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	 Front fog lamp switch ON Daytime running light activated (Only for Canada) 	On
		Front wiper switch OFF	Stop
FR WIP REQ	Ignition switch ON	Front wiper switch INT	1LOW
FR WIP REQ		Front wiper switch LO	Low
		Front wiper switch HI	Hi
		Front wiper stop position	STOP P
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P
		Front wiper operates normally	Off
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe operation	BLOCK
ION DIVI DEO	Ignition switch OFF or ACC		Off
IGN RLY1 -REQ	Ignition switch ON		On
ION DLV	Ignition switch OFF or ACC		Off
IGN RLY	Ignition switch ON		On
DUCH CW	Release the push-button ignition	n switch	Off
PUSH SW	Press the push-button ignition s	witch	On
INTER/NP SW	Ignition switch ON	Selector lever in any position other than P or N	Off
		Selector lever in P or N position	On
ST DLY CONT	Ignition switch ON		Off
ST RLY CONT	At engine cranking		On

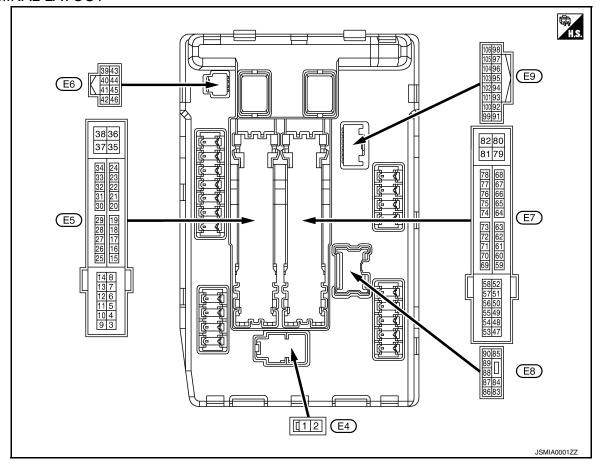
Revision: February 2015 MWI-111 2015 QX50

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Con	ndition	Value/Status		
IHBT RLY -REQ	Ignition switch ON		Off		
INBI KLY -KEQ	At engine cranking		On		
	Ignition switch ON		Off		
	At engine cranking		INHI ON \rightarrow ST ON		
ST/INHI RLY	-	control relay cannot be recognized by when the starter relay is ON and the	UNKWN		
DETENT SW	Ignition switch ON	 Press the selector button with selector lever in P position Selector lever in any position other than P 			
	Release the selector button with se	lector lever in P position	On		
S/L RLY -REQ	NOTE: The item is indicated, but not monit	Off			
S/L STATE	NOTE: The item is indicated, but not monit	UNLOCK			
DTRL REQ	NOTE: The item is indicated, but not monit	Off			
OIL P SW	Ignition switch OFF, ACC or engine	Open			
OIL P SW	Ignition switch ON		Close		
HOOD SW	Close the hood		Off		
HOOD SW	Open the hood		On		
HL WASHER REQ	NOTE: The item is indicated, but not monit	ored.	Off		
	Not operation		Off		
THFT HRN REQ	Panic alarm is activated Horn is activated with VEHICLE S TEM	On			
LIODN CHIDD	Not operating		Off		
HORN CHIRP	Door locking with Intelligent Key (ho	orn chirp mode)	On		
CRNRNG LMP REQ	NOTE: The item is indicated, but not monit	ored.	Off		

< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT



PHYSICAL VALUES

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output	Condition (Approx.)		
1 (W)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
4	Ground	Front winer LO	Output	Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
5	Craund	Front winer III	Outout	Ignition	Front wiper switch OFF	0 V
(L)	Ground	Front wiper HI	Output	switch ON	Front wiper switch HI	Battery voltage
7	Ground	Tail, license plate lamps &	Outout	Ignition	Lighting switch OFF	0 V
(R)	Ground	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
12 (B/W)	Ground	Ground	_	Ignition swi	tch ON	0 V
13					tely 1 second or more after ignition switch ON	0 V
(Y)	Ground	Fuel pump power supply	Output	 Approximately 1 second after turning the ignition switch ON Engine running 		Battery voltage
16				Ignition	Front wiper stop position	0 V
(LG)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage

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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
19	Ground	Ignition relay power supply	Output	Ignition sw	itch OFF	0 V
(W)	Ground	ignition relay power supply	Output	Ignition sw	itch ON	Battery voltage
25	Ground	Ignition relay power supply	Output	Ignition sw	itch OFF	0 V
(G)	Ground	ignition relay power supply	Output	Ignition sw	itch ON	Battery voltage
26*	Ground	Ignition relay power supply	Output	Ignition sw	itch OFF	0 V
(R)	0.00	ig.iii.oii roidy potroi cappiy		Ignition sw	itch ON	Battery voltage
27	Ground	Ignition relay monitor	Input	_	itch OFF or ACC	Battery voltage
(BG)		3		Ignition sw	itch ON	0 V
28	Ground	Push-button ignition	Input		bush-button ignition switch	0 V
(L)		switch	•	Release th	e push-button ignition switch	Battery voltage
30 (GR)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any position other than P or N	0 V
					Selector lever P or N	Battery voltage
36 (G)	Ground	Battery power supply	Input	Ignition sw	itch OFF	Battery voltage
39 (P)	_	CAN-L	Input/ Output		_	_
40 (L)	_	CAN-H	Input/ Output		_	_
41 (B/W)	Ground	Ground	_	Ignition sw	itch ON	0 V
42	Ground	Cooling fan rolay control	Input	Ignition sw	itch OFF or ACC	0 V
(Y)	Ground	Cooling fan relay control	Input	Ignition sw	itch ON	0.7 V
43 (SB)	Ground	A/T shift selector (Detention switch)	Input	Ignition switch ON	Press the selector button (Selector lever P) Selector lever in any position other than P	Battery voltage
		,			Release the selector but- ton (selector lever P)	0 V
44	Ground	Harn roley central	Innut	The horn is	deactivated	Battery voltage
(BR)	Ground	Horn relay control	Input	The horn is	activated	0 V
45	Cround	Anti thoft born rolay control	Input	The horn is	deactivated	Battery voltage
(G)	Ground	Anti theft horn relay control	Input	The horn is	activated	0 V
46 (R)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any position other than P or N	0 V
(N)				SWILCH ON	Selector lever P or N	Battery voltage
					A/C switch OFF	0 V
48 (L)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is operating)	Battery voltage
40				Ignition swi (More than ignition swi	a few seconds after turning	0 V
49 (BG)	Ground	ECM relay power supply	Output	Ignition s	switch ON switch OFF w seconds after turning igni- ch OFF)	Battery voltage

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
51	Craund	lanition relevance comple	Outout	Ignition swi	tch OFF	0 V
(Y)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
53				Ignition swi (More than ignition swi	a few seconds after turning	0 V
(W)	Ground	ECM relay power supply	Output	Ignition s Ignition s (For a few tion switch)	witch OFF w seconds after turning igni-	Battery voltage
54		Throttle control motor re-		Ignition swi (More than ignition swi	a few seconds after turning	0 V
(P)	Ground	lay power supply	Output	 Ignition s Ignition s (For a few tion switch 	witch OFF w seconds after turning igni-	Battery voltage
55 (SB)	Ground	ECM power supply	Output	Ignition swi	tch OFF	Battery voltage
56	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(LG)	Ground	ignition relay power supply		Ignition swi	tch ON	Battery voltage
57	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(G)	Giodila	ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
58	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(V)	Ground	ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
60				Ignition swi (More than ignition swi	a few seconds after turning	Battery voltage
69 (BR)	Ground	ECM relay control	Output	Ignition s Ignition s (For a few tion switch)	witch OFF w seconds after turning igni-	0 – 1.5 V
70 (BG)	Ground	Throttle control motor re- lay control	Output	Ignition switch ON \rightarrow OFF		0 – 1.0 V ↓ Battery voltage ↓ 0 V
				Ignition switch ON		0 – 1.0 V
74	Ground	lanition rolay newer curety	Outout	Ignition swi	tch OFF	0 V
(P)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
75	Cround	Oil proceure quitab	lpp::4	Ignition	Engine stopped	0 V
(SB)	Ground	Oil pressure switch	Input	switch ON	Engine running	Battery voltage

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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
				Ignition swi	tch ON	(V) 6 4 2 0 2ms JPMIA0001GB
76 (Y)			Output	40% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE" 80% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 ► 2ms JPMIA0002GB 3.8 V
						(V) 6 4 2 0 2 ms JPMIA0003GB 1.4 V
77	Ground	Fuel pump relay control	Output		nately 1 second after turning on switch ON unning	0 – 1.0 V
(R)		, , ,	·		tely 1 second or more after ignition switch ON	Battery voltage
80 (W)	Ground	Starter motor	Output	At engine of	eranking	Battery voltage
83	Ground	Headlamp LO (RH)	Output	Ignition	Lighting switch OFF	0 V
(BG)		. , , ,	•	switch ON	Lighting switch 2ND	Battery voltage
84 (V)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF Lighting switch 2ND	0 V Battery voltage
					Front fog lamp switch OFF	0 V
86 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	Front fog lamp switch ON Daytime running light activated (Only for Canada)	Battery voltage
					Front fog lamp switch OFF	0 V
87 (L)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	Front fog lamp switch ON Daytime running light activated (Only for Canada)	Battery voltage
88 (GR)	Ground	Washer pump power supply	Output	Ignition swi	tch ON	Battery voltage

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description	Description			Value	
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)	
00				lanition	Lighting switch OFF	0 V	
89 (BR)	Ground	Headlamp HI (RH)	Output Ignition switch ON		Lighting switch HI Lighting switch PASS	Battery voltage	
00				lanition	Lighting switch OFF	0 V	
90 (P)	Ground	Headlamp HI (LH)	() thilt	Ignition switch ON	Lighting switch HI Lighting switch PASS	Battery voltage	
91	Craund	Darking James (DLI)	Output	Ignition	Lighting switch OFF	0 V	
(P)	Ground	Parking lamp (RH)	Output	switch ON	Lighting switch 1ST	Battery voltage	
92	Craund	Darking James (LLI)	Output	Ignition	Lighting switch OFF	0 V	
(BG)	Ground	Parking lamp (LH)	Output	switch ON	Lighting switch 1ST	Battery voltage	
97 (V)	Ground	Cooling fan control	Output	Engine idlir	ng	0 – 5 V	
104	Ground	Hood switch	Input	Close the h	nood	Battery voltage	
(LG)	Giodila	11000 SWILCIT	input	Open the h	ood	0 V	

^{*:} Only for the models with ICC system

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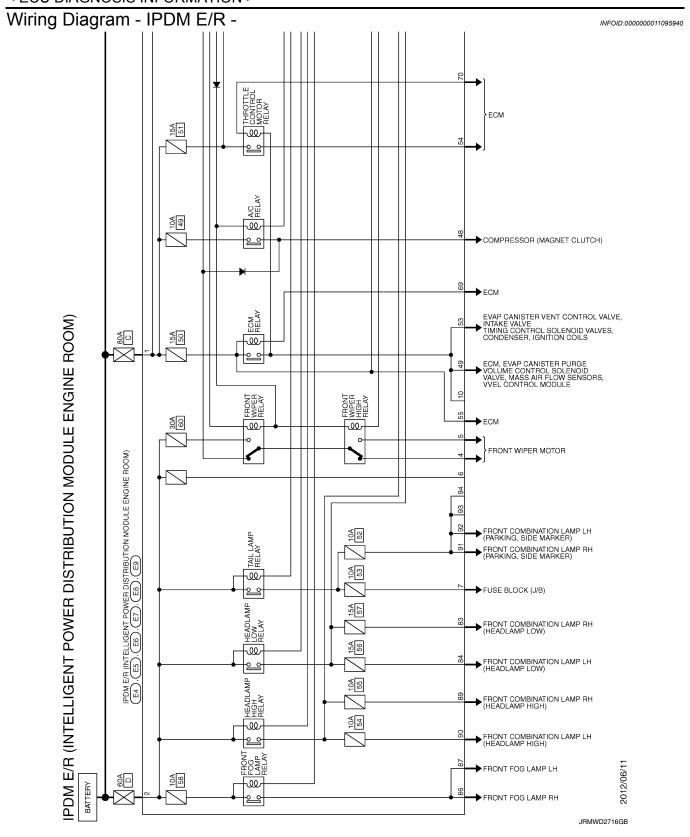
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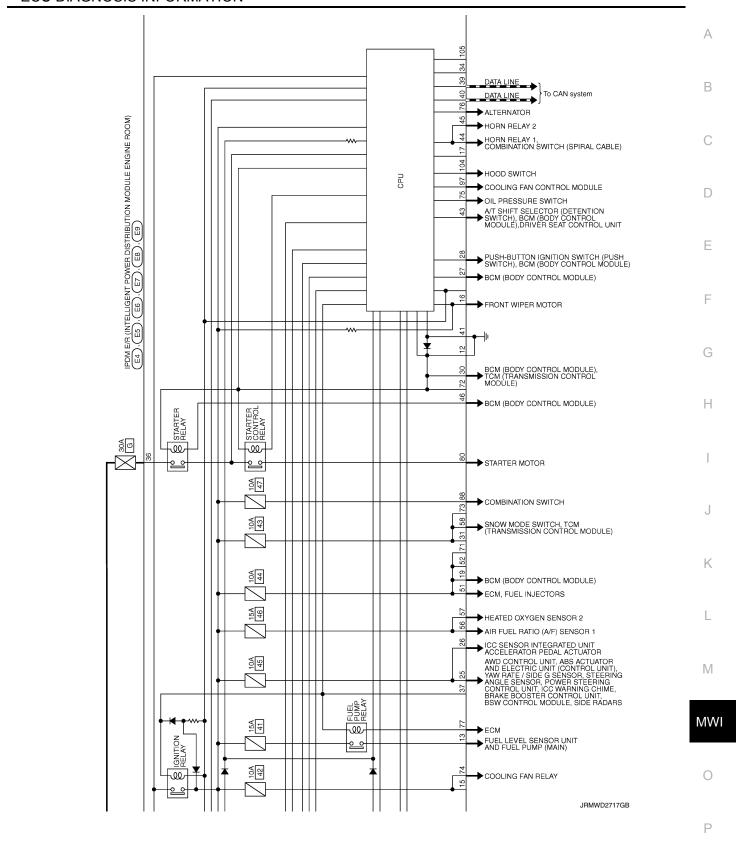
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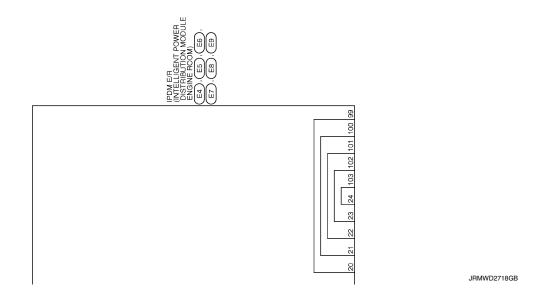
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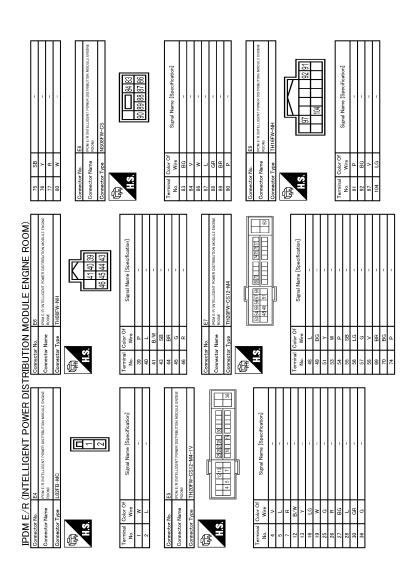
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Fail-safe

CAN COMMUNICATION CONTROL

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

Revision: February 2015 MWI-121 2015 QX50

< ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe operation
Cooling fan	 Outputs the pulse duty signal (PWM signal) 100% when the ignition switch is turned ON Outputs the pulse duty signal (PWM signal) 0% when the ignition switch is turned OFF
A/C compressor	A/C relay OFF
Alternator	Outputs the power generation command signal (PWM signal) 0%

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	Turns ON the headlamp low relay when the ignition switch is turned ON Turns OFF the headlamp low relay when the ignition switch is turned OFF Headlamp high relay OFF
Parking lampsLicense plate lampsSide maker lampsIlluminationsTail lamps	Turns ON the tail lamp relay when the ignition switch is turned ON Turns OFF the tail lamp relay when the ignition switch is turned OFF
Front wiper	 The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.
Front fog lamps	Front fog lamp relay OFF
Horn	Horn relay OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

Voltage judgment			
Ignition relay contact side	Ignition relay excitation coil side	IPDM E/R judgment	Operation
ON	ON	Ignition relay ON normal	_
OFF	OFF	Ignition relay OFF normal	_
ON	OFF	Ignition relay ON stuck	Detects DTC "B2098: IGN RELAY ON" Turns ON the tail lamp relay for 10 minutes
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"

FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper stop position signal.

When a front wiper stop position signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 seconds activation and 20 seconds stop five times.

Ignition switch	Front wiper switch	Front wiper stop position signal
ON	OFF	The front wiper stop position signal (stop position) cannot be input for 10 seconds.
	ON	The front wiper stop position signal does not change for 10 seconds.

< ECU DIAGNOSIS INFORMATION >

NOTE:

This operation status can be confirmed on the IPDM E/R "Data Monitor" that displays "BLOCK" for the item "WIP PROT" while the wiper is stopped.

STARTER MOTOR PROTECTION FUNCTION

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

DTC Index

NOTE:

- The details of time display are as follows.
- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame data).
- The number is 0 when is detected now.
- The number increases like 1 \rightarrow 2 \cdots 38 \rightarrow 39 after returning to the normal condition whenever IGN OFF \rightarrow ON.
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

		×: Applicable
CONSULT display	Fail-safe	Reference
No DTC is detected. further testing may be required.	_	_
U1000: CAN COMM CIRCUIT	×	PCS-14
B2098: IGN RELAY ON CIRC	×	PCS-15
B2099: IGN RELAY OFF CIRC	_	PCS-17
B210B: STR CONT RLY ON CIRC	_	<u>SEC-77</u>
B210C: STR CONT RLY OFF CIRC	_	<u>SEC-78</u>
B210D: STARTER RLY ON CIRC	_	<u>SEC-80</u>
B210E: STARTER RLY OFF CIRC	_	<u>SEC-82</u>
B210F: INTRLCK/PNP SW ON	_	<u>SEC-84</u>
B2110: INTRLCK/PNP SW OFF	_	<u>SEC-86</u>

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Revision: February 2015 MWI-123 2015 QX50

THE FUEL GAUGE POINTER DOES NOT MOVE

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

THE FUEL GAUGE POINTER DOES NOT MOVE

Description INFOID:000000010597277

Fuel gauge needle will not move from a certain position.

Diagnosis Procedure

INFOID:0000000010597278

1. CONDUCTING THE COMBINATION METER SELF-DIAGNOSIS MODE

Perform the self-diagnosis mode of combination meter, and then check that the fuel gauge operates normally. Refer to MWI-40, "Diagnosis Description".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace combination meter. Refer to MWI-136, "Removal and Installation".

2. CHECK FLOAT INTERFERENCE

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace malfunctioning part.

3.CHECK FUEL LEVEL SENSOR SIGNAL CIRCUIT

Check the fuel level sensor signal circuit. Refer to MWI-58, "Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".

NO >> Repair or replace malfunctioning parts.

THE METER CONTROL SWITCH IS INOPERATIVE

< SYMPTOM DIAGNOSIS > THE METER CONTROL SWITCH IS INOPERATIVE Α Description INFOID:0000000010597279 If any of the following malfunctions is found for the meter control switch operation. В All switches are inoperative. • The specified switch cannot be operated. Diagnosis Procedure INFOID:0000000010597280 1. CHECK METER CONTROL SWITCH SIGNAL CIRCUIT Check the meter control switch signal circuit. Refer to MWI-62, "Diagnosis Procedure". D Is the inspection result normal? YFS >> GO TO 2. Е NO >> Repair harness or connector. 2.check meter control switch unit Perform a unit check for the meter control switch. Refer to MWI-63, "Component Inspection". F Is the inspection result normal? YES >> Replace combination meter. NG >> Replace meter control switch. Н K M

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THE TRIP A/B RESET SWITCH IS INOPERATIVE

< SYMPTOM DIAGNOSIS >

THE TRIP A/B RESET SWITCH IS INOPERATIVE

Description INFOID:000000010597281

The trip A/B reset switch is inoperative.

Diagnosis Procedure

INFOID:0000000010597282

1. CHECK TRIP A/B RESET SWITCH SIGNAL CIRCUIT

Check the trip A/B reset switch signal circuit. Refer to <u>MWI-62</u>, <u>"Diagnosis Procedure"</u>. Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

 $2.\mathsf{CHECK}$ TRIP A/B RESET SWITCH UNIT

Perform a unit check for the trip A/B reset switch. Refer to MWI-63, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter.

NG >> Replace trip A/B reset switch.

THE OIL PRESSURE WARNING LAMP DOES NOT TURN ON

< SYMPTOM DIAGNOSIS >	
THE OIL PRESSURE WARNING LAMP DOES NOT TURN ON	А
Description	000000010597283
The oil pressure warning lamp stays off when the ignition switch is turned ON.	В
Diagnosis Procedure	0000000010597284
1. CHECK OIL PRESSURE WARNING LAMP	С
Perform auto active test. Refer to PCS-9, "Diagnosis Description". Does oil pressure warning lamp blink? YES >> GO TO 2. NO >> Replace combination meter. 2.CHECK OIL PRESSURE SWITCH SIGNAL CIRCUIT	D E
Check the oil pressure switch signal circuit. Refer to MWI-66, "Diagnosis Procedure".	
Is the inspection result normal? YES >> GO TO 3. NO >> Repair harness or connector.	F
3.CHECK OIL PRESSURE SWITCH UNIT	G
Perform a unit check for the oil pressure switch. Refer to MWI-66 , "Component Inspection". Is the inspection result normal?	
YES >> Replace IPDM E/R. NO >> Replace oil pressure switch.	Н
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THE OIL PRESSURE WARNING LAMP DOES NOT TURN OFF

< SYMPTOM DIAGNOSIS >

THE OIL PRESSURE WARNING LAMP DOES NOT TURN OFF

Description INFOID:000000010597285

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

Diagnosis Procedure

INFOID:0000000010597286

1. CHECK OIL PRESSURE WARNING LAMP

Perform auto active test. Refer to PCS-9, "Diagnosis Description".

Does oil pressure warning lamp blink?

YES >> GO TO 2.

NO >> Replace combination meter.

2. CHECK IPDM E/R OUTPUT VOLTAGE

- 1. Disconnect the oil pressure switch connector.
- 2. Turn ignition switch ON.
- 3. Check voltage between the oil pressure switch harness connector and ground.

Terminals			
(+)		(-)	Voltage
Oil pressure switch			voltage
Connector	Terminal	Ground	
F37	1		Approx. 12 V

Is the inspection result normal?

YES >> GO TO 3. NO >> GO TO 4.

3. CHECK OIL PRESSURE SWITCH UNIT

Perform a unit check for the oil pressure switch. Refer to MWI-66, "Component Inspection".

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

NO >> Replace oil pressure switch.

4. CHECK OIL PRESSURE SWITCH SIGNAL CIRCUIT

Check the oil pressure switch signal circuit. Refer to MWI-66, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

NO >> Repair harness or connector.

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

< SYMPTOM DIAGNOSIS >

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

Description INFOID:0000000010597287

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

Diagnosis Procedure

1. CHECK PARKING BRAKE WARNING LAMP OPERATION

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

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

Is the inspection result normal?

YES >> Replace combination meter.

NO >> GO TO 2.

2.check parking brake switch signal circuit

- 1. Turn ignition switch OFF.
- 2. Check the parking brake switch signal circuit. Refer to MWI-67, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.

NG >> Repair harness or connector.

3.CHECK PARKING BRAKE SWITCH UNIT

Perform a unit check for the parking brake switch. Refer to BRC-121, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter.

NO >> Replace parking brake switch.

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Revision: February 2015 MWI-129 2015 QX50

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

< SYMPTOM DIAGNOSIS >

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

Description

- 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:0000000010597290

1. CHECK WASHER LEVEL SWITCH SIGNAL CIRCUIT

Check the washer level switch signal circuit. Refer to MWI-69, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK WASHER LEVEL SWITCH UNIT

Perform a unit check for the washer level switch. Refer to MWI-69, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter.

NO >> Replace washer level switch. Refer to <u>WW-115, "Removal and Installation"</u>.

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

< SYMPTOM DIAGNOSIS >

THE DOOR OPEN WARNING CONTINUES DISPLAYING, OR DOES NOT DISPLAY Description INFOID:0000000010597291 В The door ajar warning is displayed even though all of the doors are closed. • The door ajar warning is not displayed even though a door is ajar. Diagnosis Procedure INFOID:0000000010597292 1. CHECK BCM INPUT/OUTPUT SIGNAL D Connect CONSULT and check the BCM input signals. Refer to DLK-63, "Component Function Check". Is the inspection result normal? YES >> GO TO 2. Е NO >> GO TO 3. 2.CHECK UNIFIED METER AND A/C AMP. INPUT SIGNAL Select the "Data Monitor" for the "METER/M&A" and check the "DOOR W/L" monitor value. "DOOR W/L" Door open : On Door closed : Off Is the inspection result normal? Н YES >> Replace combination meter. NO >> Replace BCM. Refer to BCS-97, "Removal and Installation". 3.CHECK DOOR SWITCH SIGNAL CIRCUIT Check the door switch signal circuit. Refer to DLK-63, "Diagnosis Procedure". Is the inspection result normal? YES >> GO TO 4. NO >> Repair harness or connector. 4. CHECK DOOR SWITCH UNIT Perform a unit check for the door switch. Refer to <u>DLK-65</u>, "Component Inspection". Is the inspection result normal? YES >> Replace combination meter. NO >> Replace applicable door switch. Refer to DLK-272, "Removal and Installation". M

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THE AMBIENT TEMPERATURE DISPLAY IS INCORRECT

< SYMPTOM DIAGNOSIS >

THE AMBIENT TEMPERATURE DISPLAY IS INCORRECT

Description INFOID:000000010597293

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

Diagnosis Procedure

INFOID:0000000010597294

NOTE:

Check that the symptom is not applicable to the normal operating condition before starting diagnosis. Refer to MWI-133, "INFORMATION DISPLAY: Description".

1. CHECK AMBIENT SENSOR SIGNAL CIRCUIT

Check the ambient sensor signal circuit. Refer to HAC-67, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK AMBIENT SENSOR UNIT

Perform a unit check for the ambient sensor. Refer to HAC-68, "Component Inspection".

Is the inspection result normal?

YES >> Replace unified meter and A/C amp.

NO >> Replace ambient sensor. Refer to HAC-124, "Removal and Installation".

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

NORMAL OPERATING CONDITION COMPASS

INFOID:0000000010597295

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COMPASS : Description

COMPASS

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

Symptom Chart

Symptom	Cause	Solution / Reference
The compass display reads "C".		
Compass shows the wrong direction.		
Compass does not change direction appears "Locked".	Compass is not calibrated. Incorrect zone variance setting. Large change in magnetic field (Steel bridges, subways, concentrations of metal, carwashes, etc.) Compass was calibrated incorrectly or in the presence of a strong magnetic field.	Perform calibration. Refer to MWI-36, "Description".
Compass does not show all the directions, one or more is missing.		
The compass was calibrated but it "loses" calibration.		
On long trips the compass shows the wrong direction.		Perform zone variation setting if correct reading is desired in that location. Refer to MWI-36, "Description".

INFORMATION DISPLAY

INFORMATION DISPLAY: Description

INFOID:0000000010597296

AMBIENT AIR TEMPERATURE

The displayed ambient air temperature on the information display may differ from the actual temperature because it is a corrected value calculated from the ambient sensor signal by the unified meter and A/C amp. Refer to MWI-30, "INFORMATION DISPLAY: System Description" for details on the correction process.

POSSIBLE DRIVING DISTANCE

The calculated possible driving distance may differ from the actual distance to empty if the refueling amount is approximately 15 ℓ (4 US gal, 3-3/10 Imp gal) or less. This is because the refuel control (moves the fuel gauge needle quicker than normal judging that the driver is refueling the vehicle) is not performed in such a case.

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PRECAUTION

PRECAUTIONS

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

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

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

Always observe the following items for preventing accidental activation.

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

Precautions for Removing Battery Terminal

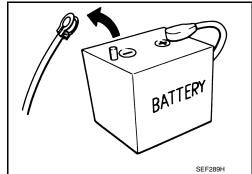
 When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

NOTE:

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

 For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
 NOTE:

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.



INFOID:0000000011009245

After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
 NOTE:

The removal of 12V battery may cause a DTC detection error.

PREPARATION

< PREPARATION >

PREPARATION

PREPARATION

Commercial Service Tools

Tool name		Description
Power tool	PBIC0191E	Loosening screws

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REMOVAL AND INSTALLATION

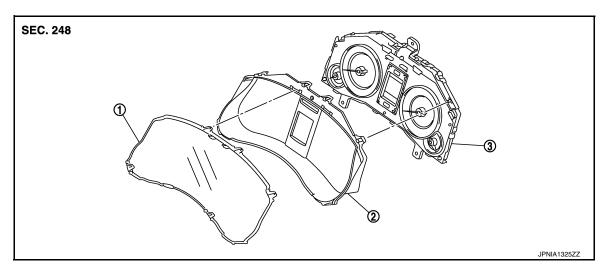
COMBINATION METER

Exploded View

REMOVAL

Refer to IP-12, "Exploded View".

DISASSEMBLY



1. Front cover

Upper housing

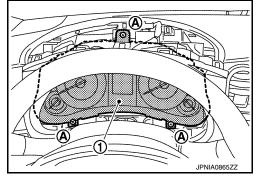
3. Unified meter control unit

Removal and Installation

INFOID:0000000010597300

Removal

- 1. Remove the cluster lid A. Refer to IP-13, "Removal and Installation".
- 2. Remove screws (A) and connector, and then remove combination meter (1).



Installation

Install in the reverse order of removal.

Disassembly and Assembly

INFOID:0000000010597301

DISASSEMBLY

- Disengage the tabs to separate the upper housing with the front cover from unified meter control unit.
- 2. Disengage the tabs to separate the front cover from upper housing.

ASSEMBLY

Assemble in the reverse order of disassembly.

UNIFIED METER AND A/C AMP.

Exploded View

SEC. 272

- 1. Unified meter and A/C amp.
- 2. Bracket (LH)

3. AV control unit

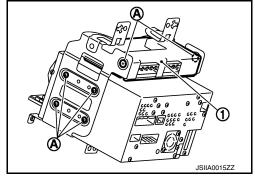
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4. Bracket (RH)

Removal and Installation

REMOVAL

- 1. Remove AV control unit. Refer to <u>AV-128, "Exploded View"</u> (BASE AUDIO WITHOUT NAVIGATION), <u>AV-316, "Exploded View"</u> (BOSE AUDIO WITHOUT NAVIGATION) or <u>AV-520, "Exploded View"</u> (BOSE AUDIO WITH NAVIGATION).
- 2. Remove mounting screws (A), and then remove unified meter and A/C amp. (1).



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INFOID:0000000010597303

INSTALLATION

Installation is basically the reverse order of removal.

CAUTION:

Since unified meter and A/C amp. connector and AV control unit connector have the same form, be careful not to insert them wrongly.

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METER CONTROL SWITCH

< REMOVAL AND INSTALLATION >

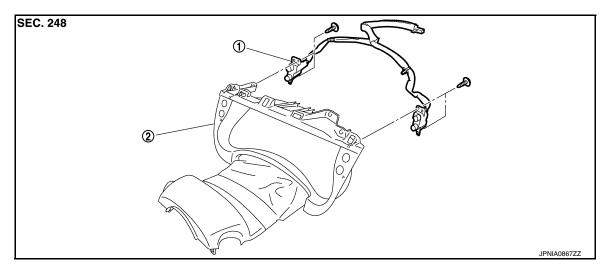
METER CONTROL SWITCH

Exploded View

REMOVAL

IP-12, "Exploded View"

DISASSEMBLY



1. Meter control switch

2. Cluster lid A

Removal and Installation

INFOID:0000000010597305

REMOVAL

- 1. Remove cluster lid A. Refer to IP-13, "Removal and Installation".
- 2. Remove screws and remove meter control switch.

INSTALLATION

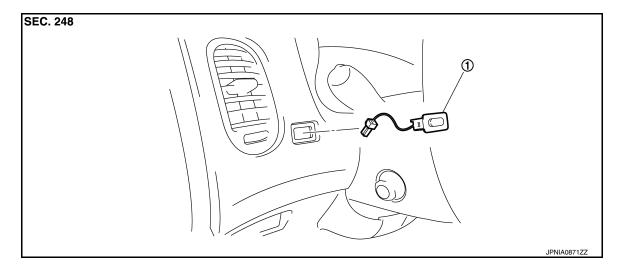
Install in the reverse order of removal.

TRIP A/B RESET SWITCH

< REMOVAL AND INSTALLATION >

TRIP A/B RESET SWITCH

Exploded View



1. Trip A/B reset switch

Removal and Installation

REMOVAL

- 1. Remove combination meter. Refer to MWI-136, "Removal and Installation".
- 2. Press pawls and remove trip A/B reset switch.

INSTALLATION

Install in the reverse order of removal.

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COMPASS

< REMOVAL AND INSTALLATION >

COMPASS

Exploded View

Refer to MIR-121, "Exploded View" (with ADP) or MIR-142, "Exploded View" (without ADP).

Removal and Installation

INFOID:0000000010597309

Refer to MIR-121, "Removal and Installation" (with ADP) or MIR-142, "Removal and Installation" (without ADP).

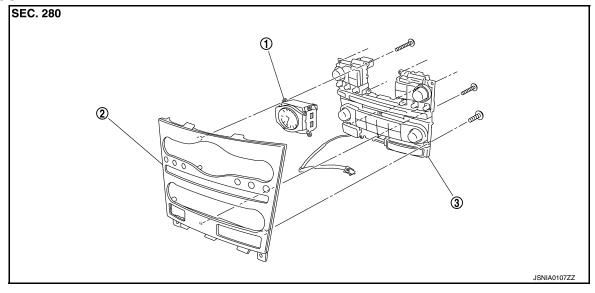
CLOCK

Exploded View

REMOVAL

Refer to IP-12, "Exploded View".

DISASSEMBLY



1. Clock 2. Cluster lid C 3. Preset switch

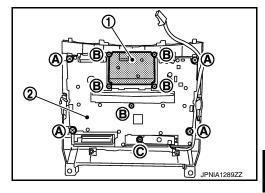
Removal and Installation

REMOVAL

1. Remove cluster lid C assembly. Refer to <u>IP-13</u>, "Removal and Installation".

2. Remove screws (A), (B), (C) and remove clock (1) in conjunction with preset switch (2) from cluster lid C.

3. Disengage the tabs to separate clock.



INSTALLATION

Install in the reverse order of removal.

NOTE:

Never confuse screws when installing.

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